

Chapter 18

The Arctic Ocean and UNCLOS Article 76: Are There Any Commons?

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Abstract Media, research literature, workshops, and political meetings over the past years have had a surprisingly rich, and partly under informed by fact, debate on race for resources and possible conflicts in the Arctic. This paper takes a careful look at UN Law of the Seas, Article 76 which regulate rights to the seabed outside exclusive economic zone for the Arctic Basin. It is evident that the Arctic will in future include seabed not under jurisdiction by any of the coastal states, but all area with expected major resources is already, or will become unquestionably under control by one of the coastal states. It is also evident that any potential territorial disagreements will be about relative small areas, and these areas have very low expectation for major resources.

18.1 Introduction

Over the past few years there has been an ongoing debate about the stewardship and ownership of the Arctic Ocean in the context of international regulatory regimes [10]. The states surrounding the Arctic Ocean are of the view that current international

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law is sufficient [7], while others argue the need for additional governance mechanisms for the Arctic.

Regardless of their position in this debate there is a general consensus that the United Nations Convention on the Law of the Sea (UNCLOS) article 76 is an essential basis when it comes to rights to, and responsibilities for, the ocean floor and its resources [1]. This article documents a plausible outcome based on the application of article 76 and discusses its consequences.

18.2 Article 76 and Outer Limit of Continental Shelf

According to Article 76 of the *United Nations Convention on the Law of the Sea* [8], the continental shelf of a coastal state is the submarine natural prolongation of the territory of that state and may, in some cases, extend beyond the 200 nautical miles Exclusive Economic Zone (EEZ). Figure 18.1 depicts the EEZ for the Arctic Ocean. Moreover, Article 76 provides that the coastal state exercises sovereign rights over that continental shelf with respect to its resources. Outside the EEZ, these rights (and responsibilities) concern the resources on and below the seabed, but not to resources in the water column.

Article 76 together with the technical guidelines of the Commission on the Limits of the Continental Shelf (CLCS) explains how a state shall delineate and document the outer limits of its continental shelf. Based on a proposal from a state, the CLCS evaluates the scientific and technical arguments provided and either agrees to the submission or recommends further documentation. The latter was the case with the 2001 Russian submission on the outer limits of the continental shelf, where Russia now works to collect additional information. Figure 18.2 maps the Russian 2001 and Norwegian 2006 submissions. In the end, which part of the seabed is controlled by sovereign states and which part is not under any national jurisdiction will become final and binding. The part outside national jurisdiction is defined as “the Area” and is managed by the International Seabed Authority (ISA). It is important to be aware that this system does not decide at all on boundaries between states, only whether seabed is appurtenant to a state or is part of “the Area”.

In many cases the application of Article 76 may bring the continental shelf area of one coastal state in potential overlap with that of one or several neighbouring states. In such cases, the delimitation of the bilateral continental shelf boundaries will be a matter between the states involved; the CLCS has no competence or mandate to settle bilateral boundaries. The CLCS will only consider submissions regarding potential overlapping areas in cases where the Parties involved give their consent in writing. In most cases, such consent is given on the basis of mutual agreement that the Parties will revert to bilateral delimitation negotiations when the final recommendations of the CLCS are issued (e.g. in the cases of Russia and Norway). In other cases, consent is given on the basis of up-front agreements or treaties regarding the bilateral boundaries in the potential extended continental shelf areas (e.g. in the cases of Australia with New Zealand, and Norway with Iceland and

