

JOINT CENTRE FOR DISASTER RESEARCH



TEN YEAR ANNIVERSARY

2006 - 2016



Our vision

To be an internationally recognised centre of inter-disciplinary, applied research and teaching excellence in disaster risk and emergency management.

Our mission

To provide leadership, coordination and delivery of disaster risk and emergency management research, teaching and capability building.

JOINT
CENTRE FOR
DISASTER
RESEARCH

Foreword



Centre Director, Professor David Johnston

The Joint Centre for Disaster Research is a Massey University and GNS Science partnership that was established in 2006. The Centre practises multidisciplinary research, teaching and professional development to better understand the impacts of natural, human-made, and environmental disasters on communities. This is aimed toward improving risk management, and enhancing community preparedness and response and recovery from hazard events.

The Centre co-ordinates the Emergency Management teaching programme for Massey University, which is entering its 27th year and has produced over 100 graduates. This programme was the first interdisciplinary multi-college emergency management tertiary education programme available within NZ. It has a particular focus on psychology and psychosocial aspects of disasters and emergency response and recovery.

We recognise the absolute importance of partnerships and networks to more effectively bring together the science, policy, and practice communities. These partnerships are key to making better use of the evidence base that science and technology can provide, and they also highlight the opportunities in which practice-informed evidence can enhance our knowledge base and improve our practice.

Enhancing partnerships across the science, policy, and practice communities for disaster risk reduction in the 21st century will improve how disaster risk is understood and assessed. It will lead to improved early warning systems, improve governance around risk management, and enhance capacity and capability across all parts of the disaster risk reduction system.

Our research



PhD graduate Dr Sara McBride lecturing at the Summer Institute 2017.

We are the main centre for Massey University's social science research on disasters and community resilience that is grounded in behavioural science and the discipline of psychology. We serve as a major hub for integrating domains of social science research within the university, between Massey and GNS Science, and with many other local and international organizations.

The Centre research sits under the following themes:

Psychosocial support after disasters

Members of the team have been involved in a number of studies looking at the psychosocial impact of disasters on health care and social welfare professionals. We have provided advice to a number of agencies in this area including the Ministry of Social Development and the Ministry of Health. JCDR staff had a significant hands on role immediately following the February 2011 earthquake. Within 48 hours of the earthquake, JCDR staff set up the psychosocial support advisory group on behalf of the Ministry for Social Development. Throughout 2011/12 Professor David Johnston and Associate Professor Sarb Johal were heavily involved in Christchurch, assisting a range of government departments.

Understanding community resilience

Our work in this area focuses on developing tools and guidelines to empower communities to prepare for natural hazard events. Our research looks at understanding the factors that make a community able to withstand the consequences of a natural hazard event in order to understand the local, regional and national factors that influence each community. Community Resilience research supports the International Centre for Excellence in Community Resilience (ICoE:CR) which is co-hosted by the Centre and the Wellington Region Emergency Management Office (WREMO).



Image: supplied by JCDR

Planning and policy

The planning team at the Centre provide resources for planners to achieve effective risk reduction using hazard research conducted by GNS Science, NIWA and other partners. Our resources assist planners in making effective land use planning decisions where natural hazards can have an impact. Projects include writing national guidelines, frameworks for pre-event recovery planning, and promoting the integration of land use planning with emergency management.



Image: Students practice earthquake drill at Jana Bikash Secondary School, Matatirtha, photo taken by Jim Holmes. (license <https://creativecommons.org/licenses/by/2.0/legalcode>)

Hazard awareness and education

A key aim of our research is about measuring community understanding of, and preparedness for, natural hazards. Results are used to design educational strategies to meet the needs of various groups including communities, businesses and schools.

Social networking tools

At the Centre we specialise in the use and impact of social networking tools in a disaster context. Our team focuses on how people's interaction with information and communication technologies can contribute to a resilient culture. Particularly with regard to public information-seeking activities and the self-organising capabilities of disaster-affected communities.

Risk communication

The communication of science advice for individual and organisational decision-making during natural hazard events has been a primary research theme at the Centre over the last six years. Our projects include investigations into the communication of probability forecasts, effective communication of uncertain science advice, and the use of hypothetical scenarios to explore effective communication. We've also focused on better understanding of the public response to aftershock information.



Image: supplied by JCDR

Māori and Indigenous risk reduction and disaster management

Over the last five years the Centre's Indigenous Disaster Risk Management (IDRM) team has partnered with tangata whenua to explore cultural factors that facilitate Māori community well-being in the aftermath of major natural hazard events. A key area of research has been the National Hazards Research Platform funded 'Understanding factors that build iwi resilience' project (2012-2015). This was conducted by members of our team in partnership with Ngāi Tahu. Subsequent funding from the Ministry of Business, Innovation and Employment has extended the project to identify and document cultural attributes that enhanced Māori community recovery more broadly in the aftermath of the Canterbury earthquakes.

