

**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.



Under the Roadmap of Cooperative Activities for 2012-2014, the U.S. - New Zealand Joint Committee Meeting (JCM) on Science and Technology Cooperation established a cross-cutting theme on improving earthquake resilience. One of the actions for the working group is to coordinate dialogue between relevant NZ and US scientists and practitioners. With this in mind, two workshops and field trips were held in Memphis, Tennessee and Seattle, Washington in October 2013. Photo above: Craig Weaver pointing to the Seattle Fault.

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

## News from the JCDR Team

**Cassie Kenney** joined the staff of the JCDR as a Senior Research Fellow in October 2013.

**Emma Hudson-Doyle, Victoria Sword-Daniels** and **Wendy Saunders** have been selected as World Social Science Fellows to participate in a seminar on Risk Interpretation and Action, to take place in New Zealand from 7-15 December 2013.

**Rachel O’Sullivan** (photo right) will be visiting the JCDR for six months from January 2014. Rachel is a second year student studying for a BSc in Geography and Natural Hazards at Coventry University, United Kingdom. She will be supervised by Kim Wright from GNS Science.



**Debra Ellis** recently completed her PhD. Her thesis was entitled “Health sector emergency management roles in New Zealand”

**Victoria Sword-Daniels** also recently completed her PhD. Her thesis was entitled “Exploring the dynamics and consequences of long-term volcanic activity for the healthcare system in Montserrat, West Indies”. Her study was through Department of Civil, Environmental and Geomatic Engineering, University College London.

**Kevin Ronan** has recently received a Australian Bushfire and Natural Hazards CRC grant for \$A822,000, looking at “Building best practice in Child-Centred Disaster Risk Reduction”, 2014 - 2016. Kevin is the Chief Investigator/Lead Researcher and is partnering with JCDR on this project.

**Abi Beatson** (photo on page 4) has joined the JCDR as a visiting graduate student from Victoria University. Her research is on “New media, information sharing and crisis mapping: an analysis of new Media Based Information Sharing Practices during the Christchurch Earthquakes”.

Massey is New Zealand's first university to formally join an international Massive Open Online Course (MOOC) platform and this event will showcase our first two online courses. The MOOC movement is challenging traditional models of tertiary education and in partnership with Open2Study, Massey is taking the lead role in harnessing the potential of online learning. At the Centre, **Jon Mitchell** and **Raj Prasanna** are taking the lead on this project.

**PLANNING FOR A VOLCANIC CRISIS**

Mercure Hotel  
Custom St, Auckland  
17–18 September 2013

Rangitoto Island Field Trip (optional)  
19 September 2013

Auckland - Mt Eden in the foreground, Rangitoto in the distance on the right  
Photo: K. Sowden, Auckland Council

GNS SCIENCE  
MASSEY UNIVERSITY  
UNIVERSITY OF CANTERBURY  
The University of Auckland

**Sally Potter** successfully coordinated the 2013 Volcano Short Course in and Auckland in September, supported by colleagues from GNS Science, and universities of Auckland, Canterbury and Massey.

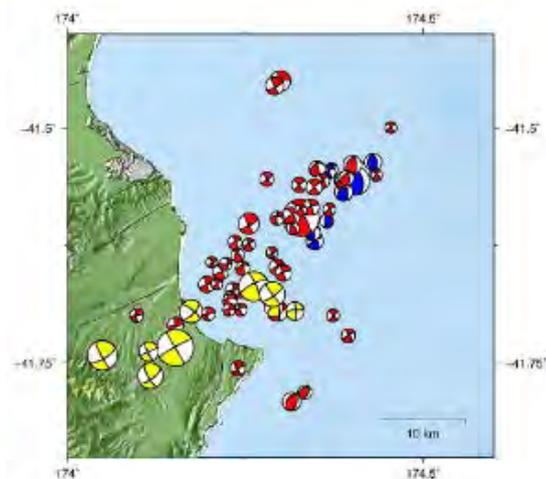
**Dr. Temitope Egbelakin** (photo right) has linked to the JCDR team. She is a lecturer at the School of Engineering and Advanced Technology (SEAT), Massey University. Temitope teaches several papers at both undergraduate and postgraduate levels. She has been involved in active research in disaster and emergency management in New Zealand, and has served as a consultant with several organisations. Her PhD study (completed in 2011) focused in earthquake risk mitigation decision-making. Her current research interests are natural hazard and disaster management, environmental sustainability and construction management and behavioural decision-making.



## Wellington's second shake in 2 months - Lake Grassmere earthquake

Report from Geonet -

<http://info.geonet.org.nz/display/quake/M+6.6%2C+Lake+Grassmere%2C+16+August+2013>

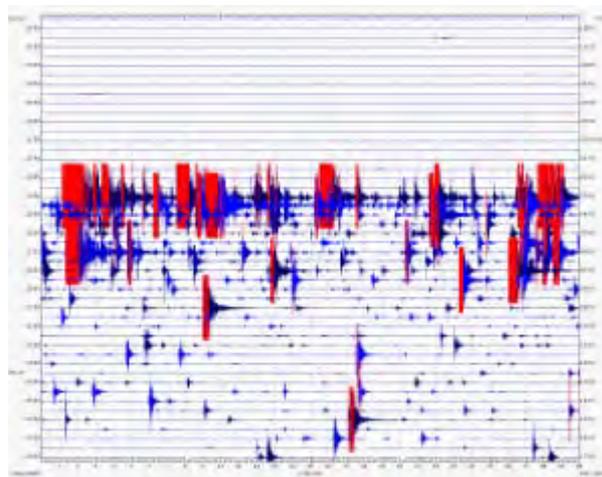


The Lake Grassmere earthquake was a magnitude of 6.6. It occurred just after 2:30pm on Friday afternoon 16 August, and was centred 8 km under the north-east of the South Island. The focal mechanism shows it to be a strike-slip earthquake, similar to the M6.5 earthquake in July. We have now had two similarly-sized earthquakes with the same sort of characteristics - they are termed a "doublet". This is not what we would usually expect.

An aftershock sequence is on-going following this earthquake. The aftershock sequence currently includes one of magnitude 6 and several over magnitude 5.

**Figure above:** Blue mechanisms are prior to the 21 July M6.5 event, red mechanisms are for the 21 July M6.5 event and up until the 16 August M6.6 event, and yellow mechanisms are the 16 August M6.6 sequence until 17 August 1pm.

**Figure right.** 24 hours of seismic activity recording at Cape Campbell (CMWZ) from 5am Friday 16th August to 5am Saturday 17th August, showing the Lake Grassmere M6.6 earthquake and aftershocks. From GeoNet



## Massey Wellington's Response

The campus was closed temporarily from 4pm after Friday's magnitude 6.6 earthquake struck the upper South Island and Wellington region. Structural engineers assessed the campus and cleared all campus buildings, including the nine-storey student accommodation building, the Cube Apartments.