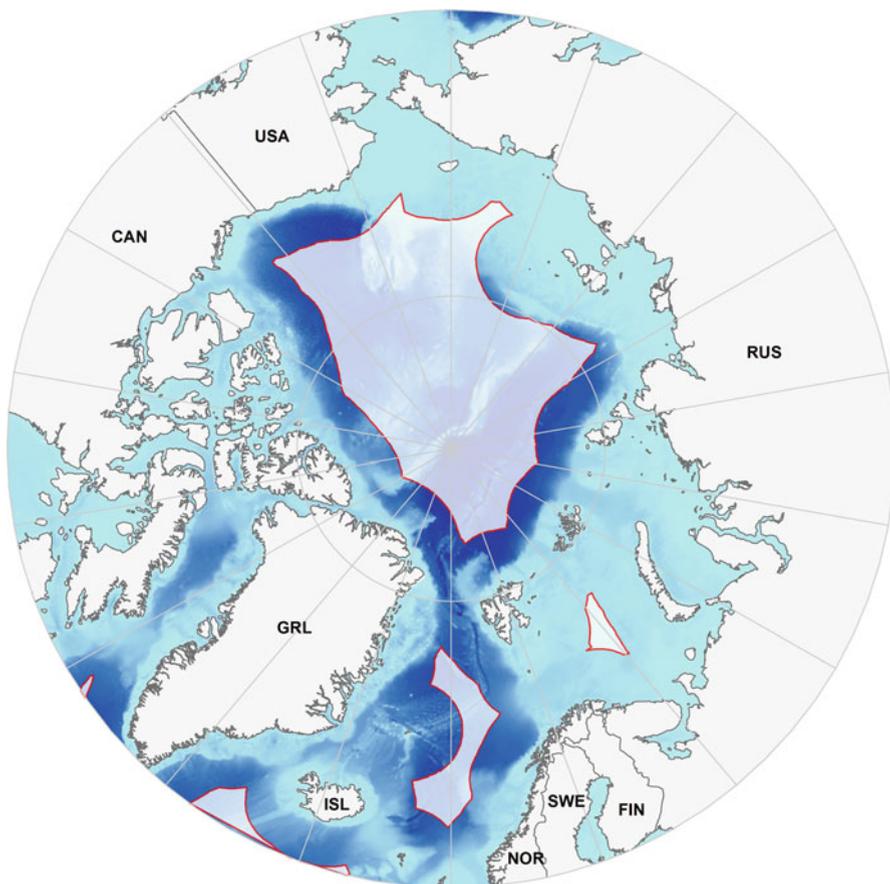


Fig. 18.1 Area beyond 200-mile Exclusive Economic Zones in the Arctic Ocean. Based on data analysed from OSDS [5]

Denmark/Faroe Islands). In cases where the Parties involved object to the submission(s) by their neighbour State(s), the CLCS will not consider the submission(s) and the process is blocked until the Parties comes to an agreement on how to proceed.

Article 76 provides two formulae a state may apply to determine how far the continental shelf extends. In addition, there are two rules that determine the maximum allowable extent of continental shelf. It is normally regarded in the interest of the state to extend its continental shelf as far out as the rules allow, so a state will combine the rules to its maximum benefit. The fundamental task in defining the extent of the continental shelf is to determine the foot of the continental slope. Foot of slope is at the base of the slope from whatever can be argued to be the continent down to where the slope starts to flatten towards the deep ocean floor (often at 3,000–4,000 m depth). The state may establish the outer limit at either 60 Nautical Miles beyond the foot of slope or at the location where the sediments thickness of

