SPECIAL EDITION NEWSLETTER

Natural Hazards Inc.

Building Resilience to Earthquakes and Other Natural Hazards

Natural Hazards Inc. is the new brand for the recently merged Earthquake Engineering and Natural Hazards NZ business clusters which was launched on the 20 August at the 6th Australasian Natural Hazards Management Conference in Christchurch. Natural Hazards Inc. is a New Zealand based partnership of industry leaders delivering innovative solutions for earthquake and natural hazard risk management internationally.

Many off shore project initiatives require diverse specialist skills and products that with the assistance of Natural Hazards Inc. can be marshalled together from amongst the over 30 companies and organisations that make up this business cluster. The cluster helps to develop and maintain international relationships. New Zealand's very high standing internationally in earthquake engineering and in natural hazards disaster risk management requires continued effort to maintain.

Indonesian UGM & Local Government Delegation Visit to NZ with GNS Science and Beca

A local government disaster risk management (DRM) capacity building delegation from Indonesia recently visited Christchurch, Wellington and central North Island as part of a GNS Science led Beca MFAT NZ Aid Programme initiative with Gadjah Mada University (UGM) of Yogyakarta. Several members of the Natural Hazards Inc. business cluster were involved including at a function in Wellington hosted by Beca. The delegation included leading Padang earthquake disaster recovery leaders, with whom the team of rapid assessment New Zealand earthquake engineers had worked following the 2009 Padang earthquake.

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6th Australasian Natural Hazards Management Conference

Christchurch, 20-24 August 2012

The 6th Australasian Natural Hazards Management Conference and Workshops, 20-24 August, is being held at Canterbury University, with the theme of "From warnings to effective response and recovery". It includes a special Christchurch Earthquakes workshop as well as international and other New Zealand case studies. The conference organiser is David Johnston, Director of the Massey University - GNS Science Joint Centre for Disaster Research.
Ref: www.hazardseducation.org/conference

UGM delegation being shown the Te Papa Quake Braker base isolation by Jitendra Bothara of Beca.

Project Case Study: Development of National DRM Plan for Solomon Islands

Natural Hazards Inc. members have been involved in projects in a number of countries across South East Asia and the Pacific. One of note has been the development of the National DRM Plan for the Solomon Islands, facilitated by John Norton of Norton Consulting Ltd.

With funding support from regional agency, SOPAC (now SPC/SOPAC) and AusAID John worked with the NDMO Director, Loti Yates and his country sector team to facilitate a governance framework plan. The Plan reflects the culture and arrangements of the Solomon Islands and also the strong disaster risk management logic of accountability and integration from John's NZ experience.

The Plan provides a national and provincial framework for Disaster and Climate Risk Management setting out principles and structures for governance, disaster operations, recovery and risk reduction. This is a new style of Plan which provides for explicit arrangements and the allocation of functions and accountability across sectors, agencies and communities - including roles for women and connection for external support. It integrates arrangements for disaster and climate risk reduction and provides for connection between village communities and their government to support sustainable DRM initiatives.

The critical top-level governance structure is expected to be implemented over the coming months. In the meantime the potential development of a national framework for disaster preparedness and response for Indonesia is under discussion.

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Solomon Islands National DRM planning meeting.

Vietnam In Market Assistance for Natural Hazards Inc. Members

Tan Pham, past Co-Chair of Natural Hazards NZ, is now working in Vietnam as a General Manager for Worley Parsons Vietnam. He would be pleased to assist any member of Natural Hazards Inc. who wish to look for opportunities in Vietnam.

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Tan on the site of a power station under construction in Central Vietnam.

Building Resilience: UNDP Administrator Helen Clark highlights valuable input of NZ earthquake engineering and other DRR technical skills

Speaking at the 2012 Hopkins Lecture in Christchurch on the importance of prioritising disaster risk reduction from a United Nations perspective, UN Development Programme Administrator and former Prime Minister of NZ Helen Clark highlighted the valuable input and increasing need for information and the technical expertise that NZ has to offer.

