

DOMINION OBSERVATORY

Acting-Director: Mr. R. C. HAYES

TIME SERVICE

Control of Clocks.—The method of controlling the standard clocks has been the same as in previous years. Transit observations of the planet Venus were made on two days in October for checking the clocks.

Time Signals sent out.—The time-service arrangements continued as previously, except that special time signals sent out twice daily through ZLW for war purposes in the South-west Pacific were discontinued after 31st January. The errors of the main ZLW signals exceeded 0.25 seconds on several occasions during the year, but exceeded 0.5 seconds (0.68 seconds) on one occasion only, in December. Towards the end of the year there was a general tendency for signal errors to increase, owing to increasing solar activity interrupting reception of check signals from abroad. It is expected that improvements in the radio receiving-apparatus and the reinstallation of the free pendulum will overcome this difficulty to a large extent. The ZLW signals failed completely on two occasions, both due to faults outside the Observatory. There were eight partial failures during the year, four being due to causes outside the Observatory and four to battery trouble at the Observatory.

During the year, 1,874 telephone requests for correct time were received, as compared with 1,686 in 1945. The greatest number of calls were received in July.

Public Clocks.—The Government Buildings clock was checked daily at 9 a.m. and regulated when necessary. The maximum errors recorded during the year were 50 seconds fast and 28 seconds slow. The largest uninterrupted run of the synchronous electric clock was from 1st January to 3rd March (62 days). The maximum errors observed during that period were 67 seconds fast and 48 seconds slow. Power cuts caused frequent stoppages of the clock during winter months.

SEISMOLOGY

Summary of Seismic Activity in New Zealand in 1946.—The chief seismic event during the year was the disturbance in the Lake Coleridge region on 26th June. The main shock originated about ten miles north-north-west of Lake Coleridge at a depth of approximately twenty miles. It was felt in most parts of the South Island, and reached intensity M—M VII + in the epicentral area. The instrumental magnitude was 6. A very large number of aftershocks occurred, mostly originating west of the initial shock, with some apparently beneath the main range of the Alps.

On 12th February a shock occurred with centre in the vicinity of Pipiriki at a depth of seventy to eighty miles. It reached intensity VI + at Wanganui and was felt extensively in both Islands.

On 17th August a shock reported felt at Opotiki originated near Mayor Island, in the western Bay of Plenty; and in October two minor shocks occurred in the Auckland region.

During the latter part of the year there was some increase of activity in the submarine region east of the North Island.

In 1946, 302 earthquakes were reported felt in some part of New Zealand, 87 being felt in the North Island and 219 in the South Island. Four of these were felt in both Islands. The excessive number in the South Island was due to after-shocks of the Lake Coleridge earthquake on 26th June. The maximum intensities reported were M—M VI + in the North Island and VII + in the South Island. Non-instrumental reports of earthquakes are furnished by Post Office and lighthouse officials and by a number of private observers.

Seismograph Stations.—All the seismograph stations were in operation continuously throughout the year. A plan for the development of further stations is being put into effect.