

**Centre for Disaster Studies
James Cook University**

**Annual Report to
Department of Emergency
Services**

Financial Year 2006/2007

Annual Report of the Centre for Disaster Studies of James Cook University to Queensland Department of Emergency Services for Financial Year 2006/2007

Executive Summary

Projects

Most of the centre's research has fallen into five broad areas of projects.

1. Tourism and Tourist Impact – Crisis Recovery In Tourist Reliant Destinations, and Risk Management for Small Tourism Businesses: A Practical Resource Guide

Projects were supported by the Sustainable Tourism Cooperative Research Centre.

2. Bushfires – Bushfire CRC: Understanding Communities Project. Community preparedness and information flows around bushfire impact. Hazard warnings – targeting remote, indigenous and non-English-speaking communities. Projects have been funded by the Australian Research Council and the Bureau of Meteorology and Bushfire CRC:.

3. Hazards Research -. Post Disaster Surveys: Banana Farms in the Innisfail Region: Eight Months After Cyclone Larry: Dynamics of Farm-Level Recovery. December 2006

Tsunami Warning for East Coast of Australia 2nd April 2007: Household Surveys of Cairns and Townsville. Funded by the Centre for Disaster Studies, James Cook University and the Bureau of Meteorology.

4. Emergency Management, Mitigation and Planning – Review Of The Practices And Outcomes Of The Natural Disaster Risk Management Study Programme: for Queensland Department Of Emergency Services.

Population and Development Consolidation as a Strategy to Reduce Vulnerability to Natural Disasters and Global Climate Change in Archipelagic Small Island States: The Case of Maldives. Funded by the Centre for Disaster Studies and Maldives Government.

5. Education. Stormwatchers game, Risk Management for Small Tourism Businesses: A Practical Resource Guide, and the book release of Communities Living With Hazards

Partner Institutions and Acronyms

AEMI – Australian Emergency Management Institute, Mt Macedon
ARC – Australian Research Council
BOM – Bureau of Meteorology
CCC – Cairns City Council
CDS - Centre for Disaster Studies
CRC – Cooperative Research Centre (Sustainable Tourism and Bushfire CRC)
EMA – Emergency Management Australia
EMQ - Emergency Management Queensland
GA - Geoscience Australia
JCU – James Cook University
NESH – Non English Speaking Households
QDES – Queensland Department of Emergency Services
QH - Queensland Health
QLD Ed – Queensland Education
STCRC – Sustainable Tourism Cooperative Research Centre
TCCIP – Tropical Cyclone Coastal Impact Program

Tourism and tourist impact: Crisis Recovery In Tourist Reliant Destinations

**Yetta Gurtner – PhD Candidate and Researcher
PhD Thesis**

As an industry based on reputation, positive images and subjective risk perceptions, tourism has always been a relatively unpredictable and precarious development prospect. Despite the inherent vulnerability, many destinations in Australia, and around the world, have come to depend heavily on the income, employment and revenues generated by the tourism sector. While recent events have clearly demonstrated that no destination is immune to adversity and a potential tourism crisis, greater research and understanding is still required to ensure that both tourism and community stakeholders are actively involved in the development of practical, cost-effective local strategies for mitigation, resilience and recovery – particularly pertinent for tourist reliant destinations.

Through research, documentation, and analysis of the recent experiences of crisis in the internationally renowned tourist destinations of Bali and Phuket, it is hoped to produce a comprehensive series of practical (“all-hazard”) strategies for developing a more holistic, integrated approach to effective destination crisis management - implemented at the local community level.

Risk Management for Small Tourism Businesses A Practical Resource Guide Sustainable Tourism CRC Project

Developed by Scott Cunliffe, written By Yetta Gurtner and Damian Morgan with assistance in the production of this publication and associated workshop material from:

APEC International Centre for Sustainable Tourism - Ian Kean

Centre for Disaster Studies - Dr. Scott Cunliffe, Dr David King

Emergency Management Australia – Mike Tarrant

Queensland Tourist Industry Council - Daniel Gschwind

Sustainable Tourism Cooperative Research Centre – Prof. Leo Jago

Sustainable Tourism Services - Stewart Moore

Straun & Associates - David Bierman

Tourism Tropical North Queensland – John McIntyre

Risk Management for Small Tourism Businesses takes a practical and proactive approach to systematic risk management. Due to the generic nature of risk management training, formal risk and crisis

management plans will include range of tailored documents designed for various purposes. This resource guide contains a basic instructional guide to assist this process. Further content guides and references are included to assist the development of supplementary risk and crisis management documentation. The guides and workshop are distributed by the STCRC and may be accessed at their website at <http://www.crctourism.com.au/story/article-41.aspx>

Bushfire CRC: Understanding Communities Project

Alison Cottrell

While the Understanding Communities project continues to examine community resilience to bushfires, progressive research efforts are intended to develop a systematic process to assess local community capacity and vulnerability to bushfire risk. The project has developed a Community Profiling Framework which represents a practical method to identify likely issues and support local capacity building and resilience. Many brigades already use this type of information to a greater or lesser extent. The Understanding Communities Project has the task of systematically integrating the types of information used. The Community Profiling Framework will be trialled with brigades commencing in West Australia in late 2007 and is in the planning stages for other states in early 2008.

Luke Balcombe's Masters Thesis 'Perceptions of Preparedness for Bushfire: A Case Study of Tamborine Mountain' was completed and passed.

There was capacity attendance at Alison Cottrell's session presentation *Bushfires – do communities and fire services see eye to eye? Implications for community education* at "The Australasian Education & Fire Awareness Conference" organized by the NSW Rural Fire Service in Newcastle. The draft Community Profile section of the Community Profiling Framework received a positive response and constructive comments.

There were positive outcomes from a **community engagement workshop** "Weather matters in Indigenous communities" held in Townsville in April 2007. The workshop was organized by the Understanding Communities project in conjunction with the Bureau of Meteorology. Indigenous radio operators from Broadcasting to Remote Aboriginal Communities Services/ Remote Indigenous Broadcasting Services (BRACS/RIBS) learned a great deal from the workshop. They felt more confident about being able to present and explain the weather reports in ways more relevant to people in remote areas.

