



impact

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Wellington region floods present challenges

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Common acronyms

MCDEM Ministry of Civil Defence & Emergency Management
CDEM Civil defence emergency management
NCMC National Crisis Management Centre
ECC Emergency Coordination Centre
EOC Emergency Operations Centre
EMO Emergency Management Officer

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EDITORIAL

Sarah Stuart-Black, Director Civil Defence Emergency Management

Foreword from the Director

On Friday 5 June, the Civil Defence Minister, Hon Nikki Kaye, announced that the Government had approved, through an Order in Council, the new National Civil Defence Emergency Management (CDEM) Plan. This is a significant milestone for the sector and the culmination of years of hard work and commitment.



The National Civil Defence Emergency Management Plan sets out the roles and responsibilities of everyone involved in reducing risks and preparing for, responding to and recovering from emergencies. This includes central and local government, lifeline utilities, emergency services and non-government organisations.

A review of the plan is required every five years to ensure it's robust, current and well understood by everyone involved in its delivery. A review of the current National CDEM Plan 2005 commenced in 2010 but was delayed to enable the incorporation of important lessons identified from the Canterbury earthquake sequence in 2010 and 2011.

The project to review the National CDEM Plan has involved a comprehensive level of engagement with and across multiple agencies/sectors which has in itself provided opportunities to establish and build relationships where they did not exist or to strengthen existing relationships. Strong relationships are key to civil defence emergency management as they enable collaboration and coordination, the identification of synergies and efficiencies, and alignment of work programmes and effort across the 4Rs (reduction, readiness, response and recovery)

The overarching outcome of the review and the public consultation process is a more robust, complete, well-understood set of arrangements for CDEM across the 4Rs and a greater commitment by agencies to deliver on their roles and responsibilities.

The new Plan will replace the current National CDEM Plan (2005) on 1 December 2015 and will be accompanied by a supporting Guide which will come into force at the same time. The supporting Guide is currently being reviewed and will be issued for sector consultation in late June 2015.

Meanwhile, following-on from the 3rd World Conference on Disaster Risk Reduction, that I attended in March in Sendai, Japan, the first New

Zealand Symposium on Disaster Risk Reduction was being held at Te Papa, Wellington on 15 June, as Impact was going to print.

The aim of the Symposium is to share current research and best practice, and to undertake an initial assessment of how New Zealand aligns with the new Sendai Framework for Disaster Risk Reduction 2015-2030. I hope you have had the opportunity to have a look at the framework, as the desired outcome and goal, principles and priorities for action set the scene for the Symposium, with an agenda full of informative presentations on disaster risk management from key speakers from across New Zealand.

At the conclusion of the Symposium, MCDEM will take the outcomes and look at ways of advancing the evaluation of our current approach to disaster risk reduction and management with all of our stakeholders, including capturing these in our work programmes and in the upcoming revision of the National CDEM Strategy.

As you can see there is an opportunity for a potentially significant refocus of our approach to disaster risk management, which has been encouraged in part by the Sendai conference, however discussions on the need for a wider approach have been on-going in MCDEM and externally for some time. ■

Below: MCDEM's Jo Horrocks, Sarah-Jayne McCurrach and Sarah Stuart-Black at the 3rd World Conference on Disaster Risk Reduction in March.



Wellington region floods present challenges

Sarah Gauden-Ing (Wellington Region Emergency Management Office)

On the morning of the 14 May the Wellington region awoke to the news that a small landslide on State Highway 1 had blocked the route between Kapiti Coast and Porirua and that heavy rains were forecast for the remainder of the day. As the day progressed a number of rivers and streams in the region rose and combined with surface flooding damaged homes and businesses around the region.

The Kapiti Coast Emergency Operations Centre (EOC) activated at approximately 8am in the morning, and over the course of the day expanded to a staff of nearly 60 people, including liaisons from local Police, Fire, Ambulance, Public Health and lifeline utilities. More council staff provided operational response on the ground or through the council call centre (which received four to five times its usual call volume). As well as flooding from local rivers and streams there was widespread surface flooding. Twenty-seven properties were evacuated overnight, but the majority of people elected to stay with friends or family; only two households needed welfare support provided by the council.

During the morning both the Hutt EOC and Porirua EOC activated to respond to rising levels in the Hutt River, Porirua Stream and Korokoro Stream and wide spread surface flooding which was inundating homes and businesses.

Importance of consistent messaging

Since the Cook Strait earthquakes of 2013 relevant agencies, such as the councils, NZ Police, Wellington Region Emergency Management Office (WREMO) and New Zealand Transport Agency have worked together to improve the consistency of messaging produced during emergency events. The results of this collaboration could be not only seen in the social media messages that were posted during the event, but in the sharing of information on social



Above: The Kapiti Controller Scott Dray, right, discusses the evolving weather situation with staff during the May flooding event.

media. Ironically on the day of the storm WREMO was hosting a public education working group meeting, one of the aims of the group is to improve consistency of messaging during emergency events.

Transport challenges

Transport again proved to be a challenge for the region – our 'Y' shaped main transport corridors were subject to disruptions including landslides and flooding affecting both the roads and railways. State Highway 1 between Pukerua Bay and the Kapiti Coast was closed for much of the day due to a landslide. State Highway 2 at Petone was affected by flooding and at Melling by

landslides. All railway lines were subjected to landslides or floods, damaging lines and suspending all rail services.