National research platforms

Both GNS Science and Massey participate in three national research platforms thus here at the Centre we engage and work with platform partners.

Work with these platform partners, including:

- Natural Hazards Research Platform
- The National Science Challenge - Resilience to Nature's Challenges
- Quakecore – NZ Centre for Earthquake Resilience

Our teaching



GNS Science Earthquake Geologist Russ Van Dissen.

Teaching, Delivery and Outreach:

The Massey based staff at the Centre all teach and develop courses within the Emergency Management programme. We deliver qualifications from the graduate diploma to doctoral level, with a number of postgraduate students within the Psychology department and across partner departments. We also co-supervise students at other universities.

The Centre has partnerships with a range of local and international organizations including University of Canterbury, GeoNet, and University of Auckland, along with contributions from leading specialists. We also offer a range of short courses on diverse topics in emergency management. This includes the annual Emergency Management Summer Institute and the Development Programme for Response Managers.

Our staff play a leading role in public lectures and conferences on emergency management in New Zealand and around the world. We provide expertise for GNS Science's popular short courses such as the annual 'Planning for a volcanic crisis', and we host the biennial Australasian Natural Hazards Management Conference in NZ.

For the last several years, the Centre has assisted the Ministry of Civil Defence and Emergency Management run their annual conference. This is held mid year and is attended by hundreds of national and international emergency management practitioners, experts and academics.

Course Offerings:

Graduate Certificate in Emergency Management

Introduced in 2012, the Graduate Certificate in Emergency Management is the first step for students wanting to learn about emergency management. The Graduate Certificate provides a broader introduction to theory and concepts of contemporary emergency management and incident command systems.



Image: supplied by JCDR

Graduate Diploma in Emergency Management

This qualification has been the flagship emergency management qualification for Massey University and the Centre. It started in 1990, and in 2012 it was revised to focus solely on undergraduate papers. This makes it an ideal extension programme for those already holding the Graduate Certificate in Emergency Management who do not wish to proceed to the postgraduate level. It is also for those who require further papers to improve their academic record for entry into postgraduate studies in emergency management. The Graduate Diploma has a wider choice of electives and it is a very flexible qualification for students.

Postgraduate Diploma in Emergency Management

The Postgraduate Diploma in Emergency Management is an advanced coursework based degree. It builds on core emergency management knowledge attained through industry experience and the prerequisite qualifications. It is aimed at mid to senior level emergency managers who are interested in expanding their emergency management competencies

Master of Emergency Management

The recently revised Master of Emergency Management offers a new and innovative way to study emergency management and presents two options. The first is a coursework option that involves 120 credits of compulsory papers and 60 credits from a list of elective papers. There is also the research option that involves 90 credits of compulsory papers and a 90 credit thesis in emergency management.

Doctor of Philosophy (Emergency Management) PhD

The Doctor of Philosophy (PhD) qualification has an endorsement in emergency management. Located within the Centre, students have the opportunity to conduct cutting-edge research in emergency management supervised by a range of leading academics.

Minor in Emergency Management (Bachelor of Arts) and Endorsement in Emergency Management (Diploma in Arts)

The minor specialisation and endorsement in emergency management allow Bachelor of Arts and Diploma in Arts students to gain knowledge about emergency management. The specialisation considers global and local disaster risk reduction, the history and evolution of how communities respond to disasters, and how they might best respond to situations of serious vulnerability and emergency. This qualification contains five, 15 credit courses.

Professional Development

We also offer a range of short emergency management professional development workshops and courses. These attendance-based learning events cover a diverse range of topics without the demands of pre or post event activities or assessments. Delivered using a mixture of leading academics and seasoned practitioners, these events are ideal for new and experienced emergency managers.

Summer Institute

The Emergency Management Summer Institute is a very popular short course programme that has been run every March for the past seven years. It was developed to provide a theoretical and practical introduction to selected topics relating to emergency management. Since 2015 the Summer Institute has also been a part of the postgraduate level 30 credit course, 130.706 Emergency Management in Practice.



Participants on the Summer Institute field trip, 2017

National Expedition and Internship

This course provides a unique opportunity for international students to gain knowledge of disaster risk and emergency management by going on an expedition to the varied and beautiful hazard-scape of New Zealand. Students learn about disaster risk analysis, risk reduction, resilience, readiness, response and recovery in real-world contexts. They complete a month-long internship gaining first-hand experience in aspects of disaster risk and emergency management with government, community, commercial or non-government organisations.

