



After the Ice Melts: Conflict Resolution and the International Scramble for Natural Resources in the Arctic Circle

Wei-en Tan

Department of Diplomacy, National Chengchi University

Yu-tai Tsai

Institute of Strategic and International Affairs Studies, National Chung Cheng University

No. 64, Sec. 2, Chinan Rd., Taipei 11605, Taiwan

Tel: 886-886-936-099-912 E-mail: jakobs@mail2000.com.tw

Abstract

It is a well-known fact that global warming is melting the Arctic ice cap. As this happens, the natural resources in the Arctic will become available for exploitation. As such, the five countries with major claims to the region—the United States, Canada, Russia, Denmark, and Norway—are looking to extend their claims to the natural resources beneath the ice-covered ocean. The size of the Arctic Shelf is about 4.5 million square kilometers, and the U.S. Geological Survey posits that 25 percent of the world's undiscovered gas and oil reserves may be there. Clearly, there are large amounts of untapped resources that these five countries could use to satisfy their increasing demand for development and economy.

This paper will try to explore the current disputes over Arctic seabed resources surrounding the five states in North Pole, evaluate the regimes for resolving the conflict in UNCLOS. Furthermore, the paper will introduce the appropriate points of view and discuss the alternative dispute settlement mechanism (DSM) for this significant problem caused by global warming in the coming future.

Keywords: Global Warming, Arctic Ocean, Continental Shelf, UNLOS, DSM

1. Introduction

This paper provides an overview of the legal issues posed by the melting of the ice in the Arctic region and clarifies a number of issues concerning sovereignty, territoriality, and sovereign rights in the Arctic Ocean. All these issues are of primary concern to the five states bordering the Arctic Ocean: the United States, Canada, Russia, Denmark (via Greenland), and Norway.

Geographically, the Arctic consists of land, (Note 1) submerged lands, (Note 2) and the ocean of Arctic Circle. (Note 3) There exist different maritime zones in the Arctic Ocean, including territorial seas, exclusive economic zones (EEZ), continental shelves, and the deep seabed beyond the limits of national jurisdiction known as the high seas.

Each of the five states bordering the Arctic Ocean has claimed an EEZ in the waters adjacent to its territorial sea, in which it enjoys exclusive rights for the purpose of surveying, exploiting, conserving, and managing natural resources. Each of these states has also laid claim to the adjacent continental shelf, over which it has exclusive sovereign rights for the purpose of surveying and exploiting its natural resources. According to the criteria set out in Article 76 of the United Nations Convention on the Law of the Sea (UNCLOS), a state's continental shelf extends between 200 and 350 nautical miles (nm) from properly established baselines.

It is very clear that the Arctic region stands at the threshold of significant changes. The increasing rate at which the Arctic ice is melting will surely have a major impact on local ecosystems and the potential exploitation of natural resources. By virtue of their sovereign rights and jurisdiction, the five countries with claims to the Arctic region are presently at a critical juncture for addressing their current and future conflicts of interest. This paper explores the current disputes over Arctic Ocean resources and evaluates the mechanisms in UNCLOS for resolving these kinds of disputes. Furthermore, this paper introduces the viewpoints and discusses the alternative dispute settlement mechanisms (DSM) which can be employed to solve this kind of significant problem.

2. Overview of the Arctic Region and its Importance

There are five countries with coastal territory within the Arctic Circle: the United States (via Alaska), Canada, Russia, Denmark (via Greenland), and Norway. (Note 4) Most of the important natural resources lie to the north of the Arctic

Circle. (Note 5) Geographically, the Arctic serves as a northern epicenter, bringing together the borders of the United States, Russia, Canada, Norway, and Denmark. Finland and Sweden also have territory inside the Arctic Circle, but do not have littoral zones. (Note 6) Although it lies just south of the Arctic Circle, Iceland's territorial waters extend into the Arctic Circle.

Historically, the Arctic region has been open to all nations for fishing and navigation. The strategic importance of the Arctic region was first recognized during WWII, and after the War the United States and its allies initiated defense projects in the Arctic region to forestall Soviet military threats. (Note 7) Throughout the Cold War, the Arctic Circle served as a strategic area from which to monitor nuclear submarine movement, but the strategic importance of the Arctic has faded as a result of the collapse of Soviet Union. (Note 8) Nevertheless, the Arctic region remains significant, primarily because of its abundant natural resources and navigable waterways. In recent years the Arctic environment has witnessed unprecedented changes. Although scientists disagree when it comes to predicting the rate at which the polar ice cap will melt, there is general consensus that by the end of this century the Arctic region will very likely have much less permanent ice. (Note 9) Thus it is apparent that global warming has thrust a number of issues relating to sea routes and natural resource exploitation into the laps of the five states with large stakes in the region. In terms of navigation, a prolonged shipping season would create new shortcuts and allow increased traffic, and Canada and America are already disputing navigation rights in the Northwest Passage. (Note 10)