While response agencies were providing messages around closed roads in the region and advising north-bound commuters to stay in the city, many organisations in the city were actually advising staff to go home. This resulted in additional traffic to the already choked roads – there were reports of people taking 4 or more hours to complete journeys that normally take 30 minutes. A number of facebook groups were established to allow people to exchange offers and accept accommodation; anecdotally a number of organisations facilitated offers of accommodation (e.g. through staff intranets, appointing a liaison person or allowing staff to stay on site overnight).

Continued over page...



Left: Facebook group established by a member of the community that allowed people to share their experiences and provide their own solutions, such as sharing offers of accommodation.

Wellington storm event (continued)

A more formal response was operated by Wellington City Council who opened two drop-in (welfare) centres.

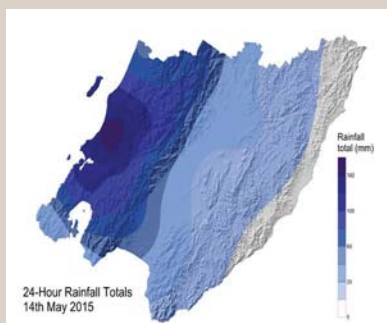
After the 2013 storm and Cook Strait earthquakes a Regional Transport Response Team (RTRT) was established to manage transport after an emergency which disrupted Wellington's vulnerable transport routes. The RTRT was activated in response to the storm and while they initially focused on restoring roading links; they were refocused to ensuring commuters could return home.

Fortunately the rain in the late afternoon was lighter than forecast giving contractors an opportunity to restore main road connections, particularly State Highway 2 between Wellington city and Petone; allowing those people that had delayed commuting or travel to return home.

In order to reduce similar problems in the future CDEM Group and the Wellington City are contacting all large employers in the city to advise them that in similar circumstances they should consider the effect of the emergency; rather than encouraging staff to leave and add to the congestion on the few roads open.

Rainfall and river levels

Western areas of the region received their usual May rainfall in 24 hours with McKay's Crossing recording 45 mm within 24 hours. The Waikanae River peaked at a flow 270 cubic metres per second (3rd largest flow recorded since 1975) and Porirua Stream peaked at a flow rate of 66 cubic metres per second (3rd largest flow recorded since 1976). ■



Kāpiti Mayor proud of response

Anna Kenna (Media Relations Manager, Kāpiti Coast District Council)

When Kāpiti residents awoke to heavy rain on Thursday May 14 nobody could have been prepared for what was about to unfold.



"I think we may be in for a fun day," emailed a council roading staffer just after 7am when the Paekākāriki Hill Road was closed because of a slip.

Over the next 24 hours a so-called 'weather bomb' unleashed 143.6 mm of rain on the district. That's more than two months' worth in 24 hours.

State Highway One was closed, as well as a number of local roads, trains stopped, some schools remained shut and about 20 households were evacuated.

The Emergency Operations Centre (EOC) in Paraparaumu was activated from early morning and key emergency services representatives joined council staff and volunteers to coordinate the response.

More than 5000 sandbags were made available to homeowners as the rain continued to pelt down, streams burst their banks and flooding became widespread. Four civil defence emergency assistance centres were activated throughout the district.

Wellington Regional Council assessed the downpour as some of the heaviest rainfall seen in the region in 50 years and some of the highest river levels in Kāpiti since the floods of 1998.

However Kāpiti Mayor Ross Church, who put in hours at the EOC, said he was proud of the way his district faced the challenge.

"Never have I felt so proud to see the way our community pulled together. From emergency

services, welfare agencies, council staff and volunteers, everyone played a part.

"This event tested us and we were up to the challenge. We practise and prepare for such events but nothing equips you to have to deal with a real thing - and a situation that developed so rapidly."

Mayor Church said the event left the district sodden and scarred but with its spirit intact.

"It takes something like this to make you realise the strength and resilience of a community relies on its inherent adaptability and versatility to respond and recover quickly from such an event. That in turn relies on solid networks and people cooperating and working together. ■

Above: The Waikanae River in flood (photo: Jack Penman).

Below: Pumping of the Donovan Road BMX Track.



Porirua EOC activates for May floods

Geert van de Vorstenbosch

There has been much coverage on the events around the storm that lashed the Wellington–Kapiti region on Thursday May 14th, including activation of Civil Defence Emergency Assistance Centres in the Kapiti district. What was not widely publicised was that the Porirua EOC (PEOC) was activated for much of that day.

Trevor Farmer, the Porirua Senior Area Advisor for the Wellington Region Emergency Management Office (WREMO), began to take notice of developments from as early as the night before. In the early hours of Thursday he updated the lead Controller on the developing situation including effects on transport for the Porirua area.

An Incident Management Team meeting was scheduled for 8.30 that morning to determine the response PEOC might need. Between 7:00 and 8:30 a lot of information on events in the Kāpiti and Porirua areas came in and the PEOC controllers and desk leaders were alerted.

Trevor is also a senior member of the Porirua Emergency Response Team (PERT), a volunteer group for CDEM. PERT trains weekly to ensure that Porirua has a dedicated resource that can be mobilised in emergency situations of different scales.

PERT was involved throughout the day including radio communications monitoring, reconnaissance and sand bagging.

Reconnaissance of the Porirua area started as early as 7:30am, with a check on the Porirua Stream, between Tawa and Porirua, completed during a lowering tide. As the day progressed subsequent reconnaissance and incoming reports from throughout



the Wellington region allowed PEOC to make decisions on appropriate resource deployment. Data gathered and analysed included emergency services responses, rainfall and water body levels, reports of surface flooding and road closures, traffic and transport incidents, and slips.

Coincidentally, the Porirua CDEM team was scheduled to undergo regular training on the same day. The training (on briefings) was modified and instead the PEOC Controller briefed and activated the team.

