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### **Boundary Demarcation in the Arctic Ocean: The Outer Limit of the Continental Shelf**

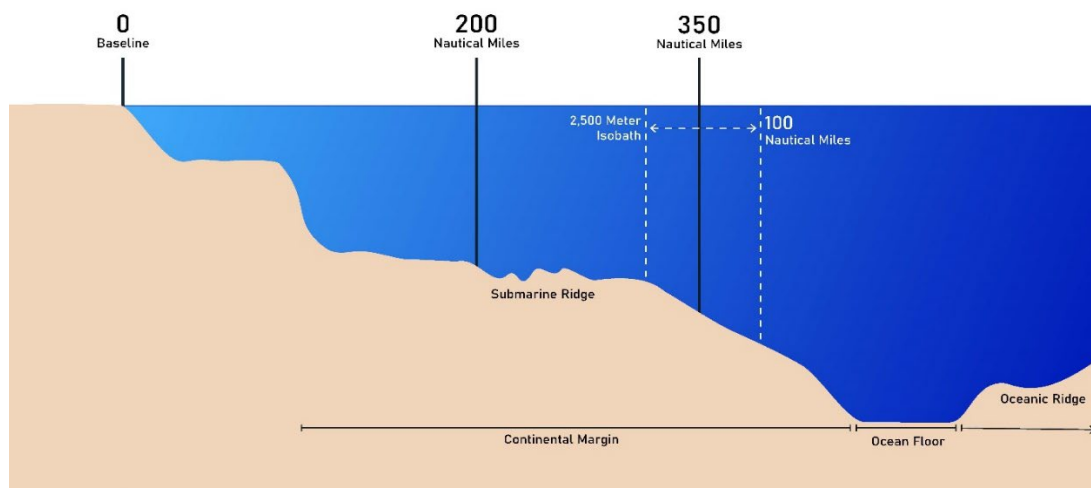
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The continental shelf is the natural prolongation of the coastal states' landmass into the seabed. This natural prolongation – the so-called continental margin – is scientifically determined by judging the similarity in geological characteristics between the coastal state's territorial landmass and the seabed features of the proposed continental shelf. For example, submarine ridges share geological similarities with coastal states' landmasses, while submarine elevations form natural components of the continental margin. The oceanic ridges that share the geological characteristics of the ocean floor are free-standing features and do not share the elements of territorial landmasses; therefore, they do not form a part of continental shelves. Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS) provides detailed guidance on the scientific basis for determining the outer limit of the continental margin.

In addition to the natural prolongation of a country's landmass, UNCLOS sets a limit on the so-called juridical continental shelf at 200 nautical miles, regardless of whether the natural prolongation meets the limit. Nevertheless, if the prolongation extends beyond 200 nautical miles, a coastal state, subject to the conditions set out in Article 76, enjoys the right to delineate the outer edge of its continental margin. Setting the outer limit beyond 200 nautical miles is not an automatic process but one requiring the approval of the Commission on the Limits of the Continental Shelf (CLCS), a body established under the UNCLOS. However, once a state's continental shelf is established, that coastal state enjoys sovereign rights over the living and non-living resources of the shelf.

