

5,000 feet. South of the Hamilton River, the largest river in the region, the Mealy Mountains reach heights of 4,000 feet. Thousands of small rocky islands lie off the rather abrupt, indented coast of the mainland.

The climate of all Labrador is severe, the yearly mean temperature for the whole area being below freezing. Along the coast January mean temperatures range from zero in the north to 10°F. in the south and are lower than -10°F. in the most westerly part of the interior. In the south, mean temperatures are above 32°F. for approximately 180 days and this figure decreases to 140 days in the north. Summer temperatures are cool along the coast owing to the influence of cold offshore waters, ranging from 45° to 50°F. in July, but are 5° to 10°F. warmer in the interior. Goose Airport with a mean July temperature of 61°F. has recorded an extreme summer maximum of 100°F. and an extreme winter low temperature of -38°F.

Along the Labrador coast the frost-free period extends to almost 100 days in the south, gradually decreasing to 40 days in the north. In the interior, Goose has an average frost-free period of 96 days and Sandgirt Lake 84 days based on a short record.

Annual total precipitation in Labrador decreases from 40 inches in the south to 20 inches in the north. Southern Labrador shares the rainy characteristics of the north shore of the Gulf of St. Lawrence. The winter snowfall pattern shows exceptionally heavy snow in the southeastern sections with Cartwright having 200 inches. In the interior, Goose, a location sheltered by high hills in every direction except northeast, has a mean snowfall of 141 inches. The ground is snow-covered for eight months in the far north with the period decreasing to six months in the south. Winter accumulation of snow by the end of winter usually reaches an average depth of five feet over most of Labrador and has exceeded seven feet on occasion in the snowier sections of the region.

The Northwest Territories

Constituting more than one-third of the total area of Canada, the Northwest Territories include the mainland Districts of Mackenzie and Keewatin and the Arctic Archipelago or District of Franklin. East of the western mountain fringe the mainland portion of the region consists of plains, high in the west and sloping gently to Hudson Bay on the east and to the Arctic Archipelago on the northeast. In the Archipelago, a high mountain range lies in a general north-south direction across Baffin, Devon and Ellesmere Islands with peaks rising above 10,000 feet. The extent to which the mountain range acts as a barrier to the free transport of air from one side to the other is not known, but there is little in the way of topography to interfere with the general north-south movement of air masses over this whole vast region.

Authentic weather information from far northern Canada was fragmentary until recent years. Log books of the early Arctic explorers provided limited information on the Polar Archipelago and weather data have been provided by the Hudson Bay Company, missionaries, explorers, members of the Royal Canadian Mounted Police and government officials from widely separated points. As a result of growing public interest in northern Canada, and in recognition of the great importance of weather information from this region for aviation and public weather forecasts, the number of reporting stations has been increased in recent years. Noteworthy in this regard is the establishment jointly by Canada and the United States of five weather stations on the remote islands of the Archipelago during the years 1947-50. The most northerly of these stations, Alert on Ellesmere Island, is less than 8° south of the Pole.

The extreme length of the night in winter and of the day in summer is the major factor in climatic control in high latitudes. North of the Arctic Circle the sun does not set in mid-summer nor rise in mid-winter. This latitudinal control of incoming radiation combined with the areal distribution of land and water broadly determines the climatic limits throughout the Northwest Territories. Most of the water surfaces are frozen over in winter when bitterly cold weather prevails over the entire area. The long hours of sunlight in summer warm the ground in the northwestern portion of the region and heat the lower layers of the atmosphere by conduction, producing mid-summer mean