

mean temperature for May at Dawson City is $45^{\circ} \cdot 5$, very nearly the same as at Norway House.

Near the Hudson bay the season is still less advanced, with an average mean temperature of $32^{\circ} \cdot 5$ at Churchill, $34^{\circ} \cdot 6$ at York Factory and $41^{\circ} \cdot 6$ at Moose Factory; this latter temperature being lower than that of either Dawson or Fort Chipewyan.

THE SUMMER MONTHS.

In June the mean temperature at Winnipeg is about the same as at Toronto, namely, 62° , which is from 5° to 7° higher than the average in Alberta, Calgary giving $55^{\circ} \cdot 3$, Edmonton $57^{\circ} \cdot 1$ and Fort Dunvegan $56^{\circ} \cdot 5$. In this month also the mean temperature of the territory near the shores of Lake Athabaska and northward to Fort Simpson are but a shade lower than at Calgary. Moose Factory has an average mean of $55^{\circ} \cdot 2$, and an average daily maximum of $66^{\circ} \cdot 6$, a very little lower than Calgary and nearly the same as Fort Simpson. But further north at Churchill and York the average is still below 50° .

For the three summer months a vast area which includes western and northern Alberta, northern Saskatchewan and the basin of the Mackenzie, almost to the Arctic circle lies between the isothermal lines of 55° and 60° . Throughout this whole region the percentage of the possible amount of sunshine seems to approximate 55, and as the hours of possible sunshine at midsummer range from $17^h 0$ in the latitude of Edmonton to $19^h 30^m$ at Fort Simpson, it may be surmised that growth of plants and cereals may be even more rapid in the northern than in the southern districts.

The average daily mean highest temperature in July at Winnipeg is $77^{\circ} \cdot 8$, at Calgary $74^{\circ} \cdot 7$. At Hay river on Great Slave lake, it is $73^{\circ} \cdot 5$ and at Fort Simpson $71^{\circ} \cdot 4$. Possibly the somewhat lower temperature in the north may be offset by a longer period of bright sunshine.

From the very meagre observations in the Peace river district, it is not possible at present to report definitely on the liability to late summer frost. Fort Dunvegan, the only station at which a regular record has been kept for several years, is situated in the valley, and the temperature there registered may possibly differ somewhat from that on the higher plateau, although comparison with observations made in survey camps leads to the conclusion that the summer frosts which are in some years recorded in the valley, also occur on the higher lands.

The whole question as to late summer frost in the western provinces is as yet tentative. In the eighties there were many winters of extreme severity, and again in the early nineties to a somewhat lesser degree, and it was during these same periods that summer frost was not infrequent. The winter just closing has been of almost unexampled severity, and it would be unwise at present to pronounce that there has been any change in climate beyond that of a cylindrical nature.

While, as has been shown, the summers of the Mackenzie river do not differ greatly from the summers in Alberta and Saskatchewan, it should be borne in mind that as the latitude increases the more rapid is the downward trend of the temperature after about August 20. The mean for September near Lake Athabaska is fully 5° lower than at Edmonton, and near Slave lake 6° or 8° lower. The effect of high latitude is also evident in September in the Peace river districts, as the temperatures in this month no longer agree closely with those of Edmonton and Calgary. In October, frosts are severe and of almost daily occurrence in northern Alberta and Saskatchewan, while north of Lake Athabaska winter is setting in rapidly.

ABOUT WINTER TEMPERATURES.

The average winter temperature at Winnipeg is about 15° colder than at Calgary, and northward the cold increases even more rapidly, as is shown by the mean temperature for January which as shown by Table 1 is 7° above zero at Edmonton, 10° below at Fort Dunvegan and 17° below near Slave lake.