International concern over GNS Science's proposed science staff cuts

We are writing to express our deep concern about the proposed cuts to 46 scientific staff at GNS Science and the damaging impact of these cuts on both the scientific community and the public. These cuts are alarming and threaten to undermine GNS Science's ability to provide crucial public good science that benefits all New Zealanders, and damage the exceptionally high-level credibility of New Zealand geoscience on the international stage.

New Zealand has built a strong international reputation in Earth Science, largely due to GNS Science's significant contributions. Over the past two decades, GNS scientists have made globally important discoveries related to earthquakes, tsunamis, volcanoes, landslides, and climate change. These have greatly enhanced understanding of hazards in New Zealand itself, and also around the world. Many of the staff slated for redundancy have played pivotal roles in these achievements. Their loss would not only negatively affect New Zealand, but also the international Earth Science community. If such cuts are implemented, it will take decades for New Zealand to rebuild capability, reputation, and international partnerships in areas of critical need.

One major area of concern is the Hikurangi subduction zone, the greatest source of earthquake and tsunami risk to New Zealand. The Hikurangi subduction zone has attracted significant international investment (NZD ~100 million) in transdisciplinary research over the last decade, due to GNS's scientific leadership and the international partnerships that scientists at GNS have developed over decades. The proposed cuts, including the disestablishment of the Crustal Geophysics team and the removal of Geodynamic Modelling capabilities, will devastate these research efforts, and jeopardize these valuable international collaborations. Several individuals targeted for redundancy in GNS' financial sustainability proposal play critical roles in developing and maintaining these partnerships. Loss of these partnerships will entail a loss of global interest and investment in understanding and monitoring the Hikurangi subduction zone, which enables assessment and mitigation of the substantial economic and societal risk posed by the subduction zone to New Zealand.

The response to the 2016 Kaikōura earthquake and 2011 Christchurch earthquakes demonstrated New Zealand's exceptional scientific and public information response to natural disasters, largely thanks to GNS scientists' expertise. The ability to do this depended on deep transdisciplinary capability at GNS, ranging from underpinning fundamental earthquake science through to risk assessment, social science, and communications. The international scientific community watched these efforts in awe, and we were inspired by this as a benchmark for how post-earthquake scientific response and public communication should be done. The deep proposed cuts to underpinning earthquake science at GNS will jeopardize their ability to respond effectively to future major earthquakes, undermining the standards set by the exemplary Kaikōura and Christchurch responses.

We urge GNS Science to rethink these cuts. The current proposal risks compromising essential geoscientific expertise and partnerships needed to address geohazards risks, which is critical for a country whose economy and community safety is so vulnerable to earthquakes, volcanoes, and climate change. We encourage GNS to explore cost-saving measures that do not undermine their core scientific capabilities, which are vital for long-term sustainability of a national geoscientific research agency, particularly one that is relied upon by a population living astride a major tectonic plate boundary.

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