**Indonesian domestic workers on their day off: Negotiating power relations in Sunday spaces in Singapore.**
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**Abstract**
Indonesian domestic workers have been gaining popularity in Singapore since 1996. Presently they comprise almost half of the total population of 150,000 migrant domestic workers in the country. Largely confined to the private space of the home and denied a rest day, this group of workers is amongst the most vulnerable in Singapore as they are cut off from social networks and resources. Of late, more spaces in Singapore were made available catering to their welfare and needs such as the opening up of religious classes, skills upgrading classes and opportunities for these workers to participate in volunteer work and various social activities. Religious institutions, the Indonesian embassy and several NGO groups have taken the lead in the opening up these spaces. This paper examines the power relations that take place in these designated spaces that I call “Sunday spaces” and attempts to project the voices of the migrant workers themselves in engaging with the activities made available in these spaces.

**Land Use Analytical System Using Internet GIS**
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**Abstract**
Okuno (2001) reviewed the new trends in quantitative geography by focusing on the advances in GIS and local models. He argued, there does not appear to be a good connection between spatially analytical modeling and GIS techniques. The main reasons are the delay in programming of the results of quantitative geographical analysis and the fact that there are still many aspects of the analytical methods themselves that have not yet been developed. While Abe (1976) showed a method to measure and to analyze mixing structures of land use using chi-square test, the measuring method was not computerized and has been time consuming works. At that time, we applied a sort of cell count method to measure the existence or nonexistence of a certain land use category using a quadrate grid system on land use maps. This time, we developed computerized cell count method using Internet GIS techniques, and try to improve the connection between analytical modeling and GIS techniques. The data applied to this technique come from the land use digital maps of 10m grid within the central part of the Tokyo Metropolitan areas published by the Geographical Survey Institute of Japan. The newest survey has done in 1994, and land uses are classified to 15 categories. We can get aggregated land use data tables within circle shape areas centered freely selected focal point on the land use maps using following procedure: 1. Decision of focal point (railroad station, freeway exit, public facilities etc.). 2. Set of radius of an objective area. 3. Download of the result of aggregation. We will demonstrate this interactive method and will show the result of an analysis of mixing structure within the Tokyo metropolitan areas.

**Arctic to outback: Indigenous rights and global changes in conservation**
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**Abstract**
In 2003 the Vth World Parks Congress suggested new global directions for conservation policy. Contrary to those directions, the momentum in conservation management practice, in many Western nations, is towards greater support for outdoor recreation and tourism provision in protected areas. These activities help finance conservation bureaucracies and regional communities, and meet a growing demand. But they may also interact negatively with Indigenous rights which persist in protected areas and adjacent landscapes. Co-management has been seen as a solution to competing claims to national parks which are also Indigenous homelands, but recent analyses suggest that this may often be illusory. This paper compares sites in outback Australia and arctic Sweden, which are simultaneously World Heritage Areas, national parks and Indigenous homelands, as well as being local and global foci for outdoor recreation.
A Mix Methods Study in the Racialisation of Indigenous Australians by NSW Public Hospitals
Mr Jack Aisbett *, University Of Newcastle
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Abstract

The health of Australia’s Indigenous communities is at ‘third world’ standards, despite 30 years of recognised citizenship. This paper identifies how racialisation, a covert way that those with power exclude others from entitlements by constructing ‘race’ based identities, contributes to the poor Indigenous health circumstance. This paper explores the racialised processes embedded in today’s medical industry through a mixed methods approach. It incorporates traditional medical geography techniques of quantitative assessment while integrating qualitative approaches used by critical race theorists. An odds ratio analysis along with logistic regression of explanatory variables (e.g. age) was conducted on NSW hospital patient data to test whether patients identified as Indigenous were less likely than other patients to receive a hospital procedure. Results indicated that while socio-demographic factors affect Indigenous access to health services, there are also significant institutional biases reducing the likelihood that a patient who identifies Indigenous to a NSW public hospital would receive a procedure when admitted. Content and discourse analysis was conducted on hospital documentations, hospital staff, Indigenous health specialists, and Indigenous clients to test for racialised practices/discourses within hospital procedure and staff attitudes/language. Results indicated the existence of ethnocentric agendas, exclusionary practices and socio-economic oppression in hospitals. It is the conclusion of this paper that over reliance on the biomedical approach towards disease that neglects the specific health and lifestyle circumstances, communication problems, cultural misunderstandings, stereotyping and blaming of Indigenous Australians for their own health circumstances is impeding improvements in Indigenous health. It constructs those belonging to an Indigenous identity as being poorly enculturated ‘white’ people and gives preferential treatment to ‘white’ people. The Australian medical system needs to give greater attention to racialisation and foster greater Indigenous control over the treatment of Indigenous patients.

Seasonal march of rainfall and its interannual variation in the Philippines
Ms Ikumi Akasaka *, Tokyo Metropolitan University
Mr Wataru Morishima, Edogawa University
Mr Takehiko Mikami, Tokyo Metropolitan University

Abstract

The seasonal march of rainfall on the west and east coastal regions in the Philippines contrasts sharply by the seasonal change of Asian-Pacific monsoon and orographic effect. The rainy season occurs simultaneously by the influence of summer monsoon on the west coast in middle of May. But in the east coast maximum rainfall is experienced around November when northeast monsoon strongly blows. Although a lot of studies have investigated the interannual variations of rainfall amount in the Asian-Pacific monsoon region, the regional difference of seasonal march of rainfall in the Philippines has been considered scarcely. This study especially focuses on the interannual variation in the onset and retreat dates of rainy season for an individual year, considering the difference of seasonal march between west and east coastal regions. For clarifying the temporal and spatial differences between the west and east in seasonal march of rainfall, the EOF analysis was applied to pentad rainfall data in 39 stations from 1961 to 2000. According to the results, the first mode reveals the increase of rainfall amount in the entire Philippines during summer monsoon while the second mode represents the contrast in rainfall between the west and east coasts. Since the results of the EOF represent the features in the seasonal march of rainfall on the west and east, the onset and retreat pentads of rainy season on the west and east coasts were determined by applying the U-test to the time coefficients of the first two modes. It was found that the interannual variations in the onset pentads of rainy season both in the west and east coasts are small compared to retreat pentads of rainy season. Additionally, this study shows that the onset pentads of rainy season are not always delayed during warm event of ENSO.
Natural Risks affecting the Environment Condition in the Urban Ecosystem of Târgoviște Town - Romania
Ms Radita Alexe *, Valahia University Targoviste

Abstract
The research works undertaken regarding the territory under analysis, including the mapping in the field, have highlighted two types of risks: natural and man-made. Of the natural ones the geological, geomorphological, hydrological and climatic risks have been the subjects of different research works. The determination of the degree of seismic risk of the territory occupied by Târgoviște town has been made considering the tectonic factor and the geological structure. Among the zones of higher seismic risk is included well the intersection of the two crustal faults (the fault of Ialomișa and the fault of Dâmbovița, oriented NNW-SSE), with the secondary fault of Vișoara-Teița (oriented ENE-WSW). We remark a series of geomorphological risks, which, by their consequences, can have an impact on the environmental quality and can produce material damages. The areas with the most active shaping are the valley corridors, especially the valley of Ialomișa, through processes of lateral erosion or of accumulation, and the hill of Dealul Monastery through slope processes. The hydrological risks in the area of Târgoviște town are generated by the precipitation regime, by the lithological nature of the terrains, by the low proportion of the surface covered by vegetation and by the slope of the relief. Through mapping, a few floodable areas or zones where the pluvial waters stagnate have been delimited: the area of Sasului rivulet, Valea Voievozilor rivulet and Milișna rivulet. In order to limit the hydrological risk for the urban ecosystem of Târgoviște, especially in the areas mentioned above, a series of measures have been proposed. Târgoviște municipality is affected by a series of climatic phenomena of risk (cold or heat waves, humidity excess, fog, white frost, cold winter winds, abundant snowfall, droughts), some of them with negative consequences not only for the material damages they trigger, but also for the fact that they accentuate the pollution phenomenon.

Draughts and Floods on Romania’s Territory – Special Hydro-Meteorological Phenomena
Ms Radita Alexe *, Valahia University of Targoviste
Mr Petre Gastescu, Valahia University of Targoviste

Abstract
The tendency of aridness, manifest especially during the last decades of the 20th century and continuing during this century (for the moment at least until 2004) is determined by the increase of the air temperature associated with a decrease of the rainfall. But, on this climatic background, namely arid, at least on Romania’s territory, occur numerous floods caused by large quantities of rainfall which come down during short time intervals, within hours, sometimes within minutes. An analysis of the periodicity of the meteorological and hydrological regime on Romania’s territory for the last 125 years (1881-2006) shows three regime conditions: rainy, normal and arid, with periods varying between 11 and 20 years. Thus, the result is: rainy periods 1881-1892, 1930-1941, 1968-1980; arid periods: 1893-1905, 1917-1927, 1942-1953, 1981-2004; and normal periods 1906-1917, 1954-1967. Floods occur on the internal rivers both during the rainy and the normal periods (for ex. the years 1912, 1948) and even during the arid periods (for ex. the years 1991, 1999, 2001, 2002). If the floods that occur during the rainy periods cover a larger area, those that appear during the dry periods are local, but of high intensities and devastating. As reference years for the occurrence of the largest floods, 1970 and 2005 are to be mentioned. Usually, they appear on the background of the large spring rivers, but, in 2005, the period extended until the autumn months (September-October). The Danube, European hydrographical artery (817,000 sqkm hydrographical network and 2860 km in length), and which flows on Romania’s territory partially (role of natural border) and integrally, by its complex hydrological regime produces high floods and floods without a certain periodicity. In this sense, we mention the years 1932, 1940, 1942, 1955, 1970, 1988 and especially 2006, when the middle and lower course were affected by high flows that had not occurred since 1895 and 1897. This aleatory manifestation of the drought and flood phenomena is caused by the climatic changes, by the temperate continental climate and by man-made modifications (uncontrolled deforestations in the alpine area, waterside dams and desiccations, especially in Danube’s case).
Arab brain drain To Australia
Mr Mohammed Al-Gabbani *, King Saud University

Abstract
The so-called brain drain is an expression that came into being in the 1960s with the loss of skilled labor-power from a number of developing countries. The emigration of the scarce professional skills, like doctors and engineers, who had been trained at considerable expense, is considered to be one of the problems facing the Arab world today. The movement has increased in the 1990s mainly as a result of political and economic problems. As a result, thousands of skilled professionals from Arab countries migrated to western countries, the US, Canada, UK and Australia in particular. One study says that 50 per cent of medical doctors, 23 per cent of engineers and 15 per cent of Arab scientists are lost every year to Europe and North America. Also more Arab students receiving an education in Britain, the US, Canada or France stays after completing their studies. Today, it is estimated that Arab states annually lose up to $1.5 billion as a result of the brain drain. According to the 2001 Australian Census, 213 940 people from Arab countries have settled in Australia and some estimates the number of Australians of Arab origin at almost one million. The objective of this paper is to shed light on the problem and issue of Arab brain drain to Australia which has not been examined, using a sample of highly qualified and highly educated and trained Arab migrants living in the city of Sydney. The paper describe the characteristics of those and look into the main reasons behind their migration, ask whether they think of going back to their home countries and tries to suggest possible measures to reduce or reverse the problem.

Coastal Erosion in the Batinah, Sultanate of Oman: Social and Environmental Aspects
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Abstract
The Batinah coast, stretching more than 200 Km from the Muscat capital area in the east to the UAE border in the west (Figure 1), is mostly sandy and characterized by longshore sand transport along a low lying coastal plain fringed by beaches and fields of sand dunes. Heavily settled, this area houses more than 50% of the Omani population. Available information suggests that, without human interference, this sandy shoreline would be relatively stable. Reduction in sand supply or increase in sand loss, by natural or anthropogenic factors, can result in long term erosion and retreat of the coastline. Along the Batinah coast such erosion is widespread and is an important factor to consider in coastal engineering activities such as harbor development (Atkins 2001). Indeed, erosion along the Batinah has long been recognized as a problem and was reported on extensively by Dobbin (1992). The latter study indicated severe erosion at many places, due to reduction in sediment supply by recharge dams and roads, construction of harbors and the long-term process of sea level rise. Valuable property is being lost and structures are collapsing into the sea. While the project addresses these issues by the study of the geomorphological and anthropogenic factors responsible, it is known that coastal erosion can severely impact coastal communities (Masalu, 2002). This paper concentrates on the socioeconomic aspects of the situation and explores the historical background, beach use patterns and how people are affected by erosion. Samples of the Questionnaires and preliminary results of some interviews will be presented.

Agro-Ecological Assessment In Al-Hassa Oasis Saudi Arabia
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Abstract
Agro-Ecological Assessment In Al-Hassa Oasis Saudi Arabia Al-Hassa Oasis is located in the eastern province of Saudi Arabia. Agricultural land in the Oasis currently faces the following problems: Declining of ground water level, Natural Flow of groundwater from springs does not exist any more, Low efficiency of irrigation water use, High soil salinity, Sand dune encroachment, and Declining of crop yield. The main purpose of this paper is to asses the Agro-ecological situation of the intensified soil and water use in Al-Hassa Oasis.
Consensus building by default: the debates surrounding the Japanese land reform and their impact on twenty-first century planning.
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Abstract
This paper explores the process and significance of land reform in Japan in terms of its effects on the Japanese environment and ability of the Japanese government to regulate land use. Drawing on archive material we set out the political context and options available particularly during the years 1945 to 1955. We first detail how the allies and the Japanese government negotiated the eventual process for land reform. We highlight the reasons why different interests during the immediate post WWII period considered land reform to be important politically, economically and socially. We then show how land reform perpetuated some of the structures and problems of land-use that had existed prior to the Second-World War (Tsuru, 1993). In particular, we demonstrate how land reform strengthened the concept of private land-ownership and associated rights ensured by the Japanese constitution. This was partly achieved by the widening of ownership of small farms to tenants and others (Dore, 1959). The effect of redistributing land in this way reified a link between land ownership and individual freedom which transformed Japanese politics and significantly constrained Japan's ability to control land-use (Sorensen, 2004).

Climate fluctuation: consequences in weather change and human health for Moscow region and Kamchatka region
Dr Maria Ananicheva *, Institute Of Geography
Dr Nina Kononova, Institute Of Geography

Abstract
The paper seeks to understand the impact of actual climate changes on human health in Russia. The research was made for two different by environment regions: the center of European Russia and Kamchatka. We conducted a conjugate analysis of local weather structure using macro-circulation processes typization made in (Dzerdzeevskiy,1975) on the basis of daily data of Moscow and Petropavlovsk weather-stations. Changes in circulation have resulted in change of weather type recurrence in both regions. In Kamchatka in winter due to reduction of Arctic intrusions and increase of southern cyclones invasion, the recurrence of severe weather has decreased and replaced by cold windy one. Plentiful snow- falls and drifts are characteristic for this type that is adverse for people with lung/heart deceases. In Moscow region reduction of Arctic intrusions was replaced by southern and also western cyclones. It was manifested in intensification of weather type when air temperature passes the zero. Beside constant overcast, snowfalls, sleet with rain and thus slippery roads are peculiar for such weather, which is harmful for people with cardiovascular diseases and promotes flu spreading and street traumatism. The death rate grows by 50% in the abnormally high temperature years. Duration of such period impacts people even more than maximal values themselves; except for older people who are more sensible to temperature extremes. Climate fluctuations have caused the adverse changes in climate structure both in Moscow region, and on Kamchatka that create additional burden over human adaptation system.
Natural conditions as a power to tourism development (case study from Czech Republic)
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MSc. Martin Balej, Department of Geography, Faculty of Science, JE Purkinje University

Abstract
Associations organizing touristic activities and implementing development of infrastructure (restaurants, construction of roads and their marking) were established in touristic attractive regions. In the interwar period, rich touristic activities along the Labe continued – shipyard was constructed, Yacht – club established, swimming-pools were opened and also the first cottages along the water reservoir created in front of the sluices under Støekov castle were founded. “Free” touristic in the hilly parts of the region on one side and start of concentration of recreational activities in the Labe valley in front of the Støekov castle on the other side. Like in other localities of the Czech Republic, the factor of “river valley” that formed the basic transport routes (river, railway and later also road transport) played the decisive role here. Political changes after the World War II together with the effort to own at least a bit of land were some of the reasons for increased interest in construction of recreational cottages. Small gardening colonies with later construction of bungalows were established in suitable localities of the micro region; ownership of a recreational plot just in this attractive locality became the fashion of the richer population of the city and a question of prestige. Vigorous development in construction of cottages and bungalows occurs especially in the 70s as a reaction to the political events of 1968 – another way of human self-implementation. A high load of atmosphere with air pollution – harmful substances was the strongest negative factor of that times in spite of the fact that their concentration was substantially lower than in the regional capital. Extensive development was progressively substituted by intensive development (already since the 80s, the local bungalows belonged among best fitted in the north-west of Bohemia – they were provided both with water supply lines and sewerage system).

A spatial road traffic collision hotspot typology for London, UK
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Abstract
The road accident literature provides no universally accepted definition of a road collision ‘hotspot’. Hauer (1996) describes how some researchers rank locations according to collision rate (this is usually collisions per vehicle kilometre), while other researchers use collision frequencies (collision per road kilometre). This paper aims to address the nature of the similarity between the hotspots (defined by kernel density smoothing) in London, UK using a k-means clustering method. The algorithm clusters the hotspots and associated attributes and aggregates the data into a number of clusters, based on the attribute data and level of similarity. The object of the clustering methodology is to identify the similarities and the characteristics of the hotspots and to outline in detail the nature of the similarities which occur within the data. Attributes of road collisions within high density hotspots have been obtained from the Stats19 database. This attribute data is then used to determine similar characteristics of 428 hotspots within London and create 5 groups and 15 clusters in order to understand the circumstances of similar hotspots. The clustering results are combined with postcode data of the casualties and drivers in each hotspot with associated geodemographic codes appended to them. Geodemographics, a small area classification technique, in recent years has seen an increase in applications in crime, health and education. This paper uses Mosaic™ types which are appended to the casualties who are involved in collisions within the different hotspot clusters. The results are fifteen unique spatial road collision clusters which define the nature of the circumstances of the similar hotspots and the type of person(s) more likely to be involved in that particular hotspot.
Mr. Edo Andriesse *, Utrecht University
Mr. Bram Helvoirt (van) *, Utrecht University

Abstract

It is increasingly recognized that both formal and informal institutions could determine patterns of economic activity and economic development to a large extent. As such, they are important explanatory variables for the huge diversity of capitalist systems. However, less is known about the relative importance of regional institutions for regional economic activity and regional development, especially in developing countries. Obviously, the nation state is a major locus of economic institutions, but regional economic institutions might play a decisive role as well. The aim of this paper is to analyze the relative importance of regional institutions on regional capitalist systems in Southeast Asia. Recently developed approaches that combine institutional and political economy are used to analyze how the role of regional institutions varies in different national contexts. Two comparisons are made that enable an analysis of the relative importance of regional institutions: one between two regional economies in the same country (Cebu and Negros Oriental in the Philippines) and one between two bordering regional economies in different countries (Satun in Thailand and Perlis in Malaysia). We analyze the four regional capitalist systems by investigating four sets of economic institutions: the extent of alliance coordination of supply and demand, the extent of collaboration between competitors, the extent of alliance coordination of sectors (chambers of commerce and sector-specific associations) and formal and informal access to finance (banks, the public sector, family). The results suggest that regional economic institutions are stronger in agricultural areas with relatively weak national economic institutions (Satun and Negros Oriental). In Perlis national economic institutions are very dominant, whereas the strong presence of foreign firms in Cebu leads to significant vertical relations in global chains of production. Keywords: institutions, Southeast Asia, regional economies

Density and spatial fields of belonging in three NSW rural communities
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Abstract

Place-based attachment and locally-oriented social interaction patterns are fundamental aspects of rural community life across the vast majority of the Australian rural ecumene, notwithstanding the rise and growing spread of the internet and increasing salience of individuals’ affiliations to supra-local networks and organisations. Using Lefebvre’s triadic spatiology as a means to connect patterns of local social interaction with broader networks of information flows, as well as lay and expert concepts and representations of space and place, this paper explores the relationships between local rural population density, social interaction patterns and the degree of individual satisfaction with local community life (a proxy for ‘belonging’) across three New South Wales rural communities of vastly different local and regional population densities, environmental settings and industrial composition. The paper argues that ‘community’ – as an expression of local place- and interest-based attachment and belonging – is constantly and reflexively being negotiated and reconfigured within each of the three case studies in the context of substantial population, economic and technological change. The challenges posed to the sustainability of local social patterns and networks contrasts markedly depending upon a community’s position along the density spectrum.
The Amenity Complex: towards a framework for analysing the emergence of the multifunctional countryside in Australia
Dr Neil Argent *, University Of New England
Mr Peter Smailes, University of Adelaide
Mr Trevor Griffin, University of Adelaide
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Abstract
There is growing consensus among academics, regional development organisations and rural communities that the future growth and development of rural regions is increasingly dependent upon their ability to convey to both established and prospective residents the 'amenity' of the local physical, social and economic environment. However, little research to date has sought identify exactly what comprises 'amenity' in the rural context, nor examined how widely this conceptually-slippery quality is distributed across rural Australia, nor how it influences local demographic, socio-economic and land use change. This paper attempts a concerted broad-scale investigation of rural amenity in the Australian ecumene, identifying its core components in this context, mapping its distribution and assessing the nature of its influence over in-migration rates over the past three decades. The paper finds that, at a macro-scale, amenity tends to follow a predictable gradient from high to low according to distance from the coast, and that its relationship with in-migration rates has increased substantially between 1976-81 and 1996-2001. However, more complex associations between amenity and population change exist at sub-regional levels, questioning the notion that the development paths of rural Australia may be dividing between inland, supposedly low amenity regions, on the one hand, and coastal and peri-metropolitan areas associated with high amenity, on the other.

Desertification Egyptian case study
Mr Mahmoud Ashor *, AinShams University

Abstract
The UN Conference on desertification in 1977 recognized that desertification is one of the major environmental problems of the world and draw up a plan of action to identify the causes and combat it. After the Catastrophic events of the Sahel in the seventies and the eighties of the last century many efforts are taken, action plans are drawn, projects are implemented by the UN agencies and the Developed countries, but none of these are efficient or successful enough. This may be attributed to the fact that desertification is very complicated natural and socioeconomic process.

Geographies of social governance: a governmental perspective on enacting interagency human service delivery initiatives
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Abstract
The forms of governing that typify current social policy in Australia are often described and understood as neoliberal. In particular, many accounts of human service delivery settings commonly claim neoliberalism to be universally evidenced through interagency working, techniques of evaluation and accountability, community-based programmes and activation of citizens. Subsequently, neoliberal rationalities have tended to be positioned as the foundation for a current form of governing with techniques such as interagency working and evaluation emerging directly, albeit variably, from policy. Drawing on governmentality as a set of tools for thinking about and questioning governing, this paper explores the enactment of a whole-of-government strategy entitled Families First: a NSW Government initiative aimed at the improved provision of services to communities and families with young children. The aim of the paper is to approach the strategy as a complex of rationalities, technologies and practices enacted formally and informally through programmes, institutions and various locales. The paper focuses on state actors and their role in enacting a particular programme, Schools as Community Centres, in order to reveal the ways in which the rationalities and techniques of neoliberalism are simultaneously reinforced, challenged or, indeed, absent from existing institutional policies and practices across different contexts. From this perspective, neoliberalism is rendered as a necessarily incomplete, contingent and continuously performed process.
Geo-environmental data and species distribution models
Prof Richard Aspinall *, Arizona State University

Abstract
In Egypt desertification is very effective, while the total area is about million square kilometer, but the arable land area is mainly confined to narrow strip along the Nile valley and the Delta, amounting to 36000 square kilometer or 3.6 % of the total land surface. This limited area has to support population estimated at about 70 millions.

Non-permanent migrants and host rural communities in Australia: social, cultural and economic challenges.
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Abstract
This situation is further aggravated by rapid growth of population due to the high birth rate against a declining death rate. The increase in population unaccompanied by a corresponding increase in the cultivated land area has resulted in a serious deterioration of the already adverse land/person ratio. The per capita cultivated area has fallen from 0.48 feddan in 1908 to about 0.12 feddan in 2004. Under the pressure of increased population, Egypt has gone far from being an exporter of agricultural products to an importer of about $one billion of food annually since 1970.

Modelling Species Distributions: theory, prediction, performance and application.
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Abstract
We believe that desertification is very unique in Egypt, it is not only the result of natural and human factors previously mentioned, but it is the urban sprawl which swallow each year an area ranges between 20 and 30 thousand feddan. This means that the next generations will suffer a crisis of food shortage, if the problem is not seriously solved.

An Epistemology of Applied Geography
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Abstract
Throughout its existence geography has been successfully engaged in both fundamental research and applied research. This paper explores the notion that if geographers are to effectively address societal problems they need to better understand how geographical knowledge is ideologically constructed and the limits of geographical knowledge. Using the written works of philosophers and epistemologists this paper will evaluate the effectiveness of applied geography and the field's epistemological strengths and weaknesses.
**Describing the Global Time-space Evolution of the Internet with Phase Regression between 2000 and 2004**

Dr Robert Baker *, University Of New England  
Mr Troy Mackay *, University Of New England

**Abstract**

Globally weighted regression techniques can be used to show the evolution of the Internet (Baker, 2005). The improved capacity of the infrastructure has seen a substantial contraction in ping times and less variance over distance from 1998 to 2004. This improvement is also reflected in a regression application developed by MacKay and Baker (2005). A statistic was developed relative to the line of best fit for a 360° manifold, measuring either global or local phase connectivity for any given monitoring site in the Stanford Linear Accelerator (SLAC) Internet network. The global slope of the regression line for the variables, phase and longitude, is standardised to one to account for the Earth's rotation. The degree of deviation from this line reflects interference from peak demand circumnavigating the Earth, sourced from different time zones. Those sites, where the deviations approach zero, are well-connected with little interference from the 24-hour demand wave. Conversely, sites with periodic regional packet loss (and hence poorly-connected) have a line of best fit relative to a horizontal phase line from the local time zone. Monitoring sites can be classified either globally or regionally in phase by a weighted statistic between 0 and 1 and this can provide a proxy for measuring the monitoring site's network capacity in dealing with periods of peak demand. The calculation of this phase statistic shows this improvement across most SLAC sites from 2000 to 2004, including those countries suffering an 'island' effect (such as the UK and Japan) and those geographically isolated (such as in Kazakhstan).

**Time-space modelling sunspots and extreme droughts in eastern Australia**

Dr Robert Baker *, University Of New England

**Abstract**

This paper will develop a predictive large-scale drought model from a coincidence between the nature of solar emissions and rainfall extremes in eastern Australia. A plot of monthly southern oscillation index (SOI) values relative to sunspot numbers show some regularity in SOI fluctuations with distinctive phases of solar activity. For example, at the end of the sunspot minima, there is a dip in the SOI values over the year (suggesting an increase in the likelihood of below average rainfall). Likewise, there appears to be a coincidence with positive peaks in the SOI with increasing sunspot numbers in the first part of the solar cycle (and an increased likelihood of above average rainfall). There is also an interesting negative fluctuation after the peak in many sunspot cycles and this is coincident with the polar flipping in the Sun's magnetic field. The last magnetic flipping occurred in 2001-2 and this was followed by a period of widespread drought across eastern Australia in 2003-4. Whilst there is little linear relationship between sunspot numbers and SOI, a significant tri-model correlation suggests that there could be up to three possible phases between positive and negative SOI clusters (that is, three periods of an increase probability of above and below average rainfall, respectively, every eleven years). This is suggestive of at least one 'figure-eight' relationship in a cycle of situations which can show one way how the solar cycle can impact upon the SOI. This 'figure-eight' relationship can be described by a time-space time similarity model. The solutions can define six possible phases that could correlate with a quasi-periodiccy to extreme droughts and water surplus episodes in eastern Australia between 1890 and 2005. The value of using time-similarity arguments is that longer period cycles are solutions of the model. The extreme drought in eastern Australia between 1900 and 1903 could have been a consequence of an extended El Nino episode in the Pacific, generated by a coincidence between an 11-year and centennial solar sunspot minimum. Likewise, the thousand year maximum in sunspot numbers in 1957 (and the steep positive gradient coincident with extreme floods) could also be the La Nina part of the longer solar term cycle.
**Constants in Chaos or Chaos from Constants: A Review of Dynamic Spatial Interaction Modelling**
Dr Robert Baker *, University Of New England

**Abstract**

The aim of this paper is to explore: what are some of quintessential features of spatial interaction modelling? The time-space and space-time convergences describe particular types of spatial interaction within a general origin-destination trip model, so these are a good beginning to consider this question. Recent work has focused on the former where origin-destination pairs are defined by the convergence of time lines. What is surprising here is that the mathematical operators (equivalent to verbs in sentences) describing the time lines are the same whether the trip describes a regular walk to a shop, a car trip to a shopping mall or a virtual trip on the Internet. The operators are constant, independent of the scale of interaction. Further, the type of distance metric is a negative exponential function (a gravity model) which has the interesting feature of a 'memoryless' property where its shape does not change with successive differentiations. The time rate of change to an n order of iteration between an origin-destination pair does not change the nature of gravity model. Change, in this sense, has no effect on spatial interaction. A reason for this could be found in Internet trips near the singularity of the time-space convergence, where there is an inequality between space-time substitution (in terms of ping latency and distance travelled). Underpinning the chaos of Internet traffic and this inequality in time-space substitution is a fundamental physical constant in the transaction speed (that is, the speed of light). Distance will always matter in spatial interaction. What is being argued is that there are constants in chaos. The space-time convergence of space lines also has similar ramifications particular for motion perception. The nature of speed of light could also explain why, in the processing of moving optic fields, such as driving a car, this physical limit affects our reactions to speed, road topology, night driving and fatigue. For example, driving long distances at night on straight roads (that is receiving constant visual information) could account for the gaussian spreading of spatial perceptions and an increased likelihood of vehicular accidents. The results of which could then be 'chaos from constants'.

**Time-space similarity modelling virtual internet origin-destination trips**
Dr Robert Baker *, University Of New England

**Abstract**

The generation and boundaries of Internet traffic are part of a time-space convergence of origin-destination trips, where, in spatial interaction, distance decay is a characteristic metric. This type of model has been previously generated by a random walk of traffic between sites, governed by contributions from different time zones and the rotation of the Earth. This paper presents a more general model based on similarity arguments, where there is a space-time variable (the longitude of the site) that defines spatial interaction over time. The resulting solutions describe, not only the above periodic model, but situations when there is no periodicity in traffic (such as when viruses occur) or when time contributions can be considered imaginary in a mathematical sense (or possibly virtual in a computer sense) and traffic flows are boundary-sensitive to higher order polynomial fluctuations. These ideas are presented in the context of data generated from the Stanford Linear Accelerator Centre's global Internet network between 1998 and 2005.
Assessing capabilities of remote sensing technology for the geomorphological studies
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Abstract
Remote monitoring of coastal geomorphologic features using satellite data has several advantages for coastal zone management plans. These include rapid, continuous and in time monitoring of dynamic coastal areas and cost-effective methodology among other coastal management schemes. In this research an attempt has been made to study the usefulness of remotely sensed data and image processing techniques to analyze the coastal morphological features and phenomenon like coast line, sedimentation, bathymetry and high water line delineation. Landsat MSS, TM and ETM satellite data with topographic maps and water depth data pertaining to south coastal areas of Hendijan and Motaff and north coastal areas of Gomishan were used in this study. GEOMATICA image processing software package were used to analyze the data. All the data were first geo-referenced to a common coordinate system and features like shoreline were digitized and overlaid to the satellite images. Images derived from band ration of band 4 by band 2 of the TM and ETM data were used to delineate shoreline at the time of acquisition. Differences between shoreline derived from topo-sheet map and shoreline derived from satellite images were identified. Using image-processing algorithms bathymetric map of the study areas were generated and the correlation between water depth data and the satellite derived bathymetric map were also analyzed. Using visual interpretation, High and low water line in coastal areas were mapped. Results show that in coastal areas of Hendijan River, approximately 82 km2 has become filled with sediment. Also, we identify that the shoreline has migrated approximately 4,330 m in to the Persian Gulf, an average annual rate of 90m. Bathymetric maps derived from satellite images have shown a good relation with water depth map in low depths areas. The promising results of this study indicate the coastal managers could use satellite data because of their several advantages. Keywords: remote sensing, coastal geomorphology, shoreline, bathymetry, Iran

Matrix model of regional wildlife management
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Abstract
The matrix model was developed with the purpose of more full and strict quantitative reflection of all relations arising between the components of nature, population and economy during wildlife management in the region A general scheme of the matrix model of regional wildlife management can be represented as follows. The matrix table contains three groups of lines and accordingly - columns reflecting the kinds of activity in the region, combination of natural resources and the basic characteristics of environment components. Crossings of these blocks form nine quadrants (parts) of matrix. In these quadrants it is reflected: In the 1-st (crossing of kinds of activity) - intraregional economic relations between separate kinds of activity; In the 2-nd (crossing of kinds of activity and natural resources) - reversed resource use (Baklanov, 1986), i.e. changes of natural resources under the influence of technogenic impacts of separate kinds of activity; In the 3-rd (crossing of kinds of activity and environment components) - technogenic changes of environment components; In the 4-th (crossing of natural resources and kinds of activity) - direct resource use (Baklanov, 1986), i.e. the direct use of natural resources in separate kinds of activity; In the 5-th (crossing of natural resources) – inter-resource relations in the region; In the 6-th (crossing of natural resources and environment components) - direct resource use (Baklanov, 1986), i.e. the direct use of natural resources in separate kinds of activity; In the 5-th (crossing of natural resources) – inter-resource relations in the region; In the 6-th (crossing of natural resources and environment components) - influence of extraction of natural resources on environment components; In the 7-th (crossing of an environment and kinds of activity) – the use of properties and qualities of an environment in separate kinds of activity; In the 8-th (crossing of an environment and natural resources) - influence of changes of environment components on natural resources; In the 9- th (crossing of environment components) – inter-component relations in an environment of the region. Both real existing relations in regional wildlife management and calculated, forecasting ones resulting from various variants of regional development can be reflected in the similar matrix model.
The role of Cultural Pedagogy in meeting the needs of a diverse student population
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Abstract
Buckingham (2003), amongst others, argues that there is a growing gap between the worlds of young people outside schools and their educational experiences in schools. The cultural experiences of young people provide opportunities for developing different approaches to school geography that might be helpful in increasing its perceived relevance and in making it more engaging. There is substantial interest in the geographies of children and young people (e.g., Skelton and Valentine, 1998; Holloway and Valentine, 2000). Morgan (2003) has argued that if school geography is to connect with the experiences of young people, it must provide them with opportunities to question cultural representations. Questions of diversity and difference are high on the current political agenda as well as on the geographical agenda. Recent contemporary events have challenged the consensus that Britain is a ‘multicultural society’ characterised by “tolerance and respect for social diversity and ethnic difference” (Jackson, 2002). The politician Vincent Cable argues that Britain must strive for “multiple identity, not multiculturalism”. His arguments about the ‘politics of identity’ echo those of Jackson (2002) who advocates a ‘politics of difference’. This paper is based on some evolving research into the potential of cultural pedagogy in helping geography teachers to develop a far more ‘inclusive geography education’ that meets the needs of our diverse student populations. It has developed from work as a teacher educator with geography teachers from different ethnic and cultural groups and a concern to find appropriate pedagogies that engage their experiences, cultural orientations and perspectives.

Long-term land use changes and environmental stress development
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Assoc.Prof. Jiri Andel *, Department of Geography, Faculty of Science, J E Purkinje University
Mr. Tomas Orsulak, Department of Geography, Faculty of Science, J E Purkinje University

Abstract
Landscape development, land use changes, driving forces and factors shaping her present character and functioning are gaining still increasing attention in landscape ecological research. Understanding landscape of the past, detection landscape memory or history is necessary for definition future scenarios of her development. This paper analyses land use changes over five time periods (1764-68, 1845-52, 1948-56, 1986-90, 2003-05) in a typical part of the Czech-German borderland in Northwestern Czechia (Petrovicko) and prognosis her development in 21. century. For achievement a higher results validity of the research we are using multidata-sources: maps (Francis and Joseph) military mapping, land registers (1764, 1845, 1948, 1990, 2003), aerial photographs (1956, 1986) and chromatic orthophoto map (2005). We except approved methods apply to new methodical procedure environmental stress assessment. Dynamic landscape changes, to whereby happens especially in second half of the 20th century, are resulted from economic and political factors and determined by regression development of the study area. Key driving forces were primarily postwar transfer of German inhabitants, collectivization in agriculture and increasing environmental stress (anthropostress), culminant during the 1980s. The period so-called economical transformation, connected with the end of communism and change over market economy, presents comeback to natural development trajectory of the study area. Privatization process give rise to crucial changes in landscape structure towards marginalization and land abandonment, and then arable land use type step by step is substituted by succession areas. The paper considers correlation between development of socio-economic variables and land use changes in relation to decreasing or increasing of environmental stress in landscape.
Remote worlds, local centres: Decentering the concept of resource peripheries.
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Abstract

Every global resource frontier is also a local centre. The development of large-scale mining operations in Melanesia performs multiple realignments of local worlds: from ‘remote’, ‘peripheral’ places to intensely contested local centres, and from locally focused societies to sites of expansive social, cultural and economic activity. In this paper I seek to shift the perspective from a global view of resource peripheries to a view of the globe from these ‘peripheral’ sites. The argument is that for communities in Melanesia, becoming incorporated into the global ‘resource periphery’ offers the promise of recentering the world, of re-locating their community back to the pre-modern centre of their social universe. The paper concludes with a discussion of the temporally-specific nature of such ‘resource frontiers’, questioning whether resource peripheries (and particularly those based on non-renewable resources) offer communities anything more than a short time as a renewed local ‘center’.

Kate, Ken and Jim: An alternative narrative of wine industry development
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Abstract

Much of the recent work on governance and the wine industry is imbued with a sense of rationality – that sense can be made changes and trends by reference to broader structural processes, be they physical parameters (climate, soils), or the interlinking of institutional, economic and industry trends (agricultural policy, globalization or ‘industry learning’). In this paper we wish to highlight another set of much more nebulous and ephemeral factors – the role of particular individuals, fleeting networks, and fortunate confluences of interests – that shape particular industries in particular places at particular times. The growth and evolution of the Canberra wine district is used to illustrate this alternative approach to understanding industry development which, it is argued, accounts for the Canberra case more fully than the standard narrative.

Transforming The Functional Structure Of Poland’s Rural Areas
Prof Jerzy Bański *, Maria Curie-Sklodowska University

Abstract

Paper is devoted to changes in the functional structure of Poland’s rural areas in the period 1989-2004, which is to say those of the transition from a socialist economy to a market one, as well as of the country’s preparations for EU accession. As a result of a functional classification of rural areas carried out in 2000, it proved possible to identify 10 functional classes linkable into 5 groups (i.e. areas of an agricultural function, areas with an equal contribution made by different functions, areas with prevalent forestry, areas with a prevalent tourist/rest-and-recreation function and areas with a prevalent non-agricultural function). The functional classification revealed that the 15-year period brought a strengthening of the agricultural function in central and eastern Poland, while the west and parts of the south witnessed an increase in the significance of functions outside agriculture. The latter were the result of the development of new economic activities, including on farms engaging in the processing of agricultural products and the rendering of different kinds of services. In areas with a prevailing agricultural function, there has in general been a decline in the significance of productive market-related agriculture, and an increase in its role in the supply of rural inhabitants. To be mentioned first and foremost among the factors stimulating the development of non-agricultural functions are: the level of education of the populace, migration movements, pre-accession funding from the EU and the level of outfitting in technical infrastructure.
The Balance Of Development Of Central And Peripheral Rural Areas In Poland In The Transformation Period
Prof Jerzy Bański *, Institute of Geography and Spatial Organization, Polish Academy of Sciences

Abstract

The aim of the paper is to point out the differences in development between the rural areas located near big urban agglomerations, and peripheral regions. The hypothesis is that the period of economy transformation resulted in deepening the differences in development within the rural areas, bringing about usually positive changes in the centrally located regions, and negative changes in the peripheral areas. One of the most important phenomena differentiating the socio-economic situation of analyzed areas is, on the one hand, the influx of urban population (usually well educated and affluent) to suburban zone, and on the other hand, the outflow or stagnation of population in the peripheries, which makes the age and sex structure, already out of balance, even worse. Agriculture dominates in peripheral regions, being the main source of income for most households there, with a relatively small number of new business enterprises. Slow development of peripheral areas and the lack of perspectives for the future results in high level of frustration for their inhabitants. This was confirmed by conducted surveys, which show that only one in five of peripheral village inhabitants is pleased with the current transformations. In general, it can be said that the 1990’s brought in Poland further peripheralization of regions located away from central units. Especially the regions of eastern Poland and the areas where until recently state-owned farms operated experienced strong peripheralization. Closing the state-owned farms, which employed tens of workers, resulted in the collapse of local job markets, certain services and social allowances.

Relations between core and peripheries in the Polish conceptions of development
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Abstract

The basic principles of the state’s policy concerning spatial planning are included into dozens of planning and strategic projects, both general and branch ones. These documents form the basis for planning of the social and economic development as well as defining the main goals of the activity. The formulated strategic goals are cohesive and the most significant among them is one focusing on giving equal opportunities and eliminating discrepancies in the development rate in the regional and national level. Therefore, these documents make an assumption that there exist highly developed areas as well as under-developed regions (the centers and their surroundings), which more or less refer to core and periphery concept. On the one hand, the aim of this paper is analysis of the selected planning projects and strategies as well as viewing them through the prism of the relations between core and peripheries. On the other hand it is also essential to examine the ways of solving the issues of discrepancies in the level of national development. For research were selected planning and strategic documents relating to the whole country and two distinctly different regions. Due to this it was possible to make comparison of various ways of presenting the relations between core and peripheries as well as ways of fostering the sustainable development at different levels of national administration. A comprehensive analysis of the voivodeship strategies makes it possible to find elements characteristic of the core and periphery concept. According to these strategies there are developmental areas such as central towns or cities and their close neighborhood, and peripheral areas in need of economic boost. These documents provide various scenarios of regional development but it is assumed that the processes of polarization with varied intensity are unavoidable.
**Prospects for a relational justice: Rethinking democracy beyond spaces of inclusion and autonomy.**

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**Abstract**

Prospects for a relational justice: Rethinking democracy beyond spaces of inclusion and autonomy. Contemporary efforts to address historical injustices enacted towards indigenous Maori in New Zealand continue to pursue a ‘politics of solutions’ whose predominant discourse is one democratic inclusion or cultural autonomy. It is argued that neither approach wholly constitute a form of emancipatory justice for Maori or for non-Maori. Instead this paper outlines a need to develop more relational views of democratic justice, that is, spatial practices that open the possibility of both inclusion and continuing difference. Drawing on the anti-essentialist discourse theory of Laclau and the spatial theories of Lefebvre and Massey this paper provides the beginnings of a spatial theory of relational justice as an alternative ethico-political practice. These emerging practices of ethical relationality challenge metropolitan theories that advocate ‘the everyday’ over abstraction, non-representation over representation. Keywords: relationality, space, justice, democracy, discourse theory, New Zealand, culture, indigenous autonomy.

**Approaches to support diversity within mountain agroecosystems in a global era**

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**Abstract**

The dominant modernisation approach to agricultural development fails to sufficiently value the diversity that exists within social and ecological systems because of the need to maximise short-term goals of profitability and productivity. Methods for supporting diversity within and between agricultural ecosystems have the potential to reduce the risk of agricultural modernisation and enhance sustainable development within the rural margins. In particular, the aims and approaches for in situ agrobiodiversity conservation have advanced considerably since the Convention of Biological Diversity. Examples are drawn from the researcher’s work in upland agroecosystems in Thailand, Nepal, Turkey and Switzerland. Numerous approaches are currently utilised and are seen to differ according to the requirements of individuals, communities and nations, including: the informal de facto retention of agrobiodiversity; the provision of state assistance; the marketing of diversity products; the use of technological innovations to develop local diversity; the establishment of conservation reserves; community assistance programs and the raising of awareness of the issue amongst all sectors of societies. Emerging complementary approaches suggest a framework for effectively conserving diversity in mountain agroecosystems by empowering local actors to apply their own interpretations of positive change. The emerging Human ecology paradigm focuses on the multifunctional values of agriculture and challenges the dominant modernisation approach by providing a framework by which sustainable development is being redefined within local contexts.
"Help, Educate, Encourage?: Geographical Variations in the Provision and Utilisation of Diabetes Education in New Zealand"

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Abstract

In New Zealand, as elsewhere, it is argued that a diabetes epidemic is underway. With careful management from individuals and professionals and appropriate levels of education, it is possible to prevent many complications of diabetes. The overall objective of the paper is to evaluate the role and impact of Diabetes New Zealand (DNZ), the key voluntary sector provider of diabetes education and support services, with respect to four criteria; (i) the extent to which DNZ is reaching groups most at risk of diabetes; (ii) the degree to which it has encouraged levels of member involvement; (iii) whether voluntary group provision of education is that most preferred by members and (iv) the extent to which members see the voluntary sector model as being effective in combating the growth of diabetes. A survey of members of six of the 41 affiliated societies of DNZ suggests that such organisations, although having a high proportion of older members, have generally failed to target more deprived groups. While the societies generally score more positively in encouraging member involvement and being perceived as effective by their members, they are not always the preferred form of educational provision. However, there are significant contextual variations by urban-rural location and according to the organisational structure of the societies. Rural societies and those with decentralised organisational structures generally score highest on the above criteria. The results pose a problem for DNZ which, like many other voluntary sector organisations, is facing pressures of increased corporatisation and centralisation. We see this as an important challenge that DNZ needs to address if New Zealand is going to better cope with the emerging diabetes epidemic.

Conflict to confluence: Land clearance regulation and the compliance question

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Abstract

One of the most conflict-ridden areas of land use change in Australia over the past few decades has been land clearance, and one of the most conflict-ridden areas of environmental regulation has been land clearance regulation. The conflict has been portrayed, and experienced, as a widening of the rural-urban divide: in rural regions the primary producers carrying the cost of environmental sustainability for free-riding city dwellers. Historically in Australia, land clearance has been regarded as beneficial, and, through the institution of property, private landowners have come to consider themselves as sole occupiers, rights-holders and beneficiaries. Other more recently recognised consequences of land clearance; declining biodiversity, the enhanced greenhouse effect and water and land degradation, are far from beneficial. These conflicting viewpoints form the heart of the problem of raising the implementation efficacy of regulation. Various strategies and models have been proposed to address the continuing challenge of non-compliance. How do we address past regulatory failures and ensure regulatory success in the future? Using results from a national comparative study this paper maps a way forward from conflict to confluence; of interests, of aims, and of outcomes. Regulatory success may be promoted through raising regulatory agency professionalism, enabling broader-based support for regulation through cost-sharing, mediation and effective public participation, through addressing the lack of economic value to native vegetation and alternative income to traditional rural production, and, by blurring the historic division between private and public property.
Development of abstract and real-world understanding of geospatial concepts
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Abstract
Through examination of results from studies with primary, secondary, and university age students, we evaluate several key geospatial concepts to determine how abstract and real-world understanding of geospatial concepts is developed incidentally throughout the curriculum. This work is a portion of a larger project aimed to create a geospatial task ontology and a hierarchical organizational system for concepts based on the complexity of the task. This paper will specifically discuss results from experiments at the primary, secondary, and university level to examine how students innately understand a variety of geospatial concepts ranging from simple location description tasks to more complicated tasks such as interpolating values, and answering complex questions using map overlay. This discussion will extend to include how students were able to successfully (or not) show understanding of geospatial concepts through 'real-world' application style questions and through the students own description of the concepts involved in different tasks. In addition, the results of these studies will be framed in terms of suggested methods for improving geospatial education at all levels of the curriculum using geographic tools such as a 'Minimal GIS.'

A Framework of Mental Models for Understanding Human-Environment Interactions
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Abstract
Complex systems science and resilience theory signify a movement towards facing the challenge of understanding linked social-ecological systems. However, one of the main challenges of such integration is finding meaningful ways of understanding these linkages. We propose that the notion of mental models provides a useful means of conceptualising and exploring human-environment interactions, and this has important ramifications for natural resource management, environmental policy debates and environmental volunteering. Mental models incorporate attitudes, values and beliefs, and in regard to the environment, mental models encapsulate beliefs about the dynamics of environmental systems. Thus mental models may help our understanding of the links between social and ecological systems. We propose a framework of mental models operating across five different levels: at the individual level based on life experience and beliefs; the group, organisational or sector level based on the shared mental models of individuals; the community level signifying attachment to specific places; a cultural level based on Australian or Western societal values; and at the global level mental models can represent commonalities among world cultures. We discuss the interactions among the five levels, how mental models change, connections between mental models and broader environmental change, and the potential disconnect between mental models and scientific understanding of environmental systems. A small data set from a case study of environmental volunteers in two urban locations is presented to explore parts of the framework.
Population movement within New Zealand’s diaspora: The mobility behaviour of New Zealanders living in Australia, 1999-2005

Professor Dick Bedford *, University of Waikato
Dr Lynda Sanderson, University of Waikato
Professor Jacques Poot, University of Waikato
Dr Elsie Ho, University of Waikato

Abstract

There is increasing interest amongst politicians and policy makers in the residence intentions of New Zealanders living overseas. Throughout the 20th century the migration of citizens of other countries into New Zealand was the primary concern of successive Ministers of Immigration. In the early years of the 21st century, however, the mobility behaviour of New Zealanders has assumed much greater significance at both the political and the policy levels. The “New Zealand’s Expats Programme” is an initiative, launched by the previous Minister of Immigration to “tap into the talent of Kiwis living overseas”. In this paper we examine the emerging policy interest in the diaspora of New Zealanders in the context of some unusual empirical data relating to the actual movement behaviour of New Zealanders living in Australia. The Department of Immigration, Multicultural and Aboriginal Affairs (DIMIA) in Australia has provided a data base containing information on all of the moves in and out of Australia between 1999 and 2005 of 126,000 New Zealanders resident in Australia. The data reveal that a significant share of the New Zealanders who arrived in Australia after August 1999 with the intention of staying permanently or long-term are frequent movers out of the country, often back to New Zealand. Circulation is a prevailing phenomenon in the diaspora, not just of New Zealanders in Australia, but also of new immigrants who have come to New Zealand. A similar kind of data base, relating to recent immigrants in New Zealand, is also examined and the migration behaviour of immigrants to New Zealand is compared with the movement behaviour of New Zealanders in Australia. It is clear from this analysis that migrants are not “lost” to their homelands when they move overseas to settle elsewhere.

Developing a Workable Model of Housing Need: Applying Geographical Concepts and Techniques to a Problem of Public Policy.

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Abstract

Developing a Workable Model of Housing Need: Applying Geographical Concepts and Techniques to a Problem of Public Policy
Professor Andrew Beer and Dr Emma Baker School of Geography, Population and Environmental Management Flinders University, Adelaide Governments increasingly seek to target public sector welfare expenditures to those most in need. In Australia this has resulted in a shift away from the direct provision of social housing to models of assistance that rely upon private sector provision, with cash subsidies to those in housing stress (Beer and Paris 2003). In Australia attention has increasingly focussed on the question of housing need: its conceptualisation, measurement, application to policy and expression across space. This paper reports on work undertaken by geographers for the Government of South Australia on the development of a workable model of housing need as a way of establishing priorities for public sector expenditures. The paper considers the history of research into housing need within the geographical and related literature, the emerging focus on housing need - and its variants, complex need, extreme need et cetera - amongst Australian governments and the challenges of applying the multi-faceted concepts embedded within the notion of ‘need’.
Theorising Recent Interaction Between the Spaces of the New Zealand State and the Marlborough Wine Industry
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Abstract

Over the last fifteen years the Marlborough wine industry has increasingly emerged as a distinct political-economic space. Although it has always been intimately linked with the New Zealand state, these links have become both more acute and more urgent over the last five or so years, and have taken new turns. The local and national media have reported crisis narratives of chronic labour shortages in the industry and that illegal labour has been performed. Industry actors have taken to petitioning state agencies to alter immigration policy and/or enforcement practices to accommodate its preferred solution – a relaxation of restrictions on short-term migrants. Theirs are not the only interests, and agencies are also expected to respond to sustainable community and wider labour or other policies. In late 2004, the Marlborough Viticultural Advisory Group was formed to bring together state and industry actors to discuss ways and means of building a more sustainable industry/community space. This paper will first analyse and theorise the recent interactions between the Marlborough wine industry and the New Zealand state. The paper then considers these developments in relation to the general post-Fordist state-space theorization of Jessop and Brenner. The paper concludes that while these developments do reflect and replicate changing transnational state practice, their articulation in Marlborough also expresses a local state space of practice – at the Marlborough regional scale and in terms of New Zealand’s unfolding ‘after-neoliberalism’ – that is necessary and distinctive. Specifically, it will be argued that although there is indeed an element of newness to the interaction of the spaces of the state and the industry, this interaction remains deeply permeated by historical practices of cooperation between capital and the state, worker exclusion, and colonial sovereignty.

Understanding the Impacts of Employment Loss: Space, Place and Public Policy.
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Abstract

Economic globalisation has contributed to substantial change in the distribution of manufacturing industry across the globe. Since the year 2000 there have been a number of high profile plant closures in Australia as both local firms and multi nationals have sought relocated to lower wage countries such as China, Indonesia, Fiji and India. This paper discusses some of the outcomes of a research project examining the health, housing and labour market outcomes of the closure of the Mitsubishi Motors Australia Ltd (MMAL) plant at Lonsdale, in the southern part of metropolitan Adelaide. The papers considers some of the ways in which location has affected the responses of retrenched employees to their new circumstances. It also draws out the implications for public policy.
**The Changing Structure of Internal Migration in Australia**

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**Abstract**

In contrast to its sister fields of fertility and mortality, little attention has been given to the way internal migration varies over time, either in intensity or in spatial structure. Studies of internal migration typically concentrate on a single period and involve simple comparisons of gross interregional flows or net redistribution. Few attempts have been made to apply statistically rigorous methods to examine the changing spatial patterns of population movement within countries, or to explore the underlying reasons for the changes that are observed. The work reported here addresses this deficiency by applying a battery of indicators to a unique dataset containing migration flows by age and sex between 69 regions of Australia over five sequential intercensal periods from 1976 to 2001. The indicators encompass four key dimensions of population mobility - intensity, distance, connectivity and impact – each of which, it is argued, provide a discrete perspective on population movement. We use bespoke programs to compute measures for each of these dimensions of migration and compare results for each of the five intercensal periods, 1976-81 to 1996-2001. Results reveal systematic shifts in some dimensions of internal migration, but countervailing trends in others. At a system-wide level, migration effectiveness and net redistribution have fallen progressively, while overall movement intensities have been maintained. At the regional level, trends are more volatile but there is evidence of shifts in interregional linkages and patterns of redistribution, both between city and country and between north and south. We interpret the observed changes in the context of demographic shifts, including population ageing, and the transformation of the Australian space-economy over the past three decades. The paper concludes by identifying options for further refinement of measures to better capture the spatial structure of migration, and their extension to alternative spatial settings and sources of migration data.

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**The sublime and the 'superjeep': travel technology and cultures of nature**

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**Abstract**

At the fuzzy intersection between cultures and natures are found – among other things – various technologies of travel and mobility. For many people, the most important by far of such technologies is the automobile. But automobility takes on very different forms in different contexts. Despite being scorned by the cultural cognoscenti and vilified by the environmentally concerned, the SUV / 4WD / jeep has become increasingly popular in most affluent countries. In certain parts of the world – such as the Australian outback, the American west and the Icelandic highland interior – the 4WD has almost become a cult-like phenomenon. But what are the characteristics of the particular ‘cultures of nature’ associated with these developments? The paper approaches this question through an account of ‘superjeep culture’ in Iceland. Recently developed, although tracing their ancestry to WWII-jeeps and army trucks, the wide-tyred ‘superjeeps’ are ubiquitous in Iceland. They have contributed to an increase in travel by domestic and international tourists in the rough interior in summer, but even more notably they have opened up new spaces of motorized travel, in winter and/or on snow and ice. I argue that today’s superjeep culture draws on a complicated mix of long-established ideas about subliminal nature and more recent formulations of the ‘technological sublime’, in addition to well-worn and obvious tropes of masculinity, adventure and exploration. Analysing the outcome of such an ideological combination warrants a more nuanced approach than that which is often discerned in academic writing about the 4WD phenomenon. The practitioners of this particular technology of travel not only construct nature with the help of their vehicles, but are also themselves co-constructed by the landscapes they travel through as well as the technology itself.
Water Sustainability and the Tonle Sap, Cambodia
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Abstract

The Tonle Sap or Great Lake of Cambodia is the largest freshwater lake in Southeast Asia, covering an area of 250-300,000 Ha during the dry season and up to 1.6 million Ha during the wet season. With economic and political stability returning to the region in the past decade, the population around the margins of the lake is expanding rapidly, along with agricultural and fisheries activity. Wetlands, flooded forest and riparian zones are being modified at a rapid rate and with major ecological impacts. The extensive wetlands around the Tonle Sap support a high level of biodiversity of great importance not only to the Tonle Sap but to the entire Mekong river system. Development of the lake margin is largely unregulated and water movement and nutrient exchange between the lake and the floodplain is being modified as containment structures are built to protect agricultural fields from inundation during the wet season and retain water supplies during the dry season. MODIS 500m 8 Day Surface Reflectance product was used to establish seasonal flooding cycles and flooding extents, and ASTER surface reflectance product was used to map vegetation distributions. Extensive GPS mapping of structures on the floodplain and integration into a GIS has facilitated detailed analysis of human activities and their impacts over this large and inaccessible area. Results indicate that the proclaimed UNESCO Biosphere reserve is suffering substantial encroachment and that the economically valuable fisheries are under threat from habitat loss. The integration of remote sensing and GIS offers great benefits for sustainable water resource management in inaccessible regions in developing countries.

Identification of the probable risks of the climatic changes on human health in the Maghreb/Identification des risques probables des changements climatiques sur la santé humaine au Maghreb
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Abstract

Les changements climatiques et leurs impacts se trouvent aujourd'hui au centre des préoccupations internationales. La santé est le foyer de convergence des effets combinés des changements climatiques sur l'environnement physique, les écosystèmes et l'environnement socio-économique. Le caractère chaud du climat, la fréquence des sécheresses et des inondations, les problèmes liés à l'eau, l'ampleur des Changements Climatiques prévue sur la rive sud de la Méditerranée et la faible capacité d'adaptation de la région, sont autant des facteurs qui prédisposent la santé de la population maghrébine à être vulnérable aux changements climatiques. Dans cette étude nous essayons : - de faire l'état des connaissances sur les relations climat-santé au Maghreb. - de présenter les méthodes et les outils permettant l'analyse de la vulnérabilité de la santé des populations de cette région aux Changements Climatiques, - d'identifier les risques directs et indirects des Changements Climatiques sur la santé humaine au Maghreb. - de présenter des orientations pour les stratégies d'adaptation. ENGLISH TRANSLATION: Summary The climatic changes and their impacts are today in the center of the international concerns. Health is the hearth of convergence of the effects combined of the climatic changes on the physical environment, the ecosystems and the socio-economic environment. The hot character of the climate, the frequency of the drynesses and the floods, the problems related to water, the extent of the Climatic Changes envisaged on southern bank of the Mediterranean and the low capacity of adaptation of the area, are as much factors which predispose Maghrebian public health to being vulnerable to the climatic changes. In this study we test: - to make the state of knowledge on the relations climate-health in the Maghreb. - to present the methods and the tools allowing the analysis of the vulnerability of public health of this area the Climatic Changes, - to identify the direct and indirect risks Climatic Changes on human health in the Maghreb. - to present orientations for the strategies of adaptation.
Vulnerability Of The Water Resources And Changes Climatic In Tunisia/Vulnerabilite Des Ressources En Eau Et Changements Climatiques En Tunisie

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Abstract

The climate of Tunisia of the Mediterranean type is characterized on average total by: Average temperatures monthly higher than 10 C during all the year and higher than 20 C for six months successive. A poor pluviometry, lower than 400 mm on a scale annual and lower than 50 mm for 10 months. A very strong evaporation thus and a consequently overdrawn hydrous assessment a strong space and temporal irregularity a tendency in the evolution of the climate towards a more important variability and more frequent and more intense exceptional phenomena. This is reflected on the characteristics of the hydrographic network: intermittent flow, endoreic rivers, flows and annual throughputs the weak and irregular thus water resources modest and are unequally distributed in time and space. This water potential is composed of 4 800 million m3 (surface water and subsoil waters). The climatic changes (total reheating, effect of greenhouse) will accentuate the problems of evaporation and quality (salinity, pollution) and will reduce exploitable volumes of water. The mobilization of the resources reached raised enough rates (stoppings, lakes collinaires, drillings, well, systems of transfer of the surplus areas towards the overdrawn areas...) and makes it possible to regularize the distribution and the supply water and to manage in a rational way and optimal the water resources. However, the increase in population, the urbanization, the development of the standard of living, the extension of the irrigated cultures make that the resources are increasingly insufficient especially in dry year or at the time of successive dry years. To mitigate the possible deficits in volumes or quality, a national strategy for the development of the water resources recommends the recourse to nonconventional water (treated worn water, desalination of brackish water, reloads ground water) and the diffusion of economy water techniques.

Water, energy and carbon fluxes from the world’s tallest angiosperm (Eucalyptus regnans) at Wallaby Creek, south-eastern Australia.

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Abstract

Australian temperate open forests cover an area of ~ 5.5 million ha of the continental landmass and have the potential to act as an important carbon sink. These forests also occupy many water catchments in the Victorian region, including Wallaby Creek (King Lake, Victoria), where the current site is located. The dominant canopy species in the catchment is Eucalyptus regnans (Mountain Ash), and is the world’s tallest angiosperm (flowering plant). Old growth sites (200+ years) within the forest can reach heights of more than 100 metres, and its existence is crucial for the sustainable management and quality of Melbourne’s drinking water. Previous estimates from temperate forests have shown that the net uptake of carbon (NEE) of the ecosystem decreases with stand age, and in old growth forests carbon cycling has often been assumed to be in equilibrium. However, results from the Northern Hemisphere, using eddy covariance flux towers, indicate that old growth forests are a greater sink than first thought. The role of old growth open temperate forests in Australia is uncertain and this is the first such study of old growth forests in Australia. In order to advance our knowledge about carbon and water cycling in Australian temperate forests and reduce the uncertainty in carbon accounting of such forests, we have initiated a long term flux tower in the old growth Mountain Ash forest. We are using the Eddy Covariance method which will measure the carbon, water, energy fluxes. The tower itself is 110m high and is the tallest forest flux tower in the world. The site has been running since August 2005 and we present preliminary results from the site. Ultimately this approach will allow us to investigate, hourly, seasonal and interannual variability of water and carbon fluxes. It will aid in understanding how these ecosystems may respond to global change and how that in turn may affect water catchments.
Palm Oil Expansion, Bio-fuel Production and Biodiversity protection in Malaysia: Local Impacts of a World Global Green Energy Production Strategy

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Abstract

In the context of raising petroleum product demand and spiralling price and also to cope with international policies on reduction of CO2 emission, bio-fuel production is generating high expectations for the Malaysian palm oil industry sector, already the world largest producer and exporter of crude palm oil for food industries and other type of industrial productions in the world. As price of palm oil is escalating on the world market in order to match this new demand in the making, local authorities concerned as well as investors and privates companies are gearing up for another intensive territorial expansion of agriculture. At the same time, many concerns have risen recently across the world regarding the expansion of palm oil. The goal of the present paper is to summarise the geography of the recent palm oil industry expansion in Malaysia and beyond especially in Indonesia the second largest producer. The paper addresses at the same time a few keys questions summarise as follows. Does the production of sustainable palm oil possible, especially in the context of an increasing demand for the production of bio-fuel for energy sector? What are the impacts locally and globally of a so call «green energy» production system? Does palm oil based bio-fuel represent a solution to cope with the world increasing needs of «green» energy sources? What are the implications for other industrial sectors using palm oil particularly food production systems?

From spatial analysis to geospatial science

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Abstract

When Spatial Analysis was published in 1968 it drew together the fruits of the first decade of geography's quantitative revolution. In the decades that have followed, quantitative geography has both diffused and concentrated, abandoned some themes, made major progress on others, and in the contemporary form of geospatial analysis has become an innovative multidisciplinary enterprise. In this paper we sketch the broad outlines of this history, lay out the main threads along which technical capabilities have developed, and describe what appear to us to be the leading questions at the research frontier. Even as many geographers disavow social science, geospatial science has emerged as a lusty arena marked by intellectual vigor, conceptual growth and enhanced analytic abilities. What now is taking shape is a spatially-integrated social-environmental science that is transcending older disciplinary attachments, boundaries and constraints

Long-term Development of Land-Use (1845-2005) in the metropolitan Area of Prague (Czechia)
Landscape Atlas of the Czech republic (under the preparation)

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Abstract

Article is based on the special database (LUCC UK Prague) prepared at the Charles University from cadastral evidence of eight land use classes for some 9000 basic territorial units covering all territory of the Czech republic. Methodology is applied from similar database prepared for Slovinia by Gabrovec and Petek (2002, 2004) but for four time horizons (1845, 1948, 1990, 2000 ). There are recognized four main processes in land use changes: urbanisation, afforestation, grassification and agricultural intensification in three levels of intensity (weak, medium, high) from point of dominancy of these four processes. We could observed very special participation of these main processes in different periods of observation and regional differentiation on land use changes of Czechia. Results and application of main driving forces influencing regional differentiation of land use development of Czechia are discussed.
Participatory Photo-methodologies in Geography: Beyond the ethnographic and documentary in research on vulnerable populations.
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Abstract
This paper explores the potential use of personal solicited diaries together with photography as a participatory methodological tool for understanding the embodied experience of moving through and connecting to the places of everyday life. On an everyday level, the same physical place can be mundane and commonplace to some and challenging and exotic to others. How people perceive and experience their everyday spaces can impact on their own real and perceived vulnerability. These vulnerabilities may be socially embedded but they are also embodied and they can be internalised as much as they are imposed by societal structures. As use of either diaries or photography in research in geography is uncommon, the paper will describe the background to the development of the method and outline recent applications of both solicited diaries and photography. Drawing from both documentary photography and the use of diaries and photographs in ethnographic accounts the paper describes the adaptation of these methods for two proposed qualitative research projects in Auckland, New Zealand. The first of these aims to explore how where women live and what they do on a daily basis might influence their processes of attachment to their local area. The second aims to examine experiences of place for those living with HIV. The development of an interview-photodiary-interview method offers an opportunity to access embodied and emotional experiences, perceptions and understandings of places and spaces as well as minimising researcher input into what and how these things are recorded. The method has the potential therefore to better understand and interpret less than conscious vulnerabilities as well as those more obvious.

Motivation and marginalization in African urban agriculture: the case of Lusaka, Zambia
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Danny Simaterle, University of Sussex, Brighton

Abstract
The paper focuses on the issue of urban agriculture in Africa, which has been identified as an important income generation and survival strategy among poor and not so poor households. However, official attitudes to urban agriculture vary considerably between and within different African countries. The significance of urban agriculture in African cities and contrasting policy frameworks will be considered. Recent field-based research undertaken in Lusaka, Zambia’s capital city, will be analysed in order to illuminate patterns, processes and decision-making strategies associated with the production of foodstuffs for sale and/or household consumption. The extent to which urban agriculture is being supported and/or marginalized will be evaluated in the context of evolving strategies for achieving sustainable urban development, poverty alleviation and food security.

Regional Innovation Strategies in the Czech Republic
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Abstract
The aim of the paper is to provide a critical assessment of the development of Czech innovation policy which started to get its shape in the first years of the 21st century. The innovation policy originates from a number of interlinked factors – the introduction of European regional policy in the Czech Republic, the increased inflow of foreign direct investment into R&D-intensive sectors and also the devolution of power to Czech regions that were established in 2001 and gave a new, regional dimension to research and innovation policy. As an illustration of the efforts at the regional level to make a better use of the potential of R&D and innovation in the regional development, a case study of a regional innovation strategy of the City of Prague is analysed. The City of Prague was selected due to the fact that it is a region with significant but until now not fully exploited innovation potential and, in addition, the first innovation strategy has been recently adopted. The innovation strategy is closely scrutinized and examined within the European and especially national context. The author demonstrates that there is a lot of conceptual ambiguity and confusion associated with the process of transferring the experiences of Western European regions to the regions in the New Member States of the EU. Some comparison is also made between regional innovation strategies in Prague and in other Czech regions. The author believes that at least some observations and analysis of weaknesses of the process through which the RIS has been carried out will have relevance for other regions in the new EU member states.
The contribution deals with brief historical development of population forecasting in Slovakia, present situation and possible future development in order to depict the background of this activity. Slovak demographers, primarily covering the forecasting research studies, are not numerous. However, importance of the population forecasts since 1989 after deposing the communism has risen rapidly. There is a need for derived population forecasts, forecasts at regional and local level concerning local activities and policy. Demographers have to rise to a number of challenges, especially in scope of migration and fertility. These two processes show a very dynamic and unstable development. Hence, future hypothesis are very difficult to form. There is a requirement for wide understanding of quality of the forecast. It means exactness, a concord of hypothesis and results, a clear presentation etc. In the second part are aspects of accuracy at sub-national level for both Slovakia and Australia analysed. The question is, if a new methodology - approaches or right hypothesis might improve total quality of the future forecasts. Can or should varied methods be used for various countries (such as Australia and Slovakia) differing in number of population, socio – economic and other conditions? This underlying question is very difficult to answer. Stochastic processes often influence the results. Errors and their sources are distinguishable ad hoc and only partially. Measurement of accuracy is an important step serving as a feedback in forecasting process. Comparing simple, commonly used indicators for both Slovakia and Australia in the selected forecast, the accuracy is similar. Fluctuation in trends mostly seems to be a stronger factor than the methodology used. Although recent development, future conditions, migration streams, methodological approach and other factors might be different, in relatively developed countries such as Slovakia and Australia, accuracy of any forecast depends on the time of its origin.

The local shape of revolution: quantitative Geography at Cambridge, 1951-69.
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Abstract
The 'quantitative revolution' in human geography which swept across so many universities in the 1950s and 1960s had its main diffusion centres in a few locations which were to have global significance. Two critical early centres were the University of Washington at Seattle and Lund University, in southern Sweden. But the experience of change was different in different locations as the general forces of perturbation sweeping around academia were translated into local eddies with local repercussions. Here little quirks at the outset, occurring for no good reason, led eventually to fundamental divergences between adoption and rejection. The theme is illustrated by reference to changes which occurred at Cambridge, one of England's two oldest universities, as seen from the perspective of someone who - as undergraduate, graduate student, and later, staff member - was caught up in these changes and took some small part in propagating them. Special attention is given to the role of two environmental scientists, Vaughan Lewis and Richard Chorley, in introducing changes and the way in which later developments in human geography drew on preceding experiences in physical geography. The implications of the 'Cambridge variant' for still generating ideas is considered with examples of models which, although still largely confined to the natural sciences, may yet have some potential for spatial scientists researching today within a dominantly social science framework. The speaker went up to Cambridge in 1951. He left in 1966 but continued to work closely with Richard Chorley for three further years on the Madingley symposia and the launch of the triad of Progress in Geography journals: their last joint volume (Network analysis in geography) was published in 1969. The Cambridge experience played a major part in shaping quantitative developments at Bristol from 1966 on.
Simulation of Pedestrian Movement in Shopping Street Segments
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Abstract
Over the years, scholars have developed various models of pedestrian movement. These models can be used to assess the effects of detailed design decisions or to predict pedestrian behaviour under conditions of crowding. To date, not much attention has been paid to pedestrians’ shopping behaviour at the micro level. Therefore, the main purpose of this project is to test a model that aims at simulating micro pedestrian behaviour in shopping streets, including entering shops. The model assumes a detailed network of links to represent the structure of street segments and entrances to the shops. The basic principle underlying the model is that a pedestrian moves from one link in the network to another, adjacent link. In fact, a pedestrian enters a segment at one side, heading for the other side of the segment. However, a pedestrian might enter the segment by leaving a shop as well. Then, the pedestrian might be heading for either side of the segment. While transferring from the current link to the next link, the pedestrian will be attracted by the shops along both sides of the street. The study area is Antwerp’s main shopping street. During a one-week workshop in July 2004, students observed pedestrian movement in this shopping street. An inventory of some physical characteristics of the shopping street was made and pedestrians were tracked through two separate segments of the shopping street. In total, 334 pedestrians were tracked. A conventional multinomial logit model is used to simulate pedestrians’ micro behaviour. The process of consecutively selecting links continues until the pedestrian has reached one of the terminal links or a shop. The model performs very well. Simulated routes were used to assess the validity of the model. Observed and simulated link loading correspond fairly well, however, the model seems to slightly mispredict the attraction of a number of shops.

Emporion space and the transnationality of merchant seafarers
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Abstract
This paper will take the perspective of interlinked, dynamic and multiple inhabited spaces of transnationality, which within the background of merchant seafaring is best expressed as emporion in which the movements of seafarers are considered as connecting between different land areas. This paper critically explores the idea of ‘travel’ within the context of merchant seafaring and then links this context into the notion of emporion space. Using mainly Kiribati as an illustrative example, I will examine to what extent post-colonial power structures have led to the current forms of transversal labour-circulation of seafarers and in what way these have influenced identities. As some interviews have shown, seafarers from Kiribati believe that they are ‘travelling’ while working onboard ships. We can assume that this perception has been shaped by both the seafarers’ local socio-cultural backgrounds and the economic structures of the shipping industry as a global force.
Second homes and tourism development on Northern Ireland's North Coast: Social benefit or social cost?
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Abstract
The seminal study on second homes by Coppock (1977) reported the concern of second home development on existing communities and residents, and while the topic of second homes has received considerable attention as of late (see Hall and Muller, 2004), there remains a dearth of good in-depth research on resident opinion to second home development. The case study presented is a small step towards engaging in research which shifts the pendulum towards the views of residents over owners and towards social impacts over economic benefits. The communities of Portrush, Portstewart, Castlerock and Portballintrae on Northern Ireland's North Coast represent key resort communities with second homes accounting for between 30 and 57 percent of all housing. A survey of resident views on second homes within these communities was undertaken in the summer of 2005. 2081 questionnaires were delivered to households with 503 responses returned (24%). The survey aimed to gauge opinion on the level of 2nd home development, the extent to which communities had changed as a result of this form of tourist development, and views on further 2nd home development. The survey found that the majority of residents thought the level of 2nd home development to be bad (66%), only 16% indicated that it was positive. The level of negative feeling was found to be strongly tied to length of residency. Many residents (42%) stated that communities had changed in the last 6-10 years, with a significant portion (38%) saying they had noticed changes more recent than that, describing their community with negative phrases like 'loss of identity', 'too many outsiders', though some did maintain it was still 'small and quiet'. There exists strong opinion against further 2nd home development taking place in these communities (19% actively against, 32% silently against). The views of residents within tourism communities are important, and what this study reveals is that if good relations are to be retained, the voices of the long-term residents need to be heard.

Late Holocene social and landscape evolution in NE Thailand
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Abstract
The archaeology of the Mun River floodplain, northeast Thailand, indicates a long and rich settlement in a now resource-poor landscape. The valley was settled for three millennia during the Neolithic, Bronze and Iron Ages with continued occupation into the proto-historic period. Large settlement sites with encircling channels represent effective water management systems. The environment is now seasonally arid, saline, sparsely populated and resource-poor; contrasting the 4th to 2nd millennia BP, when the region supported large communities living in relative comfort. Excavation reveals evidence of expanding trade networks, sophisticated technologies, and extended periods of social stability. Geoarchaeological study of this landscape seeks reasons for the difference between past and present social and environmental conditions, and identifies very different past hydrological and climatic conditions critically controlling social potential. The demise of this society may be explained by reference to the collapse of a rich supporting environmental system, possibly driven by several environmental processes. The human response to these processes is reflected through changing mortuary ritual and artefact assemblages during the Bronze and Iron Ages, while the Iron Age society adapted to long-term environmental change using sophisticated water engineering. A major social effect may have been an increasing emphasis on rice agriculture and associated rituals and paraphernalia; throughout the Iron Age environmental stress is expressed through changes in social behaviour. Eventually, the established social and engineering solutions supporting social sustainability during environmental uncertainty no longer moderated the effects of environmental change. By the end of the Iron Age, the Dvaravati civilization of central Thailand was expanding into the region closely followed by Khmer architecture and other material culture, bringing very different social solutions to environmental challenges, and thus becoming reflected in a very different archaeological record.
Visual Landscape Character Classification Using GIS
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Abstract
The aesthetic values of landscape are a multi-billion dollar resource. To effectively manage this resource and the contentious issues sounding landscape change it is important to have a landscape classification. In 1996 the New Zealand Landscape Classification was released. This classification has now been reworked and a second version has been developed. The classification relies on GIS for automated feature recognition and generalisation. There are now a wide range of data sets that can be used in a landscape classification and the most important are the topographical and land-cover data sets. The landscape classification combines landform, land-cover, infrastructure, and the influence of water. To validate the classification, 3D visualisation is used. This paper demonstrates how the New Zealand Landscape Classification is assisting the Department of Conservation in their recreational planning.

The Learning Geography Project: key learning moments for students in their Geography Degree.
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Abstract
This paper reports on the development of a set of students from the 2003 entry who have been interviewed on entry to their degree, throughout it and on graduation. The students were volunteers and were probably influenced by the research, for example, becoming more reflective; but the research presents insights on their varying trajectories, raises issues about the curriculum and about how we might respond more appropriately to the varied and changing needs of students

H5N1: political form and the waywardness of matter
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Abstract
This paper takes up recent calls in geography to attend to the ‘expressiveness’ of matter as part of efforts to displace the substance-form dualism found in much Western metaphysics and replicated in recent endeavors to ‘re-materialize’ human geography. H5N1 is the name given to the type of avian influenza that is currently a matter of social and political concern in SE Asia and in global centers of capital and power. In contrast to theories of physicality which assume that culture (or representation) gives form to static matter, or, conversely, theories of physicality that denigrate representation as merely untrustworthy appearances of an underlying and unchanging essence, H5N1 allows us to trace a far more complex interchange whereby social, political and scientific forms vary their own structure in response to the instability or ‘expressiveness’ of the genomic and protein structure of the virus, even as they intervene in the dynamic molecular geographies of viruses and hosts. I examine this by exploring the transnational network of laboratories established by the WHO, OIE and FAO as part of their efforts to reorganize local-global configurations of humans and animals so as to ‘stabilize’ social and political-economic relations in the face of the inherent expressiveness of matter.
Vegetation change in the semi-arid, tropical woodlands of the Burdekin Catchment, Australia.
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Abstract

$^{13}$C analysis of bulk and size-separated soil organic matter was used to assess the occurrence of woody vegetation change (thickened, thinned or stable) in remnant woodland areas over the last 50-150 years (short) and over centennial (long) timescales. The results of a catchment wide survey indicate that the woodland at most sampled sites had thickened over time. The woodland vegetation thinned at only a few sites over the time periods assessed. The implications of these results will be discussed in regard to past human management, future vegetation stability, vegetation management, climate and landscape hydrology.

Indigenous environmental knowledges and Bedouin in southern Egypt
Prof John Briggs *, University Of Glasgow
Dr Joanne Sharp, University Of Glasgow
Dr Hoda Yacoub, University of the South Valley, Aswan
Ms Nabila Hamed, University of the South Valley, Aswan
Dr Alan Roe, University Of Glasgow
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Abstract

The use of indigenous knowledge has been seen in some quarters to offer real possibilities of success in development practice. However, results have been uneven, perhaps because of the way in which indigenous knowledge has been conceptualised. Drawing on empirical research among two related Bedouin communities in Egypt, the paper suggests that indigenous knowledge is provisional and dynamic and therefore rather less static than implied in much of the literature; it should be seen as utilitarian and grounded, both economically and socio-culturally; and indigenous knowledge as a term may be unhelpful and misleading, and would be better expressed as local knowledges.

Assessing and Providing Environmental Flows: The Queensland Experience
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Abstract

Queensland contains a large proportion of Australia’s water resources, but while long term average volumes of river flow are large compared with the rest of Australia, rainfall is highly variable. Rapid population growth is adding to the management challenge in the southeast of the state. In order to provide a sustainable framework for water resource management, water resource plans are being developed for major river basins – these consist of legislation that specifies environmental flow objectives (EFOs) and water allocation security objectives that seek to achieve a balance between environmental and consumptive requirements. This paper outlines the environmental aspects of the water resource planning process, with particular reference to examples from Queensland’s east coast river systems. Environmental assessments to identify environmental flow requirements are carried out following the Benchmarking Methodology. Extensive multidisciplinary assessments of current condition are undertaken as well as identification of key ecological conservation values. Ecosystem components considered in these assessments include hydrology, hydraulics, hydrodynamics, hydrogeology, geomorphology, water quality, riparian vegetation, aquatic vegetation, macroinvertebrates, fish and other vertebrates (amphibia, reptiles, birds, mammals). The condition and value assessments provide a basis for identifying environmental issues arising from existing water resource management and a baseline for determining the implications of a range of possible future water resource management scenarios. Assessments of environmental implications of the scenarios are used by Government alongside assessments of social and economic implications to determine the preferred management option. Environmental flow requirements are quantified in water resource plans via the specification of EFOs, which refer to low, medium and high flows; flow volumes; variability; and incidence of no flow/dry spells. EFOs can define limits for future water resource development and/or targets for mitigating impacts of existing or future developments.
Vulnerable Immigrants, Refugees, and the Population Profiles of US Urban Areas: With Particular Attention to Agents of Resettlement and Mid-Size MSAs

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Abstract

This paper strives to balance our knowledge and understanding of immigration flows to US urban areas by shifting the focus to mid-size MSAs, rather than the largest MSAs and major ports of entry. This new focus reflects empirical patterns and processes ongoing since the early 1980s whereby immigration effects on US urban areas have crept inland and down the urban hierarchy, exemplified by the recent identification of “new immigrant gateways”. We also focus particularly on refugee populations, vulnerable immigrants who, through the actions of resettlement agencies, reconfigure the population profiles of urban areas and create new patterns of immigrant settlement. Hence, these vulnerable populations distinctly imprint the US urban landscape. The first task classifies MSAs according to their mix of foreign born, yielding four profiles differentiated by time era of entry, ethnic composition of the foreign born, and place characteristics drawing immigrants. The second task addresses process directly, giving particular attention to resettlement programs/agencies (VOLAGS), a major force in altering the geography of relocation and its spatial impact, and an aspect given virtually no attention previously. In addition to systematically filling in our knowledge on the topic, this leads to proposing a major modification of the standard migration model.