Surface water damage from a split copper water tank was experienced in the Adelaide Rd building, which houses staff from the School of Public Health, but campus facilities director Gordon Whyte says this issue has been resolved and a further re-assessment from a structural engineer this morning cleared the building for re-occupation.



Mr Whyte says none of the buildings on campus have been assessed as earthquake-prone, meaning that all exceeded 34 per cent of current building standards. The campus and most of the suburb of Mt Cook is also built on bedrock, making it more stable than other parts of Wellington. All events at the University's Wellington campus went ahead as planned on the following Saturday.

# Social Media, Information Flows and Crisis Mapping: Information Sharing Practices in Response to the Christchurch Earthquakes

Abi Beatson (PhD Student, Victoria University)

The initial M7.1 Christchurch earthquake was the "first high-impact geological event to affect New Zealand in the "internet age", and a significant feature of this earthquake was the extensive use of social media channels for information sharing (Gledhill et al. 2010: 215). As Hughes et al. (2008:1) explain, sociologists "have documented the nature of convergence onto the physical sites of disasters... and now, increasingly,

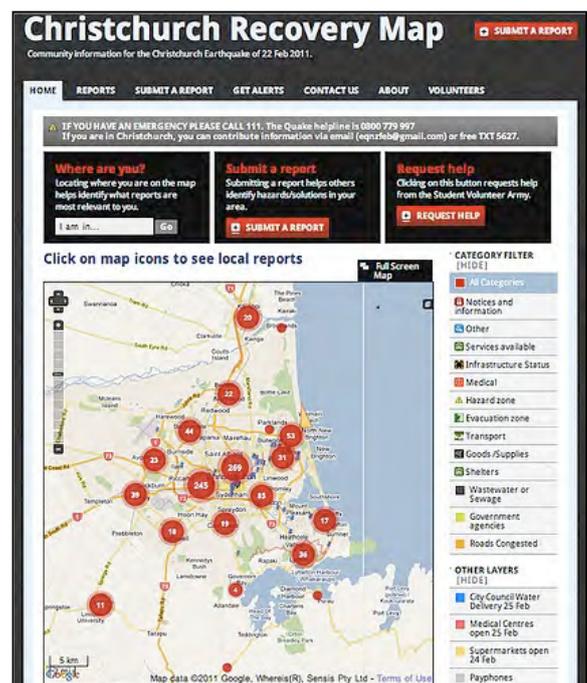


parallels of such behaviour can be seen on-line". The Christchurch earthquake is now part of a large body of case studies where there was a significant online social convergence of people and information in the aftermath of a crisis or disaster.

The focus of my PhD research is on the value of the data produced by social media-based crowd-sourcing techniques in New Zealand, to be utilised for both

organisational and community responses during a crisis event. One of the products of these crowd-sourced problem-solving techniques is crisis mapping: this term refers to the practice of geo-locating information onto 'live' maps to produce and visualise a birds-eye perspective of the complex and often rapidly changing environment in near real time. The information is plotted on maps and continuously updated as new information is received and events unfold. Volunteer and Technical Communities (V&TCs) such as The International Network of Crisis Mappers are also able to assist in disaster recovery by supporting the visual mapping of medical resources, damaged buildings, closed roads, and specific needs such as food, water and shelter. Information is sourced from social media (blogs, Twitter, Facebook), text messages and images via mobile, satellite images, e-mail, radio, live-streams, list-serves and situation reports among others (Morrow et al. 2011:8).

My research addresses the value of crisis mapping in producing maps that, firstly, improve situational awareness for traditional emergency response organisations and secondly, support the self-organising capabilities of a disaster-affected community. Specifically, it addresses and evaluates the challenges and potential solutions for implementing a social media-based crowd-sourcing system into a traditional New Zealand emergency response organisational framework, with a specific point of focus pertaining to the formal and procedural relation between government agencies and relevant local V&TCs.



## References

- Gledhill, Ken, et al. "The Darfield (Canterbury) earthquake of September 2010: preliminary seismological report." *Bulletin of the New Zealand Society for Earthquake Engineering* 43.4 (2010): 215.
- Hughes, Amanda L., et al. "Site-seeing in disaster: An examination of on-line social convergence." *Proceedings of the 5th International ISCRAM Conference*. Washington, DC, 2008.
- Morrow, Nathan, et al. "Independent evaluation of the Ushahidi Haiti project." *Development Information Systems International* 8 (2011).



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## NEWS RELEASE

11 November 2013

### CHRISTCHURCH CHILDREN TO LAUNCH RED CROSS FIRST AID RESOURCE

This Wednesday 13 November a group of Christchurch children will give a live performance of 'The Emergency Song/Te Waiata Aituā' at the launch of a New Zealand Red Cross first aid resource for young children.

The same children performed in the Christchurch-produced music videos, which accompany a narrative picture book called Kiri and the Emergency/Kiri me te Aituā and activities for teachers and parents.

The resource was developed from funding provided by Johnson and Johnson Medical ANZ following the 2011 Canterbury earthquakes.

New Zealand Red Cross will provide 12,000 free copies of the resource to children throughout greater Christchurch. They will be distributed to early childhood education centres, new entrant classes, and health and social service agencies. There will also be copies given away at the Canterbury A&P Show from 13-15 November.

The first aid resource, aimed at children aged 3-6 years, introduces first aid messages, builds children's understanding around danger and supports them to build confidence and skills to act in an emergency.

It is the first Red Cross product available in English, Te Reo Māori and New Zealand Sign Language. A PDF version of the book and the music video will be available online from Wednesday 13 November.

New Zealand Red Cross project manager and registered nurse Anne-Maree Delaney says the resource has been made possible through collaboration with a number of organisations and individuals who recognise the importance of a first aid learning tool for young children.

"We consulted widely with the early childhood education sector, who wanted a broad, adaptable resource kit that would have wide reach over diverse communities and philosophies, including children not in formal education settings," she says.



[@NZRedCross](https://twitter.com/NZRedCross)



[facebook.com/newzealandredcross](https://facebook.com/newzealandredcross)

"When we were satisfied that the first aid messages were clinically safe and age appropriate we trialed both the book and the song in more than 50 diverse early childhood education settings and new entrant classes in greater Christchurch. We received a lot of constructive feedback, which has enabled us to produce a resource which we are confident will engage and empower young children."

Coordinator of Canterbury University's Graduate Diploma in Early Childhood Lia de Vocht was in the clinical reference group for the resource and says it is the only first aid resource she is aware of that caters for this age group.

"It is important that a learning resource starts from a view of children as capable and competent. Kiri and the Emergency does that by helping to increase children's awareness of danger and supporting them to take an active role in an emergency," she says.

"Children can identify with Kiri, the young girl in the story who helps her nana, and there are lots of elements of fun, humour and adventure that will engage children."

Maureen Mooney was also in the clinical reference group for the project and is currently completing a PhD at Massey University's Joint Centre for Disaster Research, on children's ability to cope with adversity. She says parents and teachers are vital in helping children learn to cope with challenges and that Kiri and the Emergency allows them to work together to develop confidence and skills.