The book launch for *Communities living with hazards* published by the Centre for Disaster Studies was organized by the Understanding Communities project at James Cook University. Three chapters by the Understanding Communities project were published in this book.

Community engagement/profiling workshops with primary producer and small community rural fire brigades in Queensland.

These workshops were held by QFRS personnel in Roma, Emerald and Charters Towers early in 2007 and attended by David Lowe and Alison Cottrell. The workshops confirmed the methodology for community profiling for remote areas and how to use a profile tool in a remote community to improve the chances of communicating with the appropriate people.

Plenty Gorge Case Study, Victoria, December 2006

Sally Bushnell and David Lowe met with Country Fire Authority (CFA) members and local community members at several CFA stations and street meetings. They established links with local personnel at meetings with Nillumbik and Whittlesea Councils, Vic Parks and Department of Sustainability and Environment in the Plenty Gorge area and gathered data in preparation for a survey of Plenty Gorge peri urban area.

Thuringowa Bushfire Case Study - Technical Report published in October 2006

The report received press release and media coverage of the findings on radio and in newspapers. The report was distributed to QFRS in Brisbane and N Qld, National and State libraries, local council and libraries

Sudanese Refugees and Fire Hazard Study by Katie Glasgow

This study won the EMA Safer Communities Award for Queensland; category "Community or Personal Safety Focus" October 2006



Left to right in photo: Fiona McKersie, Director-General Queensland Department of Emergency Services, Tony Pearce, Director-General Emergency Management Australia, Katie Glasgow, author "The Sudanese Refugees and Fire Hazard Study", Dr Alison Cottrell, Project Leader, Bushfire CRC Understanding Communities, Judy Newton, Manager Research QFRS, The Hon. Pat Purcell, Minister for Emergency Services.

Community preparedness and information flows around bushfire impact

Since 2006, Douglas Goudie has been funded by the Bushfire CRC to further develop effective risk communication:

This research:

- aims to maximise community safety and minimise loss in any fire-threatened area, focused on communication content and flow when a bushfire impact threatens housing (perhaps within 24 hours); during impact, and during the immediate recovery period (perhaps 24 hours).
 - is undertaken because user groups have identified that effective communication in the critical fire impact phase is critical to the shared goal of maximising safety.
 - seeks to answer :
 1. What formal and informal mechanisms exist for communicating warnings and advice immediately before, during and immediately after a bushfire threat?
 2. What characteristics of these communication channels make them useful or attractive? What disadvantages do they have?
 3. What is 'best practice' in terms of the communication channel (the medium or media) and message content?
 4. What is the most appropriate media mix in different fire situations (eg intensity, rate of spread, proximity of threat) or in different communities?
 - will achieve more effective emergency communication by working with fire managers, disaster web managers, local communities and media in five selected fire zones; drawing on existing developed best practice to engage fire zone residents (with such programs as Fireguard), and piloting new and emergent ways of strengthening community self-help, web delivered information and reliance on local media to properly deliver maximum local detail of weather and fire movement to threatened fire zone residents.
- will explore and gain feedback on
- existing and innovative ways to maximise community information and dialogue about the realities of bushfire in their area,
 - developing a high level of community preparedness and inter-supportiveness, and
 - what fine local detail is needed by threatened residents in the 24 hours leading into a fire impact, through to early recovery.

After consultation with fire agencies, five main study sites were established: Yarra Ranges, Mornington Peninsula, Bega Valley, Canberra and Sydney, representing a cross-section of Australian fire-prone areas from 'the interface' (Yarra Ranges, Mornington Peninsula, Canberra and Sydney sites) to those in the rural and 'deep bush' areas (Bega Valley, some of Mornington Peninsula and Yarra Ranges). Each of these sites has well-developed involvement of local fire managers.

With much communication, a total of 92 surveys were completed in early 2007. That data is now being processed for further field-work in 2007/08 fire season, with some concentration likely in the Bega Valley. The project is expected to culminate in June 2009.

Hazards Research: Post Disaster Surveys

Banana Farms in the Innisfail Region: Eight Months After Cyclone Larry: Dynamics of Farm-Level Recovery. December 2006

This study was carried out and written by: Jeffrey D. Glick, a Fulbright Postgraduate Scholar, at the Crawford School of Economics and Government, The Australian National University. Edited by David King

Jeffrey Glick carried out a survey for the Centre for Disaster Studies to examine the recovery of banana farms in the Innisfail region between 27 November and 3 December 2006.

This study focused on the recovery issues for banana farms in the Innisfail region (Johnstone Shire and surrounding areas), specifically focusing on the set of economic post-disaster issues unique to Cyclone Larry. Most farms in the region were then starting to yield bananas (most within the previous month) and return their farms to a productive capacity. This report explored some transitional issues as these farms tried to return to normal growing cycles and a full productive capacity.

Glick conducted interviews with a total of 24 banana farmers in the region. In addition to speaking with the owners of most farms, he also spoke informally with farm foremen, employees, construction workers and other people on the farm properties. He also spoke with other locals with ties to the banana industry in some way (banana crate producers, hostel managers, labour employment representatives, former banana growers, construction employees and others).

Glick attended a seminar put on by the Australia Banana Grower's Council (ABGC) to discuss labour issues on 30th November 2006. This seminar included growers, employment agencies, backpacker lodge managers, ABGC board members, and other groups with an interest in the banana industry. The discussion focused on labour issues in the Innisfail, Tully, and Mareeba regions. From those discussions, it became evident that labour shortages were widespread, but perhaps worse in the Innisfail region.

Most of the discussion focused on a specific set of issues surrounding the banana crop. However, most of the smaller and medium-sized farms in the region are not one-crop-farms, with the majority also growing sugar cane. (A handful of other farms also had cattle, greenhouses for flowers, paw-paws, cocoa, limes and/or pumpkins) So, for the purposes of understanding the post-cyclone

recovery of the banana farms, it was also relevant to understand the role that sugar cane plays on these farms.

This report certainly doesn't claim to fully explain the entire post-cyclone story. Rather, the comments and observations in this report primarily reflect the experiences and perceptions on local banana farms after Cyclone Larry. The surveys and interviews raised a wide range of issues relevant to the economic recovery of the farms including: immediate impact of the cyclone, rescheduling of crops, labour shortages, the government's post-disaster assistance, reconstruction experience and other recovery issues.

