

which the results of observations at ordinary stations may be made comparable with those made at shorter intervals, and (2) corrections made on account of the abnormal conditions of single years, by which observations made at ordinary stations for a few years are made comparable with those derived from a long series of years. Chief stations, in other words, are distinguished from the better kind of ordinary stations by the *frequency* and the *permanence* of the observations.

A list of the chief stations will be given further on.

III.—REPORTING TELEGRAPH STATIONS,

from which reports of the weather are transmitted by telegraph to Toronto. The operations of weather telegraphy in Canada must be regarded as merely a small instalment of those needed for the issue of storm warnings; being limited to collecting at Toronto three daily telegrams from each of six stations in Canada, and to sending them to Washington in exchange for such special information regarding atmospheric conditions in the United States as may be sought for from time to time.

For the full development of the telegraph system it would be requisite to receive regular telegraphic communications from about twenty new stations in Canada, as well as from nearly all the stations in the United States, an extension which would be impossible without a much larger appropriation.

The telegraph stations at Kingston, Port Dover and Port Stanley commenced work in December, 1871, and that at Saugeen in January, 1872. The efficiency of the station at Port Dover is in a great measure due to the generosity of Mr. Powell, merchant of that place, who placed at the disposal of the Department, rent free, the flat roof of a lofty house and also an office in the same building.

For a few weeks in the beginning of the year, daily weather telegrams were sent to Toronto from the above named stations at 7.25 A. M., 4.25 P. M., and 11.25 P. M. * Toronto time, and were sent on to Washington together with similar messages from Toronto. Telegrams were also received

* The hour for the night observation, since Aug. 26 has been 10.50 P. M.

every day at Toronto from 16 stations in the United States, which, together with those from Canada formed the materials for a bulletin which was published every afternoon and morning in the *Toronto Globe*. All telegraphic weather reports received at Toronto were discontinued on Feby. 15th, those from the Canadian stations being resumed in July, together with similar reports from Quebec and Montreal.

IV.—RECEIVING AND PUBLISHING STATIONS, to which data or results are sent from Toronto for publication.

No stations of this class are yet established, but some are in process of formation.

V.—ORDINARY STATIONS.

The ordinary stations given in the list for each Province are arranged in classes, whereof class I comprises stations of the highest kind, and class III those where observations of rain and snow only are recorded. Where a station is only partly supplied with the instruments designed for it, its class has been determined with reference to its register forms and not to the instruments in actual operation. In accordance with this rule the lighthouse stations are all reckoned as class II, although, as will be seen from the list, a few only are furnished with thermometers. On account of the peculiar circumstances of many of the lighthouses their records cannot systematically be made available for immediate use, as in the case of other stations, whose reports are transmitted monthly. The arrangement has been, therefore, adopted of collecting their register books on the occasion of the visits of the supply steamboats. For the reasons stated no lighthouse returns are included in the climatological tables in this article, with the exception of those of M. Trudeau, of Cape Rosier, and Mr. Young, of Point Clark, Lake Huron, which, being transmitted monthly, were available for use with the returns from other ordinary stations.

Class III, in the Province of Quebec contains a considerable number of convents to which apparatus for measuring rain has been furnished, but from which no returns have yet been received. Their names (the last sixteen on the list) are, however, retained with the hope that the observations will be taken hereafter.

THE following is a summary of the number of stations in the different Provinces.

Description of Station.	Ontario.	Quebec.	New Brunswick.	New Scotia.	British Columbia.	Manitoba.	Newfoundland.
Chief.....	2	2	2	1	..	1	..
Telegraph.....	4	2*	..	..	..	..	..
Class I.....	2	1	2	8	..	..	..
Class II.....	13	3	2	1	1	..	1
Class III.....	15	9	3	7	..	..	..
Lighthouses.....	11	6	5	10	..	..	..
Class III from which reports have not yet arrived.....	..	16	..	..	..	..	..

* Also classed as Chief Stations.