



Cities on Volcanoes 9
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'Understanding volcanoes and society: the key for risk mitigation'



Assessing the level of volcanic hazard and risk from volcanoes in remote localities.

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Volcanic ash and tsunami have the ability to travel great distances and generate impacts on communities. In order to assess the potential for far-field impacts from these volcanoes, hazard modelling for ash and volcanic-tsunami impacts needs to be undertaken. Determining the appropriate parameters for hazard modelling can be challenging at remote volcanoes. Heard Island and McDonald Island (HIMI) are Australian Antarctic Territories located ~4000 km south west of Perth, Australia. Both of these eruptive centres have experienced violent, ongoing eruptive events, as recently as 2016 for Heard Island. At HIMI, there is no permanent population living within 500 km of the active vents therefore the risk at ground level is low. However, any expeditions to the proximity of the islands would need to consider possible eruptive activity. The challenges of characterisation of the remote HIMI for the purposes of hazard modelling are met through the use of earth-observation data. Preliminary modelling results indicate possible impacts to Australia.