

The Stations are classed as follows:—

Chief Stations.—Record is kept either by continuous automatic process or by observations taken day and night at equal intervals, not exceeding three hours.

Telegraph Stations.—Observations are here recorded and reported by telegraph to Toronto, three times a day, at 7:25 a.m., 4:25 p.m., and 10:50 p.m., Toronto mean time.

Reserve Telegraph Stations.—Observations are the same as at Telegraph Stations but are only reported by mail.

Ordinary Stations.—This term is applied to Stations where observers receive no salary or subsidy from the Dominion Government. They are sub-divided as follows:—

Class I.—Stations at which observations of all the ordinary elements are made at least three times a day;

Class II.—Stations where records are kept of the temperature, the direction and velocity of the wind, the amount of rain and snow, and the general state of the weather, with notices of miscellaneous phenomena; the observations being made two or three times each day;

Class III.—Stations where records are kept of the amount of rain and snow, with notices of miscellaneous phenomena.

PROGNOSTICATION OF THE WEATHER.

The data on which predictions are based are received by telegraph three times a day from certain stations in the Dominion and the United States. The times at which these observations are taken are 7.25 a.m., 4.25 p.m. and 10.50 p.m., Toronto mean time.

Since the establishment of the Meteorological Service in 1871, a courteous interchange of reports of observations, &c., has been carried on, both by telegraph and by mail, with the Chief Signal Office at Washington; and, in addition, notices of the probable approach of storms have been, and still are, sent from Washington to this office. Early in the year arrangements were made with the Chief Signal Office, by which a considerable number of telegraphic reports are now handed, three times a day, to an agent of this office at Buffalo, U.S., and telegraphed to Toronto. After an interview with the Chief Signal Officer, arrangements were completed by which further additional reports of observations at United States stations have been furnished daily, since August, and forwarded direct from New York. Prior to the receipt of these reports, the Dominion was almost entirely dependent upon the Washington Office for notices of approaching storms.

The information contained in the reports consist of:—The reading of the barometer, reduced to a temperature of 32° Fahrenheit and to sea level; the reading of the thermometer; the relative humidity; the direction and velocity of the wind; the state of the sky, whether clouded or clear—if clouded, the quantity, kind and direction of motion of cloud; and lastly, the quantity of rain or snow, if any. The morning reports contain a record of the minimum temperature recorded since last observation. Reports are now received from the following number of stations:—In the morning, 39; in the afternoon, 26; and at night, 23.

STORM WARNINGS.

Storm warnings, based on the information above mentioned, are despatched to the various cautionary storm signal stations throughout the Dominion; also, on the receipt of a storm warning from Washington, the warning is forwarded or not, at the discretion of this office.

A warning is sent to any port whenever, in the opinion of the person whose duty it is to attend to the prognostications of the weather, it is considered that a storm will probably occur within a distance of 100 miles, by water, of that port; so that when a port is warned it is not intended to be understood therefrom that the storm will necessarily rage at that port; but it is intended to warn those connected with