Understanding the demography of desert Australia: issues, results and opportunities

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Abstract

The development of a Cooperative Research Centre focussed on desert Australia has resulted in increased and diverse research into this spatially vast region. A key component of this work is a need for demographic information. However, in contrast to more densely populated metropolitan centres, the demography of Australia’s remote areas remains poorly understood. Desert Australia covers over 70% of the country’s landmass, but accommodates less than 3% of the national population. Furthermore not only is this population sparsely distributed, raising issues about population coverage and data collection, but also highly mobile, which presents a number of difficulties not encountered in studying metropolitan areas. This paper initially considers some of difficulties encountered in studying the demography of desert Australia as well as offering potential solutions before presenting results of the analysis. Desert Australia exhibits complex patterns of population change which are often linked to the economic base of selected service centres and differentiated by Indigenous status. In addition, population projections show that the population structure of desert Australia will be different from that of the present. To conclude, we identify key opportunities for future demographic research into this region.
Adapting fisheries comanagement in Vietnam: reflections from the field
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Abstract

Rapid change is occurring within Vietnam’s coastal communities, livelihoods, and ecosystems, resulting in the emergence of new landscapes, environmental impacts and social dynamics. The Socialist Republic of Vietnam has commenced implementation of a national Marine Protected Area or MPA system, and the complexity of such regulated and boundaried protected areas is increased by existing coastal resource use conflicts associated with change in the coastal zone. It is expected that MPA’s can address these through use of participatory or comanagement approaches. The suitability of such approaches to the Vietnamese context is however still to be determined, as certain social, cultural, and political factors appear on the surface to conflict with comanagement principles and practices. Research has commenced to explore the implementation of comanagement approaches in Vietnam through documentation of influencing social, ecological and political factors operating in the coastal zone, using the introduction of new regulation around aquatic protected areas as a key focal point. A preliminary research trip was undertaken from January to March 2006, to ground truth the proposed research through discussion with researchers, practitioners and policy makers, and exploration of potential case study sites. Key informants included members of both foreign and indigenous non-government organisations, Vietnamese researchers from universities and government research institutes, foreign researchers from international research centres, as well as national staff and foreign consultants and volunteers working for donor-funded coastal resource management projects. Potential research sites were visited in coastal areas in central, central-south and south Vietnam. What emerged was a more sophisticated understanding of how comanagement and community-based management approaches are being conceptualized and applied within the socialist policy context of Vietnam. This presentation will provide a comparative analysis of the different comanagement approaches encountered, and reflect on the social and political contexts, agendas and actors that may shape and influence their future adaptation.

Multi-functionality and rural change: It all depends upon context
Professor Christopher Bryant *, Université De Montréal

Abstract

Multi-functionality has become the talk of the town in terms of rural change across the Western World since the late 1980s. However, the concept of multi-functionality can be traced back decades, both in research dealing on the transformations of rural areas in the urban fields of major metropolitan and urban areas as well as in rural peripheries with a strong natural resource-oriented base. The preoccupations associated with multi-functionality run the whole gamut from constructing strategies (land use management strategies) to provide valued functions on rural land to an essentially urban-based population in the urban field, to its use as a tool in rural socio-economic development. In all cases, concerns exist for managing the apparent conflicts and incompatibilities between the different functions of rural land and rural milieus. However, the emphasis placed on multi-functionality as ‘opportunity’ and multi-functionality as ‘source of stress’ varies between the different geographic contexts of rural milieus. The paper is based on a research program at the Université de Montréal that has been investigating how local actors in the urban field appropriate the collective values (and thereby, certain functions) of rural resources and lands) and contribute to conservation and sustainable rural development, as well as on other research being undertaken on the conservation of biodiversity and rural resources in remote rural peripheries where an additional challenge is to maintain rural communities who have contributed to the construction of the rural landscape in those areas. The argument is made that how multi-functionality is perceived and how it is implemented depends to a large extent on the geographic context of the rural communities and areas concerned, based upon a conceptual framework of multi-functionality and context, and illustrations that come from research in Quebec and France.
Impact of the Pacific Decadal Oscillation on relationships between temperature and the Arctic Oscillation in the USA in winter
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Abstract

Associated synoptic patterns of the Pacific Decadal Oscillation (PDO) significantly impact relationships between surface air temperature (SAT) and the Arctic Oscillation (AO) across the United States in winter. Using historical data (1900 to 2002) and composite analyses, this study demonstrates that without the influence of the PDO, winter SATs are most significantly altered during various phases of the AO throughout the Ohio Valley region and in the South. More specifically, extreme phases of the PDO significantly alter SAT responses to positive phases of the AO west of the Cascades, in the Ohio Valley region, and along the northeast coast of the US. SAT regimes related to negative phases of the AO are significantly modified by the different phases of the PDO across the northern Great Plains, and throughout the West. When the AO and PDO are both negative, winters are typically significantly cooler throughout the upper Midwest, the Great Plains and in the Northwest, in comparison to winters when PDO has been neutral. When the 2 indices are out of phase, winters are cooler/warmer than during neutral PDO years west of the Cascades and warmer (cooler) east of the mountain range during the AO+/PDO– (AO–/PDO+) conditions. Extreme phases of the PDO modify the northsouth structure of the mean sea level pressure (SLP) field over the Northern hemisphere, these changes being consistent with the modifications observed in the SAT patterns across the study area.

Elverlution of the Budj Bim Cultural Landscape in Southwest Victoria, Australia
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Abstract

Interpretation of a prehistoric cultural landscape, the Budj Bim landscape of the Mt Eccles lava flow in south west Victoria, Australia, using landscape archaeology, GIS and palaeoenvironmental reconstruction, is providing details of a culturally-constructed landscape – modified and managed by the Gunditjmara indigenous occupants. By manipulating wetland ecosystems to produce a greater and yet sustainable, resource output; and developing the means to preserve the seasonally abundant highly nutritious shortfin eel, the surplus produce became a vital part of a larger exchange system. Thus Indigenous wetland management ensured sustainability of a large population within a wider region of varying reliability in rainfall. The ancient aquaculture system was destroyed by British occupation in the 1840s, but a European farming regime has failed to emulate the former high productivity of the Gunditjmara Aboriginal economy. By understanding its past environmental and cultural history we can best determine its future land management.

Exploring the potential of knowledge surveys to improve student performance
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Abstract

Students start their degree having been exposed to different types of geography in varying amounts of detail and having developed different levels of understanding of topics. Whilst prior exposure to material can be advantageous, familiarity with module material can lead to students putting less effort into studying it, when compared with a module that comprises predominantly new material, because they fail to recognise that the levels of reasoning required are higher, for example synthesis and evaluation, not just recall. In this scenario, students perform less well in a module that is designed to improve levels of reasoning using familiar material than they do in a module where the entire content is unfamiliar. Knowledge Surveys are a tool designed to improve module design, to promote active learning and high level reasoning by students and to increase students’ abilities of self-assessment. To date they have predominantly been used for the purposes of improving course design, for example revealing in which areas students have the least confidence. This paper reports the use of knowledge surveys to try and improve the ways in which required levels of reasoning associated with particular modules are communicated to undergraduate geography students with a view to improving student learning and performance. The surveys are designed to prompt students to reflect on their ability to address questions at different levels within Bloom’s taxonomy. Students’ perceived ability to address each question (on a three-part scale) at different stages of the teaching and learning schedule (typically the beginning and towards the end of a module or topic block) is compared with their actual performance in formal module assessments. The extent to which the knowledge survey has led to an improvement in student performance over and above that which would ordinarily be expected is evaluated with reference to previous student cohorts.
Cultural Geographies of Banda Aceh
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Abstract
Banda Aceh felt the full force of the tsunami which struck the island of Sumatra on 26 December 2004. Tens of thousands of people lost their lives as around a third of the city was flattened by waves. Yet in political terms, the tsunami appears to have contributed to bringing peace to Aceh. The violence of the waves spurred the Government of the Federation of Indonesia (GOI) and the Free Aceh Movement (GAM) to seek a peaceful resolution to conflict in Aceh. A Memorandum of Understanding (MOU) between GOI and GAM was signed in Helsinki, Finland on 15th August 2005. This political context raises some complex issues about the post-tsunami reconstruction of Banda Aceh which cultural geographers are well placed to examine. In what ways has the reconstruction of Banda Aceh been inflected by post-MOU politics? Which buildings, styles and landscape features are deemed (un)worthy of reconstruction? Which cultural and political authorities are making such judgments and with what level of consensus, conflict and coordination? What is the place of non-Acehnese and non-Muslims in the new Banda Aceh? In examining these questions, this paper will detail cultural geographical contributions to understanding the urban cultural politics of post-MOU and post-tsunami Banda Aceh.

Psychosocial factors facilitating co-existence and coping with bushfire hazards
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Mrs Petra Bürgelt *, School of Psychology, Massey University, New Zealand
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Abstract
People increasingly choosing to live near or in bush areas for economic or life style reasons has increased the vulnerability of many communities in the Asia-Pacific region to bushfire hazards. Risk communication programs intended to prepare people to cope with bushfires have been proven ineffective. One reason has been failure to acknowledge that people are not passive recipients of risk messages. Rather, its how people actively interpret their relationship with the hazardous elements of their environment that influences decisions about adopting protective measures. Knowledge of the factors that influence interpretation can be used to manage risk in ways that facilitates community capacity to co-exist with bushfire risk and to cope more effectively should they be affected. A study was conducted to explore how residents of vulnerable communities interpret living in bushfire vulnerable places and bushfire preparedness to identify the psychological and social factors, and their interrelationships, that influence people preparing or not preparing. Using means-end chain theory, in-depth telephone interviews were conducted with 17 residents living in the bushfire vulnerable suburbs of Hobart (Tasmania, Australia) at the start of the 2004/5 bushfire season. Data was literally transcribed and systematically analysed using various grounded theory analysis strategies (Strauss & Corbin, 1990). Peoples' interpretations differed greatly regarding what sufficient preparation means and when it is appropriate to implement certain preparedness measures. The decision whether to prepare and not to prepare is crucially connected to the decision whether they would stay or leave in the event of a bushfire. Both decisions are highly complex since they are influenced by complex interactions of several individual and social factors. It is the combination of these factors, rather than any single factors which influence their interpretations. The implications of these findings for enhancing preparedness are discussed.
**Increasing skilled migrant retention: Leverages indicated by an exploration of contemporary migrant experiences throughout the migration process**

Mrs Petra Topaz Bürgelt *, Massey University, New Zealand  
Mrs Mandy Morgen, Massey University, New Zealand  
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**Abstract**

To design preventative interventions that effectively assist immigrants to adapt and increase the likelihood of their staying, it is necessary to know which factors facilitate resilience, well-being, and growth and which factors lead to vulnerability and ill-health. Consequently, research which helps to shed light on these factors is vital. This paper summarizes the key findings of a study that qualitatively explored the experiences and interpretations of German migrant couples throughout the migration process (emigration and immigration) to identify psychosocial factors that influence the well-being and adaptation of immigrants and their decision whether to stay or to leave. The study compared the experiences of four German migrant couples who lived for at least five years in New Zealand and intended to stay with four German migrant couples who returned to Germany. The data collected through episodic interviews, participant observation, and document review was analysed by using various grounded theory analysis strategies. The key finding was that good adaptation does not necessarily mean that migrants stay. Rather it was the complex interaction among and between individual and social factors throughout the migration process that influenced the migration experiences and subsequently the likelihood of staying. The findings are used to offer tentative suggestions for proactive interventions that could be implemented to facilitate migrant well-being and adaptation. Recommendations include providing resources that aim at increasing individual capacities before the migration and throughout the establishment phase, developing cooperative relationships between the country of origin and the host country regarding resource provision, and providing a settlement context consistent with the expectations that host countries create for the migrants they seek to attract. Key resources and central social conditions will be discussed.

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**The El Niño – Southern Oscillation influence on fire activity of northern Australia**

Ms Sarah Burns *, Monash University, School of Geography and Environmental Science  
Prof Nigel Tapper, Monash University, School of Geography and Environmental Science  
Mr David Packham, Monash University, School of Geography and Environmental Science  
Prof Ben Orlove, University of California at Davis, Department of Environmental Science

**Abstract**

Fire is an essential part of northern Australia with extensive areas burnt each year. This has implications for global emissions and ecological sustainability. Many variables influence the fire regime in northern Australia including: vegetation, people, weather and climate. Despite the complexity and interactions between these variables, the fire trend is suggested to oscillate in phase with year-to-year climatic variability. The basic climate condition of high rainfall during the summer monsoon, followed by a hot dry season, creates a system that encourages a highly flammable environment. These conditions can change under various naturally occurring climate oscillations such as El Niño – Southern Oscillation (ENSO). This project investigates the link between burnt areas of northern Australia and rainfall, Southern Oscillation Index (SOI) and Sea Surface Temperatures (SST). The Moderate Resolution Imaging Spectroradiometer (MODIS) onboard TERRA at 250 m resolution was selected to map the burnt areas because it has free archived data, constant coverage and moderate resolution. Satellite imagery of the dry season from 2000 to 2005 were downloaded and processed. Burn scar detection techniques (semi-automatic, change detection and visual identification) were performed to create a burnt/unburnt mosaic of the area. Burnt area data were imported into a GIS environment and the spatial pattern of fire was overlaid with land use, vegetation types and anthropogenic activity. Weather station data and ENSO Indices were obtained from the Bureau of Meteorology. The burnt area distribution was then compared to the strength and timing of the monthly averaged rainfall and ENSO indices. The results from this study could be used to forecast burnt areas and be used to transfer basic scientific knowledge into useful management systems.
Fisheries as more than fish: understanding the 'importance' of living aquatic resources in agrarian change
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Abstract
Fishery-based livelihoods in the Mekong River Basin are in transition, led by a combination of greater regional cooperation, rapid infrastructure development, and exposure to regional markets. Through the lens of agrarian change a number of impacts on different rural populations in Southeast Asia have been documented, but the specific changes to inland fishers remain poorly understood. In general, fishers have maintained a high dependency on fish and other aquatic animals for nutrition and income, despite the transition away from a subsistence-based economy and the overall decline in both the size and quantity of native fish stocks. In response, development agencies and national governments have begun to address fisheries as a central component of poverty alleviation and rural development strategies. In many instances 'fisheries' is interpreted as production through aquaculture, rather than the responsible use and management of native stocks. As such, aquaculture is seen as a positive solution to underdevelopment, while capture fisheries are considered a safety net for the 'poorest of the poor'. This paper questions these perceptions by presenting the results of a study carried out in the Lao PDR, focusing on the relative and absolute contribution of aquaculture and capture fisheries to rural communities. Analysis of household fish consumption, livelihood composition and cultural ethnography is combined to determine the relevance of both aquaculture and capture fisheries to poverty alleviation and rural development programmes. It is concluded that far from a homogenous activity that can be programmed into poverty alleviation, inland fisheries must be understood as complex, dynamic, and inherently socialized. Tracing the agrarian transition within fish dependent communities in Southeast Asia requires a more nuanced understanding of the cultural, social, and ecological diversity of fisheries, and the wider politics of poverty alleviation and rural development.

Redefining Place: Australian Expatriates and Transnational Relationships
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Abstract
Transnationalism is disrupting definitions of place and culture as its processes of cross-border relationships unsettle associations between people and particular geographic spaces. In migration, for example, it is now possible for an individual to build new relationship networks in a host country, while continuing connections to their former relationship networks, permanently reminding them of other 'homes'. Relationships are regarded in this paper as key constituents of culture, and part of the everyday routine practices by which we recite values and demarcate identities. Yet in the process of migrant adaptation, ordering preferences and judgements, including those made with regard to relationship networks, are, by necessity, re-evaluated, along with integral notions of identity. Using data from qualitative research with Australian professional expatriates in Asia, this paper will elaborate on how personal understandings of identity and cultural belonging change as a result of shifting relationship networks. It will explore further the role of relationships in constituting a cultural space, and in relating, and embedding, people to place. As relationship networks are implicated in affective notions of belonging, it will ask the question as to whether it is possible to develop a sense of transnational identity - one that doesn’t belong to a particular place but to many places. Can the practices and relationships that ground and place us stretch across borders and survive a mobile existence? This analysis will be placed within a broader reflection on the processes of migration and settlement and the wider dynamics of cultural change that are taking place within transnational global flows. Author Dr Melissa Butcher Department of Human Geography Macquarie University Sydney, Australia Mob: +61 (0) 411 027 283 Email: mbutcher@els.mq.edu.au
Google and Graticules: Trials and Tribulations with Online Learning About Sustainability
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Abstract

When the phrase 'learning geography' is entered into Google 50 million hits are available for one to explore. The mapping term 'graticule' gets you 200,000. The Internet as a channel and market for learning is utterly ubiquitous yet untapped. A design college in Minneapolis (USA) is three years into delivering distance learning on the subject of sustainable design through a program where students earn credits towards a certificate. Two courses are showcased. 'Sustainability–or Else' offered students an introduction to sustainable development through reading, projects, and online guest-critics. Since fields of cartography, GIS, and graphic design have taken a keen interest in sustainable development, another course is featured that addresses the geography of sustainability wherein students make maps via web browsers and graphic editing software. It is titled 'Mapping for Sustainability'; aside from maps produced, it includes reading, online guest-critics (one is Peruvian), neighborhood interviews, and other projects. 'Water vulnerability' served as the resource focus for 2006. We have learned much. International outreach has amazing possibilities via blogs and list-servers; the Mapping course received four dozen global inquiries. But there are barriers. A big one is money: private college tuition in the U.S. is high by international standards. Scholarships are possible but that takes time and planning. Time can be its own impediment: the position and duration of an academic year within calendar year/s differ significantly between continents. This requires flexibility that students need but may not readily get. Local time can be an issue: today in the U.S. is tomorrow in Australia. 'Global' seems great, but 'local' may be where the real action is for learning how to make development sustainable. Students discovered this when they innovatively mapped their neighbors’ ecological footprints. 'Think global but act local' is a phrase with new meaning for students and faculty exploring sustainable design via distance learning.

When the Old Becomes New Again: Operationalising the Community Economy for Local Economic Development in the Philippines
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Abstract

Political decentralisation across Asia has had extensive repercussions on the role that government, civil society, the business sector and international donor agencies play in development. While decentralisation has led to the responsibility for economic development shifting from national to local government units in the Philippines, global economic discourses continue to pressure governments to adopt large-scale neo-liberal economic reforms, such as accessing global markets through foreign investment and export-oriented industrialisation. These reforms have been particularly difficult for local governments in rural areas that lack the resources and capacity to attract such investment. Recent theorising by economic geographers about a more diverse imaginary of economic practice poses a challenge to the dominance of neo-liberal discourses in development. While much of this work has remained at the theoretical level, this paper describes how a team of workers from local government, academia and non-government agencies operationalised the Community Economies approach of J.K. Gibson-Graham in an action research project designed to stimulate economic development in a small rural municipality in Bohol, the Philippines. I will describe how the project team established three community enterprises through an assets-based approach that mobilised locally available resources, built on a variety of informal economic practices, challenged local discourses of development, and fostered new, more empowered economic subjects and partnerships.
Accounting the Sustainability of Rural China
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Abstract

Social Accounting Matrix including Resources and Environmental (SAMER) is applied to analyze quantitative characteristics of genuine saving (Sg), net resource product (NRP) and net environmental product (NEP) in the rural China from 1990 to 1997 to measure resource and environmental costs of its economic development. Results indicate as follows: (1) Annual NRP was between $-24.4 and $71.3 billion yuan, which amounted to 0.55-1.71% of rural gross product, and annual average damage rate was 1.00%. (2) Annual NEP was between $-241.9 and $447.5 billion yuan, which amounted to 1.25-17.20% of rural gross product, and annual average damage rate was 8.06%. The percentage of NEP in rural gross product was 7.51 times as high as that of NRP in rural gross product. (3) Annual Sg was between $-46.8~265.7 billion yuan, which made up 0.79~13.57% of rural gross product.. Annual average damage rate was 5.93%. Continuous negative genuine savings mean that development in Rural China was unsustainable during our research period. However, the amount of damage rate of Sg of 1997 in rural gross product (0.79%) and the descending trend of damage rate of Sg in rural gross product imply that the situation of the rural sustainable development in China took a favorable turn.

Sun in the antipodes: temporal behaviour and trends of sunshine duration in the Iberian Peninsula
Dr. Josep Calbó *, Gup de Física Ambiental, Universitat de Girona
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Abstract

A number of series of monthly and annual sunshine duration for the period 1951-2004, corresponding to main weather stations from the Spanish National Meteorological Institute, have been analyzed. First, the series have been checked for their homogeneity, and as a result some of them have been withdrawn from the further analyses. The remaining data have been normalized by their corresponding potential sunshine duration, defined as the time between sunrise and sunset. We have built composite series by averaging all these normalized data. The averaged series of annual sunshine duration shows a positive trend. However, the trend is not monotonic during the whole period: it has negative sign during the first part of the period (what could be the signal of the phenomenon known as global dimming), which is overcompensated by the positive sign particularly in the most recent years. This behaviour is also found for most of the individual series, and also for most monthly and seasonal series. Spectral analysis techniques (FFT, MESA) have also been applied to the sunshine duration data, and significant peaks (around 5 and 2.5 years) are found. Discussion about the possible effect of urban areas on the sunshine duration data and on the trends found is also presented. In addition, the influence of the North Atlantic Oscillation (NAO) on sunshine duration is explored. Results of the latter analysis show that there is a high positive correlation between NAO index and sunshine duration in winter months, for the stations placed in the centre, South, and East of the Iberian Peninsula.
Constructing exclusion and belonging in economically and socially marginalised areas
Dr Jenny Cameron *, Griffith University

Abstract

Across Australia urban renewal and regeneration programs, generally run through departments of housing, are seeking to redress economic and social exclusion in the nation’s most disadvantaged areas. From earlier programs that focused primarily on the physical aspects of redevelopment, recent efforts are concerned with economic and social marginalisation. Using a discourse analysis of policy statements and program documents I argue that the policies and programs tend to be constructed in ways that further economic and social exclusion. Certain geographic areas are categorised and defined so that they are singled out from the rest of the nation as highly dysfunctional areas that do not belong and that therefore require renormalising. Although the intention is to incorporate these areas into the national belonging, the effect is to exacerbate marginalisation and a sense of unbelonging. In these programs the state is also placed in the role of the expert who devises and implements intervention programs, while those who live in these areas are expected to voluntarily cooperate in their “treatment”. The programs thus exclude those who live in marginalised areas from contributing to the process of policy formulation and program development. The marginalised can only belong as passive recipients. The paper then draws on the diverse economy framework and the results of participatory action research, first, to show how people in socially and economically marginalised areas can be represented as citizens who already belong and contribute to the national landscape, particularly through a range of economic activities that produce direct social benefit; and second, to show how policy and program activity can be rethought to incorporate the marginalised as active participants.

Insularity discourses: vulnerability in Pacific Island countries
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Abstract

Pacific Island countries (PICs) and the communities that comprise them are represented in many international conventions and declarations as sites of vulnerability. Three important sets of island vulnerability discourse are found in the United Nations Framework Convention on Climate Change (UNFCCC), the Mauritius Declaration on sustainable development of small island states, and the Hyogo Declaration on natural disaster reduction. In this paper I trace the roots of this discourse in the discipline of geography. Drawing upon Said’s notion of orientalism and Arnold’s ideas on tropicality I put forward the concept of “insularity” to include those discursive frameworks in which the vulnerability of islands has become naturalised. In the paper I argue that such discourses can have serious implications for PICs. For example, if the vulnerability of PICs to climate change can be traced back to their so-called inherent vulnerabilities, then it may be claimed that global greenhouse gas emissions are not the underlying problem. Already, adaptation policies aimed at PICs are focusing on ameliorating existing vulnerabilities while greenhouse gas concentrations are continuing to grow under the weak international regime for the mitigation of climate change. As a result the blame for problems resulting from climate change and responsibility for responding to its impacts is being shifted to the victims.

Disaster Resilience in Pacific Island Countries
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Abstract

A strong discourse of Pacific Island vulnerability has become entrenched in international treaties and geographical literature. It can be argued that the growing dependency of Pacific Island Counties (PICs) upon aid in response to disasters confirms this view. While, PIC communities have traditionally relied on a number of strategies to respond to the effects of natural hazards, a number of changes associated with colonialism, independence and development have reduced their capacity to cope with disaster. However, aspects of resilience remain and continue to be effective. Many of these draw on traditional practices and in this paper I argue that while these are often overlooked by disaster response agencies, they should be recognised and fostered. In this paper I examine four categories of disaster response in PICs – knowledge systems, food security, settlements and housing, and intra- and inter-community cooperation – and evaluate their role in contemporary PIC settings.
The regional policy for the Brazilian Northeast region and the recent local development experiences
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Abstract
The regional policy for the Brazilian Northeast region and the recent local development experience of Clélio Campolina Diniz. Due to its periodic droughts and relative development lag, the Brazilian northeast region has been undergoing one of the major world experiences in regional planning. Led by SUDENE (the development authority for the Northeast) since 1959 and later by ADENE (the development agency for the Northeast), the policy focuses on the development of infrastructure, industry and agriculture. In addition to revenues derived from fiscal incentives granted by a specific Law, the 1988 Brazilian Constitution created the so-called Fundo Constitucional (constitutional fund), both of which guarantee bulky resources for the region. More recently and apart from regional policies, several local development experiences based on small enterprises or family initiatives have been surprising analysts due to their productive and commercial success. The popular clothing production at Santa Cruz do Capibaribe (in the state of Pernambuco), sleeping nets at São Bento (in the state of Paraíba) and jewels in Juazeiro do Norte (in the state of Ceará). This paper aims at analyzing the historical and cultural conditioning factors as well as the social capital that have fostered such initiatives, among others which now become apparent in the Northeast. It also attempts to evaluate the extent to which such activities can be considered as an additional alternative for the economic and social development of the region.

Vulnerabilities of the Carbon Cycle in the 21st Century
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Abstract
There are carbon pools in the terrestrial biosphere that currently contain hundreds of billion tons of carbon that could be destabilized through global warming and land use change over this century. This would result in an acceleration of global warming well beyond model are currently predicting. Some of the most vulnerable pools on land and oceans are: soil carbon in permafrost, soil carbon in high and low-latitude wetlands, biomass-carbon in forests, methane hydrates in the coastal zone, and ocean carbon concentrated by the biological pump. The risk of large losses from these pools is not well known, and is not included in most climate simulations. Preliminary analyses indicate a risk over the coming century that may be larger than 200 ppm of atmospheric CO2, rivaling the expected release from fossil fuel combustion. Particularly drought and fire on forest and open woodland/savannas play a major role in controlling the net carbon balance of the Australian continent and so contributing to the global instability of the terrestrial sink.

The Waitangi Tribunal and the Treaty texts: from 'lands and estates' to 'taonga katoa'.
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Abstract
The Waitangi Tribunal was set up in New Zealand in 1975 to inquire into, and make recommendations about, claims brought by Māori. Its initial mandate was to consider actions and policies of the Crown, from 1975 onwards, which were not consistent with the principles of the Treaty of Waitangi. In 1985 its scope was enlarged to hear claims from 1840 onwards. Article II of the Treaty confirmed to Māori tribes the full, exclusive and undisturbed possession of "lands and estates, forests, fisheries and other properties" (in English) and "o ratou wenua, o ratou kainga me o ratou taonga katoa" (in Māori). This paper examines the role and style of working of the Waitangi Tribunal from 1985 to 2005. It begins with land claims, moves on to fisheries and forests and, more recently, to taonga katoa, embracing: rivers and lakes; geothermal resources; oil and gas; and Indigenous flora and fauna, together with traditional knowledge and intellectual property rights.
**Rural subjects, global markets and non-capitalist practices: re-imagining globalization and development in southeastern Indonesia**

Ms Michelle Ann Carnegie *, The Australian National University

**Abstract**

Globalization introduces or strengthens capitalism in many places, making the analysis of changing social relations an important aspect of our understandings of global processes. Scholars in critical and mainstream debates alike acknowledge the uneven nature of capitalist globalization and demonstrate how it creates and reproduces both inequality and opportunity. To date, much research has explored the specificities of globalization in particular localities, often with a view to formulating a politics of opposition. Mainstream development scholarship and practice has tended accept the capitalocentric image of an expanding Western capitalist economy. However, some scholars have criticized the Eurocentric privileging of global economic processes as being essentially capitalist (and hence about class relations) (Escobar 2001). In this paper I broaden the scope of the specificities of how people and places engage with globalization by offering an alternative reading from southeastern Indonesia. I tell the story of rural people who reside in ‘the periphery’ –subjects often left out of globalization discourse because capitalism has not (yet) penetrated the places they inhabit. Whilst the subjects in this story benefit from access to global markets, their economic practices, relations and enterprises are largely non-capitalist. I argue that re-conceptualizing discourses of economic globalization and development to include place-based knowledge, practices and experiences provides openings to support non-capitalist livelihoods in peripheralized places in their articulation with global markets. Escobar A. 2001. Culture sits in places: reflections on globalism and subaltern strategies of localization. Political Geography 20: 139-174

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**Migration and land use/cover change in Guatemala**

Ms Laurel Suter * (presenter only)

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**Abstract**

Guatemala has experienced dramatic internal migration to the agricultural frontier and international migration. The former threatens the sustainability of the biodiverse-rich Maya Biosphere Reserve; the latter has enormous economic and ecological implications for the eastern highlands sending communities. This paper presents from ongoing research in Guatemala on population-environment dynamics.
Deviant leisure - a deviant concept?
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Abstract

Traditional definitions of ‘deviants’ have stressed the difference between these individuals and the majority of people whose behaviour conforms to the socially accepted norm. This ‘norm’ has been legitimated and empowered by individuals as the moral standard of society. Consequently, ‘deviant leisure’ has generally been defined from the perspective of society as being destructive and negative. Within this context ‘leisure’ has historically been defined as behaviour ‘freely’ engaged in by individuals. However, by examining the relation between individual behaviour and societal structures this paper provides a critical analysis of the concept of ‘deviant leisure.’ This analysis demonstrates how leisure, rather than being a refuge of individual freedom is actually a societal construct through which the behaviour of individuals, the nature of which is influenced by societal norms and values, reinforces the hegemonic position of social institutions and structures. In addition, the paper identifies how individuals are encouraged to behave in a deviant manner that conflicts with the standards of the ‘moral’ majority by the structures and institutions associated with society and the dominant role this deviant behaviour plays in the construction, evolution, and re-enforcement of societal structures that influence the lives of individuals. Consequently, this paper suggests that instead of being the antithesis of the morality of society deviant leisure is actually a vital component in the continuation of the health and stability of society and the moral values associated with it. Therefore, this paper indicates that rather than all leisure being deviant, as Rojek has claimed, there is actually no such thing as deviant leisure as it has been previously defined. Rather, both leisure and deviance, and hence deviant leisure, are constructive and positive components in the continually evolving nature of society, the associated moral social norms, and the lives of all the individuals that reside within a society.

Social Capital and Cluster-based Economic Development
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Abstract

The social capital literature spans a variety of disciplines and has been too often been seen as a panacea to a wide variety of social challenges. Parts of the literature do, however uniquely address the core principles of cluster-based economic development. Cluster-based economic development is directly concerned with getting often large networks or groups with diverse economic interests to work together toward a common goal. Cluster groups cannot--by their very nature--rely on traditional hierarchal forms of organization with their formal, sequential power structures. Motivating people becomes a subtle, more systemic, process of identifying the benefits of group membership and eliciting behavior that reinforces the group as well as meets the immediate economic needs of the individual. The challenge is often compounded by negative past relationships of the group members or perceived alliances within subsets of the group. The purpose of this paper is to highlight and apply the relevant strains of the social capital literature to the challenges of cluster-based economic development. Section one provides the traditional definitions of social capital and cluster-base economic development. This section highlights the unfortunate vagueness inherent in the two terms, and attempts to distill the common elements shared by both concepts. Section two, describes our general approach to cluster development and defines the general policy guidelines we prescribe. Section three describes two current cluster-based economic development projects being conducted by the authors in Northwest Ohio. This section gives a hands-on example of the use of social capital in fully operational cluster projects.
**Maori Places and the 'Science' of Trees**

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**Abstract**

In response to shortages of native timber by the beginning of the twentieth century the New Zealand government began to develop vast planted forests of exotic conifers. The new forestry, based on principles of scientific management, also incorporated European forms of understanding and using space, and was designed to both create order in the landscape and as an exercise of modern statecraft, to bring territory more directly under the influence of the central government. Much of the land planted belonged to Maori and Maori constituted many of the people involved in the new forestry. Maori had long maintained a deep and meaningful connection with their forests, exercised as part of their kaitiakitanga (guardianship). This paper argues that the new forestry not only provided timber for the Nation and extended state control over empty spaces, but for Maori involved a dynamic reorganization of the relationships between people, trees, and land at varying levels and specific places. It will demonstrate how Indigenous peoples, such as Maori, actively shape their worlds in connection with larger global processes, and will question the assumption that colonialism, as well as globalization, are simply the extension of Western capitalism at the expense of local economies and knowledge systems.

**Remaking realities: geography, environmental knowledges and the problem of nature**

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**Abstract**

Geographers are significant producers of knowledge about the non-human world. As researchers and teachers our collective, and far from homogenous, representations of nature constitute a voluminous and highly specific set of inscriptions situated with a wider societal context. In this presentation I argue that geographers are, wittingly or not, engaged in a contest: a contest both within the discipline and without over the sorts of environmental knowledges that become 'common-sense' within the various expert and lay communities with stakes in how the non-human world is engaged. David Harvey once wisely observed that we should ask of knowledges not whether they are true or false but, rather, what produces them and what they serve to produce. On this basis I reflect upon the content and wider societal function of the various 'nature knowledges' that are the stock-in-trade of many in the discipline, from physical to resource geographers, from cultural to economic geographers. The 'problem' of nature is not so much how 'best' to understand it. Instead, it is the problem of how those actors seeking, through their knowledges and associated practices, to govern nature, get their cognitive, moral or aesthetic claims legitimated among various constituencies.
The Life Aquatic: The Scuba Diving Experience
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Abstract
One of the most widespread forms of marine tourism today is that of Scuba Diving. Few other activities enable such a direct interaction with the marine environment. It is perhaps for this reason that the activity has become so popular. The world's largest diving organization, the Professional Association of Diving Instructors (PADI) has issued in excess of thirteen million certifications since 1967, with 951,470 new certifications in 2004 (576,125 were the basic Open Water Classification) (PADI, 2005). However, the activity also involves a considerable amount of expense both in monetary terms and physical effort, so there must be some considerable reward. Many academics over the years have discussed ideas of self-actualisation through such activity, and indeed a useful motivational division is that suggested by Beard and Ragheb (1983). These authors identified four possible areas for leisure motivation, discussed in this paper as education, esteem, expertise and escape. A number of unstructured interviews were carried out aboard a three-day live aboard dive trip to the Great Barrier Reef in mid-2005. These interviews demonstrated that Beard and Raghebs classifications are all present in the majority of dive experiences. The intellectual motivations to engaging in Scuba Diving are present, and the social nature of diving is enhanced by the ‘buddy’ format. Competence is required with the skills of being a scuba diver, and the underwater environment represents an escape to an alien world. However, it also became apparent that divers sought a fifth dimension to their dive experience, that of an embodied experience. A number of contemporary writers in geography and tourism have discussed a growing interest in the body politics that surrounds contemporary leisure practice. Scuba-diving, like much marine tourism, is profoundly embodied, being ‘fundamentally about active recreational participation, and demands new metaphors based more on ‘being, doing, touching and seeing’ rather than just ‘seeing’” (Cloke and Perkins, 1997:189). Such an acknowledgement has important implications for managerial approaches to marine tourism in the coming century, for sustainable practice has to be built upon a deep understanding of why we seek such experiences.

Image(S) Of Geography On Children's Bookshelves
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Abstract
Commercially produced single volume general geography books, found on younger children’s shelves in bookstores, introduce children to the ‘World’ and/or to ‘geography’. Their titles and the cover texts indicate that geography is about the Earth, its countries and/or physical and human features and people’s activities. Evaluation of the content of these books indicates that some books focus on countries and regions of the world, others on physical and/or human geography, and a few combine both approaches. The use of globes and world maps identifies geography as global, continental and national in interest. Well illustrated with photographs and colour drawings, the books employ pictures as scenic devices, rarely as ‘texts’. They are informative of global variety and cover such themes as natural features and landscapes; varieties of economic activity, settlement, travel and leisure; aspects of people’s lives; and processes at work in the natural environment. Though mentioned, consideration of natural hazards and human impact on the environment is limited, with negligible reference to responses to hazards and to international, national or personal approaches to tackling waste, pollution and climate change. The texts are descriptive, lack criticality and avoid exploration of problems and issues. Geography emerges as interested in, and about the world, but as non-controversial and unchallenging. There is little sense of how geographers gather the data they analyse and create their understandings and insights. The texts fail to explain what geography is and that it is evolving as a diverse discipline. Children will gain different senses of geography depending upon the text they read. The image of geography is of a regional discipline and/or thematic study of physical and human aspects of people, places and the environment – a traditional sense of the subject. Geography, ‘describing the Earth’, is the image emerging from these books.
**Breaking out of the Resource Periphery through 'cooperation'? - The Dairy complexes of Chile and New Zealand**

Mr Edward Challies *, Victoria University Of Wellington, Institute of Geography  
Dr Warwick Murray, Victoria University of Wellington, Institute of Geography

**Abstract**

This paper examines the evolution of the dairy complexes of New Zealand and Chile in the context of increasing bilateral interaction between the two countries, and their recent signing of a ‘Trans-Pacific Strategic Economic Partnership’ (TPSEP) free trade agreement. The two economies can be said to occupy peripheral positions in global markets and have, through the 20th and into the 21st Century, increasingly competed for market share in a range of primary product (particularly agricultural) based export markets. Similar sets of historical processes, though variably timed, have shaped the roles of New Zealand and Chile respectively as resource peripheries, and the extent to which the two countries can collaborate for mutual benefit and transcend these roles is uncertain. In taking a sectoral approach this paper questions the compatibility of the two dairy complexes in the context of the TPSEP, and recommends further sectoral and localised studies in order to better appraise the model of ‘co-operation’ promoted through the agreement.

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**Critical Geography and Global Warming**

Dr. Chew Hung Chang *, Nanyang Technological University  
Dr. Glok Ling Ooi, Nanyang Technological University

**Abstract**

On 27 December 2001, Typhoon Vamei made landfall in Singapore, just barely one and a half degree north of the equator (Chang et al., 2003). Theoretically, tropical cyclones do not form at very low latitudes due to the weak Coriolis effect. A main reason cited for its formation was the persistence of a meridional pressure gradient across the equator created by a storm surge with abnormal longevity in the South China Sea. Was this a meteorological extreme event triggered by global warming? While some meteorologists believe that a link between global warming and storm frequencies and intensities may not exist, there have been studies that attempt to link them. In a simulation study by Knuston & Tuleya (2004) at NOAA’s Geophysical Fluid Dynamic Laboratory (GFDL), they proposed that an 80 year build-up of atmospheric CO2 at one percent per year (compounded) leads to roughly a one-half category increase in potential hurricane intensity on the Saffir-Simpson scale. Was this a one-off freak storm? If this is indeed an indirect result of global warming, Singapore may have to seriously address the issues of global warming. To date, Singapore has yet to ratify the Kyoto Protocol. This paper attempts to assess the potential impacts of global warming on Singapore and critique the efforts at responding to the international climate policies. Rather than simply explaining why freak storms like Vamei may happen, there is a need to move towards critiquing and changing society as a whole to better respond to issues related to global warming. Critical geography somewhat like radical geography before it, has provided opportunities to question the basis upon which development has been discussed. In the understanding of the issues concerning global warming, it is critical to unpack the implications of the ‘totalising’ and ‘homogenising’ discourse on development that has come from chiefly the rich countries and cities.
**Sharing the Opportunities and the Benefits – the sustainability challenge**
Ms Christine Charles *, Newmont Australia Limited - Desert Knowledge Session

**Abstract**

Increasingly as communities, companies and governments consider how to maximise the benefits of mining to society while operating in a sustainable way, the issue of local benefit sharing is a key question. In a country like Australia, with a highly concentrated urban population clustered in a small number of centres, the challenge of developing a strong economic base is a central concern. In rural and remote Australia many communities are grappling with how to build an economic platform under social, cultural, environmental and political aspirations. Rather than adversarial anti-development positions, Communities are seeking a balance between economic growth, social cohesion, cultural safety and environmental stewardship. They seek to share the benefit. In the company, from the Board and the CEO and throughout the organisation we understand that Newmont's future is dependent on its ability to develop, operate and close mines consistent with our commitment to sustainable development, protection of human life, health, the environment, and adding value to the communities in which we operate. While there is a convergence of interests and intent which is creating strong partnerships, alliances and relationships, the question of how to sustainably share wealth creation, opportunity and growth in remote locations does not have any easy models or answers. This presentation will focus on the developments of new thinking within the industry and the emerging models of working across sectors and with communities to achieve positive change and positive futures. I will consider our relationship with Indigenous Australia which is one of the highest priorities for Newmont (and many mining companies) in this region. We have made a commitment which recognises that success in our business is integrally linked to local Indigenous communities' capacity to develop and maintain sustainable livelihoods, culture and society. I will share where we are on this journey and some of the things we are starting to understand as well as the challenges faced.

**Spatial aspects of visitor seasonality: the case of Australia**
Ms Elin Charles-Edwards *, University Of Queensland
Prof. Martin Bell, University Of Queensland
Dr Dominic Brown, University Of Queensland

**Abstract**

Spatial variation in the degree and pattern of visitor seasonality is frequently noted in the tourism literature; however, quantitative studies of the spatial aspect of seasonality are rare. A better understanding of this dimension of seasonality is an important first step toward a scientific understanding of the factors driving the observed temporal fluctuation in visitor numbers at the zonal level. This paper presents first results from a study of the spatial patterning of seasonality in Australia and posits a series of factors hypothesised to influence the degree and pattern of seasonality across Australian Tourism Regions. Using data from the Australian National Visitor Survey a set of statistical measures are generated to capture key facets of visitor seasonality for 84 Australian Tourism Regions. Strong spatial regularities in the degree and pattern of visitor seasonality suggest a set of natural and institutional factors, at the both the origin and destination, influencing the timing of temporary moves in Australia.

**How to find the one that got away. Investigating the spatial distribution and habitat associations of fish.**
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**Abstract**

Typically research into the environmental characteristics that influence fish distributions has been focused at the assemblage level. Conversely, there has, been little study of the processes that influence spatial distribution at an individual species level. Predictive modelling techniques were used to investigate the functional relationships that influence the spatial distribution of fish species in the Recherche Archipelago, Western Australia, and to determine whether fish distribution can be linked to habitat. For species that had close habitat associations, the empirical models developed using generalised additive and generalised linear models were moderately successful. Based on characteristics like substrate type, water depth and algal cover, the models provided support for previous work that found these variables to influence fish distribution. Other species had poor habitat association, suggesting that species with different life history and behavioural characteristics will require different modelling approaches. The associations found through the modelling process and the alternatives for modelling poorly associated species are discussed.
For whom the forest: the changing conditions in the Bukit Timah Nature Reserve and its future as an urban forest
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Abstract

It has been suggested that expanding populations, increased income, greater leisure time, and increased health-consciousness have resulted in more intensive use of natural areas. This evolution of tastes and lifestyles has resulted in increasing pressures on our natural landscapes probably exceeding the landscape’s carrying capacity, and adversely affecting the natural habitat conditions by causing degradation. Urban forests, while providing the much-needed respite from the stresses of everyday life, are increasingly under such pressures from the population residing nearby or within easy access. The idea of community involvement in nature appreciation and outdoor-bound education adds to this increasing attraction towards the very limited remnant of nature in the city. In Singapore’s remnant tropical rainforest, paths are created within and around the forest to encourage people to participate in nature-based recreation. However, in recent years, burgeoning visitorship is bringing about associated degradation to these forest trails and consequently to the forest environment so much so that the park managers are now faced with a dilemma of maintaining the dual role of the forest: as a natural environment and as a communal recreation facility. With new housing and other infra-structural development around the forest peripheries and the many facilities offered by the Nature Park to attract visitors, the forest has evolved from a little known vegetated patch to one that is about to be strangled through the increased attention. The study looks at the increased visitorship to the nature reserve in urban Singapore and the impacts it has on the natural forest environment. The paper also investigates on possible ameliorating measures that might maintain the sanctity of the forest environment.

Recruitment of Native Species by Lophostemon confertus Plantations in Hong Kong
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Abstract

This study investigated the vegetation dynamics of uneven-aged Lophostemon confertus plantations and their recruitment of native species in Hong Kong. Four plantations, aged 12 (P12), 29 (P29), 39 (P39) and 46 (P46) years, were selected for the study. Height growth, stem basal diameter (SBD), diameter at breast height (DBH) and crown area of the overstorey species largely increased with age of the plantations while density decreased from 4,175 nos. ha-1 in P12 to 625 nos. ha-1 in P46. Lophostemon confertus grew faster in height than it developed in SBD, DBH and crown area. Growth differentiation tended to widen with age of the stands yet the species failed to regenerate under its own canopy, paving the way for the invasion of native species. A total of 95 woody species, belonging to 41 families and 68 genera, were recorded in the understorey of these exotic plantations. The number of tree species increased progressively with age of the plantations, in the order of 3 (P12), 7 (P29), 18 (P39) and 28 (P46). Altogether, 38 tree species were recorded representing 9.7% of the total tree flora in Hong Kong. Species richness, diversity and evenness also increased with age of the plantations. P12 and P29 were dominated by shade-intolerant species (e.g. Clerodendrum fortunatum, Melastoma spp., and Rhodomyrtus tomentosa), while P39 and P46 were dominated by shade-tolerant species (e.g. Litsea rotundifolia, Psychotria asiatica, Tetracera asiatica). Mid- to late-successional species of the Fagaceae and Lauraceae families, though few in individuals, were only represented in the older plantations of P39 and P46, suggesting that ecological succession was taking place in the understory. Specific problems pertaining to the ecological rehabilitation of degraded lands developed on intensely weathered granite and fire-disturbed slopes, as well as the management strategies of exotic plantations were discussed in the paper.
A Spatio-temporal View of Land Degradation Hazard in India: its Causes, Consequences and Counter Measures for Sustainable Agricultural Development.
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Abstract

Land degradation hazard has posed a serious threat to the existence of mankind especially in the developing countries like India. In the rapidly changing economic global scenario, India is facing innumerable environment problems like floods, droughts, cyclones, earthquakes, fast depleting water resources, and land degradation. However, in the last few decades or so, the land degradation has become a major and serious problem not only in India and its various parts but globally as well. Out of the total geographical area (329 m.ha.) of the country about 125 m.ha is subject to water and wind erosion. In addition, about 28 m.ha is affected by special land degradation problems like water logging, alkaline and, salinity and shifting cultivation etc.(CWC2002). Although, almost all states of India are suffering from this problem but the extent and magnitude of degraded land is recorded maximum in Rajasthan (37.39 m.ha) which accounts for 21.5 per cent of the total degraded land in India followed by Madhya Pradesh(20.71 m.ha) accounting for 11.9 per cent.At all India level, water erosion is the predominant cause for land degradation hazard. The other major causal factors, for the same problem are wind erosion water logging and salinity. The land degradation hazard affects directly and indirectly to the availability of land for agricultural purposes and fertility of soil. Precisely, land degradation problems have massive impact not only on the exiting fragile eco-system but on several developmental activities as well including agricultural operations and natural vegetation. The overall purpose of attempting this research paper is to understand the problem from different prints of view especially from spatio-temporal dimension and to high light major causal factors. The other aims of the research study is to know and analyse its consequences on various developmental activities and to suggest the appropriate counter measures to mitigate the problem for sustainable agricultural development.

A Comparative Case Study Of Cultivated Land Changes In Fujian And Taiwan
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Abstract

In this study, we chose Fujian and Taiwan for a comparative case study of changes of cultivated land. Separated by a short strait, these two regions are similar in biophysical and cultural characteristics but differ in the level of economic development. Taiwan is ahead of Fujian in economic development by 15 to 20 years. We compared quantitative and qualitative changes of cultivated land in these two regions. We then analyzed the proximate causes and the driving forces for cultivated land changes over time. The results showed a good match with the time lag in terms of the dynamic period of cultivated land change and the ranking order of major driving forces. This study therefore supports, at least partially, that similar land-use changes can occur in different regions as the regions pass through comparable stages of eco

Issues and challenges of urban landscape dynamic modeling
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Abstract

A broad range of models from urban economic theory, landscape ecology and complexity theory have been developed to explain or predict urban development over time and space. Although extensive urban research has focused on the dynamics of urban systems and their ecology, most of these models often confine themselves to either a single process or a single discipline and have not adequately addressed the processes and variables that couple human and natural systems. This paper presents urban ecological dynamics and reviews urban modeling approaches from different disciplines. The limitations of the current models are described. Issues and challenges in monitoring and modeling dynamic urban development and ecology are emphasized. This paper discusses four major challenges related to the sources and measurement of urban changes, spatial and temporal complexity of urban systems, and decision-making complexity in urban dynamic monitoring and modeling. The role of GIS and remotely sensed data in the future urban monitoring and modeling is also discussed.
Learning to be Australian: Adaptation and Identity Formation of Young Taiwanese Immigrants in Australia
Dr. Lan-Hung Nora Chiang *, Department Of Geography, National Taiwan University

Abstract
This research focuses on the adaptation and self-identity of young Taiwanese immigrants to Australia. The study is based on in-depth interviews and participation observation of young Taiwan-born immigrants in Melbourne, Australia. They were initially exposed to Chinese values as part of their education in Taiwan, both in schools and in their traditional families earlier. When they moved to a multi-cultural country with many ethnic groups, they had to learn to communicate with people in English and encountered many problems in their schooling and interpersonal relationships due to language deficiencies. Responses to these difficulties ranged from studying the English language harder to retreating to the use of Chinese to make friends, mainly within the Taiwanese community. However such decisions were also influenced by the expectations of their families who may have influenced their friends and therefore also their identity. The self-identity of many young immigrants is also strongly influenced by their families who direct them in their choice of university majors which in turn influences their careers after graduation. Such family influences on young immigrants reduces over the years, reducing the gap between identity and their original family expectations. The young immigrants eventually adapt themselves to the Australian career environment which is different from that of Taiwan. However, due to their dual or multi-cultural backgrounds, those young immigrants remain much more competitive not only in Australia but also in Taiwan, China, Asia, and elsewhere across the world.

Vulnerability Assessment for the Flood of Urban Area Using GIS Analysis
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Abstract
Many researches concerning the natural hazards in GIS environment have continued so far. However, most of them have been focused on the assessment of vulnerability. Vulnerability, which denotes exposure to risk and an inability to avoid or absorb potential harm, is largely composed of both physical and social vulnerability. Three components, exposure, resistance and resilience, shaped by local policies and systems, socio-economic structures and surrounding environment, draw this social vulnerability. We clarified the physical and social vulnerability for the urban built-up area in the context of spatial decision supported procedure in GIS analysis, which has been frequently occurred and has been largely injured by the natural hazards. We assessed the vulnerability according to the spatial extent or the structural hierarchy of the urban environment, the city, local and household level. As a result, we verified the vulnerability in community level, grouped by spatial homogeneity of vulnerability.

From Cooperation to Unification: Possibilities and Obstacles in the Local Governance of Korea
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Abstract
The era of globalization requires regional units within a country to play major roles in the world economy. Local regions try to extend their economic size to act as competitive units of economy. The growing suburbanization of people and offices has increased the amount of flows within larger metropolitan areas. The hierarchical concept of central place and hinterland has changed to network city where horizontally complemented functions are exchanged. All these trends show that local regions have the right reason to become larger for either economic, practical or political purpose, and that an appropriate system of local governance needs to be formulated. One of the major issues of local governance in Korea is how to promote a system of cooperation between a metropolitan city and its adjacent provincial area. Once separated from provinces in the period of rapid industrialization and urbanization of the 1970s and 1980s, metropolitan cities have concentrated on building their own autonomous administrative system, seldom constructed governance system with their former provinces. Now in the need of local governance, there appear many attempts to cooperate between them and subsequent visible accomplishments. But these are limited to the field of transient economic or cultural events. There are even voices that argue for arbitrarily unifying administrative bodies. This paper aims to analyze the obstacles that prevent local governance from working for the case of Daegu Metropolitan City and Gyeongbuk Province, middle eastern part of South Korea. In view of the possibilities, it then makes some suggestions to remove these obstacles and provide a steady formulation of the local governance system.
Structural Founds of the European Union in Poland. Experiences of the first period of membership.
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Abstract
Obtaining a membership of the European Union by Poland made it possible to access the community's Structural Founds. The amount of the offered support (between the years 2004 and 2006 12.809,7 mln Euro; between 2007 and 2013 approximately 59.650,00 mln Euro) significantly exceeds former transfers made in the frames of Pre-accession Founds (PHARE II, ISPA, SAPARD) or the earlier editions of aid programmes. So the access to resources of Structural Founds becomes an important factor of economic development of Poland which is much different from the economic development level of the ‘old’ Union (UE-15). It should be expected that Poland, as the country of the largest population and the largest area of all new European Union member countries, where one can see significant differences of the economic level development among regions with the weakest economically regions of the Community (from 31,4% of the Union average GDP for 1 inhabitant – the Lubelskie province up to 69,9% the Mazowieckie province) in the nearest future will remain the main beneficiary of the structural policy, replacing Spain in this role. The question that is still open is if the support from Structural Founds will be properly applied and will result in concrete effects for the process of economic development. The aim of this article is to present the results of the first period of taking advantage of Structural Founds in Poland. The analysis refers to realisation of the planned activities in the strategic document which is the National Development Plan 2004-2006, being a base of the new model of the Polish regional policy. The obtained results show the level of making the most of Structural Founds including the structure being a result of Operational Programmes which are a part of the National Development Plan and the structure of beneficiaries among which the listed ones are: units of local governments, businessmen, non-governmental organizations and educational institutions. In each case the analysis includes regional differences of the absorption process which allows to define the influence of Structural Founds on changes of regional economic differences of development in Poland.

When Disaster Strikes the Commodity Chain: From Kobe to Katrina
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Abstract
Cheap, reliable transportation is a key component of global commodity chains. In an iterative process, global transportation facilities have become more and more concentrated in fewer and fewer locations. The vulnerability of many of those places to natural disasters means that the commodity chains of which they are a part are vulnerable, whether or not the actual sites of production are vulnerable themselves. This paper will explore the implications of localized natural disasters for the geographies of commodity chains, with particular attention to the Asian Pacific Rim and the U.S. Gulf Coast. Commodity chains may be disrupted by natural disasters in two main ways. First, sites of activity along the chain may be damaged. In this case, alternate locations must be found, either to source raw materials, to process them, or to sell the final product. The other type of disruption has to do with the links, not the nodes, in the chain. Transportation facilities such as ports and roads are often vulnerable to natural disasters, and if they are damaged, the disruptions can reverberate throughout the commodity chain. Geographer Stephanie Chang has made the point that while recovery from a natural disaster might appear to be quick, disruptions to economic activity may in fact be permanent. The spatial implications of this for commodity chains are threefold. First, the concentration of traffic at fewer and fewer ports means that they are more vulnerable; some redundancy may be desirable in shipping traffic. Secondly, places that are vulnerable to natural disasters should be aware of their location within particular commodity chains, including where their competition is. Finally, producers and manufacturers should be aware of the vulnerability of the links and nodes throughout the chains of which they are a part.

Geography, Space And Science: Perspectives From Studies Of Migration And Geographical Sorting
Prof William Clark *, University Of California

Abstract
For the past four decades a group of geographers have had a strong interest in using scientific methods and tools to solve and answer questions about society and societal change. The scientific endeavor, learning and verifying new knowledge, has been at the heart of this project. Even though the discipline has, hopefully temporarily, moved away from the classic science project, it continues and is part of the social science’s community attempt to provide verifiable and useful knowledge to a wide range of stakeholders. I illustrate the range of contributions within the broad areas of migration and the life course and segregation and geographical sorting. Recent work on specific issues related to neighborhoods, mobility and legal contests show the continuing relevance of an informed scientific approach and the contributions of geography beyond the narrow boundaries of the discipline.
Undocumented Equals Vulnerable: Implications For Immigrant Societies
Prof William Clark *, University Of California

Abstract

The United States along with Canada, Australia and New Zealand is again an immigrant society. While Australia and Canada have larger immigrant percentages, the United States with 35 million foreign born is the largest immigrant society in the world. Moreover, a very large proportion of the foreign born population has arrived in the United States in the last decade and a half. Not only are the numbers large the composition of the new flows is markedly different from the native born population. Unlike the other new immigrant societies of Canada, New Zealand and Australia, a large proportion of new immigrants in the United States are undocumented, and the proportion of the extra legal population is growing. These populations fuel the US economy but create issues for local governmental units. While the US economy gains, local economies pay the education, health and other costs of social access. The long term implications both for the immigrants and the communities they join are not always clear but there is no question that a population outside the law and the regulatory process is likely to vulnerable to discriminatory labor practices, unequal access to social services and marginalization more generally. This paper explores the problems of a marginal and vulnerable population in Southern California and discusses the implications for undocumented and marginal populations in general.

Rethinking Local Governance and Citizenship in Multicultural Settings
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Abstract

This paper argues for rethinking local governance processes and citizenship concepts in the context of multicultural settings. It draws on the construct of democratic inclusion to frame concerns about the ability of immigrant and minority groups to influence political processes: the notion of democratic inclusion directs our attention to the “processes, mechanisms, and behaviors by which these groups pursue power and influence,” with a particular emphasis on the institutional contexts that encourage and constrain these efforts. In the absence of inclusion, voting rights alone present a thin measure of citizenship. Greater representation is thus a necessary, but not sufficient, condition for substantive political influence by immigrant and minority groups. Such groups only achieve full political incorporation when their members become integrated into local governing coalitions. I draw on my ongoing research on political incorporation processes in London boroughs to analyze changing conditions that appear to limit the prospects for democratic inclusion of immigrant and minority groups in local governance arrangements. My research shows that even in boroughs where ethnic minorities have gained significant electoral presence—in part through enclave settlements—they report exclusion from governing coalitions and participation confined to “minority” portfolios, such as social cohesion programs. To the extent that religion and cultural factors motivate political mobilization and political behavior of minority groups, this lack of electoral political influence can push minority claims outside the electoral arena. Finally, political incorporation processes are challenged in the wake of protest and terrorist acts. Pressures to weaken multiculturalism commitments and to put greater emphasis on integration with less support for cultural identities can undermine important political mobilization factors in minority communities. Analysis of local political incorporation processes, therefore, increasingly must be situated in a multi-level context as national security legislation reshapes the incentives and disincentives for political participation.
Put your money where your mouth is – supporting the Coastcare facilitator network
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Abstract

Over the last decade in Australia, there has been a move to devolve government responsibility for environmental management to the community through partnership schemes. This process is touted ‘as an era where principles of community empowerment, participation and ownership of Natural Resource Management developed as a culture across Australia’ (Australian Landcare Council 2001). The Australian Government Coastcare program is one such partnership primarily devoted to managing coastal environments. The program proved effective in harnessing volunteers to complete a considerable number of on-ground projects. One of the reasons for its success was the role fulfilled by a team of regional coastal facilitators. An evaluation of the combined Australian Government facilitator networks, across the range of terrestrial and marine programs, acknowledged that there were distinct differences between the delivery of programs on public vs private lands but did not investigate their nuances. Much of the Australian coast is publicly owned, either as parcels of Crown land managed by local councils around the country, or as parks and reserves. Coastcare, therefore served as a program to undertake works to preserve coastal environments on public lands. Whilst the importance of the role of facilitators is acknowledged by the government evaluation, the tenure and treatment of staff employed to undertake these roles continues to be short term and tenuous. This paper provides an analysis of a study undertaken during Coastcare’s first iteration under Natural Heritage Trust I (1995-2001) and draws out specific aspects of the facilitators’ roles and capacity to buttress coastal management frameworks, arguing for increased recognition of these positions.

The benefits of applied spatial analysis for business and service planning
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Abstract

This review paper will consider approaches to urban simulation through the 1960s, 1970s and 1980s. It will draw particularly on the experiences of the Leeds group, under the leadership of Alan Wilson, with special reference to techniques from spatial interaction modelling, account-based models and microsimulation. We will discuss the change in emphasis from theoretical advancement to policy applications in the 1980s and 1990s, and the contribution of GMAP Ltd to this process. We will also provide observations about some current trends in geosimulation, especially multi-agent simulation, with a view to providing links to the past, and also speculation about future trends and developments in the field.
Contesting ‘Multifunctionality’
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Abstract

Both the meaning and the usage of the term ‘multifunctionality’ are contested within the academic literature and policy discourse. The disagreements about the concept hinge around the question of scale. Some scholars have defined multifunctionality as a pattern of differentiated land use at the regional or even national scale. Others see multifunctionality as an attribute of particular farming practices operating at the scale of the farm or even the field. Contestation about the use of the term arises from the association of multifunctionality with a particular policy position. The term has become identified with one side in a global debate about the direction of agriculture, trade, rural community futures, and the place and value of the countryside within the wider society. This policy discourse asserts the right of governments to protect the valued qualities of farmed landscapes, which are seen as co-produced by agriculture simultaneously with more conventional forms of production of food and fibre. This position has been criticized by the Australian government (as a ‘non-tariff trade barrier’), and yet there are indications of a movement by both federal and state governments towards ‘multifunctional-type’ policies that support the notion that farming is more than production alone and recognise the importance of other aspects of a farmer’s activities, particularly environmental work but also, to a lesser extent, the ways in which farms are embedded within rural communities and landscapes. In this paper, we will explore some of the policies and programs (federal and state) currently being applied within the regions of selected Victorian Catchment Management Authorities and examine the responses of farmers to these policy settings. We will also consider the question: To what extent have ‘multifunctional-type’ policies arisen in response to, or underpinned, the emergence of a differentiated (‘multifunctional’) pattern of land use in the countryside?

The 'Human Dimensions Machinery' of Global Environmental Change
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Abstract

Social scientists are apt to lament the status of human dimensions (HD) perspectives in global change science. The origins of this discontent are held to lie in the fact that much of the work on global environmental change (GEC) and under the rubric of Earth System Science is either oblivious to the human dimensions or treats them, usually in an oversimplified manner, as an add-on. These claims are not without foundation. However, the Cinderella status of the human dimensions can also be explained, in part, by the fact that the social sciences themselves have failed to articulate a coherent framework for their contributions to the understanding of GEC. In this paper I set out five basic questions which encapsulate the primary concerns and interests of the social sciences in regard to GEC. Reference is made to how social theory and applied social sciences inform these questions. The placement of integrating themes - such as human security and vulnerability - which have been usefully refined in conjunction with recent HD research, is also considered. The key messages contained in the paper are that a comprehensive understanding of GEC demands that the human dimensions are genuinely integrated into our analysis. However, social and human behaviour displays variability and complexity at least as great as that in the 'natural' environment. And, the social sciences are more disparate in their epistemologies and methods than those of the physical/natural sciences. Even so, it should be possible to articulate a broad 'HD machinery' - a framework that articulates the primary concerns of the social sciences in relation to GEC and which acknowledges both core concepts central to GEC as well as the many and varied perspectives of the social sciences on human-environment relations.
Everyday Urban Encounters between South Korea and Auckland
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Abstract

Cities, both in the past and today, are a key location of activities that stretch beyond and at times challenge the borders of nation-states. In the contemporary world cities are often conceived as nodal points that are the site if not the facilitator of intense transnational social, cultural or economic practices. The provision of educational services to students from other countries represents one such example of transnational activity that is commonly, although not solely, conducted in and through cities. This practice of international education involves quite intricate cross border networks between international students and their families, the populations of host countries and cities, educational institutions and agencies, and nation-states. In Auckland, the city that has experienced most international education in New Zealand, the presence of international students has had significant effect not just on the experience of educational campuses but also the urban spaces in and around them. This paper investigates the way that urban space has been transformed in Auckland through a discussion of the presence and practices of South Korean international students. Beginning with a general discussion of the urban geography of international education in Auckland the paper goes on to consider the everyday practices and experiences of individual South Korean international students. This discussion includes students’ efforts to make sense of their estrangement in the urban landscape of Auckland, the practices that are involved in temporarily re-grounding their transnational lives in the city, and the impact that these practices are having on the more general experience of Auckland.

Connecting home with here: internet practices of South Korean international students in Auckland
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Abstract

Information and communication technologies (ICT) are often considered a central part of or influence upon the processes of globalisation and within that the practices of transnationalism. Increased availability of communication tools like the telephone, fax and the internet provides temporary and longer-term migrants with practical means to maintain contact with their origin country. In other cases these technologies facilitate the formation of communities of interest in migrant receiving countries. While most scholarship considering these issues has looked at the experiences and practices of longer-term or permanent migrants, temporary migrants like international students also utilise ICT as a way to connect with home and build belonging while they are studying overseas. This paper discusses research conducted with South Korean international students in Auckland on their use of the internet during their period of study abroad. More specifically it draws on survey results, in-depth interviews and online interaction to discuss the importance of two internet domains (http://cafe.daum.net/newzealand and http://www.cyworld.com) in the everyday lives of students. More than just identifying and describing the transnationality of such practices the paper also discusses how such domains play a role in the ongoing production of knowledge about Auckland and New Zealand, the re-creation of national identity and as a focal point that connects international students and other South Koreans resident in Auckland and New Zealand. As such the paper seeks to illustrate the way that one set of transnational practices have a transformative role in individual lives and on the shape and characteristics of communities in Auckland.
Governmental Responses to Homelessness in Canada and New Zealand: A Comparative Analysis
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Abstract
Homeless people on the streets of developed cities pose a challenge for contemporary urban policy makers charged with protecting images of safety and prosperity. Consequently, many cities have enacted punitive regulations targeting the presence and behaviour of homeless people in public space: prohibitions on begging, car window-washing, and even sleeping in public space have become increasingly common. While this trend is quite well-known, relatively little academic attention has been devoted to the ways in which governmental responses to homelessness vary between developed countries. This paper documents and seeks to explain key similarities and differences in the regulation of homelessness in Canada and New Zealand. Both countries removed criminal prohibitions on vagrancy in the early 1970s, but in the course of the last decade city councils and some larger jurisdictions have begun to develop policies targeting homeless people in public space. One key finding is that punitive regulations are considerably more widespread in Canada than in New Zealand. Although New Zealand cities are not immune from the trend towards increasing persecution of homeless people, they have also exhibited a willingness to adopt more supportive approaches, including programs which improve access to affordable accommodation. This situation complicates any extension of the revanchist city hypothesis to New Zealand, and prevails in spite of a legal framework which offers relatively few protections – in the form of rights – to homeless individuals. Our analysis of the key similarities and differences in homelessness policy in Canada and New Zealand suggests four fruitful lines of enquiry: the relative visibility of homeless people in public space; governmental and popular understandings of the causes of homelessness; the significance of individual rights in shaping and delimiting governmental action; and the relationship between the local state and notions of property.

Globalisation, competition and the development of gateway in the Yangzi river delta
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Abstract
The objective of the paper is to analyze changes in the port system of the Yangzi River Delta, to measure port rivalry between Shanghai and Ningbo and to evaluate the role of global logistics and intermodality in shaping the Yangzi port system as a regional gateway. Initially, we consider commercial, political and spatial model of port development. We then examine changes in container trade in the region since the 1990s. This is followed by a study of the strategies pursued by international carriers and terminal operators to secure success in this increasingly competitive environment. Attention then centres on measuring logistics through port market share and intermodality through flow analysis created by China’s increased participation in world economy. Future orientations in port governance are discussed.
Integrated, Regional Environmental Planning and the NHT2: the Northern Agricultural Catchments Council, Western Australia
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Abstract

Delivery of the Natural Heritage Trust Phase 2 (NHT2) is based on integrative and adaptive management and strategic investment in regional, community-based groups which develop and implement nationally-accredited regional plans and investment strategies. An emphasis of the NHT2 is on ‘regional empowerment through integrated regional planning’. Using a case study approach focusing on sub-regional community groups’ perspectives, the paper details the agency-directed, community-driven development of the Northern Agricultural Catchments Council in the Western Australian wheatbelt. Through interviews, participant observation and document analysis, conducted in 2004–2005, the process of developing the regional plan and investment strategy, and the involvement of regional stakeholders in the process, were examined. Despite delays and problems with uncertain information and changing guidelines, the Council, committed to a ‘bottom-up’ approach, set about engaging regional community members in defining relevant targets for action in the region. Over 55 regional workshops plus other innovative engagement methods were used. State agencies assisted the process; however, the State’s planning agency and local government officers were noticeably absent. While the concept of regional-scale management was perceived favourably by community interviewees, concerns were expressed regarding the relevance of the regional group and the motives of group members. Communication amongst regional stakeholders was extensive in preparing the regional plan, but fell short during the development of the investment strategy. Accreditation delays mean the Council will only receive funds for a single three-year period (2005–2008), raising questions over the long-term and adaptive rhetoric espoused by the Australian Government. The success of the regional planning process will be evidenced by a) how many regional community members actively implement regional priorities, and b) long-term funding commitments and support from the State and Australian Governments.

Islands, Idylls and Detours of Development
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Abstract

A passing parade of paradigms, imported from distant places, has failed to bring development to small island states in the Pacific, but rather intensified mirages. Insularity might once have suggested purity but more extended resource frontiers and other external pressures have challenged illusory benefits of ‘isolation’. Failures of development, seemingly crystallized in the ‘arc of instability’, have brought new and more direct external intervention as regional geopolitics has been recast, despite the failure of earlier ‘foreign flowers’. This has been paralleled by a new outward urge at the same time as the emergence of alternative indigenous responses at various scales. Some have been reactionary, others more positive. Older versions of syncretism and hybridity have taken more cultural forms, which suggest the need for new dimensions and directions for both development practice and theory.
The ethical complexities of transnational health work in Britain: a problem for whom?
Dr David Conradson *, University Of Southampton
Dr Nick Clarke, University Of Southampton
Dr Alan Latham, University Of Southampton

Abstract
In recent years, the British National Health Service has employed large numbers of staff from outside the UK. This international
recruitment has been deemed necessary given the domestic undersupply of health workers, but it has also been accompanied by
extensive public debate and concern, specifically regarding the ethicality of recruiting health professionals from developing countries.
If one considers what motivates transnational health workers to come to work in Britain, however, it is not always clear that they feel
the same fidelity to a nation-state that British political narratives suggest. This does not render such labour mobility unproblematic,
but it does raise the question of for whom it is a problem. In this paper, we explore how negotiations of ethical responsibility amongst
transnational health workers – perhaps to a sense of homeland, home country or to family and community in their place of origin –
both coincide with and diverge from media and state narratives. We argue for a greater degree of nuance in the analysis of these
flows, looking at how opportunity is both offered – by the British state through its work permit system and the activities of
international health recruitment agencies – and taken up by individual health sector professionals. In conclusion, we consider how
contemporary political formulations of ethical responsibility might be developed to reflect transnational forms of identity.

The potential use of fire to manage trees in climatically variable savannas
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Abstract
Graziers in many parts of northern Australia are concerned that increasing tree density is reducing the potential pastoral productivity.
In this paper we discuss the potential for deliberate burning to reduce tree populations. To what extent can fire reduce the competitive
effects of trees? What are the economic trade-offs of using grass for fuel rather than for fodder? Climatic variability is a major driver
of tree dynamics in the region. Its interactions with fire will be discussed.

Collaborative conservation science and devolved administration of kiekie harvests at Morere –
separating indigenous environmental knowledge from indigenous political authority
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Abstract
Conservation scientists increasingly aspire to integrate indigenous conservation approaches, monitoring techniques, and
autocultural knowledge into conservation practice. Confirming postcolonial critiques of science, however, they often restrict their
interest to the biophysical components of indigenous knowledge, with ambivalence towards the socio-cultural and political content of
indigenous knowledge systems. At Morere Scenic Reserve, which is located on the east coast of the North Island in New Zealand,
administration of kiekie (Freycinetia baueriana) harvests was devolved to Rakaipaaka – a local hapu (sub-tribe) – to facilitate
exchange of knowledge and improve management of this cultural keystone species which is used extensively in Maori weaving crafts.
Critics of devolved administration of cultural harvests often presume that it will induce unsustainable outcomes. Faced with extensive
demands for kiekie from Maori groups throughout the east coast, the Department of Conservation was unable to delimit effectively
and fairly these demands. The short-term success of the governance experiment at Morere is evident in Rakaipaaka’s decision to
fallow the kiekie resource – something which was premised on indigenous political authority and its acceptance amongst non-local
hapu more than indigenous ecological knowledge. Despite this success, Rakaipaaka are restricted from expressing their political
authority in other ways, with limits on economic uses of kiekie and exclusion from tourism concessions within the reserve.
Institutional disregard for Maori development needs circumscribes the long-term potential of devolved management and collaborative
science.
The Application of Subjectively Weighted Attractiveness Scenarios for Urban Allocation Modelling
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Dr Jonathon Corcoran *, CR-SURF, School of Geography, Planning and Architecture
Prof Robert Stimson, CR-SURF, School of Geography, Planning and Architecture
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Abstract

Using a GIS-based approach, spatial measures of attractiveness and accessibility are applied to drive the allocation of potential new dwelling construction. The methodology has been developed for Brisbane-South East Queensland (SEQ), known as the Sunbelt Region, a rapidly growing region and a popular tourist destination in Australia. The paper, details a multivariate approach that develops a set of parameterised linear equations to define underlying features that drive residential location decision choices. Aesthetic and accessibility were identified as the most significant components following a factor analysis using data collected via a survey of Quality of Life. Spatial measures were based on a combination of network distance and kernel density estimation that were utilised to calculate aesthetic and accessibility scenarios, which were then overlaid and multiplied by their subjective weights to create an overall attractiveness scenario. These scenarios were then integrated as a set of criteria in the urban allocation model. Results show that the areas that are given higher weights in the allocation of dwellings are largely concentrated around the western parts of Brisbane and along the coast, as well as in the inner city area and along the major transport routes.

Local Development and the Restoration of the Landscape in Brownfields: the Sanitary Landfills in Brazil
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Abstract

The term ‘brownfields’ is used to designate properties abandoned in precarious conditions or partially used, where the expansion, development or an new use are limited by the real or potential environmental contamination. In the majority cases correspond the old industrial or commercial places (abandoned or partially busy) and that, in nowadays isn’t productive use in the community. The sanitary landfill and the deposits of garbage without cover that are finished are considered as brownfields, and as such, need to be monitored constantly because to the contamination potential that present. Moreover, after its closing, must have a revitalization project, with its reintegration to the landscape, what it will benefit to the environment and the next community to these areas. The question about what to do with these places, after the ending of the activities still is reason of studies in world at large, since the stability of the area can delay some years and in accordance with varies the characteristics of the place. Because of the nature of the activities in the garbage deposits such as storage of a great diversity of materials, many very pollutant, still it is consensus of that the alternative most viable is the recuperation of the landscape by a project of vegetal resetting in the diverse sectors of the activities. In this way, our research focuses the experiences that are being realized in Brazil, as objective to show to the diverse methodologies of implantation of plants species better adapted to this environment with narrow layer of the soil and the subsequent cells with organic and inorganics residues. Keys words: local development, brownfields, vegetal resetting, revitalization, landscape

Ms Maria Cotter *, Heritage Futures Research Centre, University Of New England
Professor Iain Davidson, Heritage Futures Research Centre, University Of New England
Ms Bernadette Duncan, Nindethana Aboriginal Corporation

Abstract

Notions of custodianship are central to discussions of Indigenous relationships to land and sea. In the Australian context such custodianship is “embodied” in the phrase “Caring for Country” which is used to contextualise the often complex social and spiritual relationships of Aboriginal people to land. In this paper results of the Gamilaraay Resource Use Project (GRUP) are used as a reference point to examine the notions of Indigenous and non-Indigenous environmental custodianship. The GRUP project has sought to document the knowledge of natural resources and resource use within the Gamilaraay community of northern inland New South Wales. The interplay of such notions is complex in the interpretation and implementation of current legislative requirements for Indigenous engagement in natural resource management in eastern Australia (primarily NSW). The paper draws critical attention to (a) the fact that rural urban Aboriginals in eastern Australia retain a depth of ecological knowledge that is recognizable as deriving from tradition, (b) the maintenance of this tradition requires continuing access to places where such ecological resources occur and (c) for Aboriginal people in NSW access to such land is ever diminishing. In this context notions of custodianship must be questioned as “custodianship for whom”. We also theorise Indigenous engagement in natural resource management so that Aboriginal people are moved beyond being perceived as a willing and obligated labour force for rehabilitation and regeneration of degraded landscapes. The notion of their willingness is often simply assumed as part of an expectation of obligation that flows from their status as first custodians. Government agencies acknowledge Aboriginal connection to land but do not always seek to enhance Aboriginal access to land for the maintenance of traditional ecological practices.

An application of the 'theory of whiteness' in Western Australian media representations of social exclusion and 'Australianness'.

Mr Shaphan Cox *

Abstract

In recent years, debates in the Western Australian media on the fear of terrorism in western society, have continually questioned and scrutinised the success or otherwise of multicultural policy in Australia. Following the Cronulla Riots in December 2005, an emotional boil-over to the debate produced local editorials, articles and letters to the editor some of which called for a white Australian policy to be re-introduced and headlines such as “Geoffrey Blainey Was Right” (The Australian Dec 15th 2005:1). Reactions from the public and media acted to reinforce a dominant definition of “Australianness” that is bound up with white Anglo-Celtic culture. In a more considered manner and in some ways in contrast to the current/recent diet of local media reporting, deeper social and public musings began to emerge over the issue of national belonging, and Australia Day this year forced many of the dominant group to re-think and re-examine how “Australianness” is currently defined and performed. With the threat of terrorism and the idea of ‘home grown terrorists’ emerging from the London bombings in July 2005, debates in the local media have tended to reaffirm a white dominant definition of “Australianness” while contributing to the demonisation and social exclusion of Muslims and people of middle eastern appearance. This paper aims to develop an application for the ‘theory of whiteness’ (Bonnett, 2000; Bush, 2004; Gabriel, 1998; Hage, 1998) to unpack, destabilise and deconstruct the current definition of ‘Australianness’ as it is represented and constructed in the Western Australian media. ‘Whiteness’ theory attempts to reposition the category of ‘white’ from its current neutral, invisible and objective states. By applying the ‘theory of whiteness’ to the Western Australian media representations and constructions of race, ethnicity and ‘others’, it will provide an important analysis of the media and a call for a more sophisticated approach to the reporting and debate over the definition of “Australianness” and questions of belonging in Australia.
Lights, Camera, Action! Campaigns for the Revitalisation of Cinema(going) and ‘Community’ in Regional NSW
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Abstract
Since the inception of film as a medium of collective consumption, the prevailing conditions of cinema-going have been in flux. The changing strategies of the global film industry have impacted on the material spaces, locations, and the operational practices of cinemas. In this context, the once common locally owned single-screen picture house is long outdated and increasingly rare. The economic logistics of the newly favoured multiplex style of exhibition demand a population prerequisite met only by large metropolitan or regional centres, leaving vast rural areas unserved by a commercial cinema service. This paper draws on research examining four contemporary campaigns to reclaim and revitalise historic cinema spaces in rural towns in NSW. This revival is set within a myriad of locally organised public screenings in rural Australia and the development of a State Government administered Regional Cinema Programme (RCP) designed to promote and support such activity in NSW. In both policy development and local campaign activities, appeals have been made to the discourses of ‘community’. Seemingly, community can be achieved through the revitalisation of the spaces and practices of cinema-going. Through an analysis of local responses in Tumut this paper will interrogate discursive claims for the relationship between cinema(going) and concepts of community.

Challenges for frequency-magnitude analysis of landslide prone terrain
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Abstract
There are four major geomorphic landslide systems in New Zealand: 'Alpine hard rock', 'soft rock hill country', 'hard rock/soft rock hill country', 'regolith dominated hill country'. In each of these, landform evolution is dominated by landsliding. However it is the 'regolith dominated landslide system' that has by most far reaching effect on the wellbeing of the population. Undoubtedly, one of the most important recent advances in understanding regolith landsliding has been the development of distributed hydrological/slope stability models. It is argued, however, that the effectiveness and validity of these and other models in determining the location, frequency and magnitude of landslides is constrained by a lack of appreciation and inadequate representation of natural conditions. Simulation of critical stability thresholds relies on generalisations of the hydraulic and strength properties of the terrain. Even if the parameterisation can adequately match natural conditions, any established threshold is likely to be ephemeral. It is necessary to identify and incorporate the role of bypass flow, piping, and both positive and negative changes to slope resistance resulting from a landslide event itself. Thus there is an evolution of landslide susceptibility that results not only from external influences but also form synergistic changes. The challenge is to model landscape dynamics of importance to stability.
**Socio-cultural Factors in Agrarian Change: a Comparison of the Oil Palm Production Strategies of Villagers with the Residents of Land Settlement Schemes in Papua New Guinea**

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**Abstract**

The social and cultural dynamics of agricultural change is a neglected area of research in the literature on agrarian change, particularly in relation to the performative value of labour in the transition from subsistence to market production. In West New Britain, PNG, the presence of a settler population on oil palm land settlement schemes (LSS) in close proximity to village-based oil palm producers, provides an opportunity to examine these issues through the lens of smallholder productivity. Voluntary LSS settlers have been largely removed from their village socio-economies and are highly dependent for their livelihoods on oil palm production for international markets. Customary landowners, on the other hand, produce oil palm in village settings where indigenous socio-cultural and economic practices and networks are still extant. By examining differences in how these two groups practice and value commodity production, the paper explores two inter-related themes: the role of indigenous social and cultural values in agrarian change; and, the effect of structural and institutional change on the forms and meanings of commodity production.

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**Securing land and livelihoods among migrant settlers in Papua New Guinea**

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**Abstract**

The relatively prosperous oil palm growing regions of West New Britain (WNB), Papua New Guinea, have attracted large numbers of ethnically diverse migrants from the country’s mainland. To meet their livelihood needs, land-poor migrants are entering into a broad range of informal agreements/arrangements with customary landowners to gain short and long-term access to land. These arrangements provide migrants with particular types of access rights to the customary land of their hosts. Superficially, many of these land transactions appear to entail the commodification of customary land and its removal from communal ownership, but these transactions are usually embedded in non-market, place-based frameworks of land tenure arrangements in which both migrants and customary landowners have a common understanding of their respective ongoing rights in these land parcels. However, while these arrangements can provide migrants with continuing and secure access to land, there are many instances of migrants being left vulnerable to eviction and the loss of their access rights. In exploring these issues the paper has three aims: 1) to document the range of land tenure arrangements emerging in WNB and compare these ‘modern’ forms with traditional mechanisms of incorporating outsiders into land-holding groups; 2) to assess the degree of livelihood vulnerability and opportunity for migrants arising from land tenure arrangements that regulate the spatial, temporal and economic dimensions of land rights; and 3), to report on how these different types of land tenure arrangements fit within the broader context of economic development and social change in the province.
Human capital in a knowledge-based economy in Poland
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Prof. Chojnicki Zbyszko, Adam Mickiewicz University Poznan

Abstract

The chief task of the paper is to examine how human capital affects KBE formation at the scales of the country and regions. KBE development is considered the main aspect of modernisation of the Polish economy and improvement in its competitiveness after accession to the EU. The key KBE components are assumed to be innovations and human capital. Owing to the low level of direct use of technological innovations in Poland, the nature and size of human capital are of crucial importance here. Human capital is assumed to mean man's knowledge and skills acquired through education that are, or can be, used in improving economic activity and its innovativeness. The size and productivity of the capital are a necessary, though not sufficient, condition of innovation growth and economic modernisation. In Poland, the period of systemic transformation (1990-2004) saw a marked increase in human capital as indicated by a rise in the number of the population with higher education. This is a result of the development of academic education and a huge increase in the number of students. Human capital in Poland is a major potential factor of KBE development, both at the national and regional levels. However, its stimulating role does not translate into efficient KBE formation. So far, the use of human capital has been rather restricted, as evidenced by a lower proportion of jobs in high-tech manufacturing and services than in other EU states and an employment of scientists in the R&D sector inadequate to possibilities. The effectiveness of human capital in KBE formation has also been weakened by a poorer quality of education, a system of higher education too inflexible in terms of the directions of study, underdeveloped forms of adult education, and insufficient use of scientific staff in innovative activity due to small R&D outlays. What reinforces the effect of human capital on the regional KBE, in turn, is the rebirth of social capital and the inflow of foreign investment. Regional differences in human capital show it to be polarised and define potential cores of KBE growth in Poland.

