

Welcome to the latest of the research updates from the Joint Centre for Disaster Research. The centre opened in December 2006 and is a joint venture between Massey University and GNS Science within the School of Psychology, based at the Massey University campus in Wellington.

The centre undertakes multi-disciplinary applied teaching and research aimed at:

- gaining a better understanding of the impacts of natural, man-made, and environmental disasters on communities
- improving the way society manages risk
- enhancing community preparedness, response to and recovery from the consequences of natural, man-made and environmental hazard events.



The New Zealand ShakeOut coordinators are working with GNS Science to evaluate the campaign and associated activities. There are four strands to the GNS evaluation led by Sara McBride (above photo) and Julia Becker:

- schools survey including New Zealand ShakeOut and general preparedness
- online statistics – summary of the New Zealand ShakeOut web statistics
- observer forms – a phenomenal number were returned by fax, email, post and online
- longitudinal project around the six month mark – looking at retention of information.

Visit our updated website: <http://disasters.massey.ac.nz/>

News from the JCDR Team



Dr Christine (Cassie) Kenney (photo left) has joined us as visiting Senior Research Fellow. She is currently a Research Fellow in the Faculty of Computing, Health and Science at Edith Cowan University Perth. Cassie is of Ngāti Toarangatira, Te Ātiawa and Ngāi Tahu descent and her work focuses in the area of ethnicity and disaster. Her current research examines the impact of disasters on, and responses of indigenous peoples.

Abdur Rehman (photo right) has successfully completed all requirements for his doctoral degree. His thesis is entitled “Exploring the role of the mosque in dealing with disasters: A case study of the 2005 earthquake in Pakistan”. He has returned to Pakistan to resume his position as an Assistant Director in the National Accountability Bureau (NAB) in the Federal Government of Pakistan. The National Accountability Bureau is Pakistan's apex anti-corruption organisation, responsible for elimination of corruption through a holistic approach of awareness, prevention and enforcement.



Yasir Javed (photo left) successfully completed his doctoral degree in October. His thesis is entitled “Design, Implementation and Evaluation of Web-based Integrated Incident Resource Management System for decision support in Emergency Operation Centres”. Yasir has returned to Pakistan.

Teresa King has successfully completed a Masters thesis in disaster research (Supervisor: Dr Ruth Tarrant). Teresa's thesis was entitled “Children and Natural Disasters: An investigation of cognitions, knowledge and emotions in Wellington Year 5 students”. See more details on page 10.

Dr. Pamela McCauley Bush (photo right) is a Fulbright Scholar and will be visiting the JCDR in March 2013. Pamela is a tenured faculty member in the Department of Industrial Engineering and Management Systems at the University of Central Florida, where she leads the Human Factors in Disaster Management Research Team. Her research focus includes human factors in disaster management, evaluation and development of artificial intelligence models using fuzzy set theory, human factors model development, human factors in chemical and biological weapon development and the human impact in information security.

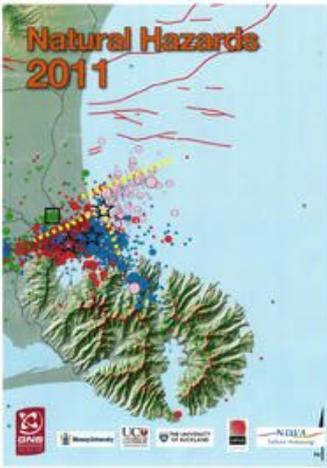


Sara McBride (see cover photo) has started her PhD in the JCDR and School of Communication, Journalism & Marketing. Her project is on “The Canterbury Tales: Learnings from the Canterbury Earthquake Sequence in New Zealand to design successful public education campaigns to increase community resilience for low risk and high impact areas in Washington State, United States of America”.



Karlene Tipler successfully met the requirements for PhD registration in August when she completed her Confirmation event. The working title of Karlene's study is “Emergency management in New Zealand schools: Implications for future preparedness and response activities”. (Karlene's supervisors are Dr Ruth Tarrant, Dr Miriam Hughes, and Prof David Johnston.)

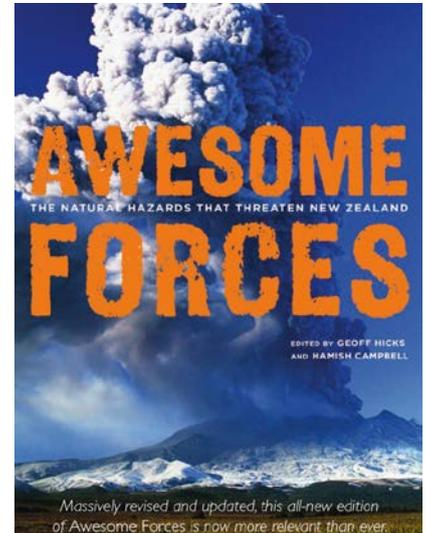
Dr. Raj Prasanna was welcomed to Massey with a Mihi Whakatu on 10th October. Read more about Raj on page 4.



2011 Annual Report is on the Platform website

The 2011 Annual Report is on the Natural Hazards Platform website.

<http://www.naturalhazards.org.nz/NHRP/Publications/Natural-Hazards-Annual-Report>



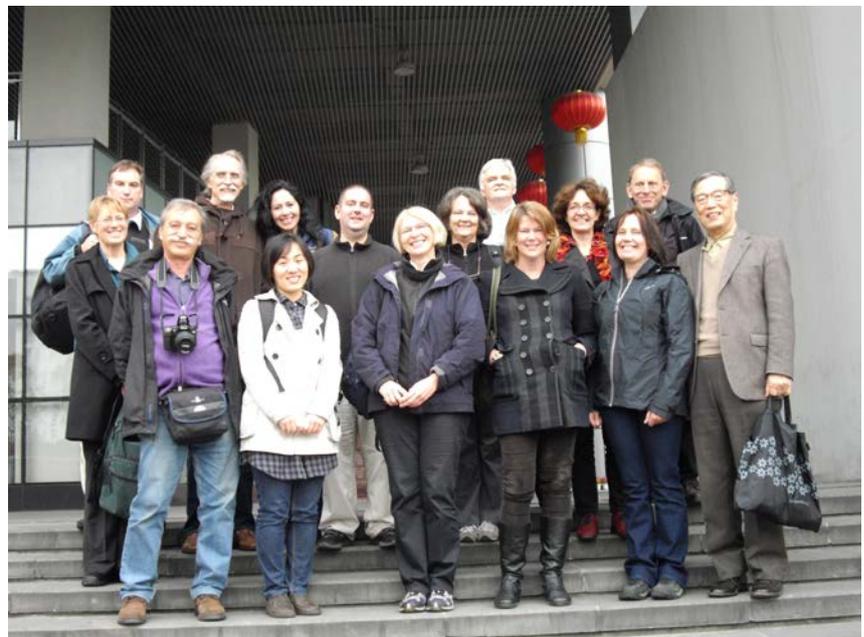
Te Papa launches – Awesome Forces: The Natural Hazards that Threaten New Zealand REVISED AND UPDATED EDITION

This revised addition contains a new chapter by Emma Doyle, David Johnston and Sarb Johal – “The human side of hazards: When nature and people collide”. The book was formally launched at Te Papa on 23rd October.

New Zealanders attend Scientific Committee of the Integrated Research on Disaster Risk (IRDR) in China

In November 2012 Jane Morgan (CERA), Sarah Beavan (University of Canterbury) and David Johnston attended the Science Committee meeting of the Integrated Research on Disaster Risk (IRDR), integrated research programme co-sponsored by the International Council for Science (ICSU), the International Social Science Council (ISSC), and the United Nations International Strategy for Disaster Reduction (UNISDR).

