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Section-2.—Meteorological Observing Stations in Canada*

In 1958 official meteorological observations were taken and recorded at some 1,750 weather reporting stations in Canada. There are several different classes of stations, ranging from the first-order reporting stations at airports where hourly observations of all aspects of the weather are recorded, to the co-operative precipitation observing stations where a volunteer observer makes daily observations of rainfall and snowfall.

The official recording of weather observations in Canada began early in 1840. Although there are some scattered weather records prior to that date, it was at the Toronto Observatory, established by the British Government, that the first scientifically precise Canadian weather observations were recorded. Several additional observing stations were established in the 1860's after control of meteorological work had passed into local governmental hands and a national meteorological service was organized in 1871. By 1876 there were more than 100 stations, 15 of them reporting daily by telegraph to Toronto for forecasting purposes.

Since then, the number of meteorological observing stations has grown steadily. As the mid-west opened up around the turn of the century, they spread into that area and during the past three decades into the sub-Arctic and Arctic regions. At the same time the coverage has improved in the older portions of southeastern Canada. While there are vast areas of Canada where the weather stations are several hundred miles apart, most of the settled portions of the country are represented by first-order hourly reporting stations every 100 miles or so, and by co-operative climatological observing stations at least every 25 miles.

Of the 1,750 weather reporting stations in Canada in 1958, some 250 are classified as first-order synoptic stations. At most of these stations complete weather observations are made every six hours and at a large percentage of them only slightly less complete observations for aviation forecasts every hour. These weather data, including information on temperature, precipitation, pressure, wind, humidity, cloud and visibility, are sent first by radio and teletype to the different weather offices across the Continent to be used for weather forecasting purposes and at the end of the month the manuscript reports are despatched by mail to Meteorological Headquarters for use in compiling climatic statistics. At some 90 of these observing stations, personnel of the Telecommunications Branch of the Department of Transport take weather observations as part of their scheduled duties, while 35 stations are operated in a similar manner by the different Armed Services. Seventy

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