Female heads of households and internally displaced persons in the earthquake and tsunami affected areas of Aceh, Indonesia: their vulnerability and disadvantages
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Abstract

The terms 'vulnerable populations' or 'special needs populations' are often used to characterize groups of people whose needs are not fully addressed by traditional service providers (preparenow.org 2005). Many scholars consider children, women and elderly as parts of vulnerable populations and look at these 'special' groups from different viewpoints. The present paper considers female heads of households of Aceh province, Indonesia and the internally displaced persons following the earthquake and tsunami disasters in the province as vulnerable populations. The earthquake and tsunami that hit Asia on 26 December 2004 left hundreds of thousands dead. The Nanggroe Aceh Darussalam province of Indonesia was the worst hit by this massive natural disaster, which devastated families, communities, and towns through large parts of the province. Many Acehnese women lost their husbands and consequently became heads of their households with fuller responsibilities to support their children. Even before the catastrophic earthquake and tsunami disasters, the living condition of female-headed households in Aceh was extremely harsh due to the on-going civil conflict between the security forces of the Republic of Indonesia and Gerakan Aceh Merdeka (GAM) or 'Free Aceh Movement'. Thus most female heads of households in Aceh have had to face a double threat - human made political conflict and natural disasters. Although the female heads of households belong to a vulnerable group, there is no precise information about the number households headed by women in Aceh. The last data on the Acehnese population from the 2000 Population Census are considered not reliable because the census enumerators could not visit many parts of the province due to the on-going civil conflict. As a result, the census data for these areas had to be estimated. In addition, the horrendous disasters of December 2004 have created many internally displaced persons (IDPs). Although, several non governmental organizations (NGOs) have attempted to estimate the number of IDPs, their exact number in Aceh is not known. This paper attempts to estimate the size of the female-headed households and internally displaced persons in Aceh and to study their socio-economic, demographic and health conditions. The results of the analysis may provide useful information to relevant authorities for the reconstruction of Aceh and help shorten the time needed for the province to recover from the devastations of the tsunami and civil conflict. The study is based on data from the 2005 Population Census of Nanggroe Aceh Darussalam, conducted by the Indonesian Central Board of Statistics with assistance from UNFPA, CIDA, AUSAID and NZAID.
Vulnerable females - the case of declining femininity ratio in India's population'
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Abstract

The ratio of the numbers of males to females (the sex ratio) provides an important social indicator of the balance of the sexes in a population. It also provides for useful analysis of marriage markets, family formation and equity in access to work and income. Sex ratio is generally measured by the ratio of the number of males to that of females (masculinity ratio), but in a few countries such as India, it is defined as the ratio of the number of females to that of males (femininity ratio). Most populations show an excess of females over males. In a few countries including India, there is an excess of males over females, and this anomaly is more pronounced at very young ages. Such exceptionally low femininity ratio has been observed in India since early last century. Successive censuses have revealed declining femininity, albeit with a slight improvement (but still with a female deficit) at the 2001 census. This slight improvement in femininity ratio may be attributed to higher male mortality at young adult ages than to declines in female mortality. A low femininity ratio reflects the neglect of females starting from very young ages, (indeed from conception) as a result of the unwantedness of female children in many parts of the country. Low femininity ratios generally indicate a female’s lower position in society. Many studies have attempted to unravel the myriad causes responsible for India’s declining femininity ratio. All such studies would indicate that India’s females constitute a vulnerable group. They are vulnerable to unfair treatment by their immediate and extended families and their society, resulting in malnutrition, inferior access to health care and low status – all leading to higher mortality, particularly in the reproductive ages. India’s women have even been described as an “endangered species”. This paper reviews available evidence regarding Indian women’s continued vulnerability to a range of social, economic, cultural and other constraints that curtail their survival chances, regardless of the relatively recent legislative and other measures taken by the government.

Youth perceptions of living and working in rural areas.
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Abstract

Attracting young skilled people to live and work in rural communities is a key priority of many local governments and relevant state government agencies across Australia. Strategies for attracting and retaining youth include rural youth leadership and skills workshops, mentoring schemes, housing and job programmes and facilitation online youth social networks. Despite these efforts there is anecdotal evidence to suggest that young people are making education and career choices specifically so they do not have to live and work in the rural areas. This paper quantifies young people’s migration trends in rural Australia, with a particular focus on the Wheatbelt region of Western Australia. The paper then turns to a review of the decision making factors that impact young people’s career choices with respect to living and working location.
Abstract

Knowledge is being mobilised to develop new economic opportunities in the 70% of Australia that is arid or semi-arid, opportunities that sustain and enhance social, cultural and environmental values of these vast regions. When the durability of their social and cultural values is weighed against the costs of settlement infrastructure and human services, these regions present distinctly ‘uneconomic geographies’, directing research to account for their value to Australia. The desert knowledge movement is addressing this in collaboration between science, local and indigenous knowledges and enterprise. Outcomes depend on real partnerships amongst all desert peoples, and others. Desert Knowledge Cooperative Research Centre applies research and training to this challenge and Desert Knowledge Australia builds entrepreneurial and action networks. The well vegetated landscapes of inland Australia challenge popular views of desert as ‘wasteland’. Australia’s deserts are home to 500,000 people with 20% comprising a growing and diverse Indigenous population. They are the source for much of Australia’s significant export minerals production. Art and livestock grazing are also important industries and both show negative net economic return given dependence on taxpayer funded infrastructure. While embedded in Australian identity as ‘the outback’ and as a heartland of Indigenous spirituality, deserts are also perceived by most Australians as remote, little known, uncomfortable and perhaps irrelevant. This paper introduces the science of desert living and the geography of Australian deserts. ‘Desert’ is here used as a ‘brand’ for regions sharing characteristics of low and uncertain primary productivity, sparse populations, poor infrastructure, and significant Indigenous interests. Variability - in climate, external markets and distantly constructed policy - means that desert people lack the ability to control many elements of their destiny. Variability confounds learning: outcomes from action can be quite unclear because of background noise from the variable environment, highlighting the value of ‘desert knowledge’ collaborations.

‘The Trouble with Nature’: the new ecology of words in Australian environmentalism

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Abstract

This paper draws upon interviews with members of environmental groups living in Hobart, Perth and Melbourne to juxtapose academic interest in cultures of nature with growing uncertainty and wariness about the language of ‘nature’ in Australia’s diversifying environmental social movements. This undertaking is set first in the context of research questions arising out of the late-modern production of hybrid spaces and entities. The figure of urban nature is introduced as a neglected but potentially powerful ally in the analysis of environmental discourse. The resulting alliance forged in the research reported here generally follows a non-representational strategy towards theory-building. That is, the approach adopted reflects an aspiration to apprehend the relationship between urban nature and environmental discourse as it is lived, as it presented to thought in and through practice, rather than as it is re-presented by thought per se. This approach leads to recognition that the explanatory accounts of environmentalists about their political concerns and objectives do not necessarily fit easily with their descriptive accounts of their everyday lives. It is argued that this disjunction is related to the partitioning of ‘humanised’ environments from ‘natural’ environments observed more generally of urban residents in Australia by other researchers, although neither this discursive disjunction nor this spatial partitioning is to be explained as the result of any straightforward culture-nature binary. On the contrary, the majority of environmentalists interviewed in this study displayed a lifeworld awareness of a plurality of ‘natures’, while still employing often homogenising and totalizing categories of ‘Nature’ when talking about politicized environmental debates on such topics as wilderness and sustainability.
Assessing ecosystem services provided by vegetation using multi-criteria analysis (MCA).
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Abstract
In order to meet national monitoring and evaluation reporting requirements on native forests and vegetation, there is need for improved spatial and temporal information on the anthropogenic impacts on vegetation. The Vegetation Assets, States and Transitions (VAST) classification orders vegetation by degree of anthropogenic modification as a series of states, from a residual or base-line condition through to total removal. The VAST classification can help to describe, map and account for changes in the status and condition of vegetation. VAST can be used to make explicit the links between land management and vegetation condition, and provide a mechanism for describing the consequences of land management on vegetation condition, and contribute to the analysis of ecosystems services provided by vegetation. An analytical approach to the use of the VAST classification in ecosystem service assessment using multi-criteria analysis (MCA) is presented. In this framework, MCA is used to provide an assessment of current ecosystem service levels, and then to consider strategies for improving ecosystem services through management change. The spatially explicit ecosystem service rating for an area is constructed using the suite of individual and composite indicators in MCAS-S (Multi-Criteria Analysis Shell – Spatial). The Bogan Gate catchment was chosen as the study region. A spatial database of landscape descriptors, spatial and temporal measures and metrics was compiled to define the suite of indicators for ecosystem service themes such as carbon stocks and landscape productivity. Overall ecosystem service from a single landscape pixel is represented by the combination of the individual theme indicators into one overall index. Strategies for improving ecosystem services within a land cover state may be assessed by a mixture of spatial and non-spatial MCA where drivers of changes within each state are defined, and feasibility or effectiveness of adjustment to these drivers is considered using a range of spatial attributes. This paper will use the Bogan Gate catchment to illustrate the application of VAST and MCA to ecosystem service assessment. Discussion will include evaluation of data limitations and problems of arbitrariness of allocation of index levels within indicator layers and ecosystem service themes.

A new generation index for assessing the appeal of weather and climate for leisure
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Dr Daniel Scott, Department of Geography, University of Waterloo, Canada,
Dr Geoff McBoyle, Department of Geography, University of Waterloo, Canada,

Abstract
Climate is a dominant attribute of a tourist destination, but its relationship with tourism is complex. To deal with this, an index approach is required because of the multifaceted nature of weather and the complex ways they come together to give meaning to climate for tourism. Here we address the deficiencies of past indices by devising a theoretically informed and empirically tested method that integrates the various facets of climate and weather into a single index called the Climate Index for Tourism (CIT). CIT rates the climate resource for activities that are highly climate/weather sensitive. A beach weather typology matrix is used to determine a climate satisfaction rating class in which CIT ranges from very poor to ideal. CIT is a function of the thermal (e.g. temperature, humidity, solar radiation), aesthetic (sky condition) and physical (rain, high wind) facets of weather. For ease of application, the net thermal state of the body is expressed as thermal sensation using the standard ASHRAE scale (“hot” to “cold”). This way any of the several body-atmosphere energy balance schemes may be used. A total of 331 people were asked to give a CIT rating for nine thermal states, first with overcast conditions and again with clear sky conditions. They were also asked to assess the significance of high winds and rain on the perceived quality of the overall weather condition. The data was analysed to complete the weather typology matrix which covered every possible combination of weather conditions. The results show that the method works well. Conditions considered to be optimal were those that were “warm” with clear skies or scattered cloud. Acceptable conditions fell within the range “indifferent” to “hot” even when the sky was overcast. Rain or wind in excess of 6 m/s resulted in rating dropping to “unacceptable”.

Sensitivity of thermal conditions for tourism to climate change and variability at the regional scale: An Australia and New Zealand case study

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Dr Andreas Matzarakis, Meteorological Institute, University of Freiburg, Germany

Abstract

Many tourist destinations rely on thermal environmental assets and a generally agreeable climate to attract visitors. Climate change, whether natural or anthropogenic, could modify these assets. Yet the topic of future climate is plagued with uncertainty. In addition, climate change impact assessment often relies on a greatly simplified picture of climate, mainly because it usually deals with change in terms of single, secondary climatic variables. This approach is of limited use since the significance of change will depend on the net effect of the changed variables. For example, thermal comfort is a function of the combined effect of several atmospheric variables as well as the individual’s activity level. A body-atmosphere energy balance approach accounts for all these variables simultaneously. From here the significance of change can be related to overall sensitivity of the climate condition to those aspects of climate that do change. For example, a 1°C air temperature rise may be of little consequence where high temperatures, high solar heat loads, high relative humidity and low wind speeds are commonplace. Conversely, marginal tourism climates may be highly sensitive and respond dramatically to even the smallest change in temperature. To demonstrate this, two refined and well-tested schemes for integrating thermal variables are used to assess sensitivity to climate change in Australia and New Zealand in the context of tourism. Monthly maps describe the net effects of various IPCC scenarios and show that the changes in thermal conditions could be greater than implied by using air temperature alone, especially during summer. They show the impact of change cannot be adequately assessed using temperature alone. The mapped results are useful for identifying areas of high sensitivity to climate change as well as the extent to which potential impact on thermal climate appeal for tourism is likely to be negative or positive.

REVISITING AGRICULTURAL TERRITORIAL EXPANSION IN SOUTHEAST ASIA

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Abstract

Since the sixties, agricultural expansion has been at the core of agricultural policies in several Southeast Asian countries. Agricultural territorial expansion refers to the actual spread of agriculture to new lands, generally taking the form of land opening or land pioneering. This means expanding the land area devoted to agriculture, a practice not to be confused with extensification. The latter process refers to less intensive forms of agriculture, where production relies more on land than on inputs as in the case of livestock rearing on large expanses of land. In extensive agriculture, the major input is land: this means it is the exact opposite of intensive agriculture. The two cannot be combined on the same piece of land. While the opening of new lands may initially rely on extensive forms of land use – such as on the Amazonian cattle frontier – it can also be associated with intensive forms of agriculture. That is increasingly the case on the various frontiers of Southeast Asia, whether in Indonesia and in Malaysian Sabah with the expansion of intensive oil palm cultivation or in the Central highlands of Vietnam, where land recently cleared of its forest cover is now devoted to coffee cultivation with constantly rising yields, thanks to reliance on ever increasing amounts of labour and chemical inputs. The purpose of this paper is to examine the characteristics and consequences of these new forms of agricultural expansion, particularly their environmental impact and their relations with globalisation processes.
Results of land use changes in agricultural landscape around the capital of Poland.
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Abstract
The suburban zone of Warsaw, which has recently been a well-developed agricultural area geared towards need of the big city, is now transforming into non-agricultural area. A lot of arable land becomes fallow land, what helps with gaining the permission for changing it into non agricultural area much faster. Main change concerns this area involves transforming arable land into residential area. Unfortunately it is a very chaotic process. Very often it is spontaneous, because decisions about localization are often made in an administrative process and not in a planning one. Space between Warsaw and countryside changes very quickly, mainly as a result of an exurbanisation process. Monofunctional agricultural landscape is being transformed into settlement one. From ecological point of view urban sprawl causes shrinking of attractive recreational open areas, exclusion of fertile soils from agricultural use, decrease of natural potential of the parts of environmental objects protected by low, vanishing of inner natural connections in the city region, and weakening or breaking of the connections between Warsaw green areas and its green regional surroundings. Planning of development geared towards forming a multifunctional landscape, involving new functional relations between urban and rural areas, and other open spaces in which recreational and sports matters should receive much attention, are a chance for sustainable development of the Warsaw Metropolitan Area. There is still a possibility to create Warsaw Green Belt, in order to control the urban sprawl.

Influence of extreme occurrences into the environment and human life conditions. Polish Lowland case study
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Abstract
Disturbance of natural balance of the environmental system is a reason of the increase in extreme occurrences on Earth. The phenomena which have extreme character include torrential rains and connected with them floods as well as mass movements of the earth’s crust or droughts which cause the disturbance of ecosystems functioning and the increase in eolian processes. These phenomena are also characteristic for the lowland landscape. On account of the glacial and periglacial character of lithogenesis and morphogenesis the lowland areas are moderately resistant to the linear and surface processes of pluvial erosion. On the other hand they are almost unresistant to the chemical denudation and fluvial erosion as well as to the aridisation of habitats. That is why the biggest degradation of the geographical environment of lowlands, which is caused by extreme precipitation, is connected with the damages of houses. On the contrary during the droughts there is a huge loss of agricultural plant production. Extreme processes and connected with them environmental effects have also economic and social results. They include health consequences e.g. an influence of heat on the increase of mortality and the influence of flood on disease’s spread. There are also economic results. When the property is damaged, it must be then rebuilt or renovated, which takes a lot of money. Although some expense is covered by an insurance company the rest of it is covered by local authorities or by state founds. It concerns floods and droughts. From the methodological point of view to evaluate the loss it is necessary to collect data about the paid insurance as well as about the aid donated by the self-government and charity. The aim of the study is to show case study from Polish Lowland concerning influence of extreme occurrences into the environment and society.
Landscape change in the Highlands of New Guinea during the Holocene
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Abstract

The development of landscapes during the Holocene is well-documented at palaeoecological sites across the Highland spine of New Guinea (including both Papua New Guinea and the Indonesian province of Papua). Archaeological records from sites in the Highlands shed light on the nature and scale of human-environment interactions, i.e. the animal and plant exploitation practices, that contributed in part to the signals witnessed in the palaeoecological records. In this presentation, the archaeological and palaeoecological data is synthesised to: 1. reconstruct a generalised chronology of landscape change along an altitudinal cline during the Holocene (and with reference to the Pleistocene); 2. differentiate the varying climatic, human and tectonic components to landscape change through time and across space; 3. highlight the spatial and temporal variability in landscape change across the Highlands during the Holocene (and as evident today); and, 4. present hypothetical reconstructions for Holocene landscape change in the Upper Wahgi Valley, Tari Basin and Imitaman Valley to illustrate the variability in landscape histories among inter-montane valleys.

On Conceptual Confusion in Analyses of a Transnational Urban Network
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Abstract

A number of researchers have recently tried to map the contours of a transnational urban network. Although these empirical studies have great merits in making a closer connection to theoretical ideas on a genuine urban network, they sometimes fail to recognize that the whole idea of cities as ‘nodes’ in a transnational urban network is a heuristic at best. To assess this underdeveloped analytical connection, I construct a taxonomy of empirical and theoretical approaches respectively. Contrasting both taxonomies reveals a mismatch between theory and measurement, which is addressed in more detail through three separate but entwined examples of conceptual conflation: (i) a lack of rigor in the employed terminologies, (ii) the (mis)use of concepts in a different context, and (iii) the inability of a single data source to capture the spatiality of all concepts.

Tourism, an economic development tool? Perspectives from the French Pacific
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Abstract

Governments of the French Pacific territories (French Polynesia, Wallis and Futuna and New Caledonia) together with the French state support the development of tourism and of its complement, local crafts, as one of the pillars of their future sustainable development. Such plans, though, are constrained by conditions specific to the French territories, in particular the high subsidies that they receive from the French state and by their different histories. The paper will examine three of the factors that will determine how this path of development might impact local populations and the environment. Political discourses emanate from sites of power that determine economic relations and the ability to control and diffuse knowledge, while they seek to reinforce this power. Who truly seeks (economic, social and cultural) improvement? How would that be measured? Who is to benefit and at what and whose cost? Tourism is also greatly dependent on forces at different scales. Globalisation has reduced certain options but it should have multiplied opportunities in tourism and e-commerce. Would combining local scale tourism and local to global electronic communications facilitate the search for markets and attract more investment capital. Whose enterprises would be favoured? Heavy investments in infrastructure should facilitate such development while they integrate the residents of these islands into local, regional and global circuits. They provide a competitive edge but they also require choices for their expensive maintenance. They also seem to contradict the trope of exotic remoteness so attractive to western tourists as illustrated by “Survivors”, the TV show. Or should the local Indigenous population remain marginalised to ensure their cultural and social cohesion? The culture (primitive?) and environment (pristine?) of these territories, albeit in different ways, has already been tremendously compromised. And who remembers the other residents?
A comparison of the spatial patterns of soil properties in grassland, shrubland and badland areas and their influence on the susceptibility of soil to erosion.

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Abstract

Land degradation is a prominent feature in dryland regions as a result of harsh climatic conditions and anthropogenic influences. Both factors can result in the occurrence of a grassland-shrubland transition. Vegetation type and cover play an important role in the geomorphological response of a landscape by controlling runoff and sediment dynamics, and as such, land degradation can be described as a function of plant-soil interactions that are highly variable in space and time. During the 18th and 19th centuries the Karoo region of South Africa saw the emergence of small stock farms. Overstocking is thought to be responsible for the decline in grassland and subsequent development of extensive gully networks. To understand the processes occurring in this landscape a comparison of the spatial patterns of the physical and chemical properties of soil between grassland, shrubland and badlands has been undertaken. Soil samples from seven 60m x 60m plots were analysed for bulk density, shear strength, texture, aggregate stability, organic matter content, pH, conductivity and sodium, calcium, magnesium, potassium and phosphorus content. Using geostatistics, comparisons have been made of the spatial characteristics of these soil properties in grassland, shrublands and badlands to determine the relationship between vegetation change and the susceptibility of soil to erosion.

Poverty reduction in fishing communities: A case study of Khanh Hoa Province

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Abstract

In small-scale fisheries, fishing communities are vulnerable. Capture fishery is resource-oriented and affected by changing resources, overfishing, natural calamities and needs big investment (to boats, gears, petrol, etc.). So in Khanh Hoa, a larger part of fishers go to sea as hired labor and a larger part of women are unemployed, especially on islands. In recent years, aquaculture in Khanh Hoa was developing sharply (shrimp ponds, lobster cages, fish cages and clam culture). This is an alternative option for job creation in fishing communities as well as in coastal communities in general. A large area of 'unused land and water bodies' in the past was 'reclaimed'. The government considers aquaculture development as an effective measure for poverty reduction. However this trend was uncontrolled, causing problems for planning and zoning. The local government had to move lobster cages out of Nha Trang Bay to avoid pollution, harmful for tourist development - a first priority there. Capture fishery within the Nha Trang Bay Marine Park is forbidden and poor fishers have to change their job. The development of various economic activities in lagoons (especially sea port building, tourist establishments) changes land-use patterns and is creating big pressure on local fishing communities as 'marginal groups'. This article analyses challenges for poverty reduction in fishing communities and suggests feasible solutions from the stand point of human geography.
The Changing Nature of Dryland Salinity, Central West NSW
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Abstract
Salinisation of land, and especially water resources, has been at the forefront of environmental policy in Australia for some time. Political concern is largely due to the consensus that salinity has been worsening since the 1970s. Study of the change of salinity over time is important as it can provide important information about factors that influence salinity. This paper illustrates the change of dryland salinity in the Baldry farming district near Parkes in Central West NSW, from 1958 to the present day, using aerial photograph interpretation. Results of detailed water and soil sampling are also presented in order to characterise the location, concentration and type of salts present. Bare patches were used to indicate surface salinity. Bare patches at twelve saline sites were traced across eleven years of spatially-registered aerial photographs. Preliminary results indicate a relationship between long term rainfall patterns and salinity at the ground surface. Bare patches generally reduced in size between 1958 and 1971 which corresponds to the wet period between 1948 and the early 1970s. The trend of rainfall has stabilised just beneath the 100-year average since the early 1970s, however bare patches have generally continued to increase in size since 1971. It seems that the wet period diluted surface salts, perhaps even transporting some salt out of the system, allowing some regeneration of saline sites. The stabilising rainfall trend since the 1970s could cause salts that were previously mobilised during the wet period to be drawn to the ground surface via evapotranspiration, thereby increasing indicators of surface salinity such as bare patches. Although rainfall appears to account significantly for change of salinity over time, other factors are widely known to affect dryland salinity as well, such as geology, topography, soil type and land use. Detailed sampling of water and soil across two of the twelve saline sites was carried out between July 2003 and May 2005 and results have provided more information on possible explanations of salinity patterns.

A Stalemate Of The Enlarged European Union: Integration, Globalisation And The Public Opinion
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Abstract
The paper provides an analysis of the public opinion in the enlarged European Union (EU) on issues of the European integration process. Current public opinion in the EU25 indicates that there are serious risks to fail under pressures of globalisation processes in creating a balance between widening and deepening projects of the European integration process. Public opinion and mass interest articulations of national polities are central to studies on the European integration process. The EU is conceptualised in this paper in terms of an inter-state confederal consociational system that is lacking a new well-integrated supra-national European polity. Macro-geographical structure of the current EU is examined in order to derive basic explanatory assumptions that assess the current fragmentation of the EU electorate in 25 polities in terms of national socio-economic situation. The differentiation across the enlarged EU in the public opinion on future EU integration processes (Eurobarometer 63, May-June 2005) is explained with the help of structural and public opinion variables based on statistical explanatory analysis (LISREL procedure. However, the analysis shows emerging public political opinion cleavages across the enlarged European Union and indicates risks of a stalemate of the European integration process.

Determinants of food choices in Cape Dorset, Nunavut, Canada
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Abstract
Providing optimal dietary advice in Nunavut requires a comprehensive understanding of food choice processes. The objective of this research is to understand the factors influencing food choice decisions by women and men living in Cape Dorset, Nunavut, Canada. Ninety-two semi-structured, in-depth interviews were conducted with women and men living in Cape Dorset. Interview transcripts were analyzed using Atlas.ti. Participants gave several factors that influenced food choices for their families. Most significant were those of access, costs and availability. This research has illuminated important research gaps, especially the need for an improved understanding of the gender specific ways that the interactions between economic, social and environmental change influence access to food. The results of this research are a necessary prerequisite on which to base policy initiatives to improve access to and availability of foods that are culturally acceptable. The results will be of interest to Aboriginal organizations, public health agencies, researchers and northern health professionals responsible for the development of public health policies.
International Polar Year Research And Cold Region Environments: Land Use As An Integrator Of Environmental Change
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Abstract
During the International Polar Year, 2007-2009, an unprecedented scientific program will be undertaken by scientists of many nations to advance research in the Polar Regions and to enrich human understanding of the processes by which change occurs in cold region environments. For Canadian scientists, this challenge also includes relating environmental, physical, social and cultural geographies in a range of northern environments, with IPY objectives, both internationally and within Canada (Doubleday, 2005). The IGU Commission on Cold Region Environments has addressed the problem of environmental change in the context of IPY through its proposal for research on land use (LUPOG IPY-282, Gude et al., 2005), and by participation in the IPY PPS-Arctic Cluster (Hofgaard et al., 2005), in order to contribute to understanding “present processes, past changes, and spatial and temporal variability” in cold region environments. This paper examines the challenges of articulating problems of land-use and environmental change in the tundra-taiga transition zones from multiple perspectives, relating both to climate change and to human well-being, as defined within the IPY framework. Based on Canadian conditions and case study examples, the use of conceptual models for framing of land-use and land-use potential as an integrator of environmental change is examined. Finally a critical appraisal is made of the role of geography as a discipline in developing strategic approaches to adaptation, mitigation and strategic planning based on science and policy in the context of land-use, human-well-being and environmental change, with particular reference to the tundra-taiga eco-tone in Canada. Key words: Arctic, land-use, environment, climate, well-being, change, IPY, tundra-taiga Bibliography: Gude, M. et al., 2005. Land use impact on polar and sub-polar geosystems: extent, significance, perspectives (LUPOG). IPY 282 www.ipy.org Doubleday, N. C. (2005) Adaptive co-management and the integration of cultural, social ecological and geocryological knowledge for mitigation of environmental impacts of arctic climate change. International Conference on Arctic Research Planning (ICARP II) Copenhagen, Denmark. November 9-13, 2005. www.icarp.org Hofgaard, A. et al., 2005. Present day processes, Past changes, and Spatiotemporal variability of biotic, abiotic and socio-environmental conditions and resource components along and across the Arctic delimitation zone. www.ipy.org

Detailed 3-D models of prograding barrier Stratigraphy, Northland New Zealand
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Abstract
In today's global regime of accelerated sea-level rise it is imperative to decipher barrier evolution in order to predict the physical response of these vulnerable coastal features. During the past few decades studies of barrier formation around the world have yielded simplistic morphostratigraphic models due to their construction from point source data. Today, Ground Penetrating-Radar (GPR) can remotely sense continuous cross-sectional views of barrier subsurface stratigraphy and when augmented with existing coring and dating techniques can produce detailed 3-D images of barrier facies architecture. Utilizing this improved methodology to study sandy barriers along the varied coastline of New Zealand, offers a unique opportunity to refine the current models of barrier evolution. The stark contrast between the west and east coasts of the North Island New Zealand is particularly pronounced in Northland. Study sites include three prograding barriers on the low-energy, sediment starved east coast (Omaha, East Beach and Marsden Point) and one prograding barrier along the high-energy, sediment rich west coast (South Head Kaipara). Initially, comprehensive GPR surveys were collected on the order of hundreds of meters at each study site. A representative subsection was then selected to acquire the dense grid network optimal for constructing 3-D models. Ground-truthing of reflectors was achieved by vibracoring along geophysical transects. The resulting data delineated three barrier facies (nearshore, beach and dune) within the lithosome, producing a highly detailed model of regressive facies succession. So precise is the imaging of internal architecture that small scale ridge and runnel systems are detected. It is such details that indicate a more intricate construction then the perceived bulk addition of sigmoidally-shaped accretionary wedges as depicted in previous studies from Australia and North America. Work is underway to reconstruct depositional settings from the stratigraphy and add chronological control using luminescence dating.
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Abstract

The aim of the paper lies in the identification of possible significant linear trends of rainfall totals, of number of rainy days and of precipitation daily means at monthly, seasonal and annual timescales and in the understanding of the atmospheric circulation dynamics at the Atlantico-European scale in which such significant trends originated. First 8 sub-areas which can be considered as identical for all the timescales at the spatial scale of the research have been determined by applying RPCAs (Rotated Principal Component Analyses) to the different indices with stations as variables and indices as observations. Then CCAs (Canonical Correlation Analysis) with the station rainfall as first variables field and the 500hPa geopotential height during the same period as second variables field, and time as observations in both data fields have been used to establish relations between rainfall and circulation. Trends are calculated by using the scores of the eigenvectors retained in each RPCA or CCA and tested with the non-parametric Kendall test on ranks at the 0,05 level. On the whole, lack of trend and non-significant trends are greatly prevailing at the monthly and consequently the seasonal and annual timescales. They have been determined in some regions during particular months and season. This rainfall evolution correlates very highly with a mean daily rainfall decrease. CCAs have been applied to the cases of significant decrease. Precipitation are partially explained by two to four low-frequency circulation patterns, from 45 to 54%. The regimes associated to each pattern have been featured studying the years of the maximum and minimum rainfall and geopotential height scores for each CCP.

Materialities of Comfort in Suburban Sydney
Dr Robyn Dowling *, Macquarie University
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Abstract

Home is presumed to be, and often described as, a comfortable place. But what exactly makes home comfortable? How, if at all, does this vary over time and space and intersect with social relations of gender, family and normative notions of home? Using human geographers' recent concerns with the material dimensions of everyday life, in this paper I examine the numerous ways in which a house is described as, and made, comfortable. I pay particular attention to the objects, textures, and aesthetic styles used to distinguish a house as 'homely' and point out that homeliness is materialised in diverse ways. I make this argument through an analysis of a series of in-depth interviews with residents of project homes in suburban Sydney.

Post-fire sediment transfer in a sub-alpine environment
A/Prof Deirdre Dragovich *, University Of Sydney
Mr Hugh Smith, University of Sydney

Abstract

Bushfires in eastern Australia in 2003 burnt across 1.73 million hectares, including much of Koscuizsko National Park (KNP) where fire frequency tends to be relatively low and where grazing is no longer permitted. The previous most extensive fires in KNP were reported in summer 1972-73, when about 12,000 ha were burnt out at elevations above 1360 m. Following these earlier fires, heavy rainfall led to sheet erosion, severe erosion along fire trails, and rapid incision of watercourses. Hydrological patterns in the catchment following a high intensity fire in the Snowy Mts were reported to have returned to pre-fire conditions within 4-5 years. Following the 2003 fires erosion pin arrays were installed to record sediment movement in upper, mid and lower slope positions on burnt and unburnt slopes for a period of 12 months. A total of 216 pins were set up in arrays of 36 pins for each of the 6 slope conditions. Both net and total surface change were considered. Net surface change combines surface gain and loss to approximate the actual surface change over the study period. Total surface change sums changes in pin measurements without sign, identifying those sites experiencing the most active sediment movement regime. Although mean total surface change was higher for burnt than unburnt sites the differences were not significant. Between-pin variability within each of the 6 pin arrays was high. Average sediment transfer rates were relatively low possibly because of surface characteristics and vegetation factors. Regeneration of ground cover since the fires has been slow and patchy. Pre-fire, snow gums provided most canopy cover at higher altitudes and little or no regeneration of these has yet occurred.
Different Models of Immigrants’ Inclusion in a Host Society - Perception and Reality (on the example of Europe)

Mrs. Lenka Stepankova, Faculty of Science, Charles University, Prague
Mr. Dusan Drbohlav *, Faculty of Science, Charles University, Prague
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Abstract

The contribution deals with different models of immigrants’ inclusion into 15 European countries ('old EU members') plus the Czech Republic around 2000. A macro quantitative approach was applied while working with and measuring three 'robust characteristics': an attitude of a government towards immigrants, an attitude of the public towards immigrants and a type of a state welfare system. Three basic hypotheses are being tested: 1) A traditionally perceived model as to how a state behaves towards immigrants corresponds to the current migratory reality. 2) There is a relationship between a type of a welfare system and an existing migratory policy of a given state. 3) The more negative attitude towards immigrants from a majority side, the more restrictive policy of a given state. Furthermore, several other subhypotheses taking into account a number of immigrants in a country, a cultural distance and socioeconomic parameters of a given host country are being tested as well. To sum up, the presentation is to contribute to a discussion as to what is 'behind individual countries’ inclusion models' and what corresponding factors can explain their character.

Illegal/Irregular Economic Migrants in Prague (the Czech Republic)

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Abstract

The contribution deals with economic activities of illegal/irregular migrants in Prague, the Czech Republic. The analysis is based on the Delphi survey conducted among Czech migratory experts in the very end of 2005 and beginning of 2006. Altogether 30 experts from governmental, non-governmental and academic spheres were successfully contacted within the first Delphi round. The Delphi questionnaire touched several basic issues like, for example, an estimation of a number of illegal/irregular migrants in Czechia, reasons for migration, mechanisms of migrants’ arrival and of their operating in the country, spatial distribution and ethnic composition of migrants, impacts of migrants’ economic activities upon the Czech host society, the probable future trends of migrants’ behaviour and mechanisms regulating illegal/irregular migrants’ activities. Hence, both academic and practical perspectives (policy recommendations as to how to improve the situation) are taken into account.

“X country girl”: the migrations of the Country Girl

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Abstract

This paper positions the patterns of internal migration that have characterised young women from 'country' backgrounds in relation to a range of discursive constructions of Australian country girlhood. Drawing on an ongoing ARC project on Australian Country Girlhood, this paper will consider how patterns of internal migration for country girls relate to popular and public discourses on demographic change in country Australia and to the experience of country girlhood. Available data on internal migration will be compared to popular images of the country girl in the city and at home; to remembered life narratives of girls who moved to 'the city' and then returned home; to discussions by country girls of what the city and the country respectively offer them and the likelihood of their moving to urban areas; and, finally, to the figure of the 'ex country girl'.
Country Town Girls
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Abstract
Drawing on an ARC Discovery Project on Australian Country Girlhood this paper considers how age, majority and gender do and do not delimit girls’ uses of space in country towns, specifically through a comparison of country towns and regional centres. While these patterns are inflected by race, class, and employment, it argues that being a ‘girl’ is a crucial determinant of how one lives in and uses a country town. In particular, this paper argues that these different practices of using space are not produced by the sheer facts of age and gender, but help produce an understanding of what it means to be a country girl in Australia.

Stories about the past, stories about ourselves - The role of memory in Polish identity.
Miss Danielle Drozdzewski *, University of New South Wales

Abstract
Geographers have increasingly been interested in the role of public monuments in wider discourses of identity politics, particularly the power and influence of the dominant hegemony in deciding the ‘appropriate’ way to represent the past. This paper seeks to examine the role of public and private memory narratives within discourses of Polish national and ethnic identity. The interpretation and relation of public and private sphere memories to an individual, or societal understanding of national identity, demonstrates that such narrations and articulations of memory are indeed influential within discussion pertaining to identity discourses. Polish narratives of memory demonstrate how such characterisations of memories are encumbered, politically and socially, and how reference to the historical events of WWII, and the communist era that followed, are ever present and influential in contemporary Polish memory.

The Information, Education, and Communication Campaign for Oman’s 2003 census.
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Abstract
In December 2003, the Sultanate of Oman conducted its second decennial census. In preparation for the count, and to reduce the likelihood of underreporting and inaccuracy, the Ministry of National Economy went to extraordinary lengths to educate and reassure Oman’s national and large expatriate population about the census’s purpose and value. So extensive, varied, and thorough were these information, education, and communication (IEC) efforts that the census became an important instrument of national mobilization, as well as a vehicle to promote demographic literacy at all levels of Omani society. This paper focuses specifically on Oman’s preparatory efforts in the period leading up to the census, examining and evaluating a broad range of government IEC activities. These included the introduction of curriculum units on the census and population in schools, the distribution of bumper stickers, key chains, and other promotional devices, and extensive advertising through posters and billboards. Particular emphasis will be placed on assessing the visual content of IEC materials and the special efforts made to persuade Oman’s huge foreign worker population that all census data would be kept confidential.
Nonlinear effect of the surface wind related to global warming on the decadal change of ENSO asymmetry
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Prof. Mu Mu, LASG, Institute of Atmospheric Physics, Chinese Academy of Sciences

Abstract
The observed El Niño events are generally stronger than the La Nina events. This property of ENSO is termed as ENSO asymmetry. Evidence has been presented to show that this asymmetry has changed since the famous 1976 climate shift. Decadal changes of ENSO were attributed to the changes in the climate background state due to either inter-decadal climate variability or global warming. In the event of global warming, the increased greenhouse gases would affect the tropical wind, especially equatorial wind, which certainly will change the background equatorial wind that is related to the change of ENSO. In this paper, we explore the effect of background equatorial wind changes related to global warming on the ENSO asymmetry by applying the approach of conditional nonlinear optimal perturbation (CNOP) in a theoretical model. CNOP is the initial anomaly pattern that evolves into ENSO event most probably. The results show that the decadal change of ENSO amplitude can be reproduced by changing the climatological background equatorial wind and the associated upwelling which control the ENSO cycle in the model. Further analysis demonstrates that the nonlinear coupling related to ENSO enhances El Niño and suppresses La Nina, then resulting in the asymmetry of ENSO. And the variation of this nonlinearity induced by ENSO amplitude change can lead to the decadal change of ENSO asymmetry. These above results emphasize that the decadal change of ENSO asymmetry is not only due to the change in background equatorial wind and the associated upwelling, but also the change in nonlinearity associated with the ocean-atmospheric coupling.

Place making and the body: constituting public space
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Abstract
Melbourne’s newest public space, Federation Square, has become a very popular focus for people to come together for a range of purposes: entertainment, leisure, political activity, meeting place, business. The space itself is explicitly a cultural precinct, with the official website promoting the site as one which ‘brings together a creative mix of attractions, including the Ian Potter Centre: NGV Australia, ACMI: Australian Centre for the Moving Image, Champions: Australian Racing Museum & Hall of Fame, National Design Centre and the Melbourne Visitor Centre. Federation Square also boasts a range of restaurants, cafes, bars, two dedicated function centres, open public spaces which host up to 2,000 events annually…’ (www.federationsquare.com.au/). This paper uses the example of Federation Square as a means to explore how public space is shaped and constituted by the sensing and embodied self. Drawing closely on Edward Casey’s notion of a ‘sensing body’ and the suggested intimacy and reciprocity in its relationship to place, I explore the way public spaces are constitutive of, and constituted by the sensing body. What does public space mean when we accept the premise that the body encapsulates concept in its emergence of experience?

Public housing and regional belonging
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Abstract
This paper examines the attachment to place that public housing tenants and administrators of public housing in regional NSW have to their regional locations. Drawing on a series of interviews conducted in 2004/05 the paper analyses the impact of neoliberal reforms in regional Australia and the provision of housing assistance on these stakeholders. In particular it investigates the complex ways in which tenants and administrators rationalise the role of public housing within this context of change and uncertainty.
Management of forested karst in Tasmania
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Abstract
Management of Tasmania’s forested karst dates back to a specific “Geomorphology” section in the first “Forest Practices Code” in 1987. Forest conservation is still primarily based on biodiversity, with less attention given to environments with high geoconservation values, despite several longstanding reserve proposals. This has created uncertainty and conflict regarding the management of karstic production state forests and forested karst on private land. In recent years attempts have been made to identify priorities for karst conservation on private land. The State and Federal governments have sponsored two programs to secure high conservation value karst on private land at Mole Creek and Gunns Plains. On state forest, “new” karst areas have been discovered as forest management expanded into previously unlogged regions. In one case a delicate and highly significant cave was found to contain evidence of Aboriginal usage. However, the long term management of the area remains unresolved despite a multi-agency approach. Other new karst areas have been identified as a result of more strategic approaches, generally leading to better outcomes.

Affective drivers of transnationalism in Australia
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Abstract
While there has been a recent surge in transnationalism research, much of that scholarship has had an economic emphasis. While international migration is often generated by economic maximisation, there are other important drivers of international mobility. This is certainly true of international communication within transnational communities. Hence the recent calls for research on affective transnationalism. This paper reviews findings from a telephone survey (n:1178) in Sydney and Brisbane on the importance of transnational drivers such as family obligation, nostalgia and national identity. Variations across four transnational communities (Hong Kong, PRC, Turkish & Greek-Australians), and across generations and family circumstance are presented.

Water crisis in arid regions: The problem and the solution, with emphasis on some Arab countries
Mr Nabil Sayed Embabi *, Ain Shams University, Cairo, Egypt

Abstract
The aim of this presentation is to discuss the various aspect of the water crisis in arid regions and the measures taken by some countries to solve the problem. Water crisis goes back to ancient times. Bedouins move continuously in deserts looking for water and pasture. Nowadays, water crisis is a multi-sided problem. The main problem lies in water deficiency due to low rainfall and high evaporation rates, or the depletion of underground aquifers. Deterioration of water quality due to increasing salinity or pollution is another aspect of the water crisis. Increasing water demands for new towns, newly reclaimed lands for cultivation, tourist resorts put great pressure on local water resources, resulting in drastic decrease in water discharge from underground aquifers, and deterioration of water quality. Arid countries took several actions to solve the problems of water crisis. These actions include: desalination of sea water and saline underground water, and the transfer of water from areas with surplus supplies to areas that have no water resources or that need additional supplies. All Arab Gulf States established along their coasts numerous desalination plants to produce potable water. In Egypt, some tourist resorts depend completely on desalinated water. Transfer of water occurred from rivers, underground aquifers, and desalination plants. Water of Syr Darya and Amu Darya rivers were transferred by canals to irrigate newly reclaimed land in Central Asia. In Egypt, Nile water is transferred by canals/pipelines to different parts of desert areas. In Saudi Arabia and the United Arab Emirates, desalinated water is transferred by pipelines to internal cities. In Libya, underground water from Kufra in the southeast is transferred by pipelines to Bengahzi region in the north.
**Cartographical Analysis of Terrestrial Mammals’ and Birds’ Impoverishment in Northern Eurasia**  
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**Abstract**

Analysis of impoverishment of terrestrial mammals’ and birds’ fauna of Northern Eurasia was conducted on the base of cartographical model. Declining scales are given in several directions. There are determined territories with different extent of transformation of animal population.  
1. Areas where natural communities of mammals and birds have completely disappeared. Here reduction of natural species diversity (up to 80% in some places) has happened in connection with destruction of natural habitats. Somewhere synanthropic species of mammals and birds are prevailing over large areas.  
2. Areas where reduction of species diversity reaches 50 % of initial natural diversity. Significant changes in animal population structure are observed in connection with anthropogenic transformation of natural habitats (change of dominant species, simplification of communities’ structure).  
3. Areas of temperate transformation. Species diversity is reduced up to 10-20 % of initial value.  
4. Areas where animal population is close to natural state. In Northern Eurasia they are represented by reserves and Siberian areas, which are far from the people’s settlements. These four defined types of fauna transformation are represented on the background of natural zones. The steppe fauna has subject to total transformation. At present minimal scales of transformation are typical for ecosystems of tundra and northern taiga. The Reserve territories present relatively intact areas of the Earth today. The values of species diversity of mammals and birds are indicated for reserves as well as number of disappearing and threatening species. The comparative analysis of mammals and birds diversity in reserves versus those in the unprotected areas was conducted.

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**Spatial Variability on Vegetation Characteristics in Longitudinal Range-Gorge Region**  
Mr Dai Erfu *, Chinese Academy  
Prof Wu Shaohong, Chinese Academy  
Prof Li Shuangcheng, Peking University  
Dr Zhou Changhai, Chinese Academy  
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**Abstract**

Study on pattern and change on land cover stands an important aspect to global change. The spatial characteristics of ecological system show some familiar or disfamiliar principle with up-scaling or down-scaling process, which can be defined as spatial autocorrelation. In this paper, four typical representatives on ecological features, say Gross Primary Product (GPP), Net Primary Product (NPP), Normalized Difference Vegetation Index (NDVI), and Enhanced Vegetation Index (EVI), are selected to investigate the spatial variability on vegetative features in Longitudinal Range-Gorge Region (LRGR), Southeast China. Moran coefficient (MC) is calculated for spatial autocorrelation degree, and semivariance function is used for spatial variability and spatial heterogeneity analysis. The results show that: (1) The ecological features show negative autocorrelation in the whole region. The higher anisotropy is on North-South direction, and then on Southeast-Northwest direction. (2) The spatial variability scale is great on vegetative features in the whole region. (3) The autocorrelation distance on North-South direction is the greatest, then on Southwest-Northeast direction. Through above analysis it can be found that the vegetative features are consistent with direction of landform in LRGR, which can be defined as Corridor features on North-South direction, and Barrier features on East-West direction.
Transitions to Sustainability in a Mining-Affected Region – the Hunter Region of NSW, Australia: Community Visions, Learning and Strategies
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Abstract
Session: Doing Participation Downunder I: Aotearoa/New Zealand and Australia  Coal is Australia’s largest export commodity and more black coal is shipped out of the Port of Newcastle, the capital of the Hunter Region of NSW, Australia than from any other port in the world. Vast open-cut mines cover almost 600 square kilometres of what was once fertile river flats, farmland and forest in the Upper Hunter valley. At any time up to forty ships sit a kilometre out from the surf beaches of Newcastle waiting to load up with Hunter coal and feed it into the energy markets of East Asia. Hunter coal is being force-fed as an energy option into East Asia, with scant concern for climate change and the devastation of the local landscape. The Hunter and the planet's potential for sustainability is being sacrificed by global coal mining and energy corporations, with active assistance from Australian state and federal governments that have become addicted to royalties and taxes raised from coal. This presentation reports on a research project that engages local residents, farmers, miners and environmental activists as partners in collaborative research on visions and strategies to shift the Hunter from an economy that is a major contributor to climate chaos globally and social and environmental devastation locally, onto a pathway to sustainability. The research participants have used focus groups, public forums, activist camps and workshops, role plays and political interventions as opportunities for sharing stories, analysis of social movement development, and building their understandings of environmental justice and strategies for a just transition to sustainability that protects vulnerable communities. Community learning about power relations, the role of government and alliance building that are informing emerging strategies will be reported, and the possibilities and constraints of the activist/researcher as both a social change agent and an academic discussed.

Mobilisation of local and regional capabilities through community participation in the process of recovery after the 2003 Bam Earthquake in Iran
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Abstract
A strong earthquake in southeastern Iran killed more than 40.000 people in the ancient Silk Road City of Bam, early Friday on 26th December 2003. This natural disaster was the worst and deadliest catastrophe over the last five decades. The devastating quake struck at 5.28 a.m. local time, an hour at which almost all of the city's 80.000 residents were in bed on the Muslim day of rest. This disaster left more than 25.000 injured and a great number of people became homeless. More than 95% of city leveled to the ground. The earthquake also hit much of Bam's historical landmark, a giant medieval fortress complex of towers, domes and walls, all made of mud-brick, overlooking a walled old city. More than 85% of this Citadel (Arg-e Bam) which was one of the wonders of Iran's Cultural Heritage was destroyed. This magnificent edifice and starkly beautiful City, founded some 2000 years ago has been a favored tourist site, known for its massive mud ramparts with 38 towers, most of which were built starting in the 16th Century. Sustainable development approach through disaster opportunity, in terms of social, cultural and environmental issues, was allocated in order to maintain the historical values of Bam Heritage. In this respect, local community participation was known as the core principle in the planning and recovery process. The present paper is a review of the process of rehabilitation and reconstruction from the early stages of disaster that folded in three sections. Firstly, a brief background of pre-disaster condition of the City of Bam, in terms of social, cultural, economic and seismological issues. Secondly, an investigation to explore traditional capabilities amongst local community. Finally, the stages of relief and rehabilitation phases are analyzed in order to reveal the success and failure of the recovery operation from the points of view of mobilizing local and regional resources.
Landscape techniques and the Mall: visual order, public art and urban design
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Abstract
This paper draws on my current PhD research which is broadly concerned with placing ‘public art’ within the broader modernist spatialisation of social relations. In examining the ways in which public art knowledge is produced, transformed, and deployed – and gets tied to problems of producing and regulating subjectivity – this research seeks to highlight the effects of discourses concerning public art from across a range of sites (not only those of ‘art’, but also urban design, planning, and transport, among others). This study takes place through the lens of selected texts associated with a moment in the development of a mid 1970s, Australian, everyday, street space: Adelaide’s Rundle Mall. In particular, this research draws on discourses concerning artwork, urban space and the pedestrian subject, produced within those texts, to ask the following questions: In what ways did the adoption of techniques and rationalities of the ‘landscape’ idea claim to bring into effect a ‘paradigmatic site of individuality’ and at the same time act as an incitement to a particular measure of individuality (that of the responsible citizen)? How did knowledge about vision and models of subjective vision operate as particular technologies within these urban design discourses to produce specific relations of subjectivity and vision; relations between artworks and other objects and subjects in an urban landscape.

Changes in woody cover over 40 years in eucalypt woodland in north Queensland
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Mr Russell Fairfax, Queensland Herbarium
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Abstract
Changes in woody vegetation cover were determined using two different aerial photography techniques for two study areas of eucalypt woodlands in the pastoral districts of north Queensland. Woody cover increase is less than 0.1% per annum and coincides with relatively moist periods during the second half of the twentieth century. However, for areas where net rainfall fluctuations as determined by a 3-year drought index were close to neutral, a cover increase of less than 0.05% per annum was reported. Significant negative correlations between initial cover and change rate suggest density dependence effects whereby increases in cover are most likely in woodlands with relatively low cover. Anecdotal evidence indicates that an extreme drought ending about 1904 caused widespread tree death, and this seems likely given the more extreme nature of that drought compared to another in the 1990s where substantial tree death was systematically recorded from field sites. These field sites coincided with the sites used in the aerial photography assessment in one of the study areas. For these sites there was no relationship between woodland cover change before the 1990s drought and tree death after that drought. This suggests that a fuller understanding of the mechanisms of density dependence will require a more detailed research approach. The influence of land management on tree cover, whether that be from the direct impacts of managed herbivores or the limited use of fire, will have to be deciphered within the context of the dominant influence of rainfall and density dependence.
**Practices of Belonging in a Reality of Deportation: African Churches in Tel Aviv-Jaffa, Israel**

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**Abstract**

This paper examines practices of belonging of African labor migrant communities in Tel-Aviv – Jaffa throughout the 1990’s. The focus of this paper is on the physical as well as symbolic locations of the churches they established together with their reflections on new practices of belonging that the African communities adopted. Such an analysis, so we argue, calls for a re-examination of theories of place and belonging in an era of globalization. The second argument presented in the paper is that practices of belonging manifested in the establishment of the African churches in Tel Aviv can be identified as flexible and multi-layered. This made it possible for the migrants to experience sense of belonging, which is connected to the various aspects of their identity. Moreover, we argue that these flexible and multi-layered practices of belonging include lesser degree of commitment. Thus, belonging to a place is not necessarily related to a coherent and solid aspect of identity. Rather, it may be an attachment that is full of contradictions, saturated in feelings of rejection and otherness, and an attachment that is only temporary. Nonetheless, this attachment is powerful, and its power lies in the fact that it is experienced through many different aspects of one’s own identity. The practices of belonging constructed by the African churches in Tel-Aviv represent these contradictory aspects of belonging, relating to various aspects of the migrants identities. Practices of belonging have also their gendered aspects. While African migrants in Israel consist of males and females, adults and children, singles and families, most of the ‘formal’ practices of belonging, i.e., the African ministries have been established by males and are male dominated in their everyday management and administration.

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**Rethinking Governance Institutions in Marine Protected Area Design and Management: Lessons from Northeastern Iloilo, Philippines**

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**Abstract**

The Philippines is the center of marine biodiversity in the world and its experience in marine protected area (MPA) management can provide an instructive purview of nature-society interactions and relational politics in a post-colonial and tropical marine fisheries setting. The actual or imagined “governance” of such places, and their stewards, provide a lens into decentralisation and local development processes. Drawing from qualitative research conducted in two municipalities and four MPA sites in southern Philippines from March 2005 to April 2006 this paper will argue that MPAs are instruments and spaces that enable various actors and institutions to promote or enhance their respective political and economic interests. Unless policymakers, non-governmental groups, funding agencies, and local businesses acknowledge the politicalization of MPA management and science, and the dispersed nature of political power, the existing institutional arrangements are unlikely to enhance biodiversity and prevent fishers from 'fishing down the marine food web'. Effective MPA management for sustainable development requires much more than designing and implementing some theoretically optimal policy and strategy for ultimately, the selection of management arrangements, policies, and strategies to be deployed is a value laden political decision that have varied effects on actors and coastal resources. In recent years, the increased popularity and use of MPAs as a tool for coastal conservation and protection at the global and national scale have provided subsistence fishers in Northeastern Iloilo the opportunity to assert their political and property rights. On the other hand, international, national and provincial co-management arrangements and programs continually realign and shift to address complex issues surrounding coastal and fisheries law enforcement and monitoring in the region.
**Transnational and temporary forms of community in place**
Professor Ruth Fincher *, University Of Melbourne
Dr Kate Shaw, University Of Melbourne

**Abstract**

Public-private interactions may be hypothesised to have greater significance for temporary residents of cities than for longer-term residents more settled in their private networks of belonging. Temporary residents and new arrivals seek out new knowledge, new friends, new sources of familiarity and ways of being at home, by using public spaces and facilities and social organisations beyond their limited, local, personal domain. The paper draws from a new research project which explores the ways transnational and temporary residents of inner Melbourne negotiate these public-private interactions. In addition, it asks what kinds of social policy, architectural and urban design frameworks facilitate meaningful experiences of community amongst a transient and diverse population in a place? The residents of interest to the research project are tertiary students living around two major universities in the northern section of Melbourne’s central business district. Drawing upon the results of interviews with organisations inside and outside universities, we identify instances of purposeful collective activity hosted by those organisations which are opportunities for public-private interaction for transnational and temporary student residents. In such activity, we contend, a certain community may form. But whether these opportunity frameworks are used for public-private interaction depends upon contingencies of time and place. Accordingly, we identify processes that limit the formation of successful public-private interaction. An assessment is made of the often contradictory processes of place-making in this context, that unsettle the attempts of well-meaning organisations to create effective forums for interactions of this kind.

**Space, gender and institutions in processes creating difference**
Professor Ruth Fincher *, University Of Melbourne

**Abstract**

Along with a number of scholars in feminist, English-language, geography, this paper makes a case for renewed attention to be paid to causal processes of differentiation, as we analyse geographies of gender. In particular, it argues for a greater concern with the gendered spatiality of organisations and institutions themselves, rather than seeing them as 'black boxes,' or unchanging and exogenous aspects of the contexts we examine. I focus on differentiating processes associated with three notional 'sites' examined closely in feminist geography: the city, the family and the nation.

**Vulnerable or made vulnerable? Towards an understanding of vulnerable populations**
Prof Allan Findlay *, University Of Dundee

**Abstract**

The Commission on Population and Vulnerability has established, in the course of a series of meetings, a conceptual framework for interpreting vulnerable spatialities. As chair of the Commission, I seek to present in this introductory paper details of the framework negotiated by members of the Commission for approaching the study of vulnerable populations. The framework recognises the long and valuable history of geographical work on risk and hazards. It argues that developments in geographical thought now demand that population geographers embrace relational thinking on vulnerability. In particular it argues that research contributions should be located conceptually within a three dimensional schema that recognises the significance of spatial context, power and knowledges of vulnerability. The paper not only overviews the Commission’s research agenda, but illustrates the value of the schema in relation to recent examples from Asia of population vulnerability. This is achieved using the empirical lens of the multiple vulnerabilities surrounding both the victims of the 2005 Indian Ocean tsunami and those affected by the 2004 Bangladeshi floods. While embracing relational thinking, the paper recommends that population geographers maintain a pluralistic vision of research praxis if they hope to make any significant impact outside the academy.
Voluntary organisations and population vulnerability: comparative case studies from India and Bangladesh
Prof Allan Findlay *, University Of Dundee
Nick McTurk, University Of Dundee

Abstract
As part of the Indian government's ongoing population development strategy and in conjunction with the policies of international partners (World Bank, European Union and DfID), voluntary organisations have been encouraged to intervene in assisting specific caste and class groups to build awareness on good maternal and child health practice and to influence healthcare seeking behaviour. Utilising a mixed methods approach, the first part of the paper aims to demonstrate the strengths and weaknesses of this intervention technique in the state of Orissa and explores the efficacy of its socio-spatial targeting systems in matching existing patterns of infant and child mortality. The conclusion is that voluntary organisations are peripheral in the locations in which they work and the remedies that they offer. The second part of the paper explores the strategies of voluntary organisations in Bangladesh in relief and development work in the wake of the extreme monsoonal flooding of 2004. Again the interventions of voluntary organisations appear to have been on the margins relative to the larger state-organised relief operations. This leads to similar conclusions to those found in the Indian case study. The paper concludes by asking whether the peripherality of work by voluntary organisations (relative to the state) negates its value, or whether the role of the voluntary sector has been widely misunderstood and needs to be appreciated from rather different perspectives.

Hybrid water governance in urban areas: lessons from Tagbilaran City, the Philippines
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Abstract
Over 1 billion people currently live without access to safe water, with most of these people inhabiting developing countries. The internationalisation of environmental and social problems has given rise to numerous supra-national and international governance institutions, which are influential in determining resource control and management at the local level. With respect to water, commitment at the international level to improve access to water has manifest through policy recommendations emerging from international water gatherings as well as other international forums that met to discuss global environmental and social concerns dating back to the UN Conference on Human Environment in 1972. Water governance offers a solution towards overcoming the problem of water insecurity in which water governance is used to refer to the range of political, social, economic and administrative systems in place to develop and manage water resources, and the delivery of water services at different levels of society (Rogers and Hall, 2003). Current water governance discourse posits the importance of appropriate institutions and institutional arrangements in meeting water needs in developing countries. The emphasis on institutional mechanisms, administrative systems, management and other facets of governance represents an important paradigm shift away from a ‘hardware’ approach—where water scarcity and insecurity were viewed as technical problems requiring supply-oriented solutions—to a ‘software’ approach. In this paper I show how water governance is conceptualised differently at different scales enabling hybrid forms to emerge. I explore the hybridisation of water governance by considering the problem of urban water supply in Tagbilaran City, the Philippines. I present local perspectives concerning water governance and compare knowledge about water governance and water resources at the national and local level. I consider the implications of misunderstandings for municipal water supply and offer insights into how such research can be used to shape and influence urban water management.
**Where to from here with the Tingle Mosaic? Sampling effort and modelling species distribution.**
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**Abstract**

Species-habitat relationships have been a central subject in vegetation ecology for several decades, but controversy remains around the best sampling design to study it. The design of the sampling strategy is of critical importance for species distribution modeling, and the problem is inherently geographical. When the data used for modeling are less than optimal inherent data errors or biases can manifest and negatively affect predictions. The purpose of this study was to analyze historic field sampling related to the distribution of eucalypt species in the Tingle Mosaic of south Western Australian and to identify where sampling efforts can be targeted for better species modeling. Spatial scales and modeling were considered to optimize sampling and overcome directional problems in the original survey. Data obtained from re-sampling the existing and new sample plots will then be used to develop and test alternative species models to predict the distributions of locally endemic forest eucalypts that are encompassed in the Tingle Mosaic and to develop further knowledge of their ecology.

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**“How Vulnerable is the Australia and New Zealand region to the impacts of global warming?”**
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**Abstract**

Climate change adds new dimensions to the challenges already facing individuals, communities, business, and governments. Impacts are now evident in water supply, agriculture, natural ecosystems and in the loss of at least a quarter of glacier mass in New Zealand. Some adaptation to observed climate changes has occurred in response to these impacts of climate change. Results of downscaling models from IPCC scenarios of future climate change indicate that large areas of mainland Australia and eastern New Zealand are likely to become warmer and drier with reduced runoff, although western New Zealand is likely to become warmer and wetter with increased runoff to large eastern rivers. The frequencies of major floods, fires, droughts, heat waves and severe tropical storm surges are likely to increase. Sea level rise could accelerate. While potential benefits are likely to accrue for particular sub-regions and sectors, there are likely to be substantial negative impacts. Key vulnerabilities are a product of the exposure of systems and populations to climate change, the sensitivity of these to such influences, and their capacity to adapt to them. Most systems and areas have a coping range to existing climate variability. As climate begins to change, impacts may exceed this range, but these can be alleviated by adaptation. Eventually, if climate change continues, the adaptive capacity is exceed and the system or area and its population become vulnerable.
What can indicators tell us about people and landscapes?
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Abstract

Being able to measure and monitor changes in the environment assists decision makers in their allocation of scarce resources. The development of a suite of indicators by governments enables the identification of trends which can then be used to compare current environmental performance against past practices. Importantly, it is not just the state of the environment that ought to be considered. A triple bottom line (TBL) approach to the development of indicators allows for the identification of economic drivers, considers the role of natural resource managers and the experiences of people in the landscape. A TBL approach requires careful consideration of a wide range of data and information and the indicators developed should be able to tell a fully integrated story of how ecosystems have been managed at a range of scales. The aim of this paper is to present a framework developed as part of a Victorian Government project to review and develop a suite of TBL indicators for Victorian landscapes. The framework identified a range of approaches that have been used in environmental reporting and discusses the merits of these as well as the development of a tool that produces scenarios to provide input into decision-making. Once the framework was in place, the project built upon a set of predominantly biophysical indicators and extended these to include a range of socio-cultural and economic indicators and identified new and emerging issues such as climate change. The premise was that human well-being is both central to and a product of the sustainable management of our environment and its natural resources, therefore the collection of TBL data and information enables us to develop policy outcomes that support sustainable and vibrant communities. An important element of the project is the use of a range of decision support tools. One of the tools, scenario analysis, enables decision makers to gain answers to questions about Victorian landscapes in a way that can be understood by a wide audience. The involvement of both discipline experts, policy specialists and stakeholders in developing the suite of indicators was essential in ensuring that the knowledge produced was scientifically credible whilst being relevant to the needs of the users. This enabled broad input into the development of the indicators whilst focusing on the issues of most relevance to policy makers. Media summary Environmental indicators tell stories about the environment. It is important to put this information within a broader context so that the stories provide a much broader picture of the landscape whilst assessing the wellbeing and contribution of its people. Key Words Sustainability indicators; triple-bottom-line indicators, environmental development; triple bottom line indicator framework, decision support tools; socio-cultural indicators; climate change indicators.

The effect of Zone design on Statistical relationships in Geography
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Abstract

The modifiable areal unit problem shows that the statistical relationship between geographical variables can differ wildly for different ways of designing the system of zones on which the analysis is based. This paper investigates the extent to which these effects can be predicted in terms of the size, shape, homogeneity, internal population distribution and other aspects of the areas concerned. It also investigates how far the zonal system adopted biases the results of statistical analysis. British census data from 2001 is used in the analysis.
Female entrepreneurship: a key to local tourism development on the island of Öland?
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Abstract
The island of Öland is one of the largest summer tourism areas in Sweden. It has approximately 2 000 000 visitors per year. It has a strong tradition in sea side tourism and in the same time it is a traditional rural, farming area. However Öland is a sparsely populated island. This article explores female entrepreneurship and small firm ownership among women on the island of Öland in southeast Sweden. During the 1990’s the local economies in Sweden has gone trough a number of phases, from crisis to reestablishing. The responsibility for the economic development has shifted from a national to a regional level. At the same time, you can see how the competition between places has increased during the late 20th century. Places compete against other places when it comes to attract investments, capital, visitors, people and skills. In the case of Öland the economic transformation that took place during the 1990’s, resulted in an increase of small firms among the female population. Today Öland has a higher amount of female small firm ownership than the average number in Swedish municipalities. In the local and political debate, these female entrepreneurs are often neglected and refereed to as not economic rational because they do not expand their business enough, they do not employ enough and they run there business within a traditionally “female sector”. The questions raised in this article are concerned with the mapping of these small firms and their role in the local economy and local tourism development. It will also emphasize that these entrepreneurs is reflecting a local gender contract which reveal the different conditions between men and women within the local economy.

Temporary and Disadvantaged? The economic and socio-spatial segregation of Maori in Sydney
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Abstract
Of some 12,618 Maori living in Sydney at the 2001 census, 40 per cent arrived in the five years up to 2001, and a further 32 per cent in the previous 10 years. These are the hall marks of temporary immigrants staying in Sydney for a while before returning home. This is reflected in their labour force characteristics, with the 1st generation workforce comprising 91 per cent of all Maori in Sydney by ancestry. As in New Zealand, occupational characteristics highlight semi-skilled (intermediate production and transport) and unskilled (labourer) employment, and an unemployment rate twice that of the Australian born. This in turn is reflected in the spatial distribution of Maori in Sydney and links between economic disadvantage and residential segregation.

Student Perceptions and Learning Experiences of Expedition and Non Expedition Fieldwork
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Abstract
Fieldwork can provide a vehicle to support learners and has long been regarded as a pedagogical characteristic to the teaching of Geography and recognized as an essential component of United Kingdom (UK) Undergraduate Geography courses with its inclusion in the UK Quality Assurance Agency benchmark statement. Many UK institutions develop undergraduate researcher skills through a final year dissertation, which allows students to design and execute a major independent geographical research project. An option within Chester’s geography programme is a group Expedition to Norway to obtain primary data. This paper seeks to address student perceptions of the effectiveness of expedition fieldwork as a mode of learning. This is approached through the use of an independent cognitive observer to evaluate student perceptions of the expedition learning experience, with the use of (pre and post) fieldwork questionnaires, focus groups and one to one interviews. A contrasting cohort of final year dissertation students who were undertaking local (non-expedition) independent geographical fieldwork was also evaluated. Common themes to emerge on the effectiveness of fieldwork suggest a significant difference between Expedition and Non Expedition students with regards to knowledge-and perception-based identifiers. The Expedition students score higher and are more positive overall towards 1: fieldwork increasing their knowledge and skills and 2: fieldwork contributing to their subject understanding and future career opportunities. In ‘pre’ and ‘post’ fieldwork measures the Expedition students experienced a significant increase in confidence when using technical equipment, accurately and systematically recording data. Their views and experiences of fieldwork in general were overwhelmingly positive.
Biological data for species distribution modeling -- too much, too little, or just not in the right places?
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Abstract
Austin’s framework for spatial prediction of species distributions via statistical modeling has three parts, the ecological model, data model and statistical model. The data model “consists of decision regarding how the data are collected, and measured or estimated” and spatial aspects of the data model are important. This paper discusses the species (biological) data used for distribution models. Are there best survey design characteristics for biological data that are used to develop habitat models? Probability sample design in space is the sampling issue most often addressed in the literature, but studies have yielded conflicting conclusions regarding whether systematic or environmentally stratified random sampling yields the most accurate habitat models. Large samples improve models and may overcome problems of noisy data, but the balance between number of presences and absences is also important. What is the optimal proportion of presence (prevalence or frequency) in the sample? Some suggest that a larger number of absence sites will describe variation in the environment, but a recent study showed that a 1:1 ratio of presence to absence yield highest model accuracy. If spatial extent of the sample is less than the species range, the species response functions may not have the form predicted by niche theory. Species detectability should be estimated and adequate number of repeat site visits will assure that modeling data are suitable. Existing data can be examined for spatial bias, and supplemented with an unbiased or representative sample.

Global shipping strategies and regional influences : the case of the Maersk Line.
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Abstract
Containerisation and multimodal transport chains allow container carriers to develop global maritime networks. Carriers have been rethinking their maritime and inland networks to better satisfy customer needs and also to achieve cost-savings through economies of scale and economies of scope in order to remain competitive. Multiple geographical combinations are possible to link the different regions of the world. The aim of the carriers is to serve the different regions and also to link them with each other. The development of hub and spokes systems clearly highlights this new approach by the carriers. In this paper, we first demonstrate theoretically the possibilities offered by multimodality in terms of linking the different regions of the world. In a second part, we study the case of the world’s leading carrier, Maersk Line. Since the 1980s, this carrier has gradually built a global maritime network based on a hub and spokes system. This network globally corresponds to the pattern of the major trade areas but it also has its own logic based on the strategy developed by Maersk. It is possible to identify the major East-West trade routes, the secondary North-South trade routes, feeder routes, a dedicated hub ports network and also niche ports which are all articulated in the same global maritime network. It enables Maersk to link the different regions of the world, to play with different scales, from the global to the local, to take into account the whole pattern of the world economy at a global scale but also the very local situation of each port and its hinterland. The current global maritime network of Maersk is a balance between global, regional and local influences and the possibilities offered by containerisation and intermodality.

The evolution of 'Indian' identity and transnationalism in New Zealand
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Abstract
Indian migrants have been arriving in New Zealand for more than a century, although large numbers of migrants are a phenomenon mainly of the last two decades. However, while there are a significant number of Indians who have gained prominence in various fields, including academia, there are relatively few who have published studies of their own community (or communities). Is this a result of the sheer diversity of the group called ‘Indian”? This paper briefly considers the history of Indian settlement and identities in New Zealand and then considers the ways in which recent migration streams have radically altered these identities and introduced new transnational elements. It also asks whether there is a ‘pan-Indian’ identity, and presents the views of key informants within the Indian community. Note: Already accepted for the Transnationalism session(s) organised by Kevin Dunn (UNSW)
Landscape (dis)connectivity and river recovery: Implications for river management
Dr Kirstie Fryirs *, Macquarie University
Prof Gary Brierley, University of Auckland

Abstract
Geographic concerns for spatial relationships lie at the heart of geomorphic applications in river management. The way in which landscape compartments fit together in a catchment influences the operation of biophysical fluxes (i.e. transfer of water, sediment, nutrients and vegetation), and hence the ways in which disturbance responses are mediated over time. These relationships can be examined through analysis of the degree of (dis)connectivity in the landscape. There are 3 key linkages in catchments, longitudinal, lateral and vertical. The strength of these linkages changes over time, affecting the degree to which geomorphic change (and other disturbances) are either propagated or absorbed within the system. Analysis of the strength of linkages within a catchment, and detecting source areas of change, reflect system-specific attributes. However, this information provides an ideal basis for predicting from where future disturbances will be manifest. These future disturbances may be natural (e.g. a flood event) or human-induced (e.g. landuse or climate change). This provides a powerful basis upon which to predict river futures and the recovery potential of rivers at any position in a catchment. Appraisals of geomorphic river recovery potential entail determination of trajectories of change, placing reaches within their catchment context. Effective description and explanation of the history and connectivity of biophysical fluxes throughout a catchment provide a basis to identify limiting factors and pressures that will aid or hinder the future trajectory of geomorphic change and the timeframe over which recovery will occur. By gaining an understanding of the spatial, geomorphic (dis)connectivity of a catchment, patterns and rates of biophysical fluxes can be examined in a more integrative manner. Such analyses provide a rational basis for designing and implementing river management strategies, predicting river futures and prioritising where in catchments river rehabilitation will be most effective. This paper will present a range of principles that can be used to examine geomorphic (dis)connectivity in catchments, demonstrate how these principles can be used to predict river recovery potential and how this information can be used in river management practice.

Recent Strategies Of The Ovambo Agro-Pastoralists To Obtain Natural Resources In The Arid Area Of North-Central Namibia
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Abstract
In recent years, vegetation change has accelerated in northern Namibia—the transition area from the Miombo woodland in the north to the Acacia savanna in the south. In north-central Namibia, in particular, bush encroachment has advanced around the suburbs. In this area, the dominant group is the Ovambo agro-pastoralists, who depend on natural resources for food, material culture, fuel, etc. However, the manner in which they utilize these natural resources has undergone considerable environmental as well as social changes. Recently, the Ovambo people have set up “cattle posts”—grazing land for their livestock—and have also begun to obtain natural resources from these areas. The aim of this research is to investigate the reason for the increase in the number of cattle posts and the manner in which the Ovambo people use these areas to obtain natural resources. The results of the survey are summarized as follows: Eight out of thirty households have cattle posts in the research site of north-central Namibia. In the old days, people used to graze their livestock at the seasonal camp, which was located 30 km south of the village. However, since the 1980s, the land belonging to this seasonal camp has been enclosed by a fence. Nowadays, all cattle post owners have permanent jobs and their own personal vehicles, and they hire workers to work at their cattle posts. They use their cattle posts to obtain natural resources that are difficult to collect around their village, for instance, timber, grass to build the roofs of houses, cattle dung for fuel, and manure and insects as food. A portion of these resources is given to their neighbors and relatives. For those who do not own cattle posts, obtaining natural resources is an important occasion.
Rapid channel response to variability in sediment supply: cutting and filling of the Tarndale Fan, Waipaoa catchment, New Zealand.

Dr Ian Fuller *, Massey University
Dr Mike Marden, Landcare Research

Abstract

Seasonal aggradation / incision cycles have been recognised on the Tarndale Fan since 1983, based on biannual channel cross-section surveys. Channels were generally cut during summer, and infilled during winter. This pattern of cutting and filling is driven by seasonal variation in sediment supply from a fluvio-mass movement gully complex (the Tarndale Slip). In this paper we examine in more detail the cutting and filling taking place on the Tarndale Fan over the course of a year. During a 12 month period from December 2004 to December 2005, survey frequency was doubled and the entire active fan was mapped using RTK-GPS. Coordinate data were used to generate Digital Elevation Models (DEMs) of the active fan surface using Surfer® GIS. Analysis of sequential DEMs indicates cutting and refilling of well developed channels may involve excavation or deposition (respectively) of some 15,000 m³ of sediment in an active fan area of ~11 ha. Between July and August 2005, 2 m deep channels were cut in the mid-reaches of the fan, but these had been completely infilled by November 2005, probably by sediment mobilised from the Tarndale Slip during a severe storm at the end of October. This suggests a highly sensitive channel system which responds rapidly to sediment supply variability from the Tarndale Slip. Discrete severe rainstorm or wet weather periods may be significant in controlling sediment supply here. Wetter weather enhances mass movements in the fluvio-mass movement gully complex, which contributes large quantities of sediment to the fan in the form of debris flows and landslides, infilling channels on the fan. During drier periods, mass movement activity is inhibited and runoff incises channels. Alternation of extreme wet and dry periods predicted in a globally warmed world may therefore facilitate delivery of sediment to trunk rivers in such systems.

What is the value of fieldwork? Answers from New Zealand using two contrasting undergraduate physical geography fieldtrips.

Dr Ian Fuller *, Massey University

Abstract

This paper addresses the question of the value and effectiveness of geography fieldwork compared with class-based teaching from the students’ perspective using questionnaire and focus group approaches. The research uses two contrasting fieldtrips run in the Geography Programme at Massey University. The first is a week-long third year residential fieldtrip to Fox Glacier studying fluvioglacial and glacial processes, which constitutes a discrete field-based paper. Here, students employ a range of techniques in group-based project work as they address a series of research questions to be written up in journal article format. As such this fieldwork would be classified as residential ‘learner-practitioner’ project work. The second fieldtrip is a day-trip run locally in the Manawatu as part of a second year paper on river and coastal processes and landforms. The trip takes in a number of key sites in the region using a ‘Cooks Tour’ format, being of limited activity, but more extended travel in nature. The fieldtrip links with substantive lecture topics students will cover in their paper. Despite their highly contrasting nature, student views indicated in both fieldtrips that the fieldwork was highly valued. Fieldwork enhances student learning by improving students’ understanding of the subject, largely through experiencing the ‘real world’. Whether this experience is facilitated by hands-on application of techniques or not, appears to make little difference to the overall perception of the value of fieldwork compared with other learning methods. However, acquisition of technical / transferable skills serves to further enhance the value placed on fieldwork by students. Fieldwork is also a much valued provider of opportunity for social interaction amongst the class, a strongly held view whether or not fieldwork is group-based and / or residential in nature. However, group-based learning appears to further enhance students’ understanding, arguably facilitating deeper learning.
Channel survey spatial sampling strategy & interpolation techniques: implications for scour & fill estimation
Dr. George Heritage *, University of Salford
Dr. Ian Fuller, Massey University
Dr. David Milan, University of Gloucestershire
Dr. Andy Large, University of Newcastle upon Tyne

Abstract
Scour and fill estimation from Digital Elevation Model (DEM) subtraction is an increasingly common technique in morphological and sediment transport investigations. This study investigates the error associated with using different point sampling regimes and interpolation algorithms to produce DEMs. Data on channel morphology were collected from a 200m reach of gravel-bed river A 5cm horizontal resolution Terrestrial Laser Scanner data set (median vertical error of b0.003m and a maximum error of b0.05m) was taken as representing the actual bed surface (control). A Total Station was then used to collect data using four point sampling regimes; cross-section, bar outline, bar and chute outline, and bar and chute outline with spot heights. A fifth survey was also obtained by adding random values within published aerial LiDAR vertical error limits to 2m grid data extracted from the Laser Scan. DEMs were then generated using five interpolation techniques; Inverse Distance, Kriging (default value and variogram driven), Minimum Curvature and TIN. The DEMs were compared with the scan data (control) and all errors greater than b0.05m were then calculated allowing average elevation differences to be quantified. The aerial LiDAR survey gave the lowest error, 0.054m averaged across the entire study surface regardless of interpolation method. Bar and chute outline with spot heights on flat surfaces also returned low error with TIN and default value Kriging (0.05m). Inverse Distance interpolation returned the highest error of 0.13m. Cross-section, bar and chute outline, and bar outline only surveys all gave similarly high errors regardless of interpolation technique (0.1-0.18m). The vertical errors quoted herein in some instances exceed the mean vertical change calculated from DEM subtraction in many previous studies. Field survey spot sampling design and subsequent interpolation technique should be carefully considered in light of these results.

A Study of Urban Green Space in Chongqing and Nanjing Using Object-Oriented Image Classification and Landscape Analysis
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Abstract
This paper investigates the landscape pattern of green space in two Chinese cities, Nanjing and Chongqing. Instead of conventional per-pixel analysis, this study makes use the object-oriented image analysis system, eCognition to unravel the potential of multilevel segmentation and object-oriented classification techniques. Multispectral ASTER images of both cities are used with both data resampled at 15 m resolution. The generation of image objects is controlled by adjusting the ratio between spectral versus shape and the scale at which objects is yielded. To test suitable scales for image object generation, sample objects are generated at 10 different scales. Spectral, textural and shape variables are used to investigate their variability along with scale variation. Accuracy of identifying individual land cover classes is also tested to check against the most accurate scale at which each land cover can produce. A three-level segmentation is concluded and adopted. Fuzzy classification rules are then devised to map out green space in both cities. The accuracy is comparable to that using per-pixel maximum likelihood classification and is significantly better than linear unmixing. Landscape analysis in terms of landscape composition, fragmentation pattern, contagion and shape complexity is then performed to investigate the development and distribution of green space as a result of more recent planning practice in upkeeping a green landscape in both cities. A strong contrast with scant and fragmented distribution in inner city, but more abundant and aggregated distribution in outer city is revealed.
**Suspended sediment sourcing in a larger, monsoon tropic catchment of Lake Inle, Myanmar (Burma)**

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**Abstract**

The research reported in this paper investigates suspended sediment sources in the monsoon-dominated tropical catchment of Lake Inle (~5,300km²), Myanmar (Burma), using tracing techniques, namely radionuclides, major elements, and trace elements in catchment soils and river sediments. While sediment geochemistry, especially fallout radionuclide caesium-137, has been widely applied to study soil erosion and sedimentation in many areas in the world, their application in Southeast Asia has been limited, particularly for large basins (>1,000km²). Soil erosion in Southeast Asia is critically important as soil is a fundamental resource for the rural poor and the off-site impacts of upland erosion are often considered to be substantial. Lake Inle’s catchment is heavily cultivated, and forest cover has been extensively cleared by local people for livelihoods and production. Erosion is obvious in the catchment: numerous red-coloured rivulets are observed in the agricultural land and bareland in the rainy season; gullies are developed both on hillslopes and flatland; and river water is heavily turbid in the rainy season. Consequently, severe sedimentation in the lake area also occurs, which is of both local and national concern. In this paper we demonstrate spatial sourcing as well as topsoil and subsoil sourcing using a simple mixing model incorporating the geochemical composition of the soil and sediment. Spatial sourcing shows that sediment contributions from upstream sub-catchments accord with topographic characteristics, and topsoil and subsoil sourcing suggests gully erosion (and channel erosion) as the key sources. The results have management implications for targeting particular areas and physical processes in erosion and sedimentation control.

