

special experiments are conducted by the Dominion Experimental Stations. Use is also made of the statistics which are published in earlier years, by co-ordinating the times of growth with the meteorological observations of these years. This branch is in the development stage and will have to create its own observational material in the future, since the work accomplished to date has shown that the statistics of earlier years were not gathered with sufficient attention to detail to permit of the rigid analysis which the nature of the work demands.

Some preliminary notice of the work on wheat has been published as well as an article on the suitability of the climate of various districts in Canada for the production of sugar from the sugar beet. Work on oats, wheat and potatoes is progressing.

**Magnetic Observatories.**—The Magnetic Observatory which, as already stated, was established in 1840, was, on the recommendation of the present director of the Meteorological Service, removed to the village of Agincourt, 14 miles distant from Toronto, since it was found that the electrical development of railways and light was impairing the records. The work of observation has, however, been carried on without intermission and with increased equipment at the new site as a branch of the Meteorological Service, so that from 1840 to the present time there has been an uninterrupted record of changes in terrestrial magnetism—one of the longest and most valuable records in the world. At this observatory, all the compasses attached to the theodolites of the Dominion Land Survey are annually adjusted, and the magnetic instruments used by the Dominion Observatory are here standardized. Another Magnetic Observatory was established near Athabaska Landing, Alberta, in 1916, and a continuous record of the magnetic declination has since been obtained there, data very necessary to the Dominion surveyors as well as to the science of terrestrial magnetism.

**Miscellaneous Activities.**—Some attention has been given to seismology, mainly for the purpose of obtaining data for others to study; the service having suitable observers and locations for instruments. The first self-registering seismometer in operation in Canada was placed in the Toronto Observatory in 1897, and later on another was placed in the office of the service in Victoria, B.C. Both these instruments have recently been replaced by others of a more sensitive type.

The Meteorological Service has from its earliest days supervised the time service of the Dominion, making use of its observers, notably those at Toronto, Victoria, Montreal, Quebec and St. John, N.B., to take stellar observations and send out time signals.

Tables 6 and 7 which follow, have been prepared by the Meteorological Service of Canada for insertion in the Year Book. For the interpretation of Table 6 a note on the method used in measuring temperature and precipitation is appended.

#### TEMPERATURE AND PRECIPITATION.

**TEMPERATURE.**—At the stations of the Dominion Meteorological Service the highest and lowest temperature in each 24 hours, termed respectively the maximum and the minimum, are recorded by self-registering thermometers. For any month the sum of the daily maxima, divided by the number of days of the month, is the mean maximum temperature of that month. The mean minimum temperature is obtained in a similar manner. The half sum of the mean maximum and the mean minimum is called the mean temperature. The averages of these results for any particular month over a period of years are the average means for that period and are used as normal means or temperatures of reference. The highest and lowest temperatures recorded during the whole period of years are termed the extreme maximum and extreme minimum respectively. These latter figures are of course to be regarded as extraordinary, the more unlikely to recur the longer the period from which they have been derived. Temperatures below zero have the minus sign (—)