Recently, international developments in the Arctic have become frequent topics in the news, as neighboring countries attempt to lay claim to the region in order to reap the benefits of increased access to its natural resources. The five major players have already begun to formulate potential legal claims under UNCLOS. For instance, in 2001 Russia laid claim to virtually half of the Arctic Circle, based on a proclamation once made by Joseph Stalin. (Note 11) Afterwards, the Russian claim to Arctic territory turned on the assertion that Russia's continental shelf extended far into the Arctic Circle via a submarine mountain range called the Lomonosov Ridge. (Note 12) This ridge, cutting across 1,200 miles of the Arctic basin, holds an estimated 10 billion tons of gas and oil deposits, as well as significant stores of diamonds, tin, and platinum. (Note 13)

3. The Impact of Warming and Legal Regime in the Arctic

The Arctic is the only place on Earth where a number of different countries encircle an enclosed ocean. (Note 14) Yet there is a significant conflict of interest between the five Arctic states, and the relationship among them is characterized by tension. (Note 15) By September 2005, the Arctic ice cap had shrunk to the smallest size ever recorded, and scientists predict that continued melting will open up a seasonal sea nearly five times the size of the Mediterranean. (Note 16) As the Arctic ice recedes, vast new areas are becoming available for the exploitation of natural resources. (Note 17)

Currently, the states surrounding the Arctic are applying various strategies to establish legal claims of sovereignty in the region, principally by attempting to demonstrate that their continental shelves extend beyond 200 nm. However, modern political and technological developments have begun to foment a paradigm shift in the approach to UNCLOS, which was wrought out of issues framed by exclusive sovereignty rather than the traditional principles. (Note 18) UNCLOS has met with international approval since it went into force in November of 1994. This marine regime has become a comprehensive and authoritative constitution of the sea, governing every aspect of maritime affairs, including limits of territorial sovereignty, navigation, natural resources in the seabed, rights of passage, and environmental safeguards. (Note 19) UNCLOS has already been ratified by all of the Arctic nations except the United States. (Note 20)

Prior to UNCLOS, a state could legally advance its national interests to the extent that it was able to enforce its jurisdiction. However, the high seas—the area outside of any national jurisdiction—have long been considered *res communis* and governed by the “law of the commons,” i.e., (Note 21) they belong to everyone. For all intents and purposes, the exploitation and use of ocean resources functioned entirely independently from claims of national sovereignty. Recognizing the international concerns over sovereignty over parts of the oceans, as well as the need for peaceful and communal exploitation of certain resources, in 1958 the United Nations General Assembly issued a resolution that convened the first United Nations Conference on the Law of the Sea (UNCLOS I). Four multilateral conventions were negotiated regarding the high seas, international fisheries, and continental shelves. (Note 22) However, when these proved insufficient to meet emerging issues, it became clear that a more effective problem-solving regime was necessary. Two years later, UNCLOS II sought to address a number of issues relating to the breadth of the territorial sea and the classification of international straits, but finally proved fruitless. (Note 23) UNCLOS III was held between 1974 and 1982, and UNCLOS was passed on December 10, 1982. (Note 24) Hereafter, one unified international maritime legal regime has been in effect.

UNCLOS set out substantial new sovereign rights over various parts of the ocean, most of which were secured at the expense of the traditional concept of universal freedom of the seas. (Note 25) The most novel of these was a provision granting exclusive rights over an area extending to 200 nm from a state's coastline. Within this so-called exclusive economic zone (EEZ) a state has jurisdiction and maintains exclusive economic rights to exploit, conserve, and manage the natural resources on and below the seabed and the superjacent waters. (Note 26) Resource rights may also be

exercised with regard to other forms of economic exploitation and exploration of the zone, such as the production of energy. (Note 27) Another important concept defined by UNCLOS is that of a coastal state's continental shelf. In general, entitlement to submarine mineral resources under UNCLOS is based on the delimitation of the continental shelf and the idea that the shelf is a natural prolongation of a coastal state's territory. (Note 28)

According to UNCLOS, the continental shelf is comprised of the seabed and subsoil of the submarine areas and extends beyond a state's territorial waters to the outer edge of the continental margin, or to a distance of 200 nm from the coastal state's baseline, whichever is greater. (Note 29) Under UNCLOS, a state is afforded a continental shelf of 200 nm regardless of technological capabilities and geological formations. (Note 30) Should a state's actual continental shelf extend beyond 200 nm, it may claim an extension up to the outer edge of the continental margin. However, such a claim cannot exceed 350 nm, as measured from the same coastal baseline as the territorial sea, or, alternatively, 100 nautical miles beyond the 2,500 meter isobath. (Note 31)