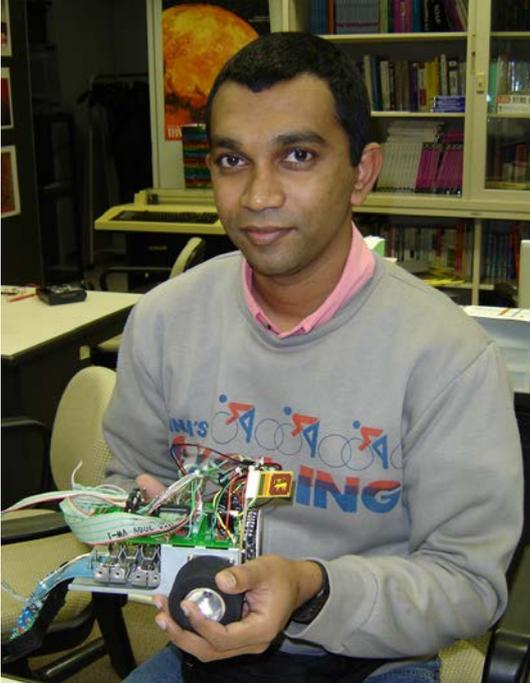
It is a global, multi-disciplinary approach to dealing with the challenges created by natural disasters, mitigating their impacts, and improving related policy-making mechanisms.



For more information visit <http://www.irdrinternational.org/>

Dr. Raj Prasanna – new lecturer in Emergency Management at Massey

Dr. Raj Prasanna graduated from the University of Moratuwa, Sri Lanka in 1995 in Electronics and Telecommunications. He obtained his MBA from the Postgraduate Institute of Management, University of Sri Jayewardenepura in 2000 and also obtained an MSc in Information Technology from University of Colombo in 2005. Raj was awarded the gold medal for best student by the Japanese International Corporation Agency (JICA). Raj is a Chartered Engineer in Information Technology.



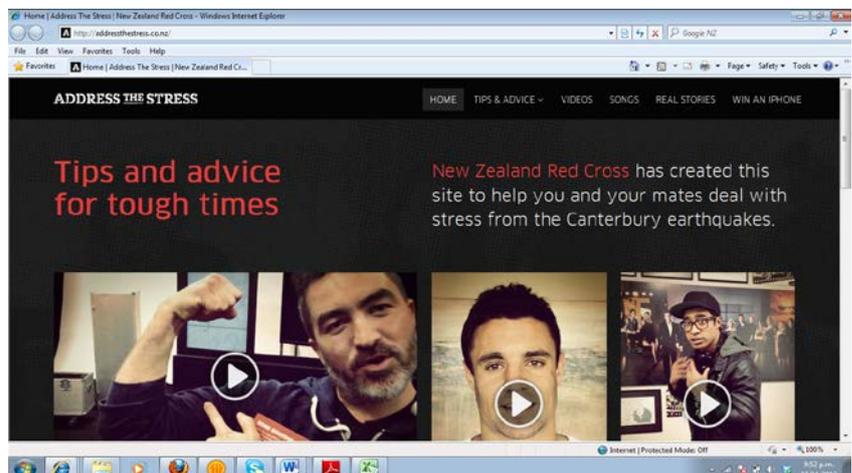
Raj pursued his doctoral studies at the University of Loughborough, UK and in 2010 obtained his PhD on the topic of Information Systems supporting Fire Emergency Response. He won a fully funded research doctoral scholarship from the Business School of Loughborough and the Safetynet consortium which is funded by the UK government. He also won the Prestigious Sri Lankan Presidential Scholarship in 2004 to earn a doctoral degree in a foreign country. His recent research findings related to emergency response are now being used by the Ministry of Civil Defence in the UK and the UK fire and rescue service, to develop information systems supporting fire emergency responses. Furthermore, his work is also appropriately adapted to conduct similar research in New Zealand and Norway. Raj's current research interests include Application of Internet of Things (IoT) for Disaster Management, Human Computer Interface supporting Emergencies and Cognitive Requirements Capturing Techniques for Emergencies.

Raj has served as a Senior Lecturer in the Department of Management of Technology, University of Moratuwa, Sri Lanka for more than eight years. He also served as a Visiting Academic of Loughborough University and as Visiting Lecturer of Sri Lankan affiliations of Massey University, Sheffield Hallam University, UK and RMIT University Australia. Raj's technical expertise in technology led him to win a scholarship awarded by JICA to design and develop Robots in Sapporo Electronics and Industries Cultivation Foundation, Hokkaido, Japan and participated in several robot competitions. Prior to his academic career, Raj worked in the industry for nearly nine years in different managerial and technical job roles, including a top managerial position in a Sri Lankan office of one of the fortune five hundred manufacturing companies. Raj is also a professional consultant in many IS/IT related projects in top business ventures in Sri Lanka and Europe.

New Zealand Red Cross – new website called “Address the Stress”

Over the last two months **Sarb Johal** has been helping the New Zealand Red Cross, who have just released a website called Address the Stress (<http://addressthestress.co.nz/>).

This is a site designed to help young people address the stresses and strains they may be experiencing after the earthquakes in Christchurch and the impact it has had on their lives and others around them. The site has sports people, musicians, actors, comedians, TV presenters and others from New Zealand giving tips on how they've dealt with stresses in their lives, and encourages visitors to try different things to help them cope with their own situations, and to help others.



Australasian Conference of Child Trauma on the Gold Coast, Australia – 4-6 July 2012

Dr Ruth Tarrant attended the Australasian Conference of Child Trauma on the Gold Coast, Australia, July 4-6, 2012. Ruth presented material from a study “A principal responds to a school tragedy” in the Natural Disasters and Educational Systems symposium. The study concerned the school principal’s leadership in the Elim Christian College canyoning tragedy, 2008. On 15 April 2008, six secondary school students (aged 16 years) and one teacher (aged 29 years) lost their lives in a river canyoning tragedy while at an outdoor education camp run by an independent provider. The objective of the symposium-presentation was to outline and discuss the school principal’s leadership of his Christian-based school on the night of the tragedy, and through the time since. The tragedy was discussed in terms of the leadership experiences of the school principal, Mr Murray Burton, from April 2008 to the present. Aspects of leadership discussed included: first steps; the role of the police and media; responses to family, students and staff grief; managing relationships; ongoing support for the families and school; tributes and memorials; responding according to the culture of the school; and looking ahead. It is anticipated findings of the study will benefit other principals faced with similar crisis’ in New Zealand schools.

6th Annual Australasian Hazard Management Conference – 21-24 August 2012

The Australasian Hazards Management Conference is run annually, alternating between locations in New Zealand and Australia. The conference provides a forum to discuss the integration of hazard information into effective risk management, including:

- applying hazard information to best practice planning
- developing effective warning systems
- improved response and recovery from events
- creating resilient communities through integrating science into practice.

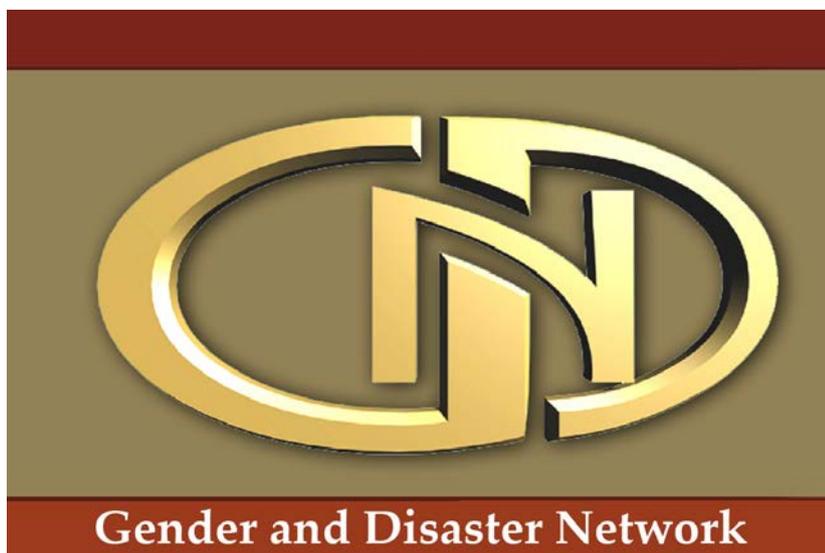
The 2012 Australasian Hazards Management Conference was held on 20-24 August 2012 at the University of Canterbury, Christchurch. The proceedings of the conference are now on the conference website.



