

North Pacific Earthquake of 1st April, 1946.—This earthquake caused sea-waves which did severe damage in Hawaii and were observed and recorded on parts of the New Zealand coast. With the co-operation of the Marine Department, records have been collected from tide gauges which recorded the waves.

Requests continue to be received from time to time from persons and institutions abroad for copies of New Zealand seismograph records, in connection with special studies of particular earthquakes.

Strong-motion Accelerometer.—In September a three-component Wenner accelerometer from the United States was set up in the Observatory basement. This instrument is especially designed for vibration work in connection with building-construction.

GEOPHYSICAL INVESTIGATIONS

Papers on the following subjects have been published in the *New Zealand Journal of Science and Technology*:—

- (a) "The Seismic Geometry of a Volcano such as Ruapehu."
- (b) "Note on a Table of Distances from South Pacific Observatories."
- (c) "Note on Wood-Anderson Records of Mine Explosions at Wellington."
- (d) "Effects of Surface Relief on Anomalies of Vertical Magnetic Intensity."
- (e) "A Further Table of Direction-Cosines, for Latitudes 41° – 90° ."
- (f) "Some Theoretical Aspects of Anomalies of Magnetic Declination in New Zealand."

A table of distances from seven South Pacific observatories has been completed and will be issued as a Dominion Observatory Bulletin.

A paper on "The Relation of Microseisms to Weather Conditions in New Zealand" is in preparation.

Internal reports have been made on a magnetic reconnaissance at Thames, possibilities of magnetic survey in the thermal district, methods suitable for seismic studies in the volcanic zone, and the scope for wave and beach studies in New Zealand.

GENERAL

Maintenance of Equipment.—The maintenance and repair of the clocks, seismographs, and other equipment was carried out by the Dominion Physical Laboratory.

Gravity Determination.—Pendulum observations were made in the Observatory basement by a member of the staff for a determination of the absolute value of gravity.

DOMINION LABORATORY

Director: Mr. W. A. JOINER

The total number of samples for the year was 25,103, as compared with 25,640 in 1945. With the increasing amount of industrial work undertaken and the extensive investigations that are sometimes necessary, the number of samples examined bears little relation to the amount of work being done.

During the year all the more senior members of the staff were constantly consulted on chemical matters by Government Departments and by commercial firms requiring information or assistance. Many industrial problems were brought to the Laboratory by the secretary of the Manufacturers' Research Committee. Chemists of the Laboratory staff served on a large number of committees, more especially on committees of the New Zealand Standards Institute.

The greatest hindrance to the work of the Laboratory at the present time is the serious lack of accommodation, and the temporary buildings now being provided will go only a small way towards meeting the present needs of the Laboratory.