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«The Arctic Circle: geopolitical, legal and environmental aspects»

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SUMMARY

By the present paper we try to give a first view on the basic geopolitical, legal and environmental aspects of the Arctic area.

In the first chapter entitled *“The Arctic and Geopolitics”* we give a definition of the Arctic area as an ocean with uncertain geographical boundaries, including territories of various dominant states and constantly changing susceptible to climate change. We present the current governance status, where the leading role undertakes so far the Arctic Council, an intergovernmental forum constituted by the eight Arctic States that is assisted to its work by organizations representing Arctic Indigenous peoples, the so-called “Permanent Participants”, as well as non-Arctic States, inter-governmental and non-governmental organizations that participate by the “observer status”. Furthermore, we give a brief presentation of the UN Convention on the Law of the Sea (UNCLOS), which is the main international treaty that sets the legal framework to resolve issues of sovereign and territorial rights regarding the Arctic area, accompanied by bilateral agreements that regulate more specific aspects of disputes that arise between Arctic states. In this part, a particular reference is made to the need for the formation of an Arctic Treaty, following the pattern of the Antarctic Treaty.

By the second chapter of the present thesis, we aim to give an image of the impact of climate change on the Arctic environment as well as globally, notably stating that the Arctic functions as “a global refrigerator”. We present the current international legal framework under which efforts are made by states and international organizations to combat the human-induced climate change, that – as said above – affects and is affected by the thawing of the Arctic ice. A brief presentation is made of the UN Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement, accompanied by a note on the Sixth Assessment Report published in August 2021 by the Intergovernmental Panel on Climate Change (IPCC). Last but not least, a final section is dedicated to environmental migration, a complex phenomenon of populations’ displacements caused or triggered by impacts of climate change, trying to define who we can call an “environmental migrant” or “climate refugee”, if there is a protective legal framework and the special relation of this phenomenon with the melting Arctic.

INTRODUCTION

The region of the Arctic circle is one of the largely discussed topics during recent years. Due to the accelerated climate change, that the whole planet comes to tackle, and the consequent thawing of the ice in the Arctic, a new area is revealed full of energy resources, mostly oil, natural gas, rare earths, valuable for tech companies and new shipping routes for the transport of energy and other goods. It is estimated that in the Arctic seabed lies 13% of global oil reserves and 30% of global natural gas reserves. Furthermore, the Northwest Passage and the Northeast Passage offer new shipping routes that reduce in half the navigational routes, saving significant time and money for the shipping companies. Particularly, the Northern Sea Route shortens by 30 days the trip from the ports of Far East to the ports of Western Europe in comparison with the route by the Suez canal.

As a result, the Arctic becomes an area attractive both for coastal states, such as Russia, USA (Alaska), Canada, Denmark, Norway and for non-Arctic states and other international players such as Finland, Sweden, Iceland, the EU, China, even Japan. Therefore, the area attracts great geopolitical and geostrategic attention and issues of global security arise that need to be studied and resolved under the international law of the sea in order to avoid conflicts. So far, all the players have managed to resolve their disputes through diplomacy and by signing bilateral or multilateral agreements such as the Ilulissat Declaration and the Barents Sea Agreement, always with respect and following the guidelines of the UNCLOS. In case of disagreements regarding sovereign rights on the continental shelves, states have filed their claims to the Commission on the Limits of the Continental Shelf.

Finally, in matters of governance of the area, the Arctic Council remains the upper forum of collaboration among the eight arctic states, making efforts to compromise their contradictory interests; however, a radical change in the geopolitical balance of the planet is to be expected given the wealth of the area and the interest it attracts from global players, so a new legally binding "Arctic Treaty" seems necessary for the area along with amendment of the UNCLOS and enhancement of the global environmental legislation.

CHAPTER 1. THE ARCTIC AND GEOPOLITICS

1A. THE ARCTIC

The Arctic is a polar region located at the northernmost part of Earth. The word Arctic comes from the Greek word ἀρκτικός (*arktikos*), "near the Bear, northern" and that from the word ἄρκτος (*arktos*), meaning bear. The name refers either to the constellation Ursa Major, the "Great Bear", which is prominent in the northern portion of the celestial sphere, or to the constellation Ursa Minor, the "Little Bear", which contains the celestial north pole (currently very near Polaris, the current north Pole Star, or North Star) ¹.

The Arctic is an area that consists of an extended territory of frozen seas that surround the North Pole and include the Arctic Ocean. The so called "arctic states", meaning the states that have part of their territory within the Arctic area, are part of three continents, America, Europe and Asia. Namely, the Arctic states are: the USA (Alaska), Canada, Russia, Norway, Denmark (Greenland and Feroe islands included), Iceland, Sweden and Finland, despite the fact that the last three don't have coasts in the Arctic.



Image 1: https://en.wikipedia.org/wiki/File:Political_Map_of_the_Arctic.pdf

1 <https://en.wikipedia.org/wiki/Arctic>

Because of its geographical complexity there are several scientific definitions of the Arctic boundaries. Its northern spot can be defined as the North Pole but it is hard to define its southern boundaries. Most commonly, scientists define the Arctic as the region above the Arctic Circle, an imaginary line that circles the globe at approximately 66° 34' N and consists the approximate southern limit of the midnight sun and the polar night. Some scientists define the Arctic as the area north of the arctic tree line where the landscape is frozen. Other researchers define Arctic based on temperature. Using this definition, the Arctic includes any locations in high latitudes where the average daily summer temperature does not rise above 10 degrees Celsius.²

Besides the lack of a globally accepted scientific definition, the Arctic boundaries are highly susceptible to constant change due to climate change. Given that the Arctic is an area highly sensitive to global warming and temperature rise, during the last years the region, as defined by tree line and temperature, is constantly shrinking. Perhaps the most alarming result is the significant Arctic sea ice shrinkage, followed by diminished ice in the Greenland ice sheet and polar amplification. Scientific predictions vary with models showing near-complete to complete loss of arctic sea ice between 2035 to some time around 2067.³

Another issue that arises regarding the Arctic boundaries is that the Arctic is basically an ocean with uncertain geographical boundaries adjacent to three continents and including territories of various dominant states. This is a significant difference of the Arctic in comparison to the other pole of the Earth, the Antarctic, that is a declared continent with defined geographical boundaries and at far distance from the other continents and their states. Therefore, the Arctic is so far regulated by the international law of the sea and various bilateral agreements but so far a single International Treaty specifically on the Arctic, perhaps following the model of the Antarctic Treaty, hasn't been formed and territorial claims on the Arctic haven't been established.

A legally binding International Treaty that would regulate the terrestrial rights

2 <https://nsidc.org/cryosphere/arctic-meteorology/arctic.html>

3 <https://en.wikipedia.org/wiki/Arctic>

on the Arctic and the inter-state relationships seems to be an urgent need given the great amount of wealth that is hidden underneath the Arctic ice. It is estimated that underneath the Arctic area, ground and sea, lies 13% of the global oil resources, 30% of global natural gas resources and 20% of LNG resources. Regarding the energy production, it is estimated that nowadays the Arctic produces approximately 10% of the oil and 25% of the natural gas produced globally.⁴ Most of the energy resources of oil and natural gas, approximately 70%, are gathered in three areas of the Arctic: West Siberia, Arctic Alaska and East Basin of the Barents Sea, that are also the areas where most of the production procedure takes place, around 97%.⁵

The Arctic is also rich in hydrocarbons, mineral resources such as nickel, copper, coal, gold, uranium, wolfram, diamonds and rare earths. The hydrocarbons production takes place mainly in the Barents Sea, whereas the greater quantities of mineral resources are situated in the Arctic Russia and the Kola Peninsula and as far as the rare earths are concerned, these are gathered under the Canadian lakes of Thor and Strange and also in Greenland.⁶

Besides the Arctic wealth in energy and mineral resources, another competitive advantage of the area, unfortunately accelerated by the climate change, is the offer of new shipping routes. As the ice melts, new routes are created that diminish significantly the distance between Asia and Europe for the transport of oil, gas and LNG, other commercial purposes and tourism as well. The most noted shipping routes in the Arctic ocean and nearby seas are the Northwest Passage, the Northeast Passage, including the Northensea Route and the Transpolar Passage.⁷ If states and multinational companies manage to overcome the barrier of the iced sea, the distance could be shortened up to 40% and other traditional shipping routes could be surpassed. Besides, this is why the newly formed, due to the thawing of the arctic ice, shipping routes are called “the Suez and Panama Canals of the 21st century”.

