

Methods to communicate volcanic hazards information to indigenous cultures: a case study of Maori from New Zealand.

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Communicating volcanic hazards and risk to indigenous peoples living near or on active volcanic areas has focused on presenting information related to the physical process of the hazard and the impacts of those hazards. Ultimately this information is presented in the form of hazard maps and evacuation or exclusion zones. The western science based view of volcanic processes, hazard and management can cause conflict with indigenous communities that at times see this as a threat to their livelihood or cultural connections to the area. The conflict can arise from the marginalisation of the indigenous peoples cultural and spiritual belief or the differences between perceived risk and past experiences that indigenous peoples have responded to and recovered from. Questions remain on how these differing views can be breached to ensure that risk is minimised. Research into methods on how to transfer this knowledge, while maintaining cultural integrity, has focussed on the application of participatory research methods, whereby communities are directly involved in transferring their past experiences and traditional knowledge in a collaborative environment to create joint hazard maps. Methods have been extended in New Zealand to develop methodologies where research is encompassed by indigenous values, conducted by indigenous researchers and uses traditional language. This method applied is the Kaupapa Maori Approach and is being used to transfer volcanic information between volcanic researchers and Maori tribes or Iwi living under the volcano. Living in the shelter of Ruapehu, the Ngati Rangi people of New Zealands Central Volcanic Plateau have come to understand and recognise the signs and language of their ancestral mountain, developing a unique system of indicators that is being shared and transferred into hazard management maps, plans and emergency management processes. This Kaupapa Research in other situations has resulted in positive change and it is envisaged that this understanding and sharing of volcanic knowledge will result in the reduction of risk.