**How do we move from a thousand small geocomputational pieces to a single geographical problem-solving environment?**

Professor Mark Gahegan *, The Pennsylvania State University  
Mr Junyan Luo, The Pennsylvania State University

**Abstract**

The geocomputation conference series has been running for 10 years now, and if conference attendance is any measure of success, continues to rise in prominence. But what do we have to show for it? Hopefully the answer is something like: a better understanding of how some of the newer computational methods help solve geographical problems. And while this is a laudable outcome, as a community, I believe we can do better. In order for our research to have a big effect on spatial analysis and GIScience, we need to find ways to convert our own hard-won understanding into useful methods that other researchers can use. Geocomputation research has so far been characterised by a plethora of diverse techniques and approaches, allowing researchers to tackle many problems: from exploratory visualization and knowledge discovery, through classification and prediction, to cellular and agent-based simulation models. Yet we have failed so far to solve the problems of how we can share our outcomes effectively—we do not have even the beginnings of an architecture that helps integrate our various methods and expertise into a computational environment for solving geographical problems. Apart from being a terrible shame, this situation leads to a high level of redundancy because many methods end up being implemented repeatedly by different groups. This paper describes a vision of a geographical problem-solving environment that spans the range of geocomputational tools and approaches tackled thus far, by positioning them within a model of the process of investigative science. The environment makes use of several of the capabilities of the Java programming language to allow problem-solving components to be assimilated, integrated and formed into useful, executable systems, without the need to write code or re-engineer the new components or the existing system. These capabilities are supported by introspection, wrapper technology and task knowledge (expressed in a Prolog reasoning engine). Together they allow the application developer to steer the construction of a suitable model to accomplish a given analytical task (such as classification or cluster detection), while the system deals with the syntactic, schematic and even semantic details of integration.
**Geography In America In The New Millenium**
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**Abstract**

Based on state-of-the-discipline papers provided by 134 authors from 50 of the Specialty Groups of the Association of American Geographers, an overall assessment of the state of Geography in the United States is provided. Following on a theme of “unity amidst diversity” this assessment looks at the recent developments and trends in geography in the United States over approximately the last fifteen years. Amidst the features noted are the rise of physical geography, the explosion of methodological advances, the new role of social theory in human geography and the persistence of regional approaches. Other notable developments include the rise of interest in values, ethics and human rights issues, asking important questions such as “How far do we care?” Also, there is increasing activity and awareness of geographers at work in the non-academic world. This review and assessment will highlight new developments in several subfields of geography as it is practiced in the United States and contribute an overall assessment of the field.

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**Turning the Housing Affordability Debate on Its Head: Alternative Economic Practices and Belonging in West End, Brisbane**
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**Abstract**

In Australia, housing affordability is an issue of political currency. A focus on macro level measures has surfaced a nation-wide “crisis” described in terms of statistics, indicators and trends. Analysis largely excludes local knowledges and practices and thus little is understood of local or household-scale responses to affordable housing policy. This paper focuses on an area where the affordability “crisis” is clearly visible: West End in Brisbane’s inner-South. Despite disastrous loss and redevelopment of “affordable” housing stock, demographically the area retains its historical low-income and multicultural population, with forty percent of present-day residents relying on welfare payments. This obvious retention of a low-income population base challenges dominant understandings of the ways affordability problems play out in inner-city areas, questioning whether statistics and trends are capable of revealing the full story. Reflecting on the situation in West End, this paper considers ways of re-reading the housing landscape to discover how everyday social and economic practices are deployed to make housing affordable and to establish or maintain belonging in an unaffordable environment. In a sense, West End is a case of contested belonging not least through citizen resistance (both intended and implied) to large-scale change. Recognising citizens as economic and social actors in their own right allows us to question how low income or marginalised groups persist in inner city areas despite spiralling housing costs and despite the identified affordability crisis. Thus focus is shifted from a national-scale crisis to an alternative discourse of housing that can inform future policy-making. How may local knowledges and practices be considered in the development of policy, and thus how may these alternative discourses and social and economic practices belong to the policy landscape?
Land planning and marginalization on an oil exploitation area

Dr. Lilly Gama *, Universidad Juarez Autonoma De Tabasco
Ms Carolina Zequeira Larios
Adalberto Galindo Alcantara
Adriana Morales Hernandez
Eduardo Moguel Ordonez y Alberto Sanchez Munguia

Abstract

Humans make use of biodiversity and ecosystem services in a variety of ways. Typically, these ecosystems are for the production of grasslands and agricultural activities. Government decision makers that consider ecosystem services as contributing to the development of the area have to take in account strategies to search for alternatives for local marginated communities. Biodiversity influences their risk, as it influences the underlying ecosystem processes and functioning. In particular, it influences the distribution at which ecosystem services are being provided. This leads to the thought that, under certain conditions, biodiversity can provide natural insurance for users of ecosystem services and for their future development. Studies directed to understand conservation and handle resources, recommend as a conceptual frame a landscaping analysis. The state of Tabasco in the gulf coast of Mexico is important for oil exploitation the main activity performed and is suffering an important lost of natural ecosystems due to different natural and human effects. Because of its climatic and biologic characteristics, this region and the flood lands around are considered the most important wetlands of the Mexico. The objective of this research was to find out the degree of conservation of the ecosystems and of poverty of the population of this area studding the human and natural modifications for the last twenty years to propose land use plan strategy. Two landscape maps based on a geomorphologic classification were configure from 1984 and 2003 were perform. An historical review of the land use, as well as natural phenomenon's like variation on sea shore was done to find out their effects on the different ecosystems. Each landscape unit was characterized as well as the spatial distribution of all its components (vertical relations), and the relations with adjacent or neighboring units (horizontal relations). Several ecological indicators were applied to evaluate ecosystems and biodiversity modifications. An indicator applied by the Mexican government to design social policies was used to evaluate the degree of poverty or the population. There area is situated in a vast plateau with frequent flood risk. Results show that there has been a lost of 90% of the original biodiversity of tropical forest due mainly to farming and poor cattle management activities. Although the important incomes for the local state that come from oil exploitation, the degree of margination of the population is high (64 % of the population). Oil exploitation infrastructure has cause important impacts especially on the coastal areas. Salt water intrusions during the dry season allow mangroves in this region to grow up to 30 km inland however the strong effect of salinization on soils are affecting them for agricultural uses. As oil reserves are expected to be over explotaited in no more that fifteen years the local government does not have a development alternative. A plan for land use was develop based on the ecological and social indicators to give the local government a strategy to take into account socio-economic population needs for future development. We also examine the socioeconomic tradeoffs involved in conserving biodiversity for ecosystem services and cultural benefits. Finally this research proposes a zonification alternative for land use taking in account margination results. 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Contemporary Spatial Patterns and Determinants of Fertility of Scheduled Castes and Tribes in India

IGU-Commission on Population and Vulnerability Session 7: Other Dimensions of Population and Vulnerability: Fertility, Mortality, and the Age Structure

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Abstract

Nearly 25% of the total population of India belong to the so-called scheduled castes (SCs) and scheduled tribes (STs). Whereas the living circumstances of SCs are to a large extent still marked by oppression and exclusion, the remoteness of the habitats of STs has largely excluded them from developmental progress. Both groups are characterized by a higher than average incidence of poverty and thus can be associated with the “Economically weaker sections” of the Indian population. Fertility differentials and the recent decline have certainly been well documented for India. Much lesser attention is paid to the fertility of scheduled castes and tribes, both of which show slightly higher than average total fertility rates. In this paper we focus on the spatial patterns and determinants of fertility of these subgroups and its differences compared to the total population by applying both methods of “Exploratory Spatial Data Analysis” as well as spatial econometrics.

Modern Land-Use in the Amur River Basin and the Basic Trans-Boundary Environmental Problems

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Abstract

The Amur River Basin is large complete geosystem the parts of which are placed in four countries: Russia, China, KPDR and Mongolia. In this connection the Amur River Basin is the largest trans-boundary geosystem, i.e. a trans-boundary region. The area of the region makes up 1860 000 square km. About 40 million population lives there. There is a big variety of natural resources. Many branches of economy, large cities and other settlements are placed in this area. Till now the maps of modern land-use in the Amur River Basin executed by a uniform legend have not been created. This gap liquidates the complex ‘Amur-Okhotsk’ Project organized by Research Institute of Nature and Humanity (Kyoto, Japan). Within the framework of this project the map of modern land-use in the Amur River basin in scale 1 : 2500000 was compiled on the base of decoded satellite imageries Landsat-TM with resolution of 30-100 meters. The map of modern land-use, the official statistical data describing social and economic characteristics of the countries in the Amur River basin allowed us to allocate the basic trans-boundary environmental problems such as water and air transfer of pollutants, land degradation, biodiversity impoverishment, infringement of the ways of migration of wild animals, their forage folder, fragmentation of habitats, increased fire danger, high risk of flooding, dust storms and others. This map can be considered as original preparation to perform the project on the development of a complex policy of sustainable wildlife management in the Amur River Basin. The development of scientific bases of the program of sustainable development of the Amur River basin should become the basic generalizing result of the international research program. With this purpose the corresponding intergovernmental agreement between the Governments of Russia, Chinese People’s Republic, KPDR and Mongolia should be prepared and made.
Mapping of land degradation from ASTER data: How accurate can the results be?
Dr Jay Gao *, Univ Of Auckland

Abstract
The purpose of this study is to assess the effectiveness of the newly emerged Advanced Space-borne Thermal Emission and Reflection Radiometer (ASTER) satellite imagery with a relatively fine (15 m) spatial resolution in accurately mapping degraded land in Northeast China. In particular, this study concentrates on the accuracy level at which different intensity levels and forms of land degradation can be mapped using the easy to implement NDVI method. An ASTER image recorded on 11 September 2004 over an area of 40 km by 40 km in size in western Jilin Province was used to derive an NDVI image, from which seven covers (water, bare ground, severely degraded, grassland, affected farmland, healthy farmland, and dense vegetation) were identified. Statistics reveal that the area has suffered from a high level of degradation with severely degraded land accounting for nearly 20% of the total area at 318 km². Moderately degraded (e.g., grassland) land stood at 311.6 km². In addition, there were 330.7 km² of slightly degraded land. The mapped results were assessed with 240 check points selected with a combination of random and stratified sampling. Overall, the mapping was achieved at an accuracy level of 87%. The accuracy for individual classes all exceeds 80% with the exception of farmland. The accuracy is lower for slightly degraded (e.g., affected farmland) due to heavy mixture with grassland. If the inter-class confusion is ignored, then severely degraded land can be mapped as accurately as 90%. Most of the confusion took place among adjacent classes, implying that the selection of the NDVI threshold is the most critical during post-classification classing in accurately mapping degraded land in the study area. The factors affecting the mapping accuracy is the non-uniformity in the tone of the images and its fine (15 m) spatial resolution.

Where are you from? Local articulations
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Abstract
Articulation, as Stuart Hall uses it, has the double sense of “giving expression to” and a connection between one thing and another. This paper focuses on a range of things that are given expression when one calls oneself, as I call myself, “a local” in contemporary rural Australia. Paraphrasing Hall, my interest is in the circumstances in which such an intimate connection can be made between settlers and place to produce a “natural” and commonsense identity. How is it that we Australian settlers have been able, without question, to install ourselves on Aboriginal land as “the locals”? Such questioning disturbs the naturalised unity of people and place expressed through the idea of the local. Through an analysis of discourses on the locals in scholarly literature and Lismore’s (NSW) local daily newspaper, and through personal critically reflective narratives of becoming local in Lismore, the local can be shown to articulate concepts of identity, race, place, nation and empire. The idea of being a local, then, is part of a web of words and practices that tie belonging to ideologies of place and race. Within a zone of local whiteness, these connections are generally kept out of touch and out of sight. In this paper I argue that in Australia being a local articulates a (re)organisation of belonging to place according to race. The hierarchy of belonging that locals institute is, however, further organised according to a perverse claim of indigeneity I call “white autochthony”. Being a local is a local expression of legitimised belonging; the “native-born” is its national analogue. Each articulates an ethos of belonging that requires critical examination and rethinking.

Sediment yield and erosion in a small Mediterranean basin
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Abstract
The aim of the research reported here is to monitor the outflow from a small agricultural basin in order to estimate the quantity of sediment delivered and the most likely sources and processes involved. The field measurements were conducted in Can Revull (102.6 ha) a small headwater drainage basin in the Na Borges River, a carbonate lowland agricultural basin (327 km²) in the northeast of the island of Mallorca, Spain. Automated continuous monitoring at Can Revull allow 15-min data to be collected on discharge, turbidity, conductivity and water temperature. The mean annual precipitation is 500 mm. The hydrological regime is seasonal with a mean annual discharge of 3.5 l-1 s-1. Mean suspended sediment concentrations ranged from 5 mg I-1 to 25 mg I-1 with a maximum suspended sediment concentration of 2400 mg I-1. Estimates of annual suspended sediment yield provided values of 415 t ha-1 year-1. The overall objective of the study is to evaluate and compare the sediment yield in the drainage basin with the rates and spatial patterns of soil erosion and deposition by using 137Cs measurements.
**Women of the South, joining the Antipodes: Jan Monk's contribution to gender geography in Spain**
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Mr Antonio Luna-Garcia *, Universitat Pompeu Fabra of Barcelona

**Abstract**

The main goal of this paper is to study the contribution of Jan Monk to the development of gender geography in Spain as well as to explain the experiences and numerous connections that she (and we) have been weaving to foster international scholarship within the field of Spanish gender geography (and in particular Catalan geography). Somehow, Jan and both of us come from the South: We are from Southern Europe and she originally is from the Southern hemisphere, therefore we have been well aware of the extent to which “northern” ways of seeing the world define concepts, theories and ideas in feminism writing as well as in gender geography and in other areas of human geography. This being “at the periphery” and this sensibility to the important of place has permeated Jan’s contribution to Spanish and Catalan gender geography. It is through this lens that we will point out the main features of our multiple contacts with her and its relation with the development of gender geography in Spain over the last two decades.

**Modern Acclimatisation as Environmentalism? Trout, anglers and ideas of nature.**
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**Abstract**

There is a conventional wisdom on the development of the Australian environmental conscience. A detailed study of the history of the acclimatisation movement in Australia challenges this conventional wisdom by contributing to both the history of acclimatisation in Australia and the origins of the Australian environmental conscience. The environmental history of exotic introductions, and in particular the role of acclimatisation societies in that history, forms the major concern of this study. Acclimatisation societies have been active in Australia since the 1860s. However, many people are unaware that these organisations are still operating today (albeit with a narrower focus). In fact, there have been two distinct phases of acclimatisation in Australia. The first, formally dating from the 1860s was separate from the second; the contemporary acclimatisation societies that were provided for by The Fisheries and Oyster Farms Act, 1935. Whilst the early acclimatisation societies were interested in introducing in everything from alpacas to oranges and silkworms to starlings, the modern acclimatisation societies exist to maintain the recreational trout fishery in New South Wales. Contemporary acclimatisation society members are typically keen trout anglers. Through their angling experiences they accumulate vast amounts of environmental knowledge that is akin to indigenous knowledge about specific locations. This is enhanced by their involvement in acclimatisation processes of raising and liberating trout and preserving the recreational trout fishery in NSW. I will discuss the way that this knowledge is acquired, exchanged and recorded and the potential for this kind of information to contribute to environmental history research. Acclimatisation would seem to be at odds with modern environmentalism. And yet, contemporary acclimatisers see their societies’ as (marginalised) environmental organisations. The story of trout in NSW covers the period of early and modern acclimatisation societies and as such it provides a neat case study to explore the impact of acclimatisation on the evolution of environmental conscience in Australia.
French political spaces in the South Pacific Area. A question of sovereignty.
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Abstract
France has been in the South Pacific Area since the 19th century and still exercises its sovereignty on three territories: New Caledonia and areas under its domination (18 575 km² and 216 000 inhabitants estimated in 2001), French Polynesia (4 167 km² and 245 000 inhabitants in 2002) and Wallis and Futuna (274 km² and 14 166 inhabitants in 1996). Territories under French domination are even more important taking into account the demarcation of the Exclusive Economic Zones (EEZ) which cover almost 6.9 millions km², more than half of such French zones in the world. These territories became “Overseas Territories” after the Second World War, but their legal status are changing since the 1990’s. Several agreements define the new relations between France and New Caledonia (Matignon – Oudinot 1988, Noumea 1998), and French Polynesia (1996 and 2004 giving the status of “Overseas Country”). The French government is changing its behaviour towards these territories. It is interesting to observe the evolution of the relationships between these far distant territories and the French mother country in order to understand the new geo-political situation that is appearing as well as the new geo-strategy led by France. Furthermore, as these territories belong to France, they are also “parts” of the European Union. In this context, it will be also interesting to analyse the position of the EU towards its island regions, in particularly those located in the South Pacific Area. These “Overseas Countries and Territories” (OCTs), which depend constitutionally on France, have new opportunities of development due to their partnerships with the EU. A new framework for cooperation is also set up between the “African, Caribbean and Pacific Group of States” (ACP) and the EU and its Member States according to the “Cotonou Agreement” (23 June 2000). All these changes that occur at different levels (local, regional, national and international) have an impact on the sovereignty of France. So, this paper will underline the evolution of French “sovereignty” in the South Pacific Area and its reasons like the reinforcement of local autonomies taking into account local claims as well as the international context situation.

Mobility Transition (Test Of Zelinsky's Theory) And Economic And Demographic Factors: Japan And Turkey, 1955-2000
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Abstract
In the area of mobility transition, Zelinsky's theory is often-cited and well known study. In this paper, based on the empirical evidence of Japanese and Turkish data, some new insights and modifications of the Zelinsky's theory are presented. Only two types of migration, i.e., rural-to-urban and urban-to-urban are considered. Unlike Zelinsky: intra-urban migration is not included; out-migration instead of sum of in- and out-migration is discussed; migration rates and numbers are analyzed separately. Timing of the mobility transition, and level and pattern of these two types of migration are discussed in comparative manner according to differing levels of national development.

The legendary spatial autocorrelationists
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Abstract
Many academic movements begin, reach a popular peak, and slowly decline. A number of pundits like to say that the 'quantitative revolution' in geography of the late 1950s and early 1960s died out in the late 60s and early 70s. In this paper I will argue that although there was a well-documented decline in the movement in the early 1970s, the seeds that were planted in the fervent 1960s sprouted steadily yielding quantitative contributions in the middle to late 1970s, blossomed into a glorious academic field in the 1980s, and that the field of quantitative geography has not stopped growing since. I attribute the recent growth not only to the obvious effect of new computer technologies but also to a crucial concept that has gained enormous respect in fields outside of geography. Simply put, the concept of spatial autocorrelation and the contributions to it have moved the revolution into the mainstream of current academic life. In this paper I will briefly document this continuance of the quantitative revolution, paying special attention to the contributions of those who have fostered and maintained it.
Valuing Water: variability and the Lake Eyre Basin, central Australia
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Abstract
Water has multiple forms and functions, meanings and values. In the context of growing awareness of environmental sustainability and social justice, natural resource management attempts to incorporate this multiplicity. This paper is concerned with the ways value is attributed to water within natural resource management discourse and practice, and the extent to which such efforts capture the range of values associated with water. The research uses a case study of the arid and semi-arid Lake Eyre Basin in central Australia, a region whose waters are characterised by variability. A place-based study emphasises the significance of the specific place, and highlights the need to ensure that local, place-based values are not marginalised by the dominant universalising discourse and practice. Within and beyond the Lake Eyre Basin, current approaches to valuing water within natural resource management rest heavily on the triple-bottom-line framework of economic, ecological and social sustainability, which separates values into discrete categories. Yet this research has found that values associated with water are not separable; rather, these established categories of value are interconnected. I propose a new framework for valuing water that emerges from place, and captures the range of values associated with water. Valuing variability reflects two ways that value and variability are connected: water’s variability is valued, and water’s values are characterised by variability. This framework moves towards an understanding of water based on its interconnected, living and life-giving character. It recognises the interconnection of categories of value, and interconnections between water and the rest of the world. The framework draws on the discourse of social nature, the Australian Aboriginal concept of ‘Country’, and an ecosystem approach, to explore these qualities. Valuing variability builds on the discourse of social nature by critiquing connections between ‘society’ and ‘nature’ in the context of natural resource management in a specific place.

Hopeful Geographies of the Asia Pacific Region
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Abstract
What is the role of the human geographer in documenting responses to global change in the Asia Pacific region? In recent years there has been lively discussion over the status of area studies in the social sciences and within geography there has been a call to 'theorize back' at the West from locations in what has often been represented as the 'periphery'. In the Asia Pacific region we find both alternative triumphalist models of capitalist economic growth as well as instances of the most abject vulnerability to global economic and environmental change. What might constitute the practice of 'theorizing back' from places whose non-Western cultures have prevented them from acting as the ground for universalisms? In this paper I argue for a practice of weak theorizing undertaken with a reparative motive that fosters Arendt's 'love of the world', rather than masterful knowing or moralistic detachment. I draw on the work of some new geographers of the Asia Pacific region who are describing and theorizing openings and becomings in the economic, political and cultural fabric of selected sites in mainland Southeast Asia, Eastern Indonesia and the Pacific Islands. The performative effects of these new geographies are to offer glimmers of hope in the face of global change.

Youthful creativity in regional Australia: a panacea for out-migration?
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Abstract
This paper addresses the much-discussed theme of youth out-migration from rural Australia, in the context of recent discussions about creativity and its role in regional development. First, it draws on longitudinal research on creative industries in regional Australia to assess their efficacy as a source of new job growth in rural areas, particularly among young people. Evidence is drawn from available public data on creative industry employment in rural areas, and compared with data generated from ethnographic fieldwork in one rural location: the New South Wales Far North Coast. Results suggest that creative industries have contradictory employment and social outcomes. Creative industries are likely to generate higher rates of youth participation in economic activities than what public data reveal. Yet, strategies for future job growth should also consider the limitations and instabilities of creative industry employment. Second, and more broadly, the paper discusse! s socio-cultural dimensions of nascent creative industries that may have a more substantial impact when conceived as part of strategies to stem youth exodus from rural areas. Creative networks may contribute to rural development in indirect ways, especially if linked to policy goals of increased tolerance of youth activities, improved provision of cultural services, and lifestyle and consumption options for young people. While formal job-creation may be limited, creative networks may enrich regional social life and mitigate impacts of youth migration to cities.
**Exploring the qualitative economy of a rural festival: beyond quantitative impact evaluations**

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**Abstract**

Conventional stories about the economic dimensions of festivals are expressed in terms of commercial impact, and quantified using specific methodologies. Researchers in tourism and event management have employed multiplier analysis, visitor survey and business impact methods to model direct and indirect economic contributions of festivals. In this paper we seek to broaden discussions of the economic dimensions of festivals. We explore results from field work conducted at ChillOut, Australia's largest Gay and Lesbian festival held outside a major capital city. Our approach revolves around understanding qualitative economic dimensions of festivals and special events, paying particular attention to both meanings and identities created by festivals, and the context in which they take place. We analyse the economic dimensions of the ChillOut festival in terms of direct commercial impact, and contrast this with other qualitative themes: place identities, belonging and acceptance, heteronormativity and 'the pink dollar', and situated knowledges of festival economies. We present the qualitative economy as a concept that provides a contextualised interpretation of economic dimensions of festivals, beyond numerical estimations.

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**Education and training in geography can equip college graduates to contribute to a wide range of societal needs**

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**Abstract**

Geography as part of a broad liberal arts education fulfills the societal need for citizens who can contextualize their lives, jobs, and actions within broader social and philosophical frameworks. Training in applied geography meets the societal needs of (1) ensuring that the students obtain employment after graduation, and (2) staffing positions in both public and private sectors with capable geographers who bring important geographic understandings to corporate and public decision-making processes. This paper focuses on training in applied geography for meeting societal needs, and it suggests two research paths, the first related to marketing applied geography and the second to product development of an applied geography curriculum. **KEYWORDS:** applied geography, education, training, liberal arts, competency model
**Beyond Scale? Reconfiguring the Region in North America**  
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**Abstract**

In March 2005, Canada, the United States and Mexico signed the Security and Prosperity Partnership of North America (SPPNA). This trilateral agreement extends well beyond the economic mandate of the North American Free Trade Agreement of 1994, to draw together economic, security and quality of life issues. Indeed, the mandate of the SPPNA is “to make North America the best place to live,” today but also for “future generations,” by attending to economic resilience, safety and security, as well as health, environmental and food safety matters. The triangulation of prosperity, security and quality of life heralds a reconfigured and more deeply interconnected transnational alliance that appears to re-territorialize the powers traditionally associated with the nation-state at the regional scale. Moreover, a key impetus behind the SPPNA is precisely to mobilize the regional as a means for ensuring global economic competitiveness in the face of the rising economies of China and India. And yet the border policies that are contained within this agreement, which expedite border crossings for “legitimate” travelers and make the border more impermeable to the rest, suggest another kind of scalar politics at work. Border policies are being interiorized to create uneven lines of mobility (and immobility), with the result that only some groups of people are able to maximize the regional scale. It is this counternarrative of border security and its implications for regional citizenship that will be the focus of this paper as I explore the deployment of scale in the reconfiguration of North America and the resulting political implications. In so doing, this paper will engage with the ongoing disciplinary debates on scale and scalar politics, and the viability of thinking of a “Human Geography without Scale” (Marston, Jones and Woodward: 2005).

**Gunung Mulu National Park, Sarawak: World Heritage management planning, implementation and challenges**  
Prof David Gillieson *, James Cook University

**Abstract**

One of the world’s great karst areas lies near the source of the Sungei Tutoh in northern Sarawak. The karst mountains exhibit classical tropical karst features, pockmarked with dolines, closed depressions, valleys and caves. The scale of the karst features is impressive and a large variety is present in a relatively small area. This rich diversity of karst landforms is of outstanding scientific and educational value, as much of it is relatively accessible to visitors. The caves of the Gunung Mulu National Park are now world famous and have been systematically explored since the first expedition in 1978. Over one hundred caves are now known with a total mapped length of over 290 km. Four caves have been developed with pathways and lighting for visitors. An integrated development and management plan was developed for the Park in 2000, and sought to provide a strategic framework for Park development over the next two decades. The plan responds to the opportunities associated with the tourism industry, as well as safeguarding of the Park’s exceptional biological diversity and recognition of the ongoing importance of wild places. A central focus of the plan was the development of the human aspects of Park management, including organisational structure, neighbour relations and staff training. Interestingly the operational management of the Park is contracted out to a private company, Borsamulu Park Management Sdn. Bhd., with both expatriate and local professional staff. This is a new paradigm for protected area management in the region. The plan has now been implemented for five years and will be reviewed in 2006. Much has been achieved and much remains to be achieved. Significant challenges include ongoing funding for infrastructure development, adequate commercial guide training, continued illegal birdnesting on the periphery of the Park, and maintaining good relations with the indigenous peoples who live and work in and near the Park.
The Dynamic Savanna: assessing and managing structural change in woody vegetation in northern Australian savannas
Prof David Gillieson *, James Cook University

Abstract

The Dynamic Savanna project of the Savanna CRC has the aims of both assessing and providing options for managing structural change in woody vegetation in the northern Australian savannas. Recent legislative changes restricting tree clearing in Queensland have highlighted the need for better information about the extent and nature of woody vegetation change, and about how to manage woody vegetation structure in pastoral landscapes. Limited case studies to date have demonstrated that woody change is differential over broad regions, with thickening in some areas and thinning or no change in others. This spatial variability needs to be assessed using a set of tools that are applied consistently across the tropical north of Australia. Because they affect the tree-grass balance, both thickening and thinning are likely to impact on pastoral productivity and on habitat for biodiversity. Thus it is important to gain a more comprehensive understanding of the direction of change in savanna ecosystems, on a continuum from thickened to thinned vegetation, to try to assess the rate of this change, to document the native and exotic species involved, and to clarify the effects of a diverse range of causal factors on the balance between grass and woody vegetation in the savannas.

Regional vegetation response to spatio-temporal variability in South Australian rainfall
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Abstract

This paper focuses on spatial and temporal variability in South Australian rainfall during the past 50 years, particularly the changes in the onset of opening rains (ie the break of season) that has occurred in the period since 1960. Such a delay in the break of season could have considerable repercussions for regional wheat producers who depend on good autumn rainfall to provide planting opportunities for their wheat crop. In addition, we explore the widely held view that Goyder’s Line has shifted in recent years. Goyder’s Line is significant in South Australia because, since it was demarcated in the 1880’s by the then Surveyor-General George Goyder, it has effectively served to demarcate the pastoral zone from the cropping region. During periods of above average rainfall, farmers have tended to move north into the pastoral zone, only to have to retreat during the periods of below-average rainfall, such as the ‘dustbowl years’ of the 1880s. For this reason, spatial shifts in Goyder’s Line (which approximates the 250mm annual rainfall isohyet) could point to a degree of vulnerability for agricultural producers in this region. Finally, this paper examines the link between regionally averaged remotely sensed data (acquired from the Advanced Very High Resolution Radiometer sensor onboard the NOAA series of satellites and processed by the CSIRO Earth Observation Centre in Canberra), in particular the Normalized Difference Vegetation Index, and regional time series of annual rainfall and temperature over the State.
**Land management and its effect on land degradation and the rehabilitation of a degraded ecosystem.**

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**Abstract**

Severe land degradation has characterized the Krisuvikurheidi heathland in southwest Iceland for centuries. Long-term grazing has resulted in decreased biodiversity, vegetation and soil losses and serious soil erosion. Grazing intensity has diminished in the area during recent decades due to the decrease in traditional farming. However, a large part of the study area has degraded to the state that plant cover, soil structure, fertility, and biotic processes which modulate climate and nutrient fluxes are lacking. In these conditions a relaxation of grazing will not result in natural rehabilitation of the ecosystem and geophysical processes are dominating the system. Once the ecosystem has been reduced to this level of degradation, restoration options are expensive and management input has to be considerable in order to successfully reclaim the land. The purpose of this study was to evaluate the effect on the ecosystem of relaxation of grazing in the Krisuvikurheidi heathland and the effect of intensive land reclamation in the form of repeated seeding and fertilizing of degraded land during the last 10 years. Infrared aerial photographs from 1992 were compared with satellite images from 2003 and 2004 to map the changes. The intensive restoration input has resulted in increased vegetative coverage and stabilization of the soil surface. However, soil erosion continues to progress in areas with no intervention even though grazing intensity is very low.

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**Ethical or Invisible Trade: The effects of recent regulatory regimes on the garment manufacturing industry in Sydney.**

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**Abstract**

In recent years, ethical trade in the garment manufacturing industry has been brought into the spotlight by various industry and interest groups. The race-to-the-bottom logic of globalisation has ensured that fashion garments for the affluent are made in poorer less developed locations where labour is cheap and unions scarce. High profit margins at the top end and exploitative employment practices at the bottom end have shaped the fashion industry in the past and continue to inform the fashion cycle of the present. Yet these inequalities generate contradictions. They bring to the surface concerns over labour practices and human rights issues which can cause crises of governance and regulation for particular segments of the industry. This paper reports on how these processes have played out in the Sydney garment trade. Taking an economic geography approach which identifies the characteristics and contradictions of a globalised garment industry, the paper reviews the NSW government's Ethical Clothing Trades Extended Responsibility Scheme to underline the inherent limitations associated with State-based attempts to instil ethicality within the garment trade. Although the recent regulatory regimes have had some success in reducing the most obvious forms of unethical practice for those sectors of the garment manufacturing industry continuing to operate in Sydney, overall they have had depressingly meagre results. They have accelerated the continuing shift to offshore production in countries where regulation is less stringent, and rendered invisible local breeches of ethical production. Through this investigation, fundamental inconsistencies between the rhetoric and reality of ethical trade within the garment industry are exposed.

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**The Maori X-Files: Glocalization, Hybridity and Indigenous MediaSpace**

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**Abstract**

This paper analyzes Mataku, a New Zealand television anthology program produced with an eye toward the global media market. As its press kit explains, Mataku showcases “contemporary tales of the unexpected and unexplained” drawn from “the supernatural realm of the Maori culture.” According to its producers, Mataku is the first such dramatic program ever to be “written, directed and produced entirely by Maori.” Mataku revisits traditional Maori narratives that have circulated orally for generations and repackages those narratives within generic frameworks associated with such global TV hits as The X-Files, Buffy the Vampire Slayer and Angel. Mataku thus embodies aspects of both cultural globality and cultural hybridity on several levels. Its emphasis on the multiplicity of modalities through which “the old ways” assert their significance within contemporary life and its abiding interest in Maoridom’s distinctive connections to the land create a mediaspace for complex postcolonial negotiations between past and present, disenchantment and alterity.
**If you build it, will they come? The rise of urban villages in South-East Queensland**

Dr Allison Godber *, Qut  
Ms Maree Heffernan, Qut  
Assoc. Prof Laurie Buys, Qut  
Dr Karen Barnett, Qut  
Dr Evonne Miller, Qut  

**Abstract**

The population of Australia’s fastest growing urban region – South-East Queensland (SEQ), is expected to top 3.7 million by 2026. In line with this, the floor space within urban dwellings has been increasing, along with energy and water use. The regional plans aimed at managing SEQ’s growth identify the need to restrict the urban footprint and consolidate development into more compact forms that better integrate services, infrastructure and transport etc. Urban villages, compact mixed-use, pedestrian oriented developments, are earmarked for several Brisbane locations. The Kelvin Grove Urban Village (KGUV) is one such example of the new direction in planning for the traditionally suburban Brisbane and SEQ. Urban villages are envisaged to be viable forms of accommodation for many of the residents expected to be living within the SEQ by 2026, but will they reflect what the traditionally suburban residents want from their neighbourhoods? The purpose of this paper is to identify what residents think about urban villages, and the neighbourhood elements that would encourage/discourage them from moving to a new location, in light of the importance placed on re-orienting residential accommodation in SEQ towards mixed land-use and urban village developments. This paper is drawn from a quantitative study examining community perceptions of the KGUV. The study surveyed different stakeholders (residents, workers, students and development industry representatives) living and working in the Kelvin Grove area to examine knowledge of and perceptions about the KGUV concept and understand what stakeholders want from their neighbourhood. The findings suggest that urban villages will not suit everyone and might not be able to achieve the social mix envisaged by planners, instead, appealing to a niche market of young, single, university oriented residents.

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**The Implementation Of A Digital Versatile Disc As An Aid In The Teaching And Learning Of Map Work At School Level**

Dr. Aubrey Golightly *, Department Of Geography, Faculty Of Educational Sciences, Potchefstroom Campus. North-West University

**Abstract**

The paper describes the results of the study where the Digital Versatile Disc (DVD) as a variant of Information and Communication Technology (ICT) has been used as an aid in the teaching and learning of map work at school level. A group of Grade 10 learners of a previously disadvantaged school in South Africa were the target group in the project. The Geography learners were selected by convenience sampling as learners volunteered to take part in the project in their free time. The group of learners were divided in pairs and provided with a 7” portable flat screen DVD player and an interactive DVD. On screen text with spoken narration, maps, diagrams, pictures as well as learning activities were put on the DVD. The experimental group had two 1-hour sessions twice a week after school where they used the DVD as a supportive aid in map work. The learning activities were completed as group work and their work was assessed by referring to the answers on the DVD. A case study was used to collect data on the implementation of the DVD and the perception of the learners thereof. Qualitative analysis techniques such as field notes, observation, interviews with the learners, and questionnaires were used to analyse the effectiveness of the implementation of the DVD as well as the learners’ perception regarding the use of the DVD in Geography Education. The results of the study indicated that the Geography learners reflected a positive attitude towards the implementation of the DVD as an aid to teaching and learning. A learning environment was also created wherein the learners felt they were empowered to take responsibility for their own learning at their own time. Furthermore, the co-operative learning environment encouraged the sharing of ideas regarding certain aspects of map work and the reconstruction of own knowledge. Learners also indicated that the most positive aspect of the DVD was that they could refer back to certain problem areas of map work at any time.
"Matching Geospatial Concepts with Geo-Ed Demands"
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Abstract

The general application of geospatial knowledge to problem solving in everyday activities is at times limited by a lack of understanding of the geospatial concepts that are necessary to the problem solution process. For example, GIS are being used extensively throughout the world as a “most favored” problem solving method. But many users do not understand the complex abstract concepts in GIS and are still taught “buttonology.” Without an appropriate concept and task-based ontology, attempts to integrate Applied Geography into a K-12 curriculum will suffer the same problem faced by geographers generally throughout the recent history of the discipline. This is the problem of matching concepts and tasks with acceptable and known age and developmental levels that facilitate comprehension and use. Many school programs today (including the US Geography Standards) are guilty of this mismatching. They do not examine the “inherited structure and content” of a concept or task before introducing it. For example, the “maps” concept is introduced before concepts of “grid,” “coordinate,” “scale,” “legend,” “symbolization,” etc., whereas the reverse should be the case. Little prior testing has been done to see what levels of concept and task complexity can be reliably and validly introduced at what grade, and even less has been done to specifically examine which type of support system (low vs. high tech; verbal/written vs. map/graphic) is most appropriate to host such introductions. In this paper, we present a task ontology and empirical examples of K-12 and college testing of tasks to suggest the order in which concepts should be introduced. Since we develop a task-based structure, we also use these results to suggest the types of applied problems that can be profitably integrated into geographic (or other) teaching areas that will eventually produce ways of thinking and reasoning geospatially that support appropriate ways and means for solving applied geography problems in job-related scenarios.

Spatial Behavior And The Theoretical/Quantitative Revolution
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Abstract

The early years of the Theoretical/Quantitative 'Revolution' in Geography (during the 1950's, 1960's, and early 1970's) saw the introduction of normative models for agricultural location (von Thünen, E.S. Dunn), industrial location (Weber, Hoover, Lösch), urban systems (Christaller, Lösch), and spatial diffusion (Hägerstrand, Pitts, Morrill, Brown, and Pred) (among others). These models relied on special assumptions of economically and spatially rational behavior. Empirical research on locational decisions, decision making under risk and uncertainty, and consumer behavior using quantitative methods, quickly showed that most spatial behaviors were not strictly 'rational' in either a spatial or economic sense. These findings provoked further research into the behavioral basis of decision making and choice behavior. But there were no 'secondary' (already completed) data sets about how people made decisions that resulted in spatial actions or consequences. Thus, there was a necessary move from secondary to primary data sources (i.e., data compiled by survey, by experimenter observation, by conducting task-based experiments in laboratory or real world settings, and by gathering information on perceptions, attitudes, preferences, values, and beliefs). The data was often binary (Yes/No) or scaled (e.g., Likert or Semantic Differential) and was nominal or ordinal (rank) rather than being interval or ratio scaled. This meant that new experimental designs were needed (distinct from probability sampling of collected population data). New methods of analysis were needed for this type of data and other data that consisted of verbal statements, sketches, or model building. This extended the 'Revolution' to the non-quantitative domain for statistical analysis, and the non-probability domain for participant selections. The latter resulted in small n-sizes; the former in the introduction and use of exploratory rather than confirmatory statistical analysis (e.g., ANOVA; uni- and multi-dimensional scaling; hierarchical clustering; and graphic representation and reasoning processes). The result has been several decades of research into the processes of spatial thinking and reasoning, one of the most important research themes of this decade. Acknowledgement: Partial support during the production of this paper was obtained from NSF Grant # BCS-0239883 (Spatial Thinking) and UCTC Grant # SA4655 (Assessing Route Accessibility for Wheelchair Users)
Pounamu revisited: retaking old ground
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Abstract

Pounamu (greenstone, nephrite jade) is a prized possession of Ngai Tahu, the indigenous Maori tribe holding traditional authority over most of New Zealand's South Island. After being held for generations against the predations of other tribal groups, it was quickly lost to those who colonised Aotearoa New Zealand in the early 1800s. Title to the mineral was recently returned to Ngai Tahu and the tribe is now working to establish a sustainable development model that will deliver both commercial and culturally appropriate outcomes. As with other natural resources with which Maori had a detailed knowledge and intimate association prior to colonisation, the relationships between Ngai Tahu and pounamu were broken - almost completely - as a result of the land alienation and legislative reforms adopted by successive settler governments. Ngai Tahu was separated from its pounamu rights and interests, and the lands and rivers from which it was sourced. Since the 1800s the tribe has held no stake in the ~NZ$30 million p.a. pounamu artefact industry supplying international tourists, apart from the efforts of a small number of individual carvers. The formal return of ownership of pounamu was negotiated as part of the comprehensive redress received from the New Zealand government as settlement of Ngai Tahu's six generation old Treaty of Waitangi claim. This single act re-established, in what is perhaps an internationally unique transfer of mineral ownership to an indigenous people, the tribe's ownership relationship with the valued pounamu resource. But what should Ngai Tahu do now? This paper outlines the early steps taken by the tribe to address the resource management challenges associated with mineral ownership across a large geographical area. It also discusses current initiatives to re-establish a tribally-owned industry presence that is commercially sustainable while also being consistent with Ngai Tahu's cultural values. The paper also argues that the challenges contained within this economic development initiative are a good metaphor for the contemporary challenge of traditional resource-based indigenous tribal economic, social and cultural development more generally. Perhaps the next phase of Ngai Tahu's rapid tribal renaissance will also be leveraged by its traditional pounamu hinge?

Statistical Perspectives On Geographic Information Science
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Abstract

Statistical geometry has a long and distinguished history in mathematics, but its application to geographic information is relatively recent. I trace this history, focusing on the early work of Maling and its links to the fractal theory of Mandelbrot, and its later emergence as a framework for analysis of accuracy issues in GIS. While the statistical behavior of points in multiple dimensions is comparatively well understood, analysis of more complex objects, including lines and areas, is much more difficult and remains a major challenge. Recently much progress has been made in statistical aspects of geographic information science within a framework of geostatistics, and I summarize some recent results.

The Spatial Web: Visions For A Geographically Enabled World
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Abstract

The popularization of the Internet and the advent of the Web have had enormous impact on geographic information technologies, making it possible for researchers and the general public to access unprecedented amounts of information through digital libraries, clearinghouses, and geo-portals. Google Earth is only one example of a process of technological democratization that has occurred in the past two years. At the same time new positioning technologies have appeared to augment the power of GPS, including radio-frequency identification (RFID), and disciplines from geophysics to ecology and public health are embracing the power of small, cheap, and powerful sensors to collect real-time data on geographically distributed systems. I sketch a vision of a Spatial Web, in which objects in the world know and report their locations, along with useful information about their surroundings; this information is then collected and compiled by servers, and is redistributed to users. This vision has powerful implications for new kinds of science, for 'citizen science', for surveillance, and for many other areas of human activity. This technological vision must be tempered by the realities of institutions, human behavior, and politics, and by concerns for privacy. Geographers have a pressing responsibility to reflect on these technological developments, and to ensure their effective and responsible use.
Joint Dance: Geography and History
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Abstract

It is known that the students' interest to geography is going down. The questions are raised: why ? and what to do ? There is a sharp
conversion from a very simple integrated course of natural sciences at primary school to a rather complex course of phisical
geography at secondary school. This accurs when students are 11. Small children come to a geography lesson for the first time with a
great interest. Before they red a lot of books and watched TV about peoples, voyages, animals in different countries. They are waiting
just the same at geography lessons. But a deep disappointment is faced them. They should study the geographical coordinates,
different rocks, processes of evaporation and precipitation, monsoons, river activity and so on. Many questions they cannot
understand. As a result the negative attitude to geography is left for a long time. Taking into account this fact, the 'bridge' between
students' dreams and real geography science is suggested. The course 'Hystory of Geographical Discoveries and ideas' may surve as a
such bridge. Hystory and Geography are harmoniously joining in a single dancing. The course first of all has a fascinating nature. It
promotes to intercultural and global thinking and educating. Traveling along the geographical map, students simultaneously and
without any stress will train to work with a map: determonation of geographical coordinates, depths, altitudes, remaining in memory
the geographical names and so on. The structure of the course: 1. The origin of geography: voyages of ancient peoples; ancient
Greece, voyages of arabs, norcemans, novgorodman. 2. The Great Geographical Discoveries: Seach of ways to India; studies and
conquests in America, Siberia, Africa; studies of Southern Ocean. 3. The formation of geography: Russian and European studies in
Polar regions, Middle Asia, Africa, South America. 4. Studies of the XX-th century: studies of Arctica and Antarctica, the Ocean and
the Space; International Geophisical Year; the development trends of modern geography.

Gay and lesbian couples at home: identity work in domestic space
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Abstract

Social research into gay/lesbian experiences of home has tended to posit domestic environments as alienating for gay/lesbian subjects,
silencing their sexual identities. Meanwhile, work on the spatiality of sexual identity more broadly has largely focused on individuals
or communities, not couples or households. In this context, this paper aims to recover the importance of home for gay/lesbian couples.
I explore how cohabiting gay/lesbian couples generate shared identities through domestic space, examining various ways in which
these couples use homes to establish and consolidate their partnerships. Empirical data is drawn from 23 in-depth interviews with
gay/lesbian Australians who are cohabiting, or have cohabited, with a long-term partner. The sample is largely limited to white,
educated, middle-class gay men and lesbians living in urban Australia, providing an ethnographic window into the domestic identity-
formation of a particular community of practice. Four key themes regarding ‘coupled identities’ at home emerged from the interviews:
(i) the importance of privacy and control at home for enabling gay/lesbian partnerships; (ii) the negotiated creation and use of shared
domestic spaces; (iii) the accumulation and arrangement of household objects in those domestic spaces; and (iv) the importance of
maintaining separate ‘personal’ spaces for each partner for the well-being of the relationship.
The Israeli Negev: From Frontier to Periphery
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Abstract
Marginal regions often suffer from problems of distance from economic and political centers, sensitive and ecologically problematic environments, indigenous populations alienated from society and from the establishment, and difficulties in providing residents with food, energy, and educational and health services. Indigenous peoples in frontier regions are politically weak and characterized by social tensions vis-à-vis their country’s core, and they are usually not full partners in the development process. These sparsely populated regions often have natural resources which are exploited by outsiders. Wealth generated in frontier regions tends to flow out immediately, to be invested elsewhere, mainly in the core. The goal of visionary national leaders has often been to develop the frontier, and governments in most settler societies are directly involved in the development process in these regions, which are sometimes seen as a part of a “nation-building” process. In most cases the pursuit of such a vision of development has led to the opposite: exploitative “hit-and-run” policies that show little concern for long-term resource management, or sustainable development, have brought harm to the frontier and impeded its development. Often, the developed core also turns the frontier into its backyard, a place to dispose of wastes and hazardous materials, construct dangerous military installations, and even test destructive weapons. Israel’s Negev provides a pertinent example of all of these characteristics of frontiers and marginal regions. Since 1948, the slogan of making the desert bloom has remained only a slogan, and most recently the Negev has made headlines mainly as the dumping ground for wastes – toxic and otherwise – from the country’s center. Over the years, the Negev’s status has gradually but steadily declined from that of a frontier to that of a periphery. The transformation of Israel’s frontier into the backyard of the state, a struggling periphery, can be attributed to the country’s political system and mistakes in planning orientation. My presentation will focus on these issues with the Israeli Negev as the case study.

Climate Change Impacts on Remote Indigenous Communities in Northern Australia.
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Abstract
This paper will review CSIRO’s climate change projections for 2050 and 2100 for five regions of northern Australia that have high proportions of remote indigenous communities. These areas include: the Kimberley, Kakadu/Arnhem land, Gulf of Carpentaria, Cape York and the central arid lands. Relevant projected changes in temperature, sea-level rise, storm surges and rainfall will be outlined for these areas and their impacts noted. The paper then discusses how these projected biophysical changes could directly and indirectly affect the sustainability of some of these communities. The paper bases its discussions of impacts on the premise that there is a significant inter-relationship between the health of country, culture and the mental and physical well-being of many indigenous people living in remote areas. The paper reviews a second area of potential concern for the sustainability of these communities: that of indirect impacts that may arise from these direct biophysical climate change. Such impacts include reduced access or availability to water, changing bush food composition and their consequent impacts on the well-being of individuals and community cohesion. These impacts may have long term significance for social and economic sustainability of remote indigenous communities especially if they are coupled with pre-existing social and economic pressures. Finally, adaptation strategies for coping with these kinds of environmental change are briefly discussed. These strategies are important for considering how climate change might best be factored into decisions about infrastructure planning or economic ventures that rely to various degrees on environmental services in these communities.

Snapshots of participation: an elusive destination?
Ms Alison Greenaway *, Landcare Research

Abstract
You are invited to join me as I explore memorabilia gathered from recent small attempts at participatory research and planning. By sharing a few snapshots of my participatory research moments, I will use this opportunity to examine experiences of almost getting there, but not quite. Through this interactive presentation we will look at the popularity of participatory processes in various fields of environmental research and management. I will share with you my experiences of attempting shifts from participation in the dissemination of science, to participation in the production of scientific knowledge. The importance of reflective practice and resourced spaces for participation will be highlighted. Finally, please come to this session prepared to share tools for participatory processes. I will come with the small array I have managed to pick up on my journey so far, such as things people use before initiating participatory processes, to make sure the conditions exist which will enable them to be effective.
Less than Minor! The impacts of Raglan Townships wastewater treatment and disposal on the Tainui hapu of Whaingaroa.

Mrs Angeline Greensill *, University Of Waikato
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Abstract

In 1987 the late Evelyn Stokes wrote “Geographers who are bicultural have a role to play in researching the unequal power relationships that are a legacy of colonialism, and which will affect relationships between the dominant Pakeha culture and the indigenous Maori minority in future”. One of the areas of contestation where unequal power relationships can be easily seen in Aotearoa, (New Zealand) is in the management and allocation of resources by local authorities whose purpose is to “promote the social, economic, environmental, and cultural well-being of communities in the present and future”. This paper uses a case study approach to examine the conflicts that arise when a local authority approves resource use without taking into account the existing relationship and wellbeing of the local hapu (indigenous tribe) who are the traditional guardians of those resources. Since 1973, the Tainui hapu of Whaingaroa New Zealand have objected to wastewater discharges being piped through their land and into the Whaingaroa harbour mouth. While the local authority maintains that the impacts on the environment are “less than minor”, the Tainui hapu whose culture, beliefs and way of life are inextricably linked with the coastal environment, vehemently disagree. The paper traces the history of the wastewater utility and examines its impact on the Tainui hapu from the perspectives of several hapu members, including the author. It illuminates the indigenous relationship between people, culture and nature, concludes that Tainui have been significantly affected, and suggests strategies which may help resolve conflicts and build better understandings between the local authority and its indigenous community.

A GIS-based simulation model of Hantavirus seroprevalence in deer mice in the Western United States (Session 10 - Health and GISc)

Dr Amy Griffin *, University Of NSW @ ADFA
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Abstract

Hantavirus pulmonary syndrome (HPS) is a recently described rodent zoonosis that is transmitted from several rodent hosts to humans. HPS risk can be viewed as a cascade of ecological events and human behaviors that leads to higher human risk. When environmental conditions improve habitat quality for rodents, there is an increase in both rodent reproduction and survivorship. The increased density of the susceptible rodent hosts results in an increased frequency of contact with infected individuals, and thereby transmission within the rodent host population. The cascade ends with more frequent human/infected-rodent association that leads to spillover into humans. Here, I present results from a spatially-explicit geographical simulation model of Hantavirus transmission in mice that has been implemented in ArcGIS. The model incorporates a stage-structured Lefkovitch matrix and a time-series susceptible-infected-recovered (TSIR) model. The stage-structured Lefkovitch matrix describes juvenile and adult mortality along with the survivorship and maturation of juvenile rodents, based on environmental conditions extracted from AVHRR imagery, while the TSIR component describes the transmission of the virus among rodents.
**The Digital Karst Status Map for Coastal British Columbia (Canada)**
Mr Paul Griffiths *, Campbell River, British Columbia, Canada
Carol Ramsey, Victoria, British Columbia, Canada

**Abstract**
Karst landscapes associated with coastal temperate rainforests are globally rare, with notable occurrences limited to coastal British Columbia (Canada), Southeast Alaska, Tasmania, New Zealand (South Island) and Southern Chile. In British Columbia (BC), a 1:250 000 scale digital karst map was constructed as the first step in establishing the status of coastal temperate rainforest karst resources at a strategic level. The new map was derived from data compiled for reconnaissance-level karst potential mapping for BC, supplemented by current field information on the distribution and nature of coastal karst resources. Forest ages obtained from regional thematic baseline mapping data sets were used in conjunction with the karst potential data set to approximate, for the first time, the modification status of the karst. The end products of the project were regional map sets showing a.) the extent of the karst in the coastal temperate rainforest biome modified by primary deforestation; b.) the distribution of karst in all four biogeoclimatic zones found along the BC coast. The various digital karst map products will be used to produce a simple query-based web portal that can be used by anyone for karst planning and environmental status reporting at a strategic level as well as a wall poster designed to increase public awareness about karst resources in coastal BC.

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**The Demography of Rural Palestine in the Late Nineteenth Century**
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**Abstract**
At the onset of the nineteenth century Palestine was one of the most peripheral zones of the Ottoman Empire. It had practically no industry, no roads suitable for wheeled vehicles, no port, and no other infra-structural facility. Things were quite different by the end of the century. By then Palestine had become one of the leading destinations for pilgrims and tourists; it attracted Christians and Jewish settlers; and its economic development had already surpassed that of its neighbors. The present paper seeks to look at demographic and economic characteristics of Palestine’s rural people before the Jewish colonization in 1882. The main source for the demographic data is the Syria yearbook (salname) of 1871/2 (1288 h). Its data were compared with other contemporary sources and with other Syrian yearbooks. Numerous other sources, including scholar and laymen’s diaries, surveys and diplomatic dispatches, were also consulted. A critical evaluation of these sources revealed many shortcomings, but also suggested that the overall spatial picture was valid even though not always accurate. The findings reveal that contrary to the accepted view, some hills and mountain areas, e.g., the eastern Galilee mountains, the Hebron Mountains and the Carmel Ridge were sparsely settled. The Gaza zone and Galilee Plains were densely populated. The population density of the major cities increased substantially between 1872 and 1922 census. Northwestern Samaria was the densest rural zone, but the adjacent Sharon Plain was sparsely settled. The half-century 1872-1922 did not change this spatial pattern even though the density did rise. The overall growth rate was between 0.8% and 1.14% per annum. The rural population growth has not been matched by economic growth. An analysis of the agricultural density revealed that per-capita farmland was reduced and the fallahin’s conditions constantly deteriorated, leading in some extreme cases to as little as 0.005 ha per capita by 1945. The findings are in line with those of previous ones that indicate that the rising prosperity of the local elite (mainly the traditional Arab families, the political and religious leaders and the emerging merchant class) did not trickle down to the rural poor.

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**The Contested Water Margins of the Tonle Sap: The Politics of Space and Floating Livelihoods**
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Mr Mak Sithirth *, Fisheries Action Coalition Team, Cambodia & NUS, Singapore
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**Abstract**
We propose to examine some of the implications of both fisheries and agrarian transitions upon the rural and floating resource-based communities around the Tonle Sap (Great Lake) of Cambodia. We examine what these transitions mean in terms of 'floating', 'flooded' and 'shifting' livelihood sustainability. We are particularly interested in issues of commercialization, intensive territorialization, and the impacts of these developments on the competition for living and non-living resources. Our paper will draw upon recent fieldwork within three of six provinces around the Lake: Pursat, Battambang and Seam Reap.
'Landscape' and creativity - The example of the German Advertising Industry
Mrs Sarah Grzemski *, RWTH Aachen

Abstract

Over the past several years the idea of creativity has reached a new level of importance across a range of institutional settings. Studies demonstrate how creativity in cities has an impact on economic development. But: The generation of creativity needs a “creative landscape” itself! In connection with advertising, the term 'creative' is used to collectively identify a heterogeneous group of advertising professionals. The most frequent way of dealing with advertising as an economic activity is to classify it as a creative knowledge-intensive business service (KIBS). However, that only gives an idea about the qualification level, but not about the creative potential. The example of the German Advertising Industry is supposed to demonstrate that creative products are not only affected by personal ties, localities and corporate networks. The creative output – increasingly generated in context of temporarily limited project ecologies - is also influenced by the direct “landscape”. In order to understand the process of creating advertising, it is necessary to analyse the players in the creative processes as distinct segments, namely their relationships and their “landscape”, which describes for example the employment or the ambiance. Without the social and material infrastructure, the creative would not be able to mobilise their creativity. The presentation of selected examples should illustrate how far the “landscape” makes an impact on creative processes. Furthermore, the case will be made that the positive influence of the “landscape” has a concrete impact on creativity. Beside the influence of individual creativity, the development of advertising clusters will be a decisive aspect of the discussion. Finding better ways to develop the “landscape” for the process of advertising in order to improve the odds of creating truly effective advertising is therefore a major area of interest.

The Model of Coastal Resort Development in Transitional Economies of China: A Case Study in Dalian
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Abstract

China as one of the largest ocean nations in the world has rich coastal resource to develop coastal tourism. Its coastal zone has witnessed intensive economic reforms since 1978 when the country launched its open door policy and coastal tourism has undergone the transition from a centrally planned economy to a market economy. Dalian which is one of the earliest 14 opened coastal cities has undergone the political and economic transformation and hence it was chosen as a case study in this paper. Beach resorts in Dalian start from Japanese colonial period to present open and market-driven economy period and evolve from natural parks to theme parks or decline. Based on the investigation of dozens of coastal resorts in Dalian, a six phase resort development model is presented and the factors influencing changes from natural contexts to theme park or decline are analyzed. During the dynamic process, the physical environment, social and political contexts have changed greatly and in each stage, a set of factors: economic setting, social setting, morphology, physical environment, land use pattern, zoning, planning, policies, management approaches are considered to measure the changes. Additionally, four examples, such as Yangjia Beach, Xinghai Park, Golden Pebble Beach Resort, and Bihai Resorts are given to illustrate the changes in different evolutionary stages. This model also coincides with the evolution of many coastal resorts in other coastal areas of China and gives some hints for sustainable coastal tourism development in the future.
Quarrying impacts on the Fardrum and Roosky Turloughs SAC County Fermanagh, Northern Ireland, UK
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Abstract

Turloughs are topographic depressions in karst that are intermittently inundated on an annual basis, mainly from groundwater, and have a substrate and/or ecological communities characteristic of wetlands. They are markedly smaller than poljes and most do not have the extensive flat floor which is a characteristic feature of poljes. The Fardrum and Roosky Turloughs are located near Ely in County Fermanagh, Northern Ireland. The site comprises a group of three turloughs with Roosky Lough in the south, Green Lough to the north, and Fardrum Lough between the two. These are the only turloughs in Northern Ireland and are amongst the most northerly occurrence of these lake types in Ireland. The site is one of only two turlough sites in the United Kingdom, the other being Pant y Llyn in south Wales, and both sites are Special Areas of Conservation (SAC) under the European Union Habitats Directive. Roosky Quarry is situated between Fardrum and Roosky turloughs and has two parts, the “old” and “new” quarries. The old quarry is thought to have been first worked about 70 years ago and to have been dormant for about 30 years. The new quarry is thought to have been first worked around 50 years ago and to have been dormant until 2002 when blasting and stone extraction re-commenced under an existing planning permission that dated back to 1978. One of the conditions attached to this permission was that the maximum depth of excavation should not exceed the lowest part of the existing quarry floor and should not penetrate the water table. Our research, which was commissioned by the Environment & Heritage Service, demonstrated that this condition had been breached and that quarrying was impacting on the turloughs. Consequently legal action was taken resulting in a total cessation of quarrying. A long-term monitoring scheme has been established to determine whether remedial action is necessary to restore the site integrity.

Globalization of Power: Narratives and networks in the politics of scales
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Abstract

The dispute over power relationships involving states, multilateral organizations, the private sphere and other actors has been carried by a polarized debate focusing on either the desirability or destructiveness of globalization. A common assumption in the literature on globalization is that the spatial restructurings and rescaling of political organization taking place are both enhancing and enhanced by the increasing power of private capital, particularly multinational corporations. The explosion of foreign direct investment illustrates this point. While not denying this reality, we argue that the rescaling and reterritorialization taking place under the current processes of globalization also has other effects. The debate on the politics of scale is mainly concerned with new forms of state governance and the globalization of capital, theoretizations on “scaling from below” are just emerging. A case study of a conflict over mining in the small Peruvian town Tambogrande shows how the technologies and developments usually connected with globalization enabled the local farmers to stop a project that they perceived as a threat to their way of life. By networking with national and international NGOs, they constructed a narrative portraying the mining project as endangering Peruvian identity and violating democratic rights. The resultant international attention pressured the Peruvian government to stop the project. We argue that the interconnectivity of discourses and networks enhanced by globalization enabled this empowerment of traditionally marginalized actors. In turn, globalization should not predominantly be seen as either desirable or destructive, but as a restructuring of spatial relations and political organization that offers a redistribution of potential for dominance and resistance. ‘Rescaling’ as a political strategy for the traditionally marginalized must be considered in the theory on globalization.
'Environmentality' theory and the Kiwi experience: Subject identities and environmental governance in New Zealand since 1986
Dr. Julia Haggerty *, Food And The Environment University Of Otago
Prof. Henrik Moller, Department Of Zoology University Of Otago
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Abstract

Nearly two decades have passed since economic restructuring, radical decentralization of state authority, and comprehensive re-adjudication of indigenous rights converged to reshape environmental management in New Zealand. This paper offers a preliminary synthesis of the ensuing socio-environmental history in New Zealand focused on the social legacies of the devolution of environmental management authority to community- and regional-scale institutions. We deploy Arun Agarwal's concept of 'environmentality' (a transposition and expansion of Foucaultian ideas about 'governmentality') to case studies in wildlife management, agricultural production, and resource planning that include both. New legitimacy and inclusion of previously marginalized voices surface as clear legacies of devolved 'domestic' resource management -developments clearly linked to the processes of 'environmentality' suggested by Agarwal. However, we also suggest radically different outcomes in the production of food for export markets. We seek to delimit the differences across economically-bounded territories of 'environmental governance' that have led to different outcomes in terms of the empowerment of different voices and actors in the politics of resource stewardship in New Zealand and to point to 'winners' and 'losers' in various arenas. The experiences documented in these case studies also signal serious weaknesses in emergent 'devolved' forms of governance and indicate the need for future research to delve more deeply into questions of representation and the link between political and practical 'identities' in terms of the functions of the devolved environmental management model in New Zealand.

Where Is It And Why Is It There? : Gis And Its Potential Use In The Human Services Sector
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Abstract

The purpose of the present paper is to investigate stakeholder perceptions of the use of GIS as a potential tool in the provision of, and planning for, human services within an integrated or 'whole-of-government' environment. Policy shifts are increasingly requiring human service agencies to work collaboratively within and across geographic regions and funding boundaries, yet little is offered to assist agencies to both plan and provide for these integrated services. The present study uses a case study approach to examine the perceptions of service providers currently engaged in integration efforts regarding the potential of GIS to assist their agencies and sectors in service planning and provision. A series of GIS visualisations were produced and presented, in the context of a feedback session and four semi-structured interviews, to representatives of an inter-agency group specifically initiated to improve the integration of services for young people with complex needs. The data sets included demographic, social disadvantage and housing information related to the group's target population. The results suggest that stakeholders perceive that there could be advantages associated with utilising a GIS to present data at a regional scale, including the ability to: facilitate communication across organisational boundaries, provide justification for decisions made at the regional level, and to potentially construct boundaries in alignment with the characteristics of people and place. The stakeholders also perceived potential disadvantages, including: that individual services could be found to be incongruent with the needs of the region, that data could be misinterpreted and potentially constructed in a way that was unreliable, and finally that problems arising from the construction of artificial bureaucratic boundaries could be re-enforced. A number of key issues associated with the potential of GIS in the human services arena are proposed.
An alternative global urban system?: Spatial formation of International Non-Governmental Organizations
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Abstract
This study clarifies the spatial formation of International Non-Governmental Organizations called INGOs, and also shows strategies and factors upon which this formation is based. The researches on a global urban system have been well documented recently, and they have mainly focused their interest on the transnational corporations. INGOs, spreading across national boundaries, however, have grown to be one of the most important global actors. In the context of contemporary globalization, to investigate the spatial formation of INGOs is quite significant, as an unnoticed aspect demonstrating alternative global urban system. The main data used here were obtained from the interview with INGOs which have their office in Japan. From the analysis we can see that the location of INGOs and their organizational form are very different from that of transnational corporations. The spatial organization of the INGOs consists of an international stronghold that functions as a coordinating organization, and of autonomous local strongholds which plan and practice their own projects. The relations among strongholds are generally horizontal, flexible, and fluid, which is similar to network organization. Obtaining performance and legitimacy can be considered to be main factors which form such spatial organizations, and the various organizational strategies on multilayered geographical scales have been implemented. INGOs started, for example, an expansion of the spatial organizations worldwide, a creation of the regional networks, or an enhancement of the autonomy of local strongholds. Despite the fact that INGOs are non-governmental, national territories still have an influence on the formation of INGOs’ spatial organization. Furthermore, although INGOs do not necessarily have their own formal territoriality, their performance and legitimacy effectively function by utilizing national territories. In this connection, an alternative global urban system in terms of INGOs must be conceptualized as a network among cities depends on national territories.

Land Use / Land Cover of Shiggaon Town for Information: Using GIS &GPS
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Abstract
Mapping of towns and cities creating database using recent technologies has become more significant both as academic discipline and as one of the foundations for practical decision-making in governmental, administrative and commercial firms, and many other organizations both public and private are increasingly aware of real and importance of mapping of the towns or cities towards the solution of their problems. Hence, land use / land cover of Shiggaon town has been taken as a piece of research work. Shiggaon is a medium sized town with a population of 21,400 (2001) and located at malnad regions of middle Karnataka in Haveri district. The municipality, Public Welfare Department and Land Survey Departments of the town have no proper land record of the town. Hence, there is an urgent need of accurate land use / land cover mapping to know the amount of land used for various purposes and to generate information to make further planning. Global Positioning System (GPS) with higher accuracy, ERDAS Imagine and ArcGIS software are used to create administrative boundaries, land use of the town. The roads, drainage, and boundaries of the town have mapped by navigating with GPS, so as to get absolute position of topographical features. The data was downloaded, processed and analysed in computer with the help of ERDAS Imagine and ArcGIS Software. The spatial objects were digitized out of IRS-1D and topomap of Shiggaon town supplied by NRSA and Survey of India respectively. The final map of the town is prepared by overlaying all the layers generated. Finally, land use map was created interlinking all topographical features with attributes data of the town so as to keep this information for planning and development in future.
Your Husband Can't Fish: Gendered Bodies and the Spatial Politics of Fish Trade
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Abstract

The spatial organization of economic transactions is not geographically neutral. Rather, as a study of fish markets and fish marketing in southern India reveals, networks of exchange are embedded in local social and cultural processes, and as such are infused with geographical signification in the imaginations of individual fish traders. Notions of identity play a prominent role in these imaginations and shape the borders of belonging that different groups of traders draw vis-à-vis one another. Such borders in turn create different spaces in which men and women carry out their trading activities and create a politics of fish trade that govern men and women’s relationships to the fish economy as a whole. Fish markets and fish marketing mean different things to different groups of trader. This paper will first explore the interplay of gender, community and native place in constructing identities among petty fish traders in a southern Indian marketplace. It will next examine how these identities inform economic interactions and constructions of space within fish marketing and delineate the gendered spatial politics that govern relations between men and women fish traders and their connections to fish marketing networks and processes. Central to this analysis is an understanding of the factors that construct individual traders as insiders and outsiders and consequences individuals face when they “cross borders.” I conclude by arguing that an understanding of identity and the contexts of identity-formation is critical to socio-economic analysis and interpretations of the role of gender in economic transformations.

Groundwater Pollution At Ditengteng Northern Cemetery North Of Pretoria, South Africa
Prof J. Tertius Harmse *, University Of Johannesburg
Mrs Keneilwe B. Tumagole

Abstract

Death, being a sensitive issue, results that the negative environmental impacts of corpses remain outside the mainstream environmental critique. In South Africa we find diverse practices with respect to death and burial. A sustainable development approach needs to be applied to these, and best environmental options should be adopted with a sensitivity towards the variety of cultures. As urban developments increase, available space for cemeteries decreases. Of 28 cemeteries in the Municipality of Tshwane, 13 are filled to capacity. A significant increase in deaths due to HIV/AIDS is creating problems for already stretched cemetery facilities throughout South Africa. Incorrectly positioned cemeteries have a severe water pollution potential. Leachate produced is of pathogenic nature and can pollute surface and groundwater sources if situated in close proximity to it. In black rural areas, the positioning of cemeteries were prior to 1994 determined by tribal chiefs. These now risk potential health hazards to groundwater resources and its users. This study determines the chemical and microbiological impacts of one such incorrectly positioned cemetery on groundwater quality. Groundwater samples were collected and analysed. Chemical analyses indicate that the turbidity and colour of the water do not comply with Guidelines for Drinking Water. Microbiological analyses indicate that the water is of such a poor quality that even a once-off intake could lead to serious health problems. Despite this, the black community at Ditengteng use this water since treated piped domestic water is not available. This study proves that an incorrectly positioned cemetery can lead to the contamination of groundwater. Contamination at the study area is restricted to the shallow groundwater zone, and the pollution plume seldom impacts beyond the boundary of the settlement.

Flood assessment of Mekong Delta in Cambodia
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Seiichirou Oketani, The Univ. Of Tokyo,Graduate School Of Frontier Sciences

Abstract

The inland Mekong River Delta in Cambodia is one of vulneranle delta suffered by severe flooding with long stagnation in monsoon season. Regarding the flooding characteristics of this study area, we tried to continue monitoring of flooding propagation of the inland Mekong river delta related with each micro-geomorphologic land form on the geomorphologic land classification map prepared utilizing remote sensing data. The result is followng:the NRCS value prepared by image analysis and geomorphology is clarified by field investigations, and the flood risk was evaluated as four level by using this map. Definition of risk is as fallow FRisk 0 is the area where flood is not affect GRisk 1 is the slight flood-influence area, GRisk 2  is a place out of which the damage by the flood tends to come GRisk 3 is a place where the danger of flood in very high. Lastly, Geomorphologies were re-classified on the basis of four-level flood risk.
Cyclones and Coastal Management in Major Urban Centres of Tropical Australia
Professor Nick Harvey *, The University Of Adelaide
A/Professor Kevin Parnell, James Cook University
Dr Scott Smithers, James Cook University

Abstract
Recent studies show an increasing destructiveness for tropical cyclones/hurricanes and a greater number of category 4 and 5 events over the last few decades. The impact of unusually intense hurricanes such as Katrina in the United States, has prompted calls to modify coastal management strategies. In Australia, under enhanced greenhouse conditions it has been predicted that coasts are likely to be affected by increased tropical cyclone intensity in addition to impacts from a projected rise in sea-level. Geomorphic evidence of a higher number of pre-historic category 5 cyclones in tropical Australia suggests the predictions may be conservative. This paper examines the extent to which potential impacts from tropical cyclones have been incorporated into the coastal management strategies for urban centres of northern Australia with a focus on the four major centres of Townsville, Cairns, Darwin and Mackay. These urban coasts are diverse in terms of tidal range, sediment supply, wave climate and the extent of urban infrastructure and level of risk to property and lives. In addition, each urban coast has a different historic legacy of cyclone impacts. Coastal management strategies for each urban centre are outlined, within the context of historic coastal impact of tropical cyclones and relevant planning and coastal engineering studies. The paper discusses the different coastal management responses to potential cyclone impact and draws conclusions on the extent to which these have been influenced by coastal processes, legislation, community involvement, and institutional frameworks.

Regional Targeting for Poverty Alleviation in Malaysia
Dr (Mrs) Norhaslina Hassan *, University Of Malaya

Abstract
Malaysia takes pride in her relatively successful achievement to drastically reduce the incidence of poverty and lessen income inequality while achieving rapid economic growth and maintaining racial harmony. Evidently, the pattern of spatially uneven development that prevailed in Malaysia towards the end of 1960s was the underlying cause of the racial riots which was followed immediately by the New Economic Policy (NEP). Broadly, the NEP seeks to eradicate poverty irrespective of race and restructure Malaysian society so as to eliminate the identification of race with occupation. Perhaps the most central argument for intervention in the sense of region is that regional boundaries tend to coincide with most economic, social and institutional spheres in Malaysia. For more effective implementation of anti poverty programs, regional or geographic targeting is thought to be one of the more viable approaches to allocate resources since it minimizes leakages by identifying who are the poor at a more spatially disaggregated level. This paper discusses the relevancy of regional targeting for poverty alleviation in Malaysia in the context of changing spatial distribution of poverty and ethnicity there.

Religion and Marginal Regions in Czechia
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Abstract
An example of Czechia as a state with a strong representation of population of non-denominationalists will be analysed the role of religion and religious objects within the regional development in the marginal regions. In the year of 2001, almost 60% of the entire population said that they were not religious. Even though the population is more and more secularized, religious objects in the country show a partial sacralization which is however contingent historically (Sudetenland) or culturally (the influence of the government). The regional level will be put the accent on the regions in Czech borderland with the expatriation of German. In these regions got after the World War II to the complete change of population which should the consequences also the strong changes of religious demonstration in the landscape und society. This change shows the regional differentiation and also the transformation of the religious objects. After the fall of Iron Curtain 1989 begins it develop the surprising paradox. On the one hand comes to the continual restoration of religious objects and signs in the peripheral regions of Czech borderland (sacralization of landscape) and on the other hand show these peripheral regions deepening secularization of the society.
Les dynamiques régionales en Tunisie: de la régionalisation à la métropolisation
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Abstract
La communication se propose de retracer l'évolution de l'organisation spatiale de la Tunisie durant la deuxième moitié du XXe siècle et de mettre en relief les aspects majeurs des dynamiques récentes et des problématiques qu'elles posent. Avec l'Indépendance, le territoire tunisien adopte une nouvelle configuration spatiale correspondant à celle de l'Etat-Nation hiérarchisé en trois niveaux (national, régional et local). Durant les cinq décennies suivantes, la situation géographique, les types de peuplement, les structures sociales et le potentiel économique ont contribué à l'affirmation d'une autre logique spatiale animée par des dynamiques aux rythmes et aux formes différenciés. La première dynamique traduit la formation d'un gradient littoral oriental- Bande intermédiaire- Bande occidentale. Ce gradient s'exprime par une série d'indicateurs économiques et sociaux, de plus en plus dégradés en allant vers l'ouest et ce, en dépit des différents programmes de développement. La deuxième dynamique s'exprime par l'affirmation d'une dynamique métropolitaine autour de la capitale, Tunis, et dans la région du Sahel. Favorisée par la situation littorale, la densité du peuplement et le dynamisme social, elle s'exprime par la croissance et la diversification des activités, particulièrement celles orientées vers le marché mondial. La troisième tendance, en œuvre dans le reste du pays, s'exprime par l'affaiblissement du niveau régional et l'émergence de dynamismes locaux dans plusieurs secteurs de la bande médiane, mais également dans certains lieux de la bande occidentale. La communication se propose de relever ces différentes dynamiques et de montrer la diversité des rythmes, des formes et des facteurs et montre les problèmes méthodologiques posés par leur étude. English Translation (by http://world.altavista.com/tr): The communication proposes to recall the evolution of the organization spatial of Tunisia during the second half of XXe century and to highlight the dynamic major les aspects recent ones and problems that they posent. Avec Independence, the Tunisian territory adopts a new configuration spatial corresponding to that of the State-Nation hierarchized into three levels (national, regional and local). During the five following decades, the geographical situation, the types of settlement, the social structures and the economic potential contributed to the assertion another space logic animated by the dynamic ones with the rhythms et to the forms differences. La the first dynamics represents the formation of a gradient Eastern- Bande Littoral intermediate Bande Western. This gradient is expressed by a series of economic and social, increasingly degraded while going western vers l’ and this, in spite of the various programs of development. The second dynamic one is expressed by the assertion of a metropolitan dynamics around of the capital, Tunis, and in the area of the Sahel. Supported by the situation littoral, the density of the settlement and the social dynamism, it is expressed by the growth and the diversification of the activities, particularly celles orientées towards the world market. The third tendency, in'uvre in the rest of the country, is expressed by the weakening of the regional level and emergence local of dynamisms in several sectors of the median band, but également dans certain places of the band occidentale. La communication proposes to raise these different dynamic and from monitor the diversity of the rates/rythms, the forms and the factors and shows the problèmes méthodologiques ones posed by their étude.
Making Geographic Findings Matter
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Abstract
Applying geography is not just using geography and geographic procedures and principles in relevant research. It includes being concerned and sensitive to local circumstances and making the research methodology and findings open and transparent. This includes reporting on results that may be controversial and assuring that the data, procedures and interpretations are open to all interested parties. As the famous political scientist and budget analyst Aaron Wildawsky once wrote this is learning to 'speak truth to power'. It is something that we do not teach our students and often only comes with considerable experience. Often feedback on the impact of results is rapid and easy to measure but at other times results have long gestation periods and only become important as they are accumulated with other findings (i.e., preponderance of evidence). This is where meta-analysis plays a critical role. However in all cases it is 'evidence' based research that is central to making geography matter in the real world.

Water Resources Sustainability and China’s “Go-West” Campaign
Professor Chansheng He *, Western Michigan University

Abstract
The Chinese government has launched its “go-west” campaign in recent years to improve the economic disparity between the west and east regions of China. Will the limited water resources in the west be able to support the development campaign? How would such development impact the ecosystems and environment of western China? This paper analyzes China’s water shortage and pollution problems and discusses their implications to China’s “go-west” campaign. The paper first assesses the impacts of the water resource problems on China’s economy and environment, and then discusses the necessity of demand management in alleviating western China’s water shortage problems. Finally the paper makes the following suggestions to China’s “go-west” campaign: 1) Implementation of mandatory environmental education programs for shifting citizens’ paradigm on environment; 2) Enforcement of environmental policy and regulations for environmental protection; 3) Establishment of water rights and proper water pricing; 4) Promotion of government policy-guided market economy; 5) Enhancement of capital investment for improvement of basic infrastructures; 6) Extension of both formal and informal education enterprises for human capacity building and for environmental protection. Key words: Water shortage; western China development; sustainability; demand management; water rights and transfer; and pollution control. Submitted for IGU C04.34 Water Sustainability

Nature, culture and landscape: an ethnography of environmental managers in Skåne, southern Sweden
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Abstract
The landscapes of Skåne are the most densely occupied in Sweden and preserve a signature of human activity dating back thousands of years. This is the sort of place the term 'cultural landscape' was coined for. Does this mean professional managers of the landscape have a more integrated understanding of nature/culture relations than they might in Australia, where a strong separation of nature and culture has informed protected area management? We are interviewing a key set of managers employed by Länsstyrelsen to find out. The project is cross-cultural in several ways, including that the collaborators are an Australian geographer and Swedish Quaternary landscape scientist.
Researching and Evaluating Active and Inquiry-Based Learning in Geography in Higher Education

Prof Mick Healey *, University of Gloucestershire
Carolyn Roberts *, University of Gloucestershire

Abstract

There is a growing literature indicating that active and inquiry-based learning are effective ways to promote student learning when appropriately designed and facilitated. This paper explores how the Centre for Active Learning in Geography, Environment and Related Activities (CeAL) at the University of Gloucestershire is researching and evaluating active and inquiry-based learning. CeAL was established with the goal of becoming an international centre of excellence reviewing, developing, promoting and embedding active learning. It is funded through the Higher Education Funding Council for England’s Centres for Excellence in Teaching and Learning Initiative. The Centre has attracted £4.5m for a five-year programme. The Gloucestershire approach to active learning focuses on inquiry in the field, studio, laboratory and classroom, using real sites, community-related and employer linked activities. This approach enables students to construct theoretical understanding through reflection on practical activities and extends principles of experiential learning by designing environments that include ‘performances of understanding’ which are closely aligned to desired learning outcomes. We conceptualise research and evaluation as overlapping activities which fall along a continuum. Using examples of CeAL supported projects, the paper indicates how the activities of CeAL may be mapped along this continuum and applied at levels from the module through the course to that of the institution and discipline. This will inform discussion into the organisation of pedagogic research and evaluation into active and inquiry-based learning. The paper concludes with a discussion of some practical and conceptual issues including: identifying the focus for research and evaluation, volatility of the data, developing pedagogic research capacity, establishing baseline data, and student overload.

Changing Institutions: Refugee Centres and Integrating Refugees

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Abstract

This paper combines literature on governance with that on asylum seekers and refugees to understand how institutions around refugees change over time. The organisation of a refugee centre provides an example of how institutional frameworks may change through the passive and active interpretation of ‘rules’ by people working within the institution of immigration. The process of interpretation of protocols can lead to change of the governing institutions. The changes in institutional rules can occur gradually at different levels through the actions of people who work inside the organisation, or people who have dealings with that organisation. The case study is used to illustrate how employees and volunteers at the centre ‘push’ against the government legislation designed to integrate refugees in the UK. This involves ‘bending the rules’ or interpreting legislation in order to provide the best support they can to their asylum seeker and refugee clients. Through complying with the institutional framework, workers maintain the current protocols of the institution. However, through actively countering the guidelines, or through passively interpreting the guidelines differently from how they were intended, the workers of the refugee centre affect the process of change within the centre and the structures that govern it. Changes in practice within institutions may have implications for policy development and implementation. In the refugee centre the interpretation of the institutional framework may have implications for future public policy relating to asylum seekers and refugees in the UK.
Processes Consolidating Regional Structure - Double Citizenship in Silesia Region
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Abstract

The aim of the paper is to analyse problems relating to functioning of the multiple citizenship principle using the example of double citizenship of a part of the Silesia region inhabitants. The emergence of the diversified structure of the Silesia region population from the point of view of the citizenship status is a consequence of complex historical processes. As a result, two different population groups remained in the region. They preserved a certain scope of socio-economic integration, which manifested itself as the German minority movement, double citizenship and a network of external migration relations characteristic for Silesia region. The interest in the citizenship problem increased considerably especially in Europe where the question of citizenship gains a specific importance in face of the progressing integration processes. The problem of multiple citizenship is relatively new but gaining importance dynamically. This precedential situation shaped by factors of historical, political and legal character cause that only there is the biggest consolidated group of Germans living outside Germany in Southern Poland. It also meant that it was the biggest group of the European Union citizens living outside the EU before Poland’s accession to the EU. The German citizenship is used manly for taking up a legal job in the EU countries. Due to the sizeable economic migration of persons in the production age a meaningful amount of labour resources is absorbed from the Silesia region labour market thus mitigating the unemployment situation. At the same time, economic migrations cause transfers of incomes to Poland, which is very important. It stimulates consumer demand for goods and services in the region.

