

## The Lower Great Lakes

**Temperature.**—The winters in the Climatic Region of the Lower Great Lakes are mildest around Lake St. Clair, on the north shore of Lake Erie, in the Niagara Peninsula, and along the western shores of Lake Ontario. The coldest winters occur on the ridges between Lakes Huron and Ontario and east of Georgian Bay into the highlands between the Ottawa and St. Lawrence Rivers. The incidence of late and early frosts during the agricultural season conforms fairly well to the same pattern of distribution. In the Lake St. Clair and western Lake Erie area the average length of the frost-free period is 160 to 195 days; in the Niagara Peninsula 165 to 170 days; and on the western shore of Lake Ontario 165 days, but the period diminishes rapidly upslope to the west, and within a distance of less than twenty miles is reduced to 150 days. In poor situations, on the ridge between Lakes Huron and Ontario, particularly near marshes or along the now dry bed of glacial streams, the average continuously frost-free period is 130 days or less. The highlands in northern counties consist of narrow plateaux 1,200 to more than 1,700 feet above sea-level which can drain cooling nocturnal air into the intervening bottoms. Only where these lower lands have a good slope towards the Great Lakes, as is shown by swiftly-flowing streams, is the average frost-free period not greatly reduced.

**Precipitation.**—The Region of the Lower Great Lakes differs considerably from the Pacific Coast and the Prairies in having no marked wet season or dry season. There is in most years sufficient precipitation for successful agriculture. In occasional years portions of this Region have suffered mild droughts but generally there is dependability. Rain and snow may be expected in winter months with snowfall contributing a considerably larger proportion of the moisture than rainfall on the highlands in that season.

That part of this Climatic Region which lies east of the confluence of the Ottawa and St. Lawrence Rivers but mainly south of the St. Lawrence toward Quebec city, has slightly higher annual precipitation. In about one-half the years of record, there has been a noticeable seasonal maximum of precipitation in one of the months from June to September. On the other hand, between Lake Huron and the Ottawa River any slight annual peak of precipitation is as likely to be found in midwinter as in midsummer. This is an indication that the eastern districts of this Climatic Region at times form an extension of the Laurentian Plateau Region. This change of type is also indicated by the shorter length of the continuously frost-free period. This period falls off from about 150 days near the Ottawa-St. Lawrence confluence to 110 to 130 days in the townships south of the St. Lawrence River. The dependability of these townships for the cultivation of tender crops is, therefore, about the same as that of the northern portion of the Huron-Ontario ridges. It is, however, distinctly better than that of the interior of the eastern area of Ontario lying between the Ottawa and St. Lawrence Rivers. Here a spur of the Canadian Shield crosses southward to the St. Lawrence River to reappear again in upper New York State, and in the vicinity of this spur some points average less than 100 days continuously frost-free.

On the interior plateaux snowfall accumulates steadily in some winters during January and February and absorbs occasional light rainfalls with regelation in the intervals. Should a very heavy rainfall then occur in March or early April with rapidly rising temperatures, there will be almost total run-off of the rain from the icy highlands, followed by run-off of the disintegrating mixture of snow and ice.