

surface to insolation. The absorbed energy during the polar day appears sufficient to rejuvenate the root-structure to the degree necessary for its survival during the polar night. Similarly during the long period of insolation the animals build up very noticeable accumulation of fat which protects them during the winter when they live either almost constantly in water near the freezing point or alternately in the extremely cold air and the much less cold water. During the winter the fat of birds, animals, and fish noticeably diminishes. Therefore, although there is no summer comparable to that of temperate latitudes, the polar day, months-long, of the Arctic summer is a biological necessity for the continuance of polar life.

The following statement gives typical temperatures and precipitation of this Region:—

Station	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Arctic Bay, N.W.T.....	-19.6	43.3	75	-57	0.39	0.65	6.81	21	58
Craig Harbour, N.W.T.....	-22.0	41.0	61	-49	0.38	0.93	9.05	17	40

The Northwestern Lands

Temperature.—The Northwestern Lands Region presents one striking feature which distinguishes it sharply from the far Northern Lands Region and the Arctic Archipelago. This is the course of the mean July temperature of 60°F. or, perhaps more correctly, of a July temperature of 57°F. or 14°C. This isotherm runs northwestward from the middle of the James Bay area north to the shore of the Arctic Ocean at the mouth of the Mackenzie River. It runs thence into central Alaska, U.S.A., returning into Yukon north of the Mount St. Elias range and down to the crest of the Rocky Mountains in Alberta.

The eastern boundary of the Northwestern Lands Region north of the 60th parallel, follows the divide between the rivers flowing eastward towards Hudson Bay and northward to the interior waters of the Arctic Archipelago. To the east of this line the temperature drops off sharply while to the west there is a very flat gradient of temperature except, of course, along the mountainous territory known as the Mackenzie Mountains with elevations of 4,000 to about 8,000 feet above sea level. Here and there in this territory, outside the mountains, spring wheat has been planted at missionary posts or posts of the Hudson's Bay Company and in some years grain of fairly good quality has matured.

The chief distinction between this Region and lands of similar latitude in Eastern Canada may be attributed to the fact that the very long hours of sunlight in the summer half-year readily warm the ground which, in turn, by conduction transfers heat to the lower layers of the atmosphere. On the other hand, in the same latitudes of the northeast the cold waters of the Arctic inlets and their extension into Hudson Bay provide a very large surface which absorbs solar radiation without much change in temperature. Outflows of polar air in summertime are, therefore, quickly warmed in the northwest but only very slowly in the northeast. The Northwestern Lands, therefore, have a distinct season of summer warmth and thus much greater agricultural possibilities than can be foreseen for the Northern Lands.