

Spring floods thus occur in occasional years but in Ontario, along the Grand River Valley, remedial works have been undertaken to contain the flow over a sufficiently long period to minimize flood damage to the lowlands.

The Lower Lakes Region is traversed alternately by: (a) Cool, dry polar air from the north; (b) Pacific polar air that has become warmed and somewhat moister on the western portion of the continent; (c) Continental polar air returning quickly from the south and generally intermediate in character to (a) and (b); (d) Subtropical air, carrying by far the most water vapour and generally warm for the season. Alternations may be expected to occur about every three days with precipitation occurring at the margins of the moving airmasses, and measurable rain on 10 to 14 days per month from May to October. In the winter months rain may be expected on 4 to 10 days per month, the smaller number of occurrences being in January and February. Additional days with snowfall bring the number of days with precipitation in the winter months to 14 on the lowlands but to 18 or 20 on highlands facing Lake Huron, since cold air crossing an open lake surface is quickly saturated with moisture and will precipitate a portion of this vapour when it cools (below the higher dew-point which it acquired over water) by impinging on and climbing a cold highland. This process takes place most readily on the slopes facing Lake Huron and Georgian Bay. Rain in winter on the other hand requires incursions of subtropical moist air (generally aloft over colder air). The chance of this occurrence diminishes northward and at North Bay near the northern boundary of this Climatic Region the most likely numbers of days with rain are only 2 in January or February and 3 in March, but 6 in December or April. The character of the winter depends very much on the relative frequency of incursion by the types (a) to (c). Thus, Toronto in 105 years, has had a January which averaged more than 35°F. and also a January which averaged little more than 10°F. For the same reason in this Climatic Region, the accumulation of snow on the ground during and at the end of winter varies widely from year to year, but is generally more dependable on the higher ridges. Variation in the frequency of types (a) to (c) in a summer month can produce one of uncomfortably humid heat, one of mostly dry heat with relieving sharp drops of temperature at night or an unseasonably cool month with too much cloud and rain and disappointingly slow growth of those crops which demand high temperatures for maturity. The variations which have the greatest agricultural importance on the highlands of this Region are those of spring. A wet, cool spring which delays planting, endangers the harvest because only a portion of the normally short frost-free period is then available for growth. Prudence will then dictate such changes in agricultural plans as may seriously reduce possible income. The whole Lower Great Lakes Region is generally good for dairying. The Niagara District is best suited for fruit; the Lake Erie slopes are best for tobacco and field-vegetables for canning, but even tobacco may be grown near Lake Simcoe on suitable southern slopes, and hardy fruit almost anywhere if soils are favourable. Peaches, apricots, and sweet cherries, demanding a long frost-free period, are limited, commercially, to the Niagara District and a portion of the area to the west along the Lake Erie shore. Tobacco may also be grown in the Quebec extension of this Region.