Just after noon MetService issued a warning of potential heavy rain until as late as 9:00pm. Fortunately the rainfall intensity predicted did not materialise and as the afternoon progressed stream levels began to drop. At 7:00pm PEOC downscaled operations to monitoring the situation. PERT were stood down at 9:00pm, and PEOC was closed at 10:00pm. ■

Mt. Maunganui tornado

Naomi Luckett, BOP CDEM Group

Just before 8.30pm on Thursday 14th May a small tornado swept through Mount Maunganui, damaging homes and buildings, causing havoc with power lines, pulling down fences and scattering debris across roads.

Tauranga City Council activated their EOC and the NZ Fire Service established a command centre at Bayfair carpark. Several residences and commercial properties were damaged with some residents forced to leave their homes, as roofs were ripped off houses, trees were downed and trampolines went flying. A welfare centre was established, however, in the end was not required for use as residents elected to stay with friends and family. Police went through the affected areas, knocking door to door to check that residents were safe and no one was hurt. Power lines were downed and residents were without power for approximately 3 hours (including a pump station at the Te Maunga Wastewater treatment plant).

In total 11 houses were significantly damaged as well as 6 commercial properties and the Baypark stadium (where extensive damage was sustained to the cladding and roof). The Mount Maunganui Intermediate school was closed the following day after a trampoline went flying through a classroom window, grounds were a mess from debris and the school's new astro-turf, worth \$120,000, had also been ripped apart.

The community rallied together the following day to help tidy the school and surrounding neighbourhoods, even setting up a webpage for people to donate funds to help the school recover.

The event was highly unexpected however proved to be a valuable experience for all agencies involved, who collaborated and assisted each other to respond. ■



Otago helps strengthen Indonesian resilience

Mark Peart (Senior Communications Adviser, Otago Regional Council)

Earlier this year the Otago Regional Council (ORC) joined other agencies contributing expertise to a New Zealand Government-funded aid programme helping local governments and communities in Indonesia become more proactive about disaster risk reduction and natural hazard management.

GNS Science is leading the five-year, \$7 million programme operating in 10 Indonesian districts, which began in 2014, and is known as Strengthened Indonesian Resilience – Reducing Risk from Disasters (StIRRRD).

ORC manager natural hazards Michael Goldsmith attended a three-day workshop in Donggala district in Central Sulawesi in March, where he gave a presentation on risk reduction measures for alluvial fan hazard.

Mr Goldsmith said he was asked to participate because of ORC's leadership of an alluvial fan mapping project which started in 2007; the council's subsequent work to raise awareness of the hazards associated with these features, and its involvement with other measures which aim to reduce risk or prevent additional risk.

StIRRRD says on its website (<http://stirrrd.org/>) that as the impetus for disaster resilience grows in Indonesia, more emphasis is likely on better construction techniques, improving the location and robustness of infrastructure, effective warning systems, and land use that is appropriate to the level of risk. The ultimate goal is reduced losses after a disaster and faster recovery times.

Donggala district has a population of 280,000, a square area of 8400 km, and a



Above: A site visit to a local village in Donggala district during the workshop where a coastal defence designed to protect the village from tsunami and elevated sea levels can be seen.

444km long coastline. Eighty-one of its 169 villages are coastal.

There's an ever-present earthquake and tsunami risk and the potential for floods and landslides in the rainy season.

At the workshop, Mr Goldsmith also contributed to work led by the StIRRRD team with local government officials and NGOs to develop a natural hazard risk reduction plan for Donggala.

The focus of this plan is on the district's hazards, risks, and current risk reduction

practices, and identifying a range of risk reduction options for implementation.

Continued over page ...

Below left: Work underway to replace a bridge which has been continually affected by flooding, bank erosion and undermining of bridge.

Below right: Staff from GNS Science, Indonesian support partners, and the Donggala local authority discuss natural hazards and potential risk reduction measures.



Otago helps strengthen Indonesian resilience (cont.)

The input Mr Goldsmith and Greater Wellington Regional Council senior flood engineer James Flanagan provided complemented other expertise in the team. This included earthquake engineering, tsunami, landslide early warning systems, volcanology, GIS mapping, social science, and risk reduction expertise.

Mr Goldsmith said a key objective of the StIRRRD programme was to shift the historic Indonesian focus on responding to an emergency after the fact, to reducing the risk of a potential disaster and potentially reducing the likely damage through increased preparedness.

As well as helping local governments in Indonesia understand and manage their own hazards and risks, another focus of the aid programme is on bringing together government agencies, universities, and private sector organisations to improve their communication with one another on disaster risk reduction.

Mr Goldsmith said he would attend another workshop in Christchurch during June at which Indonesian representatives of the districts involved in the StIRRRD programme would also attend as part of a comparative study visit. ■

Below: A sediment choked stream in a river bed. Land instability is visible on steep hill slopes in the background.



Earthquakes fuel public interest

Mark Peart (Senior Communications Adviser, Otago Regional Council)

The public thirst for knowledge about earthquakes and the science behind them has grown exponentially since the Canterbury earthquakes of 2010 and 2011. A good example of this came after the 5.8 magnitude earthquake which struck near Wanaka on May 4 this year.

In 2007 the Otago Regional Council organised a series of well-attended talks on the Alpine Fault by Professor Tim Davies of the University of Canterbury's department of geological sciences. He spoke to large audiences in Wanaka, Queenstown, and Cromwell.

The regional council later posted a summary of Professor Davies' talks on its website, and immediately after the recent Wanaka quake, posted a link to the webpage from its Facebook page.

The result was a massive surge in views of the webpage with 37,677 people from more than 100 countries visiting it from the Facebook link between May 4 and May 11.

