

New Brunswick highlands, and to 20°F. below zero in the southern valleys and to 10°F. below zero on the Bay of Fundy. These are not the extreme lowest temperatures of record but only the average low points of all winters recorded. Among the lower ridges of Nova Scotia 15°F. or more below zero may be expected and 5°F. below zero at Halifax, N.S. Yarmouth, N.S. temperature will, ordinarily, not descend to zero, but 10°F. below zero may be expected on Prince Edward Island.

Occasional temperatures between 80°F. and 90°F. may be expected every year in June, July, and August in all districts and also in late May and early September in the interior of New Brunswick. To offset these high temperatures of summer there is the ever-present danger, during a spring or autumn inflow of polar air, of local frosts amid the interior valleys. Air which has been cooled on the many-faceted hills by nocturnal radiation to a clear sky on a calm, cloudless night descends easily towards the lowlands. The difference in temperature early in the night between ridge and valley may be so great that the gain in heat caused by compression during descent is not enough to bring the descending air up to the temperature of the air on the valley-floor. The descending air is, therefore, denser and will raise the warmer valley air completely off the floor. As cooling of the ground by outgoing radiation continues, the cooler and denser air gravitates to hollows and flats which cannot discharge this denser air to still lower ground. In these places, with blocked or poor drainage, local frosts may occur but often such places have rich soil and are, therefore, preferred for agriculture to the less fertile well-drained slopes. Low temperatures occur in valleys and in cranberry bogs due to cool-air drainage from the surrounding slopes. Frequently, fog collects over the low-bush cranberry but does not protect the berries from danger from this cold air flowing down the slopes and settling beneath the bank of fog. The situation can be met by flooding the bogs from reservoirs on the slopes above. Such flooding would not, of course, be practicable in other than bog areas.

Most frost-free are the lands in this Region along the shore of the Bay of Fundy with an average of 155 to 165 days continuously without frost. Grand Manan Island averages 177 days. Coastal points in Nova Scotia are frost-free for lengthy periods, Yarmouth for 159 days, Halifax 155 days, Pictou and Port Hastings 153 days, Digby 152 days, but around the bay at Sydney only 137 days. Islands of small size have long frost-free periods; St. Paul Island 155 days, Grindstone in the Magdalen Islands 156 days, and Sable Island 204 days. In the valleys the period is shorter. Back of the ridge which faces the Bay of Fundy in New Brunswick, Sussex averages 105 days and frost has occurred as late as June 20. Further into the interior of New Brunswick places with good drainage, especially to water surfaces, average 125 days while poor sites average less than 100 days. The difference between coast and interior in northern New Brunswick is well shown by Chatham with 133 days while Kedgewick has only 72 days. In the upper St. John valley, Edmundston, Grand Falls, and St. Leonard have 112 to 115 days. In Nova Scotia, the Annapolis Valley, where apples are largely grown, has frost-free periods varying from 98 days at Middleton to 139 at Annapolis Royal and 148 at Wolfville. In among the highlands looking down towards Halifax and the sea, at Mount Uniacke, there are 97 frost-free days, at Upper Stewiacke 93, and only 77 at Stillwater, but Truro has 105 days and Liverpool 108 days. On Prince Edward Island local variations are smaller: there are 135 frost-free days in the extreme northwest and 149 to 157 elsewhere. These local frost-free periods play an important part along with soils and markets in helping the agriculturist to decide upon what crops or mixture of crops will best pay for labour in his locality.