

# Teaching science communication in the time of crisis: Updating the Auckland Volcanic field eruption teaching simulation

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# Overview

Background

History

Learning objectives

Challenges to be addressed

Modifications made

Tour of the new software solutions

Virtual version

Access

# History

## Before 2010

Stanford University had a geophysics laboratory about volcanic precursory signals

Volcano: Mount Saint Helens

## 2010-2012

2010-2012 : Jacqueline Doherty (Swinburne University of Technology) & Rebecca Fitzgerald (UC) adapted the simulation and conducted scholarship of teaching learning research

Volcano/Scenario: Tongariro & Rūaumoko

Stanford University created the first version of the simulation based on their geophysics laboratory to use on their New Zealand field camp (which later became Frontiers Abroad)

Volcano/Scenario: Ruapehu

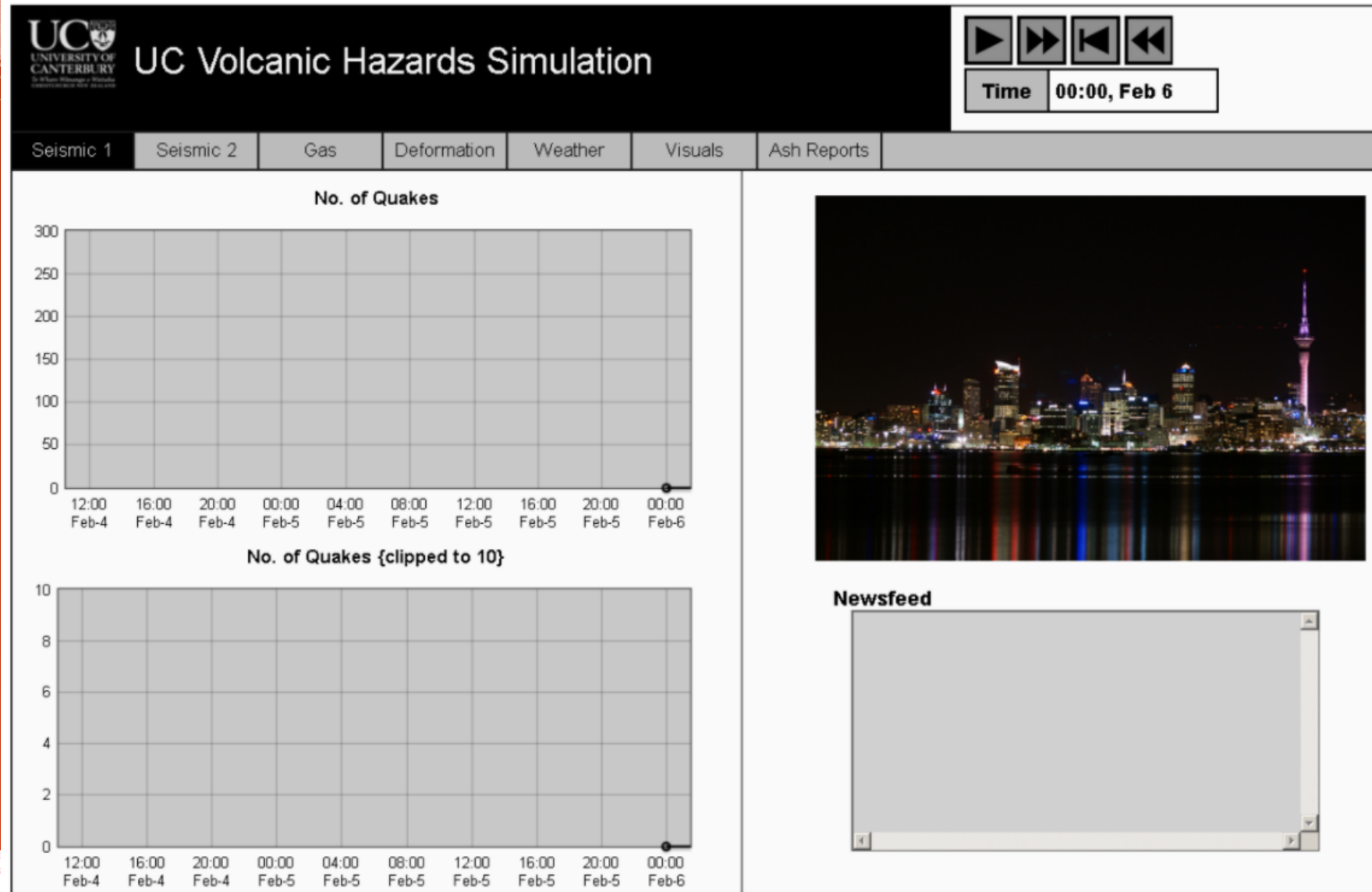
University of Auckland has modified the simulation.  
The edits we've made are presented here!