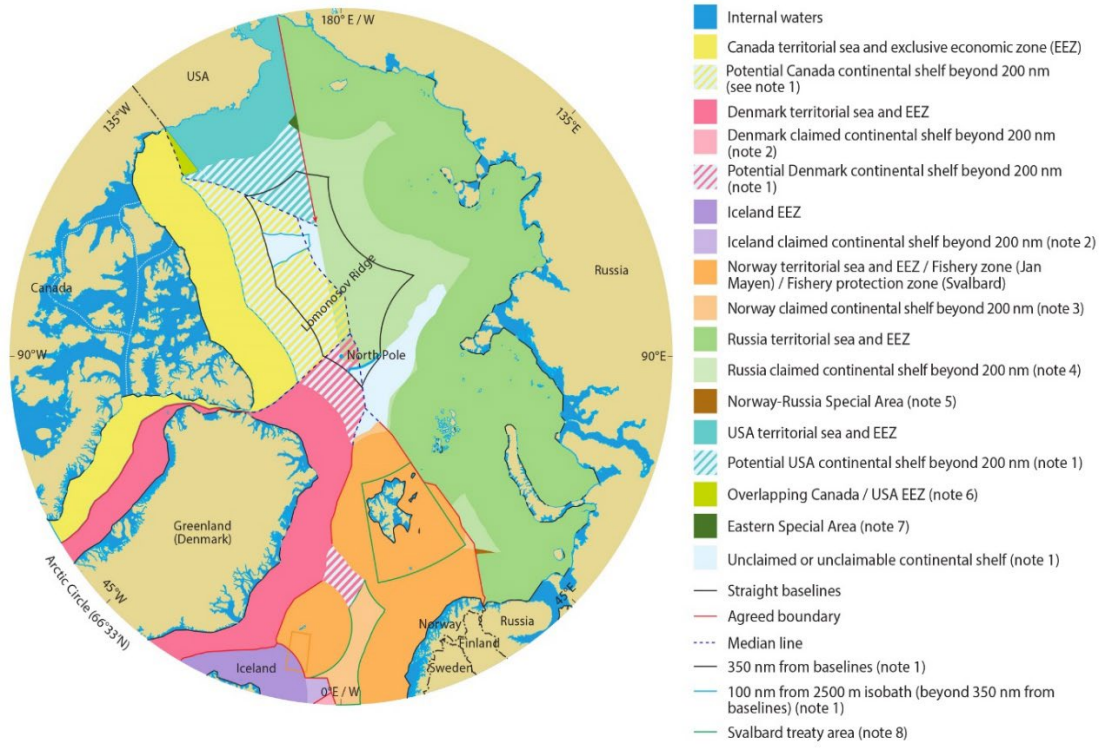
According to the procedure set out in Article 76 to extend the continental shelf beyond 200 nautical miles, a coastal state must file a submission with the CLCS, supported by proper scientific data, showing the natural prolongation of the continental margin. If accepted, Article 76 provides two alternatives: a strict legal limit of 350 nautical miles from the baseline on submarine ridges, regardless of whether the natural prolongation goes farther, or a maximum of

100 nautical miles outward from the point where the depth of the water column reaches 2,500 meters. Of note here is the time constraint: a state must submit its data to the CLCS for an extension within ten years of the entry into force of UNCLOS for that particular state. Although UNCLOS entered into force in 1994, the countdown of ten-year started in 1999, after the CLCS had adopted the scientific and technical guidelines for the extension.



While each state with an Arctic coastline may delineate its continental shelf as extending beyond 200 nautical miles, the delineation does not have legal status until the CLCS assesses the submissions and provides recommendations affirming the scientific validity of the geological data presented before it. The submission for a proposed extension is only complete when it has been redrawn by the coastal state following the CLCS's recommendations on the submission.

In the Arctic Ocean, the seabed consists of several ridge systems, such as the Lomonosov Ridge, the Alfa-Mendeleev Ridge and the Gakkel Ridge. All Arctic coastal states except the United States (a non-party to UNCLOS) have made submissions for extensions of their continental shelves beyond the 200 nautical miles of the standard juridical continental shelf. In 2001, Russia became the first country to submit scientific data to the CLCS. Russia submitted additional scientific data thereafter on two other occasions, in 2015 and in 2021.



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Russia's submissions included the Alpha-Mendeleev, the Lomonosov, and a part of the Gakkel ridges, which stretch from the North Pole to the edges of Canada's and Greenland's exclusive economic zones (EEZ) and standard juridical continental shelves. According to Russia, the scientific basis for including the ridges is that the ridge systems constitute either submarine ridges or submarine elevations and are thus natural prolongations of the country's continental margin. However, similar arguments were made in submissions by Denmark (Greenland) in 2014 and Canada in 2019. While the former's claim extends from Greenland's EEZ across the North Pole and into Russia's EEZ, the latter's claim reaches the North Pole but not the Russian EEZ. In other words, except for some pockets, most of the Arctic Ocean-bed forms a part of the continental shelf claims of one or more Arctic states. Overlaps are dealt with through a separate process (under Article 83) without having the CLCS involved. However, there is a consensus among the Arctic coastal states with overlapping claims: they have consistently confirmed that they do not object to the CLCS considering such submissions, for example, by making recommendations for joint submissions.

Given that, except for a few pockets, most of the Arctic Ocean floor is the continental shelf of one or another coastal state, the likely course of action would be a delimitation process among the coastal states with overlapping claims in accordance with the procedure set out in Article 83. The delimitation process is a negotiated outcome among such states that generally entails an equal or equitable sharing of overlapping entitlements. For example, on 15 September 2010, pursuant to the acceptance by the CLCS of the Norwegian submission, Norway and Russia peacefully concluded the "Agreement on Maritime Boundary in the Barents Sea and the Arctic Ocean" to resolve their overlapping claims on the continental shelves in the Barents Sea.

**For more on this, read...**

Koshkin V, 'Delimitation of the Continental Shelf in the Central Arctic Ocean: Is It Possible Nowadays?' (2022) 13 Arctic Review on Law and Politics 393

<https://doi.org/10.23865/arctic.v13.3771>