As stated by UNCLOS, any territory lying beyond the outer boundary of 200 nm is referred to as the Area. (Note 32) The Area and all of its seabed resources are considered the common heritage of mankind. (Note 33) As the International Court of Justice has noted, the continental shelf itself is a stretch of submerged land governed by a legal regime that focuses on soil and subsoil. (Note 34) Since under UNCLOS the rights to the continental shelf emanate from its conception of the continental shelf as a natural extension of sovereign territory, the rights to its resources are justified in terms of a state's sovereignty over land. Accordingly, a state's sovereign rights are restricted to resources that would be analogous to those harvested from land, for instance resources found on and in the seabed rather than the waters above it. Indeed, the rights of a coastal state do not depend on occupation or on any express proclamation. (Note 35) Nevertheless, the rights are not limitless, and a state's exercise of sovereign rights cannot interfere with the legal status of the superjacent waters, the airspace above, or the rights of other states. (Note 36)

Part XI of UNCLOS addresses deep seabed mining for areas beyond national jurisdictions, and established the International Seabed Authority (ISA) to administer and regulate the natural resources of the Area on behalf of all nations. (Note 37) The ISA established three principal organs: the Council, the executive organ; the Assembly, a fully-representative policy-making body; and the Secretariat, which fulfills the administrative functions. (Note 38) In addition to these principal organs is the Enterprise, an entity charged with regulating the mining activities in the Area and meant to serve as the operating arm of the ISA, subject to the control of UNCLOS. (Note 39) However, the original provisions of the mining administration were found objectionable for various reasons, such as a lack of compatibility with free market principles. For this reason, while the number of ratifications increased throughout the 1980s, there was a lack of participation by industrialized countries. (Note 40) The United States, for example, was unwilling to compromise its vital national interests for the sake of participation in what it considered a protectionist regime with an institutional bias weighted disproportionately in favor of developing states.

In response to the general reluctance of industrialized countries to ratify the convention, the UN Secretary General put forth an implementing agreement which addressed the original objections of the developed states by emphasizing incentives rather than obligations. (Note 41) The principle of the common heritage of mankind was nominally retained, but its essence was removed. Further, it was stipulated that the changes made by the implementing agreement would prevail over UNCLOS in the event of any inconsistency. (Note 42) As a reflection of its success, the implementing agreement was signed by over 50 countries, including the U.S. (Note 43)

4. Problems under UNCLOS and Disputes in the Arctic

Any state seeking to mine resources in the Arctic region would be required to adhere to the procedures established by UNCLOS. At a minimum, these would entail abiding by the financial requirements, mapping a single continuous area and dividing it into two separate areas of equal commercial value, and submitting all the data obtained with respect to these areas. (Note 44) To circumvent these requirements, the Arctic states are seeking to remove resources in the Arctic region by claiming a continental shelf beyond 200 nm.

Since the extent of a state's continental shelf essentially determines the extent of its sovereign rights over the seabed, one would assume that UNCLOS provides conclusive legal guidelines. Thus, within the context of global warming in the Arctic, the vagaries of continental shelf boundaries are fraught with much potential for conflict. (Note 45) In delimiting the continental shelf under UNCLOS, signatory states can establish sovereign rights beyond the EEZ by presenting scientific evidence that their territorial shelf is connected to the seabed, up to a maximum of 350 nm. (Note 46) Therefore, in order to assert jurisdiction in what would otherwise be part of the Area, a state must base its claim on an extension of its territorial jurisdiction based on the extent to which its continental shelf extends into the Arctic region. Yet, determining the extent of a broad shelf based on the natural prolongation of territory is hindered by the ambiguous legal language stated in UNCLOS.

UNCLOS employs the concept of the continental shelf as an extension of a coastal state's continental land mass, but without much concern for its possible impact. Consequently, the definition of the continental shelf is far from clear.

(Note 47) The term “continental shelf” assumed several variegated and politicized meanings during UNCLOS negotiations, eventually coming to refer to the relatively shallow underwater sea floor states sought to control. (Note 48) Article 76 of UNCLOS defines it using legal criteria mixed with imprecise scientific language to justify the rights conferred. Furthermore, under Annex II of UNCLOS, a number of experts were empowered to make recommendations regarding the continental shelf and help resolve disputes. (Note 49) In order to extend the outer limit of the shelf beyond the 200 nm maximum, a coastal state must substantiate its claim with scientific evidence and make a formal submission to the Commission on the Limits of the Continental Shelf (CLCS). (Note 50) Thus, the outer limit of a state’s continental shelf beyond 200 nm is not fixed under UNCLOS until a claim is researched, submitted to the CLCS, approved, and then officially promulgated by that state. However, the CLCS has not yet ruled affirmatively on any continental shelf proposal and suffers from a lack of transparency. (Note 51) Moreover, the CLCS doesn’t have the authority to settle continental shelf disputes; it only has an advisory role, and its recommendations are binding only if they are incorporated into a member state’s official submission. (Note 52) And what is more, the submission process is conceivably infinite, and does not promote reliability. If the CLCS finds the claim unsubstantiated, it can reject it, but the state can make as many subsequent submissions as it desires within a given time limit. (Note 53)

Thus it is apparent that while Article 76 of UNCLOS provides a legal framework for solving Arctic disputes, it fails to specify the nature of the scientific evidence necessary to identify continental shelf boundaries. Even more problematic in the Arctic region is the inability of UNCLOS to adjudicate any claims of sovereignty based on an extended continental shelf. Part XV imposes an obligation on all states to settle their disputes by peaceful means. (Note 54) For disputes that cannot be settled amicably, UNCLOS provides a limited compulsory dispute resolution mechanism, allowing the concerned states to select one of four alternatives. (Note 55) Although each procedure is straightforward, the result will depend on whether or not opposing states have agreed to be bound by the same measures.