Emergency Management Massive Online Open Course (MOOC)

In 2013 the Centre developed an Emergency Management massive open online course (MOOC), in partnership with Open2Study. It covers the origins of risk management in the ancient world, new hazards and risk management approaches of the industrial era, command and control models, and more contemporary 'all-hazards' and 'risk management' approaches. The course aims to provide an innovative and accessible approach to emergency management education with a global reach for diverse audiences. Over 10,000 individuals from across the globe have participated in MOOC since it was introduced in December 2013.

Our services



Image: supplied by JCDR

Consultancy and advice

Consultancy and advisory services provided through the Centre have increased recently, using staff from both our partners and contracted subject matter experts. These include contracts to the Ministry of Civil Defence & Emergency Management, Department of Prime Minister and Cabinet, Ministry of Health, Ministry of Foreign Affairs and Trade, Ministry of Business, Innovation and Employment. This also includes various civil defence emergency management groups and other clients.

Since the 2010-2011 Canterbury earthquake events, the research conducted by the Centre has had a particular focus on the psychosocial dimensions of Canterbury post-disaster. Our staff played a pivotal role in helping to shape response, recovery and resilience oriented activities, and programmes of action. We have also provided policy advice including psychosocial recovery advice for the Canterbury Earthquake Recovery Agency, Ministry of Social Development, Ministry of Health, Ministry of Education, and Te Puni Kōkiri.

Other advice has addressed thematic risk management issues, hazard-specific problems, and dynamics of the recovery process. These include the iwi response and recovery, and wider community resilience and well-being. Our wider scope of advice areas have included:

- H1N1 pandemic response planning
- National and regional level public education design and evaluation
- Development of community resilience indicators
- GeoNet's communication of earthquake aftershock and volcanic eruption forecasts.

Over the last decade the JCDR has regularly hosted overseas scholars from countries including Australia, Canada, China, Costa Rica, France, Japan, Pakistan, Sri Lanka, Switzerland, Turkey, the United States and the United Kingdom.

International Centre of Excellence in Community Resilience



The Centre has been pivotal in the 2014 establishment of the Integrated Research for Disaster Risk (IRDR) in the Wellington Region. The IRDR programme is a decade-long, inter- and trans-disciplinary research initiative sponsored by the International Council for Science, in partnership with the International Social Science Council, and the UNISDR. Since 2012, the IRDR has established a number of ICoEs to provide regional and research foci for the IRDR via an integrated approach to disaster risk reduction. The ICoE:CR is co-hosted by the Centre at Massey University and the Wellington Region Emergency Management Office (WREMO). Their goal is to enhance collaboration between researchers and practitioners and to become an internationally recognised centre of excellence. Through a range of activities the ICoE:CR aims to provide an evidence base for WREMO's Community Resilience Strategy, act as a vehicle to share good practice in Community Resilience, and promote the Wellington Region as a living laboratory for research and learning.

Activities since establishment have included a number of networking events and workshops, such as the trans-disciplinary workshop on Community Resilience: Knowledge Sharing in September 2014. Participants attended from across the local, regional and national science and government organisations. There were also local and regional practitioners, and businesses and community special interest groups.

Psychosocial support after disasters

The Centre was recently commissioned by the Ministry of Health to review *Planning for Individual and Community Recovery in an Emergency Event: Principles for psychosocial support*, and to update the existing guidance in this area. We have also provided input into the New Zealand Red Cross's Psychological First Aid Training particularly around tailoring the programme for different cultures.

Australasian Journal of Disaster and Trauma studies

The Australasian Journal of Disaster and Trauma Studies (AJDTS) is an open-access, peer-reviewed electronic journal for collating and distributing original research into social aspects of natural hazards, disasters and related psychological trauma, with a focus on Australasia. The journal is managed by the Centre and David Johnston is the Editor in Chief. The journal recognises the multi-disciplinary nature of research and practice into social dimensions of disasters and disaster-related trauma. It attracts contributions from academics and practitioners from diverse professional backgrounds, including mental health, physical and geological sciences, social sciences, and health and welfare services.

The CDEM Controllers' Development Programme

This programme was created in 2014 to meet capability development needs of emergency management controllers. It is for Civil Defence and Emergency Management (CDEM) controllers at all levels and involves a six-week, part-time, on-line learning, self-evaluation and facilitated peer discussion phase. It also includes a 360° feedback process with an intensive five-day residential development course, followed up with a 12 to 18-month mentor and peer-supported cohort development phase.