Including repeated views, the total number of views for the week was 45,915, compared to just 74 during the same week last year. The largest groups of page views by country were: NZ 36,152; Australia 5,070; United Kingdom 1,812; United States 577, and Canada 365.

Back in 2007, Professor Davies suggested that historical earthquake patterns and research on the Alpine Fault indicated it could potentially rupture before 2027.

He predicted the earthquake would likely be of a magnitude 8 or bigger and shake for about two minutes. He also noted that the rupture of another faultline nearby might trigger the Alpine Fault.

Surges in the number of people viewing Professor Davies' presentation on the ORC



Prof Tim Davies

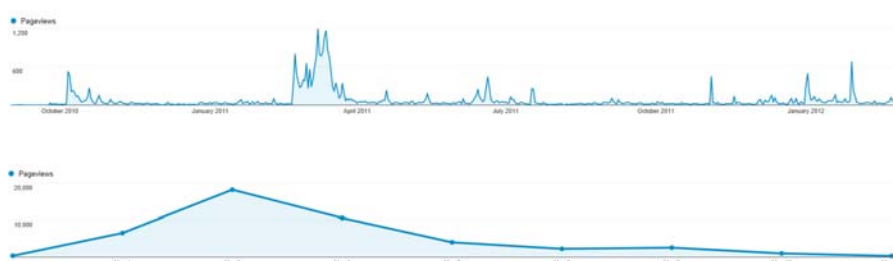
website were also noticeable after the September 2010 Canterbury earthquake and again after the February 2011 event.

Before the two earthquakes occurred the page was getting just 25 hits a day. But for eight weeks after the September quake the page was visited between 150 to 600 times a day.

For roughly six weeks after the second major Canterbury quake, the number of hits when these were at their peak almost doubled compared to the period after September 2010 at 1,190 views a day. The lowest number of hits in that period was 230 a day - nearly 10 times larger than before the September quake.

This all underscores that the public is becoming increasingly interested and more aware of earthquakes and their characteristics. Publicity like the Davies commentary will hopefully spur more people to heed the Get Ready Get Thru messages and be prepared for these and similar emergencies. ■

Below: Graphs showing a spike in visits to earthquake information on the Otago Regional website following the Canterbury earthquakes (top) and recent Wanaka earthquake (bottom).



New Zealand ShakeOut: less than 4 months to go!

New Zealand ShakeOut is a national earthquake drill taking place at 9:15am, 15 October 2015. It's a chance for everyone in New Zealand to practise the right action to take during an earthquake – Drop, Cover and Hold.

Everyone, everywhere should know the right action to take before, during and after an earthquake. All of New Zealand is prone to earthquakes. You could be anywhere when an earthquake strikes – at home, at work, at school, or on holiday.

New Zealand ShakeOut has been created to help people and organisations get better prepared for major earthquakes, and practise 'Drop, Cover and Hold' - the right action to take during an earthquake.

New Zealand ShakeOut also provides a fantastic opportunity for businesses, workplaces, and other organisations to examine and review their own emergency preparedness arrangements. Families and households can create, review and practise their household plans.

Visit www.shakeout.govt.nz to learn more about earthquake hazards in your region and why you should Drop, Cover and Hold.

ShakeOut - it's as easy as 1,2,3...

1. Sign up to take part at www.shakeout.govt.nz. It only takes two minutes. The website has lots of tips and information for doing the drill and being prepared.
2. Spread the word (share with friends, family and workmates using Facebook, Twitter, email or word of mouth).
3. Do the Drop, Cover and Hold drill at 9:15am, 15 October 2015.

Be part of the world's biggest earthquake drill

ShakeOut is based on the Great Southern California ShakeOut, which started in 2008 and is now a global event. New Zealand last took part in 2012, with a staggering 1.34 million people doing the drill. This year we are aiming to do even better with our target 1.5 million people. We'll be the first country in the world to ShakeOut on the International ShakeOut Day of Action and, if last year's numbers are an indication, we'll have the highest percentage of people involved.

Check your plans

ShakeOut is a great opportunity for everyone to check their preparedness plans and know the right actions to take before, during and after an earthquake. Businesses can check their continuity plans, families can stock up on their emergency items and refresh their household plans, and schools can remind children and their parents of their processes during an emergency.

Resources

A whole lot of resources have been created for you to use. We encourage you to check out the full range at www.shakeout.govt.nz/resources. These include guidelines for how to participate and prepare for a variety of different groups. It also includes preparedness information and suggestions for how you can share the ShakeOut with others. ■

Looking for some ShakeOut inspiration??

With less than four months to go until New Zealand ShakeOut, now is the time to start planning how your organisation will take part and promote the campaign.

ShakeOut is an exciting opportunity for Civil Defence Emergency Management Groups and other organisations to engage with your communities and promote preparedness actions that will enable people to get ready for a large earthquake.

If you are looking for some inspiration of ways to get involved, the Wellington Region Emergency Management Office (WREMO) used a number of tactics to engage the community the last time New Zealand ShakeOut was held in 2012.

Some of the specific tactics WREMO used to target different audiences over and above the national campaign included:

- Personal contact by staff to all schools in the region.
- Use of the Civil Defence Emergency Management 'Stan' costume at preschools visits across the region.
- 'Make your own advert' competition through social media.
- Promotion of business continuity resource.

Out of the 1.3 million people who registered for ShakeOut in 2012, 173,680 were from the Wellington region. This equated to a population participation rate of 36% - the highest of any region in the country.

Can your region top this participation rate figure in 2015!?