4 M. Bossi, The aspects of international security, p. 158.

5 <https://oaarchive.arctic-council.org/bitstream/handle/11374/2460/ArcticEnergyReport-2009.pdf>, p. 7

6 Adelphi Series, Economic opportunities, p. 59

7 Adelphi Series, Economic opportunities, 2013, p. 62-63

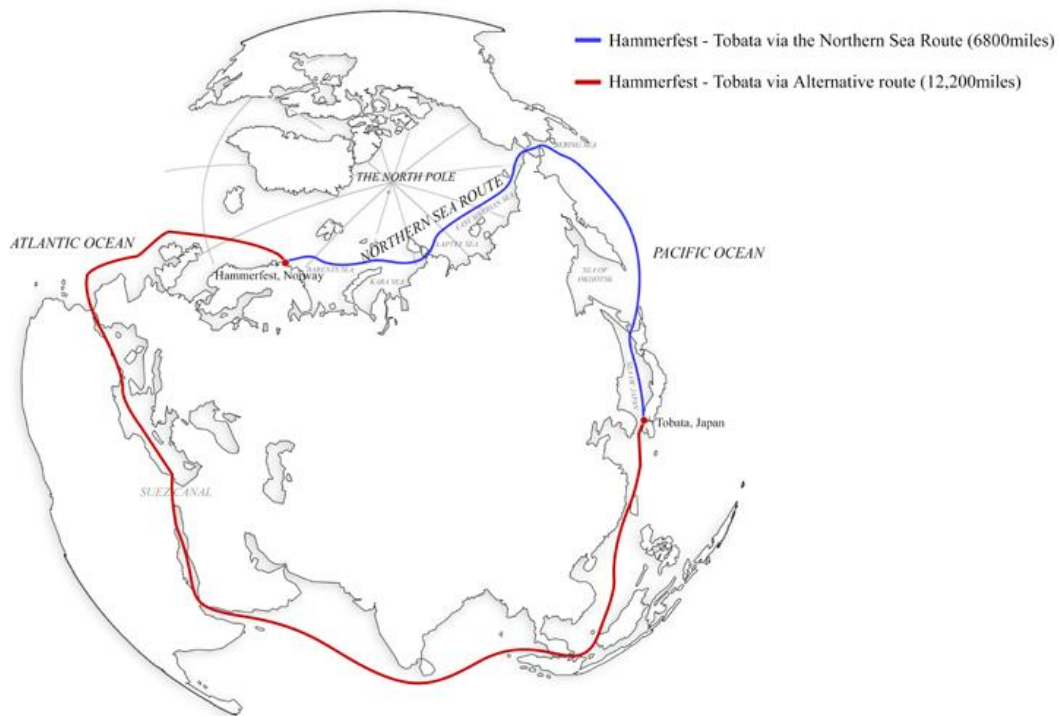


Image 2: https://www.researchgate.net/figure/Overview-of-the-sailing-distance-between-Hammerfest-and-Tobata-via-the-NSR-and-via-the_fig1

Last but not least, an important aspect of the Arctic is its role as an area of storage of nuclear weapons and military bases. The Kola Peninsula remains a base of Russian submarines and ballistic missiles, whereas the USA, France, Britain and Russia perform military exercises with nuclear submarines SSN in the area. *NATO doubled Arctic military activities from 2015 to 2020 and Russia has assigned at least 81% of its nuclear weaponry to northern fleets, all in the name of (re)gaining Arctic dominance.*⁸ So far, arctic and non-arctic states have managed to coexist in peace and cooperate by signing multilateral or bilateral agreements, with respect to the international law of the seas. However, the goal could be to establish a demilitarized and nuclear-free Arctic, a goal that could be achieved gradually following the directives given by the United Nations for nuclear-weapon-free zones (NWFZ) and based on the example of other regions, such as the Antarctic, that has already been declared as a demilitarized and nuclear-free zone that can be explored and exploited for peaceful purposes only.

8 <https://www.thearcticinstitute.org/the-history-and-future-of-arctic-state-conflict-the-arctic-institute-conflict-series/>

1B. ARCTIC GOVERNANCE

The Arctic Council

The Arctic Council is the leading intergovernmental forum in the Arctic. It was formed after debates on how to evolve the Arctic Environmental Protection Strategy (AEPS), a non-legally binding agreement from 1991 into a mechanism of cooperation and coordination on common Arctic issues in the aspects of sustainable development, environmental protection and scientific research.

The AC was formally established in September 19 of 1996 by the Ottawa Declaration⁹, conducted and signed by the governmental representatives of the eight Arctic States, that are so far the sole members of the AC: Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the US.

According to the Ottawa Declaration, point 1a *“its primary scope is to provide a means for promoting cooperation, coordination and interaction among the Arctic States, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular issues of sustainable development and environmental protection in the Arctic.”*

According to point 2, besides the above mentioned Arctic States, that are defined as Members of the AC, the *status of “Permanent Participants”* is also established and attributed to *“organizations representing Arctic Indigenous peoples”*. Namely, such organizations that participate nowadays in the AC are six (6): the Aleut International Association(AIA), the Arctic Athabaskan Council (AAC), the Gwich'in Council International (GCI), the Inuit Circumpolar Council (ICC), the Russian Association of Indigenous Peoples of the North (RAIPON) and the Saami Council, and they are supported by the Indigenous Peoples Secretariat.

According to point 3 of the Ottawa Declaration, non-Arctic states, inter-governmental and inter-parliamentary organizations and non-governmental organizations can participate in the AC under the *“observer status”* if the Council determines that they can contribute to its work. So far, as observers to the AC, there have been approved 13 non-arctic states (France, Germany, Italy, Japan, the

9 https://oaarchive.arctic-council.org/bitstream/handle/11374/85/EDOCS-1752-v2-ACMMCA00_Ottawa_1996_Founding_Declaration.pdf

Netherlands, China, Poland, India, Republic of Korea, Singapore, Spain, Switzerland, UK), 13 intergovernmental and inter-parliamentary organizations, among which the International Maritime Organization, the UN Development Programme, the UN Environment Programme and the World Meteorological Organization and 12 non-governmental organizations, among which WWF, Arctic Programme.

