

of the Arctic the Polar Shelf develops its maximum width and attains its "Farthest North". Hudson Bay, connected to the Arctic by Foxe Channel, and to the Atlantic by Hudson Strait, is a shallow flooding of this same Continental Plateau.

On the 80th meridian of west longitude the Polar Shelf reaches the greatest width of any submerged continental plateau. A cross-section of the Shelf on this meridian intersects the southern extremity of James Bay, Hudson Bay and the north coast of Ellesmere Island—a total distance of over 2,000 miles, the Continental Shoulder being only 300 miles from the Pole. Owing to the very limited amount of charting that has been done in the Arctic, the bottom topography on this profile would be somewhat hypothetical. Sufficient is known, however, to indicate an abrupt break of the continental margin at its northern oceanward edge. There, the sea-floor drops from a depth of about 100 fathoms to depths of over two miles in the North Polar Basin. This steep continental terrace borders the whole western side of the Canadian Archipelago and it constitutes one of the most striking and significant features of the Polar Regions. From this great declivity a number of deep, well-developed troughs, apparently cut by glaciers, enter between the western groups of islands. Off Baffin Island, on the submerged shelf which joins the eastern side of the Archipelago with Greenland, is an isolated depression reported to be considerably over a mile in depth. A ridge across Davis Strait, on which the depth is about 200 fathoms, separates this basin from the open Atlantic.

The incursions of the sea, Hudson Bay and Hudson Strait, bite deeply into the continent. Hudson Bay is an inland sea, some 250,000 square miles in area. Into it is poured the water drained from one and a half million square miles of the continent—nearly three times that of the Atlantic drainage system. In this respect, the Bay resembles an enormous estuarial basin, the great flood of fresh water into it accounting for the low salinity of the upper layers and partly for its great temperature ranges. Still more pronounced in estuarial character is James Bay to the south. This projection, with general depths of 20 to 30 fathoms in its central part and with extensive, drying mud-flats off its shores, is studded with islands. A great number of rivers discharge into James Bay and, as a result, the water is brackish.

In Hudson Bay soundings are too few to give a complete picture of submarine relief, but the average depth is about 70 fathoms. It has been ascertained that a deepwater channel is carried from Hudson Strait into an irregular-shaped depression in the centre of the Bay where a greatest charted depth of 141 fathoms has been found. Of the hydrography of the east side of the Bay, little is known beyond the fact that it is bordered by groups of islands and rocks lying as far off as 100 miles. Ship navigation inside these islands would be subject to great risk owing to the scarcity of chart soundings. Strikingly different is the western side of Hudson Bay which is low and flat, almost devoid of islands except well to the north where a few small islets are found. Off the shore between James Bay and Cape Churchill the water deepens gradually, the 50 fathom contour lying about 50 to 90 miles off. Northward of Churchill this contour approaches within 15 to 30 miles of the coast.

Hudson Strait, 430 miles in length, is a deep arm of the sea separating Baffin Island from the continental coast and connecting Hudson Bay with the Atlantic Ocean. Widths of the Strait vary from 37 miles at the entrance to 120 miles near its western extremity. The coasts are generally high and bold, broken by many bays and fiords which afford excellent harbourage. Its greatest charted depth of 481 fathoms is found close inside the Atlantic entrance. There the sea-floor is extremely irregular

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