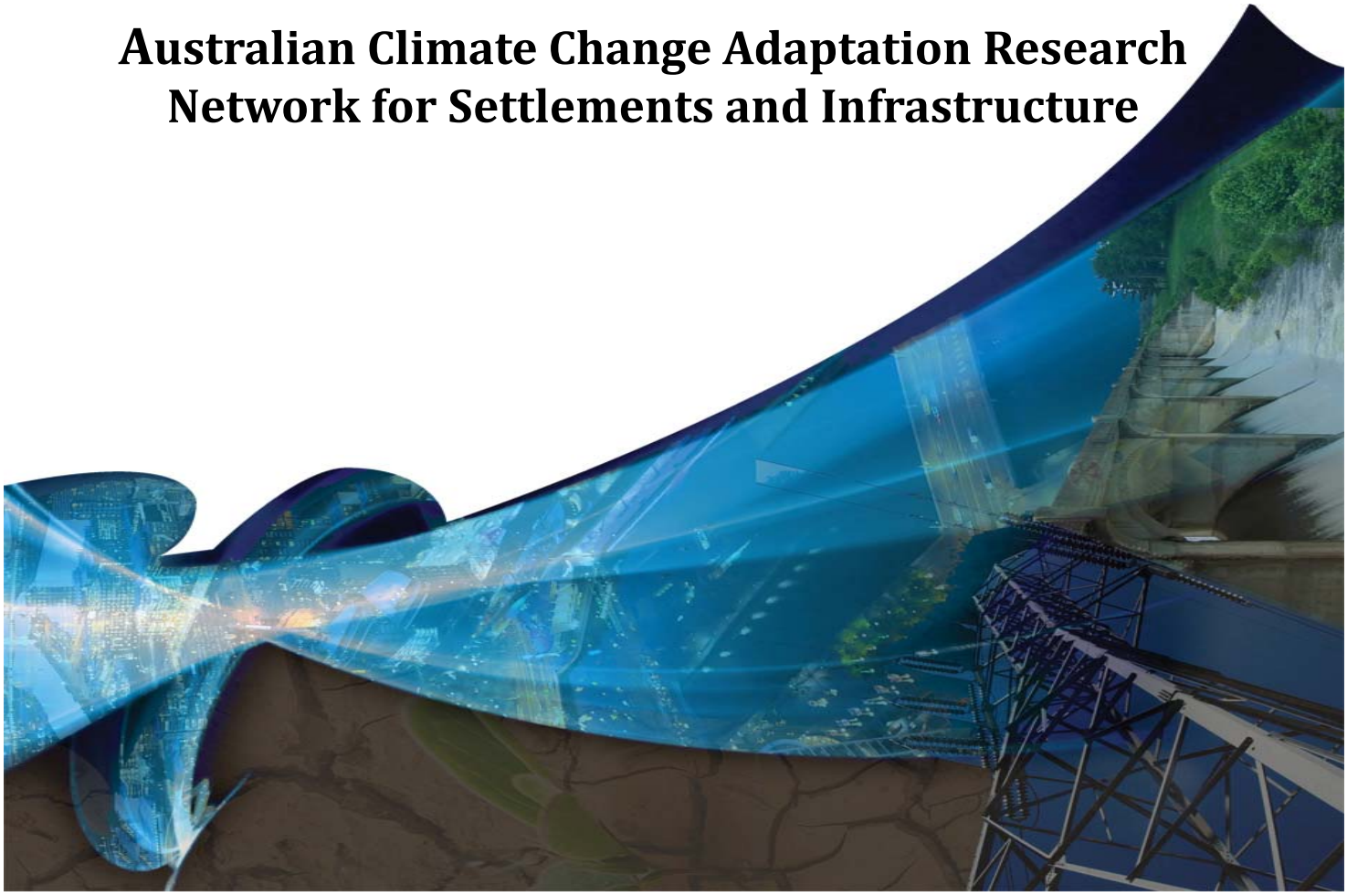
NCCARF
National
Climate Change Adaptation
Research Facility
Adaptation Research Network
SETTLEMENTS AND INFRASTRUCTURE

NCCARF
National
Climate Change Adaptation
Research Facility

PROCEEDINGS

7th Early Career Researchers' National Forum & Workshop
University of Melbourne
7-9 May 2012

Australian Climate Change Adaptation Research Network for Settlements and Infrastructure