Cohort 3 of November 2015

Our people



JCDR staff, students and collaborators at the launch of the MOU with NIWA, September 2016

Professor David Johnston, GNS Science
School of Psychology, Massey University (Director)

Dr Denise Blake
School of Psychology, Massey University

Dr Emma Hudson-Doyle
School of Psychology, Massey University

Heather Gunn
School of Psychology, Massey University
(Centre Administrator)

Julia Lyford
School of Psychology, Massey University
(Communications Coordinator)

Dr Tom Huggins
School of Psychology, Massey University

Associate Professor Sarb Johal
School of Psychology, Massey University

Dr Christine Kenney
School of Psychology, Massey University

Dr Carol MacDonald
School of Psychology, Massey University

Jon Mitchell
School of Psychology, Massey University

Zoe Mounsey
School of Psychology, Massey University

Dr Carol Stewart
School of Psychology, Massey University

Dr Raj Prasanna
School of Psychology, Massey University

Dr Jane Rovins
School of Psychology, Massey University

Dr Ruth Tarrant
School of Psychology, Massey University

Dr Abi Beatson
School of Psychology, Massey University

Dr Hannah Brackley
Risk & Society Department, GNS Science

Dr Julia Becker
Risk & Society Department, GNS Science

Michele Daly
Risk & Society Department, GNS Science

Maureen Coomer
Risk & Society Department, GNS Science

Emily Grace
Risk & Society Department, GNS Science

Dr Graham Leonard
Risk & Society Department, GNS Science

Dr Wendy Saunders
Risk & Society Department, GNS Science

Dr Sally Potter
Risk & Society Department, GNS Science

Richard Woods
Risk & Society Department, GNS Science

Our partners



Image: supplied by JCDR

The Centre draws on expertise from a range of disciplines across all Massey University campuses, GNS Science, other collaborating organisations, and external contracted subject matter experts.

Both Massey University and GNS Science are partners to the collaboration frameworks of the National Science Challenges, QuakeCoRE, and the Natural Hazards Research Platform. The recently established strategic approach to national science investment in New Zealand, the National Science Challenges, will be a key influencer to the direction of the Centre's work in future.

Our team are working on a project management plan for Bushfire and Natural Hazards CRC that is looking at the barriers and enablers in the long term recovery of communities affected by natural hazards. This long term project has a completion date of June 2021.

The Centre contributes to making our city more resilient by supporting the efforts of Wellington City Council's Resilient Wellington initiative. A strategy aimed at making people connected, empowered and integrated at all levels and our homes and natural and built environments healthy and robust. This is in partnership with 100 Resilient Cities — pioneered by The Rockefeller Foundation (100RC), an organisation created to help cities around the world become more resilient to the physical and economic challenges that are a growing part of the 21st century.

The Hub

The Disaster Hub was launched by JCDR in August 2015 and provides a facility for collaboration between staff with an interest in emergency management. This includes all public and private organisations, universities, and training entities. The hub is housed in low-rise, earthquake resistant buildings on the campus covering about 500 square metres. It includes facilities for administration, teaching and research staff, PhD and post-doctoral students as well as staff from partner organisations.

Hub partners include WREMO, the Integrated Research Programme on Disaster Risk, the International Centre of Excellence in Community Resilience, the Earthquake Commission (EQC) and the New Zealand Red Cross. The Disaster Hub includes an Emergency Operations Centre (EOC) that is used for response coordination training and research. It also acts as the coordination centre for responses to emergencies that may affect the university campus. The EOC has its own back-up power generator and satellite telecommunications system to ensure it can operate self-sufficiently in most emergency situations.



From left, JCDR Director Professor David Johnston, then Christchurch Mayor Lianne Dalziel, then Wellington Mayor Celia Wade-Brown.

Niwa

In 2016 JCDR agreed a Memorandum of Understanding (MoU) with NIWA to formalise collaboration. The launch was held at NIWA Wellington and was attended by Mayor Celia Wade-Brown, Regional Manager of WREMO Bruce Pepperell, Wellington City Council Chief Resilience Officer Mike Mendonça, and representatives from the Ministry of Civil Defence and Emergency Management.

Partners



Our current PhD students

Alan Kwok

Measuring and Mapping Disaster Resilience in Local Communities: A Multi-layered Comparative Analysis between New Zealand and the U.S.

Miles Crawford

How Risk Informs Natural Hazard Management: A study of the interface between risk modelling for tsunami inundation and emergency management policy and procedure.

Hayley Squance

Animal Welfare Emergency Management: Management of animals during and after national disasters in New Zealand.

Mina Adhikari

Earthquake induced landslides prone communities and their adaptive capacities.

Jack Lindsay

Maximising participatory planning in emergency management.

Karlene Tipler

Emergency management in New Zealand primary schools.

Prahlad Lamichhane

Risk communication systems for reducing elderly's vulnerabilities to flood.

Nancy Brown

Building disaster resilience in the lodging industry.

Marion Tan

Citizen-centred approach in the development of mobile phone applications for disaster management.