In fact, territorial issues are neither completely nor comprehensively regulated by UNCLOS, and it is unlikely that disputes arising from claims of Arctic sovereignty based on continental shelf will be addressed adequately by UNCLOS. Even though Section 2 of UNCLOS fleshes out the compulsory dispute resolution process, (Note 56) Article 297 omits from the compulsory binding procedure precisely the type of jurisdictional disputes likely to arise in the Arctic. (Note 57) Only the freedoms and rights pertaining to navigation, overflight, submarine cables, and certain other lawful uses are subject to compulsory dispute settlement. (Note 58) Any dispute involving jurisdiction in extended maritime zones, such as overlapping continental shelves, is very likely exempted from compulsory resolution. (Note 59) The absence of an effective legal regime will inevitably complicate the drawing of maritime boundaries in the Arctic. Indeed, disputes over the boundaries of a continental shelf in the Arctic should be subject to a single professional and effective dispute settlement mechanism. Yet, by sacrificing certainty to preserve a vestigial element of the freedom of the seas in extended maritime zones, UNCLOS has made itself vulnerable to the claims of, and conflicts among, the five major Arctic states.

5. The Alternative Dispute Settlement Mechanism

Currently there are five states disputing claims in the Arctic, and the situation could go from bad to worse in the near future. Since these disputes involve a multitude of parties, each of which has competing national interests and complex legal claims, it is unlikely that they can be effectively resolved through UNCLOS. These disputes require consideration of highly technical scientific evidence, such that few judges would have the expertise to analyze the geological evidence and make a reliable judgment. Further, there are potential jurisdictional issues, as not all of the Arctic states have signed UNCLOS.

An alternative DSM would seem to be a better way to equitably resolve disputes among Arctic states, especially if there were to be overlapping claims without conclusive scientific information. It is well known that the Dispute Settlement Understanding (DSU) reached in the Uruguay Round of the GATT—a cornerstone of the WTO since 1995—resulted in a fundamental change in the way trade disputes are settled. Prior to the WTO, trade disputes among states were dealt with under a pure veto (and thus voluntary) system. In contrast, the WTO/DSM features automatic adoption of Panel or Appellate Body (AB) rulings, which can be avoided only by means of a unanimous vote of the Dispute Settlement Body (DSB). Thus, member states can no longer block adoption of a Panel or AB ruling in which a state’s trade policies are in violation of the WTO and its agreements. (Note 60)

Under this new dispute settlement regime, the DSB automatically adopts the Panel or AB ruling, unless members unanimously agree otherwise. In addition, the procedural steps are laid down in more detail by the legal system. From an economic point of view, the most important substantive point of the whole DSM in the WTO is its reference to the “nullification or impairment of benefits,” which is the prime target of dispute settlement. (Note 61) If one member state suffers such nullification or impairment through another member state’s violation of any WTO rules, it may seek direct compensation, or respond with retaliatory sanctions in the form of a (temporary) suspension of concessions granted under that agreement. (Note 62)

Furthermore, if the Panel convenes, its membership (ranging from three to five individuals) will investigate the details of the case and present a formal analysis with suggestions for the proper course of conflict resolution. In order to facilitate the investigation, the panel may convoke an Expert Review Group (ERG). These bodies are analogous to epistemic communities in that their members are qualified experts in the field of inquiry relevant to the dispute. Yet the Panel's decisions often fail to satisfy both parties, and if the disagreement persists the case can be brought before the AB. The decision of the AB is final and binding. (Note 63)

The WTO/DSM model is appropriate in the Arctic region because it offers what the legal regime in UNCLOS doesn't have. As well as this, a DSM can reduce costs and delays associated with litigation. (Note 64) What is more, the relationship-building aspect of a DSM is very important. Generally speaking, the confrontation that occurs in litigation such as the territorial cases in the ICJ may drive the parties further apart. While there may also be confrontation within a DSM, the parties involved are more inclined to work together to find a solution to their common problem. In sum, a DSM gives the parties involved more power and greater control over resolving their dispute, encourages problem-solving approaches, and also tends to enhance cooperation and preserve relationships.

