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THE END OF THE "ICE-COLD WAR" IN THE ARCTIC – CHALLENGES IN INTERNATIONAL ECONOMIC LAW

SUMMARY

As a result of climate change, the Arctic region is undergoing dramatic transformation due to melting, which creates new challenges for international economic law. The Arctic coastal states began having maritime boundary disputes concerning the interpretation of limits of their exclusive economic zones beyond 200 nautical miles to cover the extended continental shelf. Thus, they would extend their sovereign rights over the natural resources of the sea floor causing an "ice-cold war" in the zone.

After an analysis of the Arctic legal governance, as well as of its economic activities like scientific research, energetic and fishing exploitation and shipping, it can be stated that a continental shelf race will not take place because of economic and security interests of states in the region, which can be solved efficiently on a basis of international cooperation.

Key words: Arctic, climate change, fisheries, energy, transit

1 INTRODUCTION

Climate change is causing melting in the Arctic Ocean, which awoke international interest in the region owing to new economical challenges regarding scientific research, energetic and fishing exploitation as well as new shipping routes. However, there is a fragment of international law regarding Arctic zone legal questions that the international community should solve first.

Accordingly, this paper analyzes the legal framework in the Arctic and the new economic activities that have emerged to understand its challenges in international economic law. Thus, the author has divided this paper into five sections. After this brief introduction, Section II explains the particular features of the Arctic Ocean; Section III studies the consequences of climate change in the economic activities of the Arctic region; Section IV examines the issue of sovereignty in the Arctic; and Section V concludes with the key term of the Arctic zone: cooperation.

2 SPECIAL FEATURES OF THE ARCTIC OCEAN

2.1 Geographical features: Legal status of sea ice

The Arctic Ocean is the central part of the "marine Arctic", which is a term used by the Arctic Climate Impact Assessment (ACIA)[1] that involves Baffin, Hudson, and James Bays; the Labrador, Greenland, Iceland, Norwegian, and Bering Seas; and the Arctic Ocean.[2] The area includes 3.5 million km^2 of cold, low-salinity surface water and seasonal sea ice linked to the Arctic Ocean and some parts of the North Atlantic and North Pacific Oceans. The main basins of the Arctic Ocean are Eurasian and Canadian (more than 4000m deep and landlocked). The total ocean region consists of 11.5 million km^2, being 60% thereof continental shelf.[3]

The main feature of the marine Arctic is its composition of sea ice as a unique biological habitat, which has a strong influence on climate change impacts due to its increasingly reduction over the years because of the global warming.[4] It has two primary forms: seasonal ice (first-year ice) and perennial ice (multi-year ice).[5] The former refers to the first winter of growth or first summer of melt, where the ice thickness reaches 2.5 m in the high Arctic at the end of winter.[6] Thus, the first-year ice becomes multi-year ice after surviving the summer. This creates, over several years, ice floe without ridges almost salt-free that can be 3 m thick at the end of winter.[7] Whereas the seasonal ice decreases from 15 million km^2 in March to 7 million km^2 in September, the perennial ice is about 5 million km^2 and approximately 10% of Arctic sea ice exists through Fram Strait (between Greenland and the Norwegian Archipelago Svalbard).[8] This shows the sea ice's physical dimensions to take into account when regulating.

Thereby, if the sea ice is the main characteristic of the Arctic Ocean, what is the legal status of sea ice under international law? The Law of the Sea Convention of 1982 (LOSC)[9] does not deal directly with the legal status of ice. Thus, Art.234 LOSC (provision that was negotiated between the United States, the Soviet Union and Canada) simply refers to "ice-covered areas" when regulating for the prevention of pollution and safety of navigation in ice-covered areas within the exclusive economic zone (EEZ), without specifying where the baselines for the EEZ are to be located.[10]

[1] Arctic Climate Impact Assessment: It is "an international project of the Arctic Council and the International Arctic Science Committee (IASC), to evaluate and synthesize knowledge on climate variability, climate change, and increased ultraviolet radiation and their consequences.", available on the Internet at: <http://www.acia.uaf.edu> (visited 25 March 2013).

[2] Gordon McBean, *Arctic Climate: Past and Present*, Arctic Climate Impact Assessment Scientific Report, Cambridge University Press, 2006, pp. 21-60 at 26.

[3] *Ibid*., at 26.

[4] John E. Walsh, *Cryosphere and Hydrology*, Arctic Climate Impact Assessment, Scientific Report, Cambridge University Press, 2006, pp. 183-242 at 189.

[5] See McBean, above, at 30.

[6] *Ibid*., at 30.

[7] *Ibid*., at 30.

[8] See McBean, above, at 30. The multilateral Svalbard Treaty of 1920 settled the territorial conflict between Norway and the USSR. It granted Norway sovereignty over the Svalbard archipelago conceding the mineral, industrial, and commercial rights to all signatory states.

[9] The United States is not a contracting party of the LOSC.

[10] Art.234 LOSC: "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."

Since the 1960s, the United States (US) and the Soviet Union (USSR) could navigate under the ice with nuclear-powered submarines[11] and Canada saw its sovereignty claims in the area of the Northwest Passage covered by means of the sector theory (division of the Arctic into sectors measured by meridians of longitude),[12] which influenced defining this part of the law. However, it is interesting to note that Art.234 LOSC explicitly reads "ice-covered areas within the limits of the exclusive economic zone". This implies for some that the Article refers to floating ice, which a state cannot claim because it is located within the EEZ.[13] If ice is equated to land, it would generate a territorial sea and, therefore, it could not be inside of the EEZ.[14] Since Art.234 LOSC explicitly mentions "ice within the EEZ", it is clear that pack ice cannot be claimed.

