

# Geology of the Pirongia Volcano

At what may have been the largest-ever gathering in the Pirongia Heritage Centre, on 18 November 2020, Oliver McLeod launched the first comprehensive geological map of Mount Pirongia, accompanied by the book *Geology of the Pirongia Volcano* which unravels its volcanic history.

It reveals how, over a million years, Pirongia grew from numerous volcanic vents to become an impressive stratovolcano standing at least 1200 metres above sea level. The period of volcanic activity was followed by more than a million years of erosion. Sector collapses, lahars, mass movement and fluvial action resulted in a substantial loss of vertical height to its present 959 metres. Previously sub-surface volcanic rock structures were exposed on the ridgelines to produce the present jagged set of summit peaks such as Mahaukura, with streams flowing in radial valleys separated by thin ridges of volcanic rock. Soils developed, supplemented by later ash shower material from central North Island eruptions, to sustain the growth of vegetation in a mild climate with high rainfall, clothing the mountain over time in a richly varied forest of podocarp and ferns, with sub-alpine plants on its summit peaks, and rich birdlife.

Oliver McLeod's research was completed as a PhD student with the Earth Science Group in the School of Science at the University of Waikato. It involved three years of regular hiking expeditions on the mountain with a backpack, rock hammer, GPS and compass, to produce the first detailed map covering 500 square kilometres of terrain.

The book launch was followed by Oliver speaking at numerous well-attended engagements throughout the Waikato Region, including Te Awamutu and Kawhia. In December, he presented a copy of the map and book, published by the New Zealand Geoscience Society, to King Tūheitia at Purekireki Marae.