Since the disputes between the Arctic states usually involve conflicting claims, there is a distinct possibility that, after submission to the CLCS, there could be overlapping results. For example, if the Lomonosov was shown to be a part of the continental shelf of all of the Arctic states, then according to Article 83 the disputing parties would have to come to an agreement on their own. If they could not do so, UNCLOS would point them to other settlement options laid out in Part XV of the Convention. Although UNCLOS creates its own legal regime, the Tribunal, the contracting parties are not required to submit to it, as UNCLOS allows for the use of other arbitral tribunals. (Note 65)

It is obvious that a dispute over Arctic Ocean resources similar to the competitive land grab would not be beneficial for any state. What this paper would like to particularly point out is that the dispute in the Arctic is not a situation well-suited for any kind of zero-sum game scenario. The way of thinking here, using an established DSM which draws lessons and merits from the WTO is the most likely way to help these contending states enter into a more conciliatory atmosphere that will lead to useful, proactive, and agreeable settlements.

6. Conclusion

Global warming has not only challenged the authority of UNCLOS and its legal regime for resolving disputes relating to the continental shelf under the Arctic Ocean, but has also marked the beginning of the end for freedom of the high seas in the Arctic region. In addition to its environmental implications, global warming has caused a shift in the way the international community regards the Arctic, shifting the paradigm away from physical dominion and towards control over resources on the sea floor. The unprecedented access to untapped resources brought about by the receding permafrost in the Arctic Circle may soon cause an international gold rush as well as a variety of conflicts.

The conflicts over the Arctic region are unlikely to be resolved within the very near future. With five major states making claims to extensive parts of the Arctic seabed, there is a lot of scientific and professional work that needs to be done. Fortunately, there has been one good development since the conflict began. On May 28, 2008, Canada, Denmark, Norway, Russia, and the United States came together for the Arctic Ocean Conference in Greenland. (Note 66) The goal of the Conference, initiated by Denmark's Foreign Minister, was to foster unity and cooperation in the Arctic area so as to prevent an environmental catastrophe. The result of the Conference was the Ilulissat Declaration. This document states that no new legal framework will be set up to govern the Arctic. Instead, the parties agreed to proceed using the guidelines set forth in UNCLOS. (Note 67) While this Declaration is not necessarily ground-breaking, it is encouraging in that it signals a willingness of the involved Arctic states to work together in settling their disputes.

In accordance with UNCLOS, a DSM can be used to find alternative solutions to the problems which arise among the five Arctic states. By forming a panel which consists of specialized geoscientists with the ability to analyze the scientific evidence and make an equitable decision, it will be more possible to settle disputes among Arctic states. Optimistically, a peaceful and cooperative resolution is not out of the question, but, as already noted, it will require an untraditional legal regime similar to that used by the WTO to settle trade disputes and an enormous amount of willingness on the part of the disputing states.

References

"Putin's Arctic Invasion: Russia Lays Claim to the North Pole," Daily Mail (London), June 2007, available at <http://www.daily-mail.co.uk/news/article-464921/Putins-Arctic-invasion-Russia-lays-claim-North-Pole-gas-oil-diamonds.html>.

Agreement Relating to the Implementation of Part XI of the UNCLOS on the Law of the Sea of 10 December 1982 (August 17th, 1994), available at http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindxAgree.htm.

American Geological Institute, "Cold Wars: Russia Claims Arctic Land," Geotimes (August 1st, 2007), available at <http://www.geotimes.org/aug07/article.html?id=WebExtra080107.html>.