Examples included earthquake engineering, base isolation technology, as well as science initiatives to greatly reduce losses from flooding, droughts, volcanic eruptions, earthquakes and tsunami. This needs a whole of government approach that includes appropriate governance structures and strong community input. UNDP analysis shows that $1 spent now on DRR saves $7 when disaster strikes.

Over 700 people attended this Hopkins Lecture event, an annual lecture established following many years of distinguished service of Professor H. J. Hopkins in the field of engineering, with the support of the University of Canterbury and Canterbury Branch of IPENZ.

Helen Clark with past Earthquake Engineering + Natural Hazards NZ Co-Chairs David Hopkins and Noel Trustrum, and Executive Member Richard Sharpe.

The full address by Helen Clark is on the www.undp.org website under News Centre/Speeches.

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Tsunami Evacuation Zones Mapping in Samoa

GNS Science recently partnered with the Samoa Ministry of Natural Resources and Environment's Disaster Management Office on a NZ Aid Programme funded project to map tsunami evacuation zones for all of Samoa, and pilot detailed evacuation planning (including maps and signs) in eight villages in four locations. The project combined GNS Science expertise in tsunami source modelling, inundation mapping, understanding and delivery of tsunami warnings, best-practice in signage and preparedness with disaster management planning and community consultation expertise in Samoa. The project proved a great success in terms of community participation in consultation and evacuation drills, capacity building in Samoa and ability for the project to be rolled out across Samoa using in-country expertise and resources.

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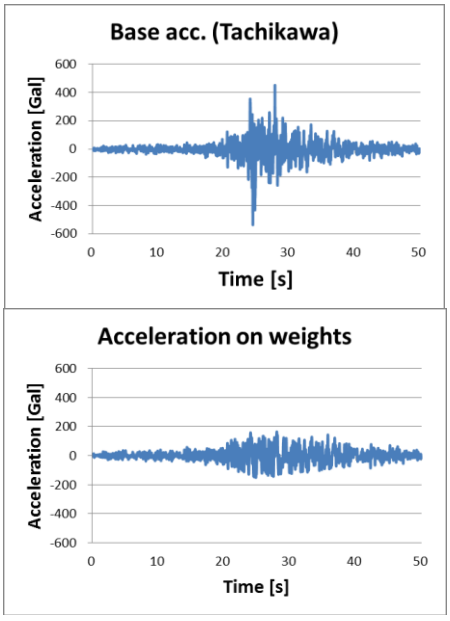
Community tsunami evacuation zone planning in Samoa.

Base Isolation for Houses and other Lighter-Weight Structures

A new base isolation device has been developed by Robinson Seismic Ltd. The LoGlider is designed to protect lightweight equipment and other smaller structures from damaging earthquakes. Originally the LoGlider was targeted at containerised data centres, essential electrical transmission equipment, high value, critical medical equipment and the like.

There has been strong interest expressed in using LoGlider bearings to base isolate residential houses. Chris Gannon, Development Engineer with Robinson Seismic, travelled to Japan in July for shake-table testing of a typical house structure base isolated with four LoGliders. As expected the results showed significant reduction in accelerations transmitted through to the isolated structure. The tests included a simulated seismic wave on the Tachikawa Fault which runs below Tokyo. The results below showed a maximum ground acceleration of 536 Gal and a maximum acceleration on the isolated weights of 165 Gal – an acceleration reduction of 69%.



Further refinements are planned for the LoGlider to further reduce accelerations transmitted from the ground and make it ready for use in base isolating houses in New Zealand and other seismically active areas of the world.

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Reinforcing Fiji's Weather Monitoring

NIWA and Fiji Meteorological Service (FMS) have extended Fiji's weather monitoring by adding weather stations on four islands in Fiji's outer Lau Group. This is part of an on-going programme to improve climate and weather monitoring and forecasting in Fiji and its neighbouring countries.

