

The list of surveyors to whom licenses have been issued under the Act by the Board now numbers 434.

Amended "Examination Regulations," approved by the Governor in Council, were issued and published in the *New Zealand Gazette* of the 11th March last.

A Conference of the Australian and New Zealand Surveyors' Boards was held in Sydney in April of last year, at which this Board was represented by the Hon. G. F. Richardson. One of the most important subjects discussed was the proposed Surveyors' Imperial Diploma, and to the Conference Recess Committee was delegated the authority of making preliminary arrangements with Great Britain and its oversea possessions.

MAGNETIC OBSERVATORY.

Throughout the year the work of the observatory has proceeded successfully. The Adie magnetograph and the Milne seismograph have been kept in constant operation. The latter instrument recorded forty-six earthquakes for the period, a much smaller number than has been previously recorded for a similar period.

It would be desirable to have additional apparatus provided for the seismograph, in order to secure a more open time-scale for its records, which would bring us into line with other observatories in this respect.

Substantial progress has been made with the tabulation of the hourly values of the magnetic elements.

Copies of the more remarkable seismograms and magnetograms are given with Mr. Skey's report (Appendix II).

In extension of the magnetic survey, further field observations were made last December at eleven stations in the West Coast Sounds, and the Marine Department has been advised of the correct value thus found for the "variation of the compass" off that coast, and observations have now been made at 309 stations in the Dominion.

The year was remarkable for the successful work of Lieutenant Shackleton's Antarctic Expedition, which returned to Lyttelton in March last. Besides the success of himself and party in getting within so short a distance of the South Pole, another party, with Professor David, of the Sydney University, and Mr. Mawson, of the Adelaide University, reached the South Magnetic Pole. The dip circle used by them in locating the position was verified at the Christchurch Observatory on their return.

SECULAR MOVEMENT OF NEW ZEALAND COAST.

In last year's report mention was made of the intention to have the zeros of the tide-gauges in the various parts of the Dominion connected by levelling to bench-marks in secure positions on the shore, so that the mean sea-level of to-day could be referred to them, and thus enable investigators in years to come to determine with certainty whether there has been elevation or depression of the land, and, if so, in what degree. It was also therein pointed out that such a work had an important practical value as well as being of scientific interest.

Not so much has been accomplished as had been hoped for, as at most of the ports the gauges are of the fixed-board pattern, and what records there are are too imperfect to be of value for the purpose; but an interest has been aroused, and it is the intention of some of the harbour authorities who hitherto have not done so to adopt self-registering tide-gauges, and carry out continuous records.

However, the Harbour Boards of six ports where systematic records have been maintained have very kindly lent the gauge-charts and other information, from which mean sea-level has been deduced and referred to permanent marks. These are more fully dealt with in Appendix III, with explanatory diagrams.

The Wellington Harbour gauge-charts exhibit many instances of very pronounced seiche oscillations, much more so than at the other ports. A specimen diagram of these will also be found in the appendix.

It is found that, in cases of pronounced seiches in the Wellington Harbour, they are in the great majority of cases accompanied by a change of wind from north to south or *vice versa*, generally strong, and in one instance of five successive days of seiches the seiche changes took place several times. In the United States Coast and Geodetic Survey Report for 1907, page 477, there is an interesting reference to the seiche oscillations in Wellington Harbour, the conclusion arrived at being that the period of oscillations is twenty-eight minutes.

In conclusion, as this is the last annual report that I shall have the privilege of submitting, owing to my intended early retirement from the service, I desire to express my sincere thanks to all the officers, past and present, who have served with me from the time that I first became a Chief Surveyor, for