Funded MSc Part II Project
In Disaster Risk and Resillience

Mātai Aituā, Tūraru, me te Manahau | Disaster Risk and Resilience
Te Kura Aronukurangi | School of Earth and Environment
Te Whare Wānanga o Waitaha | University of Canterbury
Ōtautahi Christchurch, Aotearoa New Zealand

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Provisional title of project: From Twitter timeline to ashfall impacts: Optimising rapid ashfall impact assessments for Pacific Island nations.

Overview of project: The impact of volcanic ashfall on communities, infrastructure and the economy can be significant and far-reaching. Rapid assessment of ashfall impacts is essential for effective emergency response, risk reduction, and recovery efforts. Pacific Island nations are at high risk of volcanic eruptions, with many active and potentially hazardous volcanoes in the region. This project aims to improve rapid ashfall impact assessment techniques in Pacific Island nations, including validating models from early event imagery, such as from social media, field surveys and remote sensing. This project will focus on the 2022 Hunga Eruption in Tonga, which produced significant ashfall across the region. Hunga is an ideal case study as it is well-documented, with a large amount of post-event imagery available.

This project provides an exciting opportunity to collaborate with a multidisciplinary and multi-agency team across Te Whare Wānanga o Waitaha the University of Canterbury, Taihoro Nukurangi the National Institute of Water and Atmospheric research (NIWA) and Te Pū Ao GNS Science. While contributing to a study with real-world implications, you will improve and/or develop skills in a range of potential areas, including GIS, machine learning, and fieldwork.

Supervision team: Lead supervisor: Dr James Williams (UC); Co-supervisor: Professor Thomas Wilson (UC); Associate supervisors: Dr Heather Craig (NIWA), Dr Josh Hayes (GNS).

Candidate: A degree, with minimum B+ average, in earth sciences (geography, geology, engineering geology) and/or disaster risk and resilience is essential. The ideal candidate will have strong interpersonal skills, excellent communication and writing skills and be highly motivated to work both as part of a team and using their own initiative. Experience with risk assessment, remote sensing, statistics, machine learning, and fieldwork is preferred. Experience of working with communities impacted by natural hazards is desirable.

Location: Te Kura Aronukurangi the School of Earth and Environment, Te Whare Wānanga o Waitaha the University of Canterbury, Ōtautahi Christchurch, Aotearoa New Zealand

Start Date: Preferred start date of 01 June 2023.

Funding and Support: The successful candidate will be awarded a fully-funded 1-year MSc Part II scholarship, which includes University course fees and a $20,000 (NZD) stipend, and join the vibrant Disaster Risk and Resilience group at UC. Generous support will be provided for data collection and analysis, as well as travel for fieldwork and conferences at the supervision team's discretion.

Additional Considerations: We anticipate that the outputs of this project will be written up and submitted as an article to an international, peer-reviewed journal.

Application: Interested candidates should contact Dr James Williams for further information (j.williams@canterbury.ac.nz). The application deadline is May 14th 2023.