

departure was made in connection with the City of Wellington map in sending it out by canvasser for sale, with satisfactory results. The state of staff in district offices prevents the supply of much data which are required to make the character of our publications more suitable to general needs, and owing to the large calls on our stock it has been necessary to reprint many maps without revision or redrawing as a temporary expedient. Serious work in preparation of the projected new series of two-mile territorial maps to supersede the county maps has not been possible yet, owing to this difficulty of staff. A notable change in the storage of map stock has been made by the transfer of it all from the custody of the Government Printer to this office. The rearrangement disorganized the supply temporarily, but enabled a remarkable number of obsolete maps to be discarded, and also resulted in the discovery of publications the existence of which had been lost sight of.

#### SURVEYORS' BOARD.

At the examination in September, 1917, the Board examined six candidates, of whom one only was sitting for the first time; the others were completing in various subjects from previous examinations. None of these, however, succeeded in passing. An unusual occurrence marked this examination in that the whole of the papers were lost at sea in the s.s. "Port Kembla," blown up by a mine off the coast, which delayed the sitting for a week.

At the examination in March of this year four candidates sat, two for the first time and two to complete. Again none passed the examination.

During the year two amendments have been made to the examination regulations, substituting the Matriculation Examination for the Public Service Senior as a preliminary qualification of candidates, and cutting out the subject of elementary mathematics from the syllabus, in order to come into line with the associated Boards.

#### DRAUGHTSMEN'S EXAMINATION.

An examination under the new regulations was held last August, for which a complete set of papers was prepared, although the only two candidates sitting were not taking the whole. Mr. H. W. Broadmore obtained a second-grade certificate in computing, and Mr. W. Stavely a second grade in draughting. The applications for the next examination now in indicate that some ten or twelve candidates will present themselves.

#### TIDAL SURVEY.

The work for the year comprised the predictions for the year 1919 at the ports of Auckland and Wellington. An additional harmonic analysis to determine the tidal constants for Wellington was completed, and one for Auckland was commenced. Mr. T. G. Gillespie was the officer engaged on the work during the year.

The work proposed for next year is the predictions for the year 1920 at Auckland and Wellington, a new analysis for the constants at Wellington and New Plymouth, and the completion of the analysis for Auckland. The computations will be continued by Messrs. Gillespie and Williams pending the appointment of a successor to Dr. Adams, who until recently has been in charge of this work, and who was responsible for its inception.

#### MAGNETIC OBSERVATORY.

The routine work of the observatory at Christchurch and the substation at Amberley has been carried on by the Director, Mr. H. F. Skey, B.Sc., who reports as follows:—

"The self-recording instruments have been in constant operation throughout the year. The measurement of the resulting curves at hourly intervals gives the following mean values of the magnetic elements for 1917: Magnetic declination,  $16^{\circ} 52' 95''$  E.; inclination or dip,  $68^{\circ} 04' 8''$  S.; horizontal magnetic force, 0.223277 C.G.S. unit; total magnetic force, 0.598100 C.G.S. unit; northerly component, 0.213654 C.G.S. unit; easterly component, 0.064842 C.G.S. unit; vertical component, 0.554861 C.G.S. unit.

"Vector diagrams for the year and the seasons have been prepared, and mean monthly diurnal curves are also ready for publication.

"The usual meteorological and seismological work has been continued, but shortage of staff and the undertaking of certain work in connection with the evaluation of the magnetic results of Mawson's expedition has greatly delayed the measurement of the seismograms."

The mean monthly hour-values from the magnetic curves for the years 1915 and 1916 will be published in the *New Zealand Journal of Science and Technology*, and it is intended to publish therein other results of scientific and public interest as they become available.

#### EXPLORATION.

As an appendix there will be found a report by Mr. District Surveyor Macpherson on an interesting exploration of the country between Lake Te Anau and the west coast. The gentlemen mentioned in the report had previously been through the country, and it was on the request of one of them, Mr. Henry Fowler, that Mr. Macpherson was sent out with them so that a map of the country might be prepared by him embodying information of use in filling in our official maps.