

## INSIDE THIS ISSUE

Version 1.0 **PAGE 1**

RiskScape used for  
Edgumbe floods **PAGE 2**

RiskScape workshops in  
Pacific Islands **PAGE 3**

RiskScape at 2017 MCDEM  
conference **PAGE 3**

Pacific partners visit  
New Zealand **PAGE 4**



# RiskScape

## NEWSLETTER JULY 2017

## Welcome

Welcome to the new-look RiskScape newsletter! A lot has changed around here. Most importantly, the RiskScape team have been working relentlessly to release a new version of RiskScape. We are very excited that this has been achieved, and it is now available to download for free from the website ([www.riskscape.org.nz](http://www.riskscape.org.nz)). We've also been updating our user manual to help you to get the most out of RiskScape.

As New Zealand signed up to the Sendai Framework for Disaster Risk Reduction (2015-2030), and the Civil Defence and Emergency Management Act and RMA require agencies to take a risk-based approach, we are aware that there is demand for a risk assessment tool designed for New Zealand conditions. We hope that you find RiskScape useful for these purposes. All the best with your risk projects, and fingers crossed we don't have any more events for awhile!

**Dr Sally Potter**

*Hazard & Risk Management  
Researcher GNS Science*

## New Version of RiskScape is now Live!

RiskScape version 1.0, which is now available for download, has an improved user interface and map viewer, updated vulnerability models, flexible export options and other many other new features. For example, you can now run exposure analysis as well as more complex estimations of loss.

Guides for the installation and use of RiskScape, as well as technical information, are available on the RiskScape wiki, and you can get help with any tricky bits via the helpdesk. One of the great new features is a conversion tool that can take any pre-V1.0 RiskScape layers (previously called "modules") that you have created and convert them for the current version.

We hope that users of RiskScape will also find the registration process to be much easier. RiskScape version 1.0 will automatically guide you through the registration process once you open the tool for the first time.

RiskScape is a constantly evolving tool and we value your feedback. If you have any issues or suggestions, please let our team know through the helpdesk.

Project lead Kate Crowley says 'The RiskScape project is beginning a new chapter of collaboration. Although, as always, we are keen to receive feedback we want to take this a step further. We want to explore ways of designing new features together, gain a deeper dialogue and guidance with our partners and users and encourage a celebration of our applied research and practice successes.'

Finally, the RiskScape team at NIWA and GNS Science would like to thank those of you who have been involved in testing version 1 and in helping us to improve the tool. We look forward to working with you all in the future.



# Surveying Flood Damage in Edgecumbe

In the early morning of April 7 2017, the Rangitaiki River breached a stop bank at Edgecumbe. Over the next 48 hours, thousands of cubic meters of water flooded the township, inundating over 450 buildings.



## MAIN SURVEY OBSERVATIONS

- Water levels inside buildings were up to 1.1m
- Component damage was 20% - 70% of building replacement costs
- Average loss of contents was 60%
- Resident evacuation times averaged 15 minutes or less
- Particle board flooring was a key contributor to damage
- Flow velocities caused foundation failures opposite the breach site

A research team travelled to Edgecumbe to survey the flood hazard, building and infrastructure damage and resident response to formal or informal flood warnings. Edgecumbe. The data will be used to aid the development of vulnerability models that estimate building damage or financial loss from flood hazards. The NIWA team recorded water levels, building attributes and building component damage at 220 residential homes. A hydraulic model using RTK GPS surveyed ground and water levels; this will be used to replicate flow conditions that inundated these homes.

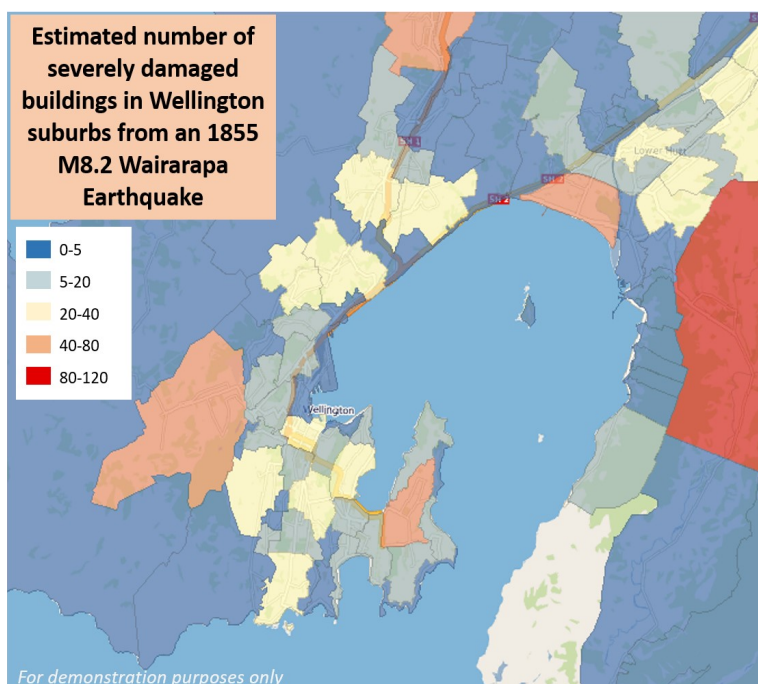


The survey information has enabled NIWA to update residential building flood vulnerability functions in the RiskScape tool. RiskScape loss models can support flood risk management decisions, such as the cost-benefit of raising stopbanks or building floor level heights to reduce building damage in a flood event. RiskScape estimated building repair and disruption costs of NZD\$19.6m for the 220 homes surveyed, just under NZD\$90,000 per home. This information will assist local authorities with recovery and future flood mitigation activities for Edgecumbe. For more information contact Ryan Paulik, NIWA.