"Unfortunately children are not exempt from having to deal with difficult situations. Promoting child coping competence is one way of enabling children to handle a challenging situation that may occur. This first aid resource does this in an age appropriate manner and without putting too much responsibility on young shoulders," she says.

#### Launch details

Wed 13 November, 10.00-11.00am  
North New Brighton War Memorial and Community Centre  
93 Marine Parade  
New Brighton  
Christchurch

*Image caption: Christchurch children recording 'The Emergency Song' audio with conductor/composer Julie Wylie and guitarist Henare Kaa © New Zealand Red Cross*

*Music videos: Behind the Scenes of 'The Emergency Song' audio recording. A high resolution version is available on request.*

For more information contact:

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e: [angela.pyke@redcross.org.nz](mailto:angela.pyke@redcross.org.nz)  
ENDS



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## 26<sup>th</sup> International Tsunami Symposium, 25-28 September, Göcek, Turkey

Stuart Fraser represented JCDR at the 26<sup>th</sup> *International Tsunami Symposium* in Göcek, Turkey ([www.tsunami2013.org](http://www.tsunami2013.org)), where around 150 tsunami scientists from 28 countries gathered to discuss the physics of tsunami, engineering of tsunami-resistant structures, analysis of recent tsunami damage and paleotsunami deposit surveys, and the development of evacuation planning. Analysis of the 2011 Great East Japan earthquake and tsunami featured heavily, as did discussions about tsunami warning systems – primarily the development of the North East Atlantic & Mediterranean tsunami warning system and related projects.

Stuart presented his work on intended evacuation behaviour in a local tsunami scenario at Napier

([www.massey.academia.edu/StuartFraser](http://www.massey.academia.edu/StuartFraser))

and Nuray Karanci, a former Visiting Professor at JCDR, gave a selected talk on psycho-social response to tsunami disasters. Other notable presentations pertaining to tsunami preparedness, mitigation and resilience included Professor Lori Dengler's overview of The Redwood Coast Tsunami Work Group, an independent community organisation founded to promote tsunami mitigation in Humboldt County, California. Professor Emile Okal's discussion of whether we have applied effectively the lessons



learned from our experiences of 11 damaging tsunami since 2004; Dr Eddie Bernard's keynote presentation on the contributions of tsunami science to society; Dr Megumi Sugimoto's presentation of the *World Handbook on Local Disaster Management Experiences for Beginners*; and Harald Spahn's discussion of community-level preparedness in Indonesia (<http://www.gitews.org/tsunami-kit/>).

## Alaska EM Preparedness Conference 2013 - Shaking Emergency Management from one end of the Pacific to the other

Links between Emergency Management in New Zealand and Alaska were further advanced recently when emergency-manager-at-large **Jon Mitchell** attended Alaska's annual Emergency Management Preparedness Conference and Public Health and Medical Emergency Preparedness Conference in Anchorage during the week 7 to 11 October. Jon shared experiences and lessons from the Canterbury earthquakes in a keynote address as a guest of the State of Alaska Department of Homeland Security. Anchorage shares many of the geological attributes of coastal Canterbury, including experiencing effects of the second strongest earthquake ever recorded in March 1964, when much of the then small city was damaged by shaking and extensive liquefaction. Approximately 143 died in the magnitude 9.2 quake, with significant sections of Anchorage and nearby communities being so badly damaged that they were eventually abandoned and new communities established elsewhere.

The reminders of the impact of earthquakes on more modern cities, 50 years after the Anchorage quake, and the numerous similarities between Christchurch with a population of 341,000 and Anchorage with about 300,000 provided a sobering backdrop to the account of the quakes, their social and infrastructural impacts, the organisational and political response to the Canterbury experience, and the long road to recovery ahead for all involved. The opportunities at both conferences to network and explore future collaboration opportunities, particularly in capability and professional development and associated research, were many and varied. Watch this space for news of more cross-pollination across the Pacific.

## Business and Parliament Trust: Spring Overview, Grand Hall Parliament 23 October, 2013

Dr Cassie Kenney was invited by the Honourable David Carter to attend the Parliamentary Spring Business Review. Sir Mark Solomon was the keynote speaker and his presentation centred on mechanisms for ensuring the social and economic resilience of Māori in relation to uncertain times. Subsequent to his key note, conversational topics were diverse and included the impact of Māori cultural values on organisational risk reduction, adaptation to climate change/natural hazards, Māori cultural technologies and sustainability and potential relationships between food security initiatives and economic opportunities.



**Photos above:** Dr Cassie Kenney and Ms Megan Woods MP for Wigram, Christchurch.

## China delegation expands Massey ties

A Chinese Government delegation visited Massey University recently to expand recognition in China of the University's expertise in agriculture, business and emergency management. The State Administration of Foreign Experts Affairs delegates were hosted by the University's International Office and the Centre for Professional and Continuing Education at the Wellington and Manawātū campuses. Massey international relations director Michael O'Shaughnessy said the visit continues a relationship that dates back to when the University was accredited to China's state administration in the 1990s. Vice-Chancellor Steve Maharey and emergency management specialists from Massey were in China earlier this year.

"The visibility of Massey and the momentum achieved through these latest activities laid the foundation for this recent visit to Massey," Mr O'Shaughnessy said.

China's chief representative, Wan Jinfa, invited Joint Centre for Disaster Research director Professor David Johnston and Associate Professor Sarb Johal to provide expertise in emergency management to China's



recently established National Institute in Disaster Management. In addition, Mr Jinfa met with School of Management head Professor Sarah Leberman, and Agricultural Systems senior lecturer, Janet Reid. He expressed interest in Chinese government officials taking up leadership and agribusiness training courses. He also met with Centre for Educational Development director, Dianne Leggett.

**Photo above:** Professional and Continuing Education programme manager Anne-Marie Ngan, Associate Professor Sarb Johal and Professor David Johnston with members of the visiting Chinese delegation.

## The Post Disaster City: Resilience, Social Change and Recovery in Post-Earthquake Christchurch

Raven Cretney, PhD Student at Victoria University, Melbourne, has just started her PhD on "Resilience, Social Change and Recovery in Post-Earthquake Christchurch". Raven has just completed her Masters at Victoria University (Wellington) on "Ongoing community resilience from the ground up: a relational place based approach to grassroots community resilience". This research discusses the role of grassroots community groups in facilitating community resilience during the Christchurch 2010/11 earthquakes and the role of "place" in doing so. She argues that place-specific strategies for urban resilience need to be enacted from a grassroots level while being supported by broader policies and agencies.