Vulnerable regions of Finland in population adn economic development - Is immigration the response for them?
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Abstract

Population aging has emerged as one of the essential problems facing the developed countries, and consequently the problem posed by the elderly population is gaining increasing importance when considering the future development of the society. On an international scale the share of the elderly (65+) of the total population is still relatively low in Finland, but their number is projected to rise very rapidly. Natural population development and especially country-internal migration has occupied an important position in shaping regional patterns of settlement. The land area where a half of the population in Finland is living has diminished in the long run. Population development is the base for the economical development in the regions and some of them are winners in this process, and some are struggling with both natural population decrease and negative migration balance. This article deals with unbalanced regional development of Finland and shows which regions are vulnerable in population and economic development. The paper is asking also the question if immigration could be the solution for this problematic ageing development in different parts of the country. The study data consist of different statistics and the recent gross-stream data bought from Statistics Finland. The article is based on on-going ESF-anticipation project “International migration, need of labour and effects of immigration on education supply in Finland”. Supply of the labour force will begin to decrease in Finland and there will be shortage of labour. According to projections the number of people leaving working life because of retirement and death is around one million between 2000 and 2015. Finland will need increasing numbers of immigrants, initially to fill open positions as the baby boom generation reaches retirement age, later to provide them with adequate care.
**Effects of the Climatic Changes on the Tunisian coasts: Vulnerability with the rise accelerated in the sea level /Effets des Changements Climatiques sur les côtes tunisiennes : Vulnérabilité à l'élévation accélérée du niveau de la mer**

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**Abstract**

En Tunisie, les études archéologiques ont montré que l'élévation du niveau marin enregistrée au cours des temps historiques a été à l'origine de modifications, parfois importantes, dans la position du rivage et dans la morphologie de la côte. Des espaces continentaux ont été perdus, par érosion ou par submersion au profit de la mer. Des terres ont connu une dégradation par salinisation Les prévisions faites par les climatologues en fonction des 6 scénarios IPCC prévoient à l'horizon 2100 une élévation probable du niveau de la mer de 38 à 55 cm. Avec les Changements Climatiques, l'élévation accélérée du niveau de la mer, l'évolution des côtes tunisiennes doit continuer, sans doute en s'accélérant. L'élévation probable du niveau de la mer au cours du siècle à venir aura de profondes conséquences sur les systèmes naturels et aménagés et sur les économies nationales. Son impact affectera d'avantage les pays en développement comme les pays du Maghreb en général et la Tunisie en particulier à cause de l'importance de son secteur littoral. Nous essayons de présenter dans cette étude : 'Une estimation des caractéristiques futures du niveau de la mer sur les côtes de la Tunisie ' l'état actuel des secteurs et des espaces tunisiens pouvant éventuellement être touché par l'élévation du niveau de la mer, surtout que le littoral, par sa morphologie et par sa position majeur dans le cadre du développement socio-économique, est potentiellement très sensible à l'EANM aussi bien du point de vue sectoriel que des écosystèmes. ' Une évaluation des impacts probables de l'élévation accélérée du niveau de la mer due aux Changements Climatiques sur les espaces et les secteurs économiques vulnérables. ENGLISH TRANSLATION Summary: In Tunisia, the archaeological studies showed that the rise in the marine level recorded during historical times was at the origin of modifications, sometimes important, in the position of the shore and the morphology of the coast. Continental spaces were lost, by erosion or immersion with the profit of the sea. Grounds knew a degradation by salinisation the forecasts made by the climatologists according to 6 scenarios IPCC envisage at horizon 2100 a probable rise in the sea level from 38 to 55 cm. With the Climatic Changes, the rise accelerated in the sea level, the evolution of the Tunisian coasts must continue, undoubtedly while accelerating. The probable rise in the sea level during the century to come will have deep consequences on the natural and arranged systems and the national economies. Its impact will affect of advantage the developing countries like the Maghreb countries in general and Tunisia in particular because of the importance of its littoral sector. We try to present in this study: ? An estimate of the future characteristics of the sea level on the coasts of Tunisia? the current state of the sectors and Tunisian spaces possibly being able to be touched by the rise in the sea level, especially that the littoral, by its morphology and its position major within the framework of the socio-economic development, is potentially very sensitive to the EANM as well from the sectoral point of view of the ecosystems? An evaluation of the probable impacts of the rise accelerated in the sea level due to the Climatic Changes on the vulnerable spaces and economic sectors.

**Kaikōura: Creating a bicultural marine resources space: a rūnanga perspective**

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**Abstract**

The recognition and application of Indigenous ecological knowledge is becoming an important element in many resource management systems. Yet the ability of Indigenous peoples to implement appropriate management methods is often restricted or not recognised within national and local resource management regimes. In coastal areas, issues are often more complex as the public 'commons' framework can pose many dilemmas for Indigenous peoples as they attempt to exercise their self-determination in their aspirations to control their marine territories and associated resources using traditional management methods. In Kaikoura, located on the east coast of the South Island, New Zealand, there have been increasing pressures on the coastal environment and marine resources through the expansion of tourism in the region as well as poaching. Concerns over marine resource depletion has created a space for Kati Kuri, the Ngai Tahu runanga that holds manawhenua/tribal authority over affairs in the area, to begin actively developing a management strategy, incorporating socio-cultural values as well as biophysical components, in cooperation with government, fisheries stakeholders and community agencies to ensure runanga aims of maintaining adequate marine resources in the area for future generations are met.
Student experiences of “Ako”: Maori concepts of education for Geography in Higher Education.
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Abstract

The New Zealand Government and its education, health and welfare sectors have increasingly focussed their attention on the gaps between Maori and non-Maori, and in particular, Maori failure within the current education sector. Research suggests that while this has created a sense of despair and sometimes panic among Maori and Pakeha educationists and social commentators, it has however, taken a long time for those who work within the system to appreciate that the ways in which education services are delivered may in fact have ‘failure’ written into their outcomes. Additionally, the literature notes that of research focussing on Maori students educational outcomes, numerous reports have been written in the tradition of tracking disparities, but these reports offer little in the way of identifying what action could be taken to improve the current situation.  This research addresses the disciplinary and institutional discourses of geography and geography education in a tertiary institution by analysing student experiences of a class that is taught within the basic principles of Ako. The methodology and theories that underpin this research included the dominant themes of constructivism, post-structuralism and Kaupapa Maori research. This was achieved by participant observations and examining student experiences of the journeys they undertook.  Ako was found to benefit Maori students, and shown to be inclusive of all ethnicities. The participants themselves all noted the benefits of attending this class, but more importantly, students stated that they achieved far more and were further extended in this class, than any of their other honours level classes undertaken using more tradition European teaching methods. I would encourage those involved in education in Aotearoa/New Zealand to use the principles of Ako. This study has demonstrated that it is not only possible to teach using Maori educational concepts such as Ako, but it is immensely rewarding for staff and students.
Effects of the Climatic Changes on the Tunisian economy: Vulnerability and adaptation of the agricultural sector

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Abstract

L'agriculture conserve toujours une grande importance dans l'économie tunisienne malgré le développement des autres secteurs économiques du pays. Elle occupe 28 % de la population active et contribue à 12% du PIB (2003). Mais c'est une agriculture qui souffre des contraintes climatiques, notamment de l'indigence de la pluie, de sa grande variabilité, de la fréquence et de l'ampleur des situations extrêmes ainsi que de l'étendue des terres arides. Son importance sur le plan socio-économique, le poids du climat et l'ampleur des changements climatiques prévue pour la rive sud de la Méditerranée, font de l'agriculture tunisienne l'un des secteurs économiques les plus vulnérables aux Changements Climatiques surtout que le pays présente une faible capacité d'adaptation. La vulnérabilité, d'après le GIEC (2001) est ' le degré auquel un système est sensible ou incapable de résister aux effets défavorables du changement climatique, notamment à la variabilité et aux extrêmes climatiques. La vulnérabilité est fonction de la nature, de l'ampleur et du rythme des changements climatiques auxquels un système est exposé, ainsi que de sa sensibilité et de sa capacité d'adaptation '. Plusieurs indicateurs permettent d'évaluer la vulnérabilité du secteur agricole aux CC. Le GIEC (2001) propose les indicateurs suivants : - le rendement, les coûts des produits, - la production, - le revenu, - le taux d'érosion, - la demande d'irrigation. Il est à noter que les informations nécessaires pour conduire une étude fignolée de la vulnérabilité du secteur agricole en Tunisie ne sont pas toutes disponibles. Pour cette raison, nous focalisons sur les principales cultures et comme variables climatiques dont l'évolution risque d'affecter ces cultures, nous retenons des bilans hydriques agroclimatiques et les événements extrêmes. Un volet de cette étude sera consacré aux options d'adaptation possibles du secteur agricole tunisien aux Changements Climatiques. L'adaptation (ou l'adaptabilité) est la mesure dans laquelle les systèmes sont capables de s'ajuster aux nouvelles conditions climatiques ou de les anticiper. ENGLISH TRANSLATION: Agriculture always preserves a great importance in the Tunisian economy in spite of the development of the other economic sectors of the country. It occupies 28 % of the working population and contributes to 12% of the GDP (2003). But it is an agriculture which suffers from the climatic constraints, in particular of the indigence of the rain, its great variability, the frequency and the extent of the extreme situations as well as extent of the arid grounds. Its importance on the socio-economic plan, the weight of the climate and the extent of the climatic changes provided for southern bank of the Mediterranean, make Tunisian agriculture especially l`un the economic sectors most vulnerable to the Climatic Changes that the country has a low capacity of adaptation. The vulnerability, according to the GIEC (2001) is 'the degree to which a system is sensitive or unable to resist the unfavourable effects of the climatic change, in particular with variability and the climatic extremes. The vulnerability is a function of nature, the extent and the rate/rhythm of the climatic changes to which a system is exposed, as well as its sensitivity and of its capacity of adaptation '. Several indicators make it possible to evaluate the vulnerability of the agricultural sector with the DC. The GIEC (2001) proposes the following indicators: - the output, - costs of the products, - production, - income, - the number of people prone to the risks of famine, - the rate of erosion, - the request for irrigation. It should be noted that information necessary to lead a finicked study of the vulnerability of the agricultural sector in Tunisia is not all available. For this reason, we focus on the principal cultures and like climatic variables whose evolution is likely to affect these cultures, we retain hydrous assessments agroclimatique and the extreme events. A shutter of this study will be devoted to the possible options of adaptation of the Tunisian agricultural sector to the Climatic Changes. The adaptation (or adaptability) is the extent to which the systems are able to be adjusted in the new climatic conditions or to anticipate them.
Ruling Through Difference: Governing Public Drinking in Palmerston North and Martinborough, New Zealand
Dr Matthew Henry *, Massey University

Abstract

Liberal governance has traditionally supposed a theoretical equality between its subjects; whilst in practice being characterised by the intersection of subjects and space in a rule of difference. The rule of difference associated with the practice of liberal governance and the associated production of space(s) of rule has provided a means of maintaining the formal quality of liberalism; whilst enabling complex regimes of difference to be enacted over individuals. Drawing on the work of Marianne Valverde, and Mitchell Dean’s explorations of governmentality, this paper examines the governance of the consumption landscape produced during Martinborough’s Wine and Food Festival, and in Palmerston North’s Central Business District. The paper situates these two places within a broader context of socio-economic change in New Zealand, and the specific contemporary problematisation of public alcohol consumption in New Zealand. The paper identifies contrasting regimes of governance attached to each of these places, and suggests that the emergence of these different regimes can be linked to a series of ontological claims about the putative ‘character’ of the places, and the symbolic capital attached to those activities occurring within them. Through this comparison the paper argues for a consideration of the mundane moments of governance through which public space is produced according to a complex, and shifting typology of difference.
Constructing a Framework for the Analysis of Complex Geographical Systems
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Abstract
Within the last few years, there has been an increased interest in understanding complex geographical systems. For example, Manson (2001) presented a detailed review of complexity theory along with a typology of complexity stating that “it is necessary to move beyond the hyperbole and critically examine the nature of complexity research”. O’Sullivan (2004) presented ideas to promote discussion in complexity between different disciplines whilst Batty and Torrens (2005) set out issues for modelling complexity along with implications for testing and validation. These and other studies have detailed the theoretical background of such systems, however, there is still a considerable need to elucidate and develop the practical methodologies that will be needed for their analysis. We propose/demonstrate an integrated approach for modelling complex geographical systems that draws its methodology from both established geographical methods and novel complex systems techniques. The approach builds on familiar data analysis techniques, through suites of techniques familiar to geographers (geographically weighted statistics; geostatistics etc.) to the less familiar tools of complexity analysis. Within this paper, we present and discuss the results of the application of this framework to a complex geographical system - specifically, a retail market. By focusing on the place of the individual elements and their effect on geographical systems, it is hoped that such frameworks will move geography away from the “aggregate statistics” view of the world to a viewpoint of greater discernment and veracity.

A comparison of traditional and AI based spatial interaction models for predictive modelling
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Dr Gary Diplock, GMap, UK
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Abstract
In the 1980s and 1990s a number of modellers argued that we needed to rethink the kitbag of techniques we currently have. The central question was can we produce better models given better computer technology. Diplock and Openshaw for example, argued that whilst spatial interaction models had stood the test of time there was no reason to believe that current state of the art models were the most appropriate. They developed new models based on inductive methods. Thus, models were generated that best fit existing data sources. In most cases these models produced a better fit against real data sources than traditional models although the variables were harder to understand in behavioural terms. The aim of this paper is to further explore the performance of these deductive and inductive models by evaluating their use in forecasting. A key question is if we cannot interpret the variables produced by the inductive models how reliable can these be when the model is used to examine what-if kind of impacts? Both models will be tested for their ability to predict the impacts of new retail developments.
Neuroevolution Tools for Flood Forecasting
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Abstract
Flooding poses a major threat to many communities within the UK. They bring widespread disruption, property damage and potential loss of life. Many of these problems could be prevented if a suitable warning period could be given and, more importantly, accurate predictions made of high magnitude events. However, many techniques for rainfall-runoff modelling are unable to produce more than a short term forecast (a few hours) and cannot predict the full magnitude of extreme events. The factors contributing towards a flood are often complex containing non-linear relationships. This makes prediction of floods a challenging agenda. Within the last fifteen years, researchers have turned to the use of artificial neural networks for modelling rainfall-runoff scenarios. More recently, attention has been turned to the use of neuroevolution methods. In this paper we present an advancement on existing NN techniques, HydroSANE. We will compare outputs of this model with traditional models and show how this system can be modified to produce longer lead time predictions.

The Ejido (communal land) in Mexico in the Rural Milieu: Its Origins and Some Perspectives in the Post-Liberalization Market Era
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Mr Christopher R Bryant, Université De Montréal

Abstract
The word Ejido comes from the Latin word Exitus that means exit, solution, to find an exit or to give a solution. The ejido was established in Mesoamerica by the Spanish Crown after the conquest in 1521. According to some researchers, six different types of land tenures in Mesoamerica and in the Mayan empire existed before the conquest but the most pervasive was the Calpulli (systems of castes). This land regime consisted in collective property and land exploitation and provided the basis for what later would constitute the ejido. Since from the Spanish Crown’s point of view land regularization was needed in order to avoid social conflicts, las leyes de indias (Indian laws) were enacted in the 1700s. Briefly, the Spanish Crown tried to respect collective property and exploitation principles upon which the Calpulli were based and from which the ejido evolved. This provided a partial solution that lasted more than a century up to the post-revolution era when it was restructured. According to Wilson and Thompson (1993) “the ejido is a marriage or hybrid of Aztec and Spanish land tenure arrangements”. In general terms, a group of no more than 20 people can apply for a land grant from the government. If this is approved, then small land plots (parcela) are assigned to each of the members. These land plots can be exploited individually or collectively while grazing areas are held in common. The ejido is given for collective usufruct and before 1992 it was forbidden to sell or rent it out. The ejido experienced its heydays in the 1930s with president Lazaro Cardenas ruling but the ejido’s fall came in the 1970s. During this period, we observed the first signs of a new economic trend. Many nations started to open up their markets to international competition undertaking at the same time the privatization of ancient institutions such as collective land. Mexico was no exception. Today, the ejido’s organization is changing, bringing with it important political, social, economic, and environmental issues. This paper focuses on these issues and demonstrates the stresses that have appeared.
Who is transnational?: Exploring the transnational activities of immigrants in Vancouver
Dr Daniel Hiebert, University Of British Columbia
Dr David Ley *, University Of British Columbia

Abstract
In this presentation we examine the results of two representative surveys of immigrants in Canada: The Vancouver Community Studies Survey, and the Longitudinal Survey of Immigrants to Canada. We seek to understand the basic question: Who is transnational? We begin by distinguishing between different types of transnational activities, particularly those associated with: communication; trans-border physical movement; and economic livelihood. We then develop a profile of individuals who engage in high, medium, and low intensities of these types of transnational activities. The Longitudinal Survey provides information for newcomers 6 and 24 months after they officially landed in Canada, and the Vancouver Survey includes individuals who immigrated over a long time period. By combining these sources, we are also able to analyze the extent to which transnationalism endures over time. As might be expected, the extent and resilience of transnationalism differs between groups. In this paper, we seek to understand the key factors that lie behind these differences. NOTE: This is a submission to the Transnationalism special session, organized by Kevin Dunn

Geomorphological Information and Sediment Delivery in Large River Basins
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Abstract
How can geomorphology contribute to the understanding of erosion and sediment delivery in large river basins? The sensitivity of sediment yields to changes in catchment land use has been demonstrated widely at restricted spatial scales, particularly in headwater catchments, but in larger river basins the link between land use change and sediment yield is less distinct. Myriad sediment delivery processes moderate overall catchment response. Seemingly simple geomorphological questions about whether proposed developments in part of the basin will have a distinct impact downstream can be notoriously difficult to predict and the spatial scale challenging for field approaches. In this paper we draw on examples from Asian monsoon-dominated river basins to examine the extent to which long term trends in sediment flux at the basin scale can be linked to information about changing erosion and sediment transport dynamics from constituent parts of the river basin. In part this reflects the counter-balancing impacts of increasing land degradation and sediment mobility versus the rapid development of water resources and reduction in sediment conveyance. A three-pronged geomorphological approach is described that is based upon (1) database assembly and multivariate analysis of within-catchment sediment yields; (2) responsive field investigation at critical locations necessitating the development of rapid appraisal and geoindicators and; (3) developing geomorphologically-informed predictive models of catchment disturbance on sediment yields Examples demonstrate that prediction of longer-term sediment yield in large catchments, which may be critical to water resource management and continent-ocean nutrient fluxes, are sensitive to many aspects of sediment delivery.

Claims for effective fieldwork: Transferable skills and learning styles
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Abstract
The experience of fieldwork is pivotal in the study of geography, geology, environmental science and cognate disciplines. The (UK) Geography Benchmarking Statement notes the variety of roles that fieldwork plays as an active engagement with the outside world, including developing employment-related skills of team-work, though in practice this claim is rarely tested. The paper examines an investigation of the effectiveness of fieldwork centred around a module examining environmental processes in arid environments with particular emphasis on landform development and the management of contemporary environmental problems. The fieldwork component is an important element in the acquisition of techniques and methodology for research design but it also provides an ideal opportunity for developing team-working skills. Two aspects of module evaluation are reported. The first concerns claims for the effectiveness of fieldwork by examining the experience of cohorts after graduation and entering employment. The second links attempts to link participants fieldwork experiences to learning style evaluation.
Introducing High School Students in the United States to Local, Regional, and Global Challenges Through Advanced Placement Human Geography

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Dr. Donald Zeigler *, Old Dominion University
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Abstract

In the midst of geography’s rediscovery and renewal in the United States, College Board, a national nonprofit association dedicated to facilitating the transition from high school to college, added human geography to its Advanced Placement (AP) program in 1996. The objective of the course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth’s surface. Growth in the exam and the course firmly establishes geography in the suite of courses for students who intend to pursue global studies, but what are the components of this course that expose the students to global issues? Although the Advanced Placement program does not produce texts or curriculum per se, the exam must reflect an underlying consensus on what should be covered in a course promoting global awareness. How does international content get incorporated into the exam? How does this advance international understanding? Geographers from American universities and high school teachers who teach AP Human geography will discuss how the AP Human Geography course and exam encourage students to think critically about geographic problems at the global, national, and local scales. Panel members will use examples of course content and test questions to demonstrate the rigor of the course and the exam.

Regional Water-Sharing in South Asia

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Abstract

The management and utilisation of water resources is pivotal to the geopolitics of South Asia and so disputes over water have been a consistent feature of the international relations and domestic politics of the countries of South Asia. This paper examines the nature of these geopolitics, concentrating on the basins of the Indus (shared by India and Pakistan) and the Ganges-Meghna-Brahmaputra (hereafter referred to as the Ganges Basin) (shared by Bangladesh, India, Nepal). These resources have been regulated to some extent through bilateral treaties but suspicions between the nation-states remain. While the disproportionate size of India has arguably been decisive in shaping the politics of water sharing, domestic politics within all four countries have also been significant in the timing and character of regional agreements. These domestic politics have varied depending upon the social, economic and social cleavages prevailing in each country. In each case, interest groups can be differentiated according to class position and geographical location. Particular focus is given in this paper to intra-national politics in Pakistan and India. The paper first outlines the physical dimensions of the Ganges and Indus Basins. This is followed by a discussion of the international dimensions of water-sharing through an examination of the development of a series of bilateral treaties in each of these two basins. By historically grounding the formation of these treaties we can gain a clearer understanding of the domestic compulsions behind South Asia’s regional water-sharing agreements. A section examining recent controversies between Pakistan and India then follows. The final section contains a comment on the recent Indian proposal for the interlinking of rivers and examines the implications for Bangladesh and Nepal.
Urban Space, Labour and the Port Sector: The case of Kolkata, India.
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Abstract

In this paper the relationship between urban space, labour restructuring and global economic change is considered by examining the specific example of Kolkata Port, which is the major port of the Indian state of West Bengal. The port sector, as an important node in maritime trade, is vital to facilitating time-space compression and increasing capital accumulation. As such, the sector is one of the major targets for restructuring by those governments, such as India, which are undertaking programs of economic liberalisation. However, the large extent of fixed capital in the built environment in this sector means restructuring is politically problematic. The experience of Kolkata port provides a good example of these difficulties, particularly because the State government of West Bengal needs to maintain the support of its core constituency of unionised labour while attempting to attract international capital. Reducing the conditions of dockworker labour, relocating new facilities to alternative locations and gentrifying old dockland areas are measures being carried out to restructure the port sector in Kolkata. In this case, the contestation of socially produced space has class, ethnic and gender dimensions. By examining the tensions involved in this change in labour relations and urban space, the paper explores the broader implications of the Kolkata experience for the restructuring of port-cities in the developing world.

Moving to the Fringe: Vulnerability of Young Families Who Relocate to Non-Metropolitan Areas
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Abstract

With the recent upsurge of sea change and tree change relocations to non-metropolitan areas, many families with young children have opted to move to rural, regional and coastal locations in search of a better lifestyle and environment (Burnley and Murphy, 2003; Fincher and Wulff, 2001). For many families with young children, this often creates dilemmas such as lack of social support networks, isolation from family and friends, and lack of knowledge about their new place of residence, and availability of support and other services. This situation can often lead to vulnerability on the part of families, and in particular, families with young children. We are concentrating on young families with children aged 0-8, because the opportunities and well-being of these children is compromised by the ‘push’ and ‘pull’ factors affecting their families (Travers 2001). This project is part of a broader three year ARC funded project entitled, ‘Families on the Fringe’, which is being conducted by researchers from the University of Queensland and other industry partners including the Queensland Government Office for Economic and Statistical Research, the Benevolent Society and Mission Australia.
How BATS make decisions: challenges in the use of biophysical assessment in river management
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Abstract
The application of ecological assessment in river management according to explicit or implicit criteria is the nexus of what Sarewitz calls the “troubled relationship between science and decision making in the realm of the environment” (Sarewitz 2004: 386). One of the key meeting points between the biophysical and institutional dimensions of river management is in the application of biophysical assessment techniques (BATs) in a contentious community or political setting. On their own, BATs can take decision-making so far but in practice can only serve as a basis for ethical and political choices. The problem is often that these choices are either unstated or embedded in the assessment itself, and hence are left as unexamined, common-sense principles which in reality reflect the dominance of one particular paradigm, discipline or stakeholder. Other interests are consequently marginalised or excluded. Articulating the range of possible principles or ‘decision-rules’ is a key to the long-term equity and effectiveness of river management programmes. This paper looks at a selection of BATs used in river management to identify four common characteristics – those of scale, indicators, methodology and output. Each of these characteristics is compared in terms of its disciplinary base, what knowledge is used / excluded and what range of stakeholders (science, management and community) is involved. The application of these techniques in planning and decision making, both actual and potential, is then considered with particular attention to how priorities are set or ‘decision rules’ applied. The paper argues for more attention to questions of equity, participation and transparency in the use of BATs if decisions are to be supportable and sustainable. 1. Sarewitz, D. (2004). How science makes environmental controversies worse. Environmental Science and Policy 7: 385-403.

Exotic species invasion, foredune transformation and dune system development in Australia and New Zealand
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Abstract
Marram grass (Ammophila arenaria) and sea-wheat grass (Thinopyrum junceiforme), have been introduced to the temperate coasts of Australia and New Zealand. These species, native to Europe, are associated with strandline and incipient foredune/foredune communities. The current paper examines the morphology of incipient foredunes and foredunes associated with these species at two sites, Mason Bay in southern New Zealand, and the Younghusband Peninsula in South Australia. Further, it considers the impact of these species on the medium to long term (102-103 years) development of adjacent transgressive dune systems. Both species invaded the foredune environment very rapidly, over a 20-30 year period. In both cases the antecedent topography comprised relatively sparsely vegetated, irregular foredunes (Type IV), with numerous blowouts. Ammophila and Thinopyrum invasion has subsequently caused the formation of continuous, regular, evenly vegetated foredunes (Type I). A massive foredune, 10-12m and 150m wide, has formed in Mason Bay in conjunction with Ammophila since 1958. The coast toe of the vegetated foredune has advanced about 50m in this period. Along the Younghusband Peninsula Thinopyrum has formed an incipient foredune, with a ramp or terrace morphology, on the face of the former Spinifex sericeus foredune. Most gaps in the former foredune have been closed. In both cases the indigenous vegetation has been displaced. The species examined may adversely affect the long term development of coastal barriers by inhibiting transgressive dune development. Ammophila and Thinopyrum are likely to decrease the frequency and severity of blowout development along the coasts examined. Both species form continuous dunes that are likely to be resilient to eolian processes of sedimentation. Ammophila survives burial and builds massive foredunes that are resistant to erosion associated with storm surge and high waves. It is also tolerant of drought. Thinopyrum is very tolerant of salinity and resists erosion.
Change of Agricultural Land Use in National and Regional Context - the Case of Niigata Prefecture, Japan

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Abstract

Niigata Prefecture, which is located on the west coast of central Japan, is known as a leading rice-producing prefecture in the country. The study deals with the change of agricultural land use in Niigata Prefecture since 1970 with the aim of proposing a model of regional study for LUCC (Land Use/Cover Change Programme) that contributes to improvement of multi-scale or cross-scale understanding of land-use change in the country. It first views agricultural land use in Niigata Prefecture in national context mainly based on agricultural statistics, then examines internal structure and characteristics of agricultural land use within the prefecture based on statistics, local governments' reports, literature and field surveys. The findings of the study include the high possibility of sharpening increase of farm abandonment in Niigata in the coming decade and persistent indirect as well as direct effects of environmental hazards on agricultural land use in the mountainous areas.

Indigenous Sustainability Networks: De-Centring Excellence

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Abstract

How have indigenous communities tried to balance their needs for sustainable development with growing global demands for resources? Could the horizontal sharing of strategies among these communities improve outcomes for all of them? This paper reports on preliminary work to establish the world’s first “indigenous sustainability network” (ISN), with the participation and support of the Māori Ngāti Hauiti Iwi (New Zealand), the Unama’ki Mi’kmaq (Canada), the Ngarrindjeri nation (Australia) and the Tsou nation (Taiwan). This Internet-supported network will facilitate the exchange of knowledge and strategies among communities working to develop environmental sustainability. The four communities will teach one another about their different approaches to environmentally sustainable socio-economic development, including ecotourism, GIS-based resource management, watershed charters, political activism, and legal claims to territorial sovereignty. In conjunction with a series of in-country workshops, a community-of-practice web-site will be established for ongoing knowledge exchange among participants and invited experts, and as a platform for possible future expansion of the ISN. The ISN and its web-site will build capacity for sustainable development in each community. The paper discusses the relevance of the project to contemporary theoretical work in geography, progress to date, expectations of participants, and possible hurdles foreseen.

Agrarian transitions and environmental change in Southeast Asia

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Abstract

Agrarian transformations are a longstanding area of interest among geographers and other social, agricultural and environmental scientists working in Southeast Asia and, to a lesser extent, in the Pacific. During the 1960s and 1970s, much of the agrarian transition literature focused on the Green Revolution and associated changes in core agricultural (especially rice-growing) areas. A generation on, agrarian transitions need to be understood through fresh conceptual lenses, including environmental change and regulatory structures around natural resource management. This paper introduces a panel session that will bring together research on the links between environmental change and agrarian transformations in Southeast Asia and the Pacific, with a primary emphasis on issues around forests and water. Among the many questions addressed are: •How have environmental concerns and sustainability issues shaped rural social change in the region? •To what extent have key agrarian conflicts and change issues seen a shift from core food production areas to the periphery, and what are the environmental implications of this shift? •How have changing structures of natural resource governance (water, forests, fisheries…) affected or been affected by changing rural social structures? •What material environmental impacts are evident in the move to perennial monocropping (palm oil, rubber, fast-growing trees such as eucalyptus)? •To what extent are peripheries the locus of resource conflicts associated with new production systems because of particular ecological characteristics (soils, slope, climate) and to what extent do resource tenure issues help define these conflicts at the margins? •How have changes from shifting cultivation and other livelihood practices been impacted by the dual forces of protected area-based conservation and perennial cropping on the forested margins? •How ecologically and economically stable are new production systems?
The New Zealand Expats Programme: Tapping talent in the Kiwi diaspora
Dr Elsie Ho *, University Of Waikato
Prof Richard Bedford *, University of Waikato

Abstract
There are an estimated 700,000 New Zealanders, or the equivalent of 20 percent of New Zealand’s workforce, living overseas. Until recently, the benefits of leveraging this global pool of New Zealanders to grow a knowledge economy have rarely been explored. This paper examines the development of a New Zealand diaspora project as part of a larger programme designed to grow and strengthen New Zealand’s talent base. Australia is the key destination for New Zealand talent. The paper also examines the circulatory behaviour of New Zealanders between Australia and New Zealand and discusses the demographic, socio-economic and policy implications of the growing complexity of trans-Tasman migration.

Shower times, compost bins and draught excluders: on the techno-morals of sustainable living
Dr Kersty Hobson *, The Australian National University

Abstract
The institutional and individual pre-requisites and barriers to a widespread adoption of ‘sustainable lifestyles’ have of late received a great deal of academic attention. Much less attention, however, has been paid to the domestic technologies implicit in this project. If technologies are inextricably enmeshed in contemporary ‘world-building’, what part do objects such as compost bins and shower timers have in the sustainable living project? Within much literature and policy, these objects embody a prevailing ‘win-win’ market-based approach to sustainable futures, and thus are subject only to cost-benefit analysis. However, critical political ecology and commodity geographies literatures suggest they may present moves towards an ‘anti-consumption consumption’, which articulates existing ethical concerns with environmentally efficient technologies. Using qualitative data drawn from research into Australian sustainable living programmes, this paper argues that eco-efficient technologies do not so much ‘script’ users towards more environmentally benign behaviour but rather enable often-inchoate moral concerns to take specific behavioural forms. This, in turn, embeds these technologies further into the sustainable living project, which has both positive and negative consequences for individual and collective imagineries of a sustainable future.

Human and Ethnic-Regional Identity via Enchanted Environmental Ethics in the Central and Western Amazon
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Abstract
Belief and disbelief in extraordinary creatures of the wilds serve to define human identity before Nature as well as ethnic and regional identity of Amerindians and peasants long resident in the Amazon vis-à-vis new colonists arriving from other regions of Brazil. Spatial variation in belief and disbelief in enchanted creatures of the wilds is related to region of origin, farming system, landscape domestication, educational attainment and religious affiliation. A rich lore of forest and river spiritual entities exists among the traditional population reflecting centuries of Amerindian-European cultural-ethnic fusion. At the same time, the greater frontier is advancing northward into the Central and Western Amazon attracting farmers from other regions of Brazil who practise large-scale commodity production, have higher levels of education and profess materialist scientific cosmologies opposed to enchanted worldviews. Finally, popular Catholicism is increasingly being challenged by an introduced disenchanted Protestant worldviews in which enchanted entities are equated to manifestations of the Devil.
Geo-cultural Landscapes as Boundaries of Belonging
Ms Julie Hoffman *, Faculty of Media, Society and Culture. Curtin University Of Technology

Abstract
In relation to a sense of place and belonging, this paper presents an account of research conducted in Kalamunda Shire, on the eastern border of the city of Perth, Western Australia. The Shire’s boundaries encompass some of the plains and dune system of the Bassendean Sands and rise up over the escarpment of the Darling Ranges, extending further east towards the Helena, Bickley and Mundaring valleys and water catchments areas. The natural and geographical landscapes that form part of the Kalamunda Shire’s 324.307 square kilometers are physical features which contribute to a visual and imagined perception held by some residents as to their sense of belonging and their sense of identity. The Darling Range Escarpment, in particular, is seen by many local residents as the dividing line between urbanisation and their rural retreat of the hills’ forests. With a population now exceeding 46,358, many residents in the Kalamunda Shire express in popular discourse a sense of belonging and identity that is closely connected to their sense of place (Anthony Cohen, 1982, 1985). An integral part of this is residents’ notions that the Darling Range escarpment and the forests of the hills form an ecological and geophysical foundation to the reasons why they feel a sense of belonging to their “home in the forest” (Kalamunda Shire motto). However, as urban development increases in the foothills and hilltop communities of Kalamunda Shire, and as bushland properties are sub-divided and consumed in housing or industrial estates, there is an increasingly dominant view that the city of Perth is encroaching on the peaceful and serene lifestyle that the forest and bushlands provide, threatening the well-being of people and their idyllic communities. This study is significant in that it contributes to other studies conducted globally on urban development where changes to the geophysical and built environments contribute to peoples’ association, or disassociation, to spatial familiarity and a sense of belonging. Julie Hoffman Doctoral Candidate in Social Sciences Faculty of Media, Society and Culture Division of Humanities Curtin University of Technology Perth, Western Australia.

Social assets and socio-demographic vulnerability
Dr Daniel Joseph Hogan *, State University Of Campinas

Abstract
A multifaceted concept such as vulnerability contributes to the science of man’s relation to the natural world in many ways. As an overarching idée force of the new century, it bridges different domains and scales in the effort to understand the complexities and uncertainties of contemporary life. Much recent research has also shown it to be useful in empirical studies at local and regional scales. The present paper asks how socio-demographic characteristics diminish or enhance risk from environmental hazards for families. Understanding vulnerability as contemplating the capacity of family groups to cope with external forces, family demographics become central. The size of the family, the age, sex, migrant status, life cycle status, educational attainment and occupational skills of its members, as well as the social networks in which they live their lives, generate opportunities for responding to environmental risk. The paper develops a conceptual framework revolving around theories of social capital, which consider such characteristics to be assets conditioning family responses. Census data and preliminary analysis of newspaper accounts (2004-2006) on environmental hazards in the Metropolitan Region of Campinas (population 2 million), in Brazil, are also presented. These accounts suggest the importance demographic characteristics for levels of resilience among families.
Are farmers’ markets a response to the global agrifood system? Motivations for participation in a local food network.
Miss Tess Holgate *, The University Of Wollongong
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Abstract
This paper considers the relationship between the global agrifood system and regional and local responses. It has been argued that the effects of globalisation are most severe at the local level, where marginalisation and deregulation in most agricultural industries has driven farmers from their land in the last twenty years. At a broad level this has involved a critical re-appraisal of the processes and products of the global agrifood system and a move toward more localised options. Drawing on fieldwork undertaken in mid-2005 on the Far North Coast of NSW, this paper discusses one example of this turn to localism: the farmers’ market. The research sought to understand motivations for participation in farmers’ markets, and whether this was a function of a growing ethos of localism. A mix of qualitative and quantitative approaches was used to gather data. The results indicated that producers were dissatisfied with the global food system because the costs (economic and social) of participating were too great. By contrast, farmers’ markets improved relative returns and introduced social contact into their working lives. Consumers revealed that they were motivated to participate in localised food provision schemes because of increasing concerns about the safety of food products of the global agrifood system. The case study demonstrates how localism emerges as both a reaction to global markets and as an outcome of individual interest.

Rural Transitions at Deer Vale: A Personal Account
Mr John Holmes *, University of Queensland
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Abstract
During the twentieth century, the rural locality of Deer Vale, on the Dorrigo Plateau, has experienced a series of transitions in human occupance, representative of the subtropical coastal zone of eastern Australia. During the 1930s, a delayed phase of pioneer semi-subistence, ‘mixed’ farming was succeeded by a monofunctional, productivist mode of extensive, low-input butterfat dairyfarming, reliant on the MDK system (Mum, Dad and the Kids). During the 1970s, dairyfarming underwent a marked transition, becoming concentrated on a small number of capital-intensive, high-input, high-yield, bulk-milk production units. Faced with the demands for capital-intensification, most dairy-farms were switched to less intensive modes of beef-cattle grazing, with reduced inputs of capital and labour, leading to an entrenched structure of undersized production units, with farm households increasingly reliant on off-farm income. This bifurcation in local farming systems has become widespread in the high-amenity near-coastal rural zone in eastern Australia, as also has been the arrival of lifestyle-oriented residents occupying mainly low-cost niches on marginal farms or on recent rural residential subdivisions or on older village lots, as has happened at Deer Vale. There has been a marked increase in the number of dwellings, but not in the number of people. The Deer Vale locality now comprises a heterogeneous mix of households, rural landscapes and modes of rural occupance, including intensive agricultural, pluriactive, rural amenity, marginalised agricultural and conservation modes. This mix is indicative of a transition towards multifunctionality in the use of rural space, with the emergence of consumption and protection values, contesting the former dominance of production values. For the last fifty years, the writer has been a part-time member of the Deer Vale community and has observed rural change at first hand, on the home farm and its neighbourhood.
Environmental sustainability and pastoralism in Australian arid rangelands
Mr Philip Holmes *, University Of Sydney

Abstract
Pastoralism in Australian arid rangelands depends on the integrity of environmental capital and its preservation over time for economic sustainability. An annual degradation rate of only 1% can render fragile landscapes economically unviable within two generations of management tenure and the time and cost of repair of degraded country often exceeds the tenure of management and the financial capacity of the business. A 'strong' form of environmental sustainability is the only workable option if intra and inter-generational equity is the objective. The single biggest cause of landscape degradation is stocking rate and various attempts have been made to determine long-term sustainable stocking rates for the major land systems. Monitoring protocols have been developed to determine whether these stocking rates, when applied, are resulting in environmental stability. Prescribing and monitoring stocking rates is critical but extremely difficult. The long-term sustainable stocking rate will set the herd size for any given pastoral lease and this herd size may or may not provide economic sustainability within and between generations of pastoralists. The declining terms of trade of Australian agriculture demand that producers increase their productivity by around 2% per annum to maintain equity over the long term. This is difficult in the arid rangelands because there are fewer productivity enhancing options available in arid rangelands. Increasing stocking rate, especially in good seasons, is not an option because inevitably this depletes environmental capital when greater numbers are carried into deteriorating seasonal conditions. New data show that the relationship between stocking rate and profit/km² is poor in arid rangelands. Productivity gain must be non-depleting on environmental capital and some useful options are available. Beyond productivity gain, increased operating scale is the only other option. Indiscriminate or unqualified taxpayer support for pastoralism is not an option. The total contribution of rangeland pastoralism to national GDP is now only 0.3% and if the land has more value for other uses (e.g. tourism), pastoralists must demonstrate non-depletion of environmental capital and long term economic sustainability to be allowed to stay in business.

The connectivity of scales: Are broad species distribution patterns in seagrass meadows driven by shoot physiology?
Dr Karen Holmes *, Coastal CRC; School of Plant Biology, The University of Western Australia; School of Earth and Geographical Sciences, The University of Western Australia
Dr. Gary Kendrick, Coastal CRC; School of Plant Biology, The University of Western Australia
Dr. Kimberly Van Niel, Coastal CRC; School of Earth and Geographical Sciences, The University of Western Australia
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Abstract
Maps delineating change in the extent of undifferentiated seagrass cover are frequently used to assess the severity of human impacts in coastal marine ecosystems. However, seagrass species or species associations may react differently to disturbance, making individual species mapping a potentially more useful management approach. A thorough understanding of the biological and environmental factors driving seagrass species distribution is essential to make seagrass mapping a viable early warning system for managing coastal ecosystems. We used geostatistical techniques to map the probability of occurrence for five seagrass taxa at Owen Anchorage, near Perth, Western Australia, over a large area (100 km²). Models of spatial dependence for each taxa were then analyzed with respect to the individual growth habits of local seagrass species, and used to generate hypotheses regarding the basic biological building blocks for the mapped species mosaic. While environmental controls on seagrass growth have been studied extensively, little is known about the link between the basic biology at the shoot-level and broad landscape-scale patterns in seagrass meadows. The methods used in this study help to illuminate these linkages.

Human Rights: A Fundamental Component of Geography & Public Policy
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Abstract
Thanks to the successes of the global human rights movement, human rights have become a fundamental component of public policy in much of the world and are being forced into the spotlight in the rest of the world. Though the claim for the significance of human rights is one of 'universal' validity, the acceptance of human rights in general and specific rights in particular is subject to struggle at three significant geographical and political scales: struggles within cultures over what constitutes a just society; struggles between cultures that share the same polity; and struggles of cultures against global forces, both the global human rights movement that strives for the fulfillment of human rights broadly and more pernicious global forces that threaten rights.
Groundwater and beach profile evolution on fine and coarse sand beaches
Dr Diane Horn *, School Of Geography, Birkbeck College, University Of London
Dr Tom Baldock, School of Engineering, University of Queensland, Australia
Dr Ling Li, School of Engineering, University of Queensland, Australia
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Abstract
A series of laboratory experiments were carried out to test the BeachWin model (Li et al. 2002), a numerical model that simulates interacting wave motion, beach groundwater flow and sediment transport in the nearshore zone. Two sets of experiments were carried out, with coarse sand (0.84 mm) and fine sand (0.197 mm). Experiments were run with regular waves at three wave frequencies, three wave heights and three groundwater levels in the beach, representing high-tide, low-tide and mid-tide conditions. This experimental set-up simulates a coastal barrier dividing the ocean from a relatively constant back beach water level, conditions approximating a closed off lagoon system or beach aquifer. In terms of flow through the beach, the coarse sand beach is comparable to a gravel beach at full scale. On the coarse sand beach, with a lowered watertable, a high berm was formed in accretionary conditions. Under erosional conditions on the coarse beach, slightly less erosion was observed on the upper beach, although little change was observed below mean sea level. A higher groundwater level promoted offshore sediment transport, with the associated formation of a smaller berm for swell profiles and increased beachface erosion in storm conditions. In general, however, onshore sediment transport was enhanced when the groundwater level was lowered under both accretionary and erosive conditions. For swell profiles under the same wave conditions, a berm developed on the coarse sand beach, whereas the fine sand beach showed net offshore transport. This trend was most pronounced for lowered groundwater levels. In contrast, the back beach groundwater level had less effect on beach profile evolution on the fine beach than on the coarse beach under storm conditions. This suggests that artificially lowering groundwater levels would not help much in the control of beach erosion, but could promote accretion on permeable beaches.

Object, Scenario and Memory: Environmental Justice and the ‘Angel of Alternate History’
Donna Houston *, Griffith University
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Abstract
Recent work in nature-society relations in cultural geography has sought to enrich the affective pathways of being and embodiment by paying close attention to the entanglements between things, publics and natures. The purpose of this work has been to engage with an enlarged field of environmental and geographical politics that include the performative agency of nonhuman subjects and objects, which can then be traced through of a range of cultural, political, scientific and legal registers. This has opened up a lively debate over how things come to matter within geography’s disciplinary archives and research repertoires. Taking seriously this session’s provocation of how we might question the ‘lost and found politics of the project to rematerialise geography’, I explore how reading environmental justice struggle as an alternative site of history at once troubles and enhances this debate. In particular, I focus on how the materialist history of Walter Benjamin illuminates the connections between grassroots activist history and the embodied struggle for environmental and social alternatives – what Rebecca Solnit (2004) has termed the ‘angel of alternate history’. Drawing on a case study of grassroots activism around high-level nuclear waste disposal at Yucca Mountain in Nevada, this presentation will explore the objects, scenarios and collective memories that make up the counter-topographies of place-making and environmental justice. Examples will include a variety of strategic repertoires enacted by anti-nuclear waste activists such as toxic tourism, indigenous writing, people’s nuclear waste policy, legal challenges, and environmental direct action. Reference: Solnit, R. 2004. Hope in the Dark: Untold Histories, Wild Possibilities. New York: Nation Books.
(Re)asserting indigenous rights and jurisdictions within a ‘Politics of Place’: Transformative nature of native title negotiations in South Australia
A Prof Richie Howitt *, Macquarie University
Mr Parry Agius, Macquarie University
Ms Sandy Jarvis, Aboriginal Legal Rights Movement
Mr Tom Jenkin, Flinders University
Ms Rhian Williams, Macquarie University

Abstract

The networks, communications, authorities and decision-making processes that define ‘politics of place’ across Australia, have since colonisation largely failed to give recognition to the rights of Indigenous peoples. Colonial and neo-colonial processes have ignored and overridden the ancient jurisdictions and laws and customs around which an Indigenous politics of place operated for thousands of years. The decision in Mabo and enactment of the Native Title Act in the early 1990s, unsettled the contentment that many non-indigenous people enjoyed. Governments, industry and the general public were forced to (re)consider the basis and extent of their authority and that granted to Indigenous people. While the hope native title offered for many Indigenous people has been regularly cut down through subsequent judicial and legislative interpretations and responses, negotiation under the Native Title Act remains a pivotal arena for redefining politics of place across Australia – from local to national scales. This paper considers the process, progress and challenges to this redefinition in the state of South Australia in relation to the Statewide ILUA (Indigenous Land Use Agreement) Negotiation Strategy. As the process has evolved and unfolded since 1999, new relationships, networks, and power relations have developed, and continue to be developed, based on recognition and respect for indigenous and non-indigenous rights and interests in land and waters. The statewide process is thus transforming politics of place.

Scales, politics and geographies: an Antipodean relational orientation to scale in human geography
A Prof Richie Howitt *, Macquarie University
Prof Bob Fagan *, Macquarie University

Abstract

Vigorous disciplinary debate about the significance of geographical scale has often emphasised abstract theoretical argument rather than demonstrating the efficacy of scaled analysis. Drawing on applied research in several domains (food industry, labour markets and indigenous rights), this paper advocates a relational approach to scale as fundamental to many aspects of ethically and politically engaged applied geography. The paper offers an Antipodean critique on Marston et al’s recent call “to expurgate scale from the geographic vocabulary” (2005: 422). It argues that a non-hierarchical, relational view of scale opens opportunities for human agency to intervene in and influence over politics. From this perspective, their alternatives of either rejecting scale or maintaining a vertical, hierarchical notion of scale are both inadequate and ineffective. Reference: Marston, S.A., Jones III, J.P. and Woodward, K. (2005): Human geography without scale. Transactions of the Institute of British Geographers, N.S., 30: 416-432

A study on the mechanism of urban growth in Shanghai
Dr. Yefang Huang *, Department Of Geography And Resource Management, The Chinese University Of Hong Kong

Abstract

After more than ten years of opening and developing the Pudong New Area, Shanghai has not only made dramatic progress and regained its reputation of the central city in China in terms of economic growth, urban infrastructure, social structure and living environment, but also become an emerging world city. However, the function of Shanghai as a world city is arguable based on the world city hypothesis proposed by Friedmann in 1986. This study attempts to identify the mechanism of Shanghai’s transition from an industrial city to a service city in the age of globalization. A comprehensive approach is adopted to analyze the economic growth, the increase of foreign investment and migration pattern in Shanghai. The challenge and opportunity for Shanghai as an emerging world city in China will be scrutinized in the perspective of the above analysis.
Geographies of (re)confinement of people with mental illness
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Abstract
The process of deinstitutionalisation broke down the explicitly exclusionary space of the asylum for people with mental illness. This process was, at least partially, driven by an argument that care in the community could help ‘normalise’ people with mental illness, normalisation here referring to establishing behaviours and characteristics which are culturally normative. This was reaction to criticisms of the asylum as a ‘total institution’ which helped construct the identities people with mental illness as vulnerable, dangerous and in need of exclusion. Despite critiques of deinstitutionalisation as creating new forms of social exclusion, such as poverty and homelessness, official policy and practice has been dominated since the 1970s by the rhetoric of community care and integration into the community. This paper presents evidence of a new turn in mental health policy and practices towards (re)confinement of people with mental illness. This trend includes both policies of physical exclusion of people with mental illness as well as increased surveillance and control over people with mental illness in the community. The paper outlines the evidence of increasing levels of institutionalisation, attempts to make it easier to compulsorily treat people and increasing use of social control in community settings. It argues that closer examination of these policies and procedures is vital to our understanding of contemporary identities of people with mental illness.

Must-see genocide: tourism to Cambodia's places of memory
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Abstract
This paper considers contemporary international tourism to curated sites of genocide in Cambodia as a popular geopolitical practice. It is argued that a retheorisation of both ‘dark tourism’ and ‘new moral tourism’ is necessary in order to better understand contemporary tourisms to places of past mass political violence. I am specifically concerned with the ways in which imaginative geopolitical topographies are produced and perpetuated by tourism representations and embodied practices in specific places. I show how a discourse of traumatic memory is central to tourists’ experiences of the Tuol Sleng Museum of Genocide Crimes. The dutiful disposition of tourists at the museum constructs Cambodia as a place of death and cultural and geopolitical difference, to be simultaneously admired and reviled.

Temporary Mobility in Asia
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Abstract
Non-permanent forms of mobility have a long history in Asia but in contemporary times have increased considerably in scale and complexity both within and between nations. This paper summarises some of the main developments in non-permanent migration in the region as well as the major processes which are shaping these developments. It is argued that these forms of mobility are important structural elements in the economies of the region although some commentators dismiss them only as some form of transitional situation along the path to permanent displacement. There is, as a result, a failure to develop appropriate measurement systems in standard data collections in the region. Moreover it is argued that these forms of mobility are insufficiently considered in the formulation of strategies to improve the wellbeing of people in Asia.
Women at Risk: Vietnamese Marriage Migration to Taiwan
Professor Graeme Hugo *, The University Of Adelaide
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Abstract
There has been a substantial increase in marriage migration, predominantly of women, between Asian countries. This has been in response to increasing sex imbalances in some countries and regions (mainly rural), the impacts of globalisation, the changing role and status of women and the exponential expansion of a marriage migration industry. After a brief review of developments in marriage migration within contemporary Asia, focus is moved to a single flow, that of more than 100,000 women from Vietnam to Taiwan in the last decade. The results of a survey of 635 households who have sent one or more daughters to Taiwan to illustrate some of the main features of the migration. In particular the vulnerability of the women to exploitation is demonstrated and some of the causes of the exploitation of Vietnamese marriage migrants are examined.

Mr Simon Hugh Huston *, Department of State Development and Innovation; University of Queensland

Abstract
The recent property boom in Australian included Brisbane but a detailed empirical investigation into the spatial manifestations of dwelling price growth in Brisbane since 1991 has not been carried out. In this paper, a representative sample of residential dwelling prices for the 163 suburbs of metropolitan Brisbane is selected using a commercial database of 70,000 sales transactions. Property returns are calculated and GIS mapping used to analyse the spatial distribution of suburb median dwelling price growth. Cluster analysis is then carried out using a number of geographical factors, such as proximity to water, and census derived socio-economic variables. The spatial factors associated with the pattern of dwelling price growth are identified. Over the decade to 2001, residential capital gains concentrated in inner-city rental and niche “dress circle” submarkets with specific geographic location or infrastructure advantages. However, during the recent housing boom from 1998-2004, price growth became spatially more generalised.

Regional response of water resources to climate and land use change in South Australia
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Dr John Hutson *, Flinders University
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Abstract
Diffuse pollution in watersheds depends upon land use and management, soils, weather and water flow paths. The Generalized Watershed Loading Function Model has been adapted for Australian conditions, and is applied here to investigate water quality issues under the Mediterranean climate of southern Australia. This loading function model is widely used in the north-eastern USA for water resources management, but has seldom been applied in Australian environments. The relative effects of different land uses, land management practices and possible future climate change scenarios are examined for a watershed located south of Adelaide (South Australia). The study highlights the advantage of combining a one-dimensional soil solute model, which predicts leaching and runoff concentrations, with a generalized watershed model to encompass the different temporal and spatial scales. The response of these models to different climate change scenarios and changing land use change provides a logical way of predicting changes in water quality (leachate and runoff concentrations) and quantity (stream flows). Although predicted N stream loads were similar to those measured the intention was not to produce close matches between simulation and measurement but rather to address the relative effects of changing land use and climate on watershed outputs. The results highlight the fact that no single chemical property can be used to predict the likelihood of stream or groundwater pollution; a combination of soil and chemical properties, management and weather determines pollution potential.
**The Influence of the Substantial Residential Site Development on the Spatio-temporal Features of the Land Use Pattern**

Dr Chul-Sue Hwang *, Kyung-Hee University  
Mr Hyung-Dong Lee, Ginno System  
Dr Chung-Weon Oh, Namseoul University

**Abstract**

The research investigated the land use change analysis through integration of the two fields which were GIS and RS in order to analyze effectively spatial the power of influence. The aim of research is to understand the effects about the Land-use Change which is using satellite imagery as the Case of Residential land development. After the land-cover classification is used by using satellite imagery, I classified land-use About Residential land development of Koyang for 16 years. And then the local, global patterns were analyzed using patch analysis and spatial statistical analysis tools. The first of all, at the view of global patterns, I analyzed suddenly changing landuse characteristic through patch analysis. The second, at the view of local patterns, I analyzed the power of influence of Residential land development about kinds of development scale and district.

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**Household life cycle and aquatic resource use in Vientiane plain, Laos.**

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**Abstract**

Household level analysis of nature-society relationship has gained much attention in recent geographical literature. One of the reasons is that a household is an important social unit which mediates global social change and local ecological process. In Southeast Asia, the scholars noticed how urban-rural migration of household member impacts on agricultural land use in rural areas. However, little study has been done on the impacts of global process on various natural resource use including those gathered in the biophysical environment which accommodates both paddy and forest. By describing the result of household survey in Vientiane plain in Laos, this study discusses the need of more diversified view to social change and ecological process. The authors conducted a questionnaire survey to a total of 263 households in a village in Vientiane plain, Laos, from August 2005 to March 2006. The survey was designed to identify demographic characteristics, land ownership, diversified resource use including paddy, fish and other natural resources, means of cash income, and expenditure. Regarding use of aquatic resources, target species, methods, fishing seasons and sales are asked and analyzed to understand its variation by household life cycle. The result shows that younger and smaller household unit depends greatly on aquatic resources in terms of food security and cash income. Their fishing ground became extensive especially after rice harvest, and their use of tools are elaborated. The trade of aquatic resources is activated by growth of market in Vientiane and its suburbs, where industrial investment and reimbursement from migrated population have increased. This tendency could be called disintensification of agriculture as it is often discussed in the literature. However, this process also accompanies.gintensification of hunting-gathering activities h. The result suggests that studies on the impact of social change on rural land use in rice growing areas should relocate paddy as one of the various activities in aquatic resource use.
Spatiotemporal Analysis of Retail Distribution Clustering Process in Urban Space

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Dr Yukio Sadahiro,

Abstract

This paper proposes a quantitative method of analyzing and classifying the dynamic change of retail distributions in urban areas. A wide variation exists in the change of retail distributions. It depends on the type of stores, geographical location, retail strategy, and so forth. The description of such dynamics depends on the scale of analysis, from local to global. This scale variation has been drawing much attention of geographers. However, this kind of analysis has been done in qualitative rather than quantitative ways. The result is, in nature, subjective to some extent and consequently weak in its theoretical basis. Also the spatial scale of the analysis is rather macro scale. To resolve this problem, this paper introduces quantitative methods to describe micro scale spatial dynamics on a theoretical basis. The distribution of retail stores and restaurants are represented as a point data on GIS. In temporal sequence, new store opens which generates new point in the present spatial distribution. Also this study applies buffer around each point data to show and observe the topological relationships and spatial area with the existing distributions. The generated points and its buffer with topological relationship between existing distributions categorize into following four conditions: (1) complete overlap, (2) partial overlap including the point within the buffer, (3) partial overlap no point inclusion with in the buffer subset, (4) topologically and spatially independent. The order of the generating points with the topological classification describes the clustering process for each cluster. The analysis is done by statistical test by comparing with the random order distribution to see for the pattern in the process. The method proposed is applied to analyze the change of retail clusters in sub-centers of Tokyo, Japan. For the empirical findings, the comparison between different type of stores and region are shown.

Northern belongings

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Abstract

In Darwin, multiple and active frontiers between north and south, Australia and Asia, and Indigenous and non-Indigenous criss-cross the social and political landscape, underscoring the contested nature of home and belonging in the north. This paper draws on theoretical work around performativity to explore the articulation of contemporary experiences of frontier and belonging in a contested postcolonial landscape.
The vulnerability of migrants to HIV/AIDS in China and Mongolia
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Abstract

In recent decades, countries of North East Asia have experienced an increase in the number of migrants, both internal and international. Flows across borders, especially from North Korea to China, and often ultimately to South Korea or other parts of Asia, and between China, Mongolia and Russia, have escalated markedly in the last decade. South Korea and Japan have become important destinations for migrant workers, including commercial sex workers, from all over Asia. However, NE Asia is about ten years behind SE Asia in terms of facing up to the threat of a possible HIV/AIDS epidemic. The vulnerable situations in which many migrants find themselves put them at an even greater risk of infection and this paper will highlight some of these situations. China and Mongolia only became aware of the threat in recent years and they are still reluctant to acknowledge the risks to their populations.

Internal migration of foreigners in Japan based on the micro data samples of 2000 census
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Abstract

The purpose of this paper is to analyze 1995-2000 internal migration of foreigners based on the micro data samples of 2000 Japanese census, provided from the Japan’s Statistical Bureau. Such an investigation had been impossible due to lack of comprehensive data source associated with migration by foreigners in the country. The analytical framework employed here is nested logit model, which assumes stay/move choice at the first level and destination choice at the second level. To explain the internal migration by foreigners, the three theoretical perspectives were presented: labor market-related, ethnic similarity and international marriage. A number of explanatory variables reflecting these perspectives and distance to potential destinations were prepared, and the logit model was applied to the micro data samples. The result shows that almost all of the parameter estimates have expected signs; in this sense, obtained result is considered to be satisfactory. However, there is a remarkable difference of destination choice pattern by age, gender, educational attainment and nationality of the foreigners under analysis. Furthermore, contribution of the groups of distance and labor market variables is remarkable in terms of explanatory power, followed by the group of ethnic similarity variables.

Change in fragmentation of 'satoyama' woodland around Kanto Plain, Japan.
Dr. Nobusuke Iwasaki *, National Institute For Agro-Environmental Sciences
Dr David Sprague, National Institute For Agro-Environmental Sciences

Abstract

Satoyama, the semi-natural landscape of rural area in Japan, is an important habitat for many terrestrial wildlife. Recently, satoyama face both qualitative and quantitative change. These changes are one of the main reasons for the decline of biodiversity in rural areas. On the other hand, these changes influence the expansion of wildlife habitat, especially of mammals. The aim of this paper is to evaluate the changing fragmentation of satoyama woodland around the Kanto Plain. GIS analysis on land use change and woodland fragmentation was carried out in four areas: Nerima in Tokyo, Santomi in Saitama, Sakuma in Chiba, and Ushiku in Ibaraki Prefecture. Three land use maps, of the 1880's, 1960's, and 1980's, of each investigation area was made from several types of maps. In the 1880's, all investigation areas were occupied by agricultural land use, such as paddy field, upland crops, woodland, and grassland. Nerima and Santomi were mainly occupied by agricultural fields. By contrast, Ushiku and Sakuma, more distant from Tokyo, areas were dominated by woodland and grassland, i.e. satoyama land use. These differences reflected the dependency of agriculture on natural resources derived from satoyama, such as fertilizer material. Woodland connectivity as shown by a proximity index was high in all investigation areas. From the 1880's to 1950's, grassland decreased and woodland increased dramatically in Ushiku and Sakuma. These phenomena resulted from the decline of grassland use as a source of natural resources. Woodland connectivity increased, particularly in the Sakuma area. From the 1950's to 1980's, urbanization dominated, except in Sakuma. In Nerima, agricultural fields and woodland almost vanished. In Santomi and Ushiku, agricultural land uses still remained. The woodland connectivity decreased in all investigation areas. However, in the Sakuma area, woodland connectivity still remained relatively high.
Aboriginal Tourism Protocols for People and Place: protecting cultural diversity in the global tourism marketplace.
Ms Diana James *, Australian National University
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Abstract
Aboriginal people have a long history of involvement in the tourism industry in Australia. In the 1840s early settlers paid to attend regular Sunday Aboriginal corroborees in Adelaide, while in Sydney from the 1890s Aboriginal families at La Perouse were producing artefacts to sell to tourists. Despite being officially discouraged by the government of the day, this tourism trade flourished. Aboriginal peoples’ proactive involvement in tourism has progressed from trading of artefacts on the fringes of society to the centre stage of the global marketplace for Indigenous art, music, dance and cultural tours. Official government policy has changed from assimilation attempts to wipe out traditional culture and language to an active policy of promotion of Aboriginal arts and culture as a unique point of difference of the Australian tourism experience. However, this promotion has relied on generic images of Aboriginal people unrelated to place, culture or language. The wide use of these images by the Australian tourism industry has produced stereotypes of authentic Aboriginality, such as the ‘noble savage’ dressed only in a loincloth, standing on one leg and holding a spear. Aboriginal people today object to this ‘generic’ use of their images and are actively claiming their rights to promote their culture as they choose. National representative bodies like Aboriginal Tourism Australia have developed a set of protocols for ethical engagement of the tourism industry and tourists with Aboriginal Australia. This paper will examine, with reference to case studies in Central Australia, the extent to which these protocols can sustain and protect the cultural diversity of Aboriginal peoples and places in the global tourism marketplace.

Encounters at the Edge: Negotiating migrant market gardens and Aboriginal heritage on the urbanising fringe of Global Sydney
Ms Sarah James *, The University Of Western Sydney

Abstract
Sydney’s South Western Fringe has been marked as a centre for urban growth as the ‘global’ city expands over the next thirty years. However, in the edge space of this rural–urban interface these plans are challenged by co-existent and potentially conflicting values in and uses of land. It is a site whose current inhabitants include many migrant market gardeners of Lebanese, Chinese, Vietnamese, Maltese and Cambodian descent that provide much of Sydney’s fresh produce. Below this fertile soil is the tangible evidence of an older Aboriginal occupation of the site, forming part of a living heritage for many of Sydney’s Indigenous groups. In this fast changing landscape, where urbanisation is not yet dominant, tensions between issues such as heritage and growth, culture and nature, and cultural unity and diversity arise to be renegotiated. This paper will examine the multiple and potentially conflicting values in land that intersect in this edge space that must be negotiated as part of the urban growth of a global city.
The Second Generation of Foreigners in the Czech Republic
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Abstract
The study of integration process has now reached a crucial stage in most Western European countries with emergence of the second generation. Just this group of foreigners faces serious problems of socio-cultural co-existence of immigrant and major society. While the oldest children born to postwar immigrants in Western Europe have entered the job market, the new second generation is still not very numerous. If there is any, then, it is very young in the Czech Republic. The reason is that immigrants started coming to the Czech Republic “as late as” after 1989, along with deep political and socio-economic transition/transformation processes. Accordingly, the country opened its borders for legal immigrants (especially Ukrainians, Slovaks, Vietnamese, Poles and Russians). The paper focuses on an (pioneering) in-depth research on adaptation/integration processes of the second and 1.5 generation of immigrants in the Czech Republic (supported both the IOM and the Grant Agency of the Czech Republic). We used both qualitative and quantitative methods while tackling different ethnic immigrant groups – pupils and students attending kindergartens, basic and secondary schools in a capital city of Prague. Within the questionnaire surveys among the given groups of immigrant children, altogether 180 respondents were contacted in 2004. Furthermore, in the case of the youngest children, 200 parents and teachers participated in the research too. This empirical research was based on selected theories of immigrants’ inclusion into a host society (based on acculturation strategies, segmented assimilation model, transnationalism etc. Results bring about new insights into immigrants’ lives and their co-existence with the major society. Both “academic” and “practical” (policy recommendations) dimensions were taken into account.

Lake Petrova (Tan-San, Kirgizia) – danger of a large-scale ecological disaster
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Abstract
Lake Petrova is located in the foreground of the same-called glacier which is situated on the north-western slope of Ak-Sijrak massive in southern Tan-San and is the largest glacier in the whole River Naryn catchment. This hollow glacier is 69,8 km² large and 23 km long. On basis of aerial photographic surveying from 1995, which was carried out by the american company Aero Map U.S., Lake Petrova has got an area of 278,4 ha and contains approximately 23,127 millions m³ of water with the maximum depth of 24 m and mean depth of 8,3 m. Global climate warming causes a thaw of the huge Petrova glacier and regress of its forefront. In front of the retreating glacier the process of lake broadening takes place. The lake takes concurrently share on the speeding up the process of the glacier thaw. In last 30 years the Lake Petrova enlarged in area by 1,5time while in recent years its area has been increasing by more than 5 ha per year! Enlarging of the lake size and volume together with weakening of moraine stability causes an extremely dangerous situation which could result in a large-scale natural catastrophe. In the case of the moraine rupture the storage facility of highly toxic waste on the territory of the gold mine Kumtor, which is operated by one canadian private company, could be washed out. In such case the toxic waste would contaminate a large area in the River Naryn catchment including two big dams and could get into the territory of adjacent Uzbekistan.

Regional drainage system of the Amazon source area in the Cordillera Chila, Peru
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Abstract
Hydrographical and geomorphological investigation in the Río Lloqueta valley, the Cordillera Chila, was carried out to determine the main stream of the Amazon River and to evaluate current processes in its drainage basin. The hydrographic network of the Río Lloqueta was analysed and basic hydrologic characteristics of its source streams were measured. A new concept of the Amazon River headwaters territory at the northern foothills of Nevado Mismi in the valley of Carhuasanta was proposed. Factors influencing the river system - geomorphology, soils and glaciers were examined in the drainage basin. The modern glacial extent was mapped and compared with that mapped from 1955 aerial photographs. Preliminary results suggest that glacier termini experienced very rapid retreat in the second half of the 20th century.
Innovation, experimentation, and risk management in the evolution of two farming landscapes
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Abstract
A comparison of the evolution of two geographically separate farming landscapes in New Zealand from the beginning of European settlement to the end of the 20th century. The study examines relationships between ecological and economic risk and vulnerability over time, and the practices which farmers have followed to manage risk under circumstances of institutional change. Since the beginning of European settlement in New Zealand, the role of the state and financial institutions in farming, and the nature of trade and communication technologies, have changed greatly. These changes have influenced the ways that farmers balance on-farm and off-farm resources to off-set conditions of economic and ecological risk. The paper examines the proposition that over time, New Zealand farmers have become ever more tightly integrated into off-farm economic processes. As they have become more integrated into national and global institutions of trade and finance, management of risk has swung from diversified production on the farm to greater reliance on diversified off-farm sources of income. At the same time, production on-farm has become more specialised.

Globalisation and the spread of alien organisms: a New Zealand example
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Abstract
Globalisation of trade and travel has increased inter-continental flow of organisms. Many introduced species become naturalized and may cause great damage. The rabbit and European fox are famous Australian examples; the brush-tailed opossum is a New Zealand example. While the association of species invasion with trade and travel has been noted and economic and ecological impacts have been published, publications on social aspects of alien invasions are rare. Based on the example of New Zealand, this presentation looks at how current modes of trade and transport open the way for invasion by alien species. From an analysis of global trade and travel it moves to patterns at a regional level and shows how they may increase threats of invasive species. The example of the spread of the varroa bee mite is given. Despite a strong biosecurity infrastructure in New Zealand, global trade patterns coupled with WTO regulations and local social ecologies of human activity place great pressure on measures for protection against alien species.

Social dimensions of biosecurity: the example of New Zealand
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Abstract
The human dimensions of biological invasions have recently become subject of serious study. Current insight suggests that human ecology and culture is a critical element in the introduction and spread of alien species. Socio-political institutions can foster or restrict the introduction of new species, and create the conditions for new species to flourish. Conversely, the human response to species invasions vary with the impacts of the invasion and the socio-political standing of the human groups affected. Using the example of New Zealand, we chart social changes in attitude and perception of introduced species and note socio-political responses to the ecological and economic impacts of different species. We compare responses to invasive pests and weeds that were of economic importance to those that were significant for native flora and fauna. We outline the organisational changes that evolved in response to different types of alien species. We suggest that socio-economic perceptions of benefit and threat were prime determinants of societal responses to introduced alien species but that concern for the damaging ecological impacts of alien species has grown in parallel with the development of their symbolic importance for a sense of national identity.
Measuring the Impact of Migration and Remittances on Income Distribution in Fiji and Tonga
Assoc. Professor Richard Brown, University Of Queensland
Dr Gareth Leeves, University Of Queensland
Ms Eliana Jimenez *, University Of Queensland

Abstract
We use original 2005 survey data from Fiji and Tonga on household income to estimate the impact of migration and remittances on income distribution and measures of subjective deprivation. The analysis includes original estimates of households’ subsistence income. As self-selectivity among migrants is likely and as remittances cannot be treated as an exogenous transfer to the migrant households, we show how appropriate statistical techniques can be used to estimate the net effect of migration and remittances on incomes and other variables of interest, after controlling for selectivity and endogeneity. Our measures of inequality and subjective poverty are then compared with those based on a counterfactual ‘no-migration’ scenario. The comparative results show a number of interesting differences between the two countries in the role of remittances in reducing poverty and bringing about a more egalitarian distribution of income.

Geographies of homelessness policy and services in the US
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Abstract
The geography of local governmental jurisdiction plays a significant role in shaping the creation and implementation of social welfare policies in the US. Federal legislation and budgeting set agendas and responsibility for fulfilling those agendas rests with city and regional jurisdictions. In metropolitan regions characterized by multiple autonomous cities, such policy formulations may give rise to locational conflict (Law, 2001). Furthermore, the rise of neoliberal forms of governance, characterized by the devolution of state authority and privatization of public services, adds an additional component to interjurisdictional conflict by increasingly transferring responsibility for welfare to the “community” (i.e., citizens and volunteer organizations) (Herbert, 2005). Geographical narratives of jurisdiction and community underpin policy formulations and plans for human service delivery. This paper examines the geographic narratives invoked in existing legislation and by community involved in the creation of homelessness policies and plans in Long Beach, California. Through an analysis of policy documents and fieldwork as a participant observer during the creation of Long Beach’s “10-year plan to end homelessness,” I articulate the role played by geographical narratives in policy formation to illustrate the sources of interjurisdictional conflict and locational conflict over the siting of service facilities. This work provides the basis for comparing the experiences of homelessness policy creation in US cities with approaches taken in other parts of the world.
Developing Motifs Search Methods To Identify Skeletal Information Embedded In Homogeneous Activity Patterns

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Abstract

Travel demand is derived from activity participation. Particular travel patterns are often associated with particular activity patterns. Regular work-oriented activity patterns for example involve peak-time trips to and from work, while housekeeping-oriented activity patterns may involve day-time travel to places other than work. Certain parts of an activity pattern may contain crucial information such that the activity pattern of concern is distinguished from other patterns, and as a consequence, the resulting travel pattern is different from others’”. Identification of such “skeletal” information and the subsequent profile of (groups of) the activity patterns therefore have a great potential for the study of travel behavior in particular and spatial behavior in general. The current research project aims at finding the most natural way of profiling activity pattern groups by identifying skeletal information of activity patterns. To this end, we employed the motif search method. The method was originally developed in biology, and we extended it to a multi-dimensional version as the information of activity patterns is multi-dimensional unlike DNA and protein strings. We assume that there always be a certain set of motifs in a group of homogeneous activity patterns, which results from any interpretable cluster analysis based on the structural information embedded in activity patterns. The structural information refers to the sequential relation between activities and the interdependency relation between attributes of an activity. We define a motif as a subsequence of activity pattern or a bundle of activity attributes that appears to most activity patterns of a group. We identify motifs through one-to-one pairwise comparison between activity patterns using sequence alignments. That is, we first identify the common parts of subsequences and attribute bundles among activity patterns of the same group using pairwise sequence alignments. The identified common parts are the candidates of the motifs. We then again search for the common parts among those candidates, which are finally identified as the motifs of the group. The identified motifs provide the basis for the profile of activity pattern clusters.
Waitangi's Contested Landscape
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Abstract
The cultural identities of Māori and Pākehā New Zealanders have formed and evolved within the colonial ‘contact zone’ of Aotearoa/New Zealand. The treaty grounds at Waitangi serve as a contested landscape in this process of identity formation within New Zealand’s nation-building project. Various groups within the treaty partnership formed at Waitangi in 1840 continue to use the site to underline their concerns about what modern form they believe this partnership should take. For Pākehā New Zealanders who came of age in a period of civil-rights and anti-war protest “[a] nation originating in military conquest and colonial oppression was unacceptable as an explanation for the foundation of nationhood and cultural identity (Rata 2000: 123).” Biculturalism arose as one solution to this moral dilemma. The current liberal elite have imagined the Treaty Grounds at Waitangi as a bicultural landscape; a symbol of partnership which can aid in creating a national identity free from colonial oppression. For Māori, the modern Treaty Grounds are regarded as providing an opportunity and venue for discussion and protest regarding biculturalism’s failures, government ambivalence and apparent interruptions of tino rangatiratanga (self-determination). This paper asserts that the Treaty Grounds are an altered and transforming landscape; on one hand serving as a symbol aiding the national amnesia concerning conquest and dispossession and on the other, serving as a place to protest this erasure and exclusion (see Orange 2004). This paper will investigate the treaty grounds at Waitangi within a ‘politics of place’ framework, “connect[ing] the metaphoric site ‘in theory’ with a politics of place ‘on the ground’ (Moore 1997: 101).” Recognising that the local politics of Waitangi frequently embody the racial politics of the nation, the paper will connect the politics of the Treaty Grounds with the national discourse on biculturalism.

Geographies of Hope - The arts and (re)making places through culture
Dr Louise Clare Johnson *, Deakin University

Abstract
Efforts to create Cultural Capitals out of cities as diverse as Bilbao, Glasgow and Singapore have involved the mobilisation of massive amounts of private and public capital. While the Guggenheim Museum, the Miles Better marketing campaign and The Esplanade – Theatres by the Bay complex have all been central and costly elements of these campaigns, this paper will argue that it has been the smaller, less spectacular spin offs from official efforts to mobilise and value the creative arts that have allowed these places to define themselves anew. In Bilbao, it was the local critical reception of the Gehry building which spurred an outpouring of localised artistic work; in Glasgow a public art program that has engaged working class communities; and in Singapore the growth of marginal performance that has challenged the strictures which regulate social life in this island city. Against a critical literature that concentrates on the exploitative and negative elements of such projects, this presentation will offer an alternative reading. It will argue that in all of these cases, the places in which such work has been created have been redefined and remade, offering geographies of hope in often bleak environments.
Creating Cultural Capital(s): An international comparison and assessment
Dr Louise Clare Johnson *, Deakin University

Abstract
In a world where economies are endlessly restructuring, the challenge for cities and communities is to seek out alternate ways of being and doing. The quest is for activities which generate investment, enhance environments and engage resident and external populations. The arts and cultural industries - as activities which involve creative input and transmit meanings - are one way in which all three objectives can seemingly be met. This paper will consider some high profile attempts to transform cities into “Cultural Capitals”, centres of art and cultural activity. Two main questions will underlie this discussion: 1. What typifies those centres which have been successful in becoming Cultural Capitals? 2. Related to this question is how this “success” is assessed? In relation to the first question, the paper will argue that Bilbao, Glasgow and Singapore have achieved prominence as Cultural Capitals because circuits of cultural capital have been created and expanded beyond the local. City authorities have consciously mobilised and supported the arts and cultural industries, directed significant government and private capital into them and actively embraced globalisation. Measures of success relate to how sustainable such activities are – economically, socially and politically. Specifically, have these urban economies moved from an industrial base to high levels of employment, public engagement and turnover in the creative arts (visual, performing, literary and media arts), fashion, design and tourism; but also how such a restructuring enhanced their urban, social and political environments? In each location such success needs to be qualified. The creative arts in Singapore are limited by political censorship; those in Glasgow are overshadowed by social polarisation; while in Bilbao an emphasis on mega structures has occurred at the expense of local arts and identities. Overall though, mobilising creativity has created positive geographies.

Health and place: social adaptation of north Australian hunter-gatherers in the 21st Century
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Abstract
The spread of industrial civilizations has been particularly traumatic for the last remaining hunter-gatherer societies. Expatriation from ancestral lands, sickness poverty and environmental degradation are all manifestations of the collision of worlds and cultures. Northern Australia has been no exception despite being a stronghold of Aboriginal cultures and containing vast areas of relatively intact landscapes. Most Aboriginal people reside in remote settlements where they remain on the negative extreme of basic indicators such as life expectancy, educational attainment and incarceration rates. Additionally, biodiversity declines are being documented from loss of Indigenous fire management and invasion by feral species. There has been remarkably little consideration of potential health, social, economic or environmental benefits of routinely hunting, gathering or being on their land despite the discovery over 20 years ago that Aboriginal people with diabetes improved dramatically when returning to traditional subsistence activities. This reflects a western philosophical position that that land management and health policy are entirely segregated, a view that is at odds with Aboriginal peoples’ testimony of the indivisibility of people and land. Here we report perspectives of Aboriginal people from Arnhem Land gathered within a participatory action framework using participant observation and semi-structured interviews with key informants. Themes which emerged included: (1) The high level of detailed, complex knowledge Aboriginal people have about country; (2) Perceived urgency about passing knowledge to younger people; (3) The consistent view that country and people need each other; (4) People feeling happier and having greater autonomy on their country, even with brief visits; (5) Primary motivations for returning to country were gathering food, escaping the stresses of town and teaching young people; (6) The many barriers to doing this included no transport, family problems, frequent funeral business and other cultural obligations. This work forms part of a much larger transdisciplinary research program that aims to inform policy about sustainable futures in northern Australia.
Wedding Tourism: The cultural performance of place and heterosexuality
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Abstract
This paper examines wedding tourism in New Zealand. It responds to recent calls for a more nuanced examination of heterosexualities, space and tourism. Using notions of heteronormativity, I provide a focus on the cultural performance of destination weddings. As cultural performances of heterosexuality, destination weddings are socially, politically and spatially organised to create insiders and outsiders and norms of appropriate sexual behaviour. The paper claims that ‘nature’ spaces of New Zealand provide important sites for the examination of co-construction of heterosexuality and place. Using empirical material the paper demonstrates the ways in which heterosexual wedding tourism is created, defended and contradictory. It goes on to show that the performance of both ‘nature’ and heterosexuality is always imbued with transformative possibilities, as it both maintains sexualised norms and contains the potential for change.

River transport in Sarawak, Malaysia: Reflecting a bias to roads and motor vehicles?
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Abstract
Contemporary perceptions of transport favour road transport and personal ownership of vehicles over rail or water transport and the promotion of public transport services. This paper examines the situation of river transport in Sarawak and assesses the degree to which a bias to “road and motor vehicle” might be marginalizing rural dwellers that depend on water transport. Rivers, despite the disadvantages that they sometimes presented, played a fundamental historical role in the peopling, settlement pattern, administration, and economic penetration of Sarawak as well as the daily lives of its population. After the first road project of any substance (completed in 1930) there has been a steady increase in road mileage and numbers of vehicles. Yet the road network tends to parallel the coast and fails to reach inland communities. Evidence for a neglect of water transport and a bias to roads and motor vehicles will be presented – though the creation of the Sarawak Rivers Board should help ensure that river transport (or commercial river transport at least) gains visibility in government circles.
State reterritorialisation as a regionalised politics of distribution: California’s “newest regionalism” and the Los Angeles global-metropolitan fringe.

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Abstract

Recent work around the processes and politics of state rescaling has begun to focus on the possibility that processes of reterritorialisation are occurring around ‘global’ metropolitan areas and their constitutive structures of governance. Much of this work is theoretically predisposed to a global capital-logic approach and can be said to have neglected growing empirical evidence of a localised (place-based) politics of distribution underpinning new territorial forms. Drawing upon our own work in Southern California, we consider to what extent arguments about state re-territorialisation are valuable for thinking about struggles and strategies around new structures and spaces of government and governance at the Los Angeles metropolitan fringe. Whilst there is evidence of a process of governance rescaling around the region (or in this case sub-county and metropolitan areas), this has roots in ‘bottom-up’ regionalist movements throughout California of a much longer-standing. In the 1980s, the geographic scaling of the politics of distribution changed. This was a result of the neo-liberal property tax revolt of the 1970s, which led to a proliferation of suburban growth control measures, land-use fiscalization through redevelopment, and further sprawl. Attempts to manage the fiscal and environmental challenges of suburban sprawl now face a scalar-territorial void created by (a) dysfunctional regional special purpose governments and (b) limited State and Federal support for metropolitan political integration. Regionalism, such as it is, amounts to a patchwork of quasi-regional and functionally discrete local territorial structures reflecting the ideals of fiscal localism, exclusion and autonomy characteristic of US (suburban) territorial government.

Pro Scale: Further Reflections on the ‘Scale Debate’ in Human Geography

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Abstract

In a widely-anticipated recent paper, Marston, Jones and Woodward (2005) make a case for a human geography without scale. Reflecting on this and a range of related writings around scale and spatiality, I want to argue contra Marston et al. and pro scale. Although attempts to incorporate a language of scale into the lexicon of human geography have created some unique difficulties, these are not insurmountable and, in part, arise out of real-world contexts where new scalar narratives and discourses have arisen. Given geographers’ increasing sensitivity to discourses and their spatial settings, it is hardly surprising that we have attempted critically to unpack both geographic and non-geographic processes and representations of ‘scale’. A sympathetic reading of Marston et al. is that their main target is recent work on state rescaling. This work could be accused of an over-structural-functionalist logic if not an obsession with hierarchy or scale per se. Seen in this light, it is perhaps ironic that Marston et al. want to ignore scale altogether and replace it with a flat ontology, which continues to privilege the local, place, co-presence and agency yet is silent on questions of power and hierarchy. If nothing else, such a project goes against the spirit of recent geographical scholarship, not least work on uneven development, difference, and the necessary spatiality of social, political and economic life. A human geography without scale is a world without spatial difference or connection, and is surely therefore a world without human geography. Do we really want that?

Barriers to water sustainability, globalisation and the role of international organisations
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Abstract

Climatic shifts and burgeoning population and urbanisation present the greatest obstacles to achieving sustainability for both public and environmental water resources. The last few decades have seen significant increases in extreme hydrological events in many parts of the world. More intense ENSO events, the record-breaking hurricane season of 2005, and the record multi-year drought in the western USA are just some of the latest examples. Global warming scenarios suggest that the problems created by climate change are likely to escalate. By mid-century some 100 million more people are likely to be living in water stress areas. Rapidly increasing world population is an even greater problem than climate change. The UN projects global population to soar from 6 billion to over 9 billion by mid-century and possibly 11 billion by 2100. Economic growth and the accelerating drift to the cities will also add to per capita demand. The paper presents evidence from the new World Atlas of Water Sustainability on the regional impacts of climatic variability and increasing demand. It also explores the role of international trade in water and virtual water, and the implications of privatisation and globalisation in the water industry. It concludes by looking at the potential role of international organisations in alleviating the problems.

