ice-covered channels. Stations in the Arctic Archipelago report less than 10 inches during this period. There is a general north-to-south increase in monthly snowfall from one to two inches over the northern islands, to four inches along the mainland coast and nearly 10 inches at the storm-battered southeast tip of Baffin Island.

Surface Winds.—Attention was directed, in an earlier paragraph, to the prevalence of northwesterly winds during the period December to April in all but the extreme western sections of the Archipelago. Although the average circulation is northwesterly, with 40 to 70 p.c. of the winds from this quadrant, winds are so dependent on local topography that considerable variations do exist, often between sites only a few miles apart. Sheltered inland locations experience light, variable winds, while at valley and rugged coastal strips the most frequent and strongest winds follow the valley or coastline.

A surprising feature of the wind pattern over the Archipelago during this period is the large percentage of calms reported at most stations. Calm conditions occur almost 30 p.c. of the time at Isachsen, Mould Bay, Eureka, Resolute and Frobisher Bay and 45 p.c. of the time at Alert. At these stations winds are light (under 10 miles an hour) more than half the time. At Sachs Harbour and at exposed sites on the barrens west of Hudson Bay, approximately one third of all winds fall into this category. Less than 20 p.c. of the winds are in the 20- to 29-miles-an-hour class at most stations, and less than 10 p.c. are strong winds (30 miles an hour or stronger). Over the Arctic islands average wind speeds are about 10 miles an hour although considerably higher average speeds (13–19 miles an hour) are reported from the vicinity of Hudson Bay and Hudson Strait. Hourly wind speeds have exceeded 60 to 70 miles an hour at most locations and several stations along the exposed eastern flank of Baffin Island have reported winds of 100 miles an hour.

Wind Chill.—With the exception of the Hudson Bay–Hudson Strait area, winds at most Arctic stations are no stronger than those at cities in Southern Canada. However, because of the low temperatures at which they occur their added chilling effects are considerable. The term "wind chill" is often used to indicate the relative severity, or human discomfort, of the combination of wind and low temperature. On the basis of wind chill, the most severe areas during the coldest month are the barrens northwest of Hudson Bay.

Blowing Snow.—Wind speeds are critical because, in addition to winds intensifying the feeling of cold, they are responsible for blowing snow, the major deterrent to travel during this period. As residents of the Prairie Provinces are well aware, blizzards or storms of blowing snow are not confined to the Arctic regions only. However, since Arctic snow is so fine and powdery and since the treeless plains permit a clean sweep by the wind, blowing snow may occur in the Arctic with relatively light winds and it constitutes a much greater problem than on the prairies. In the Arctic, the extent of blowing snow depends on whether the wind is related to local topography or is part of a large-scale circulation pattern. In the latter case, blowing snow conditions, with visibilities often reduced to a few yards, may cover large sections of the Arctic for periods of three or four days.

Visibility in blowing snow varies from station to station but in most cases is directly related to wind speed. Although drifting conditions may be initiated by winds of 10 to 19 miles an hour, less than 5 p.c. of the winds in this speed group give blowing snow during the period December to April. One half of the 20- to 29-miles-an-hour winds may be expected to cause blowing snow and nearly 90 p.c. of strong winds (30 miles an hour) are associated with blowing snow. In the case of strong winds more than 50 p.c. of the reported visibilities are under one half mile, and more than 80 p.c. are less than three miles.

Although visibilities at most Arctic stations are reduced to six miles nearly one third of the time during this period, values low enough (three miles) to restrict aircraft operation are reported less than 25 p.c. of the time. Blowing snow is the cause of the restricted visibility in over half the cases.