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ACCARNSI 7TH NATIONAL ECR FORUM AND WORKSHOP PROGRAM

Day 1: Monday 7 May 2012

9.00	*TEA AND COFFEE ON ARRIVAL*
9.15	Forum Welcome: ACCARNSI Network Convenor Associate Professor Ron Cox
9.30	The effects of climate change on the development of harmful algal bloom: management of lakes and reservoir water quality *Anna Rigosi, University of Adelaide, SA*
9.50	Regenerative Public Space and Urban Heat Island Effect. Mitigation and Adaptation Strategies in Three Selected Cities: Dubai, London and Sydney *Ehsan Sharifi, University of South Australia, SA*
10.10	The Insurance Council of Australia's Building Resilience Rating Tool: Providing the tools for a Climate Adapted Built Environment *Jacqui Bonnitcha, Edge Environment Sydney, NSW*
10.30	Discussion lead by Associate Professor Ron Cox
10.45	*MORNING TEA*
11.15	Climate Change Adaptation: The Development of an Adaptation Evaluation Metric (AEM) *Alianne Rance, University of Melbourne/ EcoLogical Water Services, VIC*
11.35	Great Ocean Road Region – Alternative Adaptation Pathways for the Connectivity of Coastal Towns under Future Climate Effects *Phillip Barend Roös, Deakin University, VIC*
11.55	Adapting coasts to climatic futures *Marcello Sano, Griffith University, QLD*
12.15	Discussion lead by Professor Rodger Tomlinson
12.30	*LUNCH*
1.30	Planning for sea level rise: legal and governance issues explored in a comparative case study *Tayanah O'Donnell, University of Western Sydney, NSW*
1.50	Looking for sanity in coastal planning decisions *Murray Herron, Deakin University, VIC*
2.10	Indigenous Climate Change Adaptation in the Port Philip Bay Region: The Transformation of Port Philip Bay from an indigenous and landscape architectural perspective *Gavin Pocock, Deakin University, VIC*
2.30	Impact of climate change on disadvantaged groups *Arusyak Sevoyan, University of Adelaide, SA*
2.50	Discussion lead by Professor Rodger Tomlinson
3.10	*AFTERNOON TEA*

3.30	WORKSHOP 'Testing the suitability of innovative adaptation tools and research to the local government sphere'
5.00	DAY 1 WRAP UP & CLOSE
6.30	GROUP DINNER - Meet at Cure Bar and Eatery, 164 Rathdowne St Carlton

Day 2: Tuesday 8 May 2012

8.30	*TEA AND COFFEE ON ARRIVAL*
9.00	Flood risk management: Preliminary results of the experience of South East Queensland, 2011 *Rhiannon Niven, University of Adelaide, SA*
9.20	Climate change adaptation in the South Pacific: responses to natural disasters in Fiji and Tonga *Ingrid Johnston, University of Tasmania, TAS*
9.40	Trusted Community Cloud for Disaster Management *Asif Gill, University of Sydney, NSW*
10.00	Flexible guidance to aid local government in adaptation planning *Sophie Millin, RMIT, VIC*
10.20	*MORNING TEA*
10.45	Discussion lead by Professor Michael Taylor followed by presentation 'Adapting to climate change in South Australia: Human Dimensions of TREND (Transect for Environmental Decision Making)'
11.15	BUS TO CITY OF PORT PHILLIP
11.45	FIELD TRIP (including Lunch and Afternoon Tea)
3.15	Discussion 'Emerging Themes from the Early Career Researcher Forum'
3.45	DAY 2 WRAP UP & CLOSE
4.00	BUS TO HOTEL

Day 3: Wednesday 9 May 2012
VCCCAR Think Tank Cross-Over Day

9.00	*TEA AND COFFEE ON ARRIVAL*
9.30	WELCOME VCCCAR THINK TANK *'Identifying gaps and finding best practice in assessing, managing and building resilience to climate emergencies in settlements and infrastructure'*
10.00	GUEST SPEAKERS - Presentation and Discussion Professor John Handmer Network Convenor, NCCARF ARN for Emergency Management Karyn Bosomworth Centre for Risk and Community Safety, RMIT, VIC
11.30	*MORNING TEA*
11.45	Group Discussions
12.30	*LUNCH*
1.00	GUEST SPEAKERS - Presentation and Discussion Dr Kate White Senior Lead, Global and Climate Change, US Army Corps of Engineers Dr Vinayak Dixit Research Centre for Integrated Transport Innovation, UNSW, NSW
2.00	Cafe Conversations (with Afternoon Tea)
3.30	Discussion - Discovering strategic links between groups
4.15	Final Group Reflections and Wrap Up
4.30	Forum Close: ACCARNSI Network Convenor Associate Professor Ron Cox
5.00	AIRPORT SHUTTLE to Melbourne Domestic Airport for those returning on the Wednesday (leaves Graduate House, 220 Leicester St Carlton)

