

year, but would be seriously handicapped at times. He would not say that a ship might not, by chance, pass almost any time of the year. The ice is very thick indeed, however, and rafts up. He had watched it and seen it rafting up. The harbour ice at Cape Prince of Wales froze to about $7\frac{1}{2}$ feet.

Fogs are very frequent at Hudson strait.

With regard to the possibility of the navigation of Hudson bay, Mr. Stupart was not prepared to say that steamers cannot get through for a good deal longer period than three months. He did not consider himself an authority; he had not been through the strait.

April 22, Mr. Stupart forwarded to the chairman of the Select Committee a report on the climate of northern and western Canada, which he promised while under examination to prepare. This report was in due course laid before the committee, and read as follows:—

REPORT ON THE CLIMATE OF NORTHERN AND WESTERN CANADA.

A regular series of meteorological observations was begun in Winnipeg in 1872, but it was not until between 1883 and 1885 that eight stations with paid observers were opened at carefully selected points in the western provinces, Prince Albert and Edmonton being the most northerly stations of the reseau. Observations at these stations have been continued ever since and the climatic features of this country as indicated by them has been supplemented by observations of temperature, weather and rainfall by voluntary observers at numerous intermediate stations.

In Athabaska and the Mackenzie Basin, observations taken chiefly by missionaries and Hudson Bay Company's officers and extending over periods ranging from 5 to 15 years, afford valuable information regarding the climate of the unorganized territories.

On the shores of Hudson bay more or less reliable, but somewhat broken series of observations at Fort Churchill and York Factory covering a period of 30 years, are available, and at Moose Factory the meteorological record dates back to 1878.

A study of the accompanying tables containing the average mean temperature, average daily maximal and average daily minimal temperatures; also the absolutely highest and absolutely lowest temperatures of which the meteorological service has record, indicate beyond doubt that spring opens earlier in western and southern Alberta than it does to the east and north. In April the average daily highest temperature are $53^{\circ}\cdot 2$ at Calgary and $58^{\circ}\cdot 5$ at Medicine Hat, while corresponding values are $50^{\circ}\cdot 6$ at Winnipeg; $50^{\circ}\cdot 2$ at Prince Albert, and $39^{\circ}\cdot 4$ on the shores of Lake Athabaska. These figures indicate that the days are warm, and that April is truly a spring month in most years, but it should not be forgotten that night frosts are severe and frequent in April throughout the western provinces. To the northward and eastward of Manitoba the advance of spring is not so rapid, Norway House showing an average daily maximum of $42^{\circ}\cdot 7$ and a daily minimum of $21^{\circ}\cdot 5$; Fort Hope an average maximum of $43^{\circ}\cdot 2$ and minimum of $18^{\circ}\cdot 7$, while the figures for Moose Factory are $37^{\circ}\cdot 7$ and 17° .

Northward of Slave lake, in the basin of the Mackenzie, the retardation is still greater with an average night temperature of $13^{\circ}\cdot 8$, at the mouth of the Liard river, and zero or lower in the neighbourhood of the Arctic circle.

As May advances the upward trend of the temperature curve is more rapid in Manitoba and Saskatchewan than in Alberta, and the average temperature of May for the whole territory west of Winnipeg and south of Prince Albert, excepting north-eastern Saskatchewan is approximately the same, with a general mean of about 50° , and an average day temperature ranging between 65° at Winnipeg and $62^{\circ}\cdot 5$ at Qu'Appelle.

Northward from Prince Albert to Lake Athabaska and thence along the Mackenzie, the season in May does not advance so rapidly, Fort Chipewyan showing a monthly average of $44^{\circ}\cdot 5$, Hay river $41^{\circ}\cdot 2$, and Fort Simpson 43° . It is noteworthy that the