

February is the coldest month at each of the three Western Arctic weather stations. The monthly mean of -27°F. at Cambridge Bay is one of the coldest known in Canada, being exceeded only slightly by records from stations on northern Baffin Island. Winters, which average between -15°F. and -20°F. during January and February, are not as cold at Coppermine, Holman Island and Aklavik.

Minimum temperatures do not drop as low in the Western Arctic as in the Mackenzie Valley. Holman Island, located on Amundsen Gulf which may occasionally have open water between ice floes, has a usual winter minimum of about -37°F. Lower temperatures are often recorded by settlements in northern Ontario and on the Prairies. The lowest temperature ever recorded at Holman Island is -45°F. Coppermine is colder, having a mean winter minimum of -48°F. , and a record minimum of -54°F. Cambridge Bay has the lowest minimum temperatures known in the whole Canadian Arctic. Nearly every winter readings in the Arctic of about -54°F. are observed, and the lowest recording reported is -63°F. from there.

In April, monthly mean temperatures rise to slightly above zero at all stations except Cambridge Bay. Spring comes quickly as the days become longer in May. Average monthly mean temperatures jump 20 degrees between April and May. The snow begins to melt from southern slopes about mid-May on the mainland. Summer begins in July when the ice breaks up along the coasts and in the lakes.

Since most of the Western Arctic settlements are in the vicinity of latitude 69°N. , they have about the same duration of daylight and darkness. In summer there are 24 hours of light from the latter part of May to the end of July. During this time the sun circles low in the sky, dipping down towards the horizon in the north. By the end of July the sun is setting for a short period in the north. The period of darkness lengthens each day thereafter.

By the first of December the sun no longer rises above the horizon to the south. For the next month there is a period of twilight darkness, brightened by the light of the stars and moon, a twilight glow on the southern horizon, and reflections from the snow. Early in January the sun again peeps above the horizon, and each day thereafter the daylight lasts longer until there is equal day and night on March 21.

Precipitation is not heavy in the Western Arctic. About 10 inches are recorded at Coppermine and Aklavik, half of which falls as rain during the four warmest months. Six and seven inches are recorded by the stations at Cambridge Bay and Holman Island respectively, about one-third of which is rain coming chiefly in July and August. At Coppermine, three inches is the most rain ever recorded in one month, and in dry summers as little as one-half inch has fallen in a month.

Snowfall is difficult to record accurately at all Arctic stations because of the excessive drifting. From 40 to 50 inches is the usual amount which falls during the winter. Northern snow is generally hard and finely crystalline, especially when on the ground. It packs solidly, and where it collects to sufficient depths in depressions or on the sea-ice, can be cut into snow blocks for igloo-building.

Heaviest snowfalls come in October and November, but continue intermittently throughout 10 months of the year. Although a small amount of snow falls, the low winter temperatures and lack of sunlight prevent melting. In rocky, hilly country the ridge tops are often blown free of snow, but a snow cover, which is used for sledge-dog transportation, always remains throughout the winter in the valleys and over the lowlands and sea-ice.