

by extensive ice-caps. The sedimentary rock of the western coasts gives low rolling areas which supply sufficient vegetation for roaming herds of caribou and musk-ox.

The Parry and Sverdrup groups of islands have a base of sedimentary rock, which has resulted in a generally low or rolling topography. Coasts are generally shelving terraces or low rounded hills. Large-scale topographic features are lacking in the interior, although occasional transverse valleys have been known to hinder winter travel.

**Hydrography.**—Including the islands of the Western Arctic, there are 17 major Canadian Arctic islands over 1,000 square miles in area, about 40 islands larger than 100 square miles, and large numbers of smaller ones. The straits, sounds, and channels which separate the Arctic islands vary in width from a few miles to over 100 miles, with the chief separating bodies of water averaging about 50 miles wide.

Arctic waters move eastward and southward from the basin of the Arctic Ocean through these islands and enter Baffin Bay via Smith and Lancaster Sounds. Another current passes through Fury and Hecla Strait into Foxe Basin, west of Baffin Island. The waters from Baffin Bay flow southward past the east coast of Baffin Island through wide Davis Strait, along the coast of Labrador and into the North Atlantic. A northward-moving current from the Gulf Stream (North Atlantic Drift) merges with the current from East Greenland and flows northward along the west coast of Greenland through Davis Strait, finally joining the southward-moving Arctic Current in northern Baffin Bay. A great contrast in climate is found on the opposite shores of Davis Strait, due to the temperature differences between the cold Arctic Current off Baffin Island and the relatively warmer current touching the west coast of Greenland. This fundamental fact of ocean currents explains a great deal of the past history of settlement and present possibilities of these two areas.

So far as is known, tides are not high in the far northern Arctic waters. Records have been taken only for short periods at a few stations. On the east coast of Baffin Island, in the fiords of Cumberland Sound and Frobisher Bay, the tides reach surprising heights of 20 to 30 feet, owing to the tidal waters being compressed into the narrow inlets.

At Hudson Strait the Arctic Current branches westward around Resolution Island and flows along the south coast of Baffin Island. Near the western end of the Strait this Current meets waters moving southeastward from Foxe Channel, and the combined current then drifts eastward along the north coast of Ungava Peninsula, finally joining the main southerly Labrador Current.

There is a counter-clockwise current in Hudson Bay. Waters move southward around Southampton Island through Roes Welcome Sound and Fisher Strait and along the west coast of the Bay. The current follows the general oval shape of Hudson Bay, flowing northward past the east coast and joining the eastward-moving stream in Hudson Strait.

The tides in Hudson Strait have an unusual range, owing to the Atlantic waters being funnelled into the narrower space of the Strait. Tides average 25 feet neaps and 30 feet springs at Ashe Inlet on the northern side of the Strait, and range from 20 to 35 feet neaps and springs at various places along the southern coast. The tidal range becomes less towards the western end of the Strait and in the more open areas adjacent to Hudson Bay. Such tidal ranges offer no serious problems to ocean-