CDEM Controllers Development Programme

By Grant Morris and Jon Mitchell

The 21 participants on the second cohort (15/1) of the CDEM Controllers Development Programme have recently completed the residential component of their 18 month journey to become accredited CDEM Controllers.

The programme, sponsored by MCDEM and delivered by Massey University, in conjunction with AUT, is targeted at Controllers at all levels, local to national, and caters for all experience levels.

The CDEM Controllers Development Programme includes an element of initial online 'enabling-learning', an intensive residential 5-day course to offer a face-face learning, discussion and assessment, followed by individualised, continued, self-directed development. After successful completion of the programme, participants will be accredited as CDEM Controllers.

The first of its kind in New Zealand, the CDEM Controllers Development Programme emphasises the application of grounded research and teaching to this crucial aspect of Emergency Management practice - linking to the broad range of capabilities, knowledge and experience that Massey University, AUT and a pool of international experts bring to the programme. Topics cover such diverse subjects as crisis decision models, leadership, legislative interpretation, personal resilience and readiness, team forming, political imperatives, response planning and coordination, and the Controllers role in risk management.

The residential component provides participants with face to face involvement with their peers and experienced response managers – many of the participants themselves have a wealth of relevant experience to draw, which is made the most of throughout the programme. Opportunities will be provided to enable all cohorts to be brought together in future to build on the networking already actively underway from

the first two cohorts, forming the basis for a community of highly trained and effective response management professionals.

The five days of relatively intensive residential contact start with self-reflection each day, followed by presentations on aspects of emergency management professional development, leadership, decision-making, risk awareness, reduction, resilience, readiness, response and recovery. Although the CDEM Controllers Development Programme applies a comprehensive emergency management approach, a significant proportion of the residential week focuses on building Controller knowledge and capability in complex, multi-agency response contexts. A variety of learning environments are used from interactive classroom settings, syndicate activities and reporting, facilitated discussions, a rapid impact assessment field exercise, and visits to response coordination facilities. Each evening includes a presentation from Controllers who have led relevant and challenging responses recently, which are followed by self-reflective discussion.

In order to provide the best possible learning and development opportunity for Controllers, the programme's content and delivery are continually reviewed as well as participants, guest presenters, and a wide range of subject matter experts providing input to ensuring the programme is both effective and up to date.



The next cohort (15/2) have recently begun their online learning and will gather in Auckland for their residential component in late July. Nominations to participate in the following cohort, 15/3, will be called for later this year via respective MCDEM Regional Emergency Management Advisors. The residential component of Cohort 15/3 will be delivered in Christchurch in late November.

If you have any questions regarding the CDEM Controllers Development Programme, please contact MCDEM Team Leader Capability, Grant Morris at grant.morris@dpmc.govt.nz, or Jon Mitchell, CDEM Controller Development Programme Course Coordinator at Massey University at j.mitchell1@massey.ac.nz ■

Photo above: Participants on the second cohort of the CDEM Controllers Development Programme.

Chris Webb from AUT presenting ideas on crisis leadership.



Welfare Managers Forum a success

Sharon Grant (CDEM Group Welfare Manager, Manawatu-Wanganui)

A two-day CDEM Group Welfare Managers Forum held in Palmerston North in May was a great success.

Aimed at promoting collaboration and information sharing, the Forum also provided the opportunity for relationship development between Group Welfare Managers from different CDEM Groups, and provided an opportunity for all who attended to review the draft Welfare Services in an Emergency Director's Guideline.

Manawatu-Wanganui CDEM Group Welfare Manager, Sharon Grant, said almost all CDEM Groups were represented and everyone was really engaged.

"There have been forums in the past for people involved in welfare in an emergency, but this was the first one for some time targeted at CDEM Group Welfare Managers," said Mrs Grant.

"It was fantastic to put faces to names and discuss options for sharing resources such as training and induction material. We also undertook a review of the draft Director's



Above: Ged Shirley, Horizons' Group Manager of Regional Services and Information, addresses the CDEM Group Welfare Managers Forum in Palmerston North last month.

Guideline on Welfare Services in an Emergency and provided the Ministry with feedback and suggestions."

The Forum was a joint effort between the Manawatu-Wanganui CDEM Group and MCDEM. Mrs Grant said numerous discussions were held regarding the importance of working together and the support different

CDEM Groups can provide one another.

"Overall the Forum was really valuable and we received a positive response from all who attended, especially around continuing with forums of this style. With that in mind there is likely to be another one in 6-12 months that will build on discussions further." ■

New Centre of Research Excellence

Professor Ken Elwood (University of Auckland)

Minister Steven Joyce and the Tertiary Education Commission (TEC) recently announced \$22 million funding over five years for a new Centre of Research Excellence (CoRE) to improve New Zealand's resilience to earthquakes.

This announcement is the culmination of a nearly two-year national effort to secure a CoRE addressing challenges in earthquake engineering and resilience. The original proposal, developed as a strong collaboration between University of Canterbury and University of Auckland, was unsuccessful in the first competition in 2013-14. A second proposal, led by Ken Elwood and Brendon Bradley and including researchers from across NZ, was submitted in October 2014. It was in competition with several existing CoREs and proposals from across all health, science, and engineering disciplines. The Earthquake Resilience CoRE was the only new research centre awarded this year and signifies the recognition of the importance of earthquake engineering research to New Zealand and our

history of research excellence.

The mission of the new CoRE is to place New Zealand at the worldwide forefront of earthquake disaster resilience by utilising New Zealand as a natural earthquake laboratory, producing new knowledge on the seismic response of the built environment, developing fundamental models to understand vulnerabilities within this environment, and designing innovative technologies and decision-support tools enabling rapid recovery of New Zealand communities.