Reconstructing past riverflows using a method developed for climate change impacts
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Abstract

The estimation of the risk of extreme hydrological events is often hampered by shortness of discharge records or even their total absence. This paper offers a method for the reconstruction of flood and low flow frequencies. The resulting extreme flow sequences may be used to improve estimates of present-day risks by extending the flow records or else to study past hydrological regimes in their own right. The method uses a technique developed to estimate the hydrological impact of future climate change and uses either observed or calculated meteorological parameters. It is possible to use this approach directly without modification to ‘hindcast’ events within the period of regional meteorological records, which in areas like the UK extend back over the last 150 years. It should also be possible to extend the approach to earlier periods using reconstructed meteorological parameters based on surrogate data, such as tree rings or ships’ logs. The technique uses an airflow index based stochastic weather generator to create hydrometeorological parameters to input into a physically based hydrological simulation model. The method is illustrated here in a reconstruction of daily flow series for the River Wye catchment above Rhayader, mid-Wales, for the period 1889-1998. The method makes use of observed climatic variables for the entire period, with the aim of capturing actual climate variability occurring over the 110-year period. Changes in high flow characteristics are assessed using the mean annual flood (MAF), Q5 flow and peaks-over-threshold (POT) calculated from the 110-year simulated daily flow series. This particular application shows evidence of a possible trend towards increasing magnitude and frequency of high flow events, which, if continued, would have implications for flood and water resource management. It is likely, looking at evidence from the last 110 years, that these recent increases may be just part of natural fluctuations in high flow extremes rather than evidence of anthropogenic climate change.

On some issues of the reconstruction of natural river runoff
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Abstract

Two methods for the reconstruction of natural river flows are discussed: the traditional method and a new proposed one. The traditional method is to simply add the volumes of known abstractions to the measured riverflow. This is not possible where data on the volumes of abstractions are unavailable or withheld for commercial reasons. The new method proposed here uses an analogue river for which flow data are available, but where abstraction has not occurred. By correlating flows in the two rivers before abstraction began, a regression equation can be established which can be used to predict naturalised flows for the affected river. This is applied to cases in Armenia.
Have Urban/Rural Suicide Inequalities Grown in New Zealand from 1980-2001?
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Abstract

Previous studies have noted that rates of suicide have increased in a number of OECD countries over the last 20 years. In many of these countries there has been a disproportionate increase in rural suicide, contributing to greater urban/rural health inequalities. This paper evaluates whether urban/rural inequalities in suicide have grown for males and females during the 1980s and 1990s, a period of rapid social and economic change to New Zealand society. Using consistent geographical areas, we calculate age standardised suicide rates for urban and rural areas. To assess whether socioeconomic factors underlie any urban/rural inequality in suicide, we investigate whether urban/rural status had an effect upon rates of suicide independently of socioeconomic deprivation for the time periods 1990-92 and 1999-2001. We find that overall suicide rates have increased among those aged under 45 but decreased for those aged over 45. Female suicide rates are consistently higher in urban than in rural areas. Male urban suicide rates are higher than their rural counterparts for all time periods other than the late 1990s. While female rates of suicide remained consistent in urban and rural areas, there were fluctuations in male urban/rural suicide inequalities. Initially, male suicide rates increased steadily until the mid-1980s when there was a sharp rise in urban suicide. Male suicide in rural areas displayed sharp rises in the late 1980s and mid-1990s. Increases were most marked among young males. By the end of the 1990s, rates of male suicide in urban and rural areas were very similar. These results are supported by Poisson regression analyses which demonstrate significant urban/rural differences in the early 1990s which had disappeared by the late 1990s. These effects are independent of the possible confounding effect of deprivation. Potential explanations are offered for fluctuating urban/rural inequalities including major economic structural changes from 1984 onwards, changing levels of social integration and selective migration. Keywords: Suicide, Urban/rural variations, New Zealand

Matildas for the New Millennium? 'Swagmen', 'Squatters' and 'Troopers' at Ningaloo Reef
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Abstract

Australia's coral reefs and pastoral stations are among the country's national and touristic icons. Equally iconic is the belief that, at least in the 'outback', Australians are free to roam, to fish and to unpack their swag (or its modern camping equivalent) beside billabongs or beaches. At North West Cape, and particularly on those pastoral stations adjoining the Ningaloo (coral) Reef, this belief is, increasingly, being questioned. The sealing of many roads into and around northern Australia in recent decades has led to a significant increase in the number of tourists. Many of these seek isolation and the relative self-sufficiency that fishing can provide. Some, particularly retirees, spend much of their winter in the tropics. Traditionally, local pastoralists have allowed 'unmanaged campers' to camp in the dunes opposite Ningaloo Reef. However, with the growth in camper numbers, their impact both on the fragile arid dune environment and on the adjacent maritime reserve which contains the reef is increasingly damaging. Just as 'Waltzing Matilda's' swagman was punished for poaching by the squatter and the troopers, so are modern-day pastoralists and park rangers seeking to control the unmanaged campers at Ningaloo. In differing ways, the swagmen (campers), pastoralists (squatters) and park managers (troopers) all see aspects of their heritages as being under threat from the other groups and are seeking creative solutions which will allow them to coexist with each other and with the local non-human populations.
Commercial Harvest and Sale of Bushfoods in Central Australia

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Abstract

The wild harvest and sale of bush raisin and wattle seed forms the basis of the commercial bushfoods industry in Central Australia. Bushfoods harvested from desert environments comprise the majority (estimated at 70%) of source produce available to the expanding bushfoods industry. It is not yet known how harvesters and wholesalers (buyers) are linked to the wider bushfoods industry market chain. For this industry to develop in an equitable and strategic manner it is critical that information on the wild harvest component of the bushfoods market chain is obtained. The aims of this project are to: 1) assess the sustainability of commercial wild harvest; 2) support local people to engage with the commercial bush produce industry and; 3) present a realistic, balanced view of the wild harvest industry. To date, research has focussed on wholesale business operators. Semi-structured interviews and participant observation on buying trips have been the main methods employed for data collection. Preliminary findings show that in the Central Australian region there are four major wholesale businesses. These businesses buy from 300-500 Aboriginal harvesters from Warlpiri, Alyawarr and Anmatyerr language groups. Business transactions between buyers and harvesters are characterised by up-front payment, face to face contact, acceptance of a diverse range of produce (e.g. seed used for mine site revegetation) and a mixture of flexible and open orders. Wholesale operators harness the capacity of a network of dispersed but efficient harvesters. They work in concert with Aboriginal socio-economic systems and demonstrate how quality relationships between Aboriginal and non-Aboriginal people can lead to productive micro-enterprise. Although there are substantial benefits to be gained from commercial wild harvest, it remains a vulnerable livelihood for those involved. Future research with harvesters will establish their roles and perceptions of wild harvest and the wider bush produce industry.

When Participation meets Empowerment: The WWF and the Politics of Invitation in Chimalapas, Oaxaca

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Abstract

Emerging out of radical theories about the uneven nature of power and employing practices that assist marginalized peoples in constructing their own development strategies, ‘participation’ has recently come under fire for being co-opted and mainstreamed by large governmental and non-governmental agencies, part of a new development ‘tyranny’ that betrays the concept’s populist roots. The issues surrounding participation are nowhere more hotly debated than in the area of conservation, where the requirements of ecological sustainability often collide with the demands of indigenous people seeking to control their own natural resources. As we show in this paper, the issues become even more complex when the ideals and practices of participation circulating within a non-governmental organization (NGO) are met by indigenous forms of empowerment, based not only on the resources of a remote and biologically diverse forest, but also a pool of knowledge about development discourses themselves, including those of participation. Our case study examines an interaction event between an affiliate of the World Wildlife Fund operating out of Oaxaca, a state capital in southern Mexico, and a group of indigenous Zoque-speakers living in that state’s Chimalapas forest. We interpret the collision between the NGO’s ‘participation’ and the Zoques’ ‘empowerment’ by employing ‘progressive contextualization’, an approach that leads us to identify and analyze the wider sets of conditions underpinning the encounter. We argue that the Zoques invert a generic and aspatial politics of participation by insisting on a territorially-based, and thus intensely spatial, ‘politics of invitation’ as they negotiate the complexities of participation within contemporary development. Key words: participation, empowerment, conservation, NGOs, progressive contextualization, Oaxaca.
A Study of the Wildland Fire Detection Using Satellite Data with High Resolution Sensor

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Abstract

Generally, once the wildland fire breaks out so extensively in a boreal forest, and it takes more than 10 years to recover the forest to initial state. Furthermore, the wildland fire causes the permafrost to melt and consequently the emission of methane gas sealed by permafrost. Therefore, early detection of the wildland fire helps to protect the natural environment. Kennedy et al. (1994) indicated the algorithm using middle infrared bands of satellite to detect the Wild-land fire. However, it is still far from detecting the wildland fire with this algorithm. The purpose of this study is to detect the wildland fire more correctly and to further establish a real-time the wildland fire detection system in boreal forests for their better conservation. The study area is around Northeastern China and Far Eastern Siberia. This study compares the three fire detection algorithms to analyze, as follow; Threshold Method(Maki 2002) & Sukhinin fs Method(Sukhinin 2002) Many studies were based on data collected from Advanced Very High Resolution Radiometer (AVHRR) on-board NOAA satellite, but this study is based on instead for Moderate Resolution Imaging Spectrometer (MODIS) onboard Terra/Aqua Satellite because of its higher resolution and variety of spectrum bands. The present result suggests that Sukhinin fs Method is better than any other algorithms, although, some false alarm even appears with this method.

Geography of aging and welfare in Japan

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Abstract

In this paper, geography of aging and welfare in contemporary Japan is considered. So-called gJapanese-focused East Asian social welfare regimeh is said to be closely related with the role of women as mothering. In this regime, family members are responsible for care-for-elderly. East Asian countries tend to place priority on economic growth than social welfare. But at the same time, Japan, Korea and Taiwan will follow the quite similar course toward the aged society. Based on the results of our research project gWomen fs Atlas of Japan h, I will present the regional variation of aging and welfare for the elderly. At the beginning, a series of maps are presented showing regional variation of aging and social welfare in Japan. These maps are then analysed from various aspects such as family structure, job opportunities, and local economy. Finally, I will discuss the effects of recent welfare reform in social welfare upon the geography of aging and welfare.
**Responses of a tropical savannas carbon exchange to smoke aerosols in Northern Australia.**

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**Abstract**

Net plant productivity is largely driven by solar radiation along with LAI, water and nutrient availability. However, recent studies around the world have indicated that atmospheric aerosols can also contribute to an increased carbon uptake by terrestrial biosphere. Aerosols originating from savannas burning produce large amount of organic carbon, which is an effective scatterer of solar radiation that can increase the relative proportion of diffuse solar radiation reaching the forest canopy. Diffuse radiation provides a more even illumination of leaf surfaces and greater penetration of leafy canopies and therefore can lead to a larger photosynthetic efficiency per unit of total global radiation. A savanna study site at Howard Springs in Northern Australia was selected to test this hypothesis by analysing the impact of smoke aerosols (from biomass burning) on the carbon uptake by savannas. Based on the 4 years data analysis, high AOD was found in the late dry season (July- Dec), suggesting strong contribution from biomass burning. Analysis of carbon flux and radiation data show that as the fraction of diffuse radiation increases the ratio of CO2 flux: global irradiance also increases. The increase is higher in the wet season than in the dry season. This is mainly due to the additional uptake of CO2 from under-storey grass biomass in the wet season. Both in the dry and wet seasons little difference was found in the CO2 flux:total irradiance ratios under thin clouds and aerosol loadings. However, in the wet season thick clouds scattered more radiation and caused higher CO2 flux:total irradiance ratios compared to thin clouds or aerosols. Under high aerosol loads the diffuse fraction of solar radiation is enhanced.

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**Distributions and Trends of Total Hours Exposed to High Temperature in Japan**

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**Abstract**

Owing to degradation of thermal environment during summer, health impact caused by thermal stress when a man is exposed to high temperature has become a serious problem. Mitigation of thermal stress is of great social concern and it has become an administrative issue. Most of the studies, which discuss thermal stress for health troubles, analyze only the urban area. This might be caused by the fact that urbanization has become a great concern as the main cause of increase in high temperature. However, there is a possibility that increase in high temperature is the result of not only urbanization but also various climate variations affected such as foehn phenomenon, expansion of subtropical high, global warming, and so on. Then, in this study, we examine thermal stress at approximately 800 stations in Japan and make a comparison between the stress in urban and nonurban areas. Distinguishing increase in thermal stress due to urbanization and climate variation is important for discussing further mitigation policy against urbanization as well as establishing adaptation strategy to climate. When discussing thermal stress, many studies have paid attention to maximum temperature. However, maximum temperature indicates only the instantaneous temperature and has large variations. In this study, total hours when temperature exceeds higher level is adopted as a suitable index of thermal stress. Data used for analysis is 'AMeDAS annual report' edited by Japan Meteorological Agency from year 1981 to 2000. The monthly total hours when temperature is higher than or equal to 30 deg C is counted and mapped from July to September. Yearly trends of representative stations are also examined, and the causes of change in the hours are discussed by comparing between urban and nonurban areas.
**The Regional differences of Elderly Inhabitations and Facilities in Hokkaido, Japan**
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**Abstract**

In developed countries, the increase in the ratio of elderly people to the total population has become a social problem. So, creating an environment in which elderly people can live comfortably and participate in society has become an important subject. Hokkaido has multiple urban centers where the climate is classified as sub-arctic. There is heavy snowy and ice throughout these areas in winter. Since the living environment varies depending on the season, research that takes such local characteristics into consideration is necessary. This study aims to clarify the differences between intra-urban and rural inhabitations and facilities for the elderly. The data for this study is drawn from the elderly themselves, shop and hospital data from the 1-km grid population census (from 1980-2000) and the 1-km grid Establishment and Enterprise census (from 1981-2001). We performed GIS (Geographical Information System) analysis on various cities in Hokkaido, using all the data mentioned above. As the result of this analysis, two types of increase in the elderly population are documented from research on the local distribution of the elderly population. One type is brought about by an outward flow of the young from rural areas, and the other type is caused by an inward flow of the elderly to areas surrounding urban centers. In particular, this analysis shows that the elderly have recently been migrating to the urban core where there is an agglomeration of shops and hospitals. The elderly prefer to access such facilities on foot. But the elderly who live in rural areas where the distances from their place of residence to the desired urban facilities are long are left out of urban development planning; the elderly in such rural areas cannot access such urban facilities on foot. This fact seems to be helpful for location planning and urban policy.

(Re)making matter: design and selection
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**Abstract**

There have been a number of calls to take matter and materiality more seriously within geographical and social science scholarship (Jackson, 2000; Miller 1987; 1998) and a sustained discussion of the implications of such a re-materialisation (Kearnes, 2003). It is significant that this reconsideration of the place of matter and ‘the object’ in social science is paralleled by a fundamental technological reorganisation of matter and the material. Specifically the interface between contemporary bio, nano and information technologies promises a range of revolutionary material interventions. This paper examines the roots of this re-organisation of matter in physics, biology and chemistry. For example, Erwin Schrödinger’s essay What is Life? The Physical Aspect of the Living Cell (1944) signalled a ‘materialist turn’ in biology in the attempt to understand the physicality of biological processes. Similarly John von Neumann’s work in mathematics and theoretical physics signals a ‘bio-mimetic turn’ in the physical sciences with the algorithmic imitation of cellular processes of self-organisation and self-assembly. Both these ‘turns’ contribute a broad re-organisation of matter through the design, control and manipulation of ‘complex matter’ – technological objects that are formed through processes of self-organisation and self-assembly (Lehn, 2002). Subject to the vagaries of chemical synthesis and the evolutionary imperative in biological processes such technological interventions also entail a move toward open models of ‘bottom-up’ notions of design and control. In concluding, this paper, reflects on the implications of this technologisation of matter for current geographical and sociological thinking.
**Perspectives on personal mobilities and contemporary urban life**

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Abstract

Mobilities in general and personal mobilities in particular constitute an integral part of urban lives. Cities have always constituted hubs of human interaction and communications. Contemporary cities are both facilitators for mobilities and based on them. Furthermore, contemporary cities constitute systems of mobilities per se, beyond the obvious material scenes of moving cars and walking people on city streets. The accentuations of cities as foci of interaction, flows, and mobility seem to stand in sharp contrast to the tremendous potentials for urban decentralization attributed to automobiles and to computer communications, potentials which have brought about repeated and as of yet unfulfilled forecasts suggesting the dismantling of cities altogether. The cumulative experience and evidence of over a century of growing availability and concentration of technologies of mobilities in cities have presented spatially expanded, but simultaneously also rather vital, cities of mobilities. Currently emerging sophisticated technologies for virtual personal mobilities do not necessarily involve spatial material change, as they present a mode of adaptation to existing spatial structures. This indifference of mobile communications to urban spatial structure stands in sharp contrast to the automobile which has simultaneously facilitated and demanded much of the urban spread typifying contemporary cities. It has been rather for other urban dimensions that have changed with the wide adoption of virtual, notably portable, communications devices. Most striking among these dimensions are the mechanisms and processes involved in the development of urban spatial structures and the perceptions emerging through the 'operating' of the city by urbanites. These processes will be examined in the following discussions through the viewing of cities as constituting of and as possessing several attributes: syntax, machines, networks, and rhythms. In these discussions we will concentrate simultaneously on people and mortar.

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**Spaces of Production: Difference and Distinction on the Côte de Beaune, Burgundy.**

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Abstract

In the world of wine the French appellation d’origine contrôlée (AOC), or controlled label of origin, continues to provoke strong reactions. Often presented as the natural suitability of vine environments to the production of quality wines, the AOC are perhaps more accurately conceptualised as a means of mediating claims to place identity and access to the monopoly rents which can accompany them. In the region of Burgundy, where climate makes winegrowing an essentially marginal activity, the necessity of accessing these potential rents ensures that these contests are particularly fierce. This paper traces the development of the AOC of the Colline de Corton (Hill of Corton) at the head of the Côte de Beaune and in particular the relationships which exist between the three winegrowing villages which lie on the slopes of the hill: Ladoix-Serrigny, Aloxe-Corton and Pernand-Vergelesses. The introduction of the AOC in 1935 institutionalised a hierarchy of territorial classifications produced in the 1850s and 1860s and cemented through regional courts in the early decades of the twentieth century. This classification placed the village of Aloxe-Corton as the principal producer of fine, grand cru, wine in the area, while largely relegating the other two communes to the production of communal and regional wines. A concerted effort on the part of these two communes saw their access to the grand cru AOC increase in the following decades. More recently, the communes have continued to increase the perceived quality of their wines through various means. This struggle for place identity has resulted in significant changes in the geography of wine-growing in the three villages.
Seasonal Oscillations of Reef Island Shorelines: South Maalhosmadulu atoll, Maldives
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Abstract
The Maldives experience seasonal shifts in monsoon winds from the west-northwest to northeast. The morphologic response of reef island beaches and shorelines to these predictable shifts in climate was examined on eight islands in South Maalhosmadulu Atoll based on global positioning system surveys of island shoreline planform in January and June 2002, and February 2003. Surveys show that islands exhibit large gross changes (31-120% of beach area) in shoreline position between seasons. Such changes reflect large reversals in sediment flux of 9 000 - 23 000 cubic metres on a bi-annual basis driven by seasonal reversals in wind and wave conditions. Annual net change is small (2-15%) suggesting islands spatially exhibit a dynamic equilibrium. Island planform necessitates reconsideration of conventional notions of shoreline morphodynamics. An island oscillation index (Io) is defined that describes the spatial extent of shoreline change around islands. Island shape (ellipticity, e) is found to be positively correlated with Io in the expression Io=1.021e-0.275, suggesting island and reef platforms shape is a better indicator of the susceptibility of island shorelines to morphological change than wave energy exposure.

The geographical distribution of coral reefs during the Last Interglacial: New evidence from Lord Howe Island
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Abstract
Human-induced climatic change has lead to dire predictions for the health of coral reefs systems. Increased coral mortality through processes such as bleaching has been suggested to cause a global decline in reef systems. The response of coral reefs at high-latitudes, where cool temperate waters restrict growth, to these changes is more poorly understood than their tropical counterparts. Recent evidence indicates that global warming could in fact lead to an extension of current reef distributions. Investigations of reef systems that have developed during periods of warmer surface ocean temperatures, such as the mid-Holocene Optimum and Last Interglacial, may yield valuable results on how reefs can respond to warmer seas. Lord Howe Island currently lies at the southernmost limit of contemporary coral reef development. Growth rates for this reef were highest during the mid-Holocene suggesting an environment more conducive to reef growth. This paper therefore sets out to investigate reef development around the island during the Last Interglacial. Sedimentology of the reef appears to be similar to present, with units corresponding in character with the fastest deposited facies of the modern reef. Reef growth also appears to have occurred on the island during the Penultimate Interglacial. Combined this evidence suggests that warmer sea-level conditions lead to an extension of coral reefs at high latitudes. Extrapolation of these results to the future is difficult given the rapid rate of contemporary change, however they do indicate that coral reefs have been more extensive at high latitudes during past Interglacial periods than previously described.

Visualization and Analysis of Urban Taxi Demand Survey Data
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Abstract
This paper analyses taxis demand at Sendai City where there is an oversupply situation. And it is also the first step for developing a management system of urban taxis. Data of taxis demand was collected by cars mounted wireless GPS and the surveys written by taxi drivers. The taxis demand is explained by the population of customers, the average of travel time and travel purposes. This demand is compared to regional data, such as, trip distance, the distance from the station, the number of buildings and the population density as region-specific characteristics. In analysis of time factor, the time series consist of time zone, rainfall, and day of the week are classified to several patterns based on similarity. The distribution of vacancy cars is explained by travel time as supply and it visualized and compared with the distribution of customers.
Towards a suburban seachange: culture and identity in the making of a coastal town
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Abstract
The term ‘seachange’ became part of Australian culture in the mid 1990’s when a popular television series depicted the story of an inner city lawyer who decided to ‘leave it all behind’ and move to a coastal town to start a new life. Her story was read as a representation of a phenomenon common across Australia as baby boomers moved into early retirement, and other age groups escaped housing affordability stresses, moving out of major urban centers and into smaller coastal settlements. The impact of this population trend on the culture of coastal towns has been well analysed. Some analysts highlight the cultural and economic transformations made in small coastal communities by alternate lifestyle seekers while others analyse the use of lifestyle as an identity marker, and commodity, within tourism. In this paper I am interested in extending on the cultural analysis of the seachange phenomenon. Using the example of Barwon Heads in Victoria (the home of seachange in the television series) the paper explores the notion of identity within the seachange experience. It explores the ways in which notions of identity were linked to people’s decision to make the seachange move and the impact of the seachange location on identity formation. A core theme within the paper is the exploration of conflicting notions of place within the seachange environment and the ways in which these notions of place link to social formation within the town.

Engaging with difference in the planning of public space
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Abstract
Public spaces are notoriously contested spaces. Often celebrated as an arena of public debate, or public display, public spaces can also operate as sites of social exclusions where alternate cultures are co-opted and commodified. Planning and design practices have been criticized as playing a role in these processes of exclusion. In my PhD research I analysed the ways in which urban planning processes led to the marginalization of the ‘different’ cultures of urban Aboriginality and street sex work. My research showed how urban planning processes co-opted notions of difference, turning difference into an aesthetic feature rather than a social reality, marginalizing the social groups on whose identity ‘difference’ was based. Such criticisms of the exclusive nature of public space are now widespread. If public spaces are to be upheld and celebrated as sites of difference and social expression then the challenge is to develop a form of public space that truly embraces difference. Translated onto the planning and design professions this challenge means developing tools and techniques, new ways of ‘knowing’ and ways of ‘mapping’ that allow public space to be inclusive of difference. The paper draws on two case studies of contemporary public space design in Australia to explore how planning and design practices might work to understand the meaning and value of public space to alternate cultures and alternate social groups.
Development of the 'natural' components of the Budj Bim volcanic landscape, SW Victoria, Australia
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Abstract

The Budj Bim, or Mt Eccles landscape formed with the outpouring of basalt from the Lake Surprise volcanic vent about 30,000 years ago. The slow accumulation of gyttja or algal ooze between basalt blocks within depressions in the newly formed landscape indicates little modification of the basalt flow during the relatively dry and cool conditions towards the end of the last glacial period. A more regional picture, provided by sediment accumulation in Lake Surprise, indicates that the whole landscape was dominated by steppe vegetation with little tree growth. Conditions ameliorated in the very late glacial to early Holocene with the marked expansion of Casuarinaceae forest or woodland, probably as a result of an increase in temperature, at least regionally. Amelioration was marked on the lava flow by the development of permanent drainage lines and associated rapid aquatic succession in shallow water bodies from open water, through a series of swamp seral stages, to Leptospermum scrub and heath. A regional vegetation change from Casuarinaceae to Eucalyptus-dominated forest and disruption of the terrestrialization process within the lava flow water courses around 8000 years ago could have been the result of increased precipitation. Despite evidence for variation in rainfall and associated patterns of burning over the last 8000 years, the dryland and aquatic landscapes remained relatively unchanged, until the time of arrival of European people. The challenge now is to understand patterns of change and stability in relation not only to regional climates and volcanic landscape evolution but also to occupation by Aboriginal people that has resulted in intensive settlement and management of this landscape.

Contract Dairy Farming and Its Socio-Economic Relevance in North India: A Case Study
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Abstract

Contract farming is a form of agreement between producers and any one or range of agents of marketing of agri-products with a view to maintain regular supply as well as secure marketing accessibility for a particular type of products. This form of farming system has been widely spreading and expanding its horizon in developing countries especially in the production of perishable commodities i.e. vegetables, fruits and dairy due to increasing their demand in national and international markets. India is one of the old traditional agricultural countries of world. Various forms of agricultural system including contract farming have been practiced since antiquity. But they are of primitive traditional and subsistence nature. Now the increasing trend of commercialization of agriculture after liberalization of economy has encouraged the modernization of existing system. Contract dairy production system is very common in north India. The study of such deep rooted system based on grassroot level socio-economic attributes of the area would be a strong base for expansion of contract farming controlled by multinational agri-business companies or firms. Aligarh* district has been selected for detailed study. 12 villages were sampled, one from each block on the basis of stratified sampling techniques.50 per cent of milk producers of different socio-economic groups of house holds from each village were further chosen to make detailed enquiries on different aspects of the systems. 60 wholesalers of milk either working as collectors or processors were also interviewed on the existing process and mechanism of production and marketing of the milk in his contract area. Different socio-economic aspects have been also taken up well. The present study revealed that contract dairy farming is well established and developed on small scale in the study region. Different forms of channels between processors and producers were found and all of them were fully controlled by the people of low socio-economic horizons especially at the lower end of the channels. The level of rural socio-economic transformation has also improved much due to the generation of employment ane in rural area. Rural urban migration has also been checked to a considerextent.
**Climate change in southern Africa after 1950s**
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Abstract

Observed wide area around Africa, Shinoda(1989) described the linkage of the climate of north and south Africa, Shinoda and Kawamura(1996) described that the annual variability is related as ENSO and decadal variability is related as the SST rising in the southern Atlantic Ocean. In my study, it will be clarified that the rainfall factor in the southern Africa is distinguished by the synoptic weather charts, and its seasonal and inter-annual rainfall variability after 1950s. In this study the data were analyzed the daily reanalysis by NCEP/NCAR, the CMAP precipitation data by CPC, and, the NCDC daily observation data. The season with rainfall was selected by CMAP rainfall data. In the result, we could get mainly 3 patterns of rainfall factor: (1) the ITCZ went southward and the rainfall was found wide area, (2) the regional disturbance with lightning was found, (3) the cyclone came westward from the Indian Ocean. In the eastern Botswana, the main rainfall factor is the ITCZ which came from north. From western Botswana to Namibia, many times of regional thermal disturbance with lightning were found. The effect of cyclone from the Indian Ocean was met sometimes in Botswana, but little in Namibia and Angora. The regional thermal disturbance was held many times in the first term and the end term of the rainy season, and it shows the high variation. Otherwise, movement of ITCZ southwards was often shown in middle term of the rainy season, and the low variation.

**Shifting Subjectivities: Power, Complicity and Desire through the Lens of a Participatory Video Research Project with Te Iwi o Ngaati Hauiti, Aotearoa/New Zealand**
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Abstract

While many geographers engaging in participatory research are apparently open to scrutinizing their own practice through explorations of how subjectivity, individual experience and negotiation with participants figure in the production of knowledge, few engage with how these explorations relate to the transformative potential of the visual for their research and its representation (cf Pink, 2001:12). Such an absence is notable given participatory research’s visual orientation. Drawing on particular ‘critical incidents’ within an eight-year participatory video research project with Ngaati Hauiti, I ‘excavate’ my experiences to reflect upon and analyse how power, complicity and desire both enabled and constrained the performance of particular subjectivities, and how these subjectivities were contingent and shifting in relation to the video technology and its use in different spaces. In so doing, I seek to contribute a critically self-reflexive methodological engagement with this project’s process and outcomes in order to raise deeper questions about the discourses of participatory development, participatory action research and participatory video along with their implications for the emerging body of work desiring to be participatory within Geography.
Marginal spaces, marginal lives? Rethinking the integration of refugee and migrant young people in Wellington and Newcastle upon Tyne
Ms Sara Kindon *, Institute of Geography, Victoria University of Wellington, Aotearoa/NZ
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Abstract

This paper reports on participatory research projects with refugee and migrant young people in the cities of Wellington in Aotearoa New Zealand and Newcastle upon Tyne in the UK. Starting from the understanding that identities are in circulation transnationally long before individual young people arrive to a new ‘home’, we draw on empirical evidence generated with young people in the two cities to consider how geographical contexts shape their everyday experiences and identities. Both projects foreground their agency in negotiating new lives and places and attempt to understand the changing emotional geographies of security, fear and hope. In both Wellington and Newcastle, despite their very different histories of immigration, ethnic and national differences between refugees and migrants tend to be erased so that they are added in the local imagination to categories of ‘black’ or ‘Muslim’ Others. Young refugees may find themselves caught up in race relations, which have a long history as well as issues of local conflict or new fears related to the ‘war on terror’. Issues of immigration and asylum are also framed by the local and national media - a discourse of young refugees as ‘victims’ is prominent in Wellington, and also present in Newcastle though increasingly drowned out by discourses which criminalise young refugees. Drawing on information generated by young people themselves, we demonstrate how young refugees and migrants in both places resist these stereotypical castings and are active agents in forging new identities and experiences. We also discuss how the specific geographical contexts in which these young people are embedded inform the extent to which their efforts are recognised or rebuked by their host societies.

The Conservation Of Indigenous Nature In The City
Prof Jamie Kirkpatrick *, Institute Of Australian Geographers

Abstract

Cities are not thought of as places that are important for nature conservation, yet frequently contain islands and corridors of largely native ecosystems. Their gardens provide a resource-rich habitat for a substantial subset of native species. Their buildings provide nest sites for native animals. Native vegetation in and around cities often contains populations of plant species threatened elsewhere. These populations can be difficult to maintain because of urban-induced changes to soil fertility, fire regimes and grazing regimes. Because of the close proximity of gardens, problems of management of exotic invaders of native vegetation are extreme. Synthetic vegetation types, partly composed of exotics and partly of natives, often develop. Predation by carnivores and road kill often render many non-arboreal native herbivores locally extinct. However, the high concentration of food resources at all times of the year can attract some animals which have become rare through loss of habitat elsewhere. High concentrations of people with a nature conservation ethic can be found in the richer sections of cities. They often work to protect and help manage remnant native ecosystems. Many manipulate their gardens with the aim of providing habitat for native fauna. Others deliberately grow threatened plant species to provide insurance in case of extinction in the wild. The combination of high nutrient status and frequent disturbance that characterizes gardens can sometimes favour rare native ruderal plant species. While much of indigenous native nature in cities is an accidental outcome of urbanity, motivated city residents and governments can play a major role in nature conservation. In urban nature conservation, it is critical to concentrate on the ecological needs of the most threatened species, not some notional idea of naturalness. Needs are highly variable between species, making good scientific knowledge and its communication highly important.
'I can see that I am a person who has the ability to do many bigger things': Participatory youth-led research with former child domestic workers in Tanzania.

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Abstract

Child domestic workers are children ‘under the age of 18 who work in other people’s households doing domestic chores, caring for children, and running errands, among other tasks’ (UNICEF, 1999:2). They can be paid in cash or kind and are employed by (and usually live in the homes of) adults who are not their parents. Child domestic work (CDW) appears to be particularly prominent in Majority World (developing) countries and in Tanzania it is a highly feminised sphere of employment. This paper focuses on participatory research undertaken with former and current child domestic workers in the Iringa Region of Tanzania. It outlines an attempt to give these current and former ‘house girls’ an opportunity to exercise agency in the research process itself – both as co-researchers and as informants working to develop an employment contract to formalise and regulate CDW at the local-scale. Instead of focusing on these young people as victims, this research seeks to develop a more nuanced understanding of the decision-making processes that lead these girls to enter CDW, and to help them find a ‘space’ within which they can advocate for changes to improve their own lives.

The Geography of Waste Management in Queensland

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Abstract

Mass consumption societies tend to be bulk post-consumer waste producers. Municipal waste streams are dynamic, varying with production technology, consumer choice, and the availability and utilisation of recycling services. Societal recognition of the need to reduce landfill rates has led to a significant expansion of recycling services over the last decade. The effectiveness of post-consumer recycling in reducing landfill volumes is a product of service provision and public participation rates. Geographical factors are also important, with settlement patterns and distance to secondary markets affecting the viability of local government recycling services. Queensland has a diverse range of settlements, with a large metropolitan area, a chain of coastal cities, and a mixture of smaller inland towns and villages. A number of inland local governments, with populations below 2,000 people, have remote and very remote Accessibility/Remoteness Index of Australia classifications. This paper will examine the pattern of domestic recycling services provided by local governments in Queensland from a geographical perspective.

Changes and Characteristics of Bulgarian Rural Areas

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Mrs Margarita Ilieva, Bulgarian Academy of Sciences Institute of Geography, Bulgaria

Abstract

After the Revolution in 1989, the Former East European Countries have experienced drastic changes, which have been accompanied by the appearance of winners and losers. One of the typical losers is agriculture and its concomitant rural area. However, regional differences and regional disparities in rural areas have been expanding. As a result, rural areas have become more diversified. Rural areas in Bulgaria, as well, have not escaped this trend. The purpose of this presentation is to describe the changes and characteristics of two typical rural areas: one is a rural area on the outskirts of big cities and the other is a rural area far from them. Study areas belong to the Sofia-Capital region, Plovdiv region and Pernik (Tran) region, respectively. In the suburban areas of Sofia and Plovdiv, there have appeared a variety of rural areas: rural areas changing into commuter towns, rural areas where industrialization has been developing and rural areas where agriculture still plays an important role in the rural community. On the other hand, in Tran, that is far from any big city, an acute decrease in population, an increase in the unemployment rate and expansion of fallow land have become prominent. In this presentation, the actual situation of Bulgarian rural areas and their prospects for development will be discussed.
Global Networks of Stock Markets. The Significance of Electronic Communications Networks
Mr Andreas Koch *, University Of Munich, Dep. Of Earth And Environmental Sciences
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Abstract

Equity securities markets have changed enormously in the last decade due to globalization and liberalization processes of financial markets and the general technological progress. To achieve more liquidity, improve price transparency, and accelerate processing, Stock Exchanges do not only compete among each other but also, and increasingly, with so-called Alternative Trading Systems (ATS). These ATS are Electronic Communications Networks, processing the entire transaction lifecycle electronically: from real-time order trading and matching to clearing and settlement, and from collecting and managing to distributing real-time market information. Since the mid-1990s, Stock Exchanges have developed different strategies to react to these economic and technological challenges. With the exception of international co-operations and mergers among Stock Exchanges (mainly in Europe), takeovers of ATS by Stock Exchanges and vice versa (mainly in the United States) are predominant activities. Furthermore, the construction and extension of ECN, owned by the Stock Exchanges, is of increasing importance. All this leads to a global integrated network consisting of currently primarily national or continental Electronic Communications Networks. The paper describes the organizational and technological trends of electronic trading systems from an economic geographical point of view by giving examples from the United States and Europe. The changing role of Stock Exchanges as traditional market places as well as processes of (de-) concentration and (de-)centralization and the (maintaining) role of global cities will be discussed.

Development and its Mechanism of Organic Farming in the Global South: A Case Study in Sri Lanka
Mr Kohmoto Daichi *, Graduate Student, Department of Geography, Hiroshima University; Research Fellow of the Japan Society for the Promotion of Science

Abstract

Major findings of this study are as follows: 1) Organic Farming (OF) in Sri Lanka has mainly led by agri-businesses that have organic certification of industrialized countries for exporting. This type is twofold; plantation companies and companies that organize small farmers groups, and they mainly export tea and processed spice/ fruits, respectively. Their locating pattern results from the convenience for exporting, but some of them are also chosen by considering less-favored areas. Organic cultivation of rice is, however, not popular because rice is mainly for domestic consumption despite the major agricultural land use in Sri Lanka. 2) NGOs promote OF mostly for environmental conservation, conservation of traditional cultivation system, motivating farmers’ environmental consciousness, security of their food, and they do not always concentrate their effort to export the products. Therefore, locations of their office and their promoting crops have diversity. However, a few NGOs are active in OF promotion and they have close relationships with international organizations based in industrialized countries. 3) Despite the strong connection with industrialized countries, the development of OF in Sri Lanka has been endogenous to some extent and has inter-relationships between relevant actors, such as technical supporting and finding buyers. Under this situation, Sri Lankan government, which had promoted ‘green revolution’, has changed the attitude toward OF and original certification system is in consideration in cooperation with other relevant actors. 4) OF in Sri Lanka will continue to develop depending on the export to industrialized countries, because of difficulty in forming domestic organic market. Therefore, government’s support is necessary to the exporting activities. While, as public benefit actors, government, NGOs and international organizations need to give a priority of promoting OF to environmentally sensitive areas and socio-economically less-favored areas. At the same time, all ‘upper’ actors including us in industrialized countries must understand actual situation of ‘lower’ actors such as small farmers and plantation workers and support them. Otherwise, OF as ‘an environmentally, socially and economically sustainable farming style’ will not be realized in developing countries like Sri Lanka.
**Teaching English to Geographers in Russia through the Cultures of the World**
Prof Anna Komarova *, Lomonosov Moscow State University
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**Abstract**

1. Foreign languages form a very important part of professional training of geographers in Russia. At the Faculty of Geography of Lomonosov Moscow State University (MSU) there is a compulsory course in a foreign language for undergraduate students (the majority of the students learn English). 2. Geographers need to be in command of English to employ it in connection with their professional activities. Thus the course of English focuses on practical communicative language skills (reading, speaking, listening comprehension, writing) rather than on theoretical knowledge about English morphology, grammar and syntax. 3. Although Modern English is characterized by a number of territorial, national, social and functional varieties, to gain the linguistic competence a foreign geographer should acquire a variety of scientific standard English by means of which information is passed in the most clear and straightforward way. This kind of English provides a reliable understanding between professionals. All kinds of slang, dialects, different accents, expressive elements are beyond the immediate needs of pragmatic learning. 4. We use as teaching materials conceptually oriented authentic monographs and textbooks on geography, articles from geographical journals, audio- and video-materials concerning physical geographical and socioeconomic problems. 5. Apart from geographical issues proper we use texts and other materials which concern cultural issues. The texts about the cultures of the world, not being directly related to geography, enlarge the learners' background knowledge of different mentalities, ways of life, visions of the world, national characters, customs, systems of values. At the same time being good examples of 'clearly written and easy-to-follow' authentic English they provide the learners with necessary linguistic means to build their competence in the foreign language. This allows the students to learn with an additional interest and have a deeper understanding of the geographical problems within the broader cultural context.

**Permeability of the Polish part of the new European Union external border**
Assoc. Prof. Tomasz Komornicki *, Institute of Geography and Spatial Organization, Polish Academy of Sciences

**Abstract**

Main aim of the paper is to identify the changes in cross border traffic dynamic after 01.10.2003 (introduction of visas for East Europeans) and 1.05.2004 on the Polish part of the EU external boundaries. The increase in the level of Polish border passenger and HGV traffic since 1990 was without precedent in the history. While there were a total of 59 million individual crossings of all the borders taken together in 1989, the figure just a year later was already up to 84 million, while that for 1992 was as high as 157 million (thus 2.5 times the level three years previously). In subsequent years, the rate of increase in the traffic slowed gradually, while still exceeding 10% each year. By 1999, the number of individual crossings of the border in both directions exceeded 285 million, of which Poles were involved in 33%. Later on the increase was slower and in the 2001 the traffic declined, mainly because of Russian crisis, price balancing and connected with the previous factors less intensity of bazaar trade on the Eastern border. Situation after the enlargement of EU is not clear, however data from the year 2004 shows the new growth tendency. Proof of the increasing vitality of economic contacts is provided by a dynamic to the growth of HGV traffic that is even greater than in the case of individuals and private passenger vehicles. While 295,000 HGVs crossed all Poland's borders taken together in 1980, the figure for 1990 was 1.1 million, and that for 2004 was 5.6 million. This growth in HGV traffic has taken place virtually uninterruptedly along all the borders.
Problems of Warsaw air junction
Assoc. Prof. Tomasz Komornicki *, Maria Curie-Sklodowska University, Institute of Geography, Lublin

Abstract
Warsaw is one of the growing Central European transport junctions. Construction of the new international airport is presently under discussion. The On the other hand the low-cost operators prefer the airports in the other Polish cities. In the paper the position of Warsaw in the European transport system is presented. The demand for air connection is examined and the current tendency of air traffic intensity and structure in Poland (low costs operators, deregulation, and decentralization) is described. In the conclusion author try to answer the questions: –Does Warsaw really need the new airport? –Which location could be the best one?

Cultural geography and social relevance
Prof Lily Kong *, National University Of Singapore

Abstract
This paper traces the development of the ‘geography and social relevance’ debate since the 1970s, and offers some reasons for the continued lack of engagement between geographers and policy. In particular, I examine where cultural geographers stand with regards to social relevance, particularly in terms of contributions to urban policy (including urban social and economic policy), but also in terms of other means of social engagement. The focus is on how cultural geographers have/not contributed to a socially relevant understanding of and engagement with the city.

Long distance dispersal of Ammophila arenaria (marram grass) via marine rafted rhizome
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Abstract
Ammophila arenaria (marram grass) has been introduced into a number of temperate climate countries. Recent research in New Zealand, South Africa and Australia has demonstrated that Ammophila is highly invasive and able to significantly modify the ecology and geomorphology of dune systems. Ammophila establishes from seed, however, it may disperse over long distances through marine rafting of rhizome fragments. Fragments of marram rhizome enter the marine environment during episodes of foredune scarping. Once in the marine environment, rhizome fragments are transported by ocean currents until they sink, or the rhizome is washed ashore. Recent research indicates that rhizome can remain viable after at least 40 days in seawater and remain buoyant for 108 days. For a plant to establish from rhizome fragments, the fragment must be deposited in an environment suitable for shoot emergence and survival. Chances of survival are improved if the rhizome is deposited above normal wave activity. This process was observed during a recent storm event in southern New Zealand Invasion potential is likely to differ seasonally. There is some evidence rhizome tolerance to seawater submergence is greater during colder months. Storm events occur more frequently during winter months and carbohydrate reserves within rhizome are also likely to be higher in winter. Further research is required to more accurately model the marine dispersal process. This includes improving understanding of the a) natural variability of rhizome viability; b) the frequency of storm events of sufficient magnitude for foredune erosion and rhizome deposition; and c) conditions required for shoot establishment following rhizome stranding. Such research will result in a more comprehensive understanding of the probability of marram invasion via marine rafted rhizome fragments.
Emerging issues and challenges of rural transformation: Agriculture and livelihood in Fiji
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Abstract

Poverty manifests itself in different ways and its nature varies in geographic distribution. In Fiji, the Poverty Report stated that two-thirds of the total poor households in the country live in rural areas. Among these rural poor, one aspect of their disadvantage status relates to the influences of the market economy on their livelihood. For most of them, agriculture is their primary mean of sustaining a reasonable standard of well being as it provides food security. With the current emphasis on market driven economic production, most households are faced with new challenges as they strive to adapt to these changes. Without doubt, there are wider implications of this. This paper discusses issues and challenges of rural transformation in Fiji. Specifically, it examines changes in agricultural socio-economic production and its implications on livelihood.

Governing Emerging Megacities: Water, Health and Quality of Life in Pearl River Delta/China and Pune/India - Key Challenges for Megaurban Sustainability
Prof. Dr. Frauke Kraas *, Department of Geography, University of Cologne, Germany
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Abstract

Rapid urbanization processes subject the megacities of China and India to severe impasses in the fields of water and health supply. Thus, the quality of life and well-being of their inhabitants is adversely affected, and the problem of increasing loss of governability arises. These developments impede economic growth and global competitiveness of the national economies and endanger socio-political stability in the megacities. Against this backdrop, the aim of a comparative interdisciplinary project is to set up and implement a comprehensive, interdisciplinary decision support system on the basis of a profound analysis which enables the development of efficient steering mechanisms to secure sustainable water and health supply as well as quality of life and well-being in the megacities of Pearl River Delta/China, and Pune/India. Central foci of analysis and implementation are aspects of (1) quality of life and well-being, (2) water supply, (3) health supply, and (4) governability in both megacities. A system of indicators, a decision support system, appropriate visualization tools, specific information and education campaigns as well as the different implementation steps are developed in close cooperation with partner institutions. Decisive criteria of transfer are interdisciplinarity, trans-cultural development of concepts and multi-scale approach. The paper summarizes the major up-to-date findings and reflects the interdisciplinary and intercultural challenges in the field of comparative megaurban research.

The Potential of Photovoice in Examining Oppression of Indigenous Women in Canada
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Abstract

Current literature on Canada’s Indigenous women define a population that experiences far greater vulnerability than any other collective group in Canada. The social and economic disadvantage experienced by Indigenous women in Canada has finally received international attention with the recognition and documentation of the social injustices that characterize their lived experience. This is an issue of oppression and for Canada’s Aboriginal population oppression begins with identity. Identity plays a key role in research on Indigenous issues, as examination of these issues requires methods that remain faithful to anti-oppressive practice and respectful of Indigenous populations and knowledge. It is the purpose of this paper to explore the theoretical potential of a visual image tool, Photovoice, in accessing the viewpoints of Indigenous women about their lived experiences of oppression in their lives.
New migration trends in Latvia and its impact on economical and social development
Mrs Zaiga Krisjane *, Dep. of Human Geography, University of Latvia

Abstract
The European Union enlargement and its free labour market are seen as one of the key factors influenced migration processes in Latvia. The results from different studies and surveys indicated that the current new migration flows and new types of migration on different levels: international, regional and local. The migration processes face such social problems as comparatively high unemployment, lack of economic activity and demographic change, especially in rural areas and small towns. There are changes of traditional migration flow pattern as well as. Because many migrants previous from these areas went to larger cities then to capital for job. Nowadays they could go straight aboard for work. There was a gradual shift toward greater migration flows to Europe and other developed countries. Lots of Latvians work abroad, although the precise numbers are not known – many people do not declare their income or register as having worked abroad. Many work at seasonal jobs, and not everyone works registered. Ireland and United Kingdom have been particularly popular destinations. There are already considerable numbers of people from Latvia in both countries. There is a new trend in migration – the desire to go abroad to gain knowledge and experience and then to return to Latvia. To be sure, it is impossible to know how much time migrants will finally end up spending abroad. Neither do we have a clear sense of whether someone who has been away for several years will be able to adapt to new circumstances in Latvia, or whether that person will be able to return to Latvia at all. Fast economic growth of Latvian economy will rise in future demand for labour force and labour migration from abroad.

Analysing plants and their movements: a new regional political ecology
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Abstract
Plants have moved throughout history, often by human agency, shaping livelihoods and landscapes around the world. Australian acacias, for example, grow in over 70 countries in the world for decorative and economic purposes; meanwhile some Afro-Asian acacias have been planted in Australia. In many cases, these non-native trees are now seen as problem pests. We propose a framework to analyse such movements in a way that goes beyond ideas of ‘invasive aliens’ or ‘non-natives’ and that focuses attention instead on the rhythms and speeds of movement as a key factor shaping geographic scales and regions.

A geographic automata for modelling disease outbreaks in feral and wild animal populations
Dr Shawn Laffan *, UNSW
Dr Michael Ward, Texas A&M University
Ms Linda Highfield, Texas A&M University

Abstract
We describe the development of a geographic automata (GA) model for assessing the spatio-temporal dynamics of disease outbreaks. GA are generalisations of cellular automata that work with non-lattice based geographic data structures, and are essentially spatial interaction models. The repetitive application of simple rules in an explicitly spatial manner allows the replication of complex spatial patterns. Disease outbreaks are extremely complex geographic processes, and models are the only feasible approach to assess their potential impacts. However, the population distribution data required to model feral and unfenced animal populations suffer from large uncertainties. Simple models like GA will therefore be more useful than complex models. The GA model is implemented using a state based Susceptible-Latent-Infected-Recovered modelling framework. It is capable of dealing with multiple susceptible species layers with variable home range sizes, contains a mortality component, allows the incorporation of management actions, and is readily extended to incorporate ancillary data, animal movements, and integrate with other models focussing on different modes of disease spread, for example road transport. We will demonstrate the model using the results of a series of simulations using Foot and Mouth Disease (FMD) in pig, deer and cattle populations from a region of Texas, USA, an environment very similar to large regions of Australia.
The gendered politics of water: Constructing feminine rivers and yielding lands in rural Bengal
Dr Kuntala Lahiri-Dutt *, The Australian National University

Abstract

The overpowering physical reality of water obscures the fact of social production of this vital fluid, its continual manifestations and regenerations, and flows through the cycle of life. The politics of ‘making water’ is complex because like other elements of nature, water itself can form specific ‘places’ and can assume highly gendered meanings for human communities. The placeness is expressed in different bodies of water – rivers, lakes swamps and ponds – and reflected in the conventional ways land and water are categorised. In deltaic Bengal, no such clear cut differentiation can be made, because the land itself is a child of the waters and waterscapes dominate the landscapes, giving rise to a dense and intricate water-based rural life with only a few parallels elsewhere in the world. Imaginations of lands and waters in Bengal have been strongly gendered, one important characteristic being the feminine qualities attributed to the flowing bodies of rivers. The rivers are socially constructed as lovable feminine objects, and their whims and moods – not uncommon for highly seasonal tropical monsoonal rivers particularly in the deltas where shifts in courses are unpredictable - are then explained in terms of a fearful and roguish nature. This paper problematises the placeness and the feminine construction of waters from a feminist geographical point of view, and by drawing upon a wide range of material from the field and the libraries: ancient myths, folk tales, proverbs, baul songs and modern literature. I intend to show that these images represent the continuity of a discourse that is generally South Asian, but can also be seen as rooted exclusively in the specific context of Bengal. I also show that through these constructions, the ‘making of rivers’, runs another, hidden, current of creating an ideal feminine for real life women in the riverine communities. The point I am making is that the feminine constructions of rivers do not translate into a greater autonomy and agency of women in these communities, and tend to hide the range of productive roles that women play in the river-based economies.

The impact of the environment upon the geography of cryptosporidium
Dr Iain Lake *, School Of Environmental Sciences

Abstract

Cryptosporidiosis is a significant cause of gastroenteritis. The infective agent is the protozoa Cryptosporidium. Analyses of outbreak cases have suggested that the cause is animal to human transfer of Cryptosporidium through drinking water or direct contact. Human to human transfer is also important. This paper presents the results of a case-control study examining the importance of local environmental factors. The postcodes of 6700 cases in England and Wales between 2000 and 2003 were compared to those of a number of simulated controls. Cases were also genotyped into C. Hominis where the infection is of human origin and C. Parvum (animal origin). This allowed us to examine the aetiology of each genotype separately. For each case and control a GIS was used to derive environmental variables that might affect disease incidence. These included the vulnerability of the drinking water supply to cryptosporidium, surrounding animal densities, rurality measures, healthcare accessibility and socioeconomic factors. Results indicated significant differences between the two genotypes. C. Hominis was associated with urban areas suggesting the importance of human to human contact. Associations were also observed with higher social class suggesting enhanced reporting or the importance of lifestyle. In contrast C. Parvum was associated with rural areas highlighting the importance of rural lifestyles. Cases of C. Parvum were also more likely in areas of higher animal densities implying direct animal to human transmission. It was also associated with higher social classes although to a lesser degree than for C. Hominis suggesting that a high social class lifestyle is of lesser importance. C. Parvum was also associated with areas of poorer water treatment an association which persisted throughout the study. This is important given the efforts to improve the UK drinking water supply undertaken since 2000. No associations were found with healthcare accessibility or census derived measures of employment.
Using GIS to Conduct Epidemiology Studies into Drinking Water and Health
Dr Iain Lake *, School Of Environmental Sciences

Abstract

Crohn's disease is a chronic inflammatory disease of the gastrointestinal tract which affects thousands of people world-wide. This paper presents the results from a multi centre case control study testing the hypothesis that Crohn’s is associated with the transmission of Mycobacterium avium paratuberculosis (MAP) from cattle to humans through drinking water. As MAP is not routinely tested for in drinking water, risk based measures of exposure were generated using GIS. This involved tracing an individual’s water supply through the distribution system to the surface or groundwater catchment from which it is derived. This utilised, among others, spatial data on water distribution systems from the Drinking Water Inspectorate and water abstraction information from the Environment Agency. Risk parameters were then quantified at each stage using the DEFRA agricultural census and water treatment data. To our knowledge this is the first time a GIS has been utilised in this way. The results do not demonstrate an association between drinking water and Crohn’s disease. The study also demonstrates that it is possible to derive risk based measures of exposure to drinking water contaminants using GIS. However, improvements in the consistency and completeness of data collected by government agencies could significantly improve the process.

A Spatial Analysis Framework For Reducing Uncertainties In Human Health Risk Assessment
Prof. Nina Siu-Ngan Lam *, Department of Geography and Anthropology, Louisiana State University

Abstract

As in many studies involving disparate data and methods, environmental health risk assessment research is prone to error and uncertainties. This paper identifies four major sources of uncertainties in environmental health risk assessment, including uncertainties arising from data and data scale, methods of analysis, interpretations, and reactions to interpretations. It is obvious that uncertainties can never be eliminated; hence approaches must be developed to mitigate the problem. We suggest that an integrated spatial analytical framework that contains a suite of spatial analysis methods and links to a geographic information system (GIS) can be used to provide strategic evaluation and reduce uncertainties in the assessment results. The framework should contain four groups of functions, including visualization and measurement, cluster detection, scale analysis, and focused exposure modeling. Future research includes the actual implementation of the various methods and algorithms, so that the framework can be widely disseminated for use to support the development of sensible and effective health and environmental policies.

Changing Soundscape in A Rapidly Growing City
Prof. Kin Che Lam *, Chinese University Of Hong Kong

Abstract

The soundscape of a city changes as the buildings get taller and taller and the city sprawls into the countryside. The acoustical changes comprise not only changes in the sound intensity but also in the multiplicity of sound sources as well as in the dominant and prominent sound being heard by the urban inhabitants. Urban growth in the vertical dimension and variations in the urban morphology have created significant differences in soundscape attributes at the dwelling, neighborhood and community spatial scales in the city. Expansion of the city boundary into the countryside and the building of roads and railways to provide transportation linkage have introduced man-made sound into natural soundscapes. This paper reports on the conceptual framework of a research undertaken to elucidate changes in the soundscape of Hong Kong which has a very dense urban core and some tranquil countryside. Some preliminary findings of the soundscape in various parts of the city, urban parks, country parks and natural areas will be presented together with an analysis of the driving forces of change. Findings of this study will have significant bearing on urban livability and environmental planning and management.
Vulnerable Citizens(?) : Young Singaporean Students Abroad
Ms Theodora Lam *, Asian MetaCentre For Population And Sustainable Development Analysis

Abstract

Singapore, a small natural-resource scarce city-state, has big aspirations of becoming a global city and the ‘Talent Capital’ of the New Economy. As part of its strategy to extend the country’s economic reach, the government is persistently urging Singaporean firms and Singaporeans alike to venture abroad to form its ‘external wing’. With an ever-increasing number of Singaporeans living outside its political geo-body, several issues are fast emerging. First, there is an escalating need to meet the educational needs of young Singaporeans overseas as their parents fear that they will be missing out on Singapore’s education during their absence. More importantly, dispersal carries a greater danger since Singaporeans who are not deeply rooted to their homeland may eventually lose their ‘roots’ as they embark on diverse routes taking place outside the nation. In this light, the paper aims to explore the various efforts in educating and rooting young Singaporeans overseas to their homeland by probing specifically into the roles played by their parents in transmitting Singaporean ideals and citizenship values to them. Seeing that these expatriate Singaporean parents form a distinct group of transnationals, namely the ‘transnational capitalist class’, the paper also seeks to provide a gendered perspective on their transmigratory behaviour and experiences, delving into the challenges and struggles they faced, as well as the family strategies they employed in the wake of the government’s call to ‘go regional’ or ‘go global’. The reservations that Singaporean parents have, especially those pertaining to their children’s education, are also examined.

Vernacular heritage and environmental agency: The Murray-Darling Outreach Project and the politics of heritage
Dr Ruth Lane *, RMIT University
Ms Joanna Wills, University of Tasmania
Dr Damian Lucas, NSW National Parks and Wildlife Service
Prof Frank Vanclay, University of Tasmania
Dr Ian Coates, National Museum of Australia
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Abstract

Traditionally museums have been concerned with artefacts that can be collected and displayed within buildings while other heritage agencies have responsibility for the preservation of places deemed to have significant heritage values. However new initiatives that draw on interactive web based technologies now allow museums to give a public profile to heritage in situ, and to present the perspectives of local communities about places and things that concern them. In the Murray-Darling Basin Outreach Project, a collaborative initiative between the National Museum and the Murray-Darling Basin Commission, the spotlight is thrown on places undergoing human induced transformation, resulting in either environmental degradation or environmental restoration. We argue that, in this context, new conceptions of heritage, and potentially new regimes of value, are emerging that are associated with increasing recognition of the relationship between human agency and environmental change. We consider the meaning of these developments in terms of the politics of public heritage.
Anthropogenic modifications of floodplain as factor of flood risk.
Dr. Jakub Langhammer *, Charles University In Prague, Faculty Of Science

Abstract
The paper discusses the impact of anthropogenic modification of landscape in the process on the course and consequences of floods. The individual modifications of floodplain and river basin landscape like river network shortening, land drainage, riverbed and floodplain transformation, landuse changes are considered as important factor of vulnerability of the system in the context of the flood risk model. The presented analysis draws on indicators affecting the runoff processes, flood wave formation and transformation, and retention capacity. The main goal is to identify the critical elements in the river basins that could affect the extremity of the flood event and the extent of resulting damage. The application is focused on the core zone of the extreme flood in August 2002 in Europe – to the Blanice river basin (860 sq. km) situated in mountain region. The river basin was in the past subject of intensive anthropogenical modifications and at the same time represents important region in regard to the evolution of flood events in the Vltava river basin. The methodology stems from multicriteria assessment using GIS and geostatistical techniques. The assessment is based on multiple data sources: The digitized historical maps used for the assessment of river network shortening and historical landuse changes, field mapping was applied to determine the state of river-beds, land cover of floodplains, identification of potential flood course obstacles and geomorphological evidences of the flood. The results proved that the anthropogenical changes in river basins are one of the key factors of vulnerability of the river basin against the flood risk. The analysis proved the high level of spatial differentiation of the vulnerability level as well as the different effect of individual modification factors under extreme hydrological conditions.

Water quality changes in Elbe river basin as response to the economical transition.
Dr. Jakub Langhammer *, Charles University In Prague, Faculty Of Science

Abstract
The paper is focused on the dynamics of trends of water quality in the Elbe river basin in the Czech Republic, in the period of transition between the communist economy and accession to the EU. With regard to the water quality changes, the area of the Czech part of the Elbe river basin is extraordinarily dynamic. In the 20th century it experienced an enormous increase of load of pollution. Since the beginning of the 1990’s due to the political and economical changes a particularly intensive decrease in the emission volume and a related increase in water quality of watercourses occurred. The analysis based on geostatistical treatment of data from 160 stations for 30 year measuring period proved several negative aspects in generally positive trends: The positive changes in the pollution load balance are mostly spatially limited to the largest watercourses, in many regions there is evidence of reincrease of pollution levels after a period of improvement, new hotspots of pollution are rising in regions with longterm low average pollution level. The relation of water quality trends to the political and economical changes is apparent: In multiple regions the drop of pollution level in mid of 1990’s was response to the construction of new sewage works under national and international programmes; In other regions the pollution drop was however related to the inhibition of economical activities rather than to the systematic measures and thus the current economical growth is here reflected by the reincrease of pollution levels, in addition the adopted postponement of application of EU environmental limits for municipal pollution leads to the continuous rise of load on small streams. The presented methodology allowed identifying the basins with potentially critical trends of water quality which are of high priority for the future monitoring and protection against pollution.

The Aboriginal Domain: key challenges for researchers and stakeholders
Prof. Marcia Langton *, University Of Melbourne

Abstract
With 20 per cent of the Australian land mass under some form of Aboriginal ownership, and a significant proportion of that area designated for a natural conservation purpose, the scholarship and research concerning Aboriginal ownership and management of Australian landscapes and their natural and cultural resources are matters of great significance. Is there a sustainable research community involved in informing developments in this sector of Australian society? Does an accurate, evidence-based literature on the Aboriginal domain and the interface with land use, biodiversity and conservation issues, and ownership and management regimes and regulatory schemes, exist? The importance of these questions to both Aboriginal land owners and the stakeholders in this sector of Australian society, including pastoralists, miners and others, is explained in this paper with reference to the key challenges for the industries concerned with the Aboriginal domain.
Towards Inclusion: Local Government, Public Space, and Homelessness in New Zealand
Miss Penelope Laurenson *, MWh, Wellington, New Zealand
Dr Damian Collins, University of Auckland, New Zealand
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Abstract

In recent decades, the legal discrimination against homeless people has taken a new turn, with increasing numbers of local authorities in Western countries developing regulations that prohibit or severely circumscribe behaviours such as begging, car window washing, sidewalk sitting, and sleeping in public. Whilst these regulations are sometimes promoted as targeting behaviours, not particular groups, it is generally obvious that the behaviours are more commonly associated with homeless people than anyone else. Local authorities are in a difficult position vis-à-vis homeless people and antisocial behaviour. As managers of public space they are charged with maintaining a downtown environment which is inviting, safe and conducive to legitimate economic activity. However, this same environment may also be a key refuge and source of services for homeless people, some of whom engage in behaviours which others deem antisocial and out-of-place in public space. This paper considers local government responses to homelessness in New Zealand, and is driven by three principal aims: first, to understand the policy context for local government action; second, to canvass briefly the particular approaches adopted by three case study cities (Auckland, Wellington and Nelson); and third, to articulate a case for rejecting punitive anti-homeless regulations in favour of a more supportive approach conducive to the creation and maintenance of inclusive public space. The principal focus of this paper is the third of these aims. This paper argues that in addressing anti-social behaviour in public spaces, policy-makers must eschew approaches which effectively criminalise the sight, and status, of poverty.

Valuing Saami Reindeer Herding: Finnish logging, the market and Corporate Social Responsibility.
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Abstract

Using the case study of Saami Council’s campaign to have the Finnish logging industry recognise and respect Saami rights to reindeer herding pasture, the paper explores how the ‘market’ is constituted as a key site of political leverage. In this heterogeneous and complex space, notions of Corporate Social Responsibility, Human Rights and Indigenous rights are contested and defined in various ways. Of interest is how these concepts are discursively constructed: through UN orders, by Finnish Government, by a state logging enterprise, by a multinational paper company (and their customers), NGOs, Saami Council, other Saami claims, and various ethical indices. The paper avoids making a strict distinction between policy and practice, and instead seeks to understand how discourses concerned to posit and market the logging industry as transparent, accountable and negotiable actually make possible other practices that may be contrary to the claims of industry and government.

Cows, environment & politics: how political will enacted on science to initiate environmental sustainability in the Victorian Alps, Australia
Dr Ruth Lawrence *, La Trobe University
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Abstract

Scientific studies on biological and hydrological properties of the Australian alpine environment have consistently demonstrated that ongoing cattle grazing continued to compromise the environmental sustainability of the Victorian Alps. Several distinct eras of environmental degradation can be identified in the last 150 years that can be reasonably correlated with stock grazing numbers. Past attempts to eliminate cattle from the Victorian high country have been many and varied but never successful. In January 2003, a major bushfire burned much of the Alpine National Park rendering the area unsuitable for ongoing cattle grazing. From 1 August 2005, the Victorian Government terminated grazing leases from the Alpine National Park, thus creating the context for environmental sustainability to become a reality.
The affective dimensions of film landscape in/from The Lord of the Rings and Whale Rider
Ms Erena Le Heron *, University Of Sheffield

Abstract

The Lord of the Rings trilogy was argued for, conceptualised, created and filmed in New Zealand. The films have become famous not only for their box office success, but the new technologies developed and the landscapes of New Zealand used as Middle-Earth. The films were embraced by the New Zealand public, sparked individual tourist travel and tourism ventures, and have been celebrated as an example of what the New Zealand film industry can produce. Whale Rider provides a contrast to the Hollywood funded venture. It is a ‘local’ production, based on a story by a New Zealand author, and also filmed with a New Zealand cast and crew in a cinematically appealing New Zealand location. But both are also films that have in the widest sense allowed New Zealand landscape to travel. Together the films provide an opportunity to explore the affective dimensions of film landscape. I position this paper within the recent interest by geographers in the constructed and constitutive dimensions of landscape. This paper draws on ‘landscape as a way of seeing’ and ‘landscape as practice’ approaches, developed within the geographical and other literatures, to make visible the affective dimensions of film landscape in circulation. Film landscapes encourage us to re-imagine places and many rush to ‘see’ and ‘experience’ film locations. But what responses does this elicit from locals? What are the public discourses around the making/success of films? What is unwittingly being constructed and brought into practice? In this paper I focus on these questions in the New Zealand context and examine some of the tensions, encounters and engagements that exist at the film locations used in the two films.

Co-constituting the New Zealand whiteware industry; some methodological issues
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Abstract

The paper explores, with reference to the New Zealand whiteware industry, the sorts of knowledge that might be produced about investment and institutional processes if the terms 'industry' and 'markets' are withheld from analysis for as long as possible. It explores methodological issues invoked by this epistemological positioning with respect to three types of framings; positivist, political economy and post-structural political economy. These framings are considered through a range of strategies - putting aside conventional categories (e.g. until they are constructed into narratives), re-focusing on different dynamics (e.g. spatialities and subjectivities, following the commodity, encountering the commodity) and exploring the emergence of investment institutional processes.

Minimum Transformation to Compare Two Surfaces for their Spatial Differences
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Mr Yukio Sadahiro, University of Tokyo

Abstract

Surface data is used to represent geographical or social phenomena such as distribution of temperature, CO2 emission, population distribution of region, and so forth. In general, surface is represented in continuous and 3D format for visualization purpose. However, for analysis, it is provided in discrete and 2D format. Surface comparison is a useful way of evaluating the difference, change or relationship between two surfaces. Existing approaches for such purpose are visualization, quantitative approach and qualitative approach. These approaches are mostly focused on distinguishing quantitative difference of surfaces. However, they rarely give detailed information of how the distributions of two surfaces are spatially different. Sometimes, surfaces are thought to be the same where they have the same spatial structure even though their surface volumes at the same location are not exactly the same. To overcome such limit, a method of surface comparison that distinguishes quantitative and spatial difference is introduced in this study. Main concept of the method is that the sum of moved surface volume should be the minimum when surface transformation is performed by cell unit. By the sum of moved surface volume in transformation, the difference between two surfaces can be understood. Furthermore, spatial difference between two surfaces is known by visualizing the moved surface volume. The term movement of surface volume indicates the change of surface volume occurred in the process of surface transformation. As an example of applications, population distribution data are used for spatiotemporal analysis in this study. With the result of proposed method, it is found to be useful for understanding the change of a surface by time.
Effective Limits to Spatial Prediction.
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Abstract

Much of the emphasis in the research of the last few years has been on identifying sources of error in predictive spatial modeling, assessing accuracy of predictions and trying to track error through the modeling process. Important progress has been made in all of these areas. Stepping back from the detail of these investigations it becomes apparent that these are essentially ‘post-facto’ assessments aimed at identifying and describing error, rather than reducing it. It is perhaps time to invert the process described above and draw on the insights obtained through these research projects and apply them to research design for predictive spatial modeling. This paper discusses how the research design for predictive spatial modeling should identify the aspects of the phenomenon to be modeled, the variables which are important in determining the behaviour of these aspects of the phenomenon, the scale at which these operate and their relative importance. Examples are given which illustrate how this ideal situation is rarely reached. More often than not the imperative is to examine the utility of existing datasets for the purpose. These are often correlates of the ideal variable rather than the variable itself, and are often not at scales entirely ideal for the purpose. This provides an effective limit on the accuracy of spatial prediction which is possible. The limit is therefore not the modeling tool, but the material it is presented with.

Is there a 'political behaviour' of the telecommunications milieu ?
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Abstract

We start from the remark of the French sociologist Halbwachs, that any group has its collective memory (or « tradition »). What could be the collective memory of the telecommunications milieu ? Beyween the two World Wars, there were two groups of countries : those choosing democracy and free trade, those with dictators and autarkical (among them, Germany and Italy). In these countries, light industry was neglected while heavy industry was privileged. The progress of electronics and computing was mainly in the democratic countries. Even, it had effects on the technological determinism, at this time, and on the outcome of the Second World War. We have descriptions of these choices in the Daniel Guérin’s book « Fascisme et grand capital ». However we need an other theory in the case of Germany. The means used by the nazi regime are better described, using the ideas of Canetti, in his book on masses (« Masses and Power »). Of course, in 1945, the telecommunications milieu chose Ordorealism (Foucault). The better governance is when the State does not intervene in economic matters. Now the milieu is with its back to the wall. The new authoritarian State banks on Information Technologies. The telecommunications firms could accept its requirements (in particular concerning staff and customers). The « tradition » of the milieu incites to refuse it. They can also limit their activities in these countries to technology (networks, devices), providing a few services. For them, there are alternatives (other countries where to invest).
**Computation in Geography: The Quantitative Revolution and Beyond**

Prof. Yee Leung *, The Chinese University Of Hong Kong

**Abstract**

This paper provides a state-of-the-art examination of the development of computation in geography, particularly its evolution rooting in the quantitative revolution. Special emphasis is placed on the scientific computation in the study of spatial structures and processes in the information and knowledge age. For analysis under uncertainty, it takes us from the heavy use of statistics and probability to handle uncertainty due to randomness, to the development of fuzzy sets models to deal with uncertainty due to fuzziness in symbols and inference, as well as the construction of rough sets models for spatial conceptualization and data mining with imprecise, incomplete and granular information. For analysis of complex systems, it traverses a wide spectrum of paradigms starting from conventional mathematical analysis, to the analysis of dissipative and chaotic systems, to the more recent neural and evolutionary computation under complexity and emergence. With respect to the advancement of spatial information technology, the paper also scrutinizes the geographers' response in the development of computation strategies for the analysis of various data types and intelligent utilization and discovery of knowledge in spatial databases. It ranges from the statistical approach to error analysis of spatial data to the artificial intelligence approach to intelligent spatial decision making. In terms of temporal analysis, the study examines conventional time series analysis of well-behaved temporal processes to the recent advances of multifractal analysis of temporal processes with intermittency and long range dependence. In brief, the purpose of the paper is not on the documentation of various computation techniques that we have in store for geographical analysis. Its objective is to study the philosophical and paradigm shifts in computation in geography in response to the evolution of spatial systems starting from the quantitative revolution. It takes us from quantitative to qualitative analysis, from number and measurement to symbol and logical valuation, from simple to complex system, and from then and beyond.

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**Industries as spaces of governance: positioning a new agenda**

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**Abstract**

‘Industry’ is a foundational analytical scale in political economy. This paper argues, however, that it is far from an innocent category. Rather, industries are spaces of governance in which political, economic and (increasingly) cultural activities are framed for management. In neoliberal governmental formations they are becoming significant spaces of government, taking on meaning as identities, spatial imaginaries, and subjects, as well as objects, of governance. The paper examines the governmental properties and potential of industries, directing particular attention to their deployment in neoliberal modes of governance. The paper challenges political and economic geographers to take industry seriously as a post-national space of government, and to question the work it does and the work we do with it. It also challenges traditional uses of scale as analytical lenses for contemporary political economy. Whilst anchored in enduring understandings of economic linkages, the interpretation of industry developed seeks to capture post-structural emphases on relationality, situatedness, and constitutiveness, a more fluid conceptualisation of spatiality, and the interplay of the material with the discursive in governance.
Abstract

Industrial Tourism (or Industry Tourism) and Industrial Heritage Tourism are marginal, though slowly expanding, fields within Tourism Geography. They seem connected almost exclusively with the tourism economy of old industrialized countries. A closer look, however, reveals numerous initiatives with regard to industrial tourism valorizations in newly industrializing countries (NICs), though, on working industries mainly as sites of education and distractions as well as instruments of brand marketing and customer loyalty. Their special interest in NICs consists furthermore in their being symbols of recent modernization and national pride.

Industrial heritage tourism, on the contrary, seems to be an utterly rare phenomenon in NICs, although recent stages of industrialization processes offer numerous objects and even industrial landscapes of high value both from a technical, cultural and social heritage point of view. The general perception of their being too young to be of interest in a heritage context may contribute to an underestimation of their cultural and also economic potential. Recent experiences from old industrialized countries, in particular in Europe, show that the appreciation of any industrial heritage site as being a most valuable cultural and economic capital may develop fast. These findings are also of considerable interest not only to older industrial cities and landscapes in NICs Even very recent industrial landscapes in southern China are now rapidly transformed and offer potential ‘heritage’ sites despite their being very young. All forms of industrial tourism, both focused on heritage and working plants, can be important elements of the intended urban transformation, and new forms of cultural industries are emerging. The paper’s main objectives are (1) to draw attention to the rapidly developing industrial tourism potential in NICs, (2) to up-date our knowledge about the status of Industrial Tourism forms, processes, patterns and impacts in NICs as well as to pave the ground for comparative analyses, and, last but not least, (3) to identify barriers to and potentials for valorizations that are culturally and economically rewarding.
Surviving Katrina and its Aftermath: A comparative analysis of community mobilization by Vietnamese Americans and African Americans in an Eastern New Orleans Suburb
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Dr. Angela C C Chen, Arizona State University
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Abstract
The flooding of New Orleans in the wake of Hurricane Katrina on August 30 revealed several fissures in local, state, and national strategies for emergency preparedness and disaster relief (Zhang 2005). Geographically, the hardest hit areas were those inhabited by socioeconomically marginalized communities; these also were the areas that had restricted access to communications about evacuation, the extent of the flooding, and evacuation procedures. Much of the media analysis about access to emergency resources during the Katrina crisis has focused primarily on African American communities. What is overlooked by the media and analysts is that a large Vietnamese American community also was located in the easternmost New Orleans residential subdivisions that boasted an almost equal distribution of ethnic Vietnamese and African Americans who are economically disadvantaged. The Katrina disaster serves as a wake-up call and reveals how racial inequality and economic disparities are still a societal reality (Kennedy 2005). There is an urgent need to analyze the spatial, socioeconomic, and psychological consequences of Hurricane Katrina and its aftermath on the most vulnerable segments of our society: those who are economically marginalized, racially marked, spatially segregated, and/or linguistically isolated. The bi-university interdisciplinary team identified an easternmost New Orleans residential suburb as primary study site for our exploratory and comparative research, by employing a combination of quantitative and qualitative methods, including surveys, focus group and in-depth interviews to address the following research questions and present our initial findings: 1. What was the pre-Katrina socio-spatial configuration of the Vietnamese American and African American communities in the study area, and what damage Katrina cause to these communities? 2. Do previous experiences of involuntary geographic displacement of evacuees, especially among Vietnamese Americans, affect their perceptions of risk and uncertainty, their access to emergency relief services, as well as their adaptation to temporary or permanent resettlement or their community and business rebuilding efforts in New Orleans, and if so, how? 3. What similarities and disparities between the two communities are evident and how did each community negotiate evacuation and access to emergency relief services, relocation assistance and rebuilding funds through existing racial/ethnic and/or faith-based community networks?

Consuming Transnational Capitals Exploring Banking and Consumption in a Transnational World
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Abstract
Goods, information, service, financial capital and human beings are increasingly flowing across national borders. Transnationalism has become a paradigm in studying the various cross-border movements (Dunn 2005). Within transnational studies, economic interactions have been identified as a main form along with the political and the socio-cultural (Portes et al. 1999; Vertovec 1999). Conceptual analyses and empirical studies on the economic aspect of transnationalism have so far focused largely on transnational corporations, the global-trotting of transnational elites, cross-border economic activities such as remittances, and global family businesses. Little attention has been paid on the other direction of money flows: those brought into destination countries by transmigrants. So our study will explore how financial institutions (in the host countries) manage transnational capital possessed by migrants and how transmigrants manage and spend their money in consumption cross national border. We will first identify gaps in the literature on economic transnationalism with respect to the flows and management of capitals at the grass-root level. We will then draw empirical evidences to examine the role of financial institutions in transnational capital flows as well as the role of consumption in such flows. The examination of such money flows will shed new lights to the studies of transnationalism within and beyond economic realm. Note: this is part of the Transnationalism session organized by Kevin Dunn.
Drainage density and slope angle in Japanese hilly and mountainous watersheds
Mrs Zhou Lin *, Center For Spatial Information Science, University Of Tokyo
Mr Takashi Oguchi, Center For Spatial Information Science, University Of Tokyo

Abstract
Previous studies in steep Japanese mountains have shown that drainage density correlates negatively with slope angle, which is attributed to the decline of channel sidewalls on steep slopes related to slope failure. This study further examines the drainage density-slope angle relationships in low-, middle- and high-relief regions in Japanese hills and mountains to look into how regional relief affects the relationships. 10-m resolution DEMs for three typical Japanese hills and mountains, the Tama, Hamada and Shiojiri regions, are utilized for terrain analyses. The results show the relationships are strongly dependent on regional relief. In the high-relief regions, negative correlations occur frequently, which agrees with the previous studies that stress the effects of slope failure. However, in the low-relief hilly regions, the main correlation type is positive, because channels in the region are mainly formed by the concentration of water along the gentle valley bottoms. In the middle-relief regions, convex-form correlation can also be observed along with positive and negative correlations, suggesting that dominant channel forming processes tend to vary according to local factors. These insights are useful in assessing dominant channel forming processes and resultant land degradation.

The Impacts of “lost esteros” from 1898 to 21st century Urban Flooding, Changing Urban Geographies in GIS
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Abstract
Esteros’ refer to streams usually one or two degrees higher in stream order streams that drain to the Pasig River in Manila City from both north and south. These streams are natural waterways that have had different landscapes and functions at different times in urban history and geography. Since the transformation of urban transportation in Manila from water based to land based systems, and the rapid urbanization in this region (since 19th century to present), these “esteros” were changed from being market routes and settlements of Tagalog traders (river dwellers) to being road drainages, sewerage outfalls and communities of illegal and formal settlers in a mega urban society in a developing country (Philippines). Although the streams have retained their function to drain the low lying Manila city of flood waters or excess rain or “dirt and filth” (Liongson, 2003), there are obvious physical changes that are manifested in decreased lengths and thus volume capacity of stream channels. This paper utilizes geographic information system to model the impacts of decreased lengths of “esteros” to urban flooding by recreating scenarios of stream network configurations of year 1898 and present (with existing drainage laterals and channels). The research compares the flow accumulations and flow directions across the Manila basin and simulates regional flooding in the area as a consequence of historical urban process especially urban land use practices and changes. The social landscape will also be analyzed to aid in the understanding and relating “behavior” and community patterns to centuries of urbanization and the recent “globalization” and experienced regional flooding using urban and social geography discourses.

Rural to peri-urban migration and development in Papua New Guinea
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Abstract
This paper focuses on the experiences of selected migrant communities in the provinces of Morobe and Eastern Highlands of Papua New Guinea. Data derived from community surveys, household surveys, life histories and observations suggest that rural people adapt to change through a variety of moves associated with hybridised but sustainable livelihood maintenance. This finding is relevant to rural development policy and planning in PNG. A shift in policy and planning that gives greater emphasis to rural people's cultural values of kinship and community, if ‘rural development' is to be appropriate and sustainable. Presently, a heavy focus on the cash economy marginalises traditional values, resources and practices that provide a sustainable development base for rural people.
Predicting the distribution and abundance of two saltmarsh plant species
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Dr Paul Frazier *, University Of New England
Dr Lalit Kumar, University Of New England

Abstract

Modelling species distributions from survey data is becoming increasingly important. Species distribution models can be used to predict species range changes due to human activities and climate change, find potential locations for species reintroduction, and estimate the likelihood of invasion of exotic species. But most studies are at broad scales (e.g. continental or regional scale) and coarse resolutions (e.g. 10s km). In this study, we modelled distributions of two saltmarsh plant species, Sporobolus and Sarcocornia, at local scale (i.e. study area of approximately 8 km²) and fine resolution (0.5 m). Forty-four saltmarsh sites were sampled for species coverage and five environmental variables (pH, salinity, total nitrogen, total phosphorus, and total organic content) on Micalo Island near Yamba, New South Wales, Australia. The distribution of Sarcocornia and the abundance of both Sporobolus and Sarcocornia were modelled using artificial neural networks. The results show that the accuracies of the models excluding the occurrence/abundance of the non-target species as a predictor are very low, and the accuracies increase when the occurrence/abundance of the non-target species is included as a predictor in the models. The low accuracy of the models without the occurrence/abundance of the non-target species indicates that more relevant environmental variables should be included, an area of our continuing research.

