

The Northern Lands Region

The northernmost portion of the Northern Lands Region consists of islands in the polar sea. The smaller islands vary in size from mere dots on the map of the North American Continent to islands 100 to 150 miles in width. The largest island, Baffin Island, stretches from northwest to southeast more than 900 miles. Its width varies from 150 to 400 miles.

The southern portion of this Region includes the northern portion of Quebec which borders on Hudson Strait and that portion of the District of Keewatin which is bounded on the north by Queen Maud Gulf and the Gulf of Boothia. It includes also Melville Peninsula, Southampton Island, and the other islands of Hudson Strait and the northern portion of Hudson Bay. The southwestern boundary is formed by the sharp temperature-gradient of July which separates this Region from the Northwestern Lands. The mean temperature of 55°F. in July fairly well defines this boundary and orographically it is also roughly defined by the low height of land which separates the drainage of the Mackenzie Valley from that of Hudson Bay. If Koeppen's definition of 'tundra' as lands having their southern boundary along the line of 50°F. in July is accepted, those shores of Hudson Bay which lie south of the parallel of 60°N. will be omitted.

Temperature.—In these polar regions there is, of course, no regular diurnal range of temperature, from a minimum at sunrise to a maximum shortly after noon. Changes in temperature arise only from changes of air-mass, the occurrence or disappearance of cloud, or fog, or the local effect of falling precipitation, deposit of rime, or circulation of moving ice. The remnants of a diurnal swing of temperature are encountered only south of the Arctic Circle. With change of air-mass accompanying a south wind, at least one or two days are expected each year when the temperature rises above 65°F. in the Archipelago and 75°F. to 80°F. on the south shore of the Arctic Ocean in the west, at Coppermine. In the southern districts of Victoria Island, also, 75°F. is occasionally experienced. In winter there will be occasional calendar days with a temperature as high as 10°F. or 15°F. while not more than 5 p.c. of the time in the polar night will the temperature descend lower than 50°F. below zero.

At Chesterfield Inlet, in the most southerly portion of this Region, the average continuously frost-free period is 67 days from June 29 to September 5 but frost has occurred in July. On the southern shore of Baffin Island the frost-free period is 48 days from June 30 to August 18 but years occur in which there is frost every month of the year. On the northern shore of Baffin Island at Pond Inlet the frost-free period averages 29 days and at Resolution Island, which lies off the southeastern tip of Baffin Island, there are only 7 days, on the average, continuously free of frost. On the south shore of Hudson Strait, Cape Hope's Advance averages 21 days and in Hudson Strait, Nottingham Island averages 18 days. Towards the most northerly point of the Region, the observations at Bache Peninsula in 1931 and 1932 showed only 6 days free from frost and during the period from the late summer of 1909 to the late summer of 1910 the records at Winter Harbour, in the Parry Islands, showed only 13 days frost-free. A record made over a period of nine years at Pangnirtung at the head of an inlet on Baffin Island gives an average of 56 days frost-free.

Precipitation.—A drift of polar air of widespread extent across this area, although subject to some heating in midsummer by contact with the islands, gains temperature slowly because of contact with the ubiquitous polar waters. On