Starting January 2016, the new CoRE will be hosted at the University of Canterbury with researchers from partner institutions across New Zealand, including University

of Auckland, Victoria University, Massey University, Unitec, Waikato University, Resilient Organisations, GNS Science, and BRANZ. Ken Elwood and Brendon Bradley will serve as the Director and Deputy Director, respectively. Using a model of short-term enabling funding, the CoRE will be closely linked with related research programmes in the Natural Hazards Research Platform and the Resilience to Natures Challenges.

The new Earthquake Resilience CoRE plans to host a national symposium in September 2015 to seek input on research directions for 2016. Further announcements on this and other activities will be provided in the coming months. ■

Pictorial emergency preparedness poster

Anna-Marie Miller & Angela Rampton (Wellington City Council)

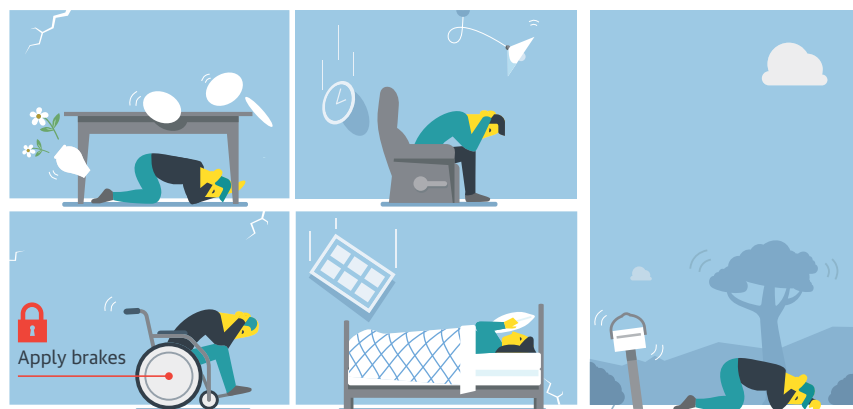
Wellington City Council has developed a one page pictorial emergency preparedness poster.

The idea for this poster came about after comments from a number of agencies, including Age Concern and Arthritis New Zealand that there is some confusion for people with mobility impairments about what to do in an emergency. For example, if they are not physically able to get down to the ground in an earthquake what are the alternatives to the 'standard' drop, cover, hold position. Being predominantly pictorial, this resource will also benefit culturally and linguistically diverse groups.

Many people experience temporary loss of mobility (e.g. broken leg or post-surgery) and it is helpful to be aware of what to do should they not be able to get out of their bed or chair. This poster is particularly relevant in the lead up to New Zealand ShakeOut, the national earthquake drill, at 9.15am, 15 October 2015.

We have consulted with a number of organisations including Red Cross Refugee Services, People First, Age Concern, City Housing, MCDEM, WREMO, Wellington City Council's Accessibility Advisory Group,

During an earthquake drop, cover and hold. Protect your head.



Deaf Aotearoa and Arthritis New Zealand. Feedback from these groups has been incorporated into the final design.

We have also referred to the Christchurch City Council's 2012 'Best Practice Guidelines for Engaging with Culturally and Linguistically Diverse Communities in Times of Disaster'. This guide identifies 'the need

to keep sentences short' and 'with pictures that illustrate the point'.

The poster is available in Wellington as an A4 poster with a fridge magnet attached, as an A3 flyer for people with low vision and as an A2 poster. For more information or to receive a pdf of the poster, please e-mail getprepared@wcc.govt.nz. ■

Wellington Hospital holds successful exercise

Cindy Mellor (Coordinator – Emergency Management, Capital Coast District Health Board)

At the beginning of May, Capital & Coast District Health Board ran a mass casualty exercise that included staff from the Fire Service, Wellington Free Ambulance and Police.

Twenty-seven moulaged casualties from a chemical explosion were processed through the hospital. The casualties were paramedic students from Whitireia Polytech and had injuries including significant burns, fractures, penetrating wounds and minor injuries.



Fire and ambulance rescued, triaged and treated the casualties before ambulance staff transported them to hospital.

Over 300 staff from 18 departments in the hospital service were involved and the scenario provided opportunities to test the mass casualty plans, the Emergency Department patient decontamination procedures, and the national multiple complex burns referral procedures.

The Emergency Operations Centre was activated for the exercise and a number of executive and support staff undertook roles



as part of the incident management team.

The success of the exercise was reassuring and indicates that services are well prepared to respond to a real event should the need arise. ■

'Fire in the sky' over Wanganui

Matthew Smith (Emergency Manager, Wanganui CDEM)

Wanganui emergency services came together on the Saturday morning of Queen's Birthday Weekend in a realistic test of response plans and procedures.

Foregoing ideal fishing conditions and a holiday sleep in, the Wanganui District Council's Civil Defence team, along with Rural Fire and Airport Management set up and ran a short/no notice aircraft accident simulating two light aircraft colliding above Wanganui Airport.

Flaming wreckage in multiple locations littered the scrub and sand hills between the runway and South Beach – making heavy vehicle access to the crash sites impossible. Actors from Amputees in Action joined other volunteers playing casualties with a variety of challenging injuries for St John to triage and treat (burns, fractures, leg amputations, traumatic crush injuries and more). Firefighters managed the nearby blazes and assisted in the rescue while NZ Police provided overall co-ordination of the incident from the Fire Service's Incident Command Vehicle located nearby.

Wanganui District Council's Senior Emergency Management Officer Tim Crowe organised the event at the request of the Airport Management Committee, providing what could be accurately described as a graphically realistic opportunity for local responders and incident managers to train together.

