

## **Best practice volcano monitoring in New Zealand.**

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An approach to achieving best practice volcano monitoring through a review of New Zealand's volcano monitoring capability as established under the GeoNet project is presented. A series of benchmark, consultation and station performance studies were undertaken to provide a comprehensive review of volcano monitoring in New Zealand and to establish plans for future improvements in capability. The USGS NVEWS method was applied to benchmark the built instrumentation networks against recommendations for instrumentation based on a volcanoes threat level. Next, a consultative study of New Zealand's volcanology research community was undertaken to canvas opinions on what future directions GeoNet volcano monitoring should take. Once the seismic network infrastructure was built, a noise floor analysis was conducted to identify stations with poor site noise characteristics. Noise remediation was implemented by either re-locating the site or placing sensors in boreholes. Quality control of GPS networks is undertaken through the use of multipath parameters derived from routine processing. Finally the performance of the monitoring networks is assessed against two recent eruptions at Mount Tongariro and White Island.