Ice Conditions.—*Sea Ice.*—The direction of movement of drifting ice is the result of the interplay of the forces of ocean currents and winds. Ice floes drift along with the major ocean currents, but deviations from the normal may be caused at any time by changes in prevailing winds. Estimates of the usual times of appearances and direction of movement of the ice masses and bergs are thus possible through consideration of the known facts of hydrography and climate.

In the far northern Arctic Islands ice begins to set along the shores about the end of September. As the weather becomes colder this sea ice grows outward and if the islands are close together, they are linked by ice bridges which make travel easy from one island to another. The larger straits may not become completely frozen over, but they will be choked with drift ice from the sea of moving ice in the Arctic Ocean. The ice floes may freeze together to form temporary bridges which may break up again in the next storm.

In Baffin Bay and Davis Strait drifting ice from the channels between the Arctic Islands is supplemented by numerous bergs breaking off principally from the glaciers of Greenland and to a much lesser extent from those of the northern Eastern Arctic. These ice-fields begin to spread southward, first in narrow strings of ice and later in broad floes and masses. By November the pack-ice has blocked the entrance to Hudson Strait and is joined by more ice from the Strait, spreading southward along the Labrador Coast. By late December it appears off the coast of Newfoundland. The Baffin Bay pack-ice is reported to reach its greatest extent in March and April, with ice moving northward along the southwest coast of Greenland, a 'middle pack' moving southward into Davis Strait and the 'west' ice following the Labrador Current southward along the coast of Baffin Island.

In Hudson Bay and Strait the sea ice builds out from the shore for a distance of 5 to 7 miles on the average, generally starting to freeze towards the end of October. The harbour ice attains a usual thickness of about 5 feet during the winter, but outside the sheltered places storms may slide the masses over one another until such 'rafted' ice may have a thickness of several tens of feet. Recent aerial information shows that the central part of Hudson Bay freezes over during the winter, with possibly an open area between this mass and the shore ice. Although Hudson Strait does not freeze over from shore to shore, the centre of the channel is blocked throughout the winter by loose ice which moves east and west with the tidal currents.

In late June the sea ice begins to break up and joins the general drift of the currents towards Hudson Strait and the North Atlantic. During much of July, Hudson Strait remains unnavigable as this ice moves outward. Prevailing winds will influence the time of accessibility of most of the harbours. A westerly wind will tend to clear the ice out of the Strait earlier in the season, and a period of easterly winds will hold it back and block the western end of the Strait. Northerly winds will push the ice into the harbours on the southern shore of the Strait and delay their opening, and prevailing southerly winds will tend to block the north coast harbours. The route into Hudson Bay is generally free of ice during August, September, and most of October, so that ocean-going vessels may navigate with freedom. Toward the end of October or early November the sea ice again begins to form and the Eastern Arctic is cut off from outside communication by boat for another nine months.