Developing Problem-Based Learning Strategies using GIS in Singapore School Education
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Abstract

Geographic Information Systems (GIS) provide a technology and method to analyse and visualise information about the Earth. This technology can be used to create a learning environment through real world problem-solving to facilitate students'analytical and reasoning skills in a number of subject areas, including geography, humanities and social studies, Earth and environmental sciences, history and information technologies. Based on a current research which endeavours to introduce problem-based learning (PBL) into the secondary school education using GIS technology, this paper will share the experience on the development of various problem-based themes and activities structured and organised in line with the school curriculum in geography and how they can be introduced and implemented in secondary schools. Discussions will be focused on the evaluation and assessment of students' performances and achievements. It is believed that PBL strategies developed using GIS technologies can contribute positively to the philosophy on 'Teaching Less, Learning More'.
Wetland Mapping and Visualization with LiDAR Data
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Abstract

Wetlands are important components of ecosystems and play an important role in the maintenance of environmental health. Accurately mapping and delineation of wetlands are crucial to prevent the degradation and the loss of wetlands due to natural environment change and human activities. Traditional methods for wetland mapping such as field survey, aerial photography interpretation, and satellite image classification are either labour intensive or lack of enough accuracy. Therefore, researchers are continuing to look for appropriate approaches to mapping the wetlands. Light Detection and Ranging (LiDAR), an emerging new technology, offers capability of capturing high density and high accuracy three dimensional points in a fast and cost-efficient way. These high accuracy three dimensional points provide an excellent data source for accurately mapping and visualization of wetlands. In addition to the three dimensional points, intensity reflectance data from LiDAR systems have good potential to assist the classification of land cover. This project examines the capability of using LiDAR data for detailed wetland mapping and delineation in a catchment management area, Victoria, Australia. High accuracy DEMs are generated from LiDAR data for accurate representation of land surface. LiDAR intensity image, together with terrain attributes derived from DEMs is used to identify wetland boundaries. Based on LiDAR-derived DSM (digital surface model), 3D model is established for environment visualization, with focus on the visualization of wetlands and related vegetation to facilitate the efficient wetland management and to support the decision making at a catchment scale. Keywords: wetland, LiDAR, visualization, DEM, intensity

A dialectic between inclusive lines & exclusive boundaries- case study on Mahoan Bunun Border-to process a critique on Taiwan Indigenous Borderism Mapping Policy
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Abstract

This paper takes the Taiwan Indigenous People’s territory Mapping Project initiated from 2000 as examples to talk about the problems of cross cultural mapping. Especially, the author talks about the Euclideanism geometry which furnishing a set of definitions for the concepts such as “point?”(“that which has no part?, “line?”?breadless length?, “surface?”(“that which has length and breadth only? is just a kind of Western epistemological assumption. The ways to show the concept of territory on maps for the indigenous peoples should be considered to show the local indigenous knowledge for their references of space. The characteristics of “point? “line? “surface?in an Euclideanism epistemology style should be considered whether fit into the ideas of the indigenous people. The author takes the Mahoan Bunun indigenous people mapping experience of public participatory geographical information system territory mapping (PPGIS) in the central-eastern Taiwan for example to illuminate that it has the characteristic of dialectic between their internal lines & external boundaries. What is important of all is that the Bunun people remember (concept) their traditional territory through the experience of diaspora rather than through the physical spatial space. Under this circumstance, it’s hard for the Mahoan Bunun people to draw a physical line on maps to illustrate the dialectic between their internal lines & external boundaries for the following reasons:(1)blurred lines between domesticated household.(2)domesticated household’s private boundaries won’t combine a public boundary line.(3)partial participation won’t make an census on territory boundary. (4) the internal line were still on the move because of resources shortcoming,(5)the ideal concept of one-clan-one-tribe won’t make a bigger organization of identify.(6) therefore there is hardly no boundary between sub tribe of Bunun, and (7)cross border phenomenon of the indigenous social movement in modern time won’t encourage lines to separate one another. Based from the ideas above, the author criticizes on the logic of borderism for territory mapping to avoid the Euclideanism epistemology influence in order to detect much more indigenous knowledge of space references.
“Who is a Citizen of Australia?” - Negotiating Ethnicity: Re-Imagining Citizenship in Suburban Australia

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Abstract

Conventional approaches to understanding urban inclusion and belonging focus on the process and acquisition of formal citizenship. In contrast, critical approaches aim to analyse how belonging is constituted, regulated and negotiated in the everyday spaces of the city. Within this framework, this paper focuses on providing an in-depth understanding of the relationship between the constitution of ethnicity and the lived experience of citizenship in suburban Australia. Through a case study of Dandenong, Melbourne, it illustrates how ethnic subjects, constituted as Other within the discourse of white privilege, negotiate their ethnicity and claim their rights to place and the nation. In this paper, I examine the everyday experiences of ‘ordinary’ people, to demonstrate how they draw on different meanings of home to negotiate Otherness. Listening to these stories provides an understanding of the ongoing struggles and tensions through which the norms of whiteness are rendered unstable, and citizenship begins to be re-imagined as a shared responsibility.

On methodologies for the assessment of climate change impacts on groundwater resources

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Abstract

Climate changes represent a variation on the climate variables regimen in terms of its distribution both on time (amount and intensity) and in space. These changes will have a direct impact on the hydrologic system, in terms of surface runoff, evapotranspiration, infiltration, recharge, and an indirect impact on the quality of the surface and ground water resources. This paper deals with the impact of climate changes on groundwater recharge. Several models to estimate recharge are presented. Regarding these models, due to its characteristics, the daily water balance model (DWBM) reveals to be the most appropriate to attain this goal. DWBM requires data on daily precipitation and on monthly or daily evapotranspiration. The climate changes may be predicted using the general and regional circulation models. These models are shortly described and references to its use on the estimation of daily series of climatic variables are presented. The series produced by these models are site specific and dependent on the forecasted socio-economic behavior that will produce different levels of substances that condition the world atmospheric circulation. So it is possible to create different daily time series that depend on the world socio-economic behavior. Theoretical precipitation and reference evapotranspiration series, produced using current precipitation and reference evapotranspiration series, are used together with physical data concerning the soil and the vegetation cover, to study how predicted recharge would change with climate change. Two case studies results are presented, one on selected watersheds in Mainland Portugal and the other on the Portuguese island of Terceira, Azores.

The Business of Business Relocation

Dr. John Lombard *, Old Dominion University

Abstract

This paper explores the two primary opportunities for a career in business location: the private sector based business site selection consulting industry and the public sector based business attraction field, typically found within public economic development agencies. The paper focuses on the participants in the comprehensive business relocation process and discusses the central role of the relocating business. It will also describe the entities in the private sector that make a living by supporting the relocating business, and the players in the public sector who benefit both economically and politically from the new business investment. Within both sectors, several specialists work to perform the business of business relocation. These specialties include numerous opportunities for geographers. The paper will discuss these opportunities and comment on the differences between those that exist in the private and public sectors.
The Urban Climate In Subtropical Cities – The Example Of Ponta Grossa – PR - Brazil

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Ph.D. Magda Adelaide Lombardo *, USP

Abstract

Ponta Grossa is a subtropical medium city, located between the coordinates 24º 50’S and 25º 25’S and 49º 40’W and 50º 25’W, in Parana – Brazil, with approximately 300 thousand inhabitants, in which the climate, presents indicative forts of the interference of the urbanization in the variations of the time, what in it took them to develop this work. The used methodology was of identifying the temperature conditions and wind in six points, of hour in hour, in the period between 07:00h and 19:00h, with the following distribution: main avenue, square with forestation, lateral street the square with forestation, square without forestation, street in the highest area of the city and highway in the periphery. The fieldwork was developed in the autumn in 06/05/05, with situation of vanguard of a cold front, in the winter in 05/08/05, with the time determined by a mass of drought and hot air, in the spring in 04/11/05 in situation of progress of a cold front and in the summer in 03/02/06 under evolution of a cold front and of tropical humidity and heat. The results and their analyses demonstrated that downtown, they happen higher temperatures, due to the asphalt and to the constructions, except for the area with forestation and with constant shadow, changing the time and interfering in the climate, however it was confirmed, also, that the constructions create areas of low temperatures, due to the area of shadows and that the presence or vegetation absence in the squares determine alterations in the thermal and dynamic width of the wind. The data allowed, also, verifying that the people's flow and, mainly, of vehicles they interfere in the temperature and in the wind. In the relationship between downtown and the rural-urban area, it was observed that in the first case the maxims were higher, with difference of 4°C, the low got to be 4°C to smallest and the average had difference of 2,7°C for plus, except for the square with forestation. It is concluded like this that the urban climate of Ponta Grossa suffers interference of the elements that constitute the urban area.

Multimedia Material for Teaching of Environment and Atmospheric Sciences

Ph.D. Magda Adelaide Lombardo *, UNESP/São Paulo/Brasil
Ph. D. Mônica Giacomassi Menezes de Magalhães, UNESP/São Paulo/Brasil

Abstract

The resources of the multimedia have been applied as auxiliary tool in the teaching of the atmospheric sciences and of the environment. This project use a multimedia material and the Internet in the school to create conditions of improving the teaching quality, as well as, to become aware the students for the concerning subjects to the environment and the atmospheric sciences. The multimedia material developed has audio, text, animation, photo and video referring to themes about Atmosphere, Soils, Erosion, Climate, El Nino/La Niña, Satellites, Relief, Remote Sensing. We intend that the students will use this didactic material to incorporate specific competences in the scientific and technological areas through the inclusion of themes of great relevance for the teaching of referring disciplines to the environment and also for the formation of the environmental preservation. Besides, the schools disseminate the use of the multimedia resources in the teaching of topics about environment and atmospheric sciences.
**The use of Geotechnologies in the study of the Urban climate in the Central areas of the Metropolises: Sao Paulo for example.**

Ph.D. Magda Adelaide Lombardo *, UNESP/São Paulo/Brasil  
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**Abstract**

The intensity of the island heat is related to the size of the city and its population. São Paulo city is considered the largest city of Brazil, it is among the world metropolises whose intense urbanization process has been generating significant transformations in the intra-urban climatic conditions. an area strongly built as the center of São Paulo can present much higher radiometric temperatures than the outlying urban areas, with thermal differences of up to 9 °C. Those thermal gradients are verified in function of the desification and their combined topographical relationships the a decrease of green areas. However, the intensity of that heating can also vary according to the nature of the surface of the materials wrappers of the constructions, due to the amount of thermal energy that it accumulates and it irradiates for the troposphere. The use of the satellite image for sensor IKONOSII, with high space resolution, makes possible the visual identification of the intra-urban objectives for the making of the classification of the automatic supervised using the algorithm of the maxim verisimilitude in the software spring 4.2. The study allows the correlation of the green index and the index in the type of material of the objectives and its influence in the radiometric temperature as important indicators of thermal comfort for the intra-urban areas. The relationship narrows between the land-use and island of heat proves the urgent need of a reverse-planning of the land-use. The classification model allows to characterize and to qualify the intra-urban areas with the objective of proposing guidelines to subsidize the studies of town plannings interventions, considering the conditions of thermal comfort. The use of the sensor of high resolution contributed to the revitalise study in the central areas in scales that allow better detail.

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**Application of remote sensing parameters for identify the influence of land use in urban climates**

Ph.D. Magda Adelaide Lombardo *, UNESP/São Paulo/Brasil  
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**Abstract**

The mainly artificial surface of the city, anthropogenic heat emission and air pollution modify the urban atmosphere. The modification effect of urbanization on local climate is most obvious in the case of temperature, which is so called urban heat island (UHI) phenomenon. To estimate the impact of light-colored surfaced (roofs and pavements) and urban vegetation (trees, grass, shrubs) on the urban climate, it is essential to accurately characterize various urban surface (different surface-types and vegetative fraction). In this study, we applied the strategy of examining the city data in progressively smaller integral segments of macro-scale (representative areas in Americana region, Brazil), mesoscale (individual cities of Americana, Nova Odessa, Santa Barbara D'Oeste and Sumaré) and basic- scale (city blocks). The data used included color digital aero photos, satellite images and detailed aerial photos. The analyzed the three bands of RGB (red, green and blue bands) data and the CIR (color infra-red photography) data. Permitted grouping in surface categories. These orthophotos are also advantageous because even if it is not possible to classify a particular area by its value in the red, green and blue bands it would still be possible to determine the features of interest visually, since the resolution of the photographs provides a great deal of detail. Therefore, if an digital classification method is developed, it will be possible to assess its accuracy by usually classifying an area and comparing the results of the visual classification with those of the automatic classification. With Landsat data alone, an accuracy assessment would be difficult, since field-work would be needed for ground truthing. However, Landsat has the advantage of providing relatively more continuous average in space and radiative spectrum than aerial photographs. The bands are very useful in characterizing the thermal aspects of various surfaces, which aerial photographs cannot provide and NDVI (Normalized Difference Vegetation Index). The paper provides an insight from land use and land cover classification based in temperature and vegetation index for futures urban planes.
The Process Of Brownfields Formation And Redevelopment In São Paulo – Brazil
Ph.D. Magda Adelaide Lombardo *, UNESP/São Paulo/Brasil
MSc Amanda Ramalho Vasques, USP/São Paulo/Brasil

Abstract

With the economical opening of the markets, the competition among countries was incited and many industrial areas didn't get to restructure the productive base, or haven't accompanied the technological changes, entering in decline, originating brownfields. In the end of economical cycles remained areas and obsolete structures (railroads, ports). The growth of the cities, the urban sprawl, forced many industries to relocate to far away from the urban centers, because of noise, pollution, intense traffic, etc. They have formed then the industrial districts in the outlying areas and the industries left the central areas, where there are still isolated brownfields. In this case the brownfields existence is linked to the main cities that possessed an industrial past, above all those that went through the process of industrial displacement, notably the case of the metropolis of São Paulo. In São Paulo the industry grew, initially, in the center and the neighborhood of Brás, at the beginning of the XX century, dispersing before 1930 for the neighborhoods of Moóca, along the rail axes for, later, to move toward other directions. The emptying of the industrial function in São Paulo has happened starting from the decade of 1960, intensifying in the decade of 1970, been accompanied by important transformations: the railroads were substituted by the highways, and the big industries and average productive units, usually pollutant, gave place to smaller and cleaner industries. In other cases there was the transfer, following by the closing, the redeveloping for new uses, the speculation or the abandonment. The exit of the factories, due to reasons, above all, environmental, fiscal and financial took to the formation of countless brownfields. This work contributes to reveal new sceneries of redeveloped brownfields, specifically in the east area, where the process of industrial displacement left marks in the urban landscape, visual pollution, potential contamination, physical degradation and economical depreciation. In São Paulo industrial marks that went through the process of redevelopment brought economical benefits to the community, new job opportunities, besides assisting the demands of the neighborhoods with trade areas, services, culture, and useful recreation areas and beneficial open spaces.

Cartagena: Conflicts between history and today geography.
Ph.D. Magda Adelaide Lombardo *, UNESP/São Paulo/Brasil
Ph.D. Silvia Aparecida Guarnieri Ortigoza, UNESP/São Paulo/Brasil

Abstract

Understand Cartagena today means look to its past seeking their wonderful shapes the meaning of its apogee based on the economics and politics power. Without this historical feedback, it is hard to see the city. Its urban landscape in the same time that materializes its importance in the past, shows visible the absence of an social balance maintenance, that was lost in the time. In Cartagena its great architecture and natural beauty it attracts in the same time that its social poverty excluded the tourists; that’s because there’s a meaningful difference between its material beauty and the social space conflicts. From the understanding of the city like a social and historical product, this article has as a principal objective, reflect about the nowadays urban dynamic of Cartagena, trying to shows means of reduction of the impact that the social disequilibrium and local poverty, means in the development if international tourism.
**Karst and Tourism in Croatia**

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**Abstract**

Croatia is relatively small Central European and Mediterranean country with surface of 56 538 km² and population of 4.44 million according to 2001 census. Recent economic development, abruptly interrupted during 1991-1995 Croatian War for Independence, is primarily based on tourism. Becoming one of the most popular destinations, Croatia recorded total of 9.9 millions tourist arrivals with 51.4 millions tourist nights and over 7 billions of $ of tourist income in 2005. Natural landscape diversity represents a foundation of tourist progress. Karst covers almost half of Croatian territory. It also includes entire coast and islands (1246 islands, islets and rocks) with belonging submarine, and all (7) national parks (1.8 millions visitors in 2004). Regions with predominantly karst relief account for 90% of total tourist arrivals and 96.5% of total tourist nights. In the pre-war period, valorization of specific karst forms as possible tourist attractions has been limited to the parts of national and nature parks, and tourism, has had limited offer based on the 'sea and sun' principle. Recently, this strategy has been abandoned in favor of 'active' vacation offer, thus, some particular karst features such as cliffs, caves, canyons, rapids etc., found their place in Croatian tourist offer, resulting in increasing numbers of tourists visiting aforementioned places and in appearance of new types of tourism, i.e., free climbing, mountain biking, trekking, rafting, kayaking, sea-canoeing, cave diving etc. On the other hand, karst relief might have regressive influence on Croatian tourism in the near future. Due to the specific karst hydrology, coastal and insular parts of Croatia suffer water deprivation in drier years. This problem is especially emphasized on most of the small Croatian islands in the peak of tourist season when island population rapidly increases. However, Croatian karst region remains a stronghold of future tourism and economic development in general. Key words: Croatia, karst, tourism, coast, islands, national and nature parks, economy

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**Coastal Spatial Data Infrastructure Scorecard**

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**Abstract**

While more than 120 nations are currently implementing some form of spatial data infrastructure (SDI), very few have a specific focus on the needs of the marine and coastal communities. This paper reviews the current state of play of coastal/marine SDI (CSDI/MGDI) implementations across the globe, focusing on those few that have made practical inroads into addressing the specific spatial information needs of the marine and coastal science and environmental management communities. What amounts to a global oceanographic SDI partially exists in the form of the numerous data collection, formatting, data exchange and data policy standards and guidelines set by UNESCO’s Intergovernmental Oceanographic Commission (IOC) via its Committee on International Oceanographic Data and Information Exchange (IODE). The collaborative data interchange work of IOC’s IODE has been ongoing for several decades, yet formal specification of CSDI/MGDI at national level is less than 5 years old. The paper also considers CSDI implications of European funded ‘open source’ information standards and data harmonisation projects such as MOTIIVE (Marine Overlays on Topography) and marineXML.
Geospatial data harmonisation for land and sea - the MOTIIVE Project.
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Abstract

MOTIIVE - Marine Overlays on Topography - is a 2-year data harmonisation/integration project (9/2005 - 9/2007) funded by the European Commission under the 6th RTD Framework Programme. The objective of MOTIIVE is to examine the cost benefit of using non-proprietary data standards while addressing data harmonisation requirements between the pan-European SDI (INSPIRE) data component 'elevation' (terrestrial, bathymetric and coastal) and INSPIRE marine thematic data for 'sea regions', 'oceanic spatial features' and 'coastal zone management areas'. The project stresses analysis of the cost-benefit implied by strong harmonisation between core and thematic INSPIRE data, while supporting the infrastructure requirements of the EU's GMES (Global Monitoring for Environment and Security) 'Ocean and Marine Applications' theme, now being implemented by GMES Service Element (GSE) projects such as MARCOAST. The aims of MOTIIVE are to produce application instances of a series of OpenGIS interoperability specifications affecting land-based, marine/coastal and meteorological data sources via a case study with a coastal dat theme. The EC's INSPIRE (Infrastructure for Spatial Information in Europe) draft Directive proposes that harmonised 'Annex 1' core spatial data will underpin the further integration and harmonisation of 'Annex 2' and 'Annex 3' thematic data. The existence of Open Geospatial Consortium (OGC) interoperability specifications and International Organization for Standardisation (ISO) TC 211 non-proprietary spatial data standards is expected to help foster multi-disciplinary data integration at lower cost than previously experienced when using multiple data sources in integrated data projects. A key objective of MOTIIVE is to examine this expectation for a selected set of core (terrestrial) and thematic (marine/coastal) data, while fully documenting the processes, procedures, barriers and resource requirements involved in creating, then using, non-proprietary spatial data geographic information standards and new interoperability tools to aid such data harmonisation. The cost-benefit analysis included as a key component of MOTIIVE explores the implications of harmonisation across core and thematic data areas as well as within thematic data groups. The paper presents the latest information on project results available as of July 2006, approximately midway through the project.

Producing feminist geography down under: a view from Aotearoa New Zealand
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Abstract

As Janice Monk has argued, despite the commonalities, differences exist in the way in which feminist geography has been developed and articulated in particular places. Clearly place does matter in the production of knowledge. This paper examines the production of feminist geographical knowledge since the late 1970s in Aotearoa New Zealand. Complex interactions between the local, regional, national and global have produced a feminist geography in New Zealand that is both similar to, and different from, feminist geographies produced elsewhere.
The State of Geographic Education in the Montessori, Private and Public Elementary Schools: A Philippine Case Study
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Abstract

This study compares the relevance and effectiveness of Geographic Instructional materials in teaching Geographic Education as utilized by the Montessori, Private and Public elementary schools in the Philippines. The study aims to know which type of approach in teaching geography, as part of the Social Studies program in Grade 4 elementary education is most effective and relevant in teaching geographic concepts. There are two curricular programs that would be used as lenses in the assessment of the importance of using the right kind of instructional materials in learning geographic concepts in elementary education. These are the basic education curriculum (BEC) that is prescribed by the Department of Education and the curriculum followed by the Montessori education. Randomly selected Grade 4 students from Old Balara Elementary School (public), Roosevelt Elementary School (private) and Seed Montessori (Montessori) were subjected to an Achievement Test. The Geography Achievement Test is a 50-item test that covered the following topics: (a) Knowledge of the Earth; (b) Continents and Oceans; (c) Map Directions; (d) Map Grid and; (e) Landforms and Water forms. These topics are outlined in the Grade 4 Learning Standards that are covered both in the basic education curriculum (BEC) and the Montessori curricular programs. It is assumed that the students knew and had already taken up the topics covered in the Geography Achievement Test. Informal interviews and conversations were conducted with the students, teachers and school administrators in order to validate the data gathered from the Achievement Test. Observations of the public, private and Montessori classes were also made to further supplement the findings generated from the test and interviews. It is hoped that the results generated from the study will provide empirical evidence that will be useful to educators, school authorities and government policymakers in strengthening and reorienting geographic education under the Social Studies Program in the Philippine context.

Territorial dimension of male-male sexual tourism in Mexico
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Abstract

While many world-famous Mexican tourist destinations have usually had strong links with particular segments of the market looking for sexual pleasure, Mexican geographers have not examined sexual tourism adequately. In view of this, a team of researchers based at the Institute of Geography of the National University of Mexico has recently proposed a study called ‘The territorial dimensions of the sexual tourism in Mexico’. Within this framework, we want to explore the relationship between male tourists and particular segment of the local male population, in which potential sex partners, bounded by a mercantile bond, meet at specific places. This research will be developed in four major tourist destinations in the country: Tijuana on the Mexico-United States border, Guadalajara, the second largest Mexican city and two coastal, tropical towns, Acapulco and Veracruz. In the last two decades, sexual tourism has played a major role in the territorial mould of the tourism economy in these places and our research objective is to reveal the resultant geographical pattern. At this stage, we are presenting the theoretical and methodological background useful to carry out this study in the next two years (2006-2007).
**Spatial patterns and governance issues in the urban rural fringes. A french case study**

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Mrs Sylvie Lardon, UMR METAFORT
Mr Laurent Lelli, UMR METAFORT
Mr Patrick Moquay, UMR METAFORT

**Abstract**

One of the most striking changes of population geography is the emergence of peri-urban areas in the western world. These areas are specific because they are neither solely urban nor rural and therefore are carrying stakes of knowledge and action, especially concerning governance issues. Taking the French case as an example, this paper aims to present the different ways joint-action between different ‘communes’ (administrative organisation levels) in rural-urban fringes are carried out and analyse how actors are organised to answer to local stakes. Since ’90 and following a set of government legislation concerning the reinforcement of joint action between “communes”, we observe in France, new forms of institutional organisation such as “communautés de communes” or “pays”. We postulate that these forms fit to a set of schemes observed in the rural-urban fringes. First, the institutional form is based on an urban logic and periurban communes are taken advantage of the complementarily and the dependence of the town. Second, the institutional form is based on an intermediate logic where similar periurban communes gather to resist to the town. Third, it is based on logic of rejection of the city and then, periurban communes gather with peripheral rural ones. We argue that the main specificity of periurban communes is their geographical situation on a rural-urban gradient defined by distance to the city. Therefore, gradients are an organised form of the heterogeneity of geographical spaces and can be analysed through spatial patterns. The main question is how such a situation is taken into account in the development strategy statements and actions carried out by local actors. We theorise that institutional strategies of joint action between “communes” are closely related to spatial patterns. Choices made define long-term impacts and lead to specific development models. To test this hypothesis we define an analytical framework organised into three items: schemes of joint-action, spatial patterns and development strategies.

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**Seasonal Variation of Acute Myocardial Infarction in Melbourne Australia 1999-2003.**

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**Abstract**

Acute myocardial infarction (AMI) remains a leading cause of death in western and more recently developing nations. To date information relating environmental triggers to specific types of AMI is absent, leading to difficulties identifying ‘at risk’ groups. This research explores the seasonal distribution of admissions to hospital for the main subcategories of AMI amongst males and females 35+ years in Melbourne a city with a warm temperate climate. The AMI data consisted of all admissions to hospital aged 35+ years with a principal diagnosis of AMI (ICD-10 codes 121.0-121.9) from 1/1/1999–31/12/2003. Each admission was categorised by type of infarct into 2 groups, electrocardiographic changes (STEMI) and no electrocardiographic changes (NSTEMI), then divided into subgroups by age/gender. Statistical analyses included mean monthly rates and seasonal estimates using regression analysis. Total AMI (n =26,593), total STEMI (n=12,463), and total NSTEMI (n=14,130). STEMI 35+ years exhibited a statistically significant negative trend over time and a statistically significant seasonal pattern represented by a peak in February and statistically significant increased rates during cooler months April – November. NSTEMI 35+ years show a statistically significant positive trend over time and statistically significant increased rates during cooler months April – November. However, there were several subgroups in both the STEMI and NSTEMI cohorts that did not reach statistical significance for seasonal pattern or trend. STEMI and NSTEMI admissions demonstrate different trends, peaks and seasonal patterns for various groups during the 5-year period. As well as confirming peak occurrences during cooler months this study has identified a statistically significant peak in February in the STEMI cohort. AMI classified as STEMI more frequently require intervention therapy than those classified NSTEMI. By identifying ‘at risk’ groups, this study may facilitate understanding the external triggers for AMI. This will assist physicians in AMI management and educate patients in AMI prevention.
Can you hear us now? Voices from the margin: Using Indigenous methodologies in geographic research
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Abstract

Indigenous methodologies are alternative ways of thinking about research processes. Although these methodologies vary according to the ways different Indigenous communities express their own unique knowledge system, they do have common traits. They emphasize circular and cyclical perspectives and are guided by five unwavering principles: relationality (connectedness to all things), respect, reciprocity, responsibility (accountability), and regulation. The main aim of Indigenous methodologies is to ensure that research on Indigenous issues is carried out in a manner which is respectful and ethically sound. Embracing Indigenous epistemologies is the central element of constructing Indigenous methodologies. Indigenous epistemologies are generally based on the concept of holism and do not fragment the metaphysical from the physical. From an Indigenous perspective, research, the search for knowledge, is considered a spiritual journey. Thus, the spiritual aspect of life is as important to the search for knowledge as the physical and can only be accessed through prayer, ceremony, vision quests, and dreams. Although Indigenous methodologies challenge Western research paradigms, they will also contribute to the body of knowledge about Indigenous peoples. By providing a mechanism for Indigenous peoples to participate in and to direct research that ensures their communal needs are met, we then learn how to build ethical research relationships. Indigenous methodologies are suitable for both Indigenous and non-Indigenous researchers. Indigenous researchers are not privileged because of their indigienity since there are many “insider” views. However, there is a difference between research done within an Indigenous context using Western methodologies and research done using Indigenous methodology that integrates the Indigenous voice. This presentation will provide insight to the following discussion questions: What is the historical context of research on Indigenous people? Why are Indigenous people seeking alternative research methodologies? Why are existing scientific methodologies inadequate? What does Indigenous Methodologies entail? Who can use it? What can we learn from them? How can the academy support this discourse?

‘I think and then I put a line around my think’: Vida Lahey and the Space of Art Education for Children
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Abstract

This paper examines Lahey’s art classes for children in the context of Kay Anderson’s suggestion that ‘[s]pace is a social artefact shaped by structures, institutions and people; and “spaces of difference” vividly reflect the interplay of such forces.’ (in Stratfied 1999, p. 71) At a material level it considers how the children inhabited the space of the gallery. Additionally, however, the paper analyses non material aspects of culture, the establishment of the classes to determine how this initiative was conceptualised, Lahey’s femininity, her role as a catalyst for this rearticulation of space and culture. The paper also considers the networks of influence (American, Canadian, Japanese) deployed to bring the project to fruition, and the allocation of gallery’s resources once the need for children’s art classes had been identified and delineated, mapped onto public space. Overall, the paper argues that this new use of public space by children can tell us about the power networks and the politics of feminine and child presence in gallery space and in institutional dialogues. Here art is being used to encapsulate a particular set of cultural meanings oriented towards peace and understanding in social relationships: the production of peace and understanding through art. Finally, then, the paper supplements Anderson’s notion of space as a ‘social artefact’ by also recognising, along with Doreen Massey, that space is a product of interaction ‘from the immensity of the global to the intimately tiny’; that within space ‘distinct trajectories coexist’ and that space is ‘always in the process of being made. It is never finished, never closed. Perhaps we could imagine space as a simultaneity of stories-so-far.’ (2005, p.9). Lahey’s work in art education for children in the Queensland National Art Gallery in 1941 is a clear demonstration of these principles.
The socio-cultural constraints on income generation by smallholder cocoa farmers in PNG: the case of transport
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Abstract
This paper explores how socio-cultural factors influence smallholders’ decisions regarding transportation of cocoa in PNG. Cocoa production is undertaken not only to generate a cash income but also to pursue non-economic goals which sustain community life and social structures. These non-economic goals can constrain entrepreneurial motivation of farmers because the values and practices underlying smallholder cocoa production are not entirely in accordance with market principles. Higher population density and intensive cultivation may be required for increased productivity per hectare in due course, but to date policies based on the assumption that farmers are profit maximisers have not resulted in sustained increases in productivity on a per hectare basis (e.g., the provision of high yielding planting materials has not resulted in yield increases commensurate with the yield potential of these new planting materials). The profits of commercial oriented farmers too are subjected to these socio-cultural constraints. The operation of cocoa farms and processing facilities is influenced by indigenous socio-cultural principles such as wealth sharing with egalitarian values still pervasive in the mindset of many village farmers. For example, transport costs while being influenced by cocoa price levels, are also influenced by kinship relations and the relative value of crops to be transported.

Employment Effects of Climate Change and Variability in Northern forest communities
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Abstract
The European north is increasingly affected by climate change and variability. The cause is global in dimension but the specific impacts vary considerably between different localities. Recent development and events show that forest resource based communities have difficulties in diminishing adverse effects of climate change, and the future socio-economic impact is to date unexplored. The time frame considered in this paper is 2001-2050. The focus is on three areas in the Barents Sea region: Norrbotten in Sweden, Lappi in Finland and Arkhangelsk oblast in Russia. These areas differ significantly in terms of their socio-economic capabilities and capacities. The developments within forestry and the forest sector have been more advanced in Sweden and Finland, as opposed to Russia. The model used to predict the future changes is a modified employment multiplier. By using scenarios of changing forest resources, quantitative estimations of regional employment vulnerabilities are attained. Based on this output the adaptive capacity of the areas is assessed and discussed. Preliminary results show that Arkhangelsk oblast is more vulnerable to climate variability than Norrbotten and Lappi, due to the limited capacity to counteract the negative effects or to take advantage of the opportunities.

Street Markets in an era of Globalisation; Opportunity for Renaissance or Site for Redevelopment?
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Abstract
Retail economies in the advanced economies are increasingly dominated by large-scale multi-national companies specialising in vertical integration and internalisation of multiple retail functions. As a result small scale retailers are disappearing from high streets and traditional markets are suffering from strong competition. This is resulting in some historic city centre markets becoming targets for property development initiatives as they represent sites of considerable real estate value. However, there are signs of renaissance that is in part a reaction against dominant retail forms and in part an interest in alternative consumption patterns. This paper explores the position and role of street markets and traditional markets through primary research in the UK, Netherlands and France in a number of countries and assesses potential futures as market managers, market traders and consumers seek alternative ways of sustaining such lively focuses of economic, social and cultural exchange. The authors compare southern Hemisphere responses to these trends. The authors conclude that although street and city centre markets capital base may now be dwarfed by adjacent retail outlets, they still contribute significant forms of social and cultural capital to local economies. The evidence of this is the high regard in which they are held by place marketing specialists, tourist, leisure shoppers and Chambers of Commerce and others.
**Towards criteria for sustainable adaptation in the face of multi-impact and multi-scale scenarios of climate change for Australian urban environments**

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**Abstract**

While there has been a recent growing interest in the implications of climate change for Australia, including adaptive capacity, consideration of adaptation challenges for urban environments has been largely absent in the discourses associated with Australian sustainable urban development and policy. Recent urban policy and planning interest and action has tended to focus on single issues and threats as opposed to multi-impact or cumulative challenges, while responses have been inconsistent according to the scale of policy and planning jurisdictions. This paper investigates the risks this situation may incur for achieving sustainable urban development and successful adaptation to climate change. The paper points to recent examples of: Australian urban development scenarios; cumulative pressures in urban regions; identified and perceived vulnerabilities associated with climate change threats; and current planning practice and urban policy in demonstrating these risks. Based on these examples it reflects on the international discourse on measuring successful adaptation across scales and investigates potential criteria for defining successful and sustainable adaptation for Australian urban policy contexts.

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**Explaining Triangular Movements of Talented Chinese among China/HK, Canada, and the U.S. in the Late 1990s**

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Mr Fangmeng Tian *, Hong Kong Univ Of Science & Technology  
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**Abstract**

In the era of globalization, transnational migrations become increasingly important and diversified. A triangular model of human capital transfer has been developed recently to study the movements among a sending country, a major receiving country, and an entrepot country. China/HK is one of the largest sources of high skilled immigrants in North America. By integrating the most recent census tapes of the Chinese Mainland, Hong Kong, Canada, and the U.S. and selecting Chinese immigrants with at least a bachelor degree, we focus on explaining their onward and return migrations in a multivariate framework. We find that a large portion of HK-born immigrants returned whereas a considerable portion of Mainland-born immigrants with a research degree moved on from Canada to the U.S. Regression results show that both income and odds to a managerial position were significantly higher for returnees in Hong Kong than their immigrant counterparts in North America. The onward migration from Canada to the U.S. resulted in considerable increases in income without significant changes in occupation whereas the opposite was true for returnees in the Chinese Mainland. Our findings indicate that either income improvement or upward mobility can cause a sequential migration. The policy implication is to improve environments for talent development and utilization to attract and/or retain high skilled immigrants.

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**The Role of Sport Tourism in Re-Imaging the Periphery: Evidence from Northern Sweden**

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**Abstract**

Tourism has for a time been considered a remedy for rural areas suffering from population loss and unemployment. International competition caused considerable losses of employment in agriculture, forestry and manufacturing industries and left rural planners searching for new industries where employment can be created. This process has been proved to be difficult and did not always bring along the desired outcomes in form of new employment. In this context sport and adventure tourism has sometimes been identified as an option for profiling the tourism supply in the periphery. The purpose of this paper is to assess whether peripheral rural areas have adopted a re-imaging strategy involving sports tourism development. Theoretically the paper departs from a discussion of re-imaging strategies in the context of peripheries and with special emphasis on sports tourism. Then the geographical context is presented. The empirical analysis is based on a content analysis of promotional material provided by municipal tourist offices in Northern Sweden. It is shown that many municipalities indeed try to profile in sports tourism, meanwhile there are considerable differences within the area.
The meaning of 'development' in a stressed economy: Aboriginal communities in rural Australia
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Abstract
The notion of development conjures up images of resources waiting for either skilled people or finance required to extract them. It is a word that inspires but can also oppress. This analysis of Aboriginal aspirations for development in rural Australia highlights the contradictory aims of government and Aboriginal peoples. This raises questions such as, what kinds of economies, what kinds of culture, and what kinds of citizens are Aboriginal people expected to be, or do they want to be? Three decades of government programs designed to improve living conditions have failed to prevent Aboriginal communities throughout the nation becoming increasingly stressed, socially and economically. Literacy rates, health statistics, job opportunities, all these and more are decreasing, while boredom, violence to persons, and substance abuse increase. This paper examines where have development programs may have 'gone wrong', and what responses might be available to address the current malaise.

Positioning subject and object: architectures of address and the geopolitics of 'a-whereness'
Dr Fraser MacDonald *, University Of Melbourne

Abstract
Nigel Thrift has recently drawn our attention to new forms of address and locatability which, coupled with new kinds of background calculation and processing, are rapidly re-configuring everyday geographies of subjects and objects. Using the example of Global Positioning Systems (GPS), Thrift argues that the ability to determine the location of people and things is increasingly a matter of 'prerflexive practice' through 'various kinds of culturally inculcated corporeal automatisms'. He refers to this socio-technical faculty as 'a-whereness'. This paper offers two strands of critical reflection on Thrift's work. The first is concerned with how new socialities are coming into being through military technologies of tracking. Secondly, I attempt to contextualize these tendencies within a wider geopolitical struggle over orbital supremacy and space strategy.

Wildfire hazard in California: An analysis of the characteristics and the population at risk in the wildland-urban interface.
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Abstract
Wildfire risk continues to increase as human occupation expands into previously undeveloped areas. In the western United States, nearly forty percent of new home construction occurs in areas adjacent to or intermixed with the wildland-urban interface, making it an area of particular concern. This paper examines the association between population characteristics of the interface, and several fire assessment attributes in order to develop a more complete understanding of the potential population at risk from wildfire in California. Data for this study was downloaded from the California Fire and Resources Assessment Program and the U.S. Census Bureau websites. Geographic information systems software was used to process the 100 metre resolution raster data for the 2003 wildland-urban interface definition. Wildland fire threat class ranging from little or no threat to extreme, and the community at risk attribute that flags communities at risk based on housing density were also extracted from this file. The fuel rank assessment based on expected fire behaviour for unique combinations of topography and vegetative fuels under a given severe weather condition, the historic fire rotation class interval, and condition class which refers to the general deviation of ecosystems from their presettlement natural fire regime were extracted from the 2003 fire regime and condition class 100 metre raster file. The demographic and housing attributes were extracted at the block group level, a census unit of approximately 400 households. These attributes included the percent urban, race, ethnicity, gender, age, housing ownership and year built. Statistical analysis indicated that the population at greatest risk may be characterized as more likely to be white, older and more rural in composition living in houses built since 1989.
**Local Natures – Engaging Disparate Knowledges for Ecologically Sustainable Development in Australia**

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**Abstract**

There are ongoing debates in the contemporary environment and development literature regarding the role of scientific, local and indigenous participation in sustainable development initiatives. These debates often perpetuate binaries between the imperialistic practice and application of western scientific knowledge and the potential role of local and indigenous knowledges as panacea for environment and development problems. Equitable ecologically sustainable development is contingent upon moving beyond this dichotomy. Before this can be done we need to understand the commensurability of these knowledge groups. In particular, how do the different interest groups construct notions of 'the environment'? What are these constructions and how can they be allianced? I engage with these debates by conducting an investigation into the knowledge synergy that is (or indeed is not) occurring between local knowledge bases in Australia. I juxtapose the localised knowledges and practices relating to 'the environment' of the many interest groups of the Desert Fire project (of the Desert Knowledge Co-operative Research Council) in central Australia. I engage with this case study to demonstrate the unique and localised responses to, and potentials of, environmental governance and management in Australia. Furthermore, I show that rather than being hierarchical, knowledge is networked across time and space. Indeed conceiving of knowledge in this way engages the foundation necessary for collectively creating the space, the place and the process for equitable knowledge sharing for ecologically sustainable development in Australia.

**Australians have got it right: Chinese knowledge of Australia and motivations for migration**

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**Abstract**

In this paper I present findings on Chinese impressions of Australia. Through surveys and focus group discussions information was collected from individuals who were either preparing to migrate to Australia or were potentially able to do so in the future. Examining the sources of knowledge participants put forward and the type of information to which they were exposed, an impression of their perceptions was established. Knowledge was heavily focused on the environment, as well as good social conditions and the relaxed lifestyle of Australians. There was awareness amongst research participants that their knowledge is partial, focused strongly on tourism-driven imagery and they regretted a lack of knowledge about 'real' Australians. Their frequent contact with Australian-Chinese indicated a disparity between them and 'real', that is, Anglo-Australians. Motivations put forward for going to Australia were often augmented by motivations for leaving China. In other words, aspects such as good environmental and social conditions as well as Australian values, were made all the more attractive by their perceived absence in China. Financial attractions, which were historically strong, barely featured. The positive impressions of Australia and aspirations to attain precisely what Australians are perceived to have, signified a latent message that the disparity between both groups is socially constructed. The common aspirations which the findings revealed, underline their similarities rather than incompatibilities. I am conducting this research with the premise that there is a narrow understanding of Australia. Given the numbers of Chinese immigrants arriving in Australia, it is problematic if they are arriving with false expectations. I argue that with significant numbers of Chinese in, or migrating to, Australia, maintaining the settler identity seems to indicate a lack of real commitment to engage with the region.
**Croatia between regions and regional associations**
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Mrs Vera Graovac, Department of Geography, University of Zadar

Abstract
Due to its specific position, shape, cultural and historical background Croatia can be regarded as both Central European and Mediterranean country, and its tradition has been strongly rooted in these two cultural spheres. Although Croatia was a part of the Yugoslavia and Eastern bloc, the influences of Central European and Mediterranean civilizational heritage have been more favourable for Croatia than that of the Balkans, particularly in view of cultural and religious differences between the West and the East. So, in geopolitical terms Croatia was, and still is, a border area between the West and the East. After the dissolution of former Yugoslavia, Croatia gained its long wanted independence and is now striving to become a part of the European Union. However, there are many reforms to be carried out, among which is the territorial division of the state into NUTS regions. According to the proposition of the Croatian Bureau of Statistics, adopted by Eurostat, Croatia can be divided into one NUTS I region (the whole country) four NUTS II regions and twenty-one NUTS III regions. Besides making efforts to become a part of the EU, Croatia is also trying to become a member of other economic and cultural associations. This year it became the member of the newly-formed Adriatic Euroregion with 22 million inhabitants. Yet, Croatia is not eager to join all associations proposed by the EU, and the best example of the Croatia’s reluctance is the so-called Western Balkans economic union, which is supposed to be composed of all ex-Yugoslav states except Slovenia, and with the addition of Albania. Key words: Croatia, regions, regional associations, NUTS regions, EU, Adriatic Euroregion

**Responsible Gaming as a Tool for Sustainable Gaming Tourism in KwaZulu-Natal.**
Prof Lindisizwe Morris Magi *, University Of Zululand

Abstract
Gaming or gambling is a new phenomenon in South Africa, which emerged with the new democratic order. As such the theoretical framework of tourism and gaming is virgin and relies on Western literary sources (Eadington, 1978; Fisher,1996; Breen and Zimmerman, 2002; Kaatze, 2003; Bullard, 2004). Gaming authorities, licensees and patrons in KwaZulu-Natal see responsible gaming as a mechanism for promoting tourism. It has been portrayed as a creative recreation activity that has potential to encourage sustainable tourism development. Policy-makers and gaming practitioners are thus expected to set up a regulatory framework that seeks to promote responsible gaming in a manner that sustains gaming tourism. This paper aims at reviewing gaming policies as vehicles for tourism development and job creation. It seeks to identify sustainability in the operation of gaming tourism. The paper also intends establishing perceptions of local communities towards the understanding, awareness, patterns and practices in responsible gaming and sustainable tourism. It finally provides a critical assessment of levels of creative and sustainable measures inherent in gaming tourism policies and delivery mechanisms. A research sample of 480 subjects was interviewed towards revealing gaming tourism delivery mechanisms and perceptions of tourism benefits from local public and casino visitors in and around three cities: Durban, Pietermaritburg and UMhlathuze. The findings of the study revealed that there were various expectations associated with the understanding and practices of responsible gaming in the study area. Respondents perceived creative and sustainable policies and practices differently. A majority of gaming patrons (75%) showed a sense of awareness about gaming and less so about responsible gaming. However, patrons are not conversant with organisations that promote and monitor responsible gaming in KwaZulu-Natal. On the whole responsible gaming is perceived as thwarted by lack of awareness and understanding, as well as poor participation and development initiatives or delivery systems.

**Towards a balanced development in Medina region, Saudi Arabia**
Prof. Mohammad Shawqi Makki *, Saudi Geographical Society

Abstract
A quotation from the 6th development plan indicates that the general aim of regional development is to achieve a balanced development between regions in Saudi Arabia. The theme of this paper is to examine the elements of development within Medina region as a first step towards regional development. Emphasis will be directed towards studying the present indexes of development (physical, environmental, urban, social, economic) which may direct future plans for development. In addition some light will be shed on available potentials and obstacles for development. Solutions to a balanced development will be suggested.
**Identities on the move: international tourism and migration for marginalised Thai tourism workers**

Dr Linda Malam *, National University Of Singapore  
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**Abstract**

This paper explores the international tourism experiences of a group of young Thai men working in the tourism industry in Southern Thailand. Work in the tourism industry enables the men to transcend their economically and socially marginalised backgrounds and gain access to international travel and other markers of status through the relationships they develop with tourist women in the course of their work. Some of this travel is in the form of temporary migration, and some in the form of tourism. This research details the reflections of a group of men on their experiences as temporary international migration, specifically focusing on the implications of their travel for their identities, both while abroad and after returning home to Thailand.

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**Transgressive identities and transnational sites: challenging Thai masculine hierarchies**

Dr Linda Malam *, National University Of Singapore  
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**Abstract**

This paper explores the entanglement of sexuality with gender, class and national identities by investigating the politics of intra-national migration in Thailand. Focusing on the experiences of a group of young Thai men who have migrated from the Thai mainland to the island of Koh Pha-ngan in Southern Thailand, this research outlines the ways in which these young men are able to resist wider Thai discourses that seek to position them as marginal national subjects through their work in the tourism industry. I argue that the economic importance of the tourism industry opens up possibilities for the performance of masculine subjectivities which would otherwise be subject to surveillance and censure. This greater freedom enables experimentation with new gendered identities as well as access to sexual encounters with women that the men would not ordinarily meet: comparatively wealthy, educated, middle-class tourist women. Such encounters can open up possibilities which enable the men to re-negotiate their positioning in wider Thai society, and thereby challenge the marginalised identity labels that are ascribed to them.

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**Ways of Belonging: Reconciliation, Sustainability and Public Space Art c04.07.8**

Mr Gavin Malone *, Flinders University  
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**Abstract**

Australia, as a post colonial society, is evolving its particular identity and sense of self but reconciliation with its Indigenous peoples remains a significant political and cultural issue. An inter-related issue for the colonising culture is reconciliation with the indigenous nature of the land, in the sense of both ecological sustainability and an intimate sense of belonging and connectedness of spirit, or its own sense of indigeneity. Utilising Adelaide, South Australia, as an exemplar this paper examines the nexus between expressions of indigeneity by both Indigenous and non Indigenous peoples, and long term ecological and cultural sustainability. Representation is as expressed through commemorative structures (monuments and memorials), public and civic art, place naming and signage, and the articulation of cultural precincts. Inclusion of Indigenous peoples in the public space contributes not only to their spiritual and cultural renewal but also to the whole community’s sense of self. This provides a gateway to another way of understanding place and symbolically represent the decolonisation of both people and land. The old colonising cultural practices, from agriculture to high culture must transform and new ways of being imagined to facilitate long term social and ecological sustainability.
Public culture and the vernacular community: placing art in rural/wild environments C04.07.8
Dr Deborah Malor *, University Of Tasmania
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Abstract
Outside the urban environment, beyond suburbia and the country towns, public art is largely generated through highly urbanised formal processes, using city-based artists, agents and facilitators. It is not community art. In areas more usually associated with the rural, pastoral or even the wild, issues of placement of and continuing interaction with permanent public art are framed in those discourses of place-making, regeneration and tourism often derived from America or Europe. Art on public sites in rural/wild environments can act as a marker both of a destination that stands for and is sensible to the public culture, and also of a lived culture, a vernacular community whose language refuses a direct correlation with that of the so-called public sphere. These two experiences of public art are not mutually exclusive. An urban artist or audience will represent the public culture in a work that speaks - through its content, aesthetic or process - in a vernacular only sensible to a particular community, that is, working within the artist's intentions and beyond their comprehension of the context. Similarly, a vernacular community may accept the placing but not embrace the placement of a work conceived within the public culture. The community sees the art as a representation of the public culture, not of the community in which it is placed. Through site-readings of permanent commissioned art projects at Alum Cliffs and The Steppes, in rural/wild Tasmania, this paper investigates the translation of a lived vernacular culture into its representation as public art and, perhaps conversely, the insertion of public culture as art into a rural/wild environment. In the process of unpacking these sites, the desirability (or otherwise) of a local cross-disciplinary visually based representation of these vernacular communities will be considered.

Profiling New Zealand Geographers – Preliminary Insights
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Abstract
The New Zealand Geographical Society Oral History Project is intended to capture the stories and experiences of New Zealand geographers. A pilot study of geographers in, or recently retired from academia has been undertaken. This paper provides a preliminary analysis of the pilot interviews and discusses the key themes that have emerged from participant discourses. Using the insights derived from interviews I examine the possibilities and limitations for understanding personal encounters, experiences and milestones in their institutional and social context, reflecting on the way in oral histories might provide a window on teaching and learning in geography.

Ecotourism Prospects in the Urban Environment: The Case of Hong Kong
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Abstract
Although it is commonly believed that ecotourism can exist only in natural and pristine areas, this research proposes to study the resources, trends and context that can make ecotourism operational in an urban environment. Given the fact that cities are facing high and growing demands from tourism and pressures on natural environment by large resident population and visitors, inculcating the concept of ecotourism in urban areas can have lasting policy implications on sustainable livelihood in urban areas. Although research and discussions on ecotourism has gained academic momentum in recent years, its relevance to the urban environment has been scanty in the academic literature. This research will attempt to answer the following questions: (1) are there resources in the Hong Kong urban environment that can be classified as potential urban ecotourism resources? (2) how is urban ecotourism articulated in the main frame urban environment and is ecotourism appropriate in this setting? (3) what are the current use status of these resources and how can urban ecotourism products be defined and classified in an urban area like Hong Kong? The primary objective is to establish whether or not urban ecotourism can be conceptualized and implemented in an urban area like Hong Kong. The study will further ascertain the adaptable characteristics of urban ecotourism as will be reflected by the results of in depth field investigation and responses from various stakeholders. Based on this, the work will seek to integrate ecological, economic and social aspects of ecotourism that can be relevant to the urban environment. This will form a framework of investigation that will seek to accommodate the theme of ecotourism in an already buoyant tourism industry for which Hong Kong is known.
The Displacement myth: Second Home Tourism in the Stockholm Archipelago
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Abstract
The second home is important for many households in Sweden. This is confirmed by the high number of second homes and statistics on overnight stays. However, second homes are not uncontroversial. There is a conflict of interest between second home owners and permanent residents in host communities, especially at attractive destinations. Second homes are blamed for creating price inflation and increased property values in these areas, resulting in higher property tax. Consequently, this is argued to cause a displacement of permanent residents and depopulation. However, others argue that the current depopulation trend in rural second home destinations is caused by a restructuring of the rural labour market. This study departs from this societal and scientific conflict, and has its aim in testing the displacement theory. This is done through an empirical case study dealing with essential issues regarding the development of second homes, permanent homes and change in assessed property values. The case area is the most attractive second home destination in Sweden: the archipelago of Stockholm. Results show that increased assessed property values are caused primarily by increasing numbers of permanent homes, and the area is being repopulated rather than depopulated. The study concludes that no evidence of displacement caused by second home demand can be traced on a regional level.

Italian party realignment and interethnic political relations in South Tyrol
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Abstract
The crisis in the Italian political party system in the 1990’s has led to regionally specific patterns of party and electoral realignment. This paper aims to consider party and electoral realignment in the multi-ethnic autonomous province of South Tyrol and its consequences for interethnic political relations. The German Tyrolean population majority in the province has local ethnic parties. The Christian democratic SVP is by far the largest. The smaller Italian population has the parties of the Italian political system. In addition to their usual divisions the Italian parties take different positions on issues regarding interethnic relations and the relation of the province with the Italian state and with neighbouring Austria. In the old party system the Italian Christian Democrats and their allies in the Italian national government supported the autonomy and cooperated with the SVP. The neo-fascists who always have had a considerable share of the ethnic Italian votes opposed the provincial autonomy. In the new party system the Christian Democrats have no clearly identifiable successor party, while the moderated former neo-fascists are participating in the national government. The federalist Lega Nord seems not to be very successful in the province.

Abstract vs. Real World Understanding of Spatial Relationship Concepts Among K-Undergraduate Students: Implications for a “Minimal” GIS.
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Abstract
As Geographical Information Systems (GIS) are increasingly implemented in K-12 classrooms, the risk becomes one of teaching 'buttonology' or simply how to point and click to complete certain functions. Three years of research has culminated in greater insight into age and grade related differences in geospatial concept recognition and understanding. Simple paper and pencil tasks were given to 3rd grade, 6th grade, high school, and undergraduate students to provide insight into different levels of concept understanding, specifically in terms of descriptions of spatial relationships, which exist between each age/grade levels. Results indicate significant differences in geospatial concept recognition and understanding among the age groups tested. Additionally, results indicate that students at every age level tested more easily identify and understand spatial relationship terms in real-world depictions as opposed to abstract diagrams. This data has been used in the argument for a 'Minimal' GIS in which age and grade appropriate concept understanding becomes the driving force behind the GIS, in turn making it an effective support system for spatial thinking.
Cultural Practices and Global Space: Sites And Their Complex Connections
Ms Sallie Marston *, University Of Arizona
Mr John Paul Jones, University Of Arizona
Mr Keith Woodward, University Of Arizona

Abstract
In this paper we outline a different ontology for thinking about how to conceptualize the processes, practices and collectivities that constitute the contemporary world. We also elaborate the contours of a case that illustrates the abstract arguments advanced in our ontology. Our aim is to build on our recent work aimed at framing an alternative to the tendency to comprehend globalization as constituted through abstract flows of people, objects and ideas. The central feature of this alternative ontology is the site: a material localization characterized by a variety of differential relations. And while those relations may be temporary or enduring, they are the mechanism by which one site is connected to other sites thus composing a social space that may be understood to extend, however unevenly and temporarily, across distant places. The case we introduce focuses on cultural practices that are understood to have originated in one site but are repeated or reconfigured in other sites; sites that are materially connected across geographic space through this common set of practices, among (possibly) many others. We use connected sites within Mumbai, India, Los Angeles, US and Lagos, Nigeria and the collectivities, processes and practices that constitute these sites of popular film making as a way both to anchor our theoretical claims and to develop empirical and pedagogical entry points for comprehending and enlarging upon the political implications of our ontology; an ontology that is meant to unsettle the hegemony of globalization as a theoretical formulation.

The creation and consumption of rural mediascapes in Australia, Britain and New Zealand.
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Abstract
This paper draws on research undertaken on rural television drama series in Australia, Britain and Aotearoa/New Zealand. The work of Appadurai (1990, 1996) and others has highlighted how media such as television both construct and circulate spatialised imagery across the globe. This paper focuses on the televisual mediascapes of rurality within and between three countries. It begins by exploring the significance of notions of rurality amongst the producers of Antipodean television programmes such as Blue Heelers, Jackson's Wharf, McLeod's Daughters and Mercy Peak. The paper highlights issues of socio-spatial identity and creative authorship implicated in the construction of these programmes. The degree to which distinctively national constructions of rurality are created within these programmes is considered, as is the significance of the collectivity and dispersed spatiality of television production. The paper then considers the 'translation' of producer constructs of rural spaces into the viewing of such programmes in rural and urban places within Australia, Britain and Aotearoa/New Zealand. The paper ends by briefly considering the implications of globalised mediascapes on notions of creativity and consumption.
Mapping Socio-regions of Outback Australia
Dr Yiheyis Maru *, CSIRO
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Abstract
Mapping Socio-regions of Outback Australia  Yiheyis Maru1 &#8303;, Vanessa Chewings1, Mitch Jones1, and Joseph Breen1
1CSIRO Sustainable Ecosystems Alice Springs NT 0871 &#8303; Corresponding Author  Abstract Outback settlements are markedly
different from their coastal counterparts in many socio-cultural, economic, demographic and environmental characteristics.
Differences are also strong among outback settlements, although they share some basic characteristics. These differences have been a
major challenge to regional policy making, research and investment decisions. This research is developing visual maps that enhance
understanding of key similarities between settlements differences among outback regions. Such an understanding by stakeholders is
expected to assist decisions on research such as selection of case study areas and, in the long term, on other investments and
development policies. Some of the impetus for this work stems from limitations of the standard regionalisation of Australia (SDs and
SLAs) used by the Australian Bureau of Statistics when applied to sparsely populated desert regions. Aggregated data for SLAs
provides us with a very poor basis for understanding the socio-economic characteristics of desert regions. One reason is that the
distribution of outback settlement sizes is markedly clumped with a small number of service centres (population 20,000 to 30,000)
stepping down to a much larger number of settlements that are two orders of magnitude smaller (i.e. populations <100-500) and that
have very different socio-economic characteristics. Standard regionalisation averages this pattern disguising its significance for
analysis. Standard regionalisation also takes state/territory borders as hard boundaries, disguising the significance of cross border
similarities and relationships. In this study, we have classified and mapped settlements into socio-regions. The study has considered a
UCL (Urban Centres or Localities, being a settlement with 200 or more people) as a basic unit. A preliminary hinterland has been
mapped around each UCL. The mapping process has been primarily based on similarities and differences of key demographic and
socio-economic indicators. Indicators of ecological issues are also considered in mapping the socio-regions. The outcome is a very
different geography of desert Australia than is presented through standard regionalisation, but one that better represents its
characteristics.

The Limits of Trans'national'ism: Locating the Second Generation in the ‘Iranian Diaspora’
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Abstract
The second generation are a construct made coherent through the dominance of national modernities in contemporary thought. Their
positionality between nations subordinates them within hegemonic public discourses of national belonging and academic discourses
dominated by methodological nationalism. Transnationalism research is not immune to the dominance of methodological nationalism.
The foregrounding of the transcendence of national borders as a precondition for ‘transnational relations’ has validated the efficacy of
national identities, whilst in turn delegitimising other modes of belonging. As an inherent challenge to dominant discourses of
national belonging the second generation therefore exist as ‘a problem’ waiting to be solved. In this paper, a discussion of the
religious identities of the children of Iranian migrants in the ‘Iranian diaspora’ serves to unsettle the dominance of national belonging
and the national scale of reference. For ‘Baha’is’ and ‘Muslims’ Iran means different things, building alternative modernities mediated
through the lens of religion. Considerations of alternate epistemologies as frames of reference, such as through religious identities,
recasts national identities as one possible mode of belonging, rather than the mode of belonging against which others are judged.
Bringing national identities into dynamic contact with their non-national others produces the possibility to move beyond the tacit
problematisation of the second generation. Rather than limiting them to interstitiality, the second generation are thus accorded a more
legitimate and productive place in social relations.
Atlantic Edge Tourism: spinning SPM's commercial and maritime heritage
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Abstract
The archipelago of St Pierre-et-Miquelon constitutes a territorial collectivity of France located in the N.W. Atlantic and reached by sea or air from the Canadian Maritimes. Lacking any significant farming tradition, SPM depended for many decades upon a combination of international maritime trading - boosted by U.S. prohibition in the early 20th Century - and commercial fishery. With the decline of the North Atlantic fishery, the islands now rely heavily upon industrial heritage and landscape tourism. Premised upon fieldwork carried out in summer 2005, this paper will unpack critical issues surrounding delivery of niche market tourism on the edge of the periphery.

Marginality and the Metropole: the curious case of a French island outpost of the North Atlantic
Professor Alison McCleery *, Napier University
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Abstract
The North Atlantic archipelago of St Pierre-et-Miquelon is simultaneously marginalised and globalised. Combining a long history of international maritime trade with exploitation of the North Atlantic fishery, islanders demonstrate a strong sense both of local identity and French nationhood, while political and economic ties to metropolitan France permeate every facet of island life. This symbiotic relationship of mutual convenience masks a situation of extreme marginality on the one hand and enhances French aspirations to be perceived as a global player on the other. Against such a background of geopolitical complexity, this paper sets out a highly distinctive marginalisation/globalisation scenario, in which local-level responses must be viewed in the context of global-level regional development subsidy which acts both to maintain a convincing French foothold in North America and in so doing counteracts otherwise severe and chronic rural isolation and deprivation.

The kinaesthetic cultures of cities
Dr Derek McCormack *, School Of Geography, University of Southampton
Dr Alan Lathan, School of Geography, University of Southampton

Abstract
Recent work in cultural and urban geography has focused attention on the affective elements of everyday life. In this work cities are understood as sites through which circulate all kinds of affects which shape the experience of urban space. Yet this renewed attention to affect raises some important issues and questions about the theoretical and empirical focus of urban cultural geographies. Importantly, if affect is taken to be 'more-than-representational’ then how can we understand or apprehend its circulation solely in terms of the production and consumption of texts, images, and ideas? What other techniques and technologies are implicated in the emergence, organisation and circulation of distinctive kinds of urban affects? In this paper we make the case for attending to the enactment of kinaesthetic practices and techniques as part of the more general effort to map urban affects. In doing so we pay particular attention to a broad range of practices relatively ignored in analyses of the affective dimensions of urban life – those implicated in matters of sport and fitness. Drawing upon examples from a number of cities we argue that such practices can be understood primarily as techniques of urban inhabitation whose enactment and organisation animates the affective life of urban cultures.
Alternative informal strategies for reducing vulnerability in flood risk communities?: community engagement with local flood histories on the middle to lower River Severn, UK.

Dr Lindsey McEwen *, University Of Gloucestershire
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Abstract

In evaluating more traditional approaches to reducing vulnerability within flood risk communities, there are a number of continued concerns: the continued failure of formal flood warning systems to reduce individual flood losses; the sustainability of hard engineering solutions in climate change scenarios that predict increased flood risk; and the growing evidence that flood risk awareness within floodplain communities is still low despite considerable financial investment by environmental regulators in promoting flood risk awareness through 'formal' pathways. This paper debates alternative ways of reducing the vulnerability of floodplain populations in the UK and Europe through the effective use of informal information pathways. As example, it evaluates an innovative community project (the Lower Severn Community Flood Information Network), funded through the Royal Society's Connecting People to Science Scheme (COPUS) and the Environment Agency (UK). This project is using public participation in 'debating the scientific evidence' approach with 'expert' and 'local' knowledge in raising community flood awareness from different perspectives.

The River Severn (the largest UK catchment) suffered a cluster of five recent high profile flood events in the late 1990s/ early 2000s but larger events have occurred earlier in the 18th-20th centuries. The approach has been multi-organisational (including the National Flood Forum, a voluntary self-help group for those at flood risk and Local Government). Outcomes have included a major Flood Forum, a voluntary self-help group for those at flood risk and Local Government). Outcomes have included a major Community Flood Discussion Forum and an interactive web site. This paper evaluates critically the success of the 'public understanding of science' approach with 'expert' and 'local' knowledge in raising community flood awareness from different stakeholder perspectives. It makes comparisons with other flood risk awareness raising projects in the UK and internationally that have involved 'community' and 'education'. It then evaluates important areas of good practice in how to engage communities with local flood risk and promote vulnerability reduction that can be developed in 'total flood warning system' strategies for other flood risk settings in UK and internationally.

The 'postgraduateness' of vocational taught Masters environmental courses: evaluating stakeholder perspectives

Dr Lindsey McEwen *, University Of Gloucestershire
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Abstract

The 'postgraduateness' of vocational taught Masters environmental courses: evaluating stakeholder perspectives  Lindsey McEwen1, Rob Duck2, Martin Haigh3, Steve Smith4 and Liz Wolfenden5 1University of Gloucestershire,2University of Dundee, 3Oxford Brookes University, 4Coventry University, 5Farnborough College of Technology, UK  The numbers of postgraduate taught courses in UK Higher Education Institutions have increased rapidly (see Eastwood, 2005) for a variety reasons. Many of these courses aspire to combine postgraduate and vocational outcomes and are linked to explicit employment markets. In this culture of rapid course development, there are, however, a number of tensions that require resolution. While there is significant guidance on programme development and subject-based benchmarking at undergraduate level, there is currently limited guidance for those embarking on course development at taught postgraduate level. In any case, the interdisciplinary focus of much postgraduate provision mitigates against the easy use of such statements in course planning. There are, additionally, on-going debates as to what M level means in the context of more vocational postgraduate taught programmes and courses that 'convert' at least in part as well as 'extend' although these terms are now taboo. Extending the spatial scale of reference, the Bologna declaration (1999) requires a harmonisation of EU higher education systems and a European credit transfer system that includes postgraduate level provision and hence comparability in levels of endeavour. Within this context, this presentation reflects on the outcomes from a Learning and Teaching Support Network (LTSN) Geography, Earth and Environmental Sciences (GEES) small-grant funded project that has focused on the development phase of postgraduate taught vocational courses from different stakeholder perspectives. The project is multi-institutional (with partners from University of Gloucestershire, University of Dundee, Oxford Brookes University, Coventry University and Farnborough College of Technology, all UK) and uses feedback from the LTSN-GEES/RGS-IBG Higher Education Research Group swop-shop (July 2004) to contextualise the survey beyond these institutions. Part I of the project involved a student survey that explored taught postgraduate students' expectations of postgraduate learning. Part II evaluated the motivations for postgraduate course development from other stakeholder perspectives (development team, development team leader, external reviewers, practitioners) and debated the special attributes of a postgraduate taught course that mark it as 'postgraduate' and 'vocational'. The paper evaluates 'postgraduateness' from different stakeholder perspectives as a key input to establishing both the motivations for, and good practice in, course development at taught postgraduate level.
**Sediment sourcing of fine sediment in salmonid spawning grounds: implications for management**

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**Abstract**

The detrimental effects of fine sediments upon developing salmonid embryos are well documented. Many UK rivers suffer from excessive levels of fines (<2mm) in the spawning grounds of salmonids (Theurer et al., 1998; Milan et al., 2000), that have been largely attributed to land-use practices. For sustainable sediment management, it is important to address siltation issues at source in a holistic, catchment-based manner. This paper evaluates the use of a mixing model approach to identify fine sediment sources to salmonid spawning grounds in the Ithon catchment, a headwater tributary to the River Wye, which has undergone recent decline in salmonids. Spot sampling of suspended solids indicates episodic high sediment loadings. The research aimed first to evaluate the spatial distribution of fine sediment sources within the catchment and second to identify any temporal variation in the delivery of fines to spawning grounds. Sediments within five riffles at known spawning grounds (the sink sites) in different parts of the catchment were sampled using freeze-coring. Temporal information on fine sediment delivery was obtained by sampling sediment that had accumulated in a continuously monitoring bedload trap installed at the downstream-most spawning riffle over three winter seasons. In establishing potential sediment sources, bank sediments and recently deposited channel margin fines were sampled at 28 potential source tributary sites and 11 mainstream sites below tributary junctions. Bank sediment samples were also taken where GIS analysis of channel planform change significant indicated bank erosion. All sediment samples had their mineral geochemistry analyses. The mixing model clearly identifies the dominant sediment sources to each of the spawning grounds and temporal variations in the proportions delivered from different source areas. Different sub-catchments are switched on during different high flow events and from data to date, three scenarios can be identified. Explanations for variations include: inter-arrival times of floods relative to available sediment sources, flood seasonality, land-use management and dominant sediment pathways e.g. field drains. It is proposed that the mixing model approach could be used in conjunction with a nested catchment-based 'source-sink' research design to fine sediment sampling and monitoring. This provides the underpinning science to help address siltation management for salmonids in rivers with excessive siltation.

**Patterns of river channel adjustment on the Afon Tywi, Wales UK, 1890 to present, with implications for conservation management.**

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**Abstract**

This paper evaluates longer-term catchment-wide patterns of channel adjustment on the Afon Tywi, an exceptional example of an active UK river system that was impounded in its upper reaches in the 1970s and has commercial gravel extraction activities. The Tywi has been designated by the European Commission as a Special Area of Conservation (SAC) under the European Habitats Directive, with principal interests including allis and twaite shad (Alosa alosa and Alosa fallax) and brook, river and sea lamprey (Lampetra planeri, Lampetra fluviatilis and Petromyzon marinus, respectively) and hence has competing management imperatives. Each species has specific habitat needs and there has been concern about the impacts of human interventions on the natural system functioning and habitat availability. The Tywi displays a range of different river environments (including wandering gravel bed rivers and active, partially confined and entrenched meandering) that reflect progressive and discontinuous downstream controls. The project, funded through the Countryside Council for Wales, used a fluvial audit approach involving GIS analysis of historic planform information and reconstruction of the flood history of the Tywi. Results indicated that several active sinuous sections along Afon Tywi have increased significantly in channel sinuosity in the 20th century, with an acceleration of the rate of change evident post-1964. The aerial extent of unvegetated gravel bars evident in 2000 is less than half that indicated in the late 19th and mid 20th century. Hydrological assessment indicates that the flood regime combines episodic extremes (e.g. 1931), flood rich periods and short-term flood clusters (e.g. 1998 to 2000) that can be linked to specific types of geomorphic activity as well as periods of relative quiescence (1931-1979). The paper debates the relative importance of human (impoundment, gravel extraction) and natural triggers (changes in flood patterns) in explaining the present character of the Tywi and evaluates the implications for future conservation management of the Afon Tywi SAC and other comparable settings.
Doing post-development? Assessing aid initiatives in Timor-Leste
Dr Andrew McGregor *, Department of Geography, University of Otago
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Abstract
Post-development theories have successfully challenged many of the ways in which we think about development but are yet to substantially influence development practice. This is, perhaps, not surprising given the ferocity of some post-development critiques but it is something that needs to be overcome if post-development is to attract wider audiences outside academia. In this paper I suggest that rather than unilaterally dismissing the aid industry as somehow inherently faulted there are opportunities within the existing apparatus that can be utilised for the pursuit of post-development goals. To demonstrate this I report on discussions with aid practitioners working on three different types of community empowerment initiatives in Timor-Leste; these being institutional capacity building initiatives, community partnerships and small grants programmes. Each initiative is shown to have some potential to contribute to the pursuit of post-development through their support for community-scale activities. However it is also argued that the structures and foci of many such programmes are currently oriented towards producing agents for development rather than the idealised spaces and imaginaries in which alternatives may be explored. The paper concludes by suggesting that post-development theorists can have real and constructive impacts upon the realisation of alternative community futures by re-negotiating and selectively appropriating initiatives within mainstream development.

City-regionalisation and reterritorialisation of governance: metropolitan regionalism in Sydney?
Assoc Prof Pauline McGuirk *, University Of Newcastle

Abstract
According to city-region theory, the territorial basis of the global economy is now a mosaic of globally connected city-regions rather than nations. Moreover, the city-region has superseded the nation as the privileged territorial scale at which effective governance capacity is mobilised. Despite some intuitive appeal in these arguments, there is a growing body of critique of city-region theory which targets specific frailties arising from its theoretical reliance on a global capitalist-logic-derivation of city-region-scaled agglomerations and its focus on global exchange-relations. In order to explore the limits of these theoretical tendencies, this paper provides a critical account of the processual and practical formation of Sydney as a city-regional space of governance. It pays particular attention to the contingent emergence of Sydney’s metropolitan policy regionalism through political mediations—especially state-mediations—of the particular and complex politics elicited by the spatial distributional consequences of city-region development. The paper draws out three insights for city-region theory: (i) that national and subnational governments deploy nationally-specific political drivers and actions that are constitutive in the political formation, institutionalisation and legitimation of metropolitan regionalism; (ii) that metropolitan regionalism is not self-fulfilling but requires discursive and practical political engagements by local socio-political actors to mobilise and activate it; and (iii) that city-regions cannot be fetishised as an inevitable scale of state territoriality. Its concluding argument is that city-region formation must, therefore, be understood as an on-going and multiscalar process without autonomy from the national political-economy or from its territory.

Operationalising post-development theory: discourse, politics and possibility in the field
Dr Katharine McKinnon *, Massey University
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Abstract
An emerging post-development literature is beginning to consider how post-structural and post-colonial critiques of development could form the basis for new kinds of development practices. Much of the search for such post-development possibilities draws on new theories of discourse. This paper considers the challenges of bringing together empirical research and the experience of doing development with the often ethereal and deeply speculative work of discourse theorists like Ernesto Laclau, Judith Butler and Slavoj Zizek. In this paper I reflect on the course taken by my own research in northern Thailand, and discuss the possibilities that can emerge as theory confronts empirics, and conceptual frameworks are transformed through the daily politics of field work.
Little-scale to large-scale coastal behavior
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Abstract

Here I reflect on changes in coastal geomorphic science since the last IGU Regional Conference in this part of the world. This was held in Palmerston North, New Zealand in 1974, thirty-two years ago. By then the early Davisian, Johnsonian and Cottonian coastal models had been well swept aside, and had been replaced by newer approaches notably Krumbein's beach process-response model and Inman's coastal sediment budget model. Also at that time the schism between the little-scale coastal behavior(ists) and the large-scale coastal behavior(ists) (the term large-scale coastal behavior was not introduced until a couple of decades later) was in its formative years with some coastal practitioners attempting to straddle both the scale and methodological divide. Almost accidentally a number of coastal monitoring programs were initiated, allied more closely to attempts to understand short-term (but not instantaneous) coastal processes and responses than the longer-term. During the next twenty years the gap widened between 'little' and 'large' the former progressing at rip-current speed, the latter evolving at millennium speed. In both, coastal modeling became the vogue and reached an impressive level of sophistication in Australasia. Coincidentally, at this time issues relating to coastal management also reached impressive proportions with coastal developments, residential, second-home, resorts, industry, ports etc. expanding at fever-pitch. Paradoxically, neither process-based or historical-based coastal studies or models had much useful application to coastal management and planning. And, results from on-going monitoring exercises provided little more than an interesting backdrop, as by this time it was not clear whether such exercises were more closely associated with short- or long-term coastal change. As the mismatch in scale and utility between little-scale coastal behavior and coastal planning and management became apparent, the need to upscale also became apparent. Hence, the development a decade ago of a new spatio-temporal field of coastal geoscience, 'large-scale coastal behavior'. Has this been the answer to the coastal science-coastal planning mismatch? And, in the last decade, has the marriage between monitoring, modeling and managing coastal systems been consummated? These questions provide two themes around which this session on coastal systems can be focused.

Their grass is greener but ours is sweeter - thoroughbred breeding and water management in the Upper Hunter region of NSW
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Abstract

The Upper Hunter region of NSW around Scone is reputed to be the second most significant thoroughbred breeding region in the world after the Bluegrass region of Kentucky. This paper identifies the importance and cultural constructions of grass, and hence water, in the thoroughbred breeding industry in this region. Thoroughbred stud managers attempt to produce environments attractive to potential horse purchasers and owners with mares to be mated. These environments are constructed from perceptions of how a thoroughbred stud should appear, and from the physical conditions of specific locations. One perception is that the grass should be green. There are differing opinions in the thoroughbred breeding industry about the nutritional value of irrigated grasses, the role of these grasses in horse development and the associated access to, cost of and efficacy of water used for this purpose. The paper concludes that effective water management in this industry is only possible if various cultures of nature are understood, where necessary challenged, and subsequently included in environmental policy and planning.

The Culture Of The Skyscraper
Dr Donald McNeill *, Department of Geography; King's College London

Abstract

Often conceived in both popular and academic terms as being ‘faceless’, abstract, economistic, or inhumane, the skyscraper presents a particular challenge that cultural geographers are well-placed to respond to. As sites of everyday practice (of overlooking, smoking, lift-taking), popular discourse, geopolitical symbolism, financial circulation, architectural and engineering rationalities, and metaphorical play (the skyscraper, indeed), these fiercely vertical artefacts are open to multiple interpretation. The paper reflects on methodological challenges (of privacy, of secrecy, of security), representational concerns (of aesthetic fetishisation), and cultural particularity (as a universal urban form), which set out a challenging agenda for urbanists working within cultural geography.
**Abstract**

Remnant native vegetation in rural Victoria and South Australia predominantly occurs as small, isolated patches of vegetation in landscapes dominated by agriculture. Fragmentation of native vegetation communities renders the patches vulnerable to degradation processes that may be accelerated by management practices on adjacent land. To reduce the impact of land use change on biodiversity, land managers require information regarding the consequences of contemporary and future agricultural practices on the condition of remnants. We have used a land use impact model (LUIM) to map the risk of degradation in the Lower Murray Dryland agricultural region of Victoria and South Australia under current agricultural land management. The LUIM uses a Bayesian Belief Network and an ARC GIS interface to combine biophysical data and expert knowledge to produce maps identifying remnants at risk of degradation. A Bayesian approach allows the model to map spatial uncertainty in the occurrence of management practices. Landscape metrics, vegetation data and expert ecological knowledge, gathered through a series of workshops, were used to rate the susceptibility (potential for occurrence) and sensitivity (ability to recover) of the remnant vegetation to degradation. Land management practices both within and adjacent to remnants were rated as negative, neutral or positive. Identifying spatial relationships between remnants susceptible to degradation and land management practices provided a means to determine the likelihood of degradation. The sensitivity of a remnant to degradation was scored and combined with a rating of value (rarity) to give a relative score for the consequence of degradation. We used an accepted definition of risk as the product of likelihood and consequence of the event. Results were computed for each patch and represented in ARCGIS. The approach provides a framework for evaluating risk to biodiversity in a range of land use scenarios where expert knowledge and land use data are readily available.

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**The impact of land use change and irrigation on a Ramsar wetland: Velorenvlei, Western Cape, South Africa**

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**Abstract**

Verlorenvlei is a shallow coastal lake, 200km north of Cape Town, on the west coast of South Africa. Identified as a so-called Ramsar wetland in the early 1990’s, it is an important conservation area, although value from a national and international perspective is undeniable. While palaeoecological studies in the area have revealed that agriculturally-associated changes have been a feature of the Verlorenvlei landscape since at least European colonisation, the intention of this study is to assess the environmental consequences of the rate and scale of contemporary change. The landscape transformation occurring in the Verlorenvlei catchment, in particular the increasing use of centre-pivot irrigation, is assessed through sequential aerial photographic analysis. While this provides the wider spatial and temporal assessment of change in the catchment, the Present Ecological Status (PES) method (an evaluation approved by the Department of Water Affairs and Forestry) and a water quality assessment are used to establish the current physical and biological condition of the vlei. The results show a significant increase in both the scale and extent of centre-pivot systems over the time-series. This change is further reflected in water quality indicators, suggesting variously eutrophic conditions of a vlei previously described as oligotrophic, and that salinisation is of concern both from an ecological and agricultural perspective. The implications of these changes are explored in the context of the emerging conflict between commercial farming and nature conservation with a view to developing management strategies to avert further deterioration of the Velorenvlei environment.
**Different sorts of people thrown in together: Negotiating belonging in public housing neighbourhoods**
Dr Kathleen Mee *, Geography, Centre For Urban And Regional Studies, University Of Newcastle

**Abstract**
Belonging in public housing is defined both by federal and state government housing policies and public housing tenants. Government policies specify who belongs and how long people are allowed to belong in public housing and expected behaviours to remain in public housing. Policies are then enacted by housing officers at a range of levels, from central offices where policies are developed, to regional offices where the policies are put into practice, and then through local management teams. Implicit and explicit in these policies and practices of public housing belonging are notions of care, albeit increasingly conditional care. Belonging in public housing is also actively created, contested and negotiated by public housing tenants themselves, in their interactions with state housing authorities and their neighbours (both in public rental and other tenures). Drawing on case studies from inner Newcastle, NSW, this paper will interpret public housing neighbourhoods as spaces of care. The paper will argue that ideas about care infuse the relationships between the “different sorts of people” who live in public housing, and that caring relationships are crucial to the maintenance of belonging in public housing places.

**Community participation in post-disaster damage assessments in Fiji**
Miss Kirstie Méheux *, Department of Physical Geography, Macquarie University
Dr Kate Lloyd, Department of Human Geography, Macquarie University
Dr Dale Dominey-Howes, Department of Physical Geography, Macquarie University

**Abstract**
A recent review of Fiji’s Natural Disaster Management Act and National Disaster Management Plan has highlighted the need for communities to participate in disaster management activities. One area identified for community participation is damage assessment following disasters. The review proposes formalising community participation in initial damage assessments (IDA), yet there has been little critical consideration of the issues surrounding community participation in disaster assessment in Fiji. The presentation argues that this has implications for the success of community participation in damage assessments. This presentation will discuss some of the current problems facing community participation in damage assessments in Fiji. These include issues of trust between communities and government, accuracy and timing of assessments, stage and degree of participation and training of both communities and government personnel. It will then discuss some potential ways to resolve or mitigate these problems. The presentation draws on data gathered from interviews with members of three village communities in Fiji. Representatives of both Provincial and National Government were also interviewed during eight months of fieldwork undertaken in 2005.

**Ontological Models and the Representation and Analyses of Uncertainty in Tropical Landscapes**
Dr. Joseph Messina *, Michigan State University; Center for Global Change and Earth Observations
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**Abstract**
Current data models for representing terrain and land use and cover are decades old and well developed. Despite their widespread adoption and clear utility for many applications, these traditional models suffer from two major flaws. First, they employ a one-size-fits-all approach, in which no connection is made between the characteristics of data and the specific simulations that employ the data. Second, they fail to convey adequate information about the gap between the data and the real landscapes represented. No general data model incorporating explicit information about spatial data uncertainty has been developed or employed that overcomes these flaws. We seek to address this by developing a systematic approach to match models, data, and simulations. We present theoretical and practical advances in the development and communication of an ontologically based data model architecture with more explicit linkages between applications and uncertainty models. We provide a case study, set in the humid tropics of the Ecuadorian Amazon, to demonstrate the underlying relationships.
Leisure Cultures of the Illawarra Beaches 1900-1945: Experiencing Pleasures: Creating Exclusions
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Abstract
During the period 1900-1945 the beach in Australia was transformed by Western recreational activities. During this period sea bathing became decriminalized during daylight hours, surf life-saving became institutionalised and surf board riding became popular; all integral elements of contemporary Australian beach culture. This paper critically examines the spaces of the beach through the theoretical lens of discursive structures and regimes of truth. To do so the paper relies upon a discourse analysis of various cultural ‘texts’, including council and surf club records, newspaper reports and images. Through critical discourse analysis these records bring insights into how the leisure cultural practices of promenading and bathing segregated the beach by class, gender, sex and ethnicity.

PLEASE NOTE: If my abstract is accepted can I please not be put on to speak before mid-day Tuesday as I have a prior commitment back in Wollongong on Monday evening.

Space, culture and conflict in the Spanish-North African town of Ceuta
Mr Frank Meyer *
LS Stadtgeographie - University Of Bayreuth

Abstract
The town of Ceuta is located on the North African coast 14km from Tarifa on the other side of the Strait of Gibraltar. After a Roman and a long Islamic-Arabic period Ceuta was conquered by the Portuguese in 1415 and handed over to the Spanish in 1580. Since this time until today there is a political-territorial conflict between Morocco and Spain about the national belonging and cultural identity of this town. The situation of Ceuta “between Europe and Africa” as well as the closeness and common history of Spain and Morocco are the chief sources of the very specific composition of the population in the town. Ceuta has about 73,000 inhabitants, of whom according to estimates over 20% (i.e. ca. 16,000) are Muslims; the Christian population forms the majority at 54,000. There is also a small Jewish and Hindu minority in Ceuta. The religious groups as listed here correspond with the classification made by the inhabitants themselves. Thus these categories represent a practice of differentiation very dominant in the everyday life of Ceuta. The religions are most comprehensively perceived in Ceuta as cultures with corresponding and clear-cut values, traditions and customs as well as territorial rootedness. The co-existence of Christians and Muslims in particular is characterised by social tensions and conflicts rather than harmony in the town. Everyday life in Ceuta is a complex “focus” of cultural confrontations and interactions, which are closely interwoven with spatial, political and social aspects. This presentation examines the central question: How, and with what concrete implications are belonging and exclusion lived out in Ceuta? I understand this presentation as a contribution to the debate on the treatment of the relationship of the familiar and the strange, which is one of the most difficult aspects of human co-existence.