NIWA has assisted FMS with the installation of more than 20 meteorological monitoring stations around the Fiji Island group.

The implementation of BGAN satellite communication systems and the availability of the SYNOP generator integrated with data collection have greatly enhanced monitoring capability, not just for Fiji, but for other Pacific Island countries where similar work is being completed.

A friendly technological invasion at Fiji's Ono-i-Lau Island. Photo: A. Nabianivalu (FMS)

BGAN Satellite aerial mounted on the side of a mast facing a geostationary satellite. Photo: Andrew Harper (NIWA)

Preventing Loss of Life and Economic Damage from Natural Hazards Causing Extreme Dam Discharges in Vietnam (EDDI): Project Initiation

Project partners: GNS Science, Damwatch Services, and Water Resources University (Vietnam).

This three year MFAT supported project will holistically address the hazards, risks and disaster risk management issues surrounding the damming of river systems for agricultural or hydropower purposes in Vietnam. Vietnam has invested heavily in dams for these purposes. The project builds on an existing track record of hazard and risk work in Vietnam, and will focus on a "case study" catchment selected to satisfy a number of criteria (e.g. dams in cascade, catchment totally within Vietnam, presence of population centres downstream).

The final stages of the project will be dedicated to "roll out" of the study results. In other words, initial application of the study results to other catchments.

A project initiation visit took place in May, and achieved the following: (1) formally signing the project agreement between GNS Science, Damwatch Services and Water Resources University; (2) formation of the Project Leadership Group, which comprises members of the Ministry of Agriculture, Research and Development (MARD), MFAT, and the three partnering organisations; (3) reviewing the technical scope of the entire project; (4) initial discussions on the selection of a case study catchment, and; (5) visiting other organisations (e.g. World Bank) to make contact and identify synergies.

The next visit to Vietnam will comprise a formal inception workshop, baseline survey (i.e. state of knowledge prior to our study) and catchment visit, along with some early work on the Hazard Identification stage of the project.

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New Zealand Society for Earthquake Engineering: www.nzsee.org

MFAT NZ Partnerships for International Development New Funding Programme – requests for proposals expected to be called for shortly. This is an opportunity to develop new collaborative projects with in country partners, in the Pacific and Asia e.g. Indonesia and Vietnam. www.aid.govt.nz

17-21 September 4th Session of the Pacific Platform for Disaster Risk Management and the Pacific Regional Water & Sanitation Consultations. Secretariat of the Pacific Community (SPC) and the United Nations International Strategy for Disaster Reduction (UNISDR). Being held in **Noumea, New Caledonia**. www.pacificdisaster.net

22-25 October ASEAN Asian Regional Platform Conference for Disaster Risk Management. ASEAN, Indonesia & the UN International Strategy for Disaster Reduction (UNISDR). Being held in **Yogyakarta, Indonesia**. www.unisdr.org

Natural Hazards Inc. 2012 Meeting Dates

- **30 August 4pm – hosted by SKM with NZ Red Cross**
- **25 October**
- **6 December**

For the latest news and events from other organisations:

CERA (Canterbury Earthquake Recovery Authority): www.cera.govt.nz

Canterbury Earthquakes Royal Commission: http://canterbury.royalcommission.govt.nz

Natural Hazards Inc. Members' Expertise

- Strategies for disaster risk reduction, readiness, response and recovery.
- Development of organisational frameworks for emergency management.
- Emergency management education.
- Community preparedness for natural disasters.
- Multi-hazard land use planning.
- Improvement of building controls, standards and codes.
- Seismic retrofit strengthening of buildings, including simple houses.
- Seismic isolation of important buildings such as hospitals, schools, emergency management centres, government buildings, apartment buildings and heritage buildings.
- Tsunami and flood risk assessment, modelling and mitigation strategies.
- Disaster risk insurance strategies and systems.

Joanne O'Keeffe
The sky over Ohakune hours after Tongariro's eruption.

Natural Hazards Inc. Key Contacts

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