

and the average first frost comes in mid-August. At the far northern post of Pond Inlet there is an average frost-free period of only 29 days, with freezing temperatures having been recorded in every month.

Precipitation is not heavy in the Eastern Arctic, but because of slow evaporation snowfall remains on the ground throughout the winter. Southeastern Baffin Island receives the greatest amount of precipitation because moist winds blow in from the North Atlantic. In this area approximately 8 inches of rain is evenly distributed throughout the four summer months. Seventy to ninety inches of snow is the usual winter recording, with a maximum falling in the late autumn. The east coast of Hudson Bay has a greater amount of precipitation than the west coast owing to higher elevations and prevailing on-shore winds. At the far northern Arctic Islands posts an average of 2 to 4 inches of rain plus 30 to 60 inches of snow have been recorded.

Prevailing wind directions are difficult to determine for the whole region because most of the meteorological stations are located in sheltered areas and wind directions are controlled by some topographic influence. Winter winds appear to be predominantly from the north or northeast at the far north stations, and blow generally from the west or northwest in the Hudson Bay and Strait area. Arctic conditions and temperatures are thus extended towards the south by these generally northerly winds. During the summer months the southern half of the region is under the influence of weak cyclones which move eastward across the country and bring a variety of wind directions and no prevailing wind. Wind velocities are generally low during the summer and become stronger in the winter. Gales of several days' duration may occur at any time during the winter months, but are most common from October to December. Paradoxically, calms also occur most frequently in the winter as cold polar air masses settle over the region.

The prevalence of summer fog is one of the hazards of the coastal regions of the Eastern Arctic. When relatively warm air masses from the land come in contact with the cold waters of Hudson Bay and the Arctic islands, condensation occurs, causing fog and low clouds to be frequent. The meteorological stations in Hudson Strait have an average of 7 to 12 days in each of the four summer months in which fog is recorded, and as many as 15 to 25 days of fog in any one month. Fogs are less frequent during the winter when temperatures over land and sea are more nearly equal. The many foggy days of the summer present a problem to both water and air transportation in this region.

The climate of the Eastern Arctic thus is combined with the disadvantages of topography and lack of soil to make the region a difficult one for future hopes of exploitation. The climate itself is not so severe as in some other Arctic areas, but the southeasterly direction of movement of weather and ocean currents has extended this Arctic climate farther south into the mainland of Canada. The interplay of these natural factors has thus brought the Arctic as far south as latitude 60 on the west side of Hudson Bay, and to about latitude 57 on the eastern coast of the Bay. This is about ten degrees, or 700 miles, south of the Arctic Circle, and about the same latitude as the good farming region of the Peace River of Western Canada. Thus, much of northeastern Canada, comprising about one-fifth of the Canadian land area, has limited chances for development because of unfavourable factors of climate and lack of soil.