INFRASTRUCTURE

Anna RIGOSI
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THE EFFECTS OF CLIMATE CHANGE ON THE DEVELOPMENT OF HARMFUL ALGAL BLOOM: MANAGEMENT OF LAKES AND RESERVOIR WATER QUALITY

Anna Rigosi

Abstract:
Modification of lake heat budget due to global warming has consequences for water quality, biogeochemistry and lake habitat. A major concern is that an intensification of heating will increase thermal stratification within lakes favouring the development of the buoyant bloom-forming cyanobacteria. The toxicity of cyanobacteria represents a risk that has to be assessed and managed at different latitudes and with different land use.

The aim of the research, currently in progress, is to determine how cyanobacterial risk may change with climate change. Different lakes may have different sensitivity to cyanobacteria and climate change, which may be a function of latitude, nutrient loading and lake size.

Further objectives are to determine the factors leading to cyanobacterial blooms, determine if these factors are common across all lake types and latitudes, and to predict how cyanobacteria risk may change. The objectives will be achieved adopting a multiple approach: (1) applying a statistical Bayesian model to a data set that includes lakes and reservoirs with different ecological states and located at different latitudes and (2) using a predictive coupled climate-hydrodynamic-biogeochemical model to assess cyanobacteria risk under different scenarios. The simulations will enable a risk profile of lakes around the globe to identify the lake types that are most sensitive to cyanobacterial blooms at present and in the face of climate change.

BUILT ENVIRONMENT

Ehsan SHARIFI
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REGENERATIVE PUBLIC SPACE AND URBAN HEAT ISLAND EFFECT - MITIGATION AND ADAPTATION STRATEGIES IN THREE SELECTED CITIES: DUBAI, LONDON AND SYDNEY

Ehsan Sharifi

Abstract:

Cities are the main contributors to greenhouse gas (GHG) emissions with over 67 per cent of CO_2e worldwide (WB 2012). This could raise the overall temperature in Australian cities up to 3.2°C by 2100 (Hadley Centre 2009). However, UNFCCC indicates that even 2°C increasing temperature can cause severe impacts on natural ecosystems and human life (2009), the state which already occurs regularly caused by Urban Heat Island (UHI) effects in cities. Public life is suffering from UHI effects in most Australian metropolitan areas during summer, when night-cooling is not effective at pedestrian level.

Research indicates that mass energy consumption and surfaces of the built environment are major contributors to UHIs. Much of relevant studies focus on appropriate policies and technologies to reduce GHGs; the interplay between higher densities and UHI effects is still under-researched. However, public space has rarely been studied in regard to urban sustainability. How and to what extent do changes in public space and urban landscape affect UHIs? What are the potentials of public space to adapt to/mitigate UHI effects?

This research aims to investigate the correlations between public space size/scale and elements in regard to UHIs. The study looks recent urbanisation of three cities: Sydney, London and Dubai. The changes in public space since 1980 are mapped utilizing documentations, vertical aerial photos and GIS maps; this data is being compared with the changes in local temperature to assess their relevance. It aims to extend our understanding of how the built environment affects living in the future.

BUILT ENVIRONMENT

Jacqui BONNITCHA
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THE INSURANCE COUNCIL OF AUSTRALIA'S BUILDING RESILIENCE RATING TOOL: PROVIDING THE TOOLS FOR A CLIMATE ADAPTED BUILT ENVIRONMENT

Edge Environment, Climate Risk & Insurance Council of Australia

Abstract:
Australia has a long history of extreme weather events, some of which are likely to become more frequent and intense as a consequence of climate change. Combined with growing density and population the case is urgent for more resilient cities.

A climate adapted built environment must be resilient to extreme weather in order to provide safety for communities and reduce economic, social and environmental costs of natural disasters. Edge Environment, in partnership with Climate Risk, is developing a Building Resilience Rating Tool (BRRT) with funding from the Insurance Council of Australia. The BRRT is intended for use by a wide variety of stakeholders and provides guidance on a building's vulnerability and resilience to extreme weather events. The BRRT includes information on the resilience of building materials and sets the architecture for assimilating future research as it becomes available. The material information is combined with location specific hazard risk data and material co-dependency calculations to produce vulnerability and risk ratings. The BRRT provides layered information with increasing levels of detail to suit the needs of different users.

