

On the whole the efforts of the past year have demonstrated, beyond doubt, the need for a wider scheme of publicity than is at present possible. This work being built up carefully through proper channels the maximum effect and the desirable end should be achieved.

#### GOVERNMENT ASTRONOMER AND SEISMOLOGIST.

*The Time Service.*—The time-signals sent out from the Observatory mean-time clock and the wireless time-signals as described in the last report continue to be distributed and appreciated by those concerned. With the single-valve wireless receiving-outfit, time-signals have been heard from Pearl Harbour (NPM), Hawaii, at 11.30 a.m.; from Bordeaux (LY), France, at 7.30 a.m.; and from Annapolis (NSS), Washington, at 8.30 p.m. The Annapolis signals were a special set sent to Alaska, and ceased in October, 1923. The regular signals from Annapolis at 2.30 p.m. have never been heard at the Observatory.

An improved wireless receiving-set has been installed at the Observatory consisting of one high-frequency stage of amplification, one detector-valve, and two stages of low-frequency amplification. With this outfit the time-signals are heard more strongly, and the time-signals from Java (PKX) at 12.30 p.m., and Kavite (NPO), Philippines, have been heard. On an average about 50 per cent. of these signals are heard sufficiently clearly to be made use of.

The time-signal from Nauen (POZ), Germany, at 11.30 p.m. was heard on the 20th February.

In addition to the ordinary time-signals sent from Pearl Harbour, Hawaii, at 11.30 a.m., the Naval Observatory, Washington, has arranged for the transmission of a scientific time-signal, immediately following the usual one. This has been recorded at the Observatory whenever it was heard, and was similarly recorded by the other observatories round the Pacific.

*The "New Zealand Nautical Almanac."*—An article on the Dominion time-service arrangement for chronometer-rating purposes was prepared for and published in the "New Zealand Nautical Almanac."

*Longitude.*—Special wireless time-signals were sent from the Observatory in January and February of 1924, at the request of the Lands and Survey Department, for a redetermination of the longitude of the Chatham Island.

*Sun-spots.*—Observations of sun-spots are made on every available occasion, and the reports are published in the monthly notices of the New Zealand Astronomical Society.

*Total Eclipse of the Moon.*—The total eclipse of the moon on the 20th February, 1924, was visible in New Zealand, and preparations were made to observe the occultations of faint stars by the moon, but owing to unfavourable weather conditions nothing was visible.

*Seismology.*—The earthquake reports for September, October, November, and December of 1923 were printed and distributed to other seismological observatories and to the International Seismological Association.

The valuable service performed by the officers of the Post and Telegraph Department of reporting earthquakes to the Observatory has been continued. During the calendar year of 1923 out of a total of seventy-seven shocks of earthquakes fifty-eight were felt in the North Island and twenty-seven in the South Island; these include eight which were felt in both Islands.

The intensity of the shocks felt in 1923 has decreased somewhat to 6 Rossi-Forel, while the intensities of 1921 and 1922 each reached 8 on the same scale.

*Publications.*—The following Observatory bulletins have been published during the year:—

No. 51. "Earthquakes in New Zealand," by C. E. Adams, Government Astronomer and Seismologist.

No. 52. "Report of Government Astronomer and Seismologist for 1923."

No. 53. "On the Abundance and Importance of Non-luminous Matter in Space," by A. C. Gifford, M.A., F.R.A.S., Wellington College Observatory; Associate in Astronomy, Hector Observatory.

E. 1. Earthquake Reports, New Zealand, for September, 1923.

E. 2. Earthquake Reports, New Zealand, for October, November, and December, 1923.

As in past years, the Observatory is again indebted to individuals and to institutions for valuable gifts of publications. Some of these are presented in exchange for the bulletins.

#### ALEXANDER TURNBULL LIBRARY.

*Cataloguing.*—As at the 31st March, 1924, 21,500 volumes had been classified, numbered, and placed on the shelves. The whole of these volumes deal with Pacific literature, including Australia and New Zealand, and about a thousand of those dealt with during the year were pamphlets, many dating back to the "thirties," "forties," and "fifties." About four hundred volumes were prepared and sent out for binding.

*Additions.*—Nearly six hundred books have been added, including new publications, or old ones not before in the library—fifteen Dutch, nine German, six French, two Italian, and twenty-four in Pacific-island dialects. As before, the bulk of the additions comprise works on the history, anthropology, &c., of the Pacific, including Australia and New Zealand; the others are additions to sets already in the library, such as the Loeb Classics, Champlain Society (Canada) publications, Linschoten Society (Holland) publications, Navy Records Society publications, &c.

*Donations.*—The following are among the donations of the year: W. Dinwiddie, Swinburne's "Chastelard," 1868, and "George Chapman," 1875; D. Matheson, copy of report by the late H. C. Field on the track explored in 1869 from Wanganui to Taupo, and original map of the route; J. Flierl, remarks on orthography in Native languages, rites and customs of aboriginal tribes (both so