- Andrew King. (2007). "Note: Thawing a Frozen Treaty: Protecting United States Interests in the Arctic with a Congressional-Executive Agreement on the Law of the Sea," *Hastings Constitutional Law Quarterly*, Vol. 34, No. 2, pp. 329-354.
- Bernard H. Oxman. (2001). "Law of the Sea Forum: The 1994 Agreement on Implementation of the Seabed Provisions of the Convention on the Law of the Sea," in Hugo Caminos, ed., *Law of the Sea*. (Ashgate: Dartmouth).
- Candace L. Bates. (2006). "U.S. Ratification of the U.N. Convention on the Law of the Sea: Passive Acceptance is Not Enough to Protect U.S. Property Interests," *North Carolina Journal of International and Commercial Regulation*, Vol. 31, pp. 745-792.
- David Anderson. (2008). *Modern Law of the Sea: Selected Essays*. (Leiden: Martinus Nijhoff Publishers).
- Ernst-Ulrich Petersmann. (1997). *The GATT/WTO Dispute Settlement System: International Law, International Organizations and Dispute Settlement*. (London: Kluwer Law International).
- IHO, Limits of Oceans and Seas 3rd edition, available at http://www.iho.shom.fr/publicat/free/files/S23_1953.pdf.
- James Kraska. (2007). "The Law of the Sea Convention and the Northwest Passage," *International Journal of Marine and Coastal Law*, Vol. 22, No. 2, pp. 257-282.
- James Stuhltrager. (2008). "Global Climate Change and National Security," *Natural Resources and Environment*, Vol. 22, No. 3, pp. 36-40.
- John Jackson. (2001). "The Role and Effectiveness of the WTO Dispute Settlement Mechanism," in Susan M. Collins and Dani Rodrik, eds., *Brookings Trade Forum 2000*. (Washington, DC: Brookings Institution).
- Kyle Bagwell and Robert W. Staiger. (1999). "An Economic Theory of GATT," *American Economic Review*, Vol. 89, No. 1, pp. 215-248.
- Louis B. Sohn and Kristen Gustafson. (1984). *The Law of the Sea in a Nutshell*. (St. Paul, Minn.: West Publishing Co.).
- Mark Jarashow, et al. (2007). "Note: UNCLOS and the Arctic: The Path of Least Resistance," *Fordham International Law Journal*, Vol. 30, pp. 1587-1652.
- Michael Byers and Suzanne Lalonde. (2006). "Who Controls the Northwest Passage?" Canada's Arctic Waters in International Law and Diplomacy, National Arts Centre, Ottawa, June 14th.
- Natalie Klein. (2005). *Dispute Settlement in the UN Convention on the Law of the Sea*. (Cambridge: Cambridge University Press).
- North Sea Continental Shelf, available at <http://www.icj-cij.org/docket/files/51/5537.pdf>.
- Paul Reynolds, "The Arctic's New Gold Rush," BBC News, October 25th, 2005, available at <http://news.bbc.co.uk/2/hi/business/4354036.stm>.
- Peter Prows. (2007). "Tough Love: The Dramatic Birth and Looming Demise of UNCLOS Property Law," *Texas International Law Journal*, Vol. 42, No. 2, pp. 241-310.
- R. P. Anand. (1993). "Changing Concepts of Freedom of the Seas: A Historical Perspective," in Jon M. Van Dyke, Durwood Zaelke, and Grant Hewison eds., *Freedom for the Seas in the 21st Century: Ocean Governance And Environmental Harmony*. (Washington, D.C.: Greenpeace, Inc.).
- S. Fletcher. (2003). "Managing Marine Resources: The Role of GIS in EEZ Management," in David Green and Stephen King, eds., *Coastal and Marine Geo-Information Systems: Applying the Technology to the Environment*. (New York: Kluwer Academic Publishers).
- Sharelle Hart. (2008). "Elements of a Possible Implementation Agreement to UNCLOS for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction," *Marine Series*, No. 4. (IUCN, Gland, Switzerland: International Union for Conservation of Nature and Natural Resources).
- Stephanie Holmes. (2008). "Comment: Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty," *Chicago Journal of International Law*, Vol. 9, No. 1, pp. 323-352.
- Suzette V. Suarez. (2008). *The Outer Limits of the Continental Shelf: Legal Aspects of their Establishment*. (Berlin: Springer).
- The Ilulissat Declaration, available at <http://arctic-council.org/filearchive/Ilulissat-declaration.pdf>.
- Tullio Treves. (2001). "The Jurisdiction of the International Tribunal for the Law of the Sea," in P. Chandrasekhara Rao and Rahmatullah Khan, eds., *The International Tribunal for the Law of the Sea: Law and Practice*. (Hague: Kluwer Law International).
- Vivian L. Forbes. (2001). *Conflict and Cooperation in Managing Maritime Space in Semi-enclosed Seas*. (Singapore:

Singapore University Press).

Vladimir Frolov. (2007). "The Coming Conflict in the Arctic," Global Research, July 17th, available at <http://www.globalresearch.ca/index.php?context=va&aid=6344>.

Notes

Note 1. Land territory of the Arctic Circle includes northern Alaska, the northwest territories of Canada, the Canadian Arctic islands, Greenland (Denmark), Svalbard (Norway), northern Sweden, northern Finland, and the Russian territories (for instance the northern Siberia).

Note 2. Submerged lands consist of the continental shelf and the deep seabed. The continental shelf is the natural prolongation of the land mass, out to 200 nm automatically, and beyond where it meets the geological criteria of Article 76 of the UNCLOS.

Note 3. There is a definition adopted by the International Hydrographic Organization (IHO); it defines the Arctic Ocean by a series of segments that includes all the waters, whether or not frozen, seaward of the northern limits of the United States, Canada, Denmark, Norway, and Russia. This definition includes several seas, such as the Beaufort, Chukchi, Norwegian, Barents, Laptev, and Greenland Seas, as well as Baffin Bay. See IHO, *Limits of Oceans and Seas 3rd edition*, available at http://www.iho.shom.fr/publicat/free/files/S23_1953.pdf. (last visited: 2010/1/5)

Note 4. Stephanie Holmes (2008), "Comment: Breaking the Ice: Emerging Legal Issues in Arctic Sovereignty," *Chicago Journal of International Law*, Vol. 9, pp. 323-326.

Note 5. The region has extensive untapped gas, petroleum, and mineral deposits, and several commercially and strategically important waterways are located in the Arctic region, but are only free of ice and open to navigation for a few scant weeks during the late summer. Global warming will expand access to the Arctic's seasonal waterways, including the renowned Northwest Passage north of Canada and the Northern Sea Route north of Eurasia. See James Kraska (2007), "The Law of the Sea Convention and the Northwest Passage," *International Journal of Marine and Coastal Law*, Vol. 22, No. 2, pp. 258-259.

