

MAGNETIC OBSERVATORY, CHRISTCHURCH.

REPORT BY THE DIRECTOR.

In August, 1931, the control of the Magnetic Observatory was transferred from the Lands and Survey Department to the Department of Scientific and Industrial Research.

MAGNETIC OBSERVATIONS.

During the year 1931 the work of recording and tabulating the mean hourly values of the magnetic declination, horizontal force, and vertical force has been continued as usual. The Eschenhagen magnetographs at Amberley and the Adie magnetographs at Christchurch have been kept in operation.

The correction and tabulation of the hourly values for 1931 is not yet quite complete. The preparation in a revised form for a new method of printing of the reports for 1928, 1929, 1930, undertaken last year, involved great extra work upon the staff. The installation of new instruments has occupied considerable time. However, the true mean annual values will be available shortly, when the activities of the Polar Year programme permit.

METEOROLOGICAL.

The programme of meteorological observations (thrice daily on most days) was continued for climatological purposes and the information was published in the local papers. There has been much demand for this information from other Departments and many sections of the community. Nine a.m. observations were telegraphed daily to the Director, Meteorological Services, Wellington, to assist him in preparing weather forecasts. On 239 days pilot-balloon observations were made to investigate upper-air currents; an abstract of each flight was also telegraphed, in code, for forecast purposes.

ATMOSPHERIC ELECTRICITY.

In atmospheric electricity the Benndorf recording electrometer has been kept operating, and the records obtained are being measured. The recent installation of a small electric heater of tube type has enabled the insulation of this instrument to be maintained much more effectively.

SEISMOLOGICAL.

Some 150 earthquakes were recorded in 1931. Monthly bulletins of preliminary measurements of earthquakes were published from August onwards. The earlier records have been measured.

During the year instrumental equipment has been much improved. A three-component set of Galitzin seismographs was obtained from England, while a Wood-Anderson torsion seismometer, suitable for recording near shocks, was sent from Wellington.

The Milne seismograph, No. 16, was removed to another cellar, and just after the completion of the year was sent to the Chatham Islands.

The three Galitzin seismographs and the Wood-Anderson were set up in the Milne cellar, which is consequently cramped for space. Active steps are being taken to have all four recording-drums arranged on one shaft. Records will then last twenty-four hours, or twice as long as previously, without prejudicing seriously the wider Galitzin trace. The cellar will still be cramped, but later it may be possible to use the Adie cellar, which appears ideal.

In February the assistant, Mr. Baird, visited the Hawke's Bay earthquake area. Besides using customary methods in such preliminary investigations, he carried out a reconnaissance by aeroplane over the disturbed area. The course from Hastings was along the coast from Cape Kidnappers to Wairoa and back on a more inland route. A separate report on this work was forwarded to the Surveyor-General early in the year.

STAFF.

In conclusion, I wish to express appreciation of the manner in which the members of my staff have carried out their duties during the year. It is pleasing to record that Mr. Beagley, computer, graduated M.Sc. with second-class honours in mathematics during the year, while Mr. Larsen, cadet, passed a further section of B.Sc.

HENRY F. SKEY, Director.

Christchurch, 21st September, 1932.

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