A noteworthy fact has arisen regarding the status of the EU in the AC. At the Kiruna Ministerial Meeting in 2013, the AC received the application of the EU for observer status affirmatively but deferred a final decision because, in order for the AC to decide whether an applicant is suitable to be granted the observer status, the applicant must, inter alia, respect the values, interests, culture and traditions of Arctic Indigenous Peoples and other Arctic inhabitants. Given that the EU had taken a decision that prohibited the sale of products from seal fishing, on which the Arctic Indigenous Peoples base significantly their income, they declared towards the petition of EU that “No Seal, No Deal”.¹⁰ However, until such time as Ministers of the Arctic States may reach a final decision, the EU may observe Council proceedings, in resemblance to the observer status.¹¹

The AC is a forum with no programming budget. All projects or initiatives are sponsored by one or more Arctic States and possibly supported by other entities. As a forum, it regularly produces comprehensive, cutting-edge environmental, ecological and social assessments through its Working Groups, each one of which has a distinct mission. Namely, the Working Groups of the AC are:

- *the Arctic Contaminants Action Program (ACAP)* that works to prevent and reduce pollution and environmental risks in the Arctic,
- *the Arctic Monitoring and Assessment Program (AMAP)* that measures and monitors pollutants and climate change effects on ecosystems and human health in the Arctic,

10 M. Bossi, The aspects of international security, p. 150

11 <https://arctic-council.org/en/about/observers/>

- *the Conservation of Arctic Flora and Fauna (CAFF)* that serves to address the conservation of Arctic biodiversity and promote practices which ensure the sustainability of the Arctic's living resources,
- *the Emergency Prevention, Preparedness and Response (EPPR)* that focus in contributing to the prevention, preparedness and response to environmental and other emergencies, accidents and to search and rescue in the Arctic,
- *the Protection of the Arctic Marine Environment (PAME)* that focuses on the protection and sustainable use of the Arctic marine environment and
- *the Sustainable Development Working Group (SDWG)* that aims to advance sustainable development and improve environmental, economic and social conditions of Indigenous peoples and Arctic communities.

A very important feature that needs to be noted is that the AC does not and cannot implement or enforce its guidelines, assessments or recommendations. That responsibility belongs to individual Arctic States or international bodies. For this scope, the AC has provided a forum for negotiations among the eight Arctic States that resulted indeed to the adoption of three important legally binding agreements, as stated below:

1. *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, adopted in 2011,* with the objective to strengthen aeronautical and maritime search and rescue cooperation and coordination in the Arctic,¹²

2. *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic,* adopted in 2013, with the objective to strengthen cooperation, coordination and mutual assistance among the Parties on oil pollution preparedness and response in the Arctic in order to protect the marine environment from pollution by oil ¹³and

3. *Agreement on Enhancing International Arctic Scientific Cooperation,* adopted in 2017, with the purpose to enhance cooperation in scientific activities in

12 https://oaarchive.arctic-council.org/bitstream/handle/11374/531/EDOCS-3661-v1-ACMMDK07_Nuuk_2011_SAR_Search_and_Rescue_Agreement_signed_EN_FR_RU.pdf

13 https://oaarchive.arctic-council.org/bitstream/handle/11374/529/EDOCS-2067-v1-ACMMSE08_KIRUNA_2013_agreement_on_oil_pollution_preparedness_and_response__in_the_arctic_formatted.pdf

order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic^{14,15}

In general, at the heart of the Council's cooperation efforts lies peace and stability in the region and that's why from the beginning issues of military security were excluded from the Council's mandate. In their Vision for the Arctic in 2013, the Arctic States together with the Permanent Participants stated that they aim to maintain a *"safe and peaceful Arctic"*, that they are confident that *"there is no problem we cannot solve together through our cooperative relationships on the basis of existing international law and good will"*. They declared as well that *"to meet the needs of an ever-changing Arctic, we will further strengthen our cooperation in the fields of environmental and civil security" and that "aware that maritime safety requires broad regional and international cooperation, we will continue to develop best practices and other measures for the Arctic region."* A means to achieve the above goal of a safe and peaceful Arctic is to maintain a strong Arctic Council, in which *"the membership is and will remain for the Arctic States with the active participation and full consultation of the Arctic Indigenous Peoples Organizations. Furthermore, decisions at all levels in the Arctic Council are the exclusive right and responsibility of the eight signatories to the Ottawa Declaration."*¹⁶

The Arctic Economic Council (AEC)

The Arctic Economic Council (AEC) is an independent organization that facilitates Arctic business-to-business activities and responsible economic development through the sharing of best practices, technological solutions, standards and other information. AEC was created by the Arctic Council during the

14 EDOCS-4288-v2-

ACMMUS10_FAIRBANKS_2017_Agreement_on_Enhancing_International_Arctic_Scientific_Cooperation.pdf

15 <https://arctic-council.org/en/about/>

16 [https://oaarchive.arctic-](https://oaarchive.arctic-council.org/bitstream/handle/11374/287/MM08_Kiruna_Vision_for_the_Arctic_Final_formatted.pdf)

[council.org/bitstream/handle/11374/287/MM08_Kiruna_Vision_for_the_Arctic_Final_formatted.pdf](https://oaarchive.arctic-council.org/bitstream/handle/11374/287/MM08_Kiruna_Vision_for_the_Arctic_Final_formatted.pdf)

2013-2015 Canadian chairmanship.¹⁷ Its members include corporations, businesses, partnerships and indigenous groups that have an economic interest in the Arctic.¹⁸ A notable membership since December of 2018 is that of the Union of Greek Shipowners (UGS), that *“acknowledged the important work of the AEC in respect of promoting a comprehensive and holistic approach to the issues affecting the Arctic region.”*¹⁹

Since 2017 the Arctic council has strengthened its cooperation with the AEC with the objective to enhance responsible economic development and build partnerships for issues of common interest and capacity building of Arctic inhabitants. This cooperation ultimately led to the signing of a Memorandum of Understanding between the two Councils in 2019, the first MoU for the Arctic council, with the purpose to provide a framework on how the two Councils can better cooperate to achieve their shared goals in the future.

According to the above mentioned Memorandum of Understanding, point 2 *“In particular, the AC and the AEC intend to collaborate on 2. 1. sustainable economic development, 2.2. blue economy and maritime safety, 2.3. improving telecommunications connectivity, 2.4. education and capacity building....”*. The means of collaboration could be, according to the MoU, point 3 *“3.1. the regular exchange of information on initiatives and expertise, 3.2. participation in each other’s programs and projects and 3.3. organization of joint activities”*.²⁰

On October 2019, the first joint meeting of the two Councils took place in Reykjavic. The themes that reflected the main present priorities of the AC and the AEC were marine transportation and blue economy, telecommunications connectivity, responsible resource development and mainstreaming biodiversity, and responsible investments and corporate social responsibility, as outlined in their respective Chairmanship programs.

17 <https://arcticeconomiccouncil.com/about/>

18 <https://arctic-council.org/en/news/the-arctic-council-signs-memorandum-of-understanding-with-arctic-economic-council/>

19 <https://arcticeconomiccouncil.com/members/union-of-greek-shipowners-ugs/>

20 https://oaarchive.arctic-council.org/bitstream/handle/11374/2454/MoU_AC_AEC_20190506.pdf

1C. INTERNATIONAL AGREEMENTS

Several international agreements deal with issues specific to the Arctic region or/and are particularly relevant for addressing various Arctic-related matters.²¹ These agreements have been shortly introduced in chronological order in the following table:

	CANADA	DENMARK	FAROE ISLANDS	GREENLAND	FINLAND	ICELAND	NORWAY	SWEDEN	RUSSIAN FEDERATION	U.S.
MAIN INTERNATIONAL TREATIES RELEVANT FOR THE ARCTIC										
International Convention for the Regulation of Whaling (1946)	denounced ⁴	1957	v	v	1983	2002 ^{3a}	1960 ¹	1979	1948	1947
UN Convention on the Law of the Sea <u>UNCLOS</u> (1982)	2003	2004	v	v	1996	1985	1996	1996	1997	X
UN Fish Stocks Convention	1999	2003	v	v	2003	1997	1996	2003	1997	1996
IMO - International Code for Ships Operating in Polar Water <u>Polar Code</u> (2015)	Mandatory under revision to the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL). Adopted in November 2014, to enter into force 1.01.2017									
UN International Covenant on Civil and Political Rights <u>ICCPR</u> (1966)	1976 ¹	1972 ¹	v	v	1975 ¹	1979 ¹	1972 ¹	1971 ¹	1973 ¹	1992 ²
UN International Covenant on Economic, Social and Cultural Rights <u>ICESCR</u> (1966)	1976 ¹	1972 ¹	v	v	1975	1979	1972 ¹	1971 ¹	1973 ¹	1977 [*]
UN International Convention on the Elimination of All Forms of Racial Discrimination (1965)	1970 ¹	1971 ¹	v	v	1970 ¹	1967 ¹	1970 ¹	1971 ¹	1969 ¹	1994 ¹
ILO C169 Indigenous and Tribal Peoples Convention <u>ILO Convention No. 169</u> or <u>C169</u> (1989)	X	1996	v	v	X	X	1990	X	X	X
Convention on International Trade in Endangered Species of Wild Fauna and Flora <u>CITES</u> (1973)	1975	1977 ^{3b}	c	v	1976	2000 ¹	1976	1974	1976	1975
UN Convention on Biological Diversity <u>CBD</u> (1992)	1992 ¹	1993	v	v	1994	1994	1993	1993	1995	1993 [*]
Agreement on the Conservation of Polar Bears, Oslo (1973)	1973	1973	v	v	X	X	1973	X	1973	1973
Convention on Long-range Transboundary Air Pollution, Geneva (1979)	1981	1982	v	v	1981	1983	1981	1981	1980	1981
Convention on Environmental Impact Assessment in a Transboundary Context <u>Espoo convention</u> , Espoo (FI) (1991)	1998	1997	v	v	1995	1991 [*]	1993	1992	1991 [*]	1991 [*]
UN Framework Convention on Climate Change <u>UNFCCC</u> (1992)	1992 ¹	1993	v	v	1994	1993	1993	1993	1994	1992
Kyoto Protocol to the United Nations Framework Convention on Climate Change <u>Kyoto Protocol</u> (1997)	denounced ⁵	2002	d	v	2002	2002	2002	2002	2004	1998 [*]
UN Stockholm Convention on Persistent Organic Pollutants (2001)	2001	2003	v	e	2002	2002	2002	2002	2011 ¹	2001 [*]
UNEP Minamata Convention on Mercury (2013) ⁶	2013 [*]	2013 [*]	v [*]	v [*]	2013 [*]	X	2013 [*]	2013 [*]	2013 [*]	2013
International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004) ⁷	2010	2012	d	e	2005 [*]	X	2007	2009 ¹	2012	X
Svalbard Treaty (1920)	1923	1923 ³	v	v	1925	1994	1924 ³	1924 ³	1935	1924 ³
AGREEMENTS UNDER THE AUSPICES OF THE ARCTIC COUNCIL										
Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic <u>SAR</u> or <u>Arctic Search and Rescue Agreement</u> (2011)	2011	2011	v	v	2011	2011	2011	2011	2011	2011
Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (2013)	2013	2013	v	v	2013	2013	2013	2013	2013	2013

LEGEND

<ul style="list-style-type: none"> ■ type of Agreement ■ Flora & Fauna ■ Climate Change / Environment ■ Sea / Shipping / Fishing ■ Civil / Political / Social rights ■ Sovereignty ■ Arctic Council Specific 	<ul style="list-style-type: none"> X Not party to the treaty v The Danish Constitution stipulates that the foreign and security interests for all parts of the Kingdom of Denmark are the responsibility of the Danish government. Unless stated otherwise, the treaties in this table apply to the Kingdom of Denmark, that is to say, also to Faroe and Greenland via Denmark a (adherence with reservation to Paragraph 10 (e)) b (with reservation about Faroe Islands) c Does not apply to Faroe Islands until further notice d with territorial exclusion of the Faroe Islands e with territorial exclusion of Greenland * Signed, but not ratified 	<ul style="list-style-type: none"> 1 Party with reservations 2 Party with reservations and objections 3 Original signatory, 1920 4 (ratified 1949, denounced 1981) 5 (ratified 1998, denounced 2011) 6 this convention is not yet in force (It will enter into force 90 days after it has been ratified by 50 nations). Data updated to February 2016 7 this convention is not yet in force (It will enter into force 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage) Data updated to February 2016
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Image 3: International Treaties Overview, https://arcticportal.org/images/intl_treaties_overview.jpg

21 <https://arcticportal.org/arctic-governance/international-agreements>

The UN Convention on the Law of the Sea (UNCLOS)

As mentioned above, the Arctic is an area that consists of an extended territory of frozen seas that surround the North Pole and include the Arctic Ocean and the so called “arctic states”, meaning sovereign states that have part of their territory within the Arctic area. We could say that “*the Arctic is an ocean surrounded by continents*”. Therefore the legal and subsequently the political and economic status of the area is mainly regulated by the International Law of the Sea. The rules of the international common law were codified in 1982 into the United Nations Convention on the Law of the Sea, widely known as UNCLOS.

UNCLOS was created from the desire to settle all issues relating to the seas in a spirit of mutual understanding and cooperation. A major feature of the convention was the creation of maritime zones either under the sovereignty or sovereign rights of coastal states or beyond any national jurisdiction.²² The maritime zones that attract the main interest of the Arctic states and global players and upon which arise the most important legal, economic and geopolitical issues are:

- *the continental shelf,*
- *the exclusive economic zone (EEZ) and*
- *the Area.*

According to **Article 76 Definition of the continental shelf**, “1. *The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.....8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to*

22 <https://www.thearcticinstitute.org/wp-content/uploads/2016/04/TAI-Quick-Start-to-UNCLOS.pdf>

coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.”.

According to **Article 77 Rights of the coastal State over the continental shelf**, *“the coastal States exercise over their continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources, meaning mineral and other non-living resources of the seabed and subsoil, plus sedentary species. These rights are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal State. Furthermore, the rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.”.*²³

So, according to the UNCLOS, the Arctic states shall extend their continental shelves and resolve their differences by concluding bilateral agreements. The Commission on the Limits of the Continental Shelf (CLCS) is the competent body to make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.

As far as the procedure is concerned, the continental shelf of an Arctic state can be extended by filing a petition to the Commission on the Limits of the Continental Shelf (CLCS) within a ten-year period from the State’s ratification of the Convention. For the purpose of claiming an extended continental shelf, each State must collect and analyze data that describe the depth, shape, and geophysical characteristics of the seabed and sub-sea floor. Under no circumstances, valid extended continental shelf claims cannot extend a state’s EEZ, since the EEZ is determined by drawing a line 200 nautical miles from a territorial sea baseline.

The case of the Arctic Ocean in particular is much more complicated and that’s why the coastal Arctic states carry out hydrographic and geophysical

23 https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

researches and invest great amount of money in the collection of sufficient scientific data in order to prove their claims to extend the outer lines of their continental shelves based on the International Law of the Sea.

So far, the CLCS is fully operational and as an extended continental shelf could mean exclusive sovereign rights on the exploration and the exploitation of profitable natural resources of the seabed and subsoil in the years to come, a number of Arctic States have already submitted their claims and these states are Canada, Denmark, Norway and Russia. The procedure of submitting territorial claims to the CLCS is mandatory and the decision made is binding for all. The states cannot resolve on their own the differences that occur at the application of the UNCLOS but have to go through certain procedures like, as mentioned above, a claim to the CLCS followed by a bilateral agreement or an appeal to the International Tribunal for the Law of the Sea. After all, the main question that remains to be answered is *“what impact continental shelf claims will have on the Arctic’s future?”*²⁴

A significant difference of the Continental Shelf and the **Exclusive Economic Zone**, that is regulated in the **Articles 55 to 75** of the UNCLOS, is that the Continental Shelf reserves sovereign rights of the coastal state only on the natural resources of the seabed and subsoil, whereas the EEZ reserves, besides the above, *“sovereign rights of the coastal state on other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds as well as jurisdiction with regard to the establishment and use of artificial islands, installations and structures, marine scientific research and the protection and preservation of the marine environment”* (**Article 56 of UNCLOS**).