<http://www.hazardseducation.org/conference/>

Gender and Disasters Workshop – 6th Annual Australasian Hazard Management Conference – 21 August 2012

The Gender and Disaster Workshop which took place as part of the workshop series at the 6th Annual Australasian Hazard Management Conference in August of this year sought to make more visible the need for consideration of gender within disaster and emergency management research and the CDEM environment. The workshop was convened by Miriam Hughes, Public Education Advisor, JCDR, and comprised four main presentations followed by a two hour workshop session. Workshop presenters and attendees came from far and wide including the UK, the Solomon Islands, the Cook Islands, Christchurch, Canada and the United States.



The presenters at the gender workshop included: **Suzy Paisley** from the Solomon Islands - “Making Women’s Voices Count: Integrating Gender Issues in Disaster Risk Management”, which detailed work being done within Solomon Island communities to promote resilience to the hazards faced by people within the region; **Kate Lawrence**, a researcher from Victoria Australia; **Rosemary du Plessis**, Associate Professor in Sociology at Canterbury University, along with her fellow researchers – Making Connections – “Women’s Lives, Women’s Voices”, a research project which records

women’s experiences of the Canterbury earthquakes, and **Teina Frank** who spoke informally about issues of gender, emergency management and resiliency in the Cook Islands.

Maureen Fordham, one of the Gender and Disaster Web Coordinators, from Northumbria University in the UK led the presenters with an overview discussion of gender and disaster management. The round table discussions which followed were vibrant and robust, and would have gone on for much longer had time allowed. The possibility of collaborative work was discussed by presenters and attendees and further discussions have been had since the workshop around furthering and promoting the Gender and Disaster Oceania Web Hub which has recently been set up and hosted by the JCDR.



For more information visit: <http://gdnonline.org/>

Rangitikei Path to Well-Being Conference 26 October 2012 at Rata, Rangitikei District

The Rangitikei District is a relatively large rural district with a small population. The council is working with other public agencies, service providers and community groups to provide better services at better value to ratepayers. The Partnership Board has been established and partners have worked on a range of projects to create a safe and caring community, improve health, develop a buoyant economy, conserve the natural environment, and improve education and community well-being.

On the 26th of October, the third Rangitikei Path to Well-Being Conference was held at Rata. A series of keynote presentations and workshops enabled participants to explore ways of dealing with the issues of youth; community cohesion and resilience; volunteerism in crisis; Results-Based Accountability frameworks; and transport.

Yvonne Godfrey – business woman, international speaker and author – outlined principles and practices for empowering the next generation to lead. She convened a workshop on what might be done to unlock the potential of the young people in Rangitikei.

John Hartnell – the ‘General of the Farmy Army’ – described how the Farmy Army harnessed the potential of volunteerism at a time of crisis in Canterbury, and led a workshop on how to improve the resilience of rural communities.

Bruce Glavovic – Associate Director of the JCDR – highlighted key considerations in building community cohesion and resilience, based on experiences in post-Katrina New Orleans and recent experiences in Canterbury, and facilitated a workshop on key opportunities and practical actions for building resilience in the Rangitikei.

Rod Watts – Chief Executive of Presbyterian Support Northern – presented the Results-Based Accountability framework he developed to measure and improve organisational performance and conducted a workshop to explore its application to the Rangitikei District.

Christine Cheyne – Massey University – and partners presented a workshop on the findings of a collaborative research project that surveyed current and future transport needs in the district and how to develop innovative transport solutions for the region.

Bruce Glavovic will be working with staff from the Rangitikei District Council to undertake a longitudinal study of community resilience in the Rangitikei District.



Towards a Theory of Disaster Recovery: A Special Issue of the International Journal of Mass Emergencies and Disasters, August 2012, Vol. 30, No. 2

This special issue presents a set of papers that framed a workshop on developing a framework for a theory of disaster recovery held at the University of North Carolina under the auspices of the Public Entity Risk Institute (PERI) in November 2010. The aim of the workshop was to deepen our understanding of disaster recovery, inform policy-makers and promote better recovery outcomes. Workshop participants developed a working definition of disaster recovery, identified variables relevant to different areas of recovery and formulated a research agenda to test and validate these variables (Reiss, 2012).

A paper by Bruce Glavovic and P Berke reviews research on ecosystem resilience and disasters and shows that extensive studies have shown how pre-disaster actions degrade ecosystem resilience and in so doing escalate risk to human communities. But little is known about how pre- and post-disaster recovery planning affects ecosystem resilience and how ecosystem resilience benefits people during recovery. The authors provide a critical review of existing research and identify gaps in knowledge about ecosystem resiliency, and vital pre-disaster planning and post-disaster adaptive actions that can protect and restore ecosystems. Future ecosystem resilience research relevant to the development of theory on disaster recovery includes the development of alternative interdisciplinary theoretical frameworks to better understand and prescribe effective ecosystem protection and restoration strategies; and decision-support tools for scenario building and testing to improve pre-disaster recovery plans.

Participants explored how to conduct and record the outcomes of disaster recovery research. It was agreed that there is a compelling need to undertake comparative and longitudinal disaster recovery research to see how recovery experiences compare in different regions and countries and how outcomes unfold over time.



References

- Reiss, C. 2012. *Introduction to the Special Issue on Disaster Recovery*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 120-122.
- Tierney K. & A. Oliver-Smith 2012. *Social Dimensions of Disaster Recovery*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 123-146.
- Smith, G. & T. Birkland 2012. *Building a Theory of Recovery: Institutional Dimensions*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 147-170.
- Chang, S. & A. Rose 2012. *Towards a Theory of Economic Recovery from Disasters*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 171-181.
- Berke P. & B.C. Glavovic 2012. *Ecosystems and Disaster Resiliency: Contributions to a Holistic Theory of Recovery*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 182-196.
- Alesch, D. & W. Siembieda 2012. *The Role of the Built Environment in the Recovery of Cities and Communities from Extreme Events*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, pp 197-211.
- Johnson & Hayashi *Synthesis Efforts in Disaster Recovery Research*, *International Journal of Mass Emergencies and Disasters*, Vol. 30, No. 2, 212-238.

Blue tsunami lines win international award

Wellington's 'blue lines' project – which aims to raise community awareness on how to evacuate from an approaching tsunami – has been recognised with an award from a global emergency-management group. The International Association for Emergency Managers announced yesterday that the Blue Lines Project has won both its Global and Oceania Public Awareness categories in its annual awards. The Washington DC-based association, with more than 5000 members in 58 countries, is a non-profit educational organisation dedicated to promoting the goals of saving lives and protecting property during emergencies and disasters.

The first tsunami-awareness blue lines were painted on roads in Island Bay in 2010 in a joint initiative involving the local community and the Wellington Emergency Management Office (which has now amalgamated into the larger Wellington Region Emergency Management Office). More blue lines are scheduled to be painted on roads in Houghton Bay and Owhiro Bay in the next month or so – and the intention is to expand the Blue Lines Project around most low-lying areas on the south coast and around Wellington Harbour. Mayor Celia Wade-Brown says the award is due recognition of an inspired community-preparedness initiative on the south coast.