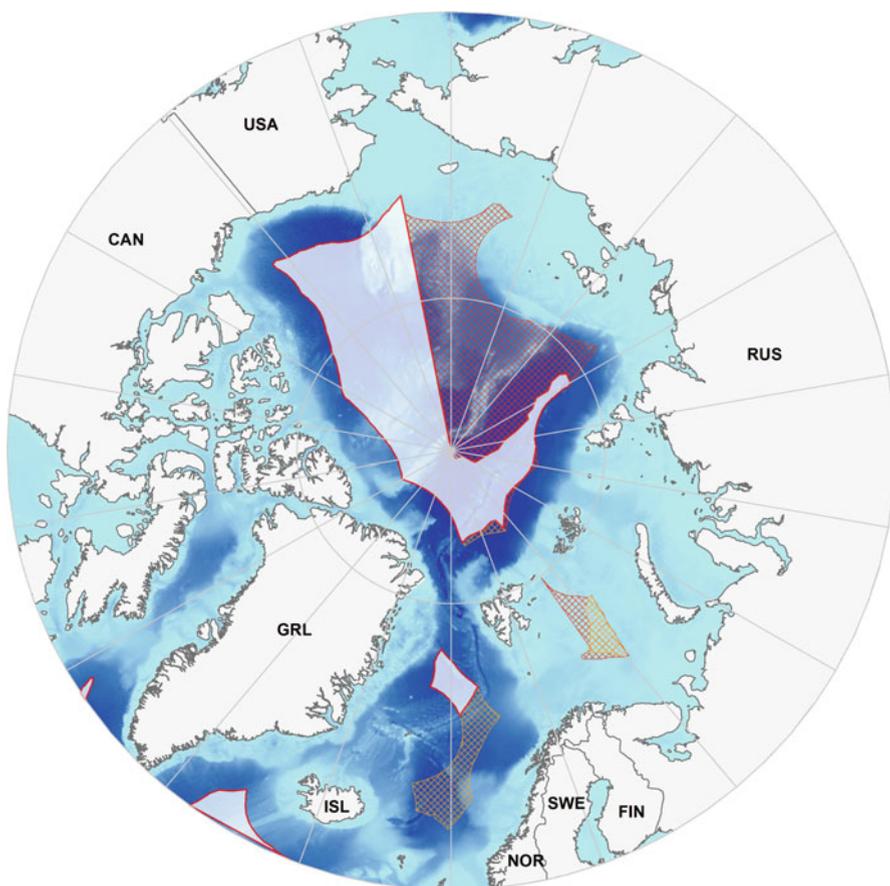


Fig. 18.2 Extent of Russian (*red*) and Norwegian (*orange*) submissions in the Arctic Ocean. Based on data analysed from OSDS [5]

the seabed is 1 % of the distance back to the foot of the slope. The latter rule obviously benefits states where the distant ocean floor has thick sediments.

The constraint rules determine how far seaward the formulae rules described above may be applied. The maximum is either 350 nautical miles from the baseline (coast) or 100 nautical miles beyond the 2,500-m depth line (the latter rule does not apply to ridges, like the mid-Atlantic spreading ridge), whichever is better for the coastal state.

18.3 Article 76 and the Arctic Ocean

To determine the extended continental shelf for the Arctic Ocean, one has to define the foot of the slope down from whatever could be argued as continental shelf, and apply the combined formulae and constraint rules to determine the final limits.

Almost all of the Arctic Ocean is surrounded by a wide, shallow continental shelf (Fig. 18.1). In addition, deeper parts of the Arctic Ocean are characterized by several ridges. From both a morphological and geological point of view the Lomonosov Ridge crossing from East Siberia to Greenland is indisputably of continental nature [4]. This is also the position taken by Russia in its submission in 2001. In accordance with article 76 one needs to search for the foot of slope on both sides of this ridge in combination with the foot of slope of the shallow shelves to find the outer limits of continental shelf in the Arctic Ocean. Since this ridge cuts the Arctic Ocean in two, there will be one potential area beyond the continental shelf of any state in the Eurasian Basin between Greenland, Norway and Russia, bounded by the Lomonosov ridge, and another in the Canadian Basin on the other side of the Lomonosov ridge towards Canada, Alaska, and East Siberia.

The Canadian Basin has very thick sediments, while precise thickness data is required for a submission, available global gravimetric and other data [2] is sufficient to argue that the sediments are thick enough to make the whole basin part of the continental shelf using the sediment rule. Both Canada and the United States are working hard to collect seismic data to give absolute evidence for this. Thus the only part of the Canadian Basin that does not belong to any of the surrounding states will be what falls outside both the maximum limits as applied by the respective countries. In Fig. 18.3 “the Area” in Canadian Basin is calculated based on the maximum rules of UNCLOS Article 76, using a combination of best available open source bathymetric and coastal baseline data. The result indicates there is only a very narrow area that will fall outside the combined maximum limits and thus define “the Area” for this part of the Arctic Ocean. Future bathymetric data north of this “hole” may even close this gap. Our estimation of “the Area” in the Canadian Basin is quite smaller than the result published by the International Boundaries Research Unit in Durham [3]. However, the size of this area beyond national jurisdiction is not relevant to the current discussion as long as it is small, or even non-existing, as indicated by either of these two analyses.