The BRRT is functional in pilot form and rates inundation risks. It is being expanded to include bushfire, cyclones, storm, and extreme heat. As part of the BRRT initiative, wide stakeholder engagement and user testing have been undertaken with positive feedback from a variety of interest groups. The BRRT has stimulated a number of concurrent projects aiming to raise community awareness, streamline terminology and gather information around resilience issues.

The BRRT represents an important industry initiative to contribute to a climate adapted built environment.

PLANNING & POLICY

Alianne RANCE
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CLIMATE CHANGE ADAPTATION:
THE DEVELOPMENT OF AN ADAPTATION EVALUATION METRIC (AEM)

Alianne Rance

Abstract:
Despite the call for adaptation, implementation of adaptive planning approaches at the local government level in Australia has been limited, reflecting a number of constraints including capability, resources, institutional fragmentation, policy coordination and the strength of vested interests associated with land use planning decisions, particularly in valuable areas such as the coastal zone (Bonyhady *et a*l., 2010). Coupled with the limited and varying degrees of guidance from higher tiers of government at the state and national levels (Preston *et al*., 2011), the current situation of *ad hoc* adaptation planning at the local government level (Preston *et al,*. 2009) underscores the need for the systematic evaluation of policies to both recognize effective mechanisms for adaptation and identify policy deficits.

This presentation discusses the progress of PhD research currently being undertaken at the University of Melbourne, attempting to develop an Adaptation Evaluation Matrix (AEM) through a 'low-regrets' approach. The AEM endeavours to evaluate adaptation response in coastal local governments nationally, as both a baseline AEM within coastal property development parallel to application within the respective local government. Such an application will provide planners and developers with specific guidance on developing robust coastal communities through a quantifiable, across-the-board framework. This approach promotes sorely required integration with the public and private sector (Agrawala *et al.* 2011), reducing inherent uncertainty, and a practical suggestion for policy reform.

PLANNING & POLICY

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GREAT OCEAN ROAD REGION – ALTERNATIVE ADAPTATION PATHWAYS FOR THE CONNECTIVITY OF COASTAL TOWNS UNDER FUTURE CLIMATE EFFECTS

Phillip Barend Roös, David Jones & Geoffrey Wescott

Abstract:
The Great Ocean Road Region is Victoria's most popular visitor destination outside Melbourne, and one of the most publicly accessible coasts in the world. Stretching from Warrnambool to Torquay, the landscape provides a place of infinite visual and ecological diversity with thriving coastal towns amongst rugged mountain ranges, coastal scenery and estuaries, rainforests and extensive productive farmlands in the hinterlands. These attractions, with their proximity to Melbourne, make the region a popular visitor destination while the seaside lifestyle in the area is attracting more full time residents. Key to the economic survival of this region is its accessibility, the connectivity of the coastal towns and the hinterland to the outside world, the availability of a diverse interconnected transport infrastructure. Change these attributes and qualities and you have a dramatic effect upon the region's context relating to economic, social and environmental attributes and values. Drawing upon recent literature on coastal planning and management, the Great Ocean Road Region Strategy (2004), and recent findings of the Surf Coast Climate Change Vulnerability and Adaptation Project (2011), backed by the third Victorian Coastal Strategy (2008) this paper reviews and critiques the potential climate impact effects of these settlements and its related transport infrastructure, identifies methods for the evaluation of alternative adaptation pathways, classifies and charts a proposed transport infrastructure asset model relevant for this location having regard to the unique spatial and temporal risk circumstances, and offers a connectivity-informed climate change adaptation model on how this region possesses specific resilience and urban design answers.