Syed Yasir Imtiaz

Development of a framework to understand the types of damage data or impact information in a region.

Lisa McLaren

Exploring the science behind citizen science

Ashleigh Rushton

Gender and disaster

Lesley Gray

Disaster risk reduction

Our PhD graduates



Yasir Javed

Assistant Professor, Manager, Planning and Development at COMSATS Institute of Information Technology, Pakistan

PhD 2012 - Design, Implementation and Evaluation of Web-based Integrated Incident Resource Management System for decision support in Emergency Operation Centres

School of Psychology and Institute of Information and Mathematical Sciences



Heather Taylor

State Risk Project Leader at Office of Emergency Management, Western Australia PhD

2012 - Children in disasters: Children's experiences of flooding in Surakarta, Indonesia



Julia Becker

Senior Scientist, GNS Science

PhD 2013 - Increasing Community Resilience: Understanding how individuals make meaning of hazard information and how this relates to preparing for hazards



Debra Ellis

Director at Paramax Consulting

PhD 2013 - Health sector emergency management roles in New Zealand



Wendy Saunders

Natural Hazards Planner, GNS Science

PhD 2013 - Effective land-use planning for natural hazard management



Robyn Tuohy

Arthritis Educator at Arthritis New Zealand

PhD 2014 - Disaster preparedness of older adults in New Zealand



Stuart Fraser

Senior Disaster Risk Management Specialist, Innovation Lab – Global Facility for Disaster Reduction and Recovery (GFDRR)

PhD 2015 - The potential for using mid to high-rise buildings as vertical evacuation structures in near-source earthquake and tsunami events



James Hudson

Principal Advisor (Evaluation) for the Independent Māori Statutory Board.

PhD 2015 - The Quantification of Iwi Development: A Framework for Iwi Development & Resilience

School of Psychology and Te Mata o Te Tau



Vicki Johnson

Independent Research & Strategy Consultant

PhD 2015 - Evaluating disaster education programs for children



Sally Potter

Hazard and Risk Management Researcher, GNS Science

PhD 2015 - Communicating the status of volcanic activity in New Zealand, with specific application to caldera



Ian de Terte

Senior Lecturer at the School of Psychology, Massey University

PhD 2012 - Resilience and the prevention of work related traumatic stress: testing an ecological model



Tom Huggins

Research Officer, Joint Centre for Disaster Research and
Director of Centro

Machilia (Mexican NGO)

PhD 2016 - Optimising visual solutions for complex strategic scenarios



Maureen Mooney

Advisor for the Red Cross

PhD 2016 - Childhood and caregiver post-disaster recovery following Canterbury earthquakes of 2010 and 2011



Sara McBride

Mendenhall Fellow at the United States Geological Survey

PhD 2016 – Learnings from the Canterbury Earthquake Sequence to design successful public education campaigns