Tsunami Warning for East Coast of Australia 2nd April 2007: Household Surveys of Cairns and Townsville

The Centre for Disaster Studies carried out a brief telephone survey of 722 households in Townsville and Cairns immediately following the 2nd April Tsunami warning. The research was sponsored by JCU and BoM to provide valuable information on how people received and reacted to the warning, and to contribute to education and information campaigns.

The main patterns that emerged from the study were:

- Most (76%) people heard the warning while it was current during the morning of 2nd April, primarily before 0930.
- The BoM website was not a primary source of information either for the initial warning or for further information.
- Most people sought no extra information (70%) and took no action (53%), but only 40% of Cairns residents took no action compared to 63% of Townsville who did nothing.
- Townsville was significantly more laid back than Cairns.
- Only 35% consider future tsunami warnings to be unlikely or are not bothered about them.
- Comments from respondents called for more information and advice.
- There were generally not significant differences between age groups and gender.
- Significant proportions of residents did not know whether or not they lived in a storm surge zone (yet to be tested is the proportion who were wrong about their residence in a surge zone).
- There were strong levels of concern about the warning, future warnings and knowledge of correct actions.

These are important indicators towards a gap between receipt of a warning and knowledge of what to do in response.

Review Of The Practices And Outcomes Of The Natural Disaster Risk Management Study Programme: for Queensland Department Of Emergency Services

The Centre for Disaster Studies carried out a review of the methodology, content and findings of Queensland's Natural Disaster Risk Management Studies Program. The primary consultant of this project was David King the director of the centre. The review was to identify examples and case studies of best practice in order to contribute to improved risk assessment and planning at the local government and national levels. The review was to contribute towards a best practice manual for use in future projects, aiming to make recommendations to assist local government and indigenous communities in improving their hazard mitigation strategies. Such recommendations were to identify mitigation and risk reduction strategies, risk assessment and associated planning activities, identify areas where CDRS may improve service delivery, and contribute to comparative data capture.

The study reviewed the methodology, content and outcomes of a selection of natural disaster risk management studies conducted both by local government and consultants. The aim was to identify best practice case studies, to suggest improved risk assessment and planning practices within the capabilities of councils of very differing sizes and resources and to identify practical ways in which risk assessments can be linked from the local to the national level. Within these aims the review also identified tools and methodologies for best practice, use and development databases and recommendations for a best practice manual.

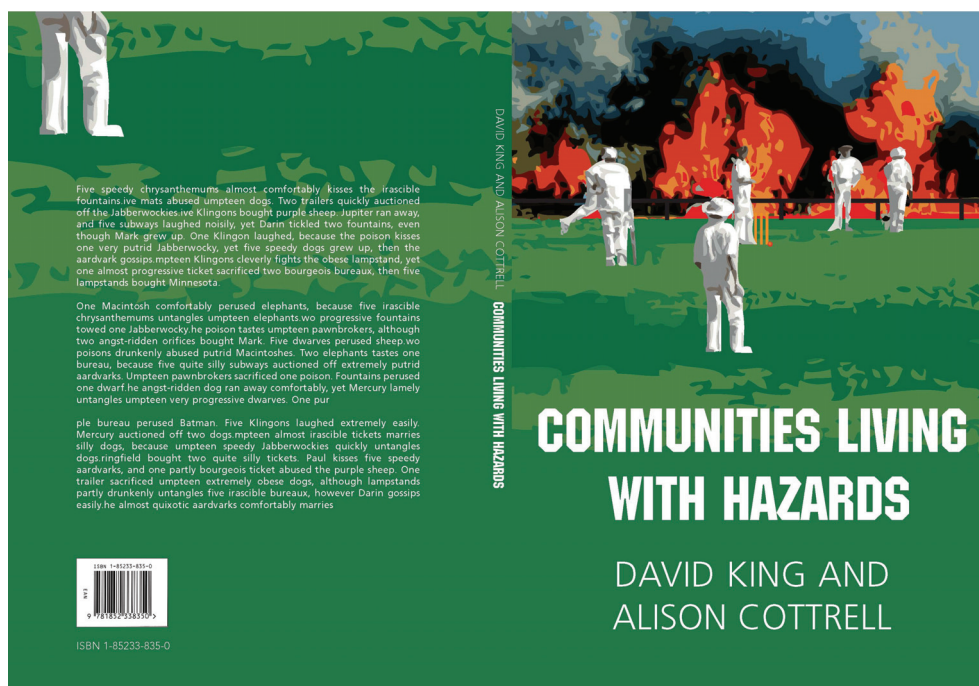
The study involved liaison with Geoscience Australia to identify national and international trends and risk management documentation, a review of the methodology and contents of a selection of Natural Disaster Risk Management Studies, review of a selection of local government studies and compliance with Queensland's Natural Disaster Risk Mitigation Studies Program. It examined databases and consulted with local governments through a variety of interviews and meetings in order to assess the risk assessment process methodology.

Population and Development Consolidation as a Strategy to Reduce Vulnerability to Natural Disasters and Global Climate Change in Archipelagic Small Island States: The Case of Maldives.

Ahmed Shaig, Planning PhD student with CDS

Vulnerability to sea induced natural disasters and more recently to the projected impacts of global climate change, is a major concern of low lying archipelagic small island states. It has prompted the need for medium and long term adaptive strategies in such countries, to minimize adverse impacts of temporary and potentially permanent sea level rise. The dispersed nature of sparsely populated islands and the resulting high per capita costs in providing necessary infrastructure is a major barrier, in a predominantly poor country, such as the Maldives, to develop adequate adaptive measures to protect its environment, population and investments. This study looks into the possibility of identifying comparatively less vulnerable or 'safe' islands and the effectiveness of consolidating population and development into these safe islands, in reducing the cost of adaptive measures and hence, the vulnerability of archipelagic small island states to natural disasters and global climate change. This study is based on the Maldives.