## RiskScape in Practice

As an example, RiskScape has been used to estimate what the present-day impacts would be in the event of an 1855 M8.2 Wairarapa Earthquake. The number of severely damaged buildings per Wellington suburb has been estimated, which can be used for contingency planning and exercises. The results show that the hardest-hit suburbs are Wainuiomata (116 buildings severely damaged), Karori (55), and Miramar (54). Other impacts, such as the reinstatement cost of assets and number of casualties, can also be estimated.

This image is from the RiskScape map viewer; the data can also be exported as a Shapefile for GIS, and as a CSV (MS Excel) file.







# PARTneR RiskScape and Data Management Workshops in the Pacific Islands

In May 2017, a RiskScape training and data management workshop were carried out in both Samoa and Vanuatu as part of the 3 year NZ Aid funded Pacific Risk Tools for Resilience (PARTneR) project. NIWA facilitators led the trainings with support from the National Disaster Management Offices, Vanuatu Meteorology Department, GNS Science and SPC Geoscience colleagues.

The venture was hugely successful for the development of ideas and skill sets, as well as building on the PARTneR project relationships. In the RiskScape training, participants were introduced to the theory and practice of risk modelling tools, and RiskScape was showcased through a hands-on demonstration of country-specific disaster scenarios. In the data management workshop, key data management stakeholders were brought together to discuss developments in risk data management in the Pacific, and to capture the needs for a national data management system. The outcomes were national action plans for the PARTneR risk data management system in each country, which will be implemented over the course of the project.

For more information about PARTneR please contact Kate Crowley ([kate.crowley@niwa.co.nz](mailto:kate.crowley@niwa.co.nz)).

## RiskScape Trainings

We will be conducting free RiskScape trainings nationwide in late 2017.

If you are interested in having a training near you, please contact [helpdesk@riskscape.org.nz](mailto:helpdesk@riskscape.org.nz)



## National Emergency Management Conference 2017, RiskScape workshop

MCDEM recently held their annual National Emergency Management Conference, and on the last day (Friday 9 June), RiskScape was given the opportunity to host a workshop. The workshop had a great turn out with over 60 people participating, illustrating how the CDEM sector is increasingly recognising how valuable RiskScape is for calculating risk and impacts of natural hazards.



Led by Sally Potter, the workshop showcased the latest interface and functions of RiskScape, along with exercises that highlighted how

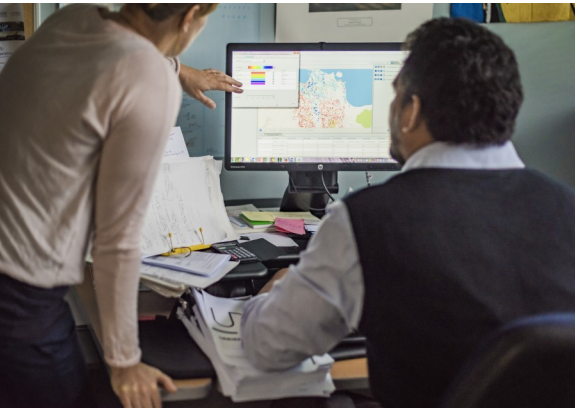
RiskScape can be used not only as a risk and vulnerability assessment tool but also for crisis readiness and response. It was commented that by an attendee,

***“the workshop was really worthwhile to understand how RiskScape worked and to be able to see how it would be useful for future planning in the CDEM sector”.***

Another important part of the workshop was to obtain feedback on the current tool and suggestions for moving forward.

The RiskScape team is currently still receiving feedback from the conference, however if you were unable to attend or would like to give some comments please do not hesitate to contact us.

# Pacific partners visit New Zealand



cational training focused on the RiskScape tool and the underpinning research that supports the software. Titimanu commented,

***"it's a powerful tool and it will certainly mean better informed decision-making."***

The RiskScape team were joined by two project coordinators in March earlier this year, Titimanu Simi from Samoa and Lopanga Yert from Vauautu. Titimanu and Lopanga travelled to New Zealand to take part in the Emergency Management summer institute run by Massey University. For Titimanu the institute highlighted, 'the need to continue ongoing efforts with the mainstreaming of Disaster Risk Management to enhance collaboration between relevant stakeholders'.

Based at NIWA Wellington, Titimanu stayed 3 weeks after the course, taking part in a wider vo-

Whilst in New Zealand Titimanu visited the GNS Office in Taupo along with ShengLin Lin (GNS Science) and Kate Crowley (NIWA) to learn more about current volcanic monitoring and early warning.

Titimanu will return to Samoa and lead the implementation of RiskScape in Samoa through PARTneR, a New Zealand Aid funded partnership project led by NIWA.

For more information about PARTneR please contact Kate Crowley ([kate.crowley@niwa.co.nz](mailto:kate.crowley@niwa.co.nz)).

## WANT A 2-MINUTE OVERVIEW OF RISKScape?

Check out our new YouTube video:

<https://www.youtube.com/watch?v=7YsiDk2dguw>



***We are keen to know how you are using RiskScape. If you have a project you'd like to showcase, please let us know.***

## CONTACT US

If you would like to find out more about RiskScape, please contact the team at [helpdesk@riskscape.org.nz](mailto:helpdesk@riskscape.org.nz).

The RiskScape user manual is on the wiki: <https://wiki.riskscape.org.nz/index.php/Overview>

If you have any questions whilst using RiskScape, you can lodge a help request through <https://support.riskscape.org.nz/>

[www.riskscape.org.nz](http://www.riskscape.org.nz)

RiskScape is a collaboration between GNS Science ([www.gns.cri.nz](http://www.gns.cri.nz)) and NIWA ([www.niwa.co.nz](http://www.niwa.co.nz)).



**RiskScape**