Raven's PhD research seeks to study patterns of social change in the recovery of communities post-disaster, and how these interact with government approaches and ideologies. She seeks to understand these patterns during recovery at both a government and community level in the context of the post-earthquake. Following this she will explore, in depth, how these approaches to recovery are impacting the ongoing resilience of one Christchurch community. This project will provide a clearer understanding of how dominant political discourses shape and disaster recovery, as well as how social change occurs in a post disaster environment. For more information contact Raven Cretney at Email: [ravencretney@gmail.com](mailto:ravencretney@gmail.com) or visit Web: [www.ravencretney.wordpress.com](http://www.ravencretney.wordpress.com)

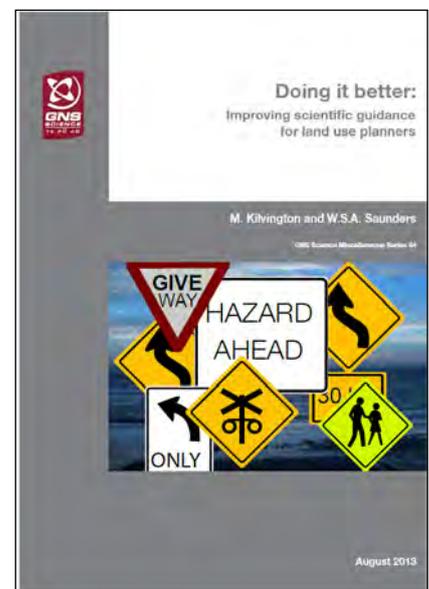


Photo above: Raven with Jason Paul from WREMO. Photo Barbara Gibbs.

## Improving the uptake of guidance

GNS Science has recently published a report aimed at understanding how non-regulatory technical guidance is used by land use planners. While the study was organised around the topic of guidance for natural hazard management and land use planning, many of the points raised are equally applicable to other sectors – including emergency managers, as both users and producers of guidance material.

Aimed primarily at authors of guidance material, it also includes some suggestions for how the users of the guidance material themselves can contribute to better guidance generation. It highlights key areas for improving guidance material, and provides prompts, tips and suggestions for those involved in the design and distribution of guidance material. The report is based on a summary of views expressed in focus group interviews held in five different regions around New Zealand. Participants were from regional and territorial authorities and included land use planners, policy planners, civil defence emergency management (CDEM) staff, as well as science and technical support staff. The focus group participants were interviewed on their experience of guidance material from any and all sources (e.g. researchers, national agencies, groups of practitioners). The report concludes with ten top tips for developing guidance. Entitled "Doing it better: improving scientific guidance for land use planners", the report is available on the GNS Science website at: <http://www.gns.cri.nz/Home/Our-Science/Natural-Hazards/Risk-Society/Societal-Resilience/Policy-and-Planning> Contact: Wendy Saunders, [w.saunders@gns.cri.nz](mailto:w.saunders@gns.cri.nz)



## Natural hazard risk-based planning toolbox now available

GNS Science has released a toolbox to support natural hazard risk-based land use policy and plan development in local government. Developed with planners, it offers a planning approach that focuses on the consequences of natural hazard events. The toolbox outlines techniques, practical steps, and options for enabling local government to review multiple natural hazard risks, both within councils and with external stakeholders.

The toolbox is presented in three key themes:

1. Setting the scene for why this approach is important;
2. The five step risk-based approach for natural hazards; and
3. Examples of implementation.

Highlights include how to incorporate a community engagement processes; an example of a risk-based district plan chapter; and national and international examples. A full report on the project is also available.

The content of the website will also be of interest to emergency managers, particularly the focus on consequences of natural hazard events, principles of community engagement, and scope for being involved in land use planning policy development.

The toolbox and full report is available at: <http://www.gns.cri.nz/Home/RBP/Risk-based-planning/A-toolbox> Contact: Wendy Saunders, [w.saunders@gns.cri.nz](mailto:w.saunders@gns.cri.nz)



## Land Use Planning and Policy for Earthquakes in the Wellington Region, New Zealand (2001-2011)

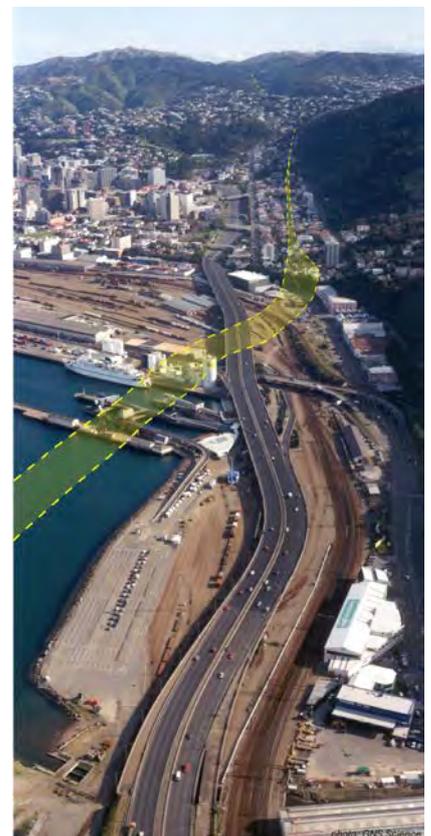
Local land use plans often have poor approaches to identifying natural hazards and mitigating for their effects. This paper uses earthquake hazards in the Wellington region, New Zealand, as a case study. A project was undertaken in 2011 to see whether the earthquake hazard had been



better recognised and mitigated for in Wellington Regional land use planning documents since 2001. In general, it was found that councils' land use policy statements and plans better recognise the risk from the earthquake hazards today than they did a decade previously. There are still areas where land use planning for earthquakes can improve, including strengthening

relationships between central government legislation, addressing a wide variety of hazards associated with earthquakes (not just fault rupture), and continued evaluation of policy to ensure earthquake risk is recognised, information is updated, and effective mitigation measures are employed.

Becker, J.S., Beban, J., Saunders, W.S.A., van Dissen, R., King, A. (2013). Land use planning and policy for earthquakes in the Wellington region, New Zealand (2001-2011). *Australasian Journal of Disaster & Trauma Studies* 2013-1: 1-16.



## Disaster Risk Reduction in Indonesia

We all know Indonesia faces natural hazards on almost a daily basis, from landslides and floods to earthquakes, tsunami and volcanic eruptions. New Zealand is also at risk from these perils and can offer its local government and research experience in hazard and risk assessment, local government frameworks, and helping communities to reduce risk and increase preparedness. Together the two countries have teamed up and are designing a programme aimed at improving the way local government and their communities identify and manage their hazards and risks.

**Photo right:** Members of the GNS Science, UGM and Tadulako University teams inspecting the location in Palu, Central Sulawesi, where a tsunami in 1968 destroyed a market and resulted in loss of life.



**Photo above left:** UGM Project Leader, Dr Faisal Fathani, talking DRR with the Bupati (mayor) of Agam, West Sumatra. **Photo above right:** Members of the UGM and GNS Science teams with the Head of Palu BPBD (Civil Defence), Mr. Rahmat Kawaroe.