Climatological studies on the summer intensive heavy rainfall in Tokyo and its relation to urban heat island phenomena
Prof. Dr. Takehiko Mikami *, Tokyo Metropolitan University
Dr. Wataru Morishima, Edogawa University
Mr. Toshinobu Nagaho, Hosei University
Mr. Hiroaki Yamato, Tokyo Metropolitan University

Abstract
The number of intensive heavy rainfall in summer season has been increasing in Tokyo for the last several decades. Climatological analysis suggests that such intensive heavy rainfall might be related to urban heat islands in central Tokyo, where anthropogenic heat consumptions are most prominent in Tokyo metropolitan area. We analyzed meteorological data in extended Tokyo metropolitan area for the last 20 years with respect to the spatial pattern of extremely heavy rainfall. The results indicate that both temperature increase in a limited area and convergence of sea breeze occurred before the start of intensive heavy rainfall. In meso-scale analysis, sea breeze from Tokyo Bay (Southeast), Sagami Bay (Southwest) and Kashimanada Pacific Coast (Northeast) blow into Tokyo caused by the increase of temperature difference between the land area of Tokyo and the sea area including Tokyo Bay.
Health effects of population movements in New Zealand
Miss Laura Miller *, University Of Canterbury

Abstract
Over the last fifty years there has been a significant increase in the volume, frequency and distance of human movements worldwide. Historically, New Zealand has had high rates of both international immigration and internal population mobility. This trend appears to be continuing; approximately 20 percent of New Zealand’s current population were born overseas, and just over half of those living in New Zealand on census night 2001 had changed their address at least once since 1996. Migration of people to new environments can have both positive and detrimental impacts on the health of those who move, those they join, and those who are left behind. The research examines migration trends in New Zealand and considers how levels of mobility across New Zealand vary by small geographical areas (census area units). In addition variations by age-group, gender, ethnicity, deprivation and urban rural category will be examined, and two possible health implications of differing levels of population movements and mixing, considered. Type 1 diabetes and acute lymphoblastic leukaemia have been linked with having an infectious cause and thus may be related to movements of people, although research to date is inconsistent, with little work conducted in the New Zealand setting. Prevalence of both type 1 diabetes and acute lymphoblastic leukaemia has been increasing over recent decades in New Zealand and internationally, however reasons for these increases are unclear and require further investigation. The initial results from this research will be considered, including a discussion of the variety of census measures, tourist data and commuting data used to build a detailed picture of population mobility in New Zealand. Additionally, the relationship between population mobility and the two health outcomes (type 1 diabetes and acute lymphoblastic leukaemia) will be discussed.

The influence of pattern and place on species distribution models: a Mojave Desert case study
Dr Jennifer Miller *, West Virginia University
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Abstract
In their relatively short history, species distribution models (SDM) have, until recently, been developed without considering the spatial dependence inherent in most biogeographical data. Potential sources or causes of this spatial dependence range from biotic processes such as competition, dispersal and predation to physical factors such as disturbance or historic barriers. Missing or misspecified predictor variables can also be responsible for introducing spatial structure in model predictions. Studies that do address spatial dependence typically involve one of two strategies: the first is aimed at decreasing or stabilizing its effects (e.g. set a minimum distance between sampling points, adjust the degrees of freedom to accommodate lack of independence among observations); the second strategy attempts to exploit the potential predictive ability of spatial dependence (e.g. adding an autoregressive term to the model). This paper focuses on the latter strategy, and benefits and limitations associated with incorporating spatial dependence directly in predictive models are discussed using vegetation alliances in the Mojave Desert (California, USA) as a case study.

'The Wounded Storyteller': a narrative approach to geographical research
Dr Christine Milligan *, Lancaster University

Abstract
Some six years ago, Thrift (2000) called for qualitative geographers to shift away from a methodological conservatism that foregrounds techniques such as interviews, focus groups and ethnographies, to be more methodologically imaginative in our research. At the same time, geographers such as Kesby (2000) and Pain and Francis (2003) have called for a more participatory approach to geographical research. This all points to the need, more generally, to think about new insights and different forms of knowledge that might be gained from a reworking of the ways in which geographers undertake research, but it also raises questions about what we mean by participation, that is, what are the boundaries to participation and when does participatory research become non-participatory? Drawing on a study of informal carers’ experiences of transitions in the place of care for older people in New Zealand, this paper explores these issues to consider the extent to which the narrative correspondence technique can be viewed as a participatory approach to research – one that provides new insights into the complex relations and meanings that occur between people and place. While narrative correspondence, like all research methods, is subject to limitations, I suggest that it opens up intriguing possibilities for geographers – both conceptual and methodological.
The penetration of ICTs into campus based tertiary learning and the implications for the E-learning discourse
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Abstract

Information and communication technologies (ICTs) are a significant feature of the changing world in which we live. A key area of influence is e-learning where ICTs are said to provide a more flexible tertiary learning environment. Typically, research into e-learning has been focussed on the use of online tools to mediate distance learning and there is speculation that eventually this will lead to the demise of campus based learning environments. This paper examines the more subtle infiltration of ICTs into traditional campus based courses, specifically a Stage 1 Geography paper - Digital Worlds, offered at the University of Auckland Summer School. Summer School students present an interesting cross section of the student body. Many have already taken papers and have chosen summer school to progress more quickly, to compensate for a poor performance, or to spread a heavy workload. It is a more intense learning environment than during semester as full length courses are compressed into six weeks and many of the students also hold down part or full time work over the break. The Digital Worlds course themes relate to the impacts of spatial technologies on our lives and it is specifically geared towards aiding students learning with ICTs such as email, online access to material, and text messaging. Two anonymous questionnaires were administered at each end of the course, and a concluding focus group. Despite the high pressure learning environment and access to ICTs, it was found that students still considered traditional methods i.e. attending lectures and labs worthwhile. They considered ICTs provided added benefits especially when other factors inhibited their learning (i.e. work) but preferred the face to face contact and added details that traditional methods provided. E-learning provides an interesting dialogue through which to explore they ways in which ICTs are changing the world.

Environmental Change In Relation To Tree Death Along The Kuiseb River In The Namib Desert
Dr Kazuharu Mizuno *, Graduate School of Asian and African Area Studies, Kyoto University
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Abstract

The Namib Desert is located along the western coast of Namibia and is affected by the cold Benguela Current. Although forest is distributed along the Kuiseb River in the Namib Desert, many trees are almost dead in some areas. The aim of this research was to clarify the relationship between environmental changes and tree death. The results of the survey are summarized as follows: (1) Many dead trees are located on the riverbanks made of dune sand, which are about 1 m high. (2) Dead trees are located in transitional areas where a northward protrusion of the southern shore is followed by a southward protrusion of the northern shore along the course of the river, in proximity to a sand dune. (3) Floods have eroded the noses of advancing sand dunes of the upper stream and have caused tree death by depositing sand. (4) The date of tree death has been estimated between the late 1970s to the early 1980s by 14C dating. (5) Flood days numbered 33 per year from 1962 to 1975 and 2.7 from 1976 to 1985. The remaining thick sand layer, deposited by the last flood, may be the cause of tree death, because the many superficial location of the roots cannot absorb the moisture from fog water and flood (6) Tree death has greatly affected people’s lives along the Kuiseb River because they depend on riverside forests as a source of shade, shelter, fuel, and food for humans and livestock.
Glacial Fluctuation and Vegetation Succession on Tyndall Glacier, Mt. Kenya
Dr Kazuharu Mizuno *, Graduate School of Asian and African Area Studies, Kyoto University
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Abstract

Dramatic changes are taking place in the glacier-covered high mountains of Africa. The glacial area on Kilimanjaro is now only half as large as it was in the 1970s. The Tyndall Glacier on Mt. Kenya, which retreated at approximately 3 m/yr from 1958 to 1997, retreated at about 10 m/yr from 1997 to 2002. Leopard's remains were discovered at Tyndall Glacier in 1997. The radiocarbon dates of ca. 900±100yrs BP correspond to the shift from a warm period to a cool period and the age of the Tyndall Moraine. Pioneer species such as Senecio keniophytum, Arabis alpina, mosses, lichen, and Agrostis trachyphylla have advanced over areas formerly covered by the glacier. The rate at which this vegetation migrated up the former bed of the glacier (2.1-4.6 m/yr from 1958 to 1997) is similar to the rate of glacial retreat (2.9 m/yr). In the interval from 1997 to 2002, pioneer species advanced at a rapid rate of 6.4 -12.2 m/yr, while the glacier retreated at 9.8 m/yr. Rapid glacial retreat has been accompanied by rapid colonization of plants. Pioneer species improve soil conditions and make habit suitable for other plants. If warming continues, alpine plant cover may extend all the way to mountain summits, and then eventually diminish as trees colonize the areas formerly occupied by alpine plants. Larger woody plants such as Senecio keniodendron and Lobelia telekii, which showed no obvious advances prior to 1997, have advanced quickly since that year.

Family Behaviour of the Japanese and Slovak Populations: Similarities and Differences Jozef MLÁDEK
Prof Jozef Mladek *, Faculty Of Natural Sciences, Comenius University

Abstract

The recognising and the presenting of the principal developmental trends, regional differences and causal implications of selected population processes, which characterise similar and different features of family behaviour of populations in Japan and Slovakia is the aim of our study. Analysis reveals that in spite of a strong influence of traditions family behaviour also changed in Slovakia and in Japan. Changes of the traditional family behaviour in Slovakia characterise the decrease of marriage rate and subsequent the increase of marriage age, slowly increase divorce, decrease of the abortion level, slowly spreading of the informal partner bonds (cohabitations). The past the model of early marriage changes to the model of late marriage. The family in Japan had traditionally economic, cultural, reproducing and educational functions. In spite of certain changes of family behaviour, these functions are preserved. Changes tof he family behaviour in Japan concern the increasing marriage age, increasing share of “single” households. On the other hand, the low level of divorce rate, small number of cohabitations, low level of extra-marital fertility seem to confirm the stability of family. The character of some changes of family behaviour of inhabitants in Japan and Slovakia is similar to that of changes, which appeared in the West European countries in the 1960s and which are considered the characteristic features of the demographic behaviour in the period of the 2nd demographic transition.

Contested rural spaces: multifunctionality in agriculture in the tropical savannas, Australia
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Abstract

Much has been written on the ‘contested’ nature of the countryside, with considerable debate ensuing about what some view as a transition from productivist to post productivist landscapes. This paper reports on research in Australia’s tropical savannas that has sought to understand sustainability in the grazing industry. Semi structured interviews were conducted with fifty-seven graziers in two case studies in rural and remote Queensland. It was discovered that the increasing strength of consumptionist and protectionist values in policy and legislation have eroded a previously uncontested productivist hegemony in the savannas. The amenity-driven values in these landscapes have no market value and protection values offer limited financial benefit to production. The imposition of these competing values and land uses from power bases outsides these landscapes, has caused many producers to become disengaged from political processes, and they are increasingly distrustful of governments. Graziers continue to hold productivist ideals demonstrated by their goal of increasing productivity, through management and farming techniques. Nevertheless, it is apparent that graziers are adapting to the changes and are seeking to adapt to wider citizen demands for a more sustainable agri-environment. This is occurring through the modification of productivist ideals and approaches – rather than through their replacement.
Defining a Core Curriculum in Applied Geography
Dr. Richard Boehm, Texas State University - San Marcos
Ms. Audrey Mohan *, Texas State University - San Marco
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Abstract
In an earlier paper, the authors developed a core curriculum in applied geography by surveying the course requirements of ten applied geography degree-granting programs in North America. A core curriculum in applied geography will serve to ensure students are appropriately educated and trained in applied geography coursework. The current research involves a survey of members of the specialty group in applied geography of the Association of American Geographers to determine if the core curriculum established during previous research is appropriate or if it needs to be modified with the addition of other courses. This research should be useful to geography departments as faculty plan programs that address societal problems with spatial dimensions, a definition of applied geography offered by past AAG President Reginald Golledge.

Squatters, Vulnerability and Adaptability of Urban Poor in a Small Island Developing State: The Context of Fiji Islands
Dr. Manoranjan Mohanty *, University of The South Pacific
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Abstract
Poverty and vulnerability are closely intertwined. The poor are more vulnerable socially, economically and environmentally. Vulnerability is location and context –specific and the degree of vulnerability varies widely between countries, cities, localities within cities and between communities/ households. The vulnerability of poor can be understood through a vulnerability- adaptability framework and by analysing the dialectic relationships between the ‘external’/ structural and ‘internal’ or adaptability/ coping dimensions of vulnerability. An asset-vulnerability approach explains how access to basic resources / assets helps the poor reducing their vulnerabilities. The adaptability capacity of poor households to cope with vulnerability is limited because of fewer assets available to them. The more assets they control, less vulnerable they are. With limited financial, physical and human assets, the ‘social assets’ such as social networks/ ties, and community/ household relationships play crucial role in reducing vulnerability of poor. Poverty-vulnerability relationships are critical in structurally constrained, poorly resource-endowed and environmentally more vulnerable small Island Developing State such as Fiji Islands. Urban squatters, the symptoms of poverty, located mainly on marginal and hazardous sites are the most vulnerable population groups in these countries. They are vulnerable to global as well as local environmental changes and to socio-economic burdens. The basic questions arise: what are the causes of their vulnerabilities? Why certain group is more vulnerable than others? What are the contributing factors? What coping strategies the poor adopt? What are the barriers to access to assets/resources for the poor in meeting their basic needs and securing livelihoods? The paper aims at bringing out inter-linkages between poverty and vulnerability and the spatial manifestation of vulnerability in squatter settlements in a small island developing Island City such as Suva, Fiji Islands. It also identifies factors contributing to their vulnerabilities and examines various adaptation/coping up strategies by the squatter households in securing access to assets/livelihoods and in minimising vulnerability.

Environmental Changes On Arid Areas (A Case Study Of Iran)
Mr Mehdi Momeni *, Islamic Azad University Najafabad Branch, Head of Geography Dept.

Abstract
Arid areas, in comparison with other geographical places, are ecologically poorer due to the harsh climatic conditions which govern them. The natural instability which characterizes these areas contributes not only to their ecological imbalance, but also adds to their expansion. Population growth, development in technology disproportionate with the environment, constant changes in people’s cultures, particularly in recent decades, the oversight of logical relations between man and his environment have all brought about extensive changes in natural ecology of large numbers of the ecosystems around the world. The greatest part of Iran comprises arid and semiarid areas. In such lands the ecosystem loses its capability against the extensive and uncontrollable exploitation of the area and fails to reconstruct itself. Population growth, in recent decades has led to the following detrimental effects: 1) Depletion of ground water, 2) Land depressions and surface cracks, 3) Extensive ruin in vegetation and increase in floods, 4) Soil erosion, 5) Encroachment of desert on adjacent lands 6) Encroachment of running sand on farms and settlements. This research is an attempt in analyzing each of the above mentioned phenomena using descriptive and field approaches as well as introducing some guidelines to control them.
Women's Traveling Dreaming
Dr Janice Monk *, University Of Arizona
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Abstract
I will respond to the remarks in this session that address my role in gender and geography. I will indicate the high regard I have for the work of the speakers themselves. In addition to expressing my great appreciation to these women, I will comment on the ways in which traveling through the worlds of geography have enriched my life. I will address the inspirations of my Australian origins and ties and the sustaining values of being part of an international community of feminist geographers.

Modeling Rangeland in New Mexico: Fusing MODIS and NEXRAD for Estimating Seasonal Grassland Variation in a Semi-Arid Environment
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Abstract
Short and long-term precipitation trends in New Mexico demonstrate great variability, with vegetation in this region subsequently evolving in response to this variability. Changing climate trends in recent years indicate that the region has entered a potentially prolonged period of drought. This change to the climate system exacerbates problems associated with encroachment by invasive species and severely impacts delicate semi-arid grasslands. Current fiscal reality in an era of budget cuts and manpower limitations demands new tools capable of leveraging the efficiencies of centralized support systems with multi-scale analysis capabilities to identify areas of concern to proactively manage large areas. The combination of high-temporal frequency remote sensing products from the MODerate Resolution Imaging Spectroradiometer (MODIS) with precipitation products from the NEXt Generation RADar (NEXRAD) for three dominant grassland communities in New Mexico generated regression models yielding a forecast of relative greenness. Key drivers of the models are current and past precipitation, existing vegetation, and a seasonality variable for each of four generalized phenological periods. Results suggest precipitation and current vegetation state are significant indicators of future condition, with seasonality providing a unique dynamic for each community. These findings suggest the use of individual models for each grass community can provide a more precise measure of community response than a universal model based solely on precipitation. However, the autocorrelation occurring in continuous spatial data, such as MODIS and NEXRAD, complicates the use of traditional regression models. A geographically weighted regression approach will be applied to these data and compared to the results of the traditional regression. By incorporating spatial autocorrelation directly into the individual models each will better reflect the inherent dynamic of distinct communities.
The inter-relationships between fire, humans and climate during the Holocene in the Sydney Basin, Australia.
Dr Scott David Mooney *, School of BEES, UNSW, Sydney
Mr Manu Pushpam Black, School of BEES, UNSW, Sydney
Dr Val Attenbrow, Division of Anthropology, Australian Museum, Sydney
Ms Megan Webb, School of BEES, UNSW, Sydney
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Abstract
Holocene palaeoecological sequences for a number of sites located within the Sydney Basin, in eastern Australia, are presented. In particular, the accumulation of macroscopic charcoal, used to investigate local fire activity, is compared with nearby archaeological evidence, used as an index of human activity through time. The rationale for this work was to assess anthropogenic and climatic influences on fire activity and to examine any inter-relationships between humans, fire and climate. Several sites suggest that fire activity was subdued in the early-to-mid-Holocene (ca. 9 to 6 ka BP) but abruptly increased from about ~5.5 ka BP. After this time fire activity was generally elevated but variable. At these sites climate and climate variability appears to control fire activity, although after the mid-Holocene it is possible that environmental conditions both promoted a higher natural fire frequency and influenced human activity. At another subset of the investigated sites a significant change in fire activity is approximately coeval with late Holocene changes in archaeological records, suggesting human control of fire. Although not universal, perhaps reflecting the diversity of human occupation, at some of these sites reduced charcoal accumulation is evident in the late Holocene as archaeological indices increase. We interpret this to reflect new subsistence and land use strategies by Aboriginal people which influenced fuel loads and/or charcoal taphonomy. It is possible that this change was a response to increased seasonality or climate variability or that people sought to minimise risk as their landscapes naturally became more fire-prone. This latter suggestion is a distinctly different strategy to what is usually proposed under ‘fire-stick farming’. Together these studies demonstrate that human use of the landscape and fire activity was variable across space and time. The work has several implications for our understanding of human-environment relationships and for the contemporary management of these fire-prone landscapes.

Dr. Eric G. Moore *, Queen's University
Dr. Mark W. Rosenberg, Queen's University
Mr. Michael A. Pacey, Queen's University

Abstract
Estimating the prevalence of mental health problems and the utilization of health resources for large populations is often limited by lack of data. The 2002 Mental Health Supplement of the Canadian Community Health Survey (CCHS) provides the basis for estimating the effects of a range of socio-demographic effects on mental health experience. The focus is on the prevalence of perceived stress and of mood and anxiety disorders in the Ontario population in 2002. In order to obtain the best estimates for population sub-groups and for sub-provincial regions, prevalences were estimated at the individual level as a function of socio-demographic and economic attributes using logistic regression and data from the Mental Health supplement. The parameters from the estimating equations were then used on data from the larger CCHS which contained identical measures on the independent variables and permitted estimation of predicted probabilities of selected mental health conditions for each individual. These probabilities were then aggregated over sub-groups and regions to generate estimated prevalences for those categories. These estimates represent the first quantitative estimates of the prevalence of mental health problems for small areas in Ontario. From a substantive perspective, individuals in the lowest quartile of income adequacy had both higher prevalence and higher levels of utilization of mental health resources for all conditions. This relationship was mediated by marital status (married people having lower prevalences than separated or divorced) and by immigrant status who had both lower levels of reporting and lower levels of use. Geographically, lower rates of mental health problems and higher rates in Northern Ontario stand out. These differentials reflect both the higher concentrations of immigrants and non-native minorities in Toronto and the greater degree of economic deprivation in the North.
Foreign Immigration in small towns and rural areas. Privileged places for social integration?
Dr. Ricard Morén-Alegret *, Migration Research Group, Department Of Geography, Universitat Autonoma De Barcelona; Centre for Research in Ethnic Relations, CRER, University of Warwick, UK

Abstract

Since a few years ago, small towns and rural areas in Spain are hosting a growing number of foreign immigrants from diverse geographical and cultural origins. It is not anymore just a human migration of temporary workers in agriculture. It is a wider phenomenon aiming permanence linked to new local and regional development processes. The settlement of new inhabitants in a changing society is a challenge for integration. Is social integration easier in small towns and villages than in big cities? This paper is one of the outcomes of a research line on immigration into rural areas and small towns. Within this research line, the author has been co-ordinating a research project on immigration, socio-economic change and territorial transformation in areas located beyond metropolitan regions. The fieldwork has been carried out in several counties of five peripheral provinces in Spain: Girona, Alicante, Huelva, Cáceres and León. This fieldwork has been mainly based on qualitative interviews to immigrants themselves and to ‘key informants’ belonging to associations and public authorities located in the aforementioned areas.

The mitigation of flood disaster in the delta area: A case study
Prof. Kazuki Mori *, Nihon University

Abstract

Flood events have been increasing of late years both in their frequency and in intensity, partly because of global climate change as well as development of urbanisation. In consideration of such recent trend on hydrological extremes, establishment of river regime is an essential problem in order to enable the solution of integrated catchment planning. In the present paper, the task of mitigation of flood disaster is proposed in the lowermost area of the Kumozu River in central Japan as a case study. The purpose of this study is to establish the early warning system for flood hazard in the delta area with a focus on sending easily understandable means to the inhabitants. It is a matter of course that the delta is a typically fragile area against flood disaster. Therefore, the establishment of early warning system is a matter of great import for the river management. As a fundamental data to provide the most efficient measures against mitigation for inundation disaster, major flood events since 1961 were sorted in the Kumozu River basin. It is pointed out that the magnitude of flood in the study area is strongly affected by the intensity of 3-hour rainfall as induced by typhoon. According to the analytical result on estimated water level under 1/100 year probability, the predicted maximum depth of submergence is calculated to be over 5 m, and this area occupies 11 % of the delta. A mutual relationship between the hydrograph at the upper gauging station and that at the delta gauging station was investigated, and the significant correlation of peak water level was found for both stations. This fact indicates that the peak water level at the upper reach station is a meaningful index both for the early warning and for the public consciousness of hazard in the delta area.

Estimation of daily snow-cover extents using monitoring camera images and vegetations of Mt. Norikuradake, central Japan
Mr Kei Morita *, Nihon University
Michio Nogami, Nihon University

Abstract

Mt. Norikuradake (3026m), an inactive volcano receives much snow precipitation in winter, and supports pinus pumila bushes, evergreen needle-leaved trees and deciduous broad-leaved trees in the descending order of altitude. First we prepared the vegetation map of this area by air photos and a detailed DEM derived from them. Then, we utilized hourly monitoring images of ground camera located at the mountain foot and hourly temperature data at the top and the food of the mountain. The hourly images is useful to know daily snow cover extent because of frequent chances more than the satellite images. But there remained the foggy days around the clock to be interpolated. We rectified the ground diagonal images to the orthogonal ones, then got images for the day of no data using a morphing algorithm newly developed by us. In this process we utilized the day-degree method for snowmelt estimation by temperature which were calculated for all pixels by the lapse rate between the mountain top and food observatories. Conclusively we prepared the vegetation map, the daily snow cover extent map and the daily temperature map of detail resolution. Analyzing these maps space-statistically we could know the habitat of vegetations as the thermal condition (degree-day), snow cover depth (m) and duration(day), and topographic locations (slope degree, orientation and Laplacian) measured from the DEM.
Is Geography (still) a science?
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Abstract
Despite 50 years of great progress in geographic science, much of the intellectual leadership of the discipline continues to have a narrow or distorted view of science, or even views 'spatial science' as a less important part of geographic endeavor. Like at least American society as a whole, too many geographers do not really believe in the basic goals or tenets of science, and prefer elevating the subjective over the objective, of believe over evidence. The lesser issue is the assertion that science ignores or is incapable of addressing a proliferation of theories of society and of individual and social behavior. Science can and does consider all hypotheses for understanding behavior. The deeper issue is epistemological, the belief that there is no reality or provable theory, or a common language to even try, indeed that the very goal of explanation is destructive. It is not that the word science is rejected, but that it may be hijacked, like intelligent design, to included theory and belief not subject to verification.

‘They would say that, they're from Melbourne’: Verifying everyday discourses of comparison
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Abstract
Envy is a silent secretive process and not always verifiable. -Helmut Schoeck (1969) This paper explores theoretical and methodological issues arising out of a collaborative research project entitled 'Urban Rivalry: the dynamics of comparison and competition in the development of city identities'. Using the long-standing rivalry between and Sydney and Melbourne as a case study, the project explores the dialogue between and within these cities which gives rise to their claims to identity and distinction. We are particularly concerned with the ways in which cities more generally are imagined at an everyday level as places of comparison, of aspiration, envy, emulation, rivalry and so on—such that the picture that emerges of the city is by definition a partial one; incomplete and passionately ‘one-eyed’. The research project tests the proposition that the cultural identity of individual cities is not, as is often assumed, innate, but emerges from constant comparison. It argues that rather than being singular entities, cities are—from their inception—conceptually and economically dependent on their inter-relationships with other cities. It is only through these relationships with other locations that cities are able to define their own sense of ‘place’ in the nation and world. We propose that these relationships are crucially performed at an everyday level via a wide variety of forms of popular culture. City inhabitants, in other words, experience senses of belonging to place through their engagement with everyday myths of urban identity premised upon continuing comparison. Drawing from the intersecting literatures of cultural studies and cultural geography this exploratory paper asks which analytical frameworks and methodological tools might be most suited to empirically mapping and analysing a relationship between urban place and culture based on such a dynamic.
Geographic Vulnerability and the Positional Good
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Abstract
The concept of the positional good, introduced by Fred Hirsch in 1976 (Social Limits to Growth) and applied to understanding inequalities by Robert Frank in 1985 (Choosing the Right Pond) and 1995 (Winner Take all Society) has a particular role in illuminating the role geography plays in modifying consumption. The positional good is relational, that is, it derives its value from the social status the consumer accrues from its consumption. In other words its scarcity value derives from and is fed by rank. Since the acquisition of limited positional goods are competitive the benefits derived are zero-sum; the consumers gains are commensurate losses to non-consumers. Positional goods therefore play an influential role in perpetuating and exacerbating social inequality and as such they exacerbate vulnerability. A number of key positional goods are anchored geographically, real estate being the prime example. Others like ‘the best jobs’ and the most sought after educational qualifications have latent geographic properties. Much of what we call ‘social geography’ and its consequential vulnerability can therefore be understood in terms of both the spatial and social role played by the positional good. This paper develops this argument, provides a number of examples and considers several social policy implications.

Late Quaternary Environments of North Stradbroke Island, South-Eastern Queensland, Australia
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Abstract
Palynological records have been constructed from two sites on North Stradbroke Island, south-eastern Queensland, Australia, covering the last 20,000 years. These records, and associated sedimentological data, provide a detailed picture of environmental change for the subtropical region of eastern Australia over this time period. One of these records, Native Companion Lagoon, provides a continuous record for the Late Quaternary period, while the other record, Myora Springs, provides a snapshot of what is thought to be Early Holocene environments. This paper will examine the response of vegetation to Holocene environmental change (both natural and human) within the region, as well as discuss evidence for millennial scale oscillations recorded in the pollen records.

Historical tourism development in KwaCeza, South Africa
Prof. Lawrence Dube *, University Of Zululand
Mr Amos Thembinkosi Mthembu *, University Of Zululand
Mrs Nothile Ndimande *, University Of Zululand
Mr Brian Rawlins, University Of Zululand
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Abstract
KwaCeza is a rural area situated in the Zululand District Municipality in the province of KwaZulu-Natal, South Africa. The area has historical sites of potential interest to tourists. It has been recorded that the mountain of KwaCeza with its forest was used by King Dinizulu as a stronghold during the Anglo-Zulu war. It is also reported that while the King was hiding in the mountain he used to drink water from one of the natural spring. It is on this basis that His Majesty seeks to harness the tourism potential of this area. The preservation of the sites of significance will promote the rich history and cultural heritage of the Zulu nation and also help in nature conservation. The development of historical tourism will help to improve the economy of the area which has been affected by poverty. The Zululand District Municipality is part of the battle fields which is visited by a large number of tourists in KwaZulu-Natal province which put KwaCeza in a strategic position to be developed and linked with other battle sites. The paper reports on the survey undertaken for the development of a plan to enable the implementation of tourism development in KwaCeza area.
Feasibility study of mineral water extraction for the development of bottled water plant in KwaCeza, South Africa
Prof. Lawrence Dube *, University Of Zululand
Mr Amos Thembenkosi Mthembu *, University Of Zululand
Mrs Nothile Ndimande *, University Of Zululand
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Abstract
KwaCeza is a rural area situated in the Zululand District Municipality in the province of KwaZulu Natal. The study determined the feasibility of mineral water extraction from an aquifer in KwaCeza for the purpose of establishing a bottled water plant. The aquifer is situated in the mountain. The methodology involved the measurement of discharge at different periods and determination of water quality. Water samples were collected from three sources. The discharge was calculated to be approximately 0.1 litre/second at both springs. Water samples were analysed for a wide range of chemical and microbiological constituents. The results indicate that the spring water is young and its constituents are within the standards set for drinking water. The proposed development of bottled plant will help support the creation of new enterprises and the expansion of the entrepreneurial base in the rural area of KwaCeza, and advance the business initiatives of marginalised communities into the main stream economy.

Coastal Tourism Development: A Comparative Analysis of Mabibi and Ponta do Ouro
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Abstract
Tourism is regarded as an industry that promotes contact between people and culture. It has the capacity to play a strategic role in the economic development of communities. On the other hand tourism development could lead to negative social and environmental consequences if its planning does not embrace the physical, ecological and social factors of the environment. This study determined the tourism development and its impact on the environment in the two coastal areas, Mabibi in South Africa and Ponta do Ouro in Mozambique. The data was obtained from the following sources: (i) the tourists who visited the areas (ii) people managing tourist facilities (iii) community members (iv) personal observations. It was found that both areas receive the majority of tourists from South Africa. Recreation activities in which tourists engaged are similar in areas with the exception of scuba diving which is done in Ponta do Ouro. It was also found that tourism development in both areas helped in improving the socio-economic status of community members. The results of the study will go a long way is giving guidance in the development of tourism in both coastal areas

Impacts of human activities on the transition between grassland and desert in a theoretical grassland ecosystem
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Abstract
In this paper, the effect of human activities on the transition between grassland and desert in a theoretical grassland ecosystem is investigated by the approach of conditional nonlinear optimal perturbations (CNOPs). The model, with three variables of living biomass, wilted biomass and available soil wetness and the moisture index, M, is developed by Zeng et al (2004, 2005), and has shown considerable applicability in the theoretical study. In this model, the perturbations on the initial values can represent the human activities. CNOPs are the initial perturbations whose nonlinear evolutions possess the maximal effects. It is shown that for each value in the interval of M, there exist a CNOP and a local CNOP and these CNOPs describe the most unstable (or most sensitive) mode in grassland ecosystem. A critical value of M, Mc, is found. In case that the moisture index is larger than Mc, the CNOP and local CNOP of the grassland equilibrium state are attracted back to the grassland equilibrium state. When the moisture index is less than Mc, there exists a critical value of the magnitudes of the initial perturbations (Pc). When the magnitude of CNOP is larger than Pc, the CNOP of the grassland equilibrium state evolves to the desert equilibrium state, while the local CNOP evolves back to the grassland equilibrium state. However, if the magnitude of CNOP is smaller than Pc, the CNOP and local CNOP all recover back to the grassland equilibrium state too. These results demonstrate the nonlinear characteristic of grassland ecosystem to the human activities and yields a primary insight into the management of human activities.
Migration, Remittances and Poverty in Samoa and Tonga
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Abstract
Remittances are important household resources in the Pacific Islands. It provides short and long term assistance to families and communities at large. Recently they are also seen as potential resource to alleviate poverty, particularly at the household level and beyond. This paper discusses the findings of a recently completed research conducted in Samoa and Tonga to assess the development impact of remittances in the two countries. How remittances are used is one of the significant findings in the context of these two countries especially so when the socio-cultural elements of the societies are very influential in determining the disposal of these resources, yet this aspect has not given enough attention at the policy level. It also highlights the numerous challenges faced during data collection especially researching sensitive issues such as remittances in the Pacific.

Spatial analysis in urban geography
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Abstract
Based on research made in the 1970s when 'spatial processes' became entrenched, urban geographers of today have made a paradigm shift toward 'spatial prediction and management' which takes urban planning and urban policy into account. To what extent will disorderly urbanization occur? How can degradation of urban environments (e.g. air pollution, traffic congestion, rising crime, etc.) be halted? What types of measures would help to promote multi-polar dispersion in major metropolitan areas? How should public welfare facilities be distributed to allow all residents equal access? To provide clear answers to these questions, it is not enough merely to engage in conceptual considerations and theoretical analyses -- we must take an inductive approach based on corroborative analyses. In this respect, GIS is expected to become an immensely useful analytical tool. Today, as GIS and quantitative geography become more closely enmeshed, a new field is emerging, Geocomputation, which will undoubtedly provide urban geographers with a powerful weapon for resolving these issues.

Perpetual Resource Peripheries? The Transformation of Chile
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Abstract
Building on Hayter et al.´s (2003) characterisation of resource peripheries in terms of four institutional dimensions, this article generates uses four, similar 'transformations' (geopolitical, economic, socio-cultural, and environmental) in order to improve upon this conceptual framework. The case of Chile is provided in order to ground this framework and reveal the structural aspects of its historical experience as a resource periphery. Through the application of a broad conceptual framework to this experience, it is clear that its condition as a resource periphery has been central to the social, cultural and environmental transformations that have taken place since the early colonial period. As such, the public policy options for changing the national development model and its impacts and moving towards more emancipatory geographies of more even and equitable development should be explored further within the context of new economic geography.
**Toward Understanding a Maori Cultural Landscape**  
Dr. Brian Murton *, University Of Hawaii

**Abstract**

Scholars of both indigenous and non-indigenous descent often encounter a range of issues when they carry out research in indigenous communities. This is now well documented in terms of research methods, as well as with theories and concepts underpinning research. This paper focuses on the latter, using experience gained through participation in a research project, 'Landscape Transformation and Human Agency in Pre-Treaty Bay of Islands, New Zealand', to highlight the very different understandings of the concept 'landscape' held by a team consisting of university academics of both Maori and non-Maori ancestry, and members of Ngati Hine, one of the tribal groups of the Bay of Islands. It presents information about how Maori understand 'landscape', based on Maori ways of knowing (matauranga Maori). Several aspects of this are outlined, and information is identified that is useful in discussing dimensions of the Maori cultural landscape. The paper concludes by suggesting that some of the current directions in human geography, anthropology and landscape studies which deploy the concept of 'dwelling' to consider landscape, place and environment have the potential to resonate with Maori conceptualizations.

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**Land utilization in relation to natural environments in a mountain area of Lesotho**  
Ms Miyo Nagakura *, Graduate School Of Asian And African Area Studies, Kyoto University

**Abstract**

Lesotho, located in the middle of the Drakensberg mountains in southern Africa, has a unique montane vegetation. With the whole land ranging between 1400m and 3400m, its mountain climate forms unique vegetation, even different from that of high region of the Great Rift Valley in eastern Africa, due to difference in climates and geological ages. However, because of its mountainous landscape and high altitude, people’s settlements have been concentrated in habitable lands, which can be said that this has become one of the causes of destructions in vegetations and soil in this country. For example, many plants are listed in endangered species (including Lesotho’s national flower, Spiral Aloe), and for more than ten years, the government has been putting efforts to stop soil erosion. In such circumstance, in order to know how human settlement can influence vegetation, land use patterns by the locals should be made clear. Objectives of the research were; 1) to discover the land use pattern in a mountain area, 2) to find out the relationship between the land use pattern and natural environments, and 3) to investigate vegetations in each land use category. A six months research was conducted in a village in mountain area, during summer season. Temperature, soil, vegetation, and landform surveys were carried out, and it was found out that there was a pattern in the people’s land use, which includes field, grazing land and habitation. It was also made clear that environmental factors that are controlling the land use pattern were not limited to soil depth, slope and temperature, but also a formation of cold air lake in the valley was an important factor to explain the location of habitation.

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**The Impacts of Cyberspace on Urban Space: Six Effects and their Differential Repercussions**  
Prof. Kee-Bom Nahm *, University of Seoul

**Abstract**

The impacts of the development of ICT and rapid economic globalization on urban space have been proceeded deferentially during the last three decades. Unlike to the prospects of the optimistic futurologists, ICT, especially the use of cyberspace such as internet, mobile phones, and PDAs, has resulted in social distanciation, generation of the new demand for movement, blurring the boundary between public and private territories. This paper analyzed the impacts of ICT both on the integration and differentiation. It tried to theorize the spatial repercussions of the interplay between cyber and physical urban spaces, and then classified the effects into synergy, substitution, generation, enhancement, inertia, and alienation. Web-based survey and focus group interviews tested the relative degrees of importance for the above six impacts. The paper concluded with policy implications on the future urban social space.
Archiving Geomorphological Three Dimensional Photographs -The Chuetsu Earthquake 2004, The West of Fukuoka Earthquake 2005-
Mr. Hiroyuki Nakamura *, Shibaura Institute Of Technology
Dr. Yoko Ota, Yokohama National University
Dr. Ikuo Suzuki, Niigata University
Mr. Takashi Yorifuji, Chukyo Women's University
Dr. Nozomi Iso, Seinan Gakuin University
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Abstract
Recent severe earthquakes, tsunamis, floods, hurricane hits and landslides all over the world increase our concern about natural disasters as well as they show us the threat of nature. Recording and surveying the detailed damages, the precise distribution and the actual features of those disasters is extremely important in order to provide fundamental data for both prediction of future possible disasters and assessment of damages possibly occurred. It is also important so as to draw hazard maps. Illustrating those damages and geomorphological changes significantly raises the awareness of people concerning those disasters, helps disaster education and becomes valuable resource of community memory for the next generation. As the authors recognize the significance of stereoscopic three-dimensional photograph, stereograph, so as to visualize those disasters vividly and to make our presence felt, we are photographing recent disasters such as earthquakes in Japan while developing the suitable system for archiving these stereographs. The principle of stereograph is simple. Two separate images with parallax corresponding to right eye and left eye, make a single stereograph. Cameras with two lenses are normally used for this purpose. However, creating natural image adequate for recording, verification and investigating purposes in academic field requires some sever conditions. In this paper the authors examine how stereoscopic three-dimensional photograph is useful for visual recording and showing the actual image of disasters and/or geomorphological changes. The prototype of the system is also demonstrated. Three-dimensional photographs shown in this paper are Chuetsu Earthquake in October 2004 and The West of Fukuoka Earthquake in March 2005.

What causes the increase in the labor force participation rate of Japanese women?
Dr Takashi Nakazawa *, Oita University

Abstract
The participation rates of women in their late 20s and early 30s have been increasing in Japan, especially in metropolitan areas. The aim of the paper is to investigate the causes of, and to elicit geographical implications of, this phenomenon. Census mapping is a main methodology of the paper. The graph of age-specific labor force participation rate of women in Japan shows clear M-shaped curve, because Japanese women tend to quit a job at marriage or childbirth. The Japanese government has been trying to flatten the M-shape and established lots of policies to encourage women to stay in the labor market. The participation rate of the age groups of late 20s and early 30s have increased and the bottom of the M-shape has uplifted for resent years. But, the main cause of this is the change in the composition of marital status, rather than the increase in the participation rate of married women. In fact, the labor force participation rate of married women remains quite low in Japan. Clear gender division of labor within household is one of the factors of this. Long working hour prevents married men from participating in housework. Married women, both working and not working, have to accomplish all house work without husband’s help. Career-oriented married women usually confront very difficult situation. As many literatures on dual career household said, career-oriented married women are concentrated around the center of the metropolitan areas in order to make the most of their time-budget.
Exploring Spatial-Temporal Change In Mountain Pine Beetle Infestations
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Abstract

The current mountain pine beetle (Dendroctonus ponderosae Hopkins) infestation in British Columbia is the largest on record and highlights the need to understand landscape scale forest processes. An important aspect of landscape-level mountain pine beetle research is the spatial heterogeneity in population dynamics. The recent availability of large area data sets provides a new opportunity to investigate landscape-level spatial variability in population dynamics by exploring the spatial pattern of temporal change. To meet this goal, we detect change in infestation rates using a local method designed to identify significant change in kernel density estimated surfaces. Multi-temporal spatial relationships in change are investigated using patches of change. Variations in change patch characteristics are explored, and the overlap and distances between patches in consecutive time periods quantified. In addition, associations between change locations and the underlying landscape are examined.

I come from, I am
Mr. Adam Newcombe *, Edith Cowan University

Abstract

Ask a rural person from a traditional area within a country or an indigenous person from anywhere around the world and the answer to the question, “Where do you come from” sometimes provokes an answer very different from the expected “I come from such and such a place, or such and such a town.” The more usual answer of an urbanite. Sometimes, particularly with indigenous people or tribal people, the answer morphs into “I am”. “I am a Yorta person or a Derbyshire man or a Cherokee woman.” Now this difference in emphasis in terms of identity is quite profound when the two comments are unpacked. This paper is a very personal unpacking of the difference in me saying, “I come from Devonport” and me saying, “I am a Devonport man.” This work will explore a number of different elements within the scope of this unpacking. It will firstly take a very personal look at the slippery snake of identity and then explore a general reference to the ideas and uses of maps and the placement and uses of symbols on maps and finally I will go for a walk around the space/place/identity called Devonport and its relationship to me, my history, my place. Its history and the actual physical space in my mind, which constitutes Devonport for me.

Reconstructing palaeo-tsunami: An integrated analysis from inner shelf, barrier and wetland systems, northern New Zealand.
Dr Scott Nichol *, University Of Auckland
Mr Jonathan Dick, University Of Auckland
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Abstract

Spatial variability in tsunami run-up and deposition presents a significant challenge to geomorphologists, sedimentologists and modellers when reconstructing tsunami inundation of coasts. This paper addresses this issue by presenting evidence from a palaeo-tsunami study in northern New Zealand that integrates morphological and sediment data from inner shelf, barrier and wetland environments to reconstruct three key components of tsunami-driven sedimentation: sediment source(s); transport pathways, and; environments of preservation. The study site is Henderson Bay, northeast North Island, where palaeo-tsunami deposits remain well preserved as: (i) extensive (120,000 m2) gravel sheets that mantle sand dunes to 32 m elevation, and; (ii) a landward tapering sand-pumice bed intercalated within wetland peat. Fluvial and colluvial origins for these deposits are discounted due to their isolation from streams and hillslopes. The only plausible gravel source is the inner shelf, where a palimpsest gravel facies in 20-25 m water depth is mapped. Modern sand (& pumice) deposits are restricted to the nearshore between 20 m depth and the foredune, and are the only immediate source for tsunami transport. The distribution of dune gravels suggests that sub-lithified Pleistocene dunes controlled tsunami run-up and directed inundation into a freshwater wetland, from where vibracores trace the sand-pumice bed to 500 m inland. This is the only such deposit in the wetland and is associated with an abrupt transition in diatom assemblage from fresh- to brackish-tolerant taxa. Bracketing radiocarbon ages from peat enclosing the tsunami bed of 5590-5310 and 1180-930 cal yrs BP support sedimentary evidence that an erosion surface formed during tsunami flooding. However, it is possible that the younger peat incorporates rip-up organics transported by the tsunami; in which case the tsunami deposit may be less than 900 years in age and contemporaneous with (catastrophic) submarine caldera collapse on the Kermadec Ridge, 400 km northeast of Henderson Bay.
Regional Differences in Workers' Income with Respect to the Regional and Urban systems in Japan
Mr Jun Nishihara *, Shizuoka University

Abstract
The purpose of this study is to examine the regional differences in workers' earned income from the viewpoints of two tier spatial systems, the regional and the urban systems in Japan. In terms of the upper-tier system (the regional system), Japan was classified into three regions (the three major metropolitan region, the metropolitan fringe region, the peripheral region). As the lower-tier system (the urban system), Japan was also classified into seven urban hierarchies (the national central cities, the core provincial cities, the prefectural cities, the local cities and the rural areas). The author analyzed the sample data of 600,000 workers obtained for the 1992 Employment Status Survey conducted by the Japanese Statistical Bureau and calculated the average incomes of male workers and female workers in three regions, in the seven urban hierarchies. Finally, the author did a multiple-regression analysis on the average income for two models. One was for male workers, another was for female workers. Spatial inequalities in income were found in accordance with the hierarchical ranking of regional and urban systems. The difference among three regions in male workers is 15% greater than that in female workers in Japan. Urban hierarchical difference in male workers is 7% larger than that in female workers. It was found that the explanation ratio in the model for male workers was much greater than that for female workers. Also, the kinds of explanatory variables for male workers' model are quite different from those for female workers.

Time-geographic survey using GPS and GIS in suburban village near Vientiane, Laos
Mr Yuichiro Nishimura *, Aichi Institute of Technology
Mr Kohei Okamoto, Aichi Institute of Technology

Abstract
This paper investigates how the daily lives of Laotian village people are changing under urbanization and marketization. We focus on three points; the penetration of wage labor, the continuance of the activities related to natural environment (hunting, fishing, gathering, etc.), and the gender differentiation in the daily activities. Data is collected from the interview and the time allocation survey using GPS and GIS. We conducted the survey to the residents in Donkhuaai village about 30km from Vientiane Capital. The pilot survey was done on March 2006. The small wristband GPS units recorded the time-spatial allocation of all members of the 4 families. After the finishing of 24 hours GPS recording, the data was collected and visualized by GIS. Next, we had interview the family members to clear the details of their activities, as the GPS records show only the time and place (latitude and longitude) of the activities. Finally, we combined the GPS recordings with interview result to complete activity dailies. We found this survey method is effective. The detailed route and the activities in the forests or rivers can be collected and the frequent activities near home can be recorded. Penetration of capitalist economy is increasing various types of wage labor and private enterprises in Vientiane suburbs. It will promote time-spatial segmentation (workplace/home, working hours/non-working hours) The suburban villages near Vientiane have an important role as the source area of labor force. On the other hand, the activities in the natural environment such like hunting, fishing or gathering also take the considerable part of the time-spatial allocation. The importance of such activities seems to rise because of the penetration of the money economy.
Tales of rednecks, ferals, yuppies and yogies: nature narratives in Kosciuszko National park
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Abstract

National parks are often contested places that are valued, understood and used in multiple ways. Through management plans and practices, national park managers construct and reinforce powerful narratives of why parks are important and how they can be used and appreciated. For some of the more contested parks, public collaboration is increasingly sought in the planning process in an attempt to get a wider range of values represented and recognised. While many values, uses and practices associated with national parks are not disputed, a number of important issues remain irreconcilable among stakeholders because of their different ways of valuing the same places. Alternative narratives about the values of place are mobilised in discursive battles by different groups in contests over particular places. Kosciuszko National Park, in the NSW Snowy Mountains, is a place where a broad spectrum of groups vies for access to the park. A complex mix of natural, cultural, heritage and recreational values complicate the management of the park. Drawing on data from interviews, the media, planning reports and other documents, this paper will explore how nature is represented in the different narratives about the park and region. Some of these different understandings of KNP were revealed during the extensive consultation process for the recent plan of management, while others were deployed in campaigns aimed at public audiences. This paper will argue that although the National Parks and Wildlife Service has been relatively successful at negotiating with stakeholder groups to achieve a degree of consensus, the wide range of attitudes towards nature mean that the national park will remain a contested place.

Land-use Change and Natural Resource-use Dynamics in the Vientiane Plain, LAO PDR
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Abstract

This study deals with the villages, subsistence of which depends on rice farming in rain-fed paddy fields in the Vientiane Plain of Laos and aims at demonstrating how the utilization of natural resources has changed over the period when local communities have been incorporated in the economic system and have advanced in development. Presenting variations of land use and related activities of local people and paying attention to their senses of values and the effects of recent development, it shows possible combinations of biological resources available in subsistence rice farming, new ways of using natural resources which have been materialized by alterations added to nature and changing land utilization, and natural resources being merchandised because of their increasing value in today's society. Many of wild animals and plants living in the village are used as food and materials for daily life. Not only places where natural environment dominates but also places where nature has been altered artificially, such as spaces used for agriculture or occupied by villages, serve as habitats for a variety of wild animals and plants. Thus, plurality is seen here, for subsistence activities, including agriculture, fishing, and collecting of wild animals and plants, take place in the same place. Since 1990's, as urbanization has progressed and more activities of local communities have been incorporated in the economic system, these resources which used to sustain self-sufficiency have been used more widely as goods for distribution in the market. People are motivated to collect more miscellaneous animals and plants. It is also conspicuous that the usefulness of various resources as the above is being extended.
Representing Human-biosphere Relationship in a Form of Geographical Illustration

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Abstract

In recent biological geography, what has come to an important subject is how it includes human impacts, such as the relationship between living things and humans, and the interaction between the environment and humans. When human impacts are considered, it is important to understand them in the light of people’s senses of values and emotions, social and cultural contexts, such as why humans do so, what causes it, as well as to analyze direct impacts and the consequences of them. This study aims at grasping human-biosphere in geographical landscape with reality that is created by the interaction and interrelations between living things and humans and considering how to explain it. Then it attempts to develop a means of representing and explaining it as a form of illustration. By describing the relationship established by habitats of living things, the environment of them, and humans’ reaction to the environment as an environment grasped by humans and representing feelings and sociality that create such a subjective environment, geographical and biological space in which worlds of living things and humans fuse may be presented. It has been demonstrated that adoption of Manga, which is Japanese comics as a means of representation enables confining an environment understood by human feelings and resultant dynamic relationship in a single figure. The comprehensive human-biosphere relationship which integrates living things, nature, community, and culture may be termed as a geographical illustration.

Parameter estimation of the water balance model for drainage basins using climate grid data and river discharge

Mr Haruki Numajiri *, Graduate School of Science and Technology, Nihon University
Mr Michio NOGAMI, Nihon University

Abstract

The purpose of this study is to seek the most optimal parameters of the grid model for basin water balance using the observed river discharge data and the monthly climate grid data of 1-km resolution. The monthly mean climate grid data of temperature and precipitation were prepared from observed values from 1971 to 2000 by Japan Meteorological Agency. We calculated the monthly mean discharge of the same term from yearly observed values of Ministry of Land, Infrastructure and Transport. We set a tank model to each grid (1km~1km) in the basin. The tank model has a sub model for snow accumulation and melt. It receives snow precipitation separated by the threshold temperature (near but above 0 degree centigrade) from total precipitation, and gives snowmelt to the main model calculated from degree month factor of temperature. The main tank has three discharge outlets for the basal flow, overflow and intermediate flow. Minimizing difference between the monthly sum outputs from all grids of the model in the basin and the monthly river discharge, we sought the most optimal parameter values by the successive approximation method. We could simulate seasonal march of water balance of the basins in the Hokkaido Island of Japan with sufficient accuracy using the parameters estimated in this way.
Regional characteristics of the migration by sex and age classes in metropolitan area - A geographical study in Sapporo City -
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Dr Yuichi Hashimoto, Graduate School Of Letters, Hokkaido University

Abstract
In recent years, for major cities in Japan, the population distribution has been shifting from the suburbs to the city center. The reason for this shift in demographics is not clear. This research will examine population inflow and outflow, and intra-urban migration patterns for Sapporo-city during the first half of the 2000s. The population of downtown Sapporo, as with other major cities in Japan, has increased relative to the population in the residential areas during this period. We hope that an examination of this demographic shift in Sapporo will help to elucidate the mechanism behind the re-centralization of the population throughout Japan. First, this study notes the local characteristics of the region. Next, inflow and outflow tendencies for Sapporo-city are clarified through the application of factor analysis. Furthermore, intra-urban migration is analyzed and move pattern is clarified. Three-mode factor analysis is applied using a method developed by Hashimoto and Murayama (1991). Finally, the primary mechanism behind the re-centralization of the population of Sapporo-city is elucidated through an analysis of the population inflow and outflow and intra-urban migration patterns with the specific local characteristics of Sapporo-city taken into account. The data in this study concerns only population movement into, out of, and within Sapporo-city. The period covered is from January, 2000 to December 2004. Sex and other data are classified by age at 5 year intervals. The results of this study make clear that two movement tendencies have significantly contributed to the increase in population in the city center and neighboring areas of Sapporo-city. One tendency is inflow from outside the city by a comparatively young population. The other is the excellence of the city center infrastructure which encourages residents to remain within the downtown Sapporo when making a change of residence (intra-urban migration) as opposed to relocating outside the city.

Managing the urban environment in Papua New Guinea: a socially-oriented approach that adopts participation and awareness.
Miss Georgina Numbasa *, University Of Auckland

Abstract
Managing the urban environment in Papua New Guinea: a socially-oriented approach that adopts participation and awareness. Georgina Numbasa, Lecturer, Geography and Environmental Sciences, University of Papua New Guinea The significant urban environmental problems faced by the major towns of Papua New Guinea are related to the deteriorating infrastructure, rapid population growth, pollution and to the demand for energy, food and shelter. The most visible manifestation of poor living standards in Papua New Guinea towns is seen in the informal settlements on urban fringes. The inhabitants of informal settlements live in appalling conditions with poor housing, lack of clean water supply and sanitation. The demand for food, energy and shelter results in the exploitation of the surrounding natural environment, with intensive crop cultivation and firewood collection. Public spaces, streets and storm water drains are filled with rubbish ranging from plastics and food wrappers to household, industrial waste and sewerage. Public hygiene is very poor. This paper discusses a 'participatory approach' and 'awareness' activities as possible approaches to managing these urban environmental problems. It evaluates the strength and weaknesses of such approaches and activities in the Papua New Guinea context and assesses their viability (edited by Bryant Allen).
**Geographic Contributions To Environmental Science And Management In A Changing World**

Miss Georgina Numbasa *, University Of Auckland  
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**Abstract**

Recognition of the pervasive impact of human activities on the natural world has prompted a reframing of approaches to environmental repair. Over the last fifty years, environmental management strategies have moved beyond concern solely for utilitarian values to recognizing the importance of biodiversity management and associated ecosystem services. Initially, these programmes focussed on management of single issues, emphasizing concerns for endangered species and conservation in designated reserves that retained notionally pristine areas. The transition to an ecosystem approach to environmental management marked the recognition that there are too many species to attempt to save them one at a time. However, ecosystem perspectives built upon notions of nature in equilibrium, and associated management initiatives were framed in terms of environmental reference conditions and adjustments around a mean condition. Emerging theories in both ecology and earth sciences view nature as a complex adaptive system, in which non-linear relationships and stochastic events lead to outcomes that are unpredictable in time and space. Explicit recognition of inherent uncertainties in the character and behaviour of environmental systems has prompted a shift towards grounded and authentic place-based programmes that apply adaptive and participatory management principles, striving to maximise the resilience of any given system. Prospective opportunities for geographers in meeting the needs of this emerging framework are outlined.

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**Local responses to a global problem: the flexibility of local government institutional arrangements in relation to the issue of climate change, Australia.**

Ms Melissa Nursey-Bray *, Australian Maritime College

**Abstract**

Climate change is an example of a global systemic problem; systemic as its causes are initiated anywhere on earth, and the effects felt worldwide. For coastal communities these effects include sea level rise changes in snow melts regimes, hydrological cycles, fish stocks migration, nutrient and heat flows on species. The costs of addressing climate change however will fall disproportionately on local government, industries, and communities. There is a need to explore ways to minimize the adverse impacts. While much work has been undertaken in relation to the implementation of climate change strategies and policies such as Kyoto, climate change and human adaptation to it must be understood in terms of how regional and local policy bases are responding to climate change. This paper presents the initial results of a research project that investigates the key institutional issues facing coastal communities in Tasmania in relation to climate change. Key questions include, (a) what kind of legislative and institutional arrangements exist at community level to facilitate climate change actions and strategies within local governments and residents, and (b) what flexibility exists within those institutional arrangements at local government levels to enable local councils and industry to respond effectively to this issue? Using examples from case study research, the paper further outlines the policy challenges and community parameters that influence decisions about climate change at the local government scale. The paper concludes with reflections on how this research illustrates how global problems are perceived at local levels and effected at local and regional scales, and makes some suggestions on how institutional flexibility can be achieved so as to progress regional sustainability in relation to climate change.
Shaping Protection Regimes in Sand Country: Indigenous Development, Native Title and Caring For Country
Ms Melissa Nursey-Bray *, Australian Maritime College

Abstract
The spectacular dune systems of Shelburne Bay and its surroundings in Cape York Peninsula, Australia, are internationally recognised for their extraordinary natural and cultural values. Interest in mining its silica sands and establishing a space base in the area combined with extensive highly politicised Native Title and tenure arrangements have ensured the region has remained in the public eye for over twenty-five years. In November 2004, the Wuthathi people, the traditional owners of Shelburne Bay launched a land and sea management framework for their country. The framework, while lacking legal status, combines cultural and conservation principles based on partnership building with other interests. However, while the framework is designed around Wuthathi aspirations for managing their country the Wuthathi still face a long hard battle in ensuring its implementation. In being used both to lobby for Wuthathi rights to manage country on their own terms, and as a mechanism to progress tenure resolution, the Wuthathi Framework highlights the ways in which Native Title issues converge in natural and cultural resource management regimes. Using the Wuthathi Framework as a case study, this paper discusses the challenges inherent in developing indigenous resource management initiatives in Australian Native Title contexts concluding with some reflections on ways forward.

The Greater St Lucia World Heritage Site: A Mechanism for Sustainable Tourism
Dr Thandi Nzama *, University Of Zululand, Centre For Recreation & Tourism

Abstract
The World Heritage Sites have become a major source of domestic and international tourism activities within South Africa as well as an excellent marketing tool towards contributing into the national and local economy, through education, job creation and tourism development. Furthermore, these sites have become an important vehicle for the protection of the natural environment. The Greater St Lucia Wetland Park is South Africa's first World Heritage Site. This status was received in July 1999 because of its unique ecological processes, scenic beauty and exceptional biodiversity. In order for the Heritage Park to remain listed it has to be used in a sustainable manner and be protected from degradation. This paper aims at finding out if there are any policy guidelines and strategies which would promote sustainable tourism as well as ensure that the World Heritage Site is protected against atrophy and degradation. It also seeks to establish how local nature conservation authorities perceive the understanding, management and utilization of this World Heritage Site. Preliminary findings of the study reveal that there are various expectations associated with the understanding and practices of management and utilisation of the World Heritage Site environment. The stakeholders associated with the Greater St Lucia World Heritage Site have varied perceptions about the sustainability of the site and regard it as an important vehicle for sustainable tourism development. Notwithstanding, a significant majority of stakeholders, advocate that the protection of the ecology and biodiversity of the site is important for the economic development of the local community. In general, policy-makers and conservationists viewed the Greater St Lucia World Heritage Site as an important resource for tourism development, whereas only a few tourists and local public seem not to be conversant with the fragile status of the World Heritage Site.

Positioning Australia's contemporary Irish immigrants in transnational debates
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Abstract
To date, transnationalism debates have been largely predicated on the experiences of ‘visible’ immigrants. As a result, comparatively little is known about invisible immigrants from a transnationalism perspective. This paper addresses this lacuna by examining the transnational practices of contemporary Irish immigrants in Australia. Data derived from a face-to-face interview survey of 203 post-1980 arrivals demonstrates the extent to which informants engaged in the maintenance of transnational social spaces. With visitation and contact patterns comparable to or exceeding those of the benchmark transnational groups studied in Canada and elsewhere, these Irish immigrants are clearly positioned as a highly transnational group. Issues relating to homesickness, citizenship and identity emerged as the key driving forces behind these transnational activities. Findings derived from this study of an invisible immigrant group, in turn, served to highlight gaps in the transnationalism literature with regard to distance, whiteness and citizenship that need to be considered when drawing broader generalisations on transnationalism.
GIS buffer analysis on factors affecting water quality in the Humber catchment, UK
Dr Takashi Oguchi *, Center for Spatial Information Science, Univ. Tokyo, Japan
Dr Helen Jarvie, Centre for Ecology and Hydrology, UK
Ms Aki Komatsu, Informatix Inc., Japan
Dr Colin Neal, Centre for Ecology and Hydrology, UK

Abstract

Water quality at 60 sampling sites on rivers in the Humber catchment, East England, was investigated in relation to the landuse characteristics of whole or partial upstream areas. The upstream area of each site was delineated using a DEM and GIS. Then three types of buffers were generated for each upstream area: 1) area within 3, 6, 9, 12 or 15 km from the sampling site; 2) area within 250, 500 or 750 m from major streams; and 3) an intersection of the two types of buffers (e.g., area within 3 km from the sampling site and 250 m from major streams). Preceding studies indicate that water quality in the study area is mainly affected by two factors: domestic/industrial effluents and agricultural activities. Therefore, multiple regression was performed using the areal percentages of arable land and settlement areas within the whole or partial upstream area as dependent variables, and the mean concentration of a water quality determinand as an independent variable. The results indicate that 1) some highly soluble determinands such as B, Cu, Mg and total oxidised nitrogen have the strongest correlations with landuse in the whole upstream area; 2) Ammonia and Ni are strongly correlated with landuse in areas within 250 m from major streams; 3) Suspended Sediment and Al, representing particulate transportation, markedly correlate with landuse in areas within 12 to 15 km from the sampling site; and 4) Cr correlates most strongly with landuse in the intersection area of two buffers; within 250 m from streams and 6 km from the sampling site. These differences seem to reflect the location of major sources of pollutants, and the dominant modes of their transportation and dilution.

Children's social environmental learning through crime prevention maps for children in Japan
Mr Koji Ohnishi *, University of Toyama, Japan

Abstract

These days, there are a lot of crimes that children become victims in Japan. In a few crimes, children were murdered. In Japan, many people believed Japan was safe ordered country, but these days, the safe ordered was collapsed. For making and finding safe place for children, many schools' PTA and local governments make crime prevention maps for children. In these maps, many criminal and traffic dangerous points are indicated. This study evaluates these maps effectiveness for keeping children's safety, and is clarify children's environmental learning through these maps. Are these maps effective for crime prevention? Many crime prevention maps were made by adult in the local community. For children, it is just ready made maps. Children read just the signs of dangerous points from maps and they cannot find the reason why the points are dangerous. Children should understand why these points are dangerous and they must learn to find the dangerous points and places. Ready made crime prevention maps are not effective for children to learn crime prevention concept. Some crime prevention maps are made with children's participation. These are effective for crime prevention learning and social environmental learning. For map making, children have to walk their town with adult and learn the dangerous points and places, and they have chances to learn why these points and places are dangerous. For example, they learn dark and few people walking roads are dangerous for abduction and assault from adult. Map making process is important. For making effective crime prevention maps for children, children's participation style map making is important. The participation fosters children's understanding why these points and places are the dangerous.
Generalized Network Voronoi Diagrams: A Review
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Abstract

A class of Voronoi diagrams defined on a network with distances along a network is called network Voronoi diagrams. The ordinary network Voronoi diagram is defined by a set of sub-networks generated by a set of generator points on a network with the shortest-path distance. This paper reviews generalizations of the ordinary network Voronoi diagram with respect to network distances and generators. The directed network Voronoi diagram is defined with the shortest-path distance on a directed network, which includes outward and inward directed network Voronoi diagrams. The weighted network Voronoi diagram is defined with weighted shortest-path distances. The order k network Voronoi diagram is defined in terms of the k-th nearest point. The line network Voronoi diagram is defined with a set of generator lines. The area network Voronoi diagram is defined with a set of generator polygons. Their computational methods are also reviewed.

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Salt Marsh Restoration as an Adaptation Strategy to Future Climate Change and Sea Level Rise in the Bay of Fundy, Canada
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Abstract

The climate in Maritime Canada is changing and sea level is rising at 0.3-0.4 m/century. Of concern is that this rate of sea level rise may double by the end of this century. Large tracts of land in this region are presently protected from salt water inundation by dykes. As our environment changes, there will be two options for society to consider: (i) adapt by raising and reinforcing the dykes or (ii) adapt by restoring dyked lands to salt marsh. Raising and reinforcing dykes will become progressively more expensive as time goes on and dykes cannot self-adapt to ongoing changes in climate and sea level like salt marshes can. Salt marshes around the Bay of Fundy exist in a unique environment. The Bay is macrotidal (maximum range > 12 m), has a relatively high suspended sediment concentration within the water column, and its marshes are subject to the effects of ice and snow for 3-4 months per year. Thus, available scientific literature on salt marsh restoration, which primarily describes projects in more temperate parts of the world, is typically of limited utility with respect to understanding the steps necessary to restore a Bay of Fundy salt marsh. The primary objective of this presentation is to evaluate the technical and socio-economic feasibility of converting dyked lands to salt marsh in Maritime Canada as an adaptation strategy to future climate change and sea level rise. The goal is to explore whether salt marsh restoration is a viable method of adapting to changing environmental conditions and, even more importantly, under what conditions stakeholders will be prepared to adopt this method of adaptation.
Evaluation of land use management alternatives with model application -a case study from a southern taiga catchment in Russia

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Mr Valery Demidov, RAS - Russian Academy of Science
Mr Mitrofan Volokitin, RAS - Russian Academy of Science
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Abstract

Due to political influence and economic pressures the commercial agriculture in Russia is subject of dynamic changes. Major triggers are the modification of the property rights and consumer demands. However, the lack of investments often results in an unsustainable utilisation of natural resources with serious consequences for soil and water quality. This case study examines the impact of proposed or predicted land use changes for a typical catchment in Russia. The 18.8 km² Lubazhinkha catchment is located 100 km south of Moscow, Russia in a subhumid southern Taiga region. The valleys are deeply incised into the undulated flat interfluves where Greyzems are the dominant soil type. 55% of the area of the Lubazhikha catchment is used agriculturally by three co-operative farms. One-third of the catchment is covered by forest. The integrated winter erosion and nutrient load system (IWAN) was developed to characterise temporal and spatial aspects of runoff generation and snowmelt rill erosion at the catchment scale. It is a system of loosely coupled models that consist of three independent modules and pre- and post-processing procedures. The modelled annual water balance and the amount of runoff during individual snowmelt events for the period 2003 to 2005 match the measurements. Due to the realistic spatial distribution of erosion areas and their individual connectivity to the main stream channel, the simulated net erosion of the catchment is close to the measured loads. Simulated land use scenarios, that include increase of forest area or increase of cattle breeding pastures, prove the importance of slope and channel erosion processes. Aside erosion reduction on the arable fields, a detailed examination of connectivity lines and a management of areas with concentrated flow generation is of high importance.

Competing views of the Pacific island economies

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Abstract

Both the Pacific region and its constituent national economies are commonly portrayed as having failed economically. Accepting this portrayal, the Pacific Plan-issued in September 2005 following the Auckland Declaration 18 months previously-established economic stability for Pacific societies and their economies as a prime goal of international efforts and assistance. The Plan and its supporting documents have a range of views about 'economy' in the South Pacific. Globalisation is embraced-as are markets. So too are the need for viable national economies, for the growth in remittances from migrant workers in adjoining rich nation economies, for regional integration, for participation in free trade arrangements and, somewhat incongruously, for nurturing sustainable subsistence economies. We have explored these views in a series of interviews with policy makers and institutional players in the Pacific and through a study of the Pacific Plan and associated documentation. In this paper we present an audit of these visions and a classification of their mood and direction in a political economy sense. Our investigations have failed to find, however, any systematic audit of economy in the South Pacific, the links and flows involved and any assessment of external and internal viability. Assumptions of fragility, instability and collapse are assumed rather than revealed by such evidence and analysis. The paper presents a preliminary analysis of the South Pacific economy using traditional Keynesian aggregates and flows. It then deploys this analysis to critically examine the Pacific Plan's economic ambitions.
Recarving old wood: Maori in the modern commercial world
Sir Tipene O'Regan *, University of Canterbury

Abstract

Through utilisation of traditional resource bases and settlements of historical claims, a number of iwi (Maori tribes) and other Maori groups now hold significant assets. Increasingly sophisticated and professional organisations and managers are charged with the responsibility for those assets. Tribally owned companies have been set up by some iwi as vehicles for participation in the general economy. In that sense, there can be no doubt that Maori are successfully making their way in the modern commercial world. Many groups, however, are now looking towards the next set of challenges: how to carve out uniquely indigenous ways of managing their assets, running their businesses, governing their organisations and delivering some benefit from those assets to their membership.

Brownfields in medium cities in the countryside of Sao Paulo State - Brazil: possibilities of the local development from the (re) development of urban areas.
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Abstract

By understanding the city as a historical product that materializes the general movement of the economic, social relations, politics and environmental, and considering that the urban landscape can disclose diverse contradictions that speed up or reduce the local development. The present article has as a main objective to reflect on the process of abandonment of urban areas and the consequent occupation of new areas. In Sao Paulo Estate, Brazil, the reorganization and the productive decentralization are historical and economic elements that are evidence of this process of abandonment of areas. The government of Sao Paulo sped up this process with the constitution of a modern road system connecting the capital to the interior of the state. The productive units had been transferred and leaving behind the great space inertia, this spatial reorganization allied to the advances in the ways of telecommunications and transports, it allowed the installation of many of them in the countryside of Sao Paulo. After the creation of links between the metropolis of Sao Paulo and the countryside, the landscape of these regions presents signs of environmental degradation at the rivers course, railroads and highways. Currently it is very important to indicate the necessity to reduce the intensity of new areas utilization and the priority of a increased exploration of the already busy areas and with infrastructures. This type of behavior means a new movement in favor of the valuation of the space. In this direction, the urban planning gains importance, therefore it would start to foresee futures scenes and implementing bigger agility public politics that they try to minimize the recurrent environmental impacts of the areas of abandonment of the productive process. The growth of the Sao Paulo’s medium cities and the affirmation of the urban way of life present contradictions that demand new inquiries, mainly in the detention of brownfields and the possibilities of (re)development. Key words: local development, brownfields, medium cities, spatial reorganization.

Climate Change and Impact Scenarios - A study of the urban poor in Kuala Lumpur, Metropolis, Malaysia
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Abstract

Climate change and climate variability have a tremendous effect on urban climates and the urban hydrological regimes. Urban pollution including heat pollution and urban flash floods have increased in frequencies and intensities and have in general led to a degradation of urban quality of life in the Kuala Lumpur, Metropolis Region. More vulnerable and greater at risks are the urban poor of the city. This paper describes the impact of climate change and variability on the urban poor and their adaptive capabilites and future challenges.
Integrating agent models and GIS: towards an extensible open source solution
Dr David O'Sullivan *, School Of Geography And Environmental Science, University Of Auckland
Tim Clephane, Department of Computer Science, University of Auckland
Assoc Prof Robert Amor, Department of Computer Science, University of Auckland

Abstract

Agent-based models are widely used to study geographical phenomena as diverse as the diffusion of disease, or the impact of sprawl on emergency management. From a geographical perspective, a key failing of agent-based models is that most run in grid-based abstract spaces, and such simplified topologies only approximate the complex spatial interaction structures of real geography. Richer geographical representations are required if realistic models are to be developed. As Gilbert and Bankes (2002, 7197) point out, existing agent-based modeling toolkits, while “[…] excellent for simulations involving agents located on a rectilinear grid […] are less useful for simulations […] of actual terrain.” (Gilbert and Bankes 2002, 7197). We describe initial progress integrating an open source agent-based modelling toolkit (Repast) with an open source GIS API (GeoTools), using the adapter and command programming patterns. Each toolkit has an adapter that allows it to react to commands from a controller, routed via a registry mechanism. Building, initializing and running a model involves issuing commands to the two toolkits. This architecture offers three advantages: (i) it removes direct dependencies between toolkits, allowing their future modification or replacement by alternative toolkits, when only different adapters would be required; (ii) the command pattern enables future development of a declarative modelling language, since any model based on the toolkits can be built by a series of commands; (iii) the potential is provided to link a model via new adapters to further toolkits (for example, for geovisualization). A significant remaining challenge is the development of a standard 'spatial agent' which would be required for a fully extensible system. At present users must define agents for models by programming them in Java. References Gilbert, N. and S. C. Bankes. 2002. Platforms and methods for agent-based modeling.

Vineyard landscapes in Loire Valley
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Abstract

The difficult French vine-growing economic context supports strategies of differentiation leading to a lack of legibility. Consumers who are a bit lost wish more and more clear informations about product origins. The concept of « terroir » and « terroir product », which involve a perfect knowledge of vineyards, is currently used as a mean of communication. Like terroir, landscape implies socio-economic and cultural components but also aesthetics ones. And, above all, it’s closely linked to the observer’s perception. So, it appears more concrete for consumers. Vineyard landscapes, which are modelled by vine growing, are considered as a recent concern but with a considerable potential. These observations explain the increasing number of thematic conferences like the one which took place in Fontevraud (Loire Valley) in 2003. Following this international symposium, the «Charte de Fontevraud» was signed by various wine areas showing a patrimonial interest. It proposes an improvement of vineyard landscape knowledge and the result diffusion to professionals which aims preservation and development. It led our department to try to develop a method of vineyard landscape caracterisation which must be efficient and reproducible. We base our proposal on a dual approach of landscapes, both plastic and scientific. Its goal is to supplement a «traditionnal » landscape analysis by quantified data using innovative tools in order to allow a precise description of vineyard landscapes. Leading an improvement of vineyards knowledge and identification, it can enhance the value of wines through their landscapes. It could also help to evaluate landscape evolutions in time and to compare different areas. Finally it can be considered as a new tool for environmental management and delimitation of geographical production areas.
Suburbanisation of Prague and its impact on social environment
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Abstract
This paper examines the impact of suburbanisation process on the change of social environment in the Prague urban region at the beginning of 21st century. Although suburbanisation is relatively new phenomenon in the Czech Republic, the consequences of this process belongs to the major changes in spatial patterns of Czech settlement system. Moreover, suburbanisation as one of the most intensive spatial process in post-socialist countries has been changing social structure and social climate of formerly rural villages significantly. We attempt to identify the crucial aspects of suburban development that can influence increasing social polarisation and segregation. Research is based on data from collection of interviews with 144 mayors of selected suburban communities in the hinterland of Prague. Field investigation held in spring 2004 confirmed variety of different development around the Prague urban region in transition period. Growing involvement of new residents on public life and local government has brought about new division of power within suburban communities. Paper seeks to explore mechanisms of suburban development, which cause negative consequences as well as these leading to smart development, social cohesion and participation. We conclude with discussion of future development of cohabitation of the older villagers and the new suburbanites.

An update on the avalanche hazard in New Zealand
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Abstract
This paper presents an update on avalanche hazard issues in New Zealand. The last general report on this topic in geographical context was made 25 years ago by Prowse et al. (1981). They showed an upsurge in avalanche fatalities in the decade 1970-79 and reported on responses to the hazard at that time. Since then fatality rates have not continued to increase. Information has now been assembled on the activities, age and gender of avalanche victims. Significant changes have occurred in responses to the hazard and while it is tempting to relate the levelling off of fatality rates to these changes, significant problems remain.

Seasonal changes in water quality as affected by water level fluctuations in Lake Tonle Sap, Cambodia
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Dr Shuichi Endoh, Shiga University
Dr Yasuaki Okumura, Osaka Electro-Communication University
Mr So Im. Monichoth, Min. Water Resour. & Meteorol., Cambodia,
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Abstract
Lake Tonle Sap situated in the lower reaches of the Mekong River basin is the largest lake in its surface area in Southeast Asia, and shows a remarkable seasonal change in the water level. The lake has an important function for the flood prevention as a natural retarding basin in rainy season, and also a close relation to the society, culture and life of people in Cambodia. Consequently, it is important to make clear the temporal changes of the hydrological characteristics in order to establish the water management project in the Mekong River basin. From the viewpoint of both water resources and hydrological environment, fundamental data on physicochemical characteristics of the lake should be collected and analyzed in order to sustain the better scheme of water management. The purpose of the present study is to evaluate the seasonal changes in water quality of the lake as affected by the fluctuation of water level as well as by the human activity. The changes in water quality are characterized by the increase of the ratio of chloride and sodium ions during the dry season in the northern area of the lake. It is pointed out that the changes in water quality in the dry season is induced by the increase of discharge from inflowing tributaries attendant with the lowering of lake water level. Such a particular seasonal change is also caused by human activity which supplies the contaminants from the populous settlements situating in the northern part of the lake. On the contrary, the water quality of the lake during the rainy season represents little affect by human activity because of the increase of reverse inflow from the Mekong River. It is concluded that the taking account of the physicochemical characteristics is an indispensable task for water management in Lake Tonle Sap.
**Mercury in Australian biomass fires: a preliminary study**

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**Abstract**

An exploratory series of measurements of mercury in biomatter and soils has been made for some sixteen locations around Australia. Applying the mercury determinations to bushfire fuels zones (after Walker) and making assumptions about unsampled areas and applying burning frequency we have made an estimate of the Australian contribution to the atmosphere from biomatter burning. The preliminary estimate is that approximately 72 tonnes (0.36 mega mole) per annum are contributed each year making it about 1.4% of the estimated global budget. This is seven times the industrial contribution declared in the Australian Pollution Inventory. Average biomatter mercury concentration was 160 ppb and average soil was 95 ppb. It is intended to expand the survey to provide more accurate estimates.

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**The Influence of Socio-demographic Characteristics and Urban Form on Travel Behaviour of Canadian Older Population in the Hamilton CMA: Evidence from a Multilevel Model Analysis**

Dr. Antonio Paez *, McMaster University  
Mr. Ruben Mercado, McMaster University

**Abstract**

Broad policies have been suggested to address the transportation challenges of an aging society. Concurrently, there has also been a call to assess the travel behaviour of older people within a geographical context in order to design or develop transport plans and strategies that will be appropriate, more effective and cost-efficient. One of the biggest challenges in responding to this concern is the current lack of detailed information concerning elderly travel behaviour. This study addresses this concern by investigating the travel dynamics of older population in the Hamilton CMA, a metropolitan region where it is felt aging issues will be most strongly felt in Canada in the next decade or so. Using the 1996 Transportation Tomorrow Survey, the research seeks to investigate distance traveled and mode choice of older population (50+) as a function of trip-makers’ socio-demographic characteristics and residential urban form using multivariate multilevel models. The study compares variation in trip generation and mode choice in terms of total, work and non-work activities. The results of the analysis not only shed light on the current travel behaviour of Canadian elderly population and baby boomers but also provide evidence on the role of urban form in achieving sustainability and quality of life objectives in an aging societal context.

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**Top down or bottom up? Participatory research in the UK and down under**

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**Abstract**

In recent years, increasing numbers of human geographers have taken up participatory research (PR) approaches. As interest has expanded, so have reviews, critiques and debates on our praxis, in dialogue with the critical literatures developing elsewhere. However, geographers are only now beginning to appraise the geographies of PR. Some are examining various issues of space and spatiality which PR throws up; here I want to explore the ramifications of a more basic geography which becomes apparent on examining praxis in different parts of the world. As a UK geographer, I do so from a starting point of ‘participation envy’, given the higher volume and standard of PR down under. The paper aims to raise some questions about this variability, in order to identify issues which can strengthen collective understanding of what works and how PR might be better supported. The paper will begin by describing a current PR project being conducted at four sites in New Zealand and the UK, which is exploring the emotional topographies of local and migrant young people. The situation in very different social and geographical contexts raises issues about parity in aims, research questions, relationships with policy makers and so on, when research design is emergent and led by young people. The paper will then draw out some wider issues for comparison, through a discussion of how local and national geographies enable or constrain our ability to undertake participatory research. Issues include the institutional contexts of academic researchers using PR; the meaning and deployment of ‘participation’ in different policy arenas; varying traditions of consultation and action in response to the concerns of marginalised populations; and the positioning of young people in relation to policy debates, which affect the process of gaining trust and enabling young people to feel secure as partners in research.
Nation building and resource management: The politics of 'nature' in Timor Leste
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Abstract
The newly independent Timor Leste faces many complex social and economic issues as it attempts to rebuild itself as a modern nation state. Critical issues to be addressed in this process are the development of land tenure and resource management policy and the implementation of new regimes to enact these policies. Timor Leste is a country with extensive areas of customary land holding and a complex postcolonial land rights environment. The Government of Timor Leste is currently devising legal and bureaucratic models of land titling and resource use and it is at this stage unclear what recognition will be provided to customary and local structures of owning and managing land and resources. The process itself raises key issues for the ways in which local peoples are or are not being enabled to be active decision makers and participants in the development and resource management process at a variety of scales. In this paper I will draw on recent fieldwork conducted in Timor Leste and examine the processes through which local peoples are seeking to negotiate and maintain adequate land and resource rights in the context of new nation-building.

Seeking for Social Housing's Vicinity to Work Place using GIS
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Abstract
Recently, the development of social housing has been considered as a very important issue in Seoul metropolitan area. While planning social housing, its vicinity to work place should be ensured. Because, in the city, it would be inefficient for the residents in social housing live from a great distance from their work place. However, the social housing planning has not been done in Korea in a systematic way considering the sustainable development and people's convenience for commuting. Thus, it is necessary to investigate the influence of the environmental and socio-economic or locational aspects of the vicinity of social housing to work place. The purpose of the present study is to explore the potential developmental area, and is to evaluate it in the context of the reality to carry out. To implement the purpose, we evaluate each model with respect to pair parameter of spatial and decision-making. 1) Determine the appropriate unit of geography to study and apply job-housing distance, 2) What vicinity measurement will be used, be based on data that are available or realistically, 3) Consider the overall housing’s vicinity ratio for the area and analyze the results of the calculation, 4) Make a value judgment and Prepare and adopt regulations. Focused on the analysis methodology, Seeking is to use GIS and remote sensing for knowledge discovery. In detail, land-cover classification is used by using satellite imagery. After the developmental area calculate using map algebra. Further, we examine the social driver of housing’s vicinity to work place and methodological trends exemplified in the models. Finally, we conclude with some proposals for future directions in planning tool in Korea.
Rainfall patterns and potential risk of dengue disease outbreak in Sri Lanka
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Abstract

The increasing incidence of dengue fever has become a priority health issue in Sri Lanka. Dengue was limited to urban areas in the west and south but now it is spreading to the other parts of the country. World Health Organization (WHO) suggests that global warming and climate variability have direct influence on the epidemiology of vector borne diseases and estimates about 2500 million people are currently at risk of dengue infection. This study examines the weekly rainfall patterns and dengue outbreaks in the western province of Sri Lanka between 2000 and 2004. Sri Lanka has two main rainy seasons and dengue outbreaks generally occur between these two rainy seasons. The study develops a model to quantitatively assess the relationship between rainfall and dengue outbreaks and then evaluate the suitability of the model for predicting dengue outbreaks incorporating spatial interpolation techniques. A power regression model was constructed and processes rainfall and dengue incidence data for six administrative divisions in the western province. The Inverse Distance Weighted (IDW) interpolator and Geographic Information System techniques were used in producing potential risk surfaces. The results show that there is a strong correlation between dengue outbreaks and rainfall for majority of the divisions studied. An error analysis was conducted to assess the validity of the model comparing model outputs and actual outbreaks. The analysis shows that the error component for selected cases is within a single outbreak. The ability to predict dengue outbreaks with high confidence aids dengue surveillance and monitoring the anticipated potential health risk.