“The blue lines in Island Bay have certainly raised awareness about the very real tsunami risk in the area. More people in Island Bay now know that if there’s a big undersea earthquake just off our coast then people may have only 10 minutes or less to get well inland or get to high ground before the first waves come



ashore.” People should evacuate immediately inland, past the blue lines, if the area is hit by any long or strong earthquake– one that lasts more than about a minute and which causes items to fall off shelves – or does more significant damage. “The basic message of the blue lines is simple,” says Mayor Wade-Brown. “If there’s a big shake, better to be in your pyjamas up the hill, wishing you were in bed, than be in bed as a tsunami hits, wishing you were up a hill.”

“This award is recognition of a job well-done by WREMO’s Community Resilience Manager, Dan Neely, and his colleagues, staff from GNS Science and, of course, the people of Island Bay!” Island Bay resident Katrina Mitchell-Kouttab, who took a leading role in the project, says she and her colleagues “are all genuinely delighted and surprised at the news of the award”.

From MCDEM NEWS RELEASE, 28 September 2012

Children and natural disasters: an investigation of cognitions, knowledge and emotions in Wellington Year 5 students

The aim of Teresa King's recently completed Master's study was to examine children's cognitions (thoughts, expectations, beliefs and values), knowledge (education and experience), and emotions (feelings) regarding disasters. The sample consisted of 30 Year-5 students (9-10 year olds) from four primary schools in the Wellington region. Schools were ethnically, socioeconomically and geographically diverse. The analysis identified that most of the children now believed an earthquake to be the most likely disaster to occur in Wellington, and many children discussed having serious fears about this, referring to their knowledge of the Canterbury earthquakes from 2010 and 2011 (2011 being the cut-off point for the thesis data-gathering phase). Children also identified a number of positive coping methods for use when experiencing fears about disasters, suggesting some ability to protect themselves from negative emotions.



The children were able to clearly identify a number of positive preparatory behaviours for natural disasters, as well as protective behaviours during and after a disaster. The children demonstrated a great deal of general knowledge about disasters including different types and causes. They were reasonably well informed of current events regarding natural disasters, reporting that this knowledge had come from school studies and watching television at home. Participants discussed having been involved in emergency management classes and drills at school, and had an interest in improving these classes to make themselves feel still better prepared. Overall, the children were curious and interested in disasters. The current levels of interest provides an opportunity to build on the children's understanding of natural disasters, and to foster preparedness activities in young New Zealanders.

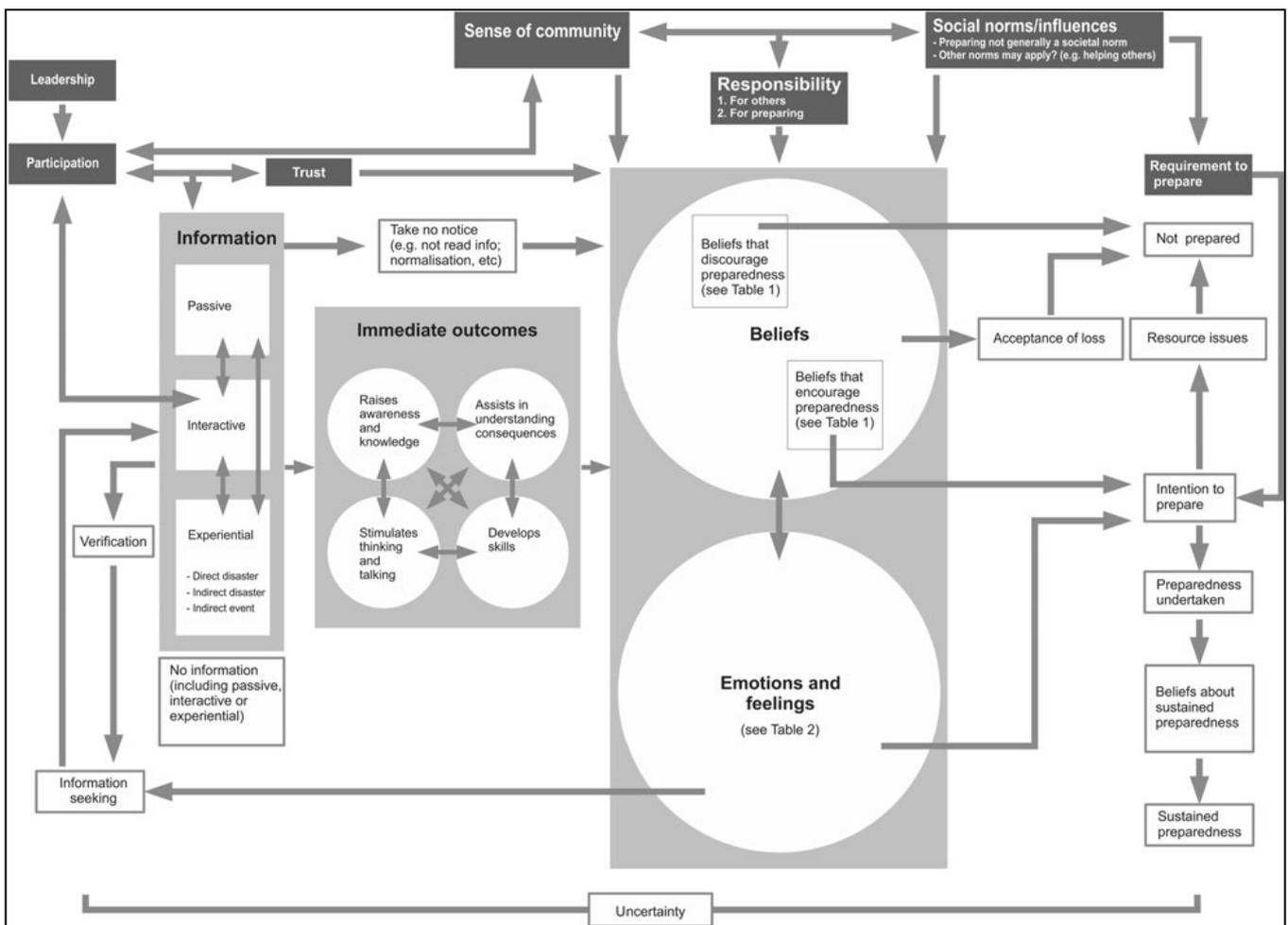
Internet, efficacy and natural disaster research

The "Internet, Efficacy and Natural Disaster" research conducted by Tanya Hall and Kevin Ronan (JCDR affiliate) at the School of Health and Human Services department at CQ University is exploring the question "Does the Internet help or hinder a person during their recovery from a natural disaster?" The research investigates the role of Internet use, particularly social media by developing and testing a model of the relationships between Internet media and its impact on an individual's psychological well-being. Rather than limiting the research to a view of "good" vs "bad" Internet use, the research will look at the type of Internet use and analyse if there are certain types of use that are more helpful than others. Internet use will be classified within three categories: entertainment, communication and information, based upon previous research and survey instruments developed by other researchers (Wolfradt and Doll, 2001). Popular, theoretical statements are increasingly being made about the benefits of the Internet, particularly social media, during disaster recovery efforts. The benefits are primarily discussed in terms of being an effective emergency management communication tool. Meanwhile, little research to date has been conducted on the impact of the Internet on a person's psychological well-being within the context of a disaster.