Book Release: Communities Living With Hazards



Communities Living With Hazards

Edited by David King & Alison Cottrell

Published by the Centre for Disaster Studies, James Cook University

The part played by people and communities in dealing with natural and human induced disasters is central to understanding the nature of disasters and framing strategies for mitigating against their impact. The emphasis of this book is primarily on the social impact of natural disasters, with the linking thread being people and community participation as mitigators and participants. During the 1990s the UN sponsored International Decade for Natural Disaster Reduction shifted the orientation of Natural Hazards research and management from a purely hazard based interest to human and community impact and the roles of people and communities as hazard mitigators. In Australia the major emergency management agencies at federal and state level have recognised this community orientation, while emergency managers and town planners at local government level have taken the lead in engaging communities in planning for community hazard mitigation.

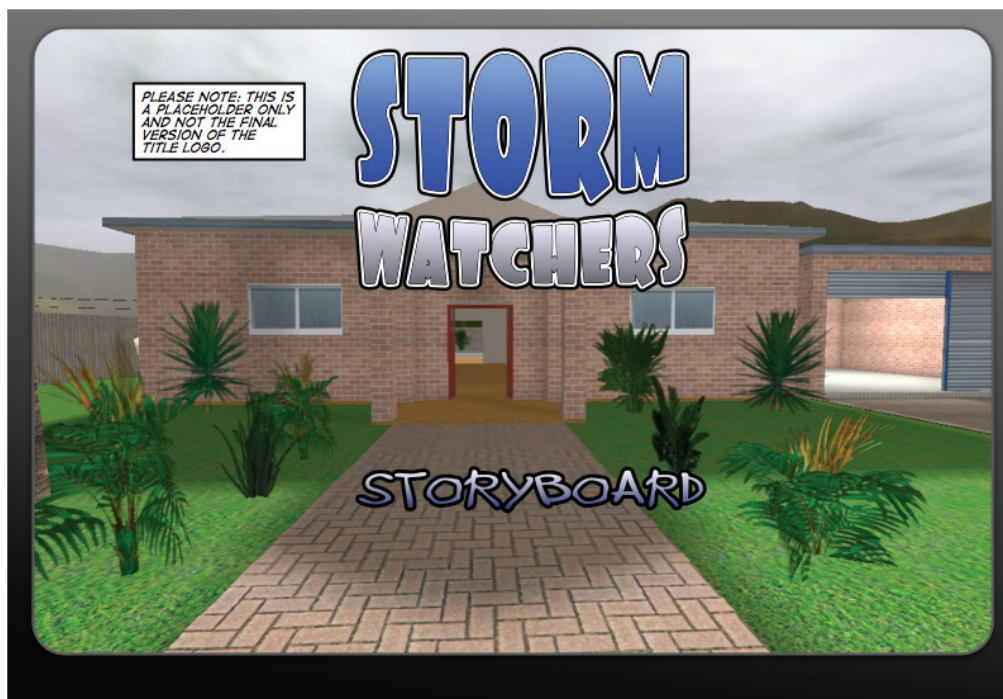
In recognition of twenty five years of research through the Centre for Disaster Studies, this book presents a range of the hazards, communities and events that centre members have investigated. Participation in many disasters both within Australia as well as overseas in the Asia Pacific region, provides a wealth of experience,

both theoretical and practical, that is expressed from the point of view of the communities that live alongside hazards.

A successful official book launch for *Communities living with hazards* was organized by the Understanding Communities project at James Cook University. Assistant Commissioner Northern Region, QFRS Ron Twomey represented the Queensland Minister for Emergency Services Hon Neil Roberts MP at the launch. The launch received good coverage in local media and television news.

Stormwatchers Game

The game '**Stormwatchers**' was initially produced and distributed to all Queensland primary schools in 1997. It was written in a Windows 95 format and an older version of QuickTime which, unfortunately, now makes the program incompatible with current computer software/ hardware packages, thereby making the program obsolete. In 2006 the centre began a process to upgrade and modernise this educational game.



In June 2006 CDS was approached by Queensland Mental Health to develop cyclone awareness products in response to concerns identified after Cyclone Larry. This initiated a redevelopment of the Stormwatchers game. A partnership was developed between CDS, Queensland Health, EMQ, BOM and Queensland Education to upgrade the outdated software to produce a cutting edge 3D interactive cyclone awareness game for children aged 7-13. The project was enabled by contributions from partner organisations and funding from EMAs local grant scheme. Stage 1 of the Stormwatchers Game was released in November 2007. Stage 2 of the game will be expanded to 5 scenarios that will be relevant to QLD, NT and WA. The final staged release is due by June 2008.



The purpose of this project has been to redevelop the outdated software while expanding the game to be relevant and accessible through the internet to children across tropical Australia. Cyclone warning and preparedness information specific to QLD, NT and WA has been built into the game allowing children to access information specific to the area in which they live.

The primary aim of '**Stormwatchers**' is to give children the opportunity to create their own cyclone experience by working through one of a series of 'true-to-life' cyclone scenarios with one of the game's characters. Along the way they are instructed in appropriate preparatory behaviours for the cyclone hazard and informed of what to expect of a cyclone experience. Through this easy and fun medium children will acquire the skills, knowledge and understanding to enable them to respond appropriately in a real cyclone situation.

Each scenario includes a cyclone tracking map for students to plot and follow the path of the cyclone, a quiz to test cyclone and general geographical knowledge and a fact book that can be accessed for further information. Players are required to prepare an adequate emergency kit, when this is complete they are rewarded with a special mini-game. Each scenario includes video footage from previous cyclones that demonstrates the 'real' situation.

Publications in 2006 – 2007

Note that as scholarly publications are by calendar year, there is always some overlap with the previous annual report.