For most of the Eurasian Basin the foot of the slope and outer limit lines have already been defined in the submissions made by Norway and Russia.. Because of the active slow spreading ridge in this basin it has thin sediments and the “sediment thickness rule” of UNCLOS Article 76 provides fewer options for a considerably extended continental shelf. This leaves a much larger area outside the extended continental shelf of Russia and Norway (Fig. 18.2) and one can expect a similar outcome when Denmark / Greenland submit their data in a few years. In Fig. 18.3, the outer limit for Greenland is estimated based on a possible foot of slope, which most likely is close to what will be the final outcome of ongoing submission work by Denmark and Greenland.

At present, in the Arctic, only the Norwegian submission has been accepted by the CLCS but the general picture of what will be “the Area” in the Eurasian Basin is already very clear (Fig. 18.3). The only dramatic changes to this picture will occur if a state, for some reason, chooses not to “claim” areas it may have the right to define as its own extended continental shelf. Russia will submit new data in the near future while Denmark /Greenland, followed by Canada, will provide submissions in a few years. The US, even without having ratified UNCLOS, is conducting the necessary work in collaboration with its Arctic neighbours.

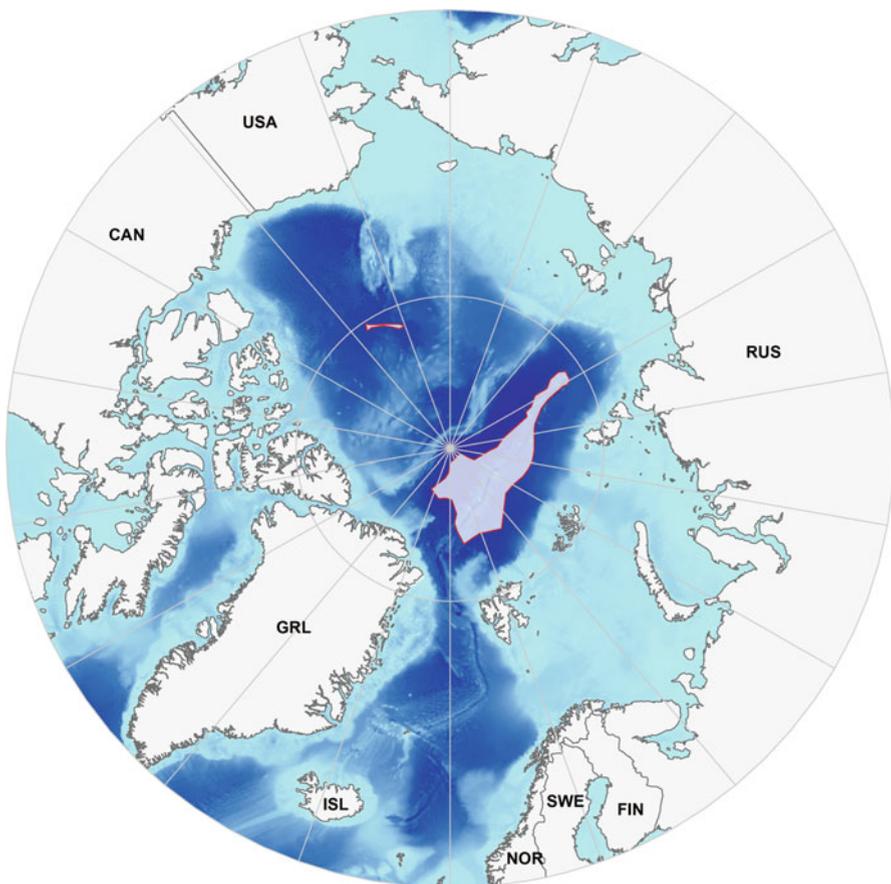


Fig. 18.3 Best estimate of “the Area” in the future, falling outside all possible future submissions in the Arctic Ocean. Based on data analysed from OSDS [5]

As a conclusion it is fair to predict that there will be seabed areas in the Arctic Ocean outside the continental shelf of any state approximately as given in Fig. 18.3. Those will then become part of “the Area” and any resource exploitation would be managed by the ISA. It is also evident that the non-state controlled portion of the Arctic Ocean seabed will be relatively small and that we may face a future where basically the whole Canadian Basin belongs to some state or another.