The aim of this study is to explore proposed theoretical statements about the psychological benefit of Internet use during recovery from a natural disaster. This study will explore if these "online networks" help (or hinder) people during their recovery process. It is hoped this study will provide research information on some commonly held theoretical views about the use of Internet and social media as a disaster response tool. The study will share the experiences of people who have been impacted with those who work in the field of emergency management to better understand the relationship between the types of Internet usage and its impact on personal well-being following a disaster.

A model of household preparedness for earthquakes: How individuals make meaning of earthquake information and how this influences preparedness

One way to reduce the risk from earthquakes is for individuals to undertake preparations for earthquakes at home. Common preparation measures include gathering together survival items, undertaking mitigation actions, developing a household emergency plan, gaining survival skills or participating in wider social preparedness actions. While current earthquake education programmes advocate that people undertake a variety of these activities, actual household preparedness remains at modest levels. Effective earthquake education is inhibited by an incomplete understanding of how the preparedness process works. Previous research has focused on understanding the influence individual cognitive processes have on the earthquake preparedness process but has been limited in identifying other influences posed by the wider social contextual environment.



This project used a symbolic interactionism perspective to explore the earthquake preparedness process through a series of qualitative interviews with householders in three New Zealand urban locations. It investigated earthquake information that individuals are exposed to, how people make meaning of this information and how it relates to undertaking actual preparedness measures. During the study, the relative influence of cognitive, emotive and societal factors on the preparedness process was explored and the interactions between these identified. A model of the preparedness process based on the interviews was developed and is presented in the paper.

Becker, J.S., Paton, D., Johnston, D.M., Ronan, K.R. (2012). A model of household preparedness for earthquakes: How individuals make meaning of earthquake information and how this influences preparedness. *Natural Hazards*, 64(1), 107-137.

The role of the mosque, a community-based religious institution, in disaster management

This dissertation by Abdur Rehman explored the role of the mosque, a community-based religious institution, in disaster management by documenting and analysing its role in rural settings in the aftermath of the 2005 earthquake in Pakistan. The role of community-based religious institutions has been largely undocumented, underestimated and overshadowed in the development and disaster studies literature. Theoretically, this research was informed by post-development theory. The study addressed two research questions. The first examined the role of the mosque in relation to key actors from the state, civil society and private sector during response, relief, recovery, reconstruction and rehabilitation in the aftermath of the 2005 earthquake. The second explored the potential roles of the mosque in similar situations in the future. Using qualitative research methods and a case study design (in three villages of district Mansehra, Khyber Pakhtunkhwa province), this dissertation analyses primary data collected throughout five months of fieldwork (in 2009 and 2010).

Socially and culturally, the mosque served as an entry door, facilitating access to communities for private, government, local, national and international organisations during the earthquake response, relief, recovery, reconstruction and rehabilitation phases. The mosque building was destroyed but the institution of the mosque remained intact. It continued to function as surviving men from the community gathered to pray on the rubble or in the open and the mosque served as the collection point of the



community. Women did not benefit from the mosque, as a physical place, because of social, cultural and religious limitations in communities. However, the mosque's institutional support was critical for engagement of women in other culturally and socially appropriate development and disaster risk reduction activities.

Religious interpretations of the earthquake lead communities to turn to God, increasing meditation and prayer, fostering psychosocial and spiritual healing and creating resilience. Conversely, however, religious interpretations of the earthquake also promoted fatalistic tendencies, which negatively affected communities' attentiveness to some of the disaster risk reduction measures advised by the government. Economically, the affected communities exchanged livelihood-related information and coordinated their income generating activities using the institution of the mosque. In the political context, the study questions simplistic pejorative labels attached to the mosque such as being a centre for preaching radical views in society and argue that such labels belittle and fail to recognise the distinct position of the mosque as a central community institution.

This research suggests that state, civil society and private sector organisations involved in disaster management need to understand complex relationships involving people and their religious institutions, and their impact on the social environment. This study calls for engagement: acknowledging and valuing the role of community-based religious institutions including churches, mosques, synagogues and temples for building a synergy between secular and religious efforts for disaster risk reduction. This dissertation contributes to the scarce body of knowledge about the multi-faceted and potential role of a community-based religious institution, the mosque, which could be used to strengthen disaster management to save human lives and reduce the extent of losses from natural disasters in future.

Awareness of the understanding of the different decision-making approaches

A wide body of research has investigated decision-making styles. However, a recent study by Helen Sinclair, Emma Doyle, David Johnston and Douglas Paton shows that in the local government emergency management sector there is little awareness of the understanding of the different decision-making approaches. In addition, for those organisations surveyed, there is a great desire for further training and practice in decision-making. It is vital that this need is addressed to further improve the responses of these organisations to emergencies.

A questionnaire-based survey approach was used in this research and 48 different local government organisations participated. The results were examined in conjunction with contemporary emergency management decision-making literature. A combination of closed and open ended questions were used, enabling qualitative and quantitative analysis.

Results suggest that while there is information available about decision-making, not all emergency managers are aware that the information exists or understand its relevance to emergency management. It is likely that those who did have a comprehensive understanding of decision-making gained this knowledge through non-emergency management-related courses. In total, 71 percent of participants said they would be interested in receiving more support regarding training and practice for decision-making in Emergency Operations Centres.



Sinclair, H., Doyle, E. E. H., Johnston, D. M., Paton, D. (2012) Decision-making training in local government emergency management. International Journal of Emergency Services 1:159-174.

Assessing the impact of workshops promoting concepts of psychosocial support for emergency events

Psychosocial support is a widely accepted term referring to activities designed to promote social and psychological recovery in disasters, and is a crucial concept in the organisation and management of preparedness, response and recovery systems. The New Zealand Ministry of Health recognised the importance of having a common framework of understanding for this concept, and commissioned a series of workshops to promote the understanding and implementation of psychosocial support concepts in disasters.

Two hundred and eighty-eight people participated in nine educational workshops across New Zealand – before the recent Canterbury earthquakes – designed to educate people about the key concepts and delivery models of psychosocial support during and after emergency events. Participants were also asked to note down three key ideas concerning what psychosocial support meant to them before and after participating in the workshop. The level of satisfaction reported both for the workshop presentations (4.5 out of 5) and the resources provided (4.6 out of 5) suggested that participants were highly engaged with the material and that it may be a useful training resource tool for education about psychosocial support in emergency events. Although the general concepts of support and recovery remained important before and after the workshops, there was a shift to expressing attitudes acknowledging the importance of the management and organisation of psychosocial support activities. Overall, the findings suggest that participants' attitudes about psychosocial support in disasters changed after attending the workshop, from a consideration of the experience of the individual in a disaster to more structured ideas about how supportive interventions might be organised and implemented. Although care should be taken to reinforce the core actions of psychosocial support for practitioners, the workshops seem to offer a promising approach for developing cross-agency understanding on managing psychosocial support interventions.

Johal S. Assessing the Impact of Workshops Promoting Concepts of Psychosocial Support for Emergency Events. PLOS Currents Disasters. 2012 Sep 17 [last modified: 2012 Nov 27]. Edition 1. doi: 10.1371/4fd80324dd362.

CERA Wellbeing survey goes online

Greater Christchurch residents can now go online and share their post-earthquake experiences and perceptions in a survey that will help guide CERA and its partner agencies in their work. The Wellbeing Survey investigates a range of ways in which people have been affected by the earthquakes. That includes looking at the prevalence and causes of stress, quality of life, social

connectedness, satisfaction with the recovery and any positive impacts people may be experiencing. While CERA receives a large amount of anecdotal feedback on residents' wellbeing, this survey will enable it to gather qualitative research for its planning. The experiences of those who have lived through the earthquakes are of interest to CERA and its partner agencies. The survey is being undertaken in two parts. Firstly, Nielsen has surveyed a randomly selected representative sample of 2500 residents from the electoral roll in greater Christchurch. Wellbeing Survey will be run twice a year for the next three years. The first online survey can be accessed through until mid-November 2012.