COASTAL SETTLEMENTS

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ADAPTING COASTS TO CLIMATIC FUTURES

Marcello Sano

Abstract:
The final aim of research looking at the impacts of climate change in coastal communities is to inform the development of specific adaptation options. These should combine a range of elements: (i) coastal policies and regulations (ii) infrastructure and design standards for coastal protection, (iii) economic instruments and insurance markets and (iv) coastal communities engagement mechanisms. For instance, the adaptation of policies and regulations can facilitate the implementation of new technological options in infrastructure design (e.g. floating breakwaters for marinas), or the adoption of new economic incentives (e.g. compulsory insurances for construction in erosion risk areas). These should be coupled with stakeholder awareness and engagement programs, to be considered as adaptation options themselves. With these ideas in mind, we have been working in the last two years in developing and testing a range of techniques in different locations across Queensland, Australia, with the final aim of informing the identification of suitable adaptation options for coastal communities under threat from sea level rise, coastal erosion and extreme events such as tropical cyclones. Thes include (i) the use of suburb-level mapping to identify vulnerability hotspots (ii) the assessment of the effect of sea level rise on storm surges and extreme beach erosion on vulnerable locations (iii) the development and testing of systems thinking and bayesian modelling techniques to explore adaptation options and adaptive capacity, (ii) the use of scenario planning to test adaptation options and (iv) the development of compendiums of adaptation options to support councils decisions.

COASTAL SETTLEMENTS

Tayanah O'DONNELL
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PLANNING FOR SEA LEVEL RISE:
LEGAL AND GOVERNANCE ISSUES EXPLORED IN A COMPARATIVE CASE STUDY

Tayanah O'Donnell

Abstract:
Since 2007, climate change discourse has shifted significantly in its focus on adaptation contra mitigation strategies. As a result, there has been a renewed focus within Australian planning law and policy to address suspected outcomes due to climate change, events such as increased precipitation (and therefore flood events), increased bush fire risk and intensity, and sea level rise, in an attempt to alleviate, or avoid, property damage or loss.

Most planning decisions in New South Wales occur at the local government level, with state based legislation (such as the Environment and Planning Assessment Act) providing relevant legal frameworks. Federal frameworks also arise with respect to climate change issues, sea level rise being a prominent symptom of such change. However, sea level rise is still primarily dealt with at the local and state government level, prompting many to advocate for a unified, federal policy approach. In New South Wales (for example), coastal local councils are required to consider the Sea Level Rise Policy Statement 2010 in planning decisions, which includes benchmark planning for an expected 40 centimetre sea level rise by 2050. This benchmark is to be used for flood risk and coastal hazard assessment planning.

In this legal and policy context, a comparative case study is underway comparing two New South Wales coastal councils who have been identified by the Federal Government as having a significant amount of residential property 'at risk' due to expected increased flood and coastal hazard events arising due to expected climate change induced sea level rise. Port Stephens and Lake Macquarie local government areas have been chosen due to their contrasting policy positions on this issue.

COASTAL SETTLEMENTS

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LOOKING FOR SANITY IN COASTAL PLANNING DECISIONS

Murray Herron, David Jones & John Rollo

Abstract:
The future of coastal development in Victoria is an important and topical issue in land use planning. Over the past decade the Australian coastline has had to deal with two phenomena. The first is the rise in popularity of the lifestyle option known of sea change (i.e. individuals either moving to or retiring to the coast) the second is the ongoing and long term effect of climate change on the Australian coastline.

The high value of waterfront property has created a high demand for development and has placed considerable pressure on the environment. In recent times the Victorian State Government has assumed planning control over certain coastal areas in Victoria (e.g., Narrawong in Glenelg Shire). In addition, the concept of sustainable development is coming under increased pressure as more and more individuals desire the coastal lifestyle. The current trend in land use planning is to favour urban and tourism developments which increase the negative impact and also the costs of shore protection from natural hazards such as coastal erosion and flooding.

The aim of this research is to compile a Decision Support System to assist in optimizing future land use policy along Victoria's coast line, with respect to current and projected population growth rates. The system draws on the simulated effects from data gathered over a 20 year period.

Land use patterns are used as a measure to quantify coastal development. Different coastal development policies are simulated and the changes in the land use patterns are analyzed.

The impact of different policies on the socio-economic and environmental contest of the areas will be modelled and the potential effects of climate change will be included in the simulation. The goal of this research is to highlight the capabilities of the DSS model when simulating the effects of different development polices in conjunction with climate change on the future coastal land use patterns in Victoria.

