

Labrador region become warmer very much more slowly. The cold waves which in winter tend to move down the western side of the continent find an easier route in summer to the east. Probably the cool air flowing from the north in summer is less disturbed or deflected in its southerly course along the surface where it follows the cool waters of Baffin and Hudson bays than when it attempts to move down the heated land surface to the west. Hot days, however, occasionally occur in this region. 91° has occurred in July and August at Nelson, 96° in July at Churchill, 94° at Fort George in July and 80° even in May, while at Moose Factory really hot days are no rarity with 95° on record for May, 96° for June and August and 97° in July, 91° in September, 84° in October. At the north end of the bay, great heat does not occur. Chesterfield inlet on the west side has recorded temperatures of 80° to 85° in July and August, while on the east side at Port Harrison temperatures of 70° to 75° occur, and also at Lake Harbour on the strait. Occasionally in July and August the temperature may fall in the Hudson bay region to five or ten degrees below freezing during the night, but in the James bay district summer frosts are rarer and the thermometer on such occasions barely dips below the freezing point, with 29° or 30° the lowest on record.

We have so far dealt with the temperatures of the Archipelago and the Hudson Bay-Labrador region. The northwestern districts of the Yukon and the Mackenzie valley, northern British Columbia and the Peace River country are represented in the tables, while their annual march of temperature is depicted on page 43. In winter, because the land surface loses its heat more quickly than the waters of the East, cold waves push down along the surface in the West with less disturbance than in the East. In fact, the moving front of a cold wave, on account of the easy loss of heat by radiation at night, makes its advance partly for this reason. Low winter temperatures are therefore carried well up the Mackenzie valley and the intervening country on the west side of Hudson bay to the Churchill and Nelson rivers. Very low temperatures sometimes occur in the path of these waves, as has already been mentioned. The mean temperature, however, is from 10° to 25° below zero in midwinter, or about 30° warmer than that portion of Siberia with the same relative situation. Long periods of steady cold, such as have been described in the Archipelago, are of very rare occurrence in this northwestern region. After the passage of a cold wave the wind shifts into a westerly or southerly quarter and the region is rapidly invaded by air of Pacific or southwestern origin with rapidly rising temperatures. Winters when the circulation from the west is strong are very mild. For example, February 1920 at Good Hope near the Arctic Circle averaged about zero, while February 1910 averaged 30° below and February 1925 33° below. At Fort Norman in the same months the corresponding figures were 3° above, and 22° and 27° below. On occasions when the westerly current sets across this region the temperature may rise to 45° above zero in midwinter and may plunge down to 50° , 60° or even 70° below when a circulation is established so that air movement on the surface appears to be from northern Siberia across the Arctic ocean to the Mackenzie delta with clear skies and rapid radiation of heat from the surface.

In the Peace River country and northern British Columbia the winter is milder under the influence of the circulation from the Pacific and through the mountain valleys from the south. The effect of a cold wave is naturally felt for a shorter time in these regions than on the Mackenzie lowlands. In spite, therefore, of their higher latitude they are warmer than midcontinent regions considerably further south. This is especially true of the northern British Columbia coast, where cloud