Looking back

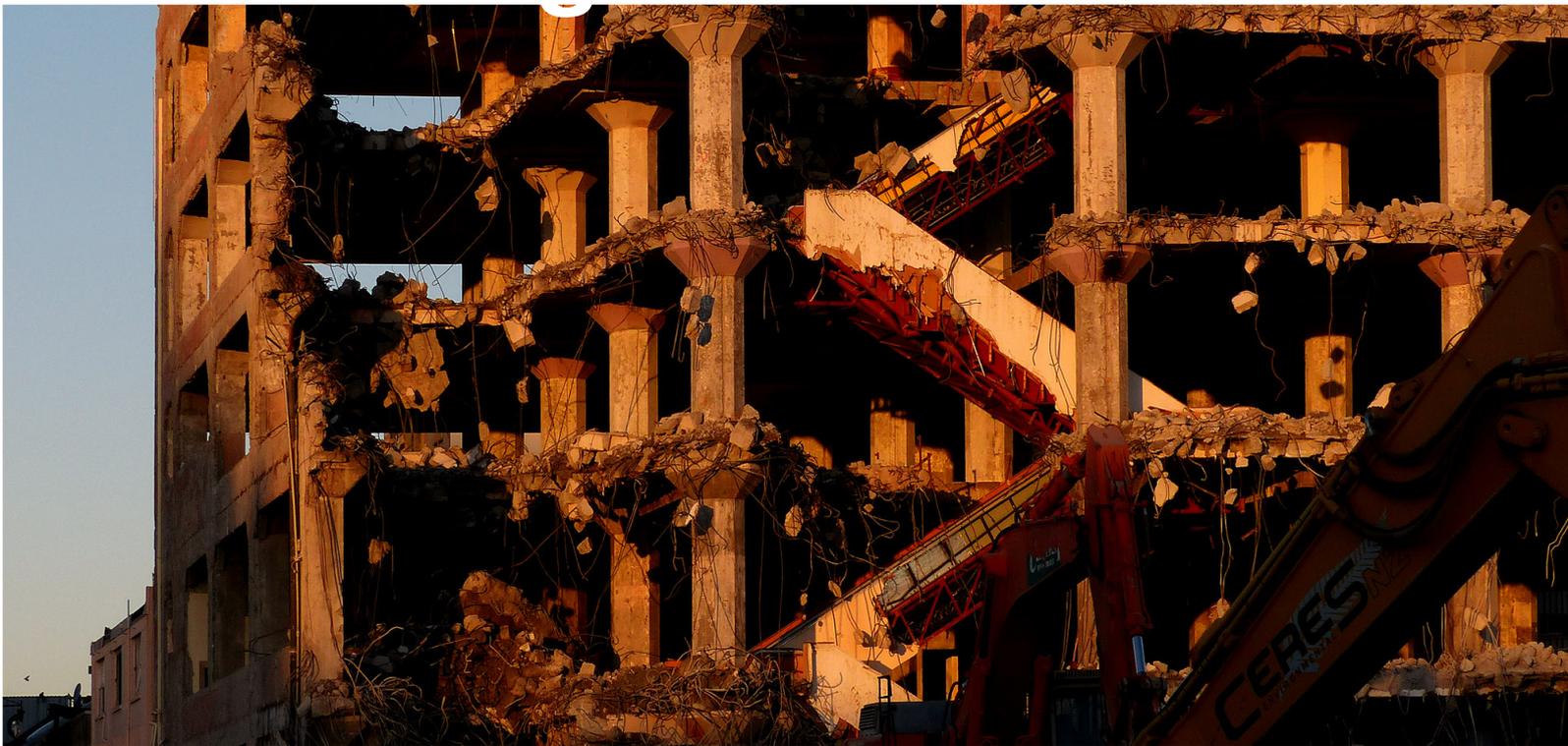


Image: taken by Bernard Spragg (licensed for public domain)

Exercise Tangaroa 2016

JCDR participated in this national exercise that took place over three days, 31 August, 14 September, and 28 September 2016 and was based on a regional source tsunami scenario. The aim was to test New Zealand's preparations for, response to, and recovery from, a national tsunami impact.

Using a realistic scenario with limited warning time, Exercise Tangaroa was a great opportunity for organisations to practice their arrangements for what would be a major disaster affecting all CDEM Group regions. The exercise was led by the Ministry for Civil Defence and Emergency Management.

Kaikoura earthquakes 2016

Members of the staff have published several articles on the magnitude 7.8 earthquake that struck on 14 November at two minutes after midnight. One of these papers provides a national and industry-level reconnaissance of the economic and social impacts that the earthquakes had on the transport, tourism, and primary production industries. The other study explores existing science coordination arrangements in New Zealand and how these interface with emergency management structures to ensure science can effectively inform response activities. The JCDR team were also on hand in the weeks and months after the earthquakes to assist with recovery and rebuilding resilience.

East Cape Earthquake 2016

The magnitude 7.1 East Cape earthquake struck off the northeast coast of New Zealand at 4.37 a.m. on 2 September 2016. The earthquake generated a small (30cm) tsunami, and shaking was felt throughout the North Island. Our staff and affiliates were part of a communications team reporting to wider audiences on the earthquake.



Image: supplied by JCDR

H1N1 Pandemic 2009 – 2010

Community responses to communication campaigns for influenza A (H1N1): a focus group study

The aim was to provide health authorities in New Zealand with evidence-based practical information to guide the development and delivery of effective health messages for H1N1 and other health campaigns. The research looked at the impact of messages on behavioural change and the differential impact on vulnerable groups in New Zealand. Dr Sarb Johal from the Centre co-authored the study after coordinating the production of a pandemic strategy for the UK Government.

Kaitaia Flooding 2009

Kaitaia is situated in the valley of the Awanui River in Northland, New Zealand. The Awanui River and Tarawhataroa Stream both flow through Kaitaia, and cause regular flooding. The Centre was involved in research around two surveys undertaken in Kaitaia to investigate people's perceptions of and preparedness for flood hazards. The surveys were undertaken in 2006 and 2009, with one minor and one major flood event occurring in between the surveys, in 2007.



*Image: Awanui River near Kaitaia, taken by Grendel
(license <https://creativecommons.org/licenses/by/2.0/legalcode>)*

Shakeout 2009-2015



On 18 September 2009 a ShakeOut exercise was run on the West Coast of the South Island of New Zealand in conjunction with Ru Whenua, an operation to test local Civil Defence response to an 8.2 magnitude rupture of the Alpine Fault. The West Coast ShakeOut exercise was based on the California ShakeOut exercise of 2008, and actively involved participants from schools, businesses and local communities in a 'what if' scenario to educate West Coasters about preparedness for what could be a potentially devastating earthquake event. Observers from the Centre, GEONET, University of Canterbury and University of Otago visited West Coast schools on the day of the ShakeOut exercise, to record the staff and students' response to the event.

