Arctic is generally confined to the months June to September. July and August are usually the wettest months of the year with monthly rainfall totals of two inches in southern sections, decreasing northward to less than one inch over the Queen Elizabeth Islands. Snow may occur in either of these months but in most lowland areas falls are light. Although precipitation is closely related to cyclonic activity, topography is particularly important in the eastern Arctic. Windward slopes have considerably more cloudiness and precipitation than lee areas. Cumulus clouds occur in inland areas but only rarely reach the thunderstorm stage.

Despite the fact that average rainfall amounts are low, heavy rains have been reported at many Arctic locations. Several stations measured one-day rainfall of more than one inch in August 1960. In the barren, permanently frozen areas of the Arctic, rainfall of this intensity may lead to locally severe run-off, particularly in rolling or mountainous terrain.

Since aviation plays such a prominent role in Arctic development, the banks of low clouds and fog which frequent the coastlines and threaten the airports have a special significance. Stations along Hudson Strait have the greatest number of days with fog at this time, with Resolution Island reporting fog on one of every two days. At most Arctic stations, with the exception of mainland and sheltered island locations, fogs usually occur on six to eight days of each of these months. At Resolute, Mould Bay and Isachsen and at most other coastal stations, cloud ceilings are below 1,000 feet and/or visibilities below three miles about 30 p.c. of the time during this period.

The Climate—September to November.—Dwindling hours of daylight in September give notice of the imminent return of cold weather to the Arctic. Over the Queen Elizabeth Islands, mean daily temperatures are below 32°F by the beginning of September and by the end of the month temperatures throughout the Arctic are below freezing. Below zero readings prevail in northern sections by mid-October and in all areas except the shorelines of Hudson Strait by mid-November. Extreme minimum temperatures as low as −15°F have been reported in September at the high Arctic stations of Alert, Isachsen and Mould Bay. More southerly Arctic locations do not have such low values until October.

This period is the stormiest of the year in the Arctic. Low pressure areas continue to move through the region but each is followed by a progressively colder outbreak of air from the Polar seas. The greater portion of the 20-to-50-inch annual snowfall occurs during these months. Turbulence and rather severe icing may be encountered by aircraft flying in the low-lying clouds. While fogs are less frequent than in July or August, visibilities are lowered appreciably in snow storms. As ice-cover increases in the seas and bays and open water is no longer a major cloud-producing factor, the region takes on the very cold, relatively clear climate generally associated with the Arctic night. Freeze-over of most of the northern waterways is usually accomplished by November but in the southern Arctic open water has considerable influence until December.

During this period, air operations and, to a lesser extent, ground travel are frequently hampered by the "Arctic white-out", a condition that occurs when diffuse white clouds blend, without a recognizable horizon, into the shadowless, snow-covered landscape. With no sharp landmarks on the horizon, judgment of distances becomes very difficult. White-outs are not confined to this period, however, as they often occur in April or May as well.

In summary, the Canadian Arctic experiences a continental climate during more than seven months, while maritime influences predominate in most areas during the remainder