Furthermore, according to **Article 58 Rights and duties of other States in the exclusive economic zone** *“1. In the exclusive economic zone, all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this Convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships,*

24 <https://www.thearcticinstitute.org/wp-content/uploads/2016/04/TAI-Quick-Start-to-UNCLOS.pdf>

*aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention”.*²⁵

Two more Articles of the UNCLOS that have great significance particularly for the Arctic, in matters of defining and exploiting the EEZ, are **Articles 234 and 211** that refer to the prevention, reduction and control of the pollution of the marine environment due to navigation. Specifically, according to Article 234 *“Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.”*

The need for an Arctic Treaty

Despite the fact that several issues regarding the Arctic Ocean are regulated under the UNCLOS, there is still a great number of matters that are left out of its regulatory field. The **Article 97 of the UNCLOS** indicates that the states must cooperate to form international rules in line with the provisions of the UNCLOS.

Since there isn't a unified legal regime for the Arctic Ocean, unlike current regimes for the Baltic, the Mediterranean or the Antarctic, the need for the formation of an Arctic Treaty, perhaps based on the model of the Antarctic Treaty, becomes even more urgent, taking under consideration that Arctic and non-Arctic states increase their military presence in the Arctic and claim more and more sovereign rights over the Arctic Ocean.

Such a treaty should have a binding effect with the scope to regulate environmental issues that occur in the area, tackle military challenges and resolve legal issues that are not covered by the UNCLOS.

25 https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf

It cannot be underestimated that there are significant differences between the Arctic and the Antarctic. To begin with, the Antarctic is a continent with defined geographical boundaries whereas the Arctic is an ocean surrounded by three continents with vague and constantly changing due to climate change geographical boundaries. In addition, the Antarctic is far away from the other continents, the geographical distance resulting to a lack of sovereignty claims whereas the Arctic area includes territory of several sovereign states, the people of which have already and it is most likely for the future as well to claim territorial rights on the area. Furthermore, the Arctic acts as a global climate regulator affecting the entire planet's temperature and due to the thawing of the ice is expected to serve as an alternative passage for global navigation. So, it has a much greater geostrategic significance compared to the Antarctic meaning that there will be a lot of contradiction towards the establishment of an international Arctic treaty.

Despite the significant differences between the two poles of the Earth, the Arctic area needs an International Treaty based on the Antarctic Treaty that will be legally binding, will establish a single regime for the area and will set the rights and the duties of the States that sign it. The Treaty shall reserve the Arctic area as a non-military area, an area that will be developed for peaceful reasons, to promote scientific research and protection of the environment and not as a place of military bases, not to mention a place of deposit of nuclear weapons. A treaty that shall respect the rights of the indigenous people and that will provide guidelines for the establishment of an Arctic governance.

1D. BILATERAL AGREEMENTS

The Ilulissat Declaration

The Ilulissat Declaration is an agreement signed on 28 May of 2008 by the five coastal Arctic States, the so-called “A-5” (Russia, Canada, Norway, Denmark and the USA). The main events that led to such a Conference held in Ilulissat, Greenland and to the “omission” of the three non-coastal Arctic States (Finland, Sweden and Iceland) as well as the Associations of Indigenous Peoples, were the Russian red-flag incident in 2007 and the significant amount of jurisdictional disputes up to that time, including the Hans Island dispute between Canada and Denmark.

In the declaration, the A-5:

- note the ongoing changes in the Arctic related to climate change;
- reaffirm their commitment to the orderly resolution of issues regarding territorial claims and jurisdiction under the existing framework of international law, including the Law of the Sea Convention (UNCLOS);
- reject the need for ‘a new comprehensive legal regime to govern the Arctic Ocean’;
 - commit to take steps, both nationally and in cooperation among the five ‘and other interested parties’ to ensure the protection of the Arctic marine environment, and specifically to strengthen measures for the safety of shipping and reduction of vessel-based pollution;
 - express their interest in strengthened cooperation in science and the exchange of research information.²⁶

If we are to point out some of the hidden messages of the Declaration, we could say that:

- the A-5 have reserved to themselves a predominant role in addressing issues of sovereignty, sovereign rights, and jurisdiction in the Arctic Ocean and

²⁶ <https://www.arctic-report.net/wp-content/uploads/2012/01/2008.11-Ilulissat-Background-and-Implications.pdf>

minimize the potential for non-coastal Arctic states, indigenous populations and non-Arctic states to exhibit relevant claims.

- the A-5 committed to resolving territorial issues through the already existing legal framework provided by the UNCLOS and rejected the possibility to establish a new 'Antarctic-style' treaty for the Arctic or in general a new multilateral legal regime.

To conclude, the central message of the Ilulissat Declaration is to deter efforts by non-Arctic nations to interest themselves in a domain which is conceived to be primarily the affair of the A-5. In fact, the Declaration implicitly recognizes that the success of the A-5 in defending a predominant role in the Arctic over the long-term will depend to a great extent on the efficacy with which they address the concerns of a broader international community regarding the management of the Arctic Ocean and the protection of Arctic marine resources.²⁷

The Barents Sea Agreement

On 15 September 2010 the Kingdom of Norway and the Russian Federation signed a Treaty concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean.

The Barents Sea is cited north of the Norwegian area of Finnmark and of the Russian Kola Peninsula, between the Svalbard archipelago of Norway and two Russian archipelagos, Land Franz Josef and Novaya Zemlya. It is a highly important area for economic and geostrategic reasons for both coastal states in matters of oil and natural gas extraction as well as for fishery and shipping. It is also estimated that it's an area rich in hydrocarbons.

By this agreement, the Parties resolved their borderline issues in the area setting a limit based on the principles of the international law of the sea, that provided a fair resolution by dividing the formerly disputed area into two nearly equal parts. Under the Agreement, the Parties defined the maritime delimitation line

²⁷ <https://www.arctic-report.net/wp-content/uploads/2012/01/2008.11-Ilulissat-Background-and-Implications.pdf>

in the Barents Sea and mutually agreed, under **Article 2** of the Treaty, that “each Party shall not claim or exercise any sovereign rights or coastal State jurisdiction in maritime areas beyond this line.”²⁸.

The Treaty is considered as a model for such bilateral agreements since the two states formed a “Special Area” to maximize the extent of their sovereign rights. More specifically, according to **Article 3** of the Treaty, “1. In the area east of the maritime delimitation line that lies within 200 nautical miles of the baselines from which the breadth of the territorial sea of mainland Norway is measured but beyond 200 nautical miles of the baselines from which the breadth of the territorial sea of the Russian Federation is measured (hereinafter “the Special Area”), the Russian Federation shall, from the day of the entry into force of the present Treaty, be entitled to exercise such sovereign rights and jurisdiction derived from exclusive economic zone jurisdiction that Norway would otherwise be entitled to exercise under international law.”. Furthermore, according to **paragraph 2** of the above **Article 3**, “2. To the extent that the Russian Federation exercises the sovereign rights or jurisdiction in the Special Area as provided for in this Article, such exercise of sovereign rights or jurisdiction derives from the agreement of the Parties and does not constitute an extension of its exclusive economic zone. To this end, the Russian Federation shall take the necessary steps to ensure that any exercise on its part of such sovereign rights or jurisdiction in the Special Area shall be so characterized in its relevant laws, regulations and charts.”.

Regarding the fishing activities and the exploitation of hydrocarbons, the Parties of the Treaty agreed in **Articles 4 and 5** that “they will pursue cooperation to maintain the existing respective shares of total allowable catch volumes and to ensure relative stability of each Party fishing activities for each of the stocks concerned”²⁹, always with respect to the living marine resources and the marine environment. If a disagreement arises regarding the exploitation of hydrocarbons deposited on the continental shelf of one of the Parties and the other Party claims that the deposit extends to its own continental shelf, the Parties have agreed in the

28 https://www.regjeringen.no/globalassets/upload/ud/vedlegg/folkerett/avtale_engelsk.pdf

29 https://www.regjeringen.no/globalassets/upload/ud/vedlegg/folkerett/avtale_engelsk.pdf

Treaty that they shall initiate discussions, supported by evidence from geophysical and/or geological data, to examine the possibility to exploitate the deposit as a unit.

Overall, the Barents Sea Agreement is a landmark that shows that any borderline dispute in the Arctic can be resolved by peaceful means through bilateral agreements with respect and under the guidance of the international law of the sea. Furthermore, it indicates that the Arctic states can actually maintain a leading role in the Arctic, against other rising players such as the EU and countries of Eastern Asia, by adopting a common policy for conflict resolution.

CHAPTER 2. THE ARCTIC AND CLIMATE CHANGE

A. CLIMATE CHANGE

Climate change is a widely discussed topic during the last years, an issue of planetary concern with impacts global in scope and unprecedented in scale. Regarding the Arctic area in particular, we can say it is affected much more heavily from climate change than the other parts of the world. The western Arctic and sub-Arctic are heating up twice as fast as the global average. In the past decade alone, the Arctic has warmed by 0.75 degrees Celsius; the Earth as a whole has warmed by at least 0.8 degrees — over the past 140 years. And while these local cataclysms may feel distant to southerners, their impact has worldwide repercussions.³⁰

Increasing temperatures and rising sea levels are observable effects of the unpredictable and rapidly changing environment. One of the most poignant climate issues concerns the state of permafrost, a hidden layer of ice below the Earth's surface. Its rapid degradation has enormous implications for climate change.³¹ As the Arctic warms, the permafrost is thawing and releases into the atmosphere carbon-rich organic material, including carbon dioxide and methane, that has been locked away under the Arctic ice for some thousand years, producing greenhouse gases, that could further heat the planet. When these gases enter the atmosphere, they cause more warming, leading to faster permafrost thaw and even more exposed carbon converted to heat-trapping gases.

Scientists estimate that the carbon held in frozen ground amounts to some 1,600 gigatonnes — twice the amount that is currently in the atmosphere. All of this means that permafrost thaw is a much more alarming global threat than previously anticipated. Over time, the Arctic might start to vent more carbon dioxide than it stores³²; so, one of the questions scientists are trying to answer is whether the Arctic might be turning from a carbon sink into a carbon emitter — essentially, whether what happens in the Arctic stays in the Arctic.

30 <https://www.thearcticinstitute.org/meltdown-permafrost-arctic-together-falling-apart/>

31 <https://www.thearcticinstitute.org/meltdown-permafrost-arctic-together-falling-apart/>

32 <https://www.thearcticinstitute.org/meltdown-permafrost-arctic-together-falling-apart/>

Another impact of ice and permafrost melt, besides the acceleration of climate change through the heating of the atmosphere, is that infectious agents (bacteria, viruses) may emerge as well.

Furthermore, melting permafrost allows freshwater to be transported to the rivers and the Arctic Ocean and it may cause significant changes in the chemistry and the biology of the Arctic Ocean. It will definitely affect aquaculture, fishery and the polar ecosystems. Besides that, as the Arctic Ocean is a mix of freshwater, coming from the thawing of the ice, combined with seawater, it affects the ocean currents globally. We could say that the Arctic, as one of the two poles of the Earth, acts as a “global refrigerator”. Reduced snow cover will lead to increased heat absorption from the sun and a shift of the ocean currents. According to scientific researches, great amounts of freshwater from the thawing could practically “eradicate” ocean currents that regulate the climate of southern parts of the Earth.

Ground collapse and coastal erosion are also among the catastrophic results of the Arctic heating and the subsequent permafrost thaw. Nearly half of Canada and almost a quarter of the northern hemisphere rests on permafrost, the abrupt melting of which is leading to erosion, landslides and craters in the Arctic landscape. As a result, unstable ground threatens to collapse houses and industrial constructions (potentially causing oil spills), as well as buckle roads and railways. In some communities, these fears have already been realized.³³

Particularly in Alaska, the United States military may have to move bases or otherwise safeguard them against destabilizing ground in the coming years. Besides that, from an environmental perspective, permafrost degradation in Alaska and other northern areas is destroying forests and is intimately connected to increased coastal erosion and sea ice melt.³⁴ Because of climate warming, sea ice forms later in the fall and melts earlier in the spring. With less ice to reflect the sun’s rays back to space, the thermal energy is absorbed by the water and the longer season of open water gives the wind more time to whip up intense waves and storms. The waves claw

33 <https://www.thearcticinstitute.org/climate-change-geopolitics-monitoring-thawing-permafrost/>

34 <https://www.thearcticinstitute.org/permafrost-thaw-warming-arctic-final-remarks/>

away at the cliffs and expose the permafrost, speeding up its thaw and, in turn, causing the cliffs and shore to crumble even faster.

➤ ***The impact of climate change on the European continent***

More specifically regarding the European continent and the impacts of climate change and the melting of Arctic permafrost, recent events of catastrophic storms and floods in Western Europe, especially in Germany, Belgium and the Netherlands and the scorching heatwave and massive wildfires in Greece are major indicators of the accelerating climate change and the subsequent environmental degradation globally.

According to scientists, the intensive storms of July are extreme weather phenomena that their intensity is magnified by climate change and will continue to increase due to the temperature rise. Scientific data show that extreme weather phenomena such as heat waves, wildfires, ocean heat waves, drought and intensive storms become more frequent and more likely to occur than before.

The scientific explanation of the above is that a warmer atmosphere can contain higher levels of humidity and even a temperature rise of 1 Celcius degree can increase the intensity of rainfalls. Furthermore, the fact that temperature rises faster in the poles compared to the equator weakens the currents that are in the middle, practically above Europe, causing storms that are more intense and last longer.

All the above, as the recent events show, cause tremendous damage of the ground and the infrastructure and lead to thousands of deaths, missing people and internally displaced in a place nowhere to be expected: in the heart of Europe...



<https://www.rosa.gr/progressives/eimaste-oloi-en-dinamei-klimatikoi-prosfiges/>

B. INTERNATIONAL LEGISLATION ON CLIMATE CHANGE

With the scope to minimize the effects of global climate change, Nations have signed a number of Conventions, Protocols and Agreements, among which the most significant are:

- *The United Nations Framework Convention on Climate Change (1992)*
- *The Kyoto Protocol (1997)*
- *The Paris Agreement (2016)*

The United Nations Framework Convention on Climate Change (UNFCCC)

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty that aims to combat dangerous human interference with the climate system. To achieve this, its ultimate objective is to stabilise greenhouse gas concentrations in the atmosphere at a level that could be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner (**Article 2**).³⁵

The treaty established different responsibilities for three categories of signatory states: the developed countries, the developed countries with special financial responsibilities and the developing countries. According to **Article 3** “*the Parties should act to protect the climate system on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. In addition, the developed country Parties should take the lead in combating climate change and the adverse effects”.*

Furthermore, according to **Article 4**, all Parties make general commitments to address climate change through, for example, climate change mitigation and adapting to the eventual impacts of climate change. More specifically, according to **paragraph (7)** “The extent to which developing country Parties will effectively implement their commitments under the Convention will depend on the effective implementation by developed country Parties of their commitments under the Convention related to financial resources and

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https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

transfer of technology and will take fully into account that economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.”³⁶.

Its original scope, according to **Article 4a**, was to stabilize the greenhouse gas emissions (carbon dioxide and other anthropogenic greenhouse gases not regulated under the Montreal Protocol) at 1990 levels by the year 2000.

Countries that have ratified the Convention are required to submit every four years reports called “National Communications”, conducted according to guidelines that have been agreed by the Conference of the Parties. These reports state the measures a country has taken to mitigate greenhouse gas emissions and also describe its vulnerabilities and impacts from climate change. Equivalent reports submitted under the Paris Agreement are the so-called “Nationally Determined Contributions (NDCs)”, that are less detailed but also follow a standardized structure and are subject to technical review by experts.

The Kyoto Protocol

The Kyoto Protocol is a protocol supplementary to the UNFCCC, that was adopted on 11 December 1997 and entered into force on 16 February 2005.

The Protocol operationalizes the UNFCCC by committing industrialized countries and economies in transition to limit and reduce GHG emissions in accordance with agreed individual targets, whereas the UNFCCC only asks those countries to adopt policies and measures on mitigation and to report periodically.

The Kyoto Protocol is based on the principles and provisions of the UNFCCC but only binds developed countries and places a heavier burden on them under the principle of “common but differentiated responsibility and respective capabilities”.

In its Annex B, the Protocol sets binding emission reduction targets for 37 industrialized countries and economies in transition and the EU, targets that add up to an average 5% emission reduction compared to 1990 levels over the first commitment period of the years 2008-2012.

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https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

One important element of the Kyoto Protocol is the establishment of flexible market mechanisms, based on the trade of emissions permits.

The Paris Agreement

The Paris Agreement is the first-ever legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 after the 2015 UN Climate Change Conference in Paris and entered into force on 4th of November 2016. The Parties that signed the Agreement agreed upon setting the goal of limiting global warming to well below 2 degrees Celsius and making extra efforts to limit the increase to 1,5 degrees Celsius, relative to pre-industrial levels.

For the implementation of the Agreement, the Parties shall prepare and apply national action plans called “Nationally Determined Contributions (NDCs)” with the aim to mitigate and adapt to climate change and reach the goals of the Agreement in a national level. All Parties must report regularly on their emissions and on their implementation efforts. Freedom and flexibility were given to the Parties, especially regarding the types of actions to be undertaken, allowing the developing countries to form their own plans according to their specific adaptation and mitigation needs. Besides that, developed countries are expected to provide practical and financial support to developing countries to help them achieve their national goals.

More specifically, as far as the EU is concerned, EU countries set themselves in 2014 a binding target of cutting greenhouse gases emissions by 40% by 2030, compared to 1990 levels, that will involve switching to clean, sustainable energy forms, which must also be competitive and affordable. The EU recognizes as well the need for incentives to encourage the necessary investment in this field.³⁷

Regarding the correlation between the Arctic and the Paris Agreement, it needs to be stated that, according to scientists, the Arctic permafrost is more sensitive to global warming than previously estimated. There is at least a 6% probability that summer sea ice in the Arctic Ocean will disappear at 1,5 degrees Celsius warming above preindustrial levels - a lower limit recommended by the Paris Agreement. For a 2 degrees Celsius warming, the probability for losing the ice rises to

37 eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM:20110301_2

at least 28%. Most likely we will see a sea ice-free summer Arctic Ocean for the first time at 2 to 2.5 Celsius degrees warming.³⁸

So, regarding the above mentioned, seemingly small increases in the average global temperature could have a profound impact on the extent of Arctic sea ice and as a result, life both in the Arctic and worldwide. While the 0.5°C difference may seem small, the researchers' projections suggest that a rise in average global temperature from 1.5°C to 2°C could result in an eightfold increase in the frequency of ice-free conditions in the North in summer. Furthermore, the extent of Arctic sea ice is expected to fluctuate significantly even after global temperatures stabilize. It is also noted that if average global warming rises to 3°C, which is expected to occur by 2100 if countries only pursue current emission reduction policies, ice-free conditions would occur in the Arctic every summer.³⁹

So, the melting of the Arctic, or its progress over the years, can very much be affected by the implementation of the Paris Agreement. Climate change in the Arctic is a global problem that requires a global solution. The Arctic environment can be stabilized by the mid-century but only if more ambitious climate targets are met.⁴⁰ At the end, Nations have to increase their commitments to support the Paris Agreement and strengthen their efforts to reduce current greenhouse gases emissions.

The Intergovernmental Panel on Climate Change and its Sixth Assessment Report

The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body of the UN mandated to provide objective scientific information relevant to understanding human-induced climate change, its natural, political and economic impacts and risks, and possible response options. It was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) and it is currently comprised of 195 countries.

In August 2021, the Physical Science working group of the IPCC announced its

38 [sciencedaily.com/releases/2019/07/190709091128.htm](https://www.sciencedaily.com/releases/2019/07/190709091128.htm)

39 <https://science.gc.ca/eic/site/063.nsf/eng/97612.html>

40 arcticyearbook.com/arctic-yearbook/2017/2017-commentaries/246-the-paris-agreement-the-arctic-region

contribution: the Sixth Assessment Report. The Guardian described the report as "its starkest warning yet" of "major inevitable and irreversible climate changes". The report's 234 authors built on more than 14.000 scientific papers to produce a 3,949 page report, which was then approved by 195 governments. According to the report, it is only possible to avoid warming of 1.5 degrees or 2 degrees if huge cuts in greenhouse gas emissions are made.⁴¹ Scientists have concluded: only drastic cuts in GHG emissions this decade can prevent us from raising global temperatures to a disastrous extent and they give the world a warning: humans have caused unprecedented and irreversible change to climate; we are running out of time.⁴²

41 https://en.wikipedia.org/wiki/Intergovernmental_Panel_on_Climate_Change

42 <https://www.theguardian.com/environment/2021/aug/09/what-is-ipcc-why-new-climate-report-different>

C. ENVIRONMENTAL MIGRATION

The accelerated climate change and the extreme weather events it triggers have already led and are expected to continue on creating major flows of human migration and population displacement since traditional landscapes and livelihoods of entire communities are threatened with extinction.

For this purpose, IOM has published the *Atlas of Environmental Migration* as a first attempt to map this complex phenomenon.

According to IOM, three key terms are important in the context of migration and environmental and climatic changes:

Environmental migrants are defined as *“persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move within their country or abroad.”* (IOM, 2011: 33 in IOM, 2014:13);

Environmentally displaced person refers to *“persons who are displaced within their country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one”* (IOM, 2011:34 in IOM, 2014:13). The term **disaster displacement** *“refers to situations, where people are forced or obliged to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of disasters triggered by natural hazards. Such displacement may take the form of spontaneous flight or an evacuation ordered or enforced by authorities. Such displacement can occur within a country, or across international borders.”* (The Nansen Protection Agenda, 2015);

Planned relocation refers to *persons whose livelihoods have been re-built in another place* (IOM, 2014a). Others have defined planned relocation as referring solely to the collective movement of a community, the *“permanent (or long-term) movement of a community (or a significant part of it) from one location to another, in which important characteristics of the original community, including its social structures, legal and political systems, cultural characteristics and worldviews are*

retained: the community stays together at the destination in a social form that is similar to the community of origin” (Campbell, 2010:58–59).

➤ ***Distinction between environmental migrant – climate migrant - environmental refugee – climate refugee***

Environmental migration is a highly discussed topic nowadays and for the future but in the relevant public debate it is highly noted that sole the environmental and climate factors cannot attribute the legal status of a refugee to a person or groups of persons but can only be taken into consideration along with other causes of migration such as economic reasons, violence, fear of persecution etc.

The term of ***environmental refugee*** was first introduced in 1985 by El-Hinnawi in a report of the UN Environment Program as “*people who were forced to leave their habitual residence, permanently or temporarily, due to an environmental disturbance, which endangers their existence or has severe consequences on their quality of life*”.

According to the UNEP report, there are three types of environmental changes that can create environmental refugees:

- *Environmental disasters*: people move temporarily due to natural disasters such as floods, droughts, wildfires, hurricanes, tsunamis, earthquakes;
- *Environmental degradation*: people are forced to leave their habitual residence, temporarily or permanently, due to a gradual deterioration of the environmental conditions. In this category, population movement due to consequences of the climate change is included, such as deforestation, desertification that leads to declining crop productivity, coastal erosion and submergence due to rising sea levels;
- *Environmental expropriations*: people move permanently away from their habitual residence but within their state’s territory because of human induced environmental expropriations pe the construction of a dam or a mine.

Climate refugees are a subset of environmental migrants and in particular people who were forced to flee "due to sudden or gradual alterations in their natural environment that are related to at least one of three impacts of climate change: sea-level rise, extreme weather events and drought and water scarcity."

In 1990, the Intergovernmental Panel on Climate Change declared that the greatest single consequence of climate change could be migration. Although the number of the so-called climate refugees globally is major and maybe already even greater than the number of refugees displaced by war and political repression combined, **they are neither legally recognized by the 1951 UN Convention on Refugees nor are adequately recognized by any other international treaty.**

More specifically as far as the 1951 UN Convention on Refugees is concerned, in the case of the so-called climate refugees there is a lack of "fear of persecution" and/or of "generalized violence or events seriously disturbing public order", conditions that are essential to attribute to a person or group of persons the term of refugee with regard to granting asylum.

Some experts claim that it is preferable to treat these people as *climate migrants* whereas others believe it is imperative to begin to recognize this new division of refugees.

Taking under consideration all the above, it needs to be highlighted that there isn't a clear line among all the above categories. In fact, the definition attributed by IOM in 2007 to environmental migrants is broad enough to cover people characterized as climate refugees by El-Hinnawi and offer to such persons or groups of persons the legal protection that the term of climate refugee and the current international refugee legislation doesn't offer them.

Furthermore, economic, societal and political reasons cannot be excluded from the equation of the causes of the complex phenomenon of migration. It is highly doubted that the environmental factor can be examined detached from the other, above mentioned, factors or that it can be considered as the principal cause of migration.

➤ ***The impact of the melting Arctic on environmental migration***

Human migration as a result of climate change is now a reality. People across Africa, Asia and Latin America are moving in response to unpredictable rainfall patterns. The governments of Bangladesh, Papua New Guinea and small island states, such as the Solomon Islands, have already had to resettle people because of rising seas.⁴³

Human movements occur as a response to several different impacts of climate change. Populations may be forced to leave their habitual residence because of rising sea levels, desertification or permafrost melt, increased frequency of storms, floods, cyclones and heat-waves. Furthermore, changes to regional weather systems may lead to reduced access to essential resources such as water, damage of fishing and farming activities, exploitation of basic energy resources. Such a resource scarcity can exacerbate pre-existing conflicts or lead to new conflicts for land or water that will displace populations once more.

As far as the Arctic is concerned, no need to say that the thawing of the ice impacts the whole planet since it leads to a major rise of sea levels in other areas of the planet, to loss of fertile land and crop productivity and subsequently to forced movement of populations towards more viable regions.

So far, the majority of the environmental migration movements takes place within national borders, although it is highly possible that great environmental migration flows from South to North will be created. Also, 80% of the people displaced by climate change are women, according to a BBC report.

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https://ec.europa.eu/environment/integration/research/newsalert/pdf/how_should_governments_respond_to_human_migration_as_a_result_of_climate_change_51si3_en.pdf

CONCLUSIONS (& proposals)

As we can conclude from the present thesis, the Arctic is an area of high geopolitical and geostrategic importance. Furthermore, as it acts as a global refrigerator, it affects and is affected more than any other part of the world by the accelerated climate change, having a major impact on the global environmental conditions.

The melting of the Arctic creates threats and opportunities. The positive effects of this phenomenon are the possibility of exploration and exploitation of its rich natural resources in energy (oil, natural gas, hydrocarbons), rare earths, fishery and the creation of new routes for shipping and tourism. On the other hand, the negative impacts are environmental as it leads to a rise of global temperatures, rise of sea level and subsequent coastal erosion and intensifies climate change that creates extreme weather phenomena such as floods, storms, hurricanes, tsunamis, wildfires and creates the conditions for environmental migration; the negative effects are also political as peripheral conflicts or even wars may occur provoked by disputes among States that claim sovereign rights over Arctic territory and sea with the scope to exploit its valuable resources. Conflicts may also arise from the need to gain dominance over scarce natural resources, meaning water, land, oil, natural gas etc, in other parts of the world.

Summarizing the above, the Arctic may trigger conflicts that will have a global impact; either conflicts in the traditional sense, meaning wars between arctic and/or non-arctic states to obtain dominance over the Arctic' s natural resources pe ng, hydrocarbons or conflicts in the modern sense, meaning conflicts over scarcity of natural resources such as land or water due to climate change and planet's overheating that may subsequently lead to climate migration as well.

So far, all the interested parties, states and international organizations, have managed to settle their disputes through peaceful means, by diplomacy and with respect to the international law, particularly the UNCLOS, bilateral agreements and claims to the Commission on the Limits of the Continental Shelf (CLCS). However, the UNCLOS still has a significant number of legal gaps meaning legal issues, generally and for the Arctic area in particular, that haven't been regulated yet and need further clarification in the future.

So, a first proposal of the present thesis is that the UNCLOS is amended and complemented with specific provisions for the Arctic area in matters of sovereign rights of Arctic states, non- arctic states and international unions and organizations with the scope of a fair distribution of territories and seas and to avoid a possible militarization of the area as well as in matters of protection of the marine environment in order to preserve the valuable ecosystem of the area, to promote scientific collaboration and research and to tackle the effects of the accelerated climate change.

In addition to the amendment of the UNCLOS, as described above, the need for a stronger, united Arctic governance cannot be denied along with the formation of an international “Arctic Treaty” based on the model of the Antarctic Treaty. Such a treaty, that would be legally binding, would establish a single regime for the area and would set the rights and duties of the states and organizations that would sign it, could preserve the peaceful character of the area against wills of various states and other international players such as multinational companies to turn the area into a storage of nuclear weapons, a field of military bases or a territory of extended infrastructure for the exploitation of its rich natural and energy resources. In addition, such a treaty should respect the rights of the indigenous people and could provide guidelines for the establishment of an Arctic governance.

Last but not least, given that the Arctic area is highly linked to the effects of climate change, the international environmental legislation must be enhanced. The existing legal framework, consisting mainly of the UN Framework Convention on Climate Change and the Paris Agreement, should be constantly updated based on the constantly changing climatic conditions globally and should become more specific on the effects of climate change on the Arctic and vice versa. But besides the adoption of an enhanced environmental legislation, greater importance must be accredited to the actual implementation of the environmental laws and the compliance of states and other players to the legislative framework if we want to say that we will tackle the effects of climate change and will preserve the valuable ecosystem of the Arctic.

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