CERA has developed the Wellbeing Survey in partnership with Christchurch City Council, Waimakariri District Council, Selwyn District Council, Canterbury District Health Board and Te Runanga o Ngāi Tahu. The Natural Hazards Research Platform is also a major funder. A protocol and process is being developed to allow accredited researchers access to the data. The data will be incorporated into the CERA Recovery Strategy which is designed to track the progress of recovery goals using indicators in the social, economic, built, cultural and environmental areas.

Assessing emergency management training and exercises

A recent published study investigated how training or exercises are assessed in local government emergency management organisations. An investigative review of the resources available to emergency managers across North America and within New Zealand, for the evaluation and monitoring of emergency management training and exercises was conducted. This was then compared with results from a questionnaire-based survey of 48 local government organisations in Canada, USA, and New Zealand. A combination of closed and open ended questions was used, enabling qualitative and quantitative analysis.



The study found that each organisation's training programme and their assessment of this training is unique. The monitoring and evaluation aspect of training has been overlooked in some organisations. In addition, those that are using assessment methods are operating in blind faith that these methods are giving an accurate assessment of their training. This study demonstrates that it is largely unknown how effective the training efforts of local government organisations are. Further research inspired by this study will provide a clearer picture of the evaluation and monitoring of emergency management training programmes. These results highlight that organisations need to move away from an ad hoc approach to training design and evaluation, towards a more sophisticated and evidence-based approach to training needs analysis, design, and evaluation if they are to maximise the benefits of this training.

Sinclair, H., Doyle, E. E., Johnston, D. M., Paton, D. (2012). Assessing emergency management training and exercises. Disaster Prevention and Management 21: 507 – 521.

Joint Centre for Disaster Research, GNS Science – Massey University, School of Psychology. Research Update – December 2012

Teaching and outreach

Staff and associates of the centre currently contribute to elements of the Graduate Diploma in Emergency Services Management and MA, MPhil and PhDs in Psychology, Emergency Management and other related disciplines. The Centre also plans to work with other organisations in the provision of training within the CDEM sectors. A series of Emergency Management short courses are organised by the centre in summer and spring.

Graduate students – linked to the Centre

Massey University

Debra Ellis (PhD student, School of Psychology, Massey University)
“Health sector emergency management roles in New Zealand”

Sara McBride (PhD student, School of Psychology, Massey University)
“The Canterbury Tales: Learnings from the Canterbury Earthquake Sequence in New Zealand to design successful public education campaigns to increase community resilience for low risk and high impact areas in Washington State, United States of America”

Tom Huggins (PhD student, School of Psychology, Massey University)
“Optimising Visual Solutions for Complex Strategic Scenarios”

James Hudson (PhD student, School of Psychology and Te mata o te Tau, Massey University)
“The Quantification of Iwi Development: A Framework for Iwi Development & Resilience”

Stuart Fraser (PhD student, School of Psychology, Massey University)
“The potential for using mid to high-rise buildings as vertical evacuation structures in near-source earthquake and tsunami events”

John Lindsay (PhD student, School of Psychology, Massey University)
“Maximising participatory planning in emergency management: implications for professional practice”

Yasir Javed (PhD student, Institute of Information and Mathematical Sciences, Massey University)
“Design, Implementation and Evaluation of Web-based Integrated Incident Resource Management System for decision support in Emergency Operation Centres”

Robyn Tuohy (PhD student, School of Psychology, Massey University)
“Disaster preparedness of older adults in New Zealand”

Sally Potter (PhD student, School of Psychology, Massey University)
“Effective management of a volcanic crisis at New Zealand calderas”

Vicky Johnson (PhD student, School of Psychology, Massey University)
“Evaluating disaster education programs for children”

Karlene Tripler (PhD student, School of Psychology, Massey University)
“Emergency management in New Zealand primary schools”

Maureen Mooney (PhD student, School of Psychology, Massey University)
“Childhood and caregiver post-disaster recovery following Canterbury earthquakes of 2010 and 2011”

Gavin Treadgold (Masters student, School of Psychology, Massey University)
“Information management for post-disaster building assessment”

Abdur Rehman Cheema (PhD student, School of People, Environment and Planning, Massey University)
“Role of good governance in addressing vulnerabilities in disaster management in Pakistan”

Paul Schneider (PhD student, School of People, Environment and Planning, Massey University)
“The human face of climate change: Adaptation in a vulnerable coastal community context”

Steven Morris (Master of Resource and Environmental Planning, School of People, Environment and Planning, Massey University)

“The role of land-use planning in reducing vulnerability in the Bay of Plenty Region”.

Other student partners with links to JCDR

Judy Lawrence (PhD student, Victoria University)

“Adaptive capacity of institutions in the face of uncertainty, dynamic change and intergenerational impacts of climate change”.

Alexa Van Eaton (PhD student, Department of Earth Sciences, Victoria University of Wellington)

“On the dynamics of super-eruptions: Towards improved response to New Zealand’s caldera-forming eruptions”

Kayleigh Urmson (MSc student, Department of Psychology, University of Canterbury)

“Does social-economic status determine who is more likely to ask for help after a natural disaster?”

Brenda Mackie (PhD student, School of Social and Political Sciences, University of Canterbury)

“Risk Communication, Perception and Warning Fatigue: the Australian Bushfires”

Jennifer DuBois (PhD student, Department of Geological Sciences, University of Canterbury)

“The plausibility of a submarine landslide generated tsunami at Kaikoura Canyon”

Michael Peters (MSc student, Department of Geological Sciences, University of Canterbury)

“Dissolution and hazard assessment of volcanic ash in freshwater environments”

Heather Bickerton (MSc student, Department of Geological Sciences, University of Canterbury)

“Volcanic ash impacts to agriculture”

James Cowlyn (PhD student, Department of Geological Sciences, University of Canterbury)

“Pyroclastic Flows and Volcano-Ice Interactions at Ruapehu Volcano, New Zealand”.

Sarah Beaven (PhD student, Department of Geological Sciences, University of Canterbury)

“Science and operational response partnerships after the Canterbury Earthquakes: a model facilitating research and operational collaboration”

Theodosios Kritikos (PhD student, Department of Geological Sciences, University of Canterbury)

“Disaster management in active mountain front regions using tectonic geomorphology and GIS: application to Western Southern Alps (New Zealand)”

Tom Robinson (PhD student, Department of Geological Sciences, University of Canterbury)

“Planning for a Great Alpine fault earthquake: consequences for the South Island, New Zealand”

Sonali Weerasekara (MSc student, Department of Geological Sciences, University of Canterbury)

“Modelling gastroenteritis prevalence in relation to liquefaction ejecta”

Sarah Bastin (MSc student, Department of Geological Sciences, University of Canterbury)

“Paleo drainage features as controls for the liquefaction pattern in Christchurch following the Canterbury earthquakes”

Marlene Villemure (MSc student, Department of Geological Sciences, University of Canterbury)

“Cost of Clean Up: Clean up time, costs and coordination following widespread soft sediment deposition in urban environments during natural disasters”

Shaun Williams (PhD student, Department of Geological Sciences, University of Canterbury)

“Tsunami Hazards, Samoa Islands: Palaeo-tsunami investigation, numerical source modelling and risk implications”

Jason McIntosh (MSc student, Department of Geological Sciences, University of Canterbury)

“Assessing the effects of large earthquakes on healthcare capacity in Christchurch”

Johnny Wardman (PhD student, Department of Geological Sciences, University of Canterbury)

“Quantitative analysis of “flashover” potential for high voltage transmission equipment exposed to volcanic ash”