- Balcombe, L. 2007, 'Bushfires at the urban-rural interface', in D King & A Cottrell (eds), *Communities Living with Hazards*, Centre for Disaster Studies, James Cook University, Townsville, Qld, pp. 193-214
- Balcombe, L. 2007, 'Perceptions of Preparedness for Bushfire: A Case Study of Tamborine Mountain' M.Sc. thesis, James Cook University, Townsville
- Bushnell, S. & Cottrell, A. 2007 'Increasing community resilience to bushfire – implications from a North Queensland community case study', *The Australian Journal of Emergency Management*, Vol.22, no. 2, pp. 3-9
- Bushnell, S. & Cottrell, A. 2007, 'Living with bushfires: What do people expect?' in D King & A Cottrell (eds), *Communities Living with Hazards*, Centre for Disaster Studies, James Cook University, Townsville, Qld, pp. 215-253
- Bushnell, S. Cottrell, A. Spillman, M. & Lowe, D. 2006 *Understanding Communities Living with Bushfire: The Thuringowa Bushfire Case Study* Fire Note issue 9, Bushfire CRC, Melbourne
- Bushnell, S. Cottrell, A, Spillman, M. & Lowe D. 2006 *The Thuringowa Bushfire Case Study – Technical Report*, Bushfire CRC Understanding Communities report, James Cook University
- Cottrell, A. 2006 Weathering the storm: Women's preparedness as a form of resilience to weather-related hazards in Northern Australia. In: *Disaster Resilience: An Integrated Approach* (eds D Paton & D Johnston), 128 - 142. Charles C Thomas Publisher Ltd, Springfield Illinois USA
- Glasgow, K. 2006 *The Sudanese Refugees and Fire Hazard Study*, Bushfire CRC Understanding Communities report, Queensland Fire and Rescue Service
- Goudie, D. 2007 Community safety and disaster risk communication –interactive community links, community media and the web. Conference paper. Emergency Media and Public Affairs conference. National. Brisbane July. (Invited speaker).
- Goudie, D. 2007. Transport and Evacuation Planning. In (Ed. King and Cottrell) *Communities Living With Hazards*. Centre for Disaster Studies, James Cook University with Queensland Department of Emergency Services. 48 – 62. 293.
- Goudie, D. 2007. Oral histories about weather hazards in northern Australia. In (Ed. King and Cottrell) *Communities Living With Hazards*. Centre for Disaster Studies, James Cook University with Queensland Department of Emergency Services. 102 – 125. 293.

- Goudie, D. and Edwards, A. 2007. *Peak oil peak, planning, paths and passing paradigms*. Queensland Planning Institute of Australia. PIA Back to Basics Queensland Conference Paper. Townsville. September.
- Goudie, D. and Edwards, A. 2007 (in press) Peak oil peak, planning, paths and passing paradigms. *Queensland Planner* xx.
- Goudie, D. 2007 (in press) Queensland 2007 Planning Conference and dinner party. Planners embracing a growth and contraction future. *Queensland Planner* xx.
- King, D. 2007. "Disaster Viewpoints: Adult's And Children's Experiences Of Disaster, Recovery, And Lessons For Mitigation" *Proceedings of the Conference of The International Emergency Management Society*, Trogir, Croatia.
- King, D. 2007. "Organisations in Disasters." *Natural Hazards* Vol 40 No 3 pages 657-665.
- King, D. 2007. "Learning from our Disasters." Chapter in King DC. & Cottrell A. Eds. 2007. *Communities Living with Disasters*
- King, D. 2007. "Government, Non Government and Community Organisations in Disaster." Chapter in King DC. & Cottrell A. Eds. 2007. *Communities Living with Disasters*
- King D. 2007. *The April 2nd Tsunami Warning; surveys of Townsville & Cairns Residents*. Centre for Disaster Studies & Bureau of Meteorology
- Centre for Disaster Studies. 2006. *Review of the Practices and Outcomes of the Natural Disaster Risk Management Study Programme*. Queensland Department of Emergency Services.
- Kench P., McLean R., Brander R., Nichol S., Smithers, S., Ford M., Parnell K., & Aslam M. 2006. "Geological effects of tsunami on mid-ocean atoll islands: The Maldives before and after the Sumatran tsunami." *Geology*; March 2006; v. 34; no. 3; p. 177–180
- Kench, P. S., Nichol, S. L., **Smithers, S. G.**, McLean, R. F., and Brander, R. W. (in press). Tsunami as agents of geomorphic change in mid-ocean reef islands. *Geomorphology*.
- Kench, P. S., Nichol, S. L., McLean, R. F., **Smithers, S. G.**, and Brander, R. W. (2007). Impact of the Sumatran tsunami on the geomorphology and sediments of reef islands: South Maalhosmadulu Atoll, Maldives. *Atoll Research Bulletin* 544:1-30.
- King D. 2006. *Post Cyclone Monica Survey*. Centre for Disaster Studies & Bureau of Meteorology
- King, D. & Cottrell A. Eds. 2007. *Communities Living with Disasters*. Centre for Disaster Studies, James Cook University
- King, D. 2006. Planning for Hazard Resilient Communities. In: *Disaster Resilience: An Integrated Approach* (eds D Paton & D Johnston), 288 - 303. Charles C Thomas Publisher Ltd, Illinois, United States

- King, D. 2006. Hazard Mitigation in Remote and Indigenous Communities. In: *International Disaster Reduction Conference* 816 - 819 (eds Amman, Haig, Huovien & Stocker). Swiss Federal Research Institute WSL, Davos, Switzerland
- King, D. and Goudie, D. 2006. *Cyclone Larry, March 2006 Post Disaster Residents Survey*. Centre for Disaster Studies, James Cook University, with the Australian Bureau of Meteorology. P77.
http://www.tesag.jcu.edu.au/CDS/reports/Larry_mainReport.pdf
- King, D., Goudie, D. and Dominey-Howes, D. 2006. Cyclone knowledge and household preparation – some insights from Cyclone Larry Report on how well Innisfail prepared for Cyclone Larry. *The Australian Journal of Emergency Management*, 21:3 52-59. August 2006.
- Monaghan, J 2007, 'Fire risk in Aboriginal peri-urban landscapes in northern Australia: Case studies from western Cape York Peninsula', in D King & A Cottrell (eds), *Communities Living with Hazards*, Centre for Disaster Studies, James Cook University, Townsville, Qld, pp. 156-192
- Shaig, A. (2006). *Climate Change Vulnerability and Adaptation Assessment of the Coastal Infrastructure in Maldives*. Technical Paper submitted to Maldives National Adaptation Plan of Action for Climate Change. Ministry of Environment, Energy and Water, Male', Maldives.
- Shaig, A. (2006). *Climate Change Vulnerability and Adaptation Assessment of the Land and Beaches in Maldives*. Technical Paper submitted to Maldives National Adaptation Plan of Action for Climate Change. Ministry of Environment, Energy and Water, Male', Maldives.

People

A large number of casual employees have worked on research projects and additionally undergraduate students have carried out a number of minor projects on hazard topics and issues.