A team from Universitas Gadjah Mada in Yogyakarta and GNS Science in New Zealand spent two weeks visiting the provinces of South East Sulawesi and West Sumatra and talking to local government staff (civil defence, planning and public works) in the cities / districts of Palu and Donggala (SE Sulawesi) and Padang, Agam and Pesisir Selatan (West Sumatra) as well as NGOs, local parliamentarians, provincial representatives and central government ministries. The programme builds on a pilot supported by the New Zealand Aid Programme which ran between 2011 and 2012. The programme will support local government to identify its risk reduction and disaster management priorities and develop an Action and Implementation Plan to guide and focus further activity. Local universities are encouraged to support the districts and the plan, and the programme provides training for both local government and local university staff in risk reduction. New Zealand Embassy staff took the opportunity to learn first-hand about the disaster risk management issues facing the districts visited. Risk reduction is a poor cousin to readiness and response planning which is where most of the scarce resources at district level go. Community awareness and socialisation is also lacking. The programme will work with up to 10 districts in three to four provinces over a five year period, and will get under way in 2014.

**For more information contact - Michele Daly, GNS project leader, [m.daly@gns.cri.nz](mailto:m.daly@gns.cri.nz)**



**Project on “Life Safety vs Preservation on Community and Heritage Buildings in the Wellington Region”  
GNS Science and Worcester Polytechnic Institute  
(Massachussets)**



GNS Science is working on a project with 8 students from the Worcester Polytechnic Institute (Massachussets) trying to understand the point of view of different communities on the balance between life safety and preservation of heritage and community buildings within the Wellington region.

Two years after the Christchurch earthquake, authorities across New Zealand are now assessing the capacity of all older buildings to resist earthquakes with a view to identifying those below an acceptable strength and either having them strengthened or demolished. Some community buildings, such as libraries, swimming pools, etc., are being closed for use and in some cases pulled down when they do not fulfill the code requirements, leaving the community without these facilities and making people consider moving to another suburb. The heritage buildings raise a different issue. Their preservation for some sectors of the community is of a much higher priority, to try to avoid the loss of New Zealand cultural and historical heritage. An additional problem arises in the case of the churches. These are valued by local communities that raised the money for their building and are now finding out that they are being classified as unsafe and therefore unsuitable for use. Many communities have no financial support to be able to retrofit earthquake prone buildings, and as a consequence many churches are being closed, some potentially destined for demolition. A third issue that needs to be addressed involves the buildings' evaluation procedures by the engineering community. There is a widespread speculation that their evaluations are being too conservative and result in a large number of buildings being flagged as requiring retrofit or demolition. Questions whether evaluations are overly-conservative still need to be answered.

The method to carry out this project will include a field survey which will consist on questionnaires that the students will carry on at different locations in the Wellington region (Wellington, Hutt Valley, Kapiti coast), divided into three categories: local governments, public and engineering communities. The local governments may be able to provide a summary of the ideas and perceptions within the authorities, and the main procedures that are currently carried out. A survey within the engineering community will be able to provide feedback as to how conservative and efficient the evaluation procedure is being, and to know if heritage buildings should continue being addressed in the same way as the rest of the buildings. Finally, a survey within the public, which may include churches communities, will provide us with a better understanding of what are the communities' thoughts and expectancies.

The students are currently working on the project and they will be in Wellington from early January to early March to carry on the field survey, process the data, write a report and make a final presentation at GNS Science in early March.

We are currently seeking interest in this project within the city and regional councils, engineering communities, community buildings and churches communities that will be interested in meeting the students and taking part in the surveys in the months of January and February. If so, please send your details to the contact below.

**For further information, please contact Dr. Tatiana Goded, from GNS Science (t.goded@gns.cri.nz)**

## Enhancing community resilience through engagement, partnership and empowerment

The growing recognition of the importance individuals, organisations and communities play in disaster response and recovery has provided the Wellington Region Emergency Management Office (WREMO) the opportunity to apply a fresh approach to emergency management throughout their region. WREMO has developed a community resilience model, applicable to any emergency management agency, to enhance connectedness and preparedness. This model is outlined in WREMO's Community Resilience Strategy. This community-driven approach relies on evidence-based community development methodologies to enable better engagement, stronger partnerships, and empowered communities who rely less on government-led intervention. A critical component of this approach is the partnership between WREMO and the JCDR. This partnership has been the catalyst for the Wellington region being designated an International Centre of Excellence in Community Resilience through the Integrated Research on Disaster Risk and the United Nations International



Strategy for Disaster Reduction. Under this framework, every stakeholder in the region is a participant, either actively or passively, and the Community Resilience Strategy forms the guiding principles. WREMO and the JCDR are actively working with individuals, organisations and communities so that their work, whether building resilience from the bottom-up or implementing support strategies from the top-down, is recognised, applied and researched. This unique approach and partnership is in support of WREMO's

mission statement which is, "Empowering communities to build the resilience and continuity necessary so that the region is prepared to respond to, and recover from, natural and man-made emergencies"

## Salient beliefs about earthquake hazards and household preparedness

Prior research has found little or no direct link between beliefs about earthquake risk and household preparedness. Furthermore, only limited work has been conducted on how people's beliefs influence the nature and number of preparedness measures adopted.

To address this gap, Becker et al. (2013) undertook 48 qualitative interviews with residents in three urban locations in New Zealand subject to seismic risk. The study aimed to identify the diverse hazard and preparedness-related beliefs people hold and to articulate how these are influenced by public education to encourage preparedness. The study also explored how beliefs and competencies at personal, social, and environmental levels interact to influence people's risk management choices. Three main categories of beliefs were found: hazard beliefs; preparedness beliefs; and personal beliefs. Several salient beliefs found previously to influence the preparedness process were confirmed by this study, including beliefs related to earthquakes being an inevitable and imminent threat, self-efficacy, outcome expectancy, personal responsibility, responsibility for others, and beliefs related to denial, fatalism, normalisation bias, and optimistic bias. New salient beliefs were also identified (e.g., preparedness being a "way of life"), as well as insight into how some of these beliefs interact within the wider informational and societal context.



Becker, J. S., Paton, D., Johnston, D. M., Ronan, K. R. (2013). Salient beliefs about earthquake hazards and household preparedness. *Risk Analysis* 33: 1710-1725.

## Children's knowledge, cognitions and emotions surrounding natural disasters

New Zealand schools have a responsibility to ensure that children are informed about potential natural disasters, and are prepared with protective strategies. The present study aimed to investigate children's knowledge, cognitions, and emotions concerning natural disasters, with a particular focus on earthquakes and tsunami. Thirty Year 5 school students (aged 9-10 years) from the Wellington region of New Zealand participated in researcher-led focus groups. The children were generally well informed, demonstrating an understanding of causes, characteristics, and potential consequences of earthquakes and tsunami. Thoughts and expectations regarding natural hazards, earthquakes in particular, centred on the unpredictability of natural disasters and on the expectation that there would be significant earthquakes in their region in the future. However, the children demonstrated assurance that the school and family were prepared with emergency supplies, and that they themselves and their families knew strategies for keeping safe in a disaster event. The children discussed these reassurances as a factor in reducing their fear of disasters, fear being the predominant negative emotion discussed by the children. The children indicated that learning at school had contributed to discussions with friends and family, this finding suggesting that disaster education at school is a critical component of children's education and that this education has a flow-on effect at home and in the wider community.