With Civil Defence & Emergency Management providing exercise control and assessment, Rural Fire providing on



Above: St John Ambulance crew assisted by Firefighters transfer a 'casualty' to waiting ambulances.

Below left: Firefighters prepare to extinguish the 'burning aircraft'.

Below right: Inside the Incident Control Point. Simon Ward from St John records SITREP's and tracks patient transfer while Senior Sergeant Andrew McDonald (incident Controller) communicates direct with the incident ground.



New alternate EOC for Wanganui

Matthew Smith (Emergency Manager, Wanganui CDEM)

As Emergency Management officers we go out and extoll the virtues of 'Getaway Kits' to the public in case they have to leave home in a hurry.

Looking at Wanganui CDEM's existing Alternate EOC location (which had two phone lines and a VHF radio) we knew we needed something better.

Our 'White Knight' came cantering along one day in the form of Bernie Rush – Area Commander Wanganui for New Zealand Fire Service. The Wanganui Fire Station was up for refurbishment – would CDEM like to participate and have an Alternate EOC location? Bernie has always been a 'multi agency thinker' – his work with USAR and background as a MCDEM Regional Emergency Management Advisor means he thinks broadly about dealing with emergencies and supporting the community.

Being part of the project in the pre-design phase made all the difference with Wanganui CDEM having input into initial plan design and contributing funding for additional radio antenna capability, an Ultra-Fast Broadband link and extra phone lines so a call centre could be set up.

The concept is that during an emergency big enough to cause problems at the Council buildings, the CDEM functions can shift into the offices of the Wanganui Area Fire Office, use the meeting rooms and setup our emergency call centre in more robust surroundings.

The refurbished facility has been strengthened and has back-up generator

power etc. to support operations. Another benefit is our District Rural Fire Crew already work from the facility and have an operations room set up complete with computer links to Council systems and VHF Radio sets ready to go.

With some testing of systems and some practice exercises in the facility to be conducted over the next few months the facility has already been used as a stand-by during the Cyclone Pam event last March. A good example of those in the emergency community thinking about how to use facility's for the greatest benefit of as many as possible. Thank you Bernie! ■

Below: Matthew Smith (Wanganui District Council Emergency Manager), left, and Bernie Rush (Area Manager, NZFS Whanganui) outside the 'multi-agency' facility after refurbishment.



Logistics DGL

The *Logistics in CDEM: Director's Guideline for CDEM Groups [DGL 17/15]* has been published by MCDEM, following five years of development. This timeframe allowed the guideline to incorporate the lessons identified in the Canterbury earthquake and MV Rena responses.

The Guideline has content relevant to all CDEM practitioners, but is intended primarily for Logistics staff, Controllers and trainers. It provides an additional layer of detail to the logistics sections of the National CDEM Plan and the Coordinated Incident Management System, 2nd Edition. It is intended to:

- create a common understanding of logistics across all CDEM stakeholders
- streamline logistics actions between agencies, and
- provide a basis for logistics training and professional development.

Logistics is a key part of a successful response. Logistics staff have to ensure that they provide the right resources to the right users, in the correct quantities and at the right time. This has to happen before other responders can carry out their tasks, and makes Logistics a key enabler for CDEM responses.

The development of the guideline has drawn heavily on input from representatives and feedback from across the CDEM sector. It is available for download from the MCDEM website in PDF and MS Word formats, along with a number of templates and appendices.

New industry training organisation for emergency services

The Skills Organisation took over standard setting responsibilities for the emergency services sector from EMQUAL as of 31 March 2015.

The Skills Organisation was also granted the role of Emergency Management Co-ordinator body for the Emergency Management (ACE) Fund – by the Tertiary Education Commission from 1 January 2015 until 31 December 2016.

GM Strategic Engagement Stephen Waters said The Skills Organisation was working hard to achieve a smooth transition.

"We are working to ensure anyone signed up for qualifications will be able to continue and be assessed. Assessors should have received a letter outlining how to register with us," Mr Waters said.

"We're new to this industry and there may be some things we're not

aware of, so we welcome all feedback and if you have any queries about the transition, we are here to help."

All current qualifications were transferred to The Skills Organisation and are still able to be used, with no changes to existing unit standards.

In addition, the Targeted Review of Qualifications (TROQ) process will be completed by The Skills Organisation.

"We are in the process of forming a governance group for ACE training to provide a strategic overview of how training is delivered to volunteers in Rural Fire and Civil Defence Emergency Management," Mr Waters said.

For more information please call The Skills Organisation (skills.org.nz) on 0508 SKILLS (754 557).

Economics of Resilient Infrastructure Business Behaviour's Report

Economics of Resilient Infrastructure team (NHRP) / Resilient Organisations

Researchers have developed a model that simulates business behaviours following infrastructure disruption events. The model includes prediction of the ability of organisations to meet demands, how staff and supply chain disruptions are managed and how productivity changes.

The model has been developed by researchers from Resilient Organisations, in collaboration with GNS Science and Market Economics, as part of the Economics of Resilient Infrastructure (ERI) research project, funded by the Ministry of Business, Innovation and Employment. ERI researchers are developing a new spatial decision support system for infrastructure disruption in New Zealand. The system, referred to as 'Measuring the Economics of Resilient Infrastructure Tool' (MERIT), will help government and infrastructure providers understand the potential economic impacts of infrastructure outages, and decide where to make improvements to get the best returns on their investments.

