

MAGNETIC OBSERVATORY, CHRISTCHURCH.

Director: H. F. SKEY.

SUMMARY OF OPERATIONS FOR THE YEAR ENDED 31st MARCH, 1937.

During the year the usual magnetic, seismological, and meteorological observations have been carried out, and the additional observations to assist in forecasting for aviation purposes have been continued.

TERRESTRIAL MAGNETISM.

The Eschenhagen magnetographs at Amberley Substation have been kept recording continuously. From hourly measurements of the magnetograms and base-line values given by twice monthly absolute observations, the mean hourly values of D, H, and Z have been calculated and tabulated. The mean monthly values obtained from the mean hourly values for 1936 are:—

Mean Monthly Values of the magnetic elements from hourly mean values (all days), 1936, at Amberley Substation:—

1936.		D.	H.	Z.
January	..	18 08.2	22315 γ	-55225 γ
February	..	18 08.1	22305	55220
March	..	18 09.1	22301	55221
April	..	18 09.5	22290	55228
May	..	18 09.7	22296	55223
June	..	18 09.9	22296	55222
July	..	18 09.9	22298	55225
August	..	18 10.4	22307	55219
September	..	18 10.9	22303	55211
October	..	18 10.5	22298	55213
November	..	18 11.2	22300	55215
December	..	18 11.5	22307	55207
Year	..	18 09.9	22301.2	55219.0
Δ from 1935..	..	+3.6	-15.4 γ	+4.6 γ (Numerical decrease).
		Y.	X.	T.
Year	..	06952.6 γ	21189.8 γ	59552.3 γ
Δ from 1935..	..	+17.4 γ	-21.9 γ	-10.0 γ
				ϕ
				-68° 00'.46
				-0.73

It is seen that the secular change rather closely approximates that from 1934 to 1935. Magnetic storminess was greater in 1936 than in 1935, corresponding to an increased sun-spottedness.

A detailed report on the local magnetic disturbance has been got out for times of aurorae furnished by Mr. Geddes, Secretary of the Aurorae and Zodiacal Light section of the New Zealand Astronomical Society, for the years 1932 to 1934 inclusive, and the results are included in a paper read at the Auckland meeting of the Australian and New Zealand Association for the Advancement of Science by Mr. Geddes and Mr. Thompson. Further attention is being given to the subject.

Towards the end of the year some reobservations for checking secular change rates were undertaken at various repeat stations in New Zealand by Mr. W. C. Parkinson, of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, assisted in the South Island by Mr. Beagley, of this Observatory, and in the North Island by Mr. Baird. Some difficulty was experienced through some of the stations being so changed that the earlier observation spot could not be exactly reoccupied; but as far as the results have been investigated no abnormal values of secular change have been evidenced.

The results will be published in the Volume of Magnetic Results for 1934, 1935, and 1936, now being prepared for publication.

An intercomparison of standards was also made at the Amberley Substation. This showed a slight increase of corrections to I.M.S., as usually happens with lapse of time.

Mr. Parkinson, who has had long experience at Watheroo Observatory in electrical observation, endorsed the site at Amberley as being eminently suitable for the continuous recording of earth currents, and it is hoped that apparatus for this will become available.

The Bendorf Electrograph has been kept continuously recording.

A fireproof strong-room has been built at the Christchurch Observatory for the safe storage of records, and the old Milne seismograph room has been converted to an additional office room which was urgently required.

SEISMOLOGY.

During the year the Galitzin seismographs at Christchurch have performed satisfactorily, and their constants with those of the Wood-Anderson short-period seismometer have been determined at intervals. Provisional monthly bulletins were prepared promptly and, with those from the Dominion Observatory, have been provided to co-operating stations overseas. Wood-Anderson records have been lent regularly to the Dominion Observatory. Research upon microseisms, especially their relationship with small air-pressure pulsations, is being continued by Mr. Baird.