

Hudson Bay and Hudson Strait bite deeply into the continent. Hudson Bay is an inland sea 822 324 km² in area having an average depth of about 128 m; the greatest depth in the centre of the bay is 258 m. Hudson Strait separates Baffin Island from the continental coast and connects Hudson Bay with the Atlantic Ocean. It is 796 km long and from 69 to 222 km wide; its greatest depth of 880 m is close inside the Atlantic entrance. There are great irregularities in the sea floor but, except in inshore waters, few navigational hazards have been located.

Pacific. The marginal sea of the Pacific differs strikingly from the other marine zones of Canada. The hydrography of British Columbia is characterized by bold, abrupt relief — a repetition of the mountainous landscape. Numerous inlets penetrate the mountainous coasts for distances of 93 to 139 km. They are usually a nautical mile or two wide and very deep, with steep canyon-like sides. From the islet-strewn coast, the continental shelf extends from 50 to 100 nautical miles to its limit at depths of about 366 metres. The sea floor drops rapidly, parts of the western slopes of Vancouver Island and the Queen Charlotte Islands lying only four nautical miles and one nautical mile, respectively, from the declivity. These detached land masses are the dominant features of the Pacific marginal sea. The region's numerous shoals and pinnacle rocks necessitate cautious navigation.

Arctic. The submerged plateau extending from the northern coast of North America is a major part of the great continental shelf surrounding the Arctic Ocean, on which lie all the Arctic islands of Canada, Greenland, and most of the Arctic islands of Europe and Asia. This shelf is most uniformly developed north of Siberia where it is about 500 nautical miles wide; north of North America it surrounds the western islands of the archipelago and extends 50 to 300 nautical miles seaward from the outermost islands.

The floor of the submerged part of this continental margin is nearly flat to gently undulating, with isolated rises and hollows. Most of it has an average slope seaward of about one-half degree, with an abrupt break at the outer edge to the continental slope whose declivity is commonly six degrees or more. From the Alaskan border eastward to the mouth of the Mackenzie River the shelf is shallow and continuous with the coastal plain on the mainland; its outer edge is at a depth of about 64 m and about 40 nautical miles offshore. This shelf is continuous with that north of Alaska and Siberia. Near the western edge of the Mackenzie River delta, it is indented by the deep Herschel Sea Canyon, whose head comes within 15 nautical miles of the coast. Between Herschel Sea Canyon and Amundsen Gulf, the typical features of the continental shelf are replaced by the submerged portion of the Mackenzie River delta, which forms a great pock-marked undersea plain, most of it less than 55 m deep, up to 75 nautical miles wide and 250 miles long.

North and east of the submerged portion of the Mackenzie River delta, the continental shelf is more deeply submerged than that off the mainland and Alaska. Its gently undulating surface is generally 366 m or more below sea level, and most of the well-defined continental shoulder is over 549 m deep, giving way to the smooth continental slope which extends without significant interruption to the abyssal Canada Basin at about 3 658 m. The deeply submerged continental shelf runs along the entire west coast of the Canadian Arctic Archipelago from Banks Island to Greenland. All major channels between the islands — Amundsen Gulf, M'Clure Strait, Prince Gustav Adolf Sea, Peary Channel, Sverdrup Channel and Nansen Sound — have flat floors at about the same depth as the shelf and appear to enter it at grade, but a few local irregularities may be the result of glacial action. The only deep indentation known to cut the continental slope or continental shelf off the archipelago is one sinuous canyon that heads off Robeson Channel at the northeastern end, close to Greenland. Submerged sides of the channels of the archipelago, and slopes from the islands' western shores to the inner edge of the deeply submerged shelf, are marked in many places by a series of steps or terraces.

1.1.4 Islands

Canada's largest islands are in the North in an arctic climate. The northern group extends from the islands in James Bay to Ellesmere Island which reaches 83°07'N.