

Strengthening volcanic ash hazard and risk assessment capacity in East New Britain, Papua New Guinea: A three year journey from volcano science to community planning and preparedness

Adele N Bear-Crozier¹, Herman Patia², Kila Mulina², Elizabeth Metz¹, Rikki Weber¹, Nick Horspool¹

¹Geoscience Australia, Australia, ²Rabaul Volcanological Observatory, Papua New Guinea

E-mail: Adele.Bear-Crozier@ga.gov.au

Understanding the potential magnitude, severity and impact of future volcanic eruptions on communities living in close proximity to volcanic sources is essential for any attempt to reduce natural disaster risk in Papua New Guinea. Geoscience Australia is working in partnership with the Rabaul Volcanological Observatory (RVO) to build the capacity of volcanologists to undertake volcanic ash dispersal modelling, to interpret the outputs and to incorporate the data where appropriate into a new series of volcanic hazard maps for a pilot province (East New Britain; ENB). A modified procedure for volcanic ash dispersal modelling (PF3D) was developed in 2009 by Geoscience Australia and its regional partners in Indonesia and the Philippines which modify the modelling procedure of FALL3D, a widely used and well validated volcanic ash dispersal model, in line with the needs of government agencies and emergency managers in the Asia-Pacific region. PF3D introduces a number of enhancements to the procedure for FALL3D that do not change the operation or functionality of the core model but increase its accessibility for volcanologists working in developing countries like Papua New Guinea. The three year program, funded by the Australian Agency for International Development (AusAID) provided training in the use and application of PF3D for RVO staff through the development of new volcanic hazard and risk information for ENB. A significant achievement for the program has been the continuous involvement of community groups who, through a series of workshops held in ENB, have been heavily involved in discussions around the kind of volcano science being undertaken, providing feedback on outputs and in driving the design and production of education and public awareness materials (books, posters etc) which will be used for communicating the outputs of the program in local schools and other community centres as part of a larger planning and preparedness campaign.