18.4 The Arctic Ocean Seabed: Who Is the Owner?

With the long history of cooperation in the Arctic there is reason to believe that the states surrounding the Arctic Ocean will prefer to submit their outer limits to the UNCLOS and use that mechanism to define what is outside the continental shelf of

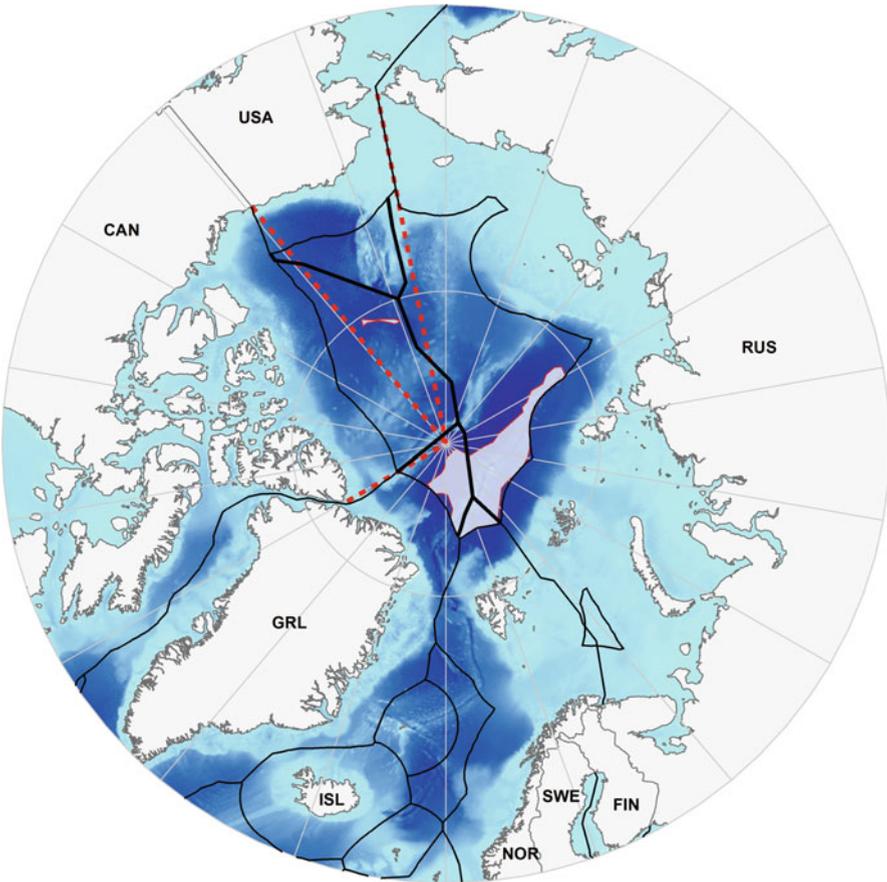


Fig. 18.4 Sector line model (*dashed red*) and mid lines (*black*) for area outside present Exclusive Economic Zones in the Arctic Ocean. Based on data analysed from OSDS [5]

any state, while they most likely will choose to agree to disagree on where the mutual boundaries will be and resolve that matter separately.

As an experiment, one can play with different models of alternative future boundaries between the states. The extreme models might be (a) to follow sector lines to the North Pole point or (b) use the midlines, the most common rule in limiting territorial seas between states. Sector lines are simply to follow the longitude lines of the globe to the north pole, midlines are constructed as the equidistant line between coastlines of states on either side. Figure 18.4 shows these two alternatives, and the map provides room for a few very important observations:

- Areas of potential dispute (the difference between sector line and mid lines) are relatively small compared to the areas where there is no reason to expect a dispute.

- Disputed potential conflict area around the north pole most often addressed in media and science literature is a small area, where Greenland, Canada, and Russia might choose to have overlapping claims. The total size of potential conflict space is much less than the area recently resolved between Russia and Norway.
- Largest area of potential disagreement may be between Canada and the United States. Interestingly enough, Canada would benefit from a midline principle, which is the opposite of the position Canada has toward the United States in the Beaufort Sea in the ongoing dispute with the USA inside the EEZ.
- Between the United States and Russia there is the potential of “no man’s land” (i.e. it becomes part of “the Area”) if the United States chooses principally to stick to mid-lines and Russia remains firm on its present submission border.