Grant Wilson (MSc student, Department of Geological Sciences, University of Canterbury)

“The effects of volcanic ash and gas on modern laptop computers and materials used for volcano monitoring”

Julian Idle (MSc student, Department of Geological Sciences, University of Canterbury)
“Multi-hazard risk analysis of Lyttelton, New Zealand”

Zachary Whitman (PhD student, Department of Geological Sciences, University of Canterbury)
“Business risk perception and resiliency in an all-hazard environment: an analysis of the relationship between the public and private sectors in New Zealand”

Victoria Sword-Daniels (EngD student, Department of Civil, Environmental and Geomatic Engineering, University College London)
“Evaluating impacts on community infrastructure following recent volcanic eruptions”

Vivienne Bryner (PhD student, Centre for Science Communication & Geology, University of Otago)
“Communication of geoscience knowledge to achieve disaster risk reduction”

Mary Anne Thompson (PhD student, School of Environment, University of Auckland)
“The interface between probabilistic hazard and risk assessment and volcanic risk and crisis management”

New publications

Beban, J. G., Coomer, M. A., McBride, S. (2012). Addressing earthquake hazards – a review of council policy and plans within the Wellington region. GNS Science Report 2012/31. 52 p.

Becker J.S., Johnston D.M., Paton D., Ronan K.R. (in press). How people use earthquake information and its influence on household preparedness in New Zealand. *Journal Civil Engineering and Architecture*.

Becker, J.S., Paton, D., Johnston, D.M., Ronan, K.R. (2012). A model of household preparedness for earthquakes: How individuals make meaning of earthquake information and how this influences preparedness. *Natural Hazards*, 64(1), 107-137.

Berke, P.R., Glavovic, B.C. (2012). Ecosystems and Disaster Resiliency: Contributions to a Holistic Theory of Recovery. *International Journal of Mass Emergencies and Disasters*, 30(2): 182–196.

Burbridge, P.R., Glavovic, B.C. & Olsen, S.B. (2012). Practitioner Reflections on Integrated Coastal Management Experience in Europe, South Africa, and Ecuador, In Kremer, H. & J., Pinckney (Eds.) *Management of Estuaries and Coasts*, Chapter 6, Volume 11 of the 12 volume Treatise on Estuarine and Coastal Science edited by Wolanski, E. & D. McLusky, Springer.

Doyle, E.H., Johnston, D.M., Johal S.S. (2012). The human side of hazards: When nature and people collide. *Awesome Forces*, Te Papa Press, p. 130-149.

Eiser, J.R., Bostrom, A., Burton, I, Johnston, D.M., McClure, J., Paton D., van der Pligt, J., White, M.P. (in press). Risk Interpretation and Action: A Conceptual Framework for Responses to Natural Hazards. *International Journal of Disaster Risk Reduction*.

Fraser, S., Raby, A., Pomonis, A., Goda, K., Chian, S.C., Macabuag, J., Offord, M., Saito, K., Sammonds, P. (2012). Tsunami damage to coastal defences and buildings in the March 11th 2011 Mw9.0 Great East Japan earthquake and tsunami. *Bulletin of Earthquake Engineering* (in press).

Fraser, S., Leonard, G.S., Murakami, H., and Matsuo, I. (2012). Tsunami Vertical Evacuation Buildings – Lessons for International Preparedness following the 2011 Great East Japan Tsunami. *Journal of Disaster Research*, Vol.7, No. Special Edition (Aug.), 446-457.

McClure, J., Johnston, D., Henrich L. (in press). Changes in preparedness and earthquake risk perception: Lessons from the 2010 and 2011 Canterbury earthquakes. GNS Science Report.

Orchiston, C. (2012). Tourism business preparedness, resilience and disaster planning in a region of high seismic risk: the case of the Southern Alps, New Zealand, *Current Issues in Tourism*, DOI:10.1080/13683500.2012.741115.

Orchiston, C., Seville, E., & Vargo, J. (2012). Tourism recovery and resilience after the Canterbury earthquakes. Report 6, Prepared for Asia Pacific Economic Cooperation (APEC).

Orchiston, C., Vargo, J. & Seville, E. (2012). Outcomes of the Canterbury earthquake sequence for tourism businesses. November 2012. Resilient Organisations Research Report 2012/09.

- Phibbs, S. R.; Woodbury, E.; Williamson, K. J.; Good, G. A. (2012). Issues experienced by disabled people following the 2010-2011 Canterbury earthquake series: evidence based analysis to inform future planning and best practice guidelines for better emergency preparedness, GNS Science Report 2012/40. 54 p.
- Poutasi, N., Daly, M., Kohlhase, J., Nelson, F (In Press). Natural coastal hazards planning: The 2009 tsunami and lessons learned for climate change adaptation in Samoa. IN *Adapting to climate change: lessons from natural hazards planning*. Glavovic, B and Smith, G (Editors). Springer.
- Ronan, K.R., Crellin, K., and Johnston, D.M. (2012). Community readiness for a new tsunami warning system: Quasi-experimental and benchmarking evaluation of a school education component. *Natural Hazards* 61(3): 1411-1425.
- Saunders, W.S.A., Beban, J.G. (2012). Putting R(isk) in the RMA: Technical Advisory Group recommendations on the Resource Management Act 1991 and implications for natural hazard planning. GNS Science Miscellaneous Series 48, Lower Hutt.
- Sinclair, H., Doyle, E. E. H., Johnston, D. M., Paton, D. (2012). Decision-making training in local government emergency management. *International Journal of Emergency Services* 1:159-174.
- Sinclair, H., Doyle, E. E., Johnston, D. M., Paton, D. (2012). Assessing emergency management training and exercises. *Disaster Prevention and Management* 21: 507 – 521.

Upcoming events



Understanding Risk - a short course

Understanding natural hazard risk will be a major responsibility for land use planners, managers, councillors and commissioners under recommended changes to the Resource Management Act 1991. GNS Science's two-day course introduces the concepts of natural hazard risk, and looks at real-world examples of incorporating risk into land use planning.

TWO DAY course with resource materials, 21 & 22 March 2013, hosted by Dr Wendy Saunders of GNS Science at Lower Hutt, \$500 plus GST

REGISTER INTEREST now with Daryl Barton at d.barton@gns.cri.nz.
See the programme at <http://www.gns.cri.nz/Home/News-and-Events/Events>





First Circular

New Zealand Geographical Society Conference 2012

‘Connecting Landscapes’

Welcome

The Manawatu Branch of the New Zealand Geographical Society has the pleasure of inviting geographers to the biennial conference of the Society in December 2012. In a break from tradition the conference this year will be held for the first time at Napier’s War Memorial Conference Centre. The theme for this year’s conference is ‘Connecting Landscapes’ and we encourage geographers of all stripes to participate in Napier. The conference is open to geographers anywhere in the world and we especially encourage graduate students as well as established faculty to attend and present their work.

Dates and Venue

3-6 December 2012

[Napier War Memorial Conference Centre](#), Napier

Timelines

The conference will open for panel proposals and individual abstracts on any geographic theme on the **15th May 2012**.

Registrations for the conference will open on the **24th September 2012**.

Further details about panel proposals, abstracts, fieldtrips, keynote speakers and registration will be added to the [NZGS website](#) in due course.

We look forward to welcoming you in Napier in December 2012.

If you have any questions please contact
Professor Mike Roche (m.m.roche@massey.ac.nz)
Dr Matthew Henry (m.g.henry@massey.ac.nz)

The NZGS2012 Organizing Committee
Manawatu Branch, New Zealand Geographical Society
Palmerston North, New Zealand

Quakes, meltdowns and outbreaks

A two-day symposium dedicated to leading-edge disaster communication will take place next February, bringing together science communicators from around the world.

