

## **ONE EIGHTH OF THE GLOBE – THE NEW ZEALAND GEOMAGNETIC PROGRAMME**

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Until about twenty years ago, the New Zealand Department of Scientific and Industrial Research (DSIR) ran a significant research programme in geomagnetism and upper atmosphere studies. The restructuring of DSIR into a number of Research Institutes, and an increased focus on topics thought to have more obvious economic benefits, has resulted in the closure of virtually all research in these areas, but funding still remained for magnetic observatories and repeat magnetic measurements. The current magnetic observatory programme is funded for about half a scientist and contract observation staff.

GNS Science operates magnetic observatories at Eyrewell (near Christchurch, N.Z.) and Scott Base Antarctica. Both observatories have unusual issues, Eyrewell is less than 20 km from a high voltage DC power cable, whilst Scott Base is located on volcanic rocks which are temperature dependent, producing quasi-annual baseline variations of up to 50 nT.

The magnetic observatory at Apia which was previously operated by DSIR is now the responsibility of the Government of Samoa, with processing and informal assistance provided by GNS Science. While the current recording and observing instruments continue to operate it should be possible to keep Apia running, but neither the Samoan nor New Zealand Governments is likely to provide funds for replacing the current equipment.

These observatories provide the only continuous data from about a 90° arc of the Southern Hemisphere, one eighth of the globe. Their continuing operation is essentially a contribution to the world scientific community. In this situation it has been found useful to link the geomagnetic observation programme to geological hazards, and in Samoa to meteorology, where the benefits of world scientific networks are obvious.

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