SOCIAL INCLUSION

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INDIGENOUS CLIMATE CHANGE ADAPTATION IN THE PORT PHILIP BAY REGION: THE TRANSFORMATION OF PORT PHILIP BAY FROM AN INDIGENOUS AND LANDSCAPE ARCHITECTURAL PERSPECTIVE

Gavin Pocock & David Jones

Abstract:
Currently there is a dearth of research into Australian Indigenous knowledge and their understanding of climate change especially in regard to how it fits into their world view. Recent discussions by the National Climate Change Adaptation Research Facility (NCCARF) have highlighted this deficiency but also the need to source relevant research projects that may address this knowledge and perspective, and enable the incorporation of Traditional Ecological Knowledge into the planning of climate change adaptation strategies in the Port Phillip Bay region thereby increasing their engagement in this discussion.

Within this context, this paper examines the use and understanding of landscape, both urban and regional, surrounding Port Phillip Bay and the risks and opportunities climate change adaptation brings to the local Indigenous communities. It synthesises focused interviews with the Wurundjeri (Yarra Valley), Wathaurong Geelong-Bellarine Peninsula and Boon Wurrung (Mornington Peninsula) to elicit a contemporary and local response to issues raised by NCCARF but importantly to articulate a possible Indigenous position about the formation, change and direction that Port Phillip Bay and its environs should take from their perspectives.

Research draws upon how these communities have adapted to climate change physically, mentally and spiritually over their long habitation of a shared geological asset and their perceptions of climate change in respect to forecasting and adapting to climate change for this century.

The project looks to uncover a longitudinal perspective of change and adaptation focused upon Indigenous views of 'country' and traditional custodial obligations to 'country' including accumulated cultural and environmental histories.

SOCIAL INCLUSION

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IMPACT OF CLIMATE CHANGE ON DISADVANTAGED GROUPS

Arusyak Sevoyan

Abstract:
Research on the climate change outcomes for the population has been limited. However, there is a growing concern in the literature that the negative consequences of climate change are going to be faced in higher extent by the socially and economically disadvantaged groups, than by the rest of the population. At the end of 2011 The University of Adelaide in partnership with the Social Inclusion Unit of South Australian Government, commenced a NCCARF funded project studying the vulnerability and adaptive capacity of disadvantaged groups to the effects of climate change, to find mechanisms for enhancing the resilience and counteracting the effects in South Australia. The aim of the project is to generate special policy and program recommendations to reduce vulnerability. We have developed a conceptual framework of climate change vulnerability indicators that allows identifying the least adaptive population groups in the region. Mapping the projected climate data and the population vulnerability characteristics, the project has located the three local governmental areas (LGAs) with the most adverse climate change effects, and the most vulnerable population groups within them. Primary data on vulnerability and adaptive capacity of disadvantaged populations will be collected from each LGA. Data collection is planned to be completed by mid-May, 2012. The presentation for the workshop will include discussion of the conceptual framework for climate change vulnerability assessment, and the methodology of choosing the study locations of vulnerable populations using GIS mapping. It will also elaborate on the challenges and the next steps of the project.

EMERGENCY MANAGEMENT/RISK MANAGEMENT

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FLOOD RISK MANAGEMENT:
PRELIMINARY RESULTS OF THE EXPERIENCE OF SOUTH EAST QUEENSLAND, 2011

Rhiannon Niven

Abstract:
In January 2011, significant flooding occurred across Eastern Australia, with catastrophic impacts particularly felt in South-East Queensland. There were multiple deaths, billions of dollars of private property and infrastructure damage, and thousands of people displaced from their homes in the capital city of Brisbane and the surrounding regions. As a result, several inquiries were undertaken catalysing both changes in policy and litigation issues in the insurance industry, and general flood risk and emergency management. Such an event has instigated wider discussions regarding the methodologies used to manage flood risk, and the further climate change impacts on settlements and infrastructure. This research will explore the experiences and governance mechanisms of those affected by the January 2011 event in South-East Queensland. Special attention will be given to the experience of Grantham in the Lockyer Valley Regional Council and their relocation response. A mixed methods approach was undertaken using semi-structured interviews with key stakeholders and documentary analysis. Preliminary results will be presented as part of a wider international comparison, particularly the USA and Europe, on flood risk management for settlements, and a discussion on climate change mitigation and adaptation options for planning and policy.

EMERGENCY MANAGEMENT/RISK MANAGEMENT

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CLIMATE CHANGE ADAPTATION IN THE SOUTH PACIFIC: RESPONSES TO NATURAL DISASTERS IN FIJI AND TONGA

Ingrid Johnston

Abstract:
Small island developing nations in the South Pacific are at the forefront of the effects of climate change, and part of this is a predicted increase in frequency and intensity of natural disasters such as tropical cyclones in this region. This research seeks to investigate the need for and capacity of the disaster responses to adapt to climate change. From the perspectives of the Governments, NGOs who provide aid, and the affected communities, this project will identify who is making decisions about how and what to respond to; and which responses are helpful and which may be harmful to the communities they are trying to assist.