King, T.A., Tarrant R. A.C. (2013). Children's knowledge, cognitions and emotions surrounding natural disasters: An investigation of Year 5 students, Wellington, New Zealand. *Australasian Journal of Disaster & Trauma Studies* 2013-1: 17-26.

## The effects of news media reports on earthquake attributions and preventability judgments: Mixed messages about the Canterbury earthquake

The research examined the effects of two different types of message in the news media in the weeks following the February 2011, Canterbury earthquake. Fatalistic messages portrayed widespread, generalized damage with no reference to the performance of different types of buildings, whereas informed messages conveyed the distinctiveness of damage and the flawed design of most buildings that were damaged. The study examined the effects of these two different messages on judgments of the cause and preventability of the earthquake damage, fatalism about earthquakes in general, and estimates of the proportion of buildings that were damaged. Participants (N = 75) read either fatalistic messages or informed messages. Informed reports led to higher attributions for damage to controllable causes and higher preventability ratings than fatalistic reports. These findings show that the different messages in the news media have contrasting effects on judgments about damage in a recent local earthquake, despite competing real-world information. These results clarify which messages are likely to facilitate preparedness for earthquakes and other hazards, and have several implications for risk communication strategies.

McClure, J., Velluppillai, J. (2013). The effects of news media reports on earthquake attributions and preventability judgments: Mixed messages about the Canterbury earthquake. *Australasian Journal of Disaster & Trauma Studies* 2013-1: 27-36.

## New tsunami report a sound basis for mitigation measures

Recent tsunami research has presented New Zealand with a mixed bag of news. Parts of our coast are exposed to greater tsunami hazard than previously thought, while the hazard in other coastal regions is the same or less. The findings come from a new GNS Science report commissioned by the Ministry for Civil Defence and Emergency Management. It updates a report on New Zealand's tsunami hazards that we compiled in 2005. This year's report incorporates new research and significant changes in scientific understanding since our 2005 report. It focuses on the entire New Zealand coastline rather than just the main population centres. It also uses more advanced modelling to quantify the tsunami hazard. Areas where the hazard is higher are the North Island's east-facing coasts and the southwest of the South Island. In other coastal regions, the tsunami hazard remains about the same, or has even decreased.

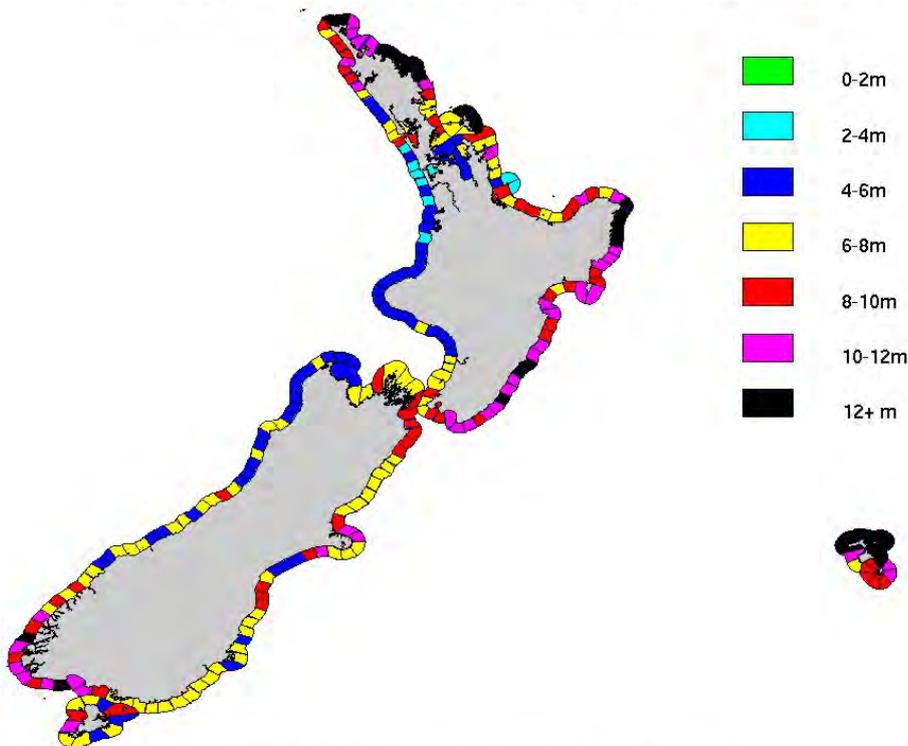
Our recent research and modelling has shown the hazard from near-source tsunami with little travel time is higher than previously estimated. This is particularly the case for tsunami generated by undersea earthquakes off the North Island's east coast. The 220-page report summarises the historical and geological record of tsunami in New Zealand. It notes that New Zealand has experienced about 10 tsunami of 5m or more since 1840. Focussing on the historical record of dangerous local and regional tsunami - those that take less than

three hours to reach here - suggests that these nearby events may occur in New Zealand about every 40 to 50 years on average. So it is likely that at least one will occur in the lifetime of most New Zealanders.

The report is in some respects unique, because of the approach it takes and the level of sophistication in the modelling it uses. It focuses on tsunami hazard – the likely size and frequency of tsunami for given time periods. It does not provide estimates of damage, cost, and casualties. It concludes that over a 2500-year period, earthquake-generated tsunami are the major hazard, ahead of tsunami generated by seafloor landslides or volcanic activity.

### 2013 Tsunami Report

Tsunami Height (Maximum Amplitude) in metres at 50th percentile at return period:2500



Tsunami heights calculated within each 20km zone

2011 Tohoku tsunami in Japan were an important ingredient in the report. The magnitude 9.0 undersea megathrust Tohoku earthquake was substantially larger than scientists had expected at this location. Another observation was that the rupture between the two tectonic plates at Tohoku was very non-uniform. In some places, the plates moved 50m horizontally and in other places it was as little as 5m.

This has implications for the size of tsunami, as the movement between the plates affects the motion of the seabed. Similar non-uniformities are likely to occur during ruptures of New Zealand's nearby subduction zones and other faults. There is a possibility this non-uniformity could occur if the Hikurangi subduction zone ruptures off the North Island's east coast. Our report attempts to incorporate this phenomenon, the first time this has been tackled at a national level.

Lessons learned from the

## Exploring the science-policy interface for Integrated Coastal Management in New Zealand

Integrated Coastal Management has seen an on-going debate on the best way of integrating knowledge with political decision-making across the so-called 'science-policy interface'. This paper engages with this debate by presenting an empirical study into practice at the science-policy interface supporting coastal management in New Zealand. The research takes as its point of departure a notional dichotomy in the Integrated Coastal Management literature between two broad traditions; one espousing a 'science-based interface', the other a 'participatory interface'. Structured according to this conceptual framework, the research describes and analyses the diverse ways in which these two traditions have found practical expression across New Zealand, both at the national scale and according to a comprehensive survey of coastal managers across all 16 regional councils. The analysis extends to the relationship between these two traditions, and how this relationship has determined the evolution of the science-policy interface.