Subsequent national shakeouts have been run by the Ministry of Civil Defence and Emergency Management in 2012 and 2015. JCDR staff have contributed to the development of those programmes as well as evaluation.

Exercise Rūaumoko 2008

As part of the national emergency management Exercise Rūaumoko, staff from the Centre, the University of Auckland, and GNS Science, worked with MCDEM to develop a survey of public understanding of volcanic risk in Auckland. The survey involved interviews with residents and visitors and ran over three days. In addition, the team also assisted with the development of a community behaviour-based communication framework to help public information staff frame messages during an escalating volcanic crisis.

South Island Snowstorm 2006

The June 2006 Canterbury snowstorm caused widespread impacts in the Canterbury region, resulting in a major regional emergency response. To investigate the impacts of the snowstorm and assess how responding agencies managed the event, a survey was sent to 92 individuals or organisations involved in the emergency response to the snowstorm. The survey aimed to record damage, impacts on urban and rural communities, the effectiveness of organisations' response plans, warning and reaction to the snowstorm event, and the lessons that could be learnt for dealing with future snowstorms. A report presenting the results of the survey was published by GNS Science.

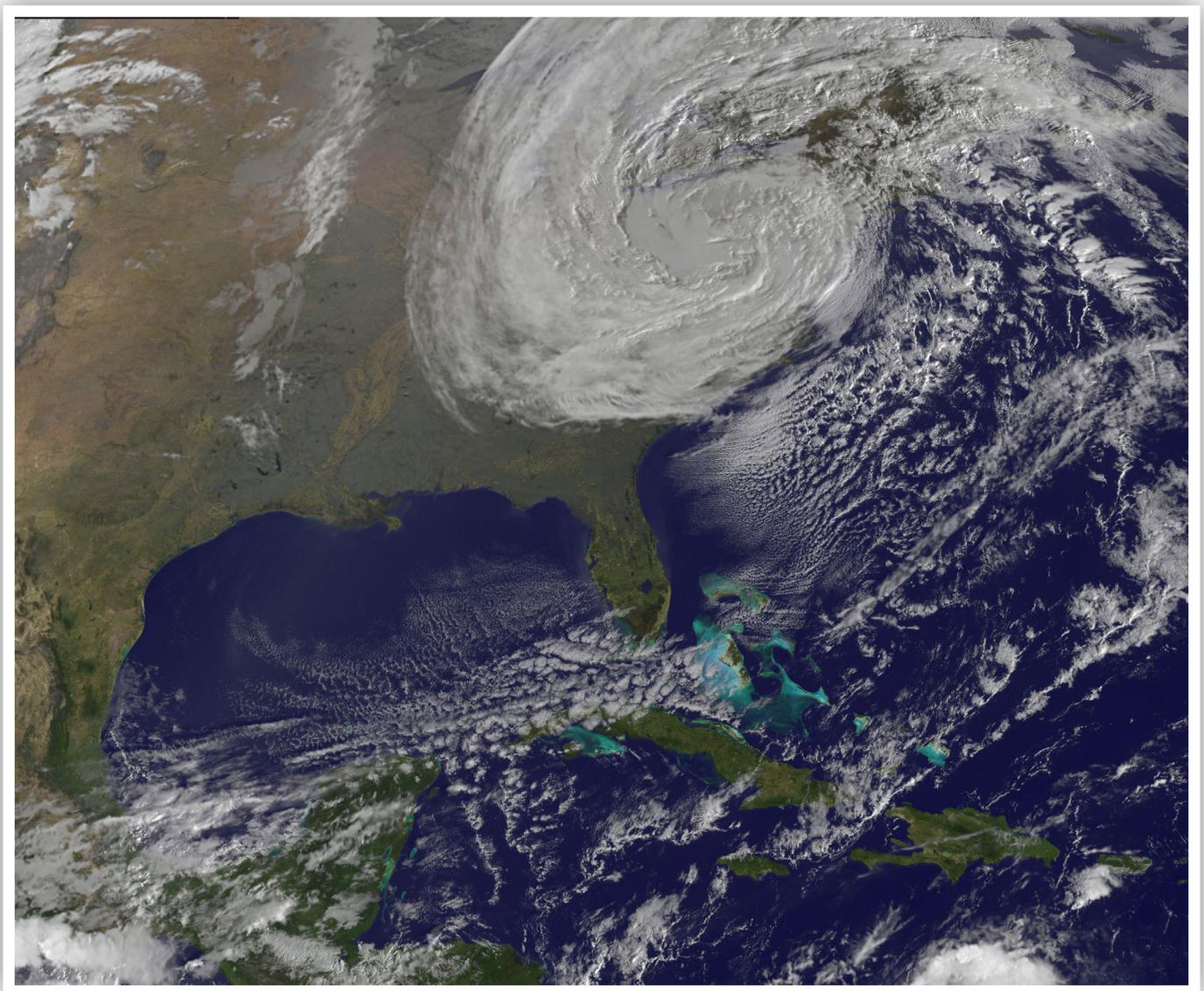


Image: supplied by JCDR

Looking forward



2017 PhD graduates Maureen Mooney and Sara McBride

Our key areas of strategic development:

Actively engage in national and international disaster risk and emergency management research. The Centre will:

- Undertake research which contributes to understanding and addressing local, national, and global disaster hazards
- Build research capacity through the emergency management teaching programme, internships, the international expedition, and the Summer Institute
- Explore emerging areas of disaster risk and emergency management research
- Demonstrate leadership in disaster risk and emergency management research in national and international settings

Provide a dynamic learning environment that prepares students for roles in the disaster risk and emergency management sector. Our staff will:

- Develop new courses for both the undergraduate and post graduate programmes based on practitioner needs
- Provide resources and appropriate development opportunities to staff to enable high quality teaching and learning to occur
- Support and mentor enrolled students to ensure successful course and programme completion

Develop capacity and capability in the disaster risk and emergency management sector. The Centre will:

- Develop professional development courses to provide disaster risk and emergency management practitioners with evidence based knowledge and skills
- Support the delivery of the CDEM controllers programme and the NHRP short course programme
- Participate in national policy and practice working groups such as the Natural Hazards Social Science Panel
- Develop the partnership with NIWA and contribute to supporting and evaluating NIWA's RiskScape programme
- Support the ISDR Greater Wellington Internal Centre of Excellence: Community Resilience (co-hosted with WREMO) through actively engaging with and

supporting local resilience programmes, projects and activities