Volcano/Scenario: DEVORA Scenarios-Birkenhead

## 2010

## 2016-present

# Background



# Learning objectives

- To practice oral and written science communication best practices
- To gain an appreciation of the relationships between a science agency and emergency management agency during a crisis
- To gain an understanding of the relationship between hazard, exposure, and impacts via an Auckland Volcanic Field case study
- To learn about coordinated incident management systems
- To interpret volcanology precursory data

# Challenges to be addressed

- Larger classes
- Evolving roles
  - GIS
  - Social Media
- More stable environment
  - Dropbox



# Modifications

- Roles: new & modified
  - Increased alignment with Coordinated Incident Management System (CIMS)
- Scenario: implemented a newly developed scenario
- Field trip
- New software solution

# Tour of new software solution- GeoNet



Auckland Volcanic Simulation

Pause

Play

Back

Skip

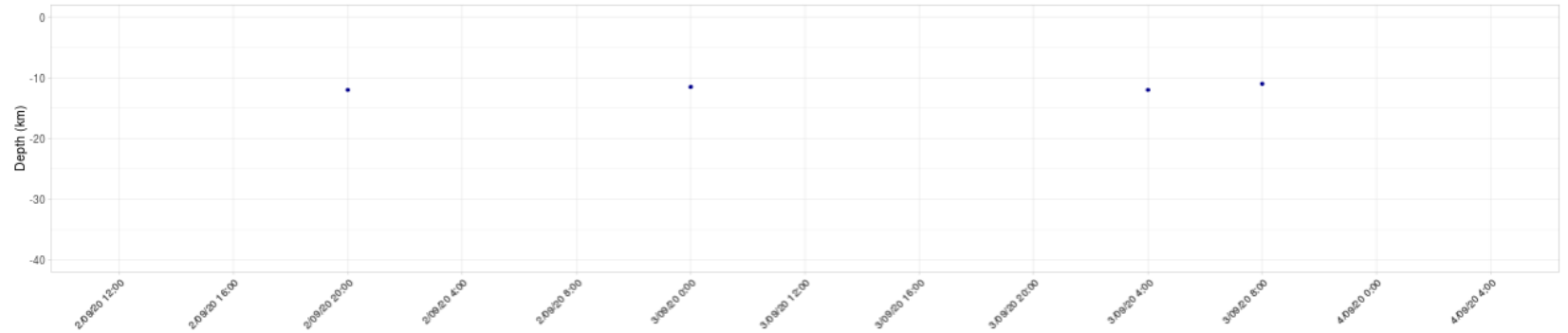
Date: 4/09/20 4:00

Seismicity

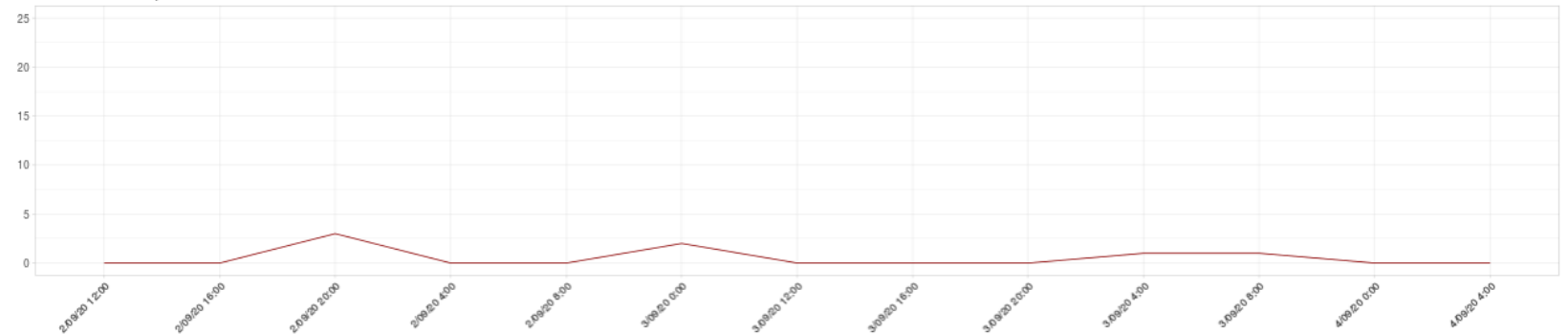
Deformation

Gas Monitoring

Average depth of earthquakes

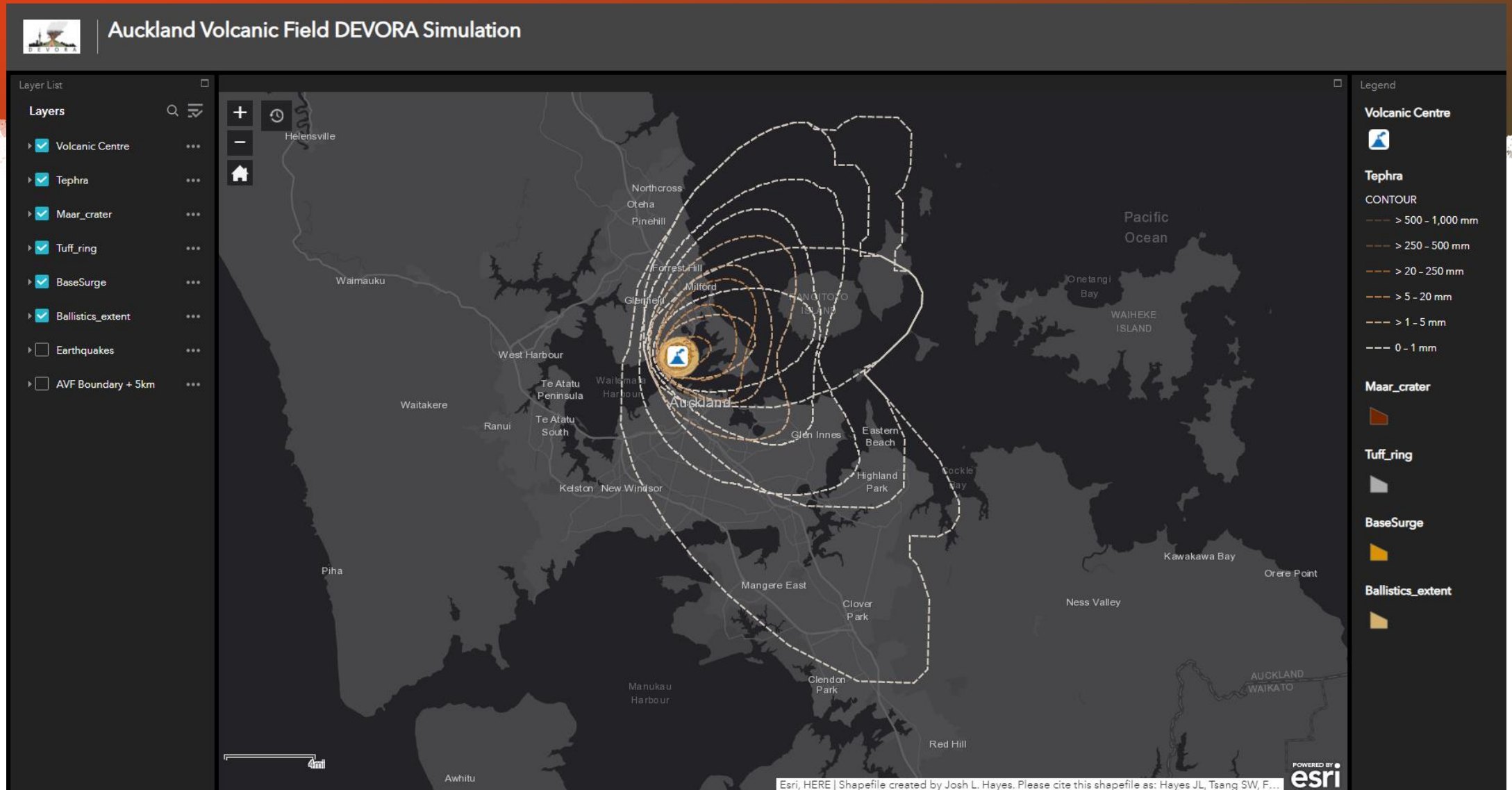


Number of earthquakes






# Tour of new software solution- GeoNet



# Tour of new software solution- Emergency Management



## Auckland Volcanic Simulation

Pause

Play


Back

Skip

*Date: 28/08/20 8:00*

*Wind Speed: 16 km/hr NE*

*Percipitation: 0 mm*




▾ Role Play Exercise/Simulation (a.k.a. "SIM")- day of

Instructions- general

 Instructions

 Zoom call [↗](#)


 Media guidance


 Shared documents between groups folder (sign-in) [↗](#)

Prompt 1


Science

 Science Folder (sign-in required) [↗](#)


 Overview

 Data geochemistry

 Data geodesy

 Data geophysics

Emergency Management

 Emergency Management folder (sign-in required) [↗](#)

# Virtual Simulation

- This year, holding the simulation in person was not an option
- Used the new simulation framework to implement a table-top exercise
- Three injects, two press conferences, debrief

# Access

- Still a work in progress
  - Pending completion of accompanying manual & hosting
  - Intended completion: by end of June 2021
- Please contact Sophia ([s.tsang@auckland.ac.nz](mailto:s.tsang@auckland.ac.nz)) to be notified when it is released

# Thank you



...for listening and to our students who have participated in this process & those who have laid the groundwork of this exercise

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