The paper describes the traditional dominance of science-based coastal management in New Zealand, but highlights an important paradox; while science is valorised as the most robust knowledge for decision-making under the statutory decision-making process, there are pervasive financial, procedural and institutional barriers to its collection, meaning that many decisions are made under significant uncertainty. Against the background of this paradox, local government has increasingly departed from the statutory process, according to a philosophy of co-management. This extends to new strategies for mobilising knowledge, both through knowledge partnerships to generate more science, and participatory approaches to mobilise other forms of traditional and local knowledge. These participatory interfaces take many forms, but typically see scientists engaged alongside other knowledge holders within an inclusive decision-making process. All knowledge systems form a common pool of evidence on which to base decisions, and science is used strategically to fill knowledge gaps identified by a participatory process. Therefore, while science-based coastal management remains dominant in New Zealand, it is increasingly couched within a participatory tradition that valorises other knowledge systems as well.

Bremer, S. & Glavovic, B.C. (2013). Exploring the science-policy interface for Integrated Coastal Zone Management in New Zealand, *Ocean and Coastal Management*, 84: 107-118.

## Community Resilience in Christchurch: Adaptive responses and capacities during earthquake recovery

This report discusses the responses to these challenges and explores the resources and relationships that those affected by earthquake consequences identified as contributing to differences in community responses to recovery demands and to their recovery. It discusses how several person/household-, neighbourhood-, community-, and societal-level factors acted, individually and collectively, to influence the development of community response to the 2011 Christchurch earthquakes and aftershocks. Key issues include:

- Recognition of a lack of preparedness and the need for better household and community preparedness at physical (structural, survival), social and relationship levels.
- Recognition of the importance of psychological preparedness and a need for it to be developed and integrated with other public education and community engagement readiness and recovery strategies.
- The individual, community and relationship factors identified as facilitating resilience (e.g., hope, efficacy, collective efficacy, active participation, leadership, ability to represent needs to agencies) are discussed.
- ‘Community’ played several roles in response and recovery – in different ways and with different levels of social coherence. Most people reported that neighbourhood groups emerged in response to the need to meet survival and response needs. However, these groups did not necessarily transition into effective recovery resources. Some did, but most dissipated after the immediate crisis had diminished (they did resurrect after the significant aftershock in June and subsequently).
- Social networks that facilitated the development of a sense of community emerged in several ways with some developing from existing relationships and others emerging from a need to deal with local response issues.
- The development of ‘community’ during recovery was influenced by structural factors such as socio-economic status and whether social networks were built around locational (geographically-centred) versus relational (based on shared interests rather than geography) communities.
- The development of community was also influenced by more dynamic factors. Participants identified several factors they felt helped or hindered the development of functional social networks. These were the degree of external assistance received early in response that limited the perceived need for people to identify and meet their own needs, the degree to which the existing or emerging social networks possessed the core competencies required to organise into a functional entity, and the degree to which local leadership capable of promoting and sustaining community functioning emerged in a community.
- People’s perception of how they adapted and coped was influenced by their relationships with societal-level agencies and government departments. The quality of these relationships affected whether people felt they were marginalised (disempowered) or whether agencies facilitated (empowered) people’s ability to take responsibility for their own response and recovery.
- Bureaucracy and lack of agency competence were cited as constraints.
- Community response was marginalized by the perception that formal response was uncoordinated and by the belief that agencies lacked the capacity to make choices regarding what needed to be done in specific communities.
- The lack of household preparedness and the expectation that civil defence would operate instantaneously resulted in some framing of negative views of response issues. This is supported by different views of this relationship emerging in June.

Paton, D.; Mamula-Seadon, L.; Selway, K. L. 2013. Community Resilience in Christchurch: Adaptive responses and capacities during earthquake recovery, GNS Science Report 2013/37. 24 p.

## Teaching and outreach

Staff and associates of the Centre currently contribute to elements of the Graduate Diploma in Emergency 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”

**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”

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

**Karlene Tipler** (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”

**Sylvia Tapuke** (Masters student, School of Psychology, Massey University)  
“Ways in which waiata may be showcased as culturally relevant tools for facilitating disaster risk perception, management and recovery”

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

## Other partners

**Abi Beatson** (PhD student Victoria University)

“New media, information sharing and crisis mapping: an analysis of new Media Based Information Sharing Practices during the Christchurch Earthquakes”.

**Gill Scrymgeour** (PhD student, University of Tasmania)

“Creating a resilient nursing workforce to the effects of large scale natural disasters within healthcare facilities within the South Pacific”

**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”

**Nate Baird** (MSc student, Department of Geological Sciences, University of Canterbury)

“What is the optimal short-term forecast ashfall hazard map?”

**Heather Craig** (PhD student, Department of Geological Sciences, University of Canterbury)

“Volcanic ash impacts to agriculture”

**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”

**Daniel Blake** (PhD student, Department of Geological Sciences, University of Canterbury)

“Ground Transportation fragility to Volcanic Hazards in Auckland”

**Josh Hayes** (MSc student, Department of Geological Sciences, University of Canterbury)

“Pyroclastic Deposit Clean Up in Auckland: a geospatial risk assessment”

**Daniel Hill** (MSc student, Department of Geological Sciences, University of Canterbury)

“Temporary Power Generation Vulnerability to Volcanic Ash Fall Hazards”

**Emily Lambie** (MSc student, Department of Geological Sciences, University of Canterbury)

“Human behaviour during strong earthquake shaking: CCTV analysis”

**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”

**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”

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

“Critical Infrastructure Fragility to Volcanic Hazards in Auckland”

**Zachary Whitman** (PhD student, Department of Geological Sciences, University of Canterbury)

“Resilience of Rural Organisations to Natural Disaster in the South Island of New Zealand”

**Katherine Yates** (MSc student, Department of Geological Sciences, University of Canterbury)

“Geotechnical Risk Assessment response to seismic hazards in hilly terrain”

**Daniel Hogg** (PhD student, Department of Geography, University of Canterbury)

“Geographic variations in natural disaster impacts and spatial links to non-injury related health outcomes”

**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”

**Mel Irons** (PhD student, School of Psychology, University of Tasmania)

“The role of social media and crowdsourcing in facilitating spontaneous volunteerism and community-led crisis communication, response and recovery”.

**Katelyn Rossiter** (PhD student, School of Environment, University of Auckland)

“Natural Disasters Risk Reduction Using Social Media: Development of An Evidence- Community Engagement Model”.

## New publications

Beban, J.G. & W.S.A. Saunders, 2013: Planning for risk – incorporating risk-based land use planning into a district plan. GNS Science Miscellaneous Series 63, p52.

Becker, J.S., Beban, J., Saunders, W.S.A., van Dissen, R., King, A. (2013). Land use planning and policy for earthquakes in the Wellington region, New Zealand (2001-2011). *Australasian Journal of Disaster & Trauma Studies* 2013-1: 1-16.