- Host stakeholder and public symposia to share research findings and provide opportunities for learning
- Host and manage the Australian Journal of Disaster and Trauma Studies
- Provide a supportive environment for visiting scholars, which enables JCDR team members to learn from international experiences
- Contribute to the national threshold event science programmes (Devora, East Coast LAB, It's Our Fault, AF8)
- Build relationships and identify new opportunities with stakeholders (such as the Asian Disaster Preparedness Center) in relation to disaster risk and emergency management in Asia Pacific region

Increase opportunities for staff to engage in culturally competent, inclusive and collaborative research with diverse communities. In order to support the enhancement of JCDR's cultural diversity the Centre will:

- Develop professional development workshops for staff to encourage a greater understanding of cultural considerations for minority groups.
- Develop the capabilities of all staff to provide adequate cultural support for students and research participants
- Identify and provide comprehensive support for Māori, Pasifika and other ethnic communities' aspirations pertaining to disaster research, workforce capability development and risk reduction
- Opportunities will be developed for staff and students to build a comprehensive understanding of the history of the Treaty of Waitangi and its contemporary relevance and applicability to disaster management legislation and policy
- Seek new opportunities for advising external stakeholders on cultural considerations within local authority, government and NGO policy and practice

RESEARCH THEMES IDENTIFIED FOR DEVELOPMENT OVER THE NEXT 5 TO 10 YEARS:

A key research theme for the Centre is Māori and indigenous risk reduction and disaster management. We will focus on developing culturally appropriate resilience practices through more effective communication of science/ mātauranga and co-created research. Our aim is to adopt culturally relevant processes for engaging with tangata whenua that acknowledges their whakapapa relationship to the land/tūrangawaewae. Developing kaupapa Māori perspectives to the analysis of the related research projects is also an area of focus.

The Centre will aim to develop science advice and risk communication with a focus on effective communication strategies for scientific uncertainty (and models) for decision makers. This can sit alongside the continued development of the recently formed Communication Research and Natural Hazards network hosted by Massey University at <http://www.esocsci.org.nz/>. This entity aims to bring hazard and disaster communication researchers together from across universities, disciplines, and practice, to encourage research collaborations and new endeavours.

We will look to emergency management in the health sector with a focus on multi-disciplinary research. These disciplines include emergency management, environmental health, health services delivery, epidemiology, psychology, public health, sociology, and community health. This is with the aim of understanding and reducing the health impacts of hazard events. Work in this area will build collaborations across the university particularly with schools within the College of Health to address the issues faced by those providing health services.

Image: taken by Bernard Spragg (licensed for public domain)





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