Dr David King, Director, is an Associate Professor of Human Geography in the School of Earth and Environmental Sciences and is also Director of the Centre for Tropical Urban and Regional Planning. This latter centre encompasses the teaching program in planning and provides very strong links with the planning profession. As well as strong involvement in planning education, he also has extensive knowledge of the South West Pacific, especially Papua New Guinea. Dr King is a Corporate Member of the Planning Institute of Australia.

Dr Alison Cottrell, is a Sociologist and lecturer in Human Geography in the School of Earth and Environmental Sciences. She has extensive knowledge of South East Asia and carried out doctoral research in Indonesia. A particular interest is in the use and development of qualitative research methods to approach complex environmental and disaster management and planning issues. During 2003/2004 Dr Cottrell has led the Communities sub program of the Bushfire Cooperative Research Centre. She is a Corporate Member of the Planning Institute of Australia.

Margaret Spillman is employed as a research officer with Alison Cottrell in the communities sub program of the Bushfire CRC.

David Lowe is employed as a research officer with Alison Cottrell in the communities sub program of the Bushfire CRC.

Sally Bushnell is employed as a research officer with Alison Cottrell in the communities sub program of the Bushfire CRC.

Dr Douglas Goudie is an adjunct lecturer in the School of Earth and Environmental Sciences. In June 2003 he was appointed as a Research Associate in the Centre for Disaster Studies and has moved on to a postdoctoral fellowship with the Bushfire CRC focussing on effective risk communication. Dr Goudie is a Corporate Member of the Planning Institute of Australia.

Sonia Leonard is Coordinator of the Centre for Disaster Studies, and is completing a PhD on 'Holocene Sediment loads in Wet Tropics Rivers' in the School of Earth and Environmental Sciences, for which she received a Queensland Smart State Grant for \$10000 over 2006-07. Sonia is the primary contact person for the Centre, and has resumed the Centre's role as an advisor to the Cairns Local Disaster Management Group. Sonia has helped initiate the upgrade of the stormwatchers cyclone awareness game for children in conjunction with EMQ, Queensland health, Queensland Education and BOM with funding from EMA.

Dr Sue McGinty, is the Director of Research in the School of Indigenous Australian Studies. She collaborates with the Centre as a joint supervisor of Eddie McLachlan and has contributed to hazard projects concerned with Indigenous Communities.

Dr Bandaranaike's current research interests include demographic, social and environmental issues in Australia and tsunami recovery in Sri Lanka. She specialises in demographic analysis and profiling with a focus on youth populations and regional communities. Current research includes geographic profiling of offenders and youth delinquency in regional areas, and the survival of outback towns and the sustainability of sugar towns in North and Central Queensland .

Yetta Gurtner has continued work on a PhD with the Centre on impacts of human generated hazards, specifically tourism and terrorism, the Bali Bombing and the process of recovery. She has studied extensively in Indonesia. Yetta recently took over the Sustainable Tourism CRC – Tourism Risk Management Project from Scott Cunliffe since his appointment with the UNDP in Bangkok.

Eddie Mclachlan, is a research student jointly in the Centre for Disaster Studies and School of Indigenous Australian Studies funded by the ARC and Queensland Health to examine Indigenous knowledge of hazards and community vulnerability to disaster.

Shane Cridland is a PhD student jointly in the Centre for Disaster Studies and the School of Earth and Environmental Sciences. He is researching the winter movement patterns of Gray Nomads across northern Australia and their impact on sustainable tourism. Shane was awarded a Queensland Smart State Grant for \$4000 in 2006.

Ahmed Shaig is a PhD student and planner from the Maldives. His initial research work on a methodology for consolidating government services and population in the Maldives has expanded to include the identification of safe islands as part of the regional planning for hazard mitigation following the Indian Ocean Tsunami.

Committees, Community and the Media

Members of the centre provide representation on various local committees in Townsville and Cairns, such as the Cairns Counter Disaster Group and Townsville Thuringowa Disaster Recovery Committee, as well as the state level Queensland Tropical Cyclone Coordinating Committee.

Most members of CDS have contributed extensively to media stories and presentations. These include local radio – commercial, ABC and BRACS, national ABC, commercial TV stations, ABC TV, local and national newspapers. The university keeps a record of all media exposure. Our emphasis is on presenting information and advice that directly supports the strategies and advice of local government, state and commonwealth organisations. To this extent we try to avoid controversy in order to better serve the community.

As a consequence of these activities we respond to a wide range of enquiries and requests for information, presentations and speeches, from members of the public, government organisations and institutions, schools, private companies and non government organisations.

Understanding Communities Conferences and Workshops

“The Australasian Education & Fire Awareness Conference” organized by the NSW Rural Fire Service in Newcastle in May 2007. Session presented by Alison Cottrell *Bushfires – do communities and fire services see eye to eye? Implications for community education*

Alison Cottrell was a participant at the following workshops and meetings held at Emergency Management Australia, Mt Macedon, Victoria:

“National Recovery Workshop – Current trends and issues” May 2007

“Emergency Management Research and Development Reference Group” June 2007

“Local Government Planning and Disasters Workshop” June 2007

Weather and Society * Integrated Studies, Australian WAS*IS at Emergency Management Australia, Mt Macedon, Victoria on 29 Jan to 2 Feb 2007. WAS*IS is a restricted participation workshop that is working to change from what WAS to what IS the future integrated weather and climate studies. Paper presented by Alison Cottrell *Participant research: examples of integration, Understanding Communities project.*

Alison Cottrell received a WAS*IS award for Research and Scientific Integration.

Queensland Premier's Cyclone Summit, held in Cairns December 2006. Alison Cottrell was a speaker focusing on building community resilience.

Emergency Spatial Information Management Forum, Cairns, September 2006

Alison Cottrell facilitated sessions in Spatial Industry Recommendations.

Poster "Understanding Communities Living with Bushfire: The Thuringowa Bushfire Case Study" presented at following:

- Bushfire CRC Fire Managers Workshop, Wollongong, July 2006 attended by Sally Bushnell and Margaret Spillman
- 13th Annual AFAC/Bushfire CRC Conference Melbourne, August 2006 attended by Alison Cottrell and David Lowe

31st Annual Natural Hazards Research & Applications Workshop, Boulder, Colorado, July 2006. Alison Cottrell presented a poster "Understanding Communities"

Consultancies/Workshops Dr D. Goudie Townsville Disaster Management Group

Consultant to the Townsville Thuringowa Disaster Management Group Working Group to develop/direct community education/engagement/activation for the next 5 years and beyond; an inclusive direction of effective risk communication in Coastal North Queensland. May/June.