The conference theme: "*Disasters - Communicating in the Crisis and Aftermath*" will explore the challenges of communicating science during major events, from earthquakes, tsunamis and pandemics to agricultural disease outbreaks, as well as sustainability and disaster prevention planning.

Hosted by the Science Communicators Association of New Zealand (SCANZ), the Symposium is being co-organised by SCANZ and the global science communication network PCST (Public Communicators of Science and Technology).



"The PCST network grants symposium status to conferences relatively infrequently, so it is something of a coup for New Zealand to get this coveted international accreditation for our event in February," SCANZ President Phil Johnstone said.

"Holding the conference on the 2nd anniversary of the devastating 22 February 2011 quake will add a poignant dimension to the symposium, and our programme will include opportunities for reflection and remembrance.

"Sadly New Zealand has experienced several significant natural and man-made disasters in recent years. As a result we have a number of experienced people able to share insights and learnings about the role communication can play in boosting public understanding during a crisis and the months that follow."

The conference programme would include international case studies such as the devastating Japanese tsunami of 2011 and provide world-class content of interest to journalists, science communicators, academics and scientists from around the globe.

Phil Johnstone said the decision to hold the event in Christchurch was taken after favourable feedback from SCANZ members in Canterbury and from civic leaders.

"We hope this event will make a small but none-the-less helpful contribution to the economic recovery of Christchurch. We are aiming to attract up to 250 delegates including as many as 150 from overseas."

The conference will be held at the Chateau on the Park hotel complex in Christchurch on 21-22 February 2013. Visits to a range of science sector and other destinations around Canterbury will be offered on 23 February.

A call for abstracts is now open. For more information visit www.scanz.co.nz/scanz-2013pcst.html

For further inquiries please contact:

Phil Johnstone, SCANZ President
021 501 380
pjohnstone@aucklandmuseum.com

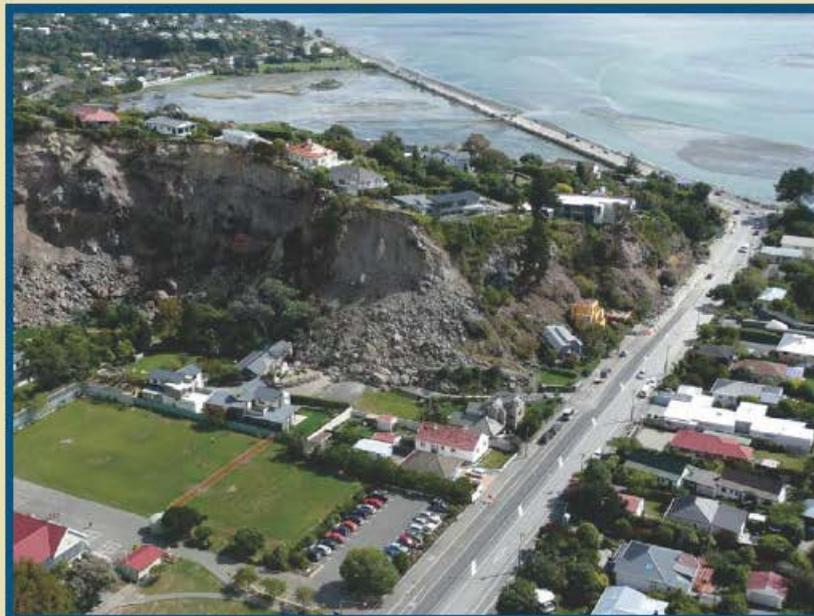


EMERGENCY MANAGEMENT

Summer Institute

Massey University Campus,
Wellington, New Zealand

11 - 15 March 2013



Rockfalls near Redcliffs School, Christchurch, initiated by the 22 February 2011 earthquake and subsequent aftershocks. Photo: GNS Science

- DAY 1: Emergency management planning
- DAY 2: Developing effective all-hazard warning systems
- DAY 3: Evacuation planning and welfare
- DAY 4: Classroom in the Coach
- DAY 5: The role of public education, community engagement and public participation in building resilient communities

For more information go to <http://disasters.massey.ac.nz>



NZSEE
CONFERENCE
2013

FIRST CALL FOR ABSTRACTS

ABSTRACTS DUE: 26 NOVEMBER 2012

SAME RISKS - NEW REALITIES

New Zealand Society for Earthquake Engineering
Technical Conference and AGM

APRIL 26 - 28, 2013 | WELLINGTON



Conference Website

<http://db.nzsee.org.nz/2013/>

Conference Location

Michael Fowler Centre

Wakefield Street
Wellington
New Zealand

<http://pwv.co.nz/our-venues/michael-fowler-centre>

President

Stefano Pampanin

University of Canterbury

stefano.pampanin@canterbury.ac.nz

Conference Organisation Chair

Peter Wood

Immediate Past President

srlnprw@gmail.com

Further Information:

Win Clark

NZSEE Executive Officer

exec@nzsee.org.nz

The Conference

The NZSEE annual technical conference brings together researchers and practitioners in the multi-disciplinary field of Earthquake Engineering. The 2013 conference is being held in Wellington, a city with an active tectonic setting, many outstanding examples of earthquake resistant buildings, and significant experience in reducing risk through implementing earthquake prone building policies.

In 2013 the conference will be held at the **Michael Fowler Centre, Wellington**. The Conference this year is in **collaboration with the Wellington City Council** who are proactive in promoting a "Resilient City". A **panel forum** will stimulate discussion on "**Understanding Risk**". Field trips on the Saturday afternoon will showcase Wellington's assets, faults, hazards, and their mitigation.

Suggested Topics for Proposed Papers:

- Pathways to Earthquake Resilience
- Lessons from Earthquakes through Time
- Lessons from Christchurch
- Mitigating the Social and Economic Impacts of Earthquakes
- Advances in Hazards Definition
- Advances in Earthquake Engineering Practice
- Planning for Earthquake Response and Recovery
- Recent Practical Projects

Abstract submission:

- Online: <http://db.nzsee.org.nz/2013/> after 29 October 2012

Presenters of written papers are invited to provide a brief abstract of no more than 250 words by 26 November 2012. Abstracts are also invited for presentations at a special session on recent practical projects, for which no written paper is required.

Prizes will be awarded for the following:

- Best Student Paper & Presentation
- Best Research Paper
- Best Practice Paper
- Best Poster Paper

KEY DATES:

ABSTRACT DEADLINE:
26 NOVEMBER 2012

AUTHORS NOTIFIED:
30 NOVEMBER 2012

FINAL PAPERS DUE:
8 FEBRUARY 2013





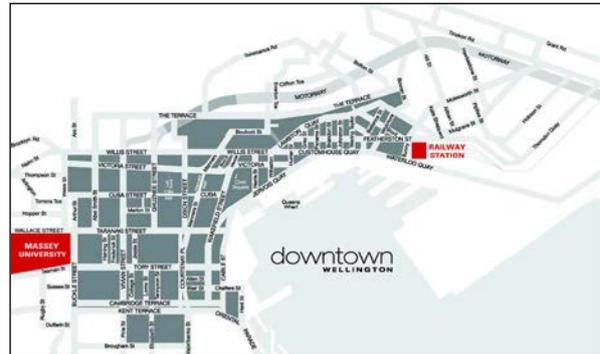
Earthquake Resilience Expo
**EXHIBITION
PROPOSAL**

26 - 27 April 2013
Wellington Town Hall



Location

The centre is part of the School of Psychology, in the College of Humanities & Social Sciences. The centre Director, staff and students are based at the Massey University campus in Wellington (Building T20). However, the centre draws on staff from other Massey campuses, GNS Science and other collaborating organisations. Visits to the centre are welcomed but by appointment only please.



Contact Details

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