Note 6. In consideration of this, the paper only focus on five major states with littoral coasts.

Note 7. *Supra* note 4, p. 328.

Note 8. James Stuhltrager (2008), "Global Climate Change and National Security," *Natural Resources and Environment*, Vol. 22, No. 3, pp. 36-39.

Note 9. Mark Jarashow, *et al* (2007), "Note: UNCLOS and the Arctic: The Path of Least Resistance," *Fordham International Law Journal*, Vol. 30, pp. 1587-1652.

Note 10. Michael Byers and Suzanne Lalonde (2006), "Who Controls the Northwest Passage?" *Canada's Arctic Waters in International Law and Diplomacy*, National Arts Centre, Ottawa, June 14th.

Note 11. He drew a line from the northern Russian port of Murmansk to the North Pole and declared it to be the Soviet Union's polar territory. See Paul Reynolds, "The Arctic's New Gold Rush," *BBC News*, October 25th, 2005, available at <http://news.bbc.co.uk/2/hi/business/4354036.stm>. (last visited: 2010/01/12)

Note 12. *Supra* note 8, p. 39.

Note 13. "Putin's Arctic Invasion: Russia Lays Claim to the North Pole," Daily Mail (London), June 2007, available at <http://www.daily-mail.co.uk/news/article-464921/Putins-Arctic-invasion-Russia-lays-claim-North-Pole-gas-oil-diamonds.html>. However, when the Commission on the Limits of the Continental Shelf rejected this assertion, Russia began compiling more evidence to corroborate its continental shelf proposal, which is scheduled to be resubmitted in 2009. See: American Geological Institute, "Cold Wars: Russia Claims Arctic Land," *Geotimes* (August 1st, 2007), available at <http://www.geotimes.org/aug07/article.html?id=WebExtra080107.html> (last visited: 2010/01/12).

Note 14. *Supra* note 11.

Note 15. *Ibid*.

Note 16. Andrew King (2007), "Note: Thawing a Frozen Treaty: Protecting United States Interests in the Arctic with a Congressional-Executive Agreement on the Law of the Sea," *Hastings Constitutional Law Quarterly*, Vol. 34, pp. 329-331.

Note 17. *Supra* Note 8, p. 37.

Note 18. Accordingly, UNCLOS responded in comparable terms, devoting significant effort to differentiating the nature of the rights pertaining to different areas of the Arctic Ocean.

Note 19. Louis B. Sohn and Kristen Gustafson (1984), *The Law of the Sea in a Nutshell* (St. Paul, Minn.: West

Publishing Co.), preface and pp. 1-2.

Note 20. Candace L. Bates (2006), "U.S. Ratification of the U.N. Convention on the Law of the Sea: Passive Acceptance is Not Enough to Protect U.S. Property Interests," *North Carolina Journal of International and Commercial Regulation*, Vol. 31, pp. 745-746.

Note 21. David Anderson (2008), *Modern Law of the Sea: Selected Essays* (Leiden: Martinus Nijhoff Publishers), p. 233.

Note 22. Natalie Klein (2005), *Dispute Settlement in the UN Convention on the Law of the Sea* (Cambridge: Cambridge University Press), pp. 16-20.

Note 23. *Ibid.*, p. 18.

Note 24. available at <http://www.un.org/Depts/los/index.htm> (last visited: 2010/01/8)

Note 25. R. P. Anand (1993), "Changing Concepts of Freedom of the Seas: A Historical Perspective," in Jon M. Van Dyke, Durwood Zaelke, and Grant Hewison eds., *Freedom for the Seas in the 21st Century: Ocean Governance And Environmental Harmony* (Washington, D.C.: Greenpeace, Inc.), p. 75.

Note 26. UNCLOS, art. 56.

Note 27. S. Fletcher (2003), "Managing Marine Resources: The Role of GIS in EEZ Management," in David Green and Stephen King, eds., *Coastal and Marine Geo-Information Systems: Applying the Technology to the Environment* (New York: Kluwer Academic Publishers), pp. 97-103.

Note 28. UNCLOS, art. 76, para. 1 and art. 77, para. 3.

Note 29. UNCLOS, art. 76, para. 5

Note 30. *Supra* Note 22, p. 130.

Note 31. An imaginary contour line drawn along the continental shelf at a constant depth of 25,000 meters.

Note 32. UNCLOS, arts. 133-135.

Note 33. UNCLOS, art. 136.

Note 34. See *North Sea Continental Shelf*, available at <http://www.icj-cij.org/docket/files/51/5537.pdf> (last visited: 2010/01/14).

Note 35. UNCLOS, art. 77, para. 3.

Note 36. UNCLOS, art. 79.

Note 37. UNCLOS, art. 156.

Note 38. UNCLOS, art. 158.