Becker, J. S., Paton, D., Johnston, D. M., Ronan, K. R. (2013). Salient beliefs about earthquake hazards and household preparedness. *Risk Analysis* 33: 1710-1725.

Bremer, S. & Glavovic, B.C. (2013). Exploring the science-policy interface for Integrated Coastal Zone Management in New Zealand, *Ocean and Coastal Management*, 84: 107-118.

Burke, S., Gridley, H., Reser, J., Ronan, K. R., & Forbes, D. (2013). Submission to the Environment and Communications References Committee Inquiry, Australian Senate: Recent trends in and preparedness for extreme weather events (February). Australian Psychological Society: Melbourne.

Feather, J. & Ronan, K. R. (2012). Cognitive behavioural therapy for child trauma and abuse (Korean edition). Seoul: Hakjisa Publishing.

Feather, J. & Ronan, K. R. (in press). Cognitive behavioural therapy for child trauma and abuse (Hebrew edition). Tel Aviv: Ach Publishing.

Fraser, S., Raby, A., Pomonis, A., Goda, K., Chian, S.C., Macabuag, J., Offord, M., Saito, K., Sammonds, P. (2013). Tsunami damage to coastal defences and buildings in the March 11th 2011 MW9.0 Great East Japan earthquake and tsunami. *Bulletin of Earthquake Engineering*. Volume 11, Issue 1, pp. 205-239. DOI: 10.1007/s10518-012-9348-9.

Fraser, S.A., Power, W.L., Wang, X., Wallace, L., Mueller, C., Johnston, D.M. 2013. Inundation due to local tsunami at Napier, New Zealand. *Natural Hazards*. DOI: 10.1007/s11069-013-0820-x.

Gray, L., MacDonald, C., Mackie, B., Paton, D., Johnston, D., & Baker, M. (2013, August). Lessons not to be sneezed at: H1N1 Media campaigns in New Zealand and community preparedness. Oral presentation at the Best Investments for Health World Conference on Health Promotion, International Union of Health Promotion & Education, Pattaya, Thailand.

Kilvington, M. & W.S.A. Saunders, 2013: Doing it better: improving scientific guidance for land use planners. GNS Science Miscellaneous Series 64, p27.

King, T.A., Tarrant R. A.C. (2013). Children's knowledge, cognitions and emotions surrounding natural disasters: An investigation of Year 5 students, Wellington, New Zealand. *Australasian Journal of Disaster & Trauma Studies* 2013-1: 17-26.

- McClure, J., Velluppillai, J. (2013). The effects of news media reports on earthquake attributions and preventability judgments: Mixed messages about the Canterbury earthquake. *Australasian Journal of Disaster & Trauma Studies* 2013-1: 27-36.
- Paton, D. (2013) Disaster Resilient Communities: Developing and testing an all-hazards theory. *Journal of Integrated Disaster Risk Management* DOI105595/idrim.2013.0050.
- Paton, D., Okada, N., Sagala, S. (2013). Understanding Preparedness for Natural Hazards: Cross cultural comparison *Journal of Integrated Disaster Risk Management* DOI105595/idrim.2013.0051.
- Paton, D., Johnston, D.J., Mamula-Seadon, L. and Kenney, C.M., (2013). Recovery and Development: Perspectives from New Zealand and Australia. In N. Kapucu and K. T. Liou (Eds) *Disasters & Development: Issues and Country Studies*. Oxford, NYC: Routledge (in press).
- Paton, D.; Mamula-Seadon, L.; Selway, K. L. 2013. Community Resilience in Christchurch: Adaptive responses and capacities during earthquake recovery, *GNS Science Report* 2013/37. 24 p.
- Ronan, K.R, Crellin, K., & 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., & M. Kilvington, 2013: Risk-based land use planning for natural hazard risk reduction. *GNS Science Miscellaneous Series* 67, p97.
- Sinclair, H., Doyle, E., Johnston, D., Paton, D. (in press). The use of Emergency Operations Centres in local government emergency management. *International Journal of Emergency Management*.
- Stapleton, B. & Ronan, K.R. (2012). Evaluation of Australian Red Cross' Psychosocial Response to the Queensland Floods 2010-2011 and Cyclone Yasi. Australian Red Cross: Brisbane.
- Sword-Daniels, V., Wilson, T. M., Sargeant, S., Rossetto, T., Twigg, J., Johnston, D. M., Loughlin, S. C., Cole, P. D. (in press). Consequences of long-term volcanic activity for essential services in Montserrat: challenges, adaptations and resilience. *Geological Society Special Publication, The Eruption of Soufriere Hills Volcano, Montserrat*.



**Photo above:** Wenchuan Earthquake Memorial Museum in the town of Qushan, Beichuan Qiang Autonomous County, southwest China's Sichuan Province.



Photograph courtesy of James Hollings  
School of Communication, Journalism and Marketing, Massey University

# CRISIS COMMUNICATION | A TASTER

**THIS ONE-DAY INTENSIVE COURSE IS FOR COMMUNICATION PRACTITIONERS TO UPSKILL, OR FORMALISE, YOUR INVOLVEMENT IN CRISIS COMMUNICATION.**

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- Dr. Chris Galloway (Risk Communication Researcher)
- Professor Frank Sligo (Professor of Communication)
- Victoria Parsons
- Dr. Emma Hudson-Doyle (Science risk communication researcher)
- Dan Neely (WREMO)
- Tomas Kiha (Ideas Shop)
- Abi Beatson (Crisis Mapping Researcher)
- Sara Page (GeoNet).

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Certificate of Participation, morning and afternoon tea, lunch, course workbook and readings. Bring: your existing crisis first-response template if you have one, your questions and your willingness to give lots of input and feedback.

#### WHEN

10:00 a.m. – 3:30 p.m.  
Monday 18 November 2013

#### WHERE

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Cost \$175.00 incl GST

#### CONTACT

Dr Elspeth Tilley [E.Tilley@massey.ac.nz](mailto:E.Tilley@massey.ac.nz)  
+64 4 801 5799 extension 62543 or

#### Course facilitator

Sara K. McBride  
[sara.mcbride@gmail.com](mailto:sara.mcbride@gmail.com)



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



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# 7<sup>th</sup> Australasian Natural Hazards Management Conference 2014

From land-use planning to effective response and recovery

Call for papers  
(due 1 May 2014)

Photo: G.Hancock, GNS Science

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Optional Workshops 22, 24 & 25 September 2014

The conference will provide a forum to discuss the integration of hazard information into effective risk management, including:

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<b>KEY DATES:</b>	October 2013	Call for papers, workshops and trade displays
	April 2014	Registration details on the web and printed final circular available
	1 May 2014	Deadline for abstract submissions
	1 June 2014	Confirmation of programme
	23–24 September 2014	Conference and workshops

**Contact:** [ahmc@hazards-education.org](mailto:ahmc@hazards-education.org)  
[www.hazardseducation.org/conference](http://www.hazardseducation.org/conference)

## 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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