

MAGNETIC OBSERVATORY, CHRISTCHURCH.

Director: H. F. SKEY.

SUMMARY OF OPERATIONS IN 1934.

During this year the usual magnetic, seismological, and meteorological observations have been carried out.

TERRESTRIAL MAGNETISM.

The Eschenhagen magnetographs at Amberley Sub-station have been kept recording continuously, and the resulting magnetograms have been developed, &c., and measured for mean ordinates during every Greenwich hour. The ordinates have been reduced and, by the aid of twice-monthly absolute magnetic observations at the sub-station, the mean hourly values have been calculated. Any short occasional failure of the Eschenhagen records has been made good by the help of the Adie D and H magnetograms obtained at Christchurch.

Calculated from these mean hourly values, the mean monthly values obtained for 1934, Amberley, are:—

Mean Monthly Values of the magnetic elements from hourly mean values (all days), 1934, at Amberley Sub-station—

			D.	H.	Z.		
1934.			° 18				
January	..	..	.. 18	1.6	22341γ	—55228γ	
February	..	..	.. 18	2.2	22336	55227	
March	..	..	.. 18	2.0	22329	55230	
April	..	..	.. 18	2.2	22332	55234	
May	..	..	.. 18	2.4	22331	55232	
June	..	..	.. 18	2.8	22333	55226	
July	..	..	.. 18	3.2	22336	55225	
August	..	..	.. 18	2.9	22324	55234	
September	..	..	.. 18	3.4	22323	55234	
October	..	..	.. 18	4.3	22330	55238	
November	..	..	...18	4.2	22335	55225	
December	..	..	.. 18	4.3	22327	55223	
Year	..	..	.. 18	3.0	22331	55230	
Δ from 1933	..	..	..	+2.8	—8γ	+3γ	(Numerical decrease).
			Y.	X.	T.	φ	
Year	..	..	.. 06919.1γ	21232.6γ	59573.6γ	—67° 59′.97	
Δ from 1933	..	..	.. +14.9γ	—12.9γ	+4.4γ	—0′.34	

Since 1930 sun-spottedness has been near the minimum, and the actual minimum has been nearly at the end of 1933. Both in H and in D the change per calendar year here has been almost uniform.

Some improvements have been effected at the Amberley Sub-station, and some necessary repairs to buildings have been made. Some further improvements to the underground chamber there are contemplated to enable the Adies to be housed in it, and leave the cellar at Christchurch available for the Galitzin and Wood-Anderson Seismographs.

SEISMOLOGY.

During the year the three-component Galitzin seismographs were maintained in operation under a periodic adjustment. Provisional monthly bulletins were issued promptly. These bulletins were sent to the Dominion Observatory, Wellington, and, with their similar bulletins, went to co-operating stations overseas. Records of 240 seismic disturbances throughout the world were interpreted for these bulletins.

Apart from the programme of teleseismic operations by the Galitzin seismographs belonging to this Observatory, a short-period Wood-Anderson seismometer was maintained and operated for the Dominion Observatory. The Wood-Anderson records were sent regularly to the Dominion Observatory. The Wood-Anderson records are particularly valuable for shocks local to New Zealand, and the South Island in particular. After the issue of bulletins the records were returned to Christchurch and filed for reference. If a Benioff vertical seismograph, with both short and long period galvanometer, were available, facilities for local and teleseismic research would be greatly increased, as advised by Dr. Gutenberg, of Pasadena.

METEOROLOGY.

The usual thrice-daily (Sundays and holidays, twice-daily) observations have been made, and returns made monthly to the Dominion Meteorologist. Daily information is given by telegraph of the ordinary and of the pilot-balloon observations, for use in forecasting. A careful evaluation of the semi-diurnal range of barometric pressure during 1933 is nearing completion, and as the barograph is run in a cellar without any appreciable change of temperature the ranges obtained should be accurate and of use for Polar Year discussions.

Measurements of the daily thermograms since July, 1932, have been made, and the tabulated data is to be typed for printing immediately.

ATMOSPHERIC ELECTRICITY.

The Benndorp electrograph is kept in continuous operation, but with so much work in hand difficulty is experienced in keeping measurements up to date, and it may be necessary to confine measurements in future to selected least disturbed days.

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