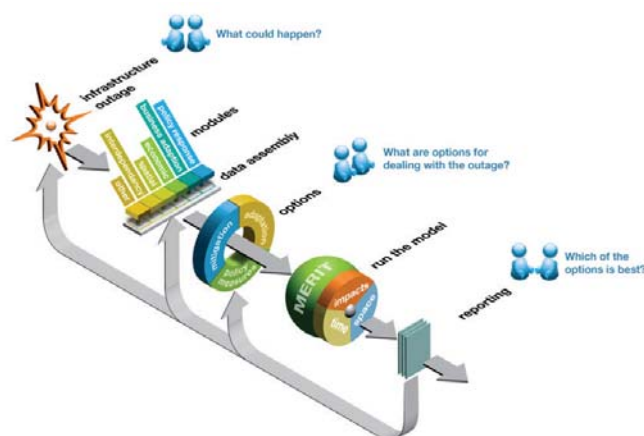
The business behaviours model takes information about the level of infrastructure and non-infrastructure damage in a given disruption scenario and predicts the average level of business disruption over time. It provides unique insights into the way different industries are affected by infrastructure outages. It can also be used to simulate how business interventions and adaptations might reduce the impacts of a disruption on those industries.

The business behaviours model was developed using data from a survey of 541 organisations affected by the Canterbury earthquakes. The survey captured information on more than 200 different

variables including organisation demographics, impact measures, pre-event mitigation measures, post-event business changes and adaptation, and financial information: providing over 100,000 data points for analysis. Statistical analysis of the data has resulted in the development of equations that model business behaviours.

The development of a business behaviours model using data from a real disruption event is a unique approach to modelling business behaviours. Generally business behaviour models are based on organisation estimations of functionality following disruption. Research shows that organisations usually under-estimate their ability to function. Using real event data allows us to more realistically predict business behaviour.

The primary output of the business behaviours model is an operability curve that describes the level of operability (or ability to meet demands for goods or services) over time given a certain



business behaviours that will need to be modelled in MERIT. These include:

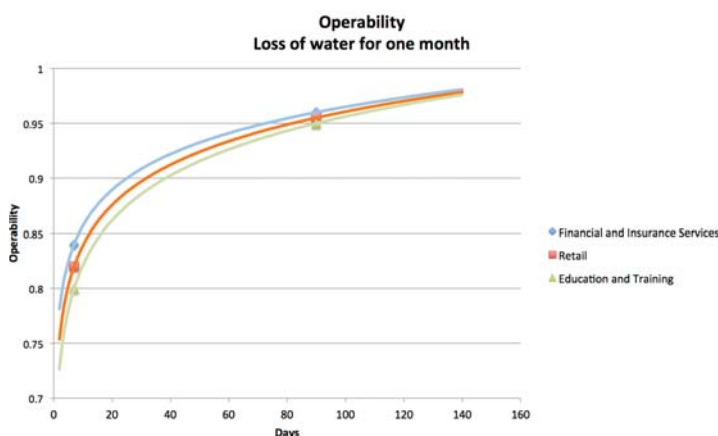
- Supply chain management
- Post-disaster productivity gains
- Staff retention
- Use of government grants
- Relocation

Preliminary versions of MERIT have already been developed and tested. Over the next 18 months, ERI researchers will work together to further develop, test and refine the fully integrated MERIT model.

When complete, MERIT will enable businesses, critical infrastructure providers and government to make better informed investment and response decisions to infrastructure disruption events across New Zealand.

For a copy of the ERI Business Behaviours Model report, go to <http://www.resorgs.org.nz/Publications/research-reports.html> or

<http://www.naturalhazards.org.nz/NHRP/Hazard-themes/Societal-Resilience/Economics-of-Resilient-Infrastructure/EoRI-Outputs-Publications/EoRI-Research-Reports> ■



disruption. The graph to the left shows how the operability of different sectors would be affected by loss of water service for several months.

Our analysis also identified a number of additional

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Realistic emergency exercise for newly trained youth

Matt Johnson (Communications Senior Programme Manager, Northland Regional Council)

Fifteen young people had the chance to hone their newly-learned emergency services skills – including being transported by helicopters – at a realistic day-long training exercise in the mid-North earlier this month.

The participating youngsters were specially nominated from within the Kawakawa and Moerewa communities earlier this year to take part in the national Youth in Emergency Services (YES) programme.

They've now spent the past several weekends experiencing the work of key emergency services in the mid-North, including St John, Red Cross, NZ Fire, Rural Fire and NZ Police.

Shona Morgan, spokeswoman for Northland's YES coordinating work group, said the programme was designed to strengthen the connection between young people and their communities and is funded by the Ministry of Youth Development.

Ms Morgan said the young Northlanders taking part in this year's programme (all aged between 15 and 18) were nominated for the programme by local schools, iwi and social services.

"They've all been really keen and enthusiastic participants and have been a real credit to themselves and their families," she said.

"(This month they had) the chance to test



what they've learned in the most realistic way we can safely manage, in an exercise involving a range of mock emergency situations including a plane crash, building collapse and motor vehicle accident."

Ms Morgan said organisers were grateful for the support of local communities, in particular from Kawakawa's volunteer firefighters, the AFFCO meatworks at Moerewa (which allowed its land to be used for the exercise) and the Northland Emergency Services Trust and Salt Air, both of which provided helicopters on the day.

Meanwhile, she said participants would be honoured at a formal graduation dinner in Kawakawa on Saturday 20 June and would also be offered the opportunity to volunteer for two months with the emergency service of their choice.

As well as encouraging a more active participation in their local communities, the YES programme also helped participants develop useful practical skills as well as encouraging them to volunteer. ■

Photos: Students get some tips from the experts during the Youth in Emergency Services training exercise in Moerewa on Saturday.