EMERGENCY MANAGEMENT/RISK MANAGEMENT

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TRUSTED COMMUNITY CLOUD FOR DISASTER MANAGEMENT

Asif Qumer Gill

Abstract:
Disaster management (DM) requires efficient and reliable DM infrastructure and resources for the sourcing, storage, management and distribution of large amount of real-time data (e.g. geo-spatial, sensor, satellite, video feeds etc.), which is key to support the collaboration and coordination activities of different organizational units and the community at different levels. Disasters are unpredictable events and the need to provision additional computing infrastructure can be variable. The emergence of on-demand elastic cloud technology transcends the conventional systems approach to DM, which sometimes may fail due to the spike in the demand for additional computing infrastructure and resources. The core benefit of cloud technology is that it allows the quick and elastic provisioning of on-demand computing infrastructure and resources required to respond and manage a disaster such as power, storage, memory, servers and information systems as services. However, before jumping on the cloud bandwagon, it is important for organizations to assess their current operating environment and operational readiness for the cloud migration. We have developed a context-aware cloud adaptation (CACA) framework to enable organizations to understand their current operating environment and their operational readiness prior to proceed with the adoption of cloud technologies. We are currently using and validating CACA framework at NSW Emergency Information and Coordination Unit (EICU) for investigating how closed-box Trusted Community Cloud infrastructure and resources can be used to support the dynamic nature of a disaster as it evolves.

EMERGENCY MANAGEMENT/RISK MANAGEMENT

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FLEXIBLE GUIDANCE TO AID LOCAL GOVERNMENT IN ADAPTATION PLANNING

HartmutFuenfgeld & Sophie Millin

Abstract:
This presentation discusses an innovative and flexible guidance tool for adaptation planning at the local scale, called the Adaptation Navigator. The web-based application aims to be directly relevant and applicable to adaptation policy development and practice in assisting local government in Victoria.

Many activities are affected by climate, and decisions taken to manage the associated risks. As climate changes so too will risk (Willows and Connell, 2003). This will have an effect on the outcome of a wide range of decisions affecting settlements and infrastructure. Decision-makers need to be aware of these risks when planning for the future and will require a diverse range of information and guidance to do this.

It is widely acknowledged that climate adaptation planning needs to occur at a local scale because it is the scale at which impacts occur and where most adaptation will take place. The direction of the approach is also important. While some aspects of adaptation planning can be facilitated using top-down decision-making, they can also neglect the complexity that bottom-up approaches attempt to include. The Adaptation Navigator therefore focuses on a bottom-up approach for building organisational capacity for adaptation planning from within an organisation.

Many adaptation toolkits and step by step guides exist, but most are too rigid to be operationalised effectively. They offer little guidance on local adaptation planning processes to accommodate the range of climatic and non-climatic risks that decision-makers face in their varied local situations. The development of the Adaptation Navigator has focused on providing generic guidance on adaptation as a continuous, iterative process, which can easily be modified and tailored for local adaptation planning.

EMERGENCY MANAGEMENT/RISK MANAGEMENT

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ADAPTING SETTLEMENTS AND INFRASTRUCTURE TO A CHANGING BUSHFIRE HAZARD: REFLECTING ON THE ROLE OF POLICY IDEAS AND INSTITUTIONS WITHIN THE FIRE SECTOR

Karyn Bosomworth

Abstract:
In a fire management context, settlements and infrastructure relate to land use planning, building design, property preparedness and maintenance, and response planning. A number of policies addressing these issues are designed by or influenced by the fire agencies. Underpinning the practices and governance approaches that inform these policies are the fire management sector's informal institutions and ideas or policy frames. Climate change will challenge many public policies in a myriad of ways. This paper will argue therefore, that adaptation in a public policy sector requires more than adaptive management of existing policies. It requires reflection upon (and possibly challenging and changing of) the ideas and informal institutions that structure the sector's approach to policy and governance. It will explore this argument through a presentation of findings on policy ideas and institutions within the fire management sector of Victoria, Australia. A particular focus is placed on those related to land use planning. Implications for the sector's adaptive capacity will be discussed, alongside calls for interchanges between DRR and CCA more broadly.

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