18.5 The Arctic Ocean Seabed: Worth Fighting Over?

In 2008, the United States Geological Survey released an updated assessment of oil and gas potential for the whole Arctic [9]. It confirms earlier expectations that the Arctic holds considerable undiscovered hydrocarbon resources now estimated to be some 22 % of the remaining undiscovered resources globally.

Superimposing the potential future border map (Fig. 18.4) on the USGS resource probability map [9], Fig. 18.5 reveals some simple observations:

- Most resources in the Arctic are actually within the EEZ of sovereign states.
- Almost all potential hydrocarbons, even outside EEZ, are within areas that will likely be controlled by a sovereign state assuming the application of UNCLOS article 76.
- Areas where there is potential dispute between states hold little or no expected hydrocarbons.
- Areas that in the future may be managed by the International Seabed Authority have limited potential for significant hydrocarbon reserves.

18.6 Conclusion

From this evaluation it is fair to state that all media coverage arguing for hydrocarbon driven conflict and a race ‘for the North Pole’ is – to put it mildly – exaggerated. It may however be noted that “the Area” may hold both bio-resources and minerals particular linked to the slow spreading ridge [6] but at the moment there is no evidence that exploration of such resources will be preferred in the Arctic Ocean over similar resources on the seabed elsewhere.

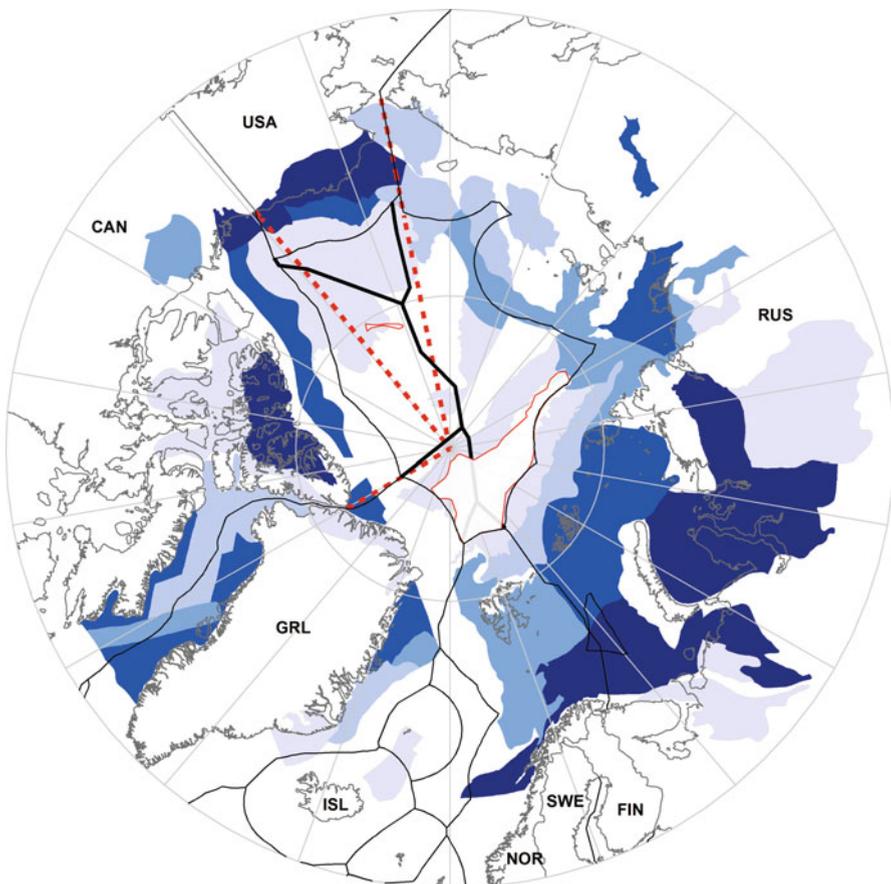


Fig. 18.5 Sector line model (*dashed red*) and mid lines (*black*) for the Arctic Ocean superimposed on the USGS [9] hydrocarbon probability (five probability classes with *darkest shade of blue* representing 100 % probability, and thereafter 50–100 %, 30–50 %, 10–30 % and less than 10 % represented with lightest shade of blue)

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