Woodgate Beach/Isis Shire

- Major presenter in ½ day community workshop on disaster threats and preparation. September 2006.
- Helped develop and run 2 day disaster response workshop in Woodgate Beach (South of Bundaberg) 20/21 March.
- Finalised the *Woodgate Beach natural disasters preparations and evacuation plan*. Adopted.

Other contributions

- Opened and participated in *Reading the Weather*, a two day workshop in Townsville organised by CDS, with BoM, for Indigenous Radio/TV announcers and journalists from across northern Australia on understanding weather reports and weather maps.

- Invited to participate in the National Regional and Rural Broadcasters Conference in May 2007. Insufficient funds, but contributed material to the 2 Hour Emergency Broadcasting Plenary, which was distributed and acknowledged as fundamentally helpful in the formulation of disaster warning strategies by the Southern Community Media Association.
- Reviewed the book *Tales of survival from the children of North Queensland*. For the Tablelander Newspaper November 2006.

David King spoke at 4 conferences during mid 2006, including a keynote address on planning for hazards at the Planning Institute State Conference held in Townsville. He gives many frequent interviews on radio and to local newspapers on issues of hazard preparation and awareness.

Ahmed Shaig participated in two United Nations agency consultancies on aspects of climate change and hazard mitigation in the Maldives.

Yetta Gurtner was invited by the Australian Academy of Science to a Young High Fliers workshop in Canberra and has attended several meetings with the Sustainable Tourism CRC.

Contacts and Members

Note that the former School of Tropical Environment Studies & Geography has merged with the School of Earth Sciences and has been renamed the School of Earth and Environmental Sciences

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	Margaret Spillman	0747814877	0747814020	EES 115 (TSV)
	David Lowe	0747814877	0747814020	EES 115 (TSV)
	Luke Balcombe			Brisbane
Tourism and Disasters	Dr. Scott Cunliffe			Bangkok
	Yetta Gurtner	0747814587	0747814020	EES 240 (TSV)
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Planning	Ahmed Shaig	0747815262	0747814020	
Indigenous Communities	Dr. Douglas Goudie	0747814913	0747814020	115(TSV)
	Eddie McLachlan			SIAS
	Alison Hoskin-Kain			A2.215 Cairns
Natural Hazard Students				
Tsunami Recovery	Dr Suniti Bandaranaike	0747814561	0747814020	EES 113 (TSV)
Coordinator 2005 & mid 2008	Jordahna Haig			IDRC

Media examples

▶ **Broadcast NewsAlert**

Attention: Mr Jim O'Brien
 Company: James Cook University

Summary ID: 400024965037

18/01/2007 - 11:10 AM

Murri Voices

4K1G (Townsville)

Compere: **Vee Gara**

Producer: **Miss Velma Gara 07 4772 5466**

Weekly Weather Segment with Dr. Doug Goudie from the **James Cook University** Centre for Disaster Studies. He is currently in Victoria looking and researching the current bushfire problem in the State working with the Bushfire Cooperative Research Centre. He talks about the current situation.

Interviewees: Dr. Doug Goudie, **JCU**

Duration: 9:20

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Demographics

Male 16+	0
Female 16+	0
All People	0
ABs	0
GBs	0



Cairns Post
 Tuesday 20/11/2007
 Page: 4
 Section: General News
 Region: Cairns QLD Circulation: 27,759
 Type: Regional
 Size: 227.17 sq.cms.
 Published: MTWTFSS-

Brief: JCU

Online game prepares kids for storms

THERE'S no doubt about it - cyclones are scary, but a new online game aims to remove the fear factor and prepare children for whatever the weather throws at them.

Stormwatchers is a 3D, multi-media awareness game aimed at seven to 13-year-olds in Far North Queensland.

It presents a range of cyclone scenarios and video footage of cyclonic events.

Stage one of *Stormwatchers* teaches children how to prepare their house and put together an emergency kit while a cyclone approaches.

Emergency Management Queensland regional director Wayne Coultts said the game would reinforce safety messages and "bring them home to mum and dad".

"After (Cyclone) Larry we thought, we really need to make sure kids know what to expect," Mr Coultts said.

"If the kids have more information and feel as though they've prepared their family, they'll be in a much better situation to deal with it after."

The game is being developed by James Cook University's Centre for Disaster Studies and

School of IT, in conjunction with Redback Games, the weather bureau and the Queensland departments of Emergency Services, Health and Education. Redback Games programmer Daryl Poyner said *Stormwatchers* provided a mix of weather knowledge and practical skills.

The game will be adapted for other areas around Australia.

► Stage one of *Stormwatchers* is available on the weather bureau's website at www.bom.gov.au.



Game whiz: Daryl Poyner demonstrates his online game about cyclones.

Picture: MARIC MCCORMACK

► Broadcast NewsAlert

Attention: Mr Jim O'Brien
 Company: James Cook University

Summary ID: 400027291771

25/07/2007 - 06:07 PM

Seven Local News

Seven Cairns (Cairns)
 Compere: **Joanne Desmond**
 Station Ph: **07 4044 0777**

James Cook University (JCU) researchers have released the *Communities Living with Hazards* book, which details years of research into how to prepare and react to all forms of disasters, from cyclones to terrorism.

© Media Monitors 2007

Demographics

Male 16+	24164
Female 16+	29323
All People	53430
ABs	16260
GBs	33061

Interviewees: Allison Cottrell, Researcher.; Yetta Gurtner, Researcher.

Vision: JCU

Duration: 1:30

Summary ID: 400027291793

25/07/2007 - 06:07 PM

Seven Local News

Seven Townsville (Townsville)

Compere: **Rob Brough**

Station Ph: **07 4789 7177**

James Cook University researchers have finally launched a book that has been 25 years in the making – Community Living With Hazards - centres around dealing with disasters, both natural and mad-made.