In that way, one problem to claim that ice can generate territorial sea baselines, unlike land, is its transitory nature. Even though Art.7(2) LOSC[15] deals with unstable coasts, it must be read in the light of paragraph 1 of the same Article,[16] which only applies "where the coastline is deeply indented or cut into, or if there is a fringe of islands along the coast in its immediate vicinity" and it is limited to deltas.[17] Nevertheless, there is no common agreement, and the majority opinion among international publicists is that when ice has permanent character it should be treated as land or as *sui generis* capable of generating territorial sea baselines.[18] In the latter case, the preferred methods for determining the baselines are either to use an average of known sea fronts of the ice or the mentioned unstable coast legal provision of At.7 LOSC.[19]

2.2 Arctic legal governance

The geopolitical and geostrategic relevance of the Arctic lies in its special geographical location because it adjoins three continents: America, Europe and Asia. Hence, if one state possesses a portion thereof the direct consequence would be the control of new aerial and maritime routes.

There are several international conventions that entered into force for the five Arctic coastal states, which regulate different economic activities at sea. Consequently, in the Arctic: the Geneva Maritime Conventions of 1958 –Convention on the High Seas, Convention on the Continental Shelf, Convention on Fishing and Conservation of the Living Resources of the High Seas and Convention on the Territorial Sea and the Contiguous Zone-; the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters of 1972; International Convention for the Prevention of Pollution from Ships of 1973; or the UN Straddling Fish Stock Agreement of 1995.

Even though LOSC is a fundamental multilateral convention that codifies the law of the sea, pursuant to Art.311(1) LOSC, the "Convention shall prevail, as between States Parties, over the Geneva Conventions on the Law of the Sea of 29 April 1958". It only totally applies to four of the five coastal Arctic states, because

[11] Michael Byers, *Who owns the Arctic? Understanding Sovereignty Disputes in the North*, Douglas & McIntyre Publishers Inc., Canada, 2010, at 75: "Nuclear-powered submarines do not require oxygen for propulsion and are therefore not dependent on the surface of the water being free of ice. […] Canada never possessed a submarine that could travel under the ice."

[12] Stuart B. Kaye, *Territorial Sea Baselines Along Ice Covered Coasts: International Practice and Limits of the Law of the Sea*, Ocean Development & International Law, volume 35, issue 1, 2004, pp.75-102 at 79.

The sector theory to Arctic waters has never been accepted internationally.

Ivan L. Head, *Canadian claims to territorial sovereignty in the Arctic regions*, McGill Law Journal, vol.9, No.3, 1963, pp. 200-226 at 202-203: "An *Arctic sector* […] is compounded of only two ingredients: a base line or arc described along the Arctic Circle through territory unquestionably within the jurisdiction of a temperate zone state, and sides defined by meridians of longitude extending from the North Pole south to the most easterly and westerly points on the Arctic Circle pierced by the state. Under the theory, nations possessing territory extending into the Arctic regions have a rightful claim to all territory - be it land, water or ice - lying to their north. This claim springs from the geographical relationship of the claimant state to the claimed territory; the two areas must be contiguous along the Arctic Circle."

[13] See Kaye, above, at 79.

[14] CC. Joyner, *Ice-covered regions in international law*, Natural resources journal, volume 31(1), 1991, pp.213-242 at 220-229.

[15] Art.7(2) LOSC: "Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention."

[16] Art.7(1) LOSC: "In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured."

[17] See Kaye, above, at 95.

[18] *Ibid*., at 97.

[19] See Kaye, above, at 97.

the United States is not a part thereof, nor of the UNCLOS[20] Implementation Agreement of 1994. Hence, as regards the five Arctic coastal states, the Geneva Maritime Conventions of 1958 and the customary Arctic regional law wholly govern the Arctic Ocean. In this regard, it is noteworthy that regional, bilateral, and national agreements have created international customary law on the Arctic.[21] These treaties include: the legislative and treaty practice of Tsarit Russia, the USSR and Russia in the Arctic; the legislative and treaty practice of Canada in the Arctic; relevant laws and treaty practice of other Arctic coastal states; and acquiescence with such practices from the majority of the states from the 15th to 20th centuries, together with the absence of relevant persistent objectors.[22] Some authors consider, therefore, that relevant *opinio juris* has been formed regarding those practices in the Arctic.[23]

Nevertheless, LOSC also governs the Arctic Ocean concerning the principles of general international law,[24] which several declarations have confirmed, *e.g.* the Ilulissat Declaration on 28 May 2008[25] or the Tromsø Declaration on 29 April 2009.[26] Thereby, if the Arctic[27] is considered a semi-enclosed sea,[28] it is subject to Art.123 LOSC, which requires cooperation among bordering states in a scientific research. Other multilateral and regional agreements on specific issues apply to the Arctic, such as the Convention on Biological Diversity (1992) or the Agreement on the Conservation of Polar Bears (1973) respectively. In addition, scientific important organizations for the Arctic are the International Council for the Exploration of the Sea (ICES), the International Arctic Science Committee (IASC) and the European Polar Board.[29]

Even though there is not an Arctic Treaty, unlike the Antarctica,[30] it is remarkable that the Arