

Natural Hazards Inc. Building Resilience to Earthquakes and Other Natural Hazards

Natural Hazards Inc. is the brand for the merged Earthquake Engineering and Natural Hazards NZ business clusters. 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.

Aceh Revives Photobook Project celebrating 10 Years of Recovery in Aceh.

Noel Trustrum of GNS Science is leading a project in Indonesia of repeat photography and interviewing researchers, industry, local government officials and tsunami survivors, 10 years since the Indian Ocean Boxing Day earthquake and tsunami.

He launched this project in Jakarta with the NZ Ambassador to Indonesia, David Taylor, just prior to Christmas last year. This important project initiative has also been officially endorsed by Dr Kuntoro Mangkusubroto, former Head of the Rehabilitation and Reconstruction Board (BRR – Badan Rehabilitasi dan Rekonstruksi) and now Head of the Indonesian President's Delivery Unit for Development Monitoring and Oversight (UKP4).

View the newly established project website at:
www.acehrevives.com
 And also view the video that outlines this either via the website or youtube: http://youtu.be/Wap_gGRqx5I
 The first photobook Noel published – "Scars: Life after the Tsunami" – is available from him for \$35 a copy.

GNS Science contact: Noel Trustrum
 Email: n.trustrum@gns.cri.nz Phone: +64 21 242 5287

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Indonesian UGM & Local Government Project with GNS Science and Beca

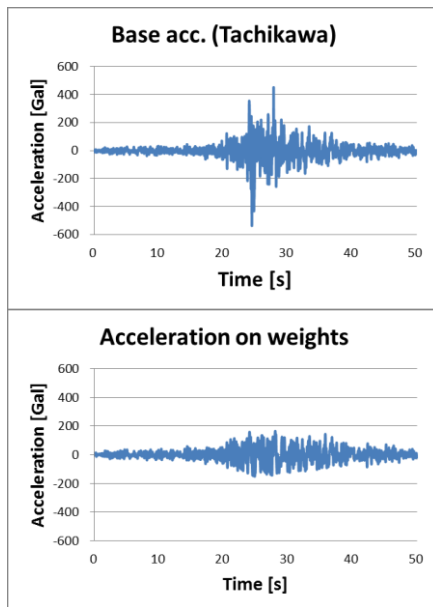
A local government disaster risk reduction (DRR) capacity building pilot project has been undertaken in Indonesia during 2011-13 through a GNS Science led Beca MFAT NZ Aid Programme initiative with Gadjah Mada University (UGM) of Yogyakarta. This included a delegation from Indonesia visiting Christchurch, Wellington and central North Island. Several members of the Natural Hazards Inc. business cluster were involved with the visit 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. An expanded project is now getting underway phase following the success of the initial pilot stage.

GNS Science contact: Michele Daly
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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, has undertaken shake-table testing in Japan 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.

Contact: Kate Canderle, Robinson Seismic: Tel: +64 4 569 7840; Email kate.canderle@rslnz.com

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

This three year MFAT supported project has been holistically addressing 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 is focused 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).

For further information: Margie Lowe, GNS Science
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USAR - Scott Miller, Silvester Clark:

Scott Miller, Principal of Silvester Clark, is a USAR (Urban Search and Rescue) representative for the NZ Fire Service, having joined the team following his role in the 2009 Padang mission to Indonesia, to assess building damage and pass on and gain knowledge of how to “Build back Better”. This was later followed by on the ground rapid assessment work following the Christchurch earthquake and Japanese tsunami in 2011.

Training has been an integral part of the past 4 years along with USAR operations in Christchurch and Japan following major events which provided unique challenges in very different conditions not only in location but in the types of damage. Palmerston North has provided a key training area.

Special mention must go to David Brunson, first Team Leader of the Padang mission, for “encouraging” Scott to join up with USAR. USAR continues to grow and Scott encourages any engineers who would like further information about how to become a part of the team to contact him at Silvester Clark.

Email: Scott.Miller@silvesterclark.co.nz



Further follow on stages of the project are being dedicated to the “roll out” of the study results. In other words, initial application of the study results to other catchments.

NZ Disaster Risk Management Advisory Group:

With the Government appointment of Phillip Gibson as DRM Special Envoy and the closer liaison with Ministry of Foreign Affairs and Trade through Michael Hartfield good progress has been made in establishing a Disaster Risk Management External Advisory Group, including representation from Natural Hazards Inc., to encourage better coherency around offshore NZ Inc. disaster risk management engagement.



Scott Miller in Japan with USAR following the Japanese tsunami.