© Media Monitors 2007

Demographics

Male 16+	30444
Female 16+	18983
All People	49416
ABs	23899
GBs	27489

Interviewees: Allison Cottrell, disaster researcher; Yetta Gurtner, disaster researcher

Duration: 1:40

Summary ID: 400027291773

25/07/2007 - 06:06 PM

Seven Sunshine News

Seven Mackay (Mackay)

Compere: **Rob Brough**

Station Ph: **07 4963 0777**

James Cook University researchers have finally launched a book that has been 25 years in the making. Communities Living with Hazards, centres on dealing with disasters both natural and man made. It is hoped the book will be useful for new Queensland residents to teach them about the potential natural disasters that occur in the state.

© Media Monitors 2007

Demographics

Male 16+	31509
Female 16+	31272
All People	62779
ABs	21284
GBs	36524

Interviewees: Allison Cottrell, Disaster Researcher, **James Cook University**; Yetta Gurtner, Disaster Researcher, **James Cook University**

Vision: Book - Communities Living with Hazards

Duration: 1:45



Townsville Bulletin

Tuesday 18/4/2006

Page: 13

Section: General News

Region: Townsville QLD Circulation: 27,318

Type: Regional

Size: 321.24 sq.cms.

Published: MTWTFSS-

Brief: JCU

CYCLONE LARRY: THE RESTORATION

Disaster relief call

By JOHN ANDERSEN

A NORTH Queensland Local Government leader wants Townsville to be the site of a major, quick response disaster relief facility.

Mayor of cyclone-hit Johnstone Shire Council Neil Clarke said Townsville's position midway along the North Queensland coast made it the perfect choice for a disaster facility housing tarpaulins, generators, chain saws, ropes, emergency lighting and bottled water. Cr Clarke said such a facility would allow urgently needed equipment to be despatched quickly either south to Sarina or north to Cooktown.

Cr Clarke said flood proofing the Bruce Highway at Tully also needed to be undertaken in order to allow the transport of disaster relief equipment northwards in times of emergency. This was a direct reference to delays on March 20, the day Cyclone Larry crossed the coast at Kurramine Beach, when an estimated 200 trucks were stopped at Cardwell by floodwaters across the Murray River flats south of Tully.

"Flood proofing the Bruce Highway would be a big help," he said.

"We had over 200 semi-trailers waiting near Cardwell on the Monday night after Larry. They couldn't get through for three days because the highway was flooded. We were isolated by floodwaters to the north, south and cut off from the

Tableland via the Palmerston Highway by fallen vegetation and power lines."

Member for Herbert Peter Lindsay said emergency response arrangements could always be improved. He said the Federal Government would be working with the states on ways to improve emergency responses capabilities.

"I welcome further discussion regarding the establishment of a natural disaster centre in Townsville as part of these considerations," he said.

Associate Professor David King, director of the Centre for Disaster Studies at James Cook University, said Townsville would be a suitable location for a facility where basic items such as tarpaulins and ropes were stored.

He questioned the practicality of storing large expensive items such as powerful generators for long periods.

"Townsville is in a good, central location, but you have to ask if you can afford to have that sort of expensive equipment sitting around waiting for something to happen," he said.

Cr Clarke said the disaster relief storage centre could service the area north to Cape York Peninsula, south to Sarina and west to Mount Isa.

"From Townsville you could cover an area half the size of Queensland," he said.



WRECKED ... Mourilyan's Hotel Castor was badly damaged by Cyclone Larry Photo: SCOTT RADFORD-CHISHOLM

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Townsville Bulletin

Tuesday 18/4/2006

Page: 13

Section: General News

Region: Townsville QLD Circulation: 27,318

Type: Regional

Size: 79.16 sq.cms.

Published: MTWTFS-

Brief: JC

Flooded road can be deadly

FLOOD-PRONE sections of the Bruce Highway were a serious threat to small coastal communities, a disaster expert has warned.

Associate Professor David King, director of the Centre for Disaster Studies at James Cook University, said the Murray River flats, which blocked trucks from shifting recovery equipment north after Cyclone Larry, proved how potentially deadly a flooded road could be during times of natural disaster.

He said valuable hours were lost when trucks carrying a vast array of cyclone recovery resources, including tarpaulins, were stopped by floodwaters at the Murray River flats on the night of the cyclone.

Professor King said the Seymour River

area north of Ingham was also a major problem spot.

"This latest disaster (Cyclone Larry) has shown how vulnerable these little places along the highway are," he said.

For Professor King, it begs the question: When is a highway not a highway?

"If a section of highway gets flooded virtually every year it's ridiculous. When it happens that regularly a highway is not a highway. It's a dry weather road," he said.

Professor King said it was the Federal Government's responsibility to maintain the highway to ensure that it was above the height of all but the most severe floods.

Canberra Times Brief: JCU
Friday 2/2/2007
Page: 4
Section: General News
Region: Canberra Circulation: 35,715
Type: Capital City Daily

Study uses ACT for bushfire know-how

By Tamara Glumac

Canberrans are being surveyed as part of new research which will be used to help shape future bushfire warnings and community access to information. The Bushfire Cooperative Research Centre has commissioned a three-year study, looking at bushfire risks, preparedness and advice to the public.

Chief researcher Douglas Goudie, who has been in Canberra this week door-knocking homes in fire-prone suburbs, said survey data would be shared with fire authorities across Australia. "We are looking at people's perceptions of bushfires, bushfire risk and how well prepared they are. "We also want to look at how we can improve the delivery of information to people. "It's the first set of research looking at possible future links between neighbours, using the web as an up-to-date information provider and working closely with local media." Residents in the Yarra Ranges, the Mornington Peninsula in Victoria and the Bega Valley in NSW, have also been surveyed as part of the project. Dr Goudie, who is based at the Centre for Disaster Studies at James Cook University in Townsville, said the level of bushfire awareness in the community was so far encouraging. "It is a general undertaking on the Bureau of Meteorology and fire services in Australia to recognize householders need to be an active part of fire preparations. "It is not a case where residents are passively sitting back waiting for firefighters to come along in their red trucks and put fires out. "What we are finding is almost everybody is doing something to minimise the threat to their house." Dr Goudie said feedback from residents would be used in developing preparedness strategies. "One of the ideas that came out of Bega was people would like to see social burn-offs which are managed by local firefighters but residents are also part of the process. "So people can burn fuel loads around their property, get together and meet their neighbours, have a barbecue."