Note 39. *Supra* Note 22, p. 324.

Note 40. *Ibid.*, p. 321.

Note 41. Bernard H. Oxman (2001), "Law of the Sea Forum: The 1994 Agreement on Implementation of the Seabed Provisions of the Convention on the Law of the Sea," in Hugo Caminos, ed., *Law of the Sea* (Ashgate: Dartmouth), p. 343; also see *Agreement Relating to the Implementation of Part XI of the UNCLOS on the Law of the Sea of 10 December 1982* (August 17th, 1994), available at http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindxAgree.htm (last visited: 2010/01/14).

Note 42. Sharelle Hart (2008), "Elements of a Possible Implementation Agreement to UNCLOS for the Conservation and Sustainable Use of Marine Biodiversity in Areas beyond National Jurisdiction," *Marine Series*, No. 4 (IUCN, Gland, Switzerland: International Union for Conservation of Nature and Natural Resources), pp. 19-20.

Note 43. *Ibid.*

Note 44. *Supra* Note 22, p. 326.

Note 45. Vladimir Frolov (2007), "The Coming Conflict in the Arctic," *Global Research*, July 17th, available at <http://www.globalresearch.ca/index.php?context=va&aid=6344> (last visited: 2010/01/14)

Note 46. UNCLOS, art. 76, para. 5.

Note 47. Vivian L. Forbes (2001), *Conflict and Cooperation in Managing Maritime Space in Semi-enclosed Seas* (Singapore: Singapore University Press), pp. 20-21.

Note 48. Suzette V. Suarez (2008), *The Outer Limits of the Continental Shelf: Legal Aspects of their Establishment* (Berlin: Springer), pp. 39-72.

Note 49. UNCLOS, Annex II, art. 2, para. 2.

Note 50. UNCLOS, Annex II, art. 4.

Note 51. CLCS only has completed evaluating the submissions of two states: Russia and Brazil. While the recommendations were revealed, CLCS has yet to publish any legally binding ruling. More details can see *Supra* Note 48, pp. 2-3.

Note 52. UNCLOS, art. 76, para. 8; Annex II, art. 3, para. 1.

Note 53. Peter Prows (2007), "Tough Love: The Dramatic Birth and Looming Demise of UNCLOS Property Law," *Texas International Law Journal*, Vol. 42, No. 2, p. 274.

Note 54. UNCLOS, art. 279.

Note 55. UNCLOS, art. 287 states the four acceptable judicial bodies: (a) The International Tribunal for the Law of the Sea (established under Annex VI); (b) The ICJ; (c) an arbitral tribunal constituted pursuant to Annex VII; or (d) a special arbitral tribunal for certain categories of disputes under Annex VIII.

Note 56. UNCLOS, arts. 286-296.

Note 57. UNCLOS, art. 297.

Note 58. *Supra* Note 22, p. 141.

Note 59. All of the Arctic nations, save Norway, have indicated that they would not accept any of the procedures if conflicting claims of jurisdiction arose in the Arctic.

Note 60. Ernst-Ulrich Petersmann (1997), *The GATT/WTO Dispute Settlement System: International Law, International Organizations and Dispute Settlement* (London: Kluwer Law International).

Note 61. Kyle Bagwell and Robert W. Staiger (1999), "An Economic Theory of GATT," *American Economic Review*, Vol. 89, No. 1, pp. 215-248.

Note 62. *Supra* Note 60.

Note 63. *Ibid.*

Note 64. John Jackson (2001), "The Role and Effectiveness of the WTO Dispute Settlement Mechanism," in Susan M. Collins and Dani Rodrik, eds., *Brookings Trade Forum 2000* (Washington, DC: Brookings Institution), pp. 179-219.

Note 65. Tullio Treves (2001), "The Jurisdiction of the International Tribunal for the Law of the Sea," in P. Chandrasekhara Rao and Rahmatullah Khan, eds., *The International Tribunal for the Law of the Sea: Law and Practice* (Hague: Kluwer Law International), pp. 112-114.

Note 66. See *The Ilulissat Declaration*, available at <http://arctic-council.org/filearchive/Ilulissat-declaration.pdf> (last visited: 2010/01/15).

Note 67. *Ibid.*

Table1. Maritime Zones and Summary of Coastal State Rights

Maritime Zones	Distance from Territorial Sea Baseline	Summary of Coastal State's Rights
Internal Waters	n.a.	Comparable to sovereignty on land
Territorial Waters	12 nm	As for internal waters, but granting innocent passage to vessels of other states
Contiguous Zone	24 nm	As for the EEZ, plus laws pertaining to customs, taxation, immigration, and pollution
EEZ	200 nm	Resource ownership; structures on the seabed; scientific research; and environmental preservation
Continental Shelf	200 nm–350 nm	Jurisdiction over non-living resources on and beneath the seabed
High Seas	n.a.	Freedom of the high seas
Area	n.a.	Mineral rights managed by international seabed authority

Source: the author