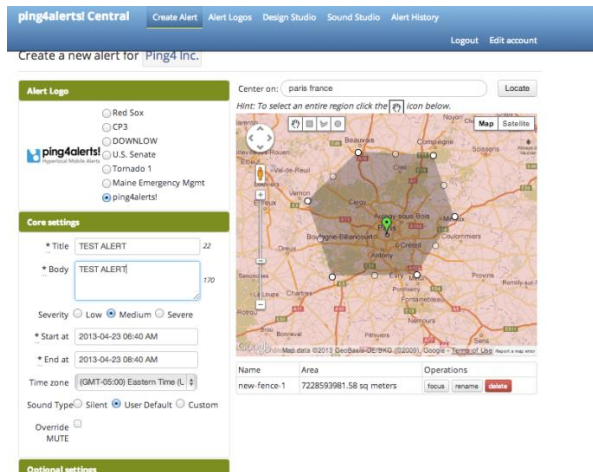
Supporting Developments of New Products for Overseas Markets as well as for use in NZ

Mick Turner - Ping4Alerts

Cratos Limited, one of our newer members, presents Ping4Alerts – a Geo-fencing application to assist in all areas of emergency management.

A summary of the Alert Portal features includes:

- SaaS: web interface
- Alerts can be hyperlocal or to the entire region or countrywide
- Predefined or custom polygon geofence capability
- Rich-media alerts
- Link to hosted website
- Mobile landing page
- Anonymous tips
- Social Media interface



For the full overview of Ping4Alerts visit www.cratos.co.nz

Mick is also the distributor for Aeryon UAV's and PSS Window Films and Laminates, two world leading products recently introduced to New Zealand.

Graham Nel – Disaster Prepare Limited

<http://disasterprepare.co.nz/>

Graham has been a member of Natural Hazards Inc. for just over a year now and has been actively involved with events held during this time, along with developing QuakeFlex™.



Having won several awards over the past 3 years, Graham is further developing written material to assist building and home owners with the correct installation of seismic restraints, in collaboration with Mark Burling of **Seismic Restraints**.

New Members' Profile:



A bit about Concrete Structure Investigations Ltd ...

Michael Roach is the Director and Founder of CSI Ltd. The 'company' has been operational with Michael as 'owner/operator' since mid-2011.

The company has been given a fresh focus and 'launched' at the Wellington Rocks Earthquake Resilience Expo in April last year. Jane Gray also has a vested interest in the company and has been working on marketing CSI Ltd. Michael's background was originally in construction and in his younger days he ran a reasonably large construction company. Michael was then recruited to be Project Manager on several developments and this line of work raised the need for the ability to check out what was happening 'within' concrete structures.

This is where the 'seed was planted' for the need to develop a comprehensive concrete scanning and reporting process. As well as Michael and Jane, CSI Ltd now has 4 staff working on scanning, reporting, marketing and office/accounts management. CSI Ltd offers diagnostic testing, concrete core testing, reinforcing yield strength tests, crack monitoring, void detection, carbonation of concrete and rebar corrosion determination.

Concrete Structure Investigations Ltd

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Find us on Facebook 

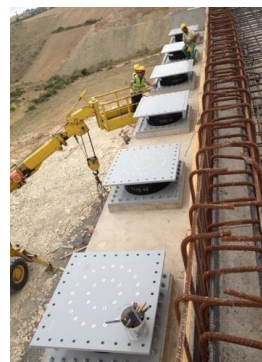


RSL Recent Seismic Base Isolation Projects:

Robinson Seismic NZ Limited have recently completed a project in Iran – Emain Hussein Hospital - 100 LRB & 50 NRB bearings and another in Indonesia, the Australian Embassy Project with 125 LRB bearings just completed.

They are also commencing other projects overseas as follows, including base isolation bearings for 3 large hospitals in Turkey and the new NZ Embassy in Beijing, as well as others in New Zealand:

Turkey – Izmir Highway project – a collaboration between Robinson Seismic Ltd, DIS and RSL agent Emke Construction. The RSL share of this huge project is 2300 LRBs presently in production.



China – 4th LNG tank – 360 High Density Rubber bearings – in production

For further information:

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Robinson Seismic Limited

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www.rslnz.com

Interesting Links

For the latest news and events from other organisations:

- CERA (Canterbury Earthquake Recovery Authority): www.cera.govt.nz
- Canterbury Earthquakes Royal Commission: <http://www.canterbury.royalcommission.govt.nz>
- New Zealand Society for Earthquake Engineering: www.nzsee.org.nz
- MFAT NZ Aid Programme: www.aid.govt.nz/
- Pacific Disaster Net: <http://www.pacificdisaster.net>

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.

Natural Hazards Inc. Key Contacts

Co-Chairs:



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Forthcoming Natural Hazards Inc Business Cluster Meetings:

30 October 2014 4pm Opus Central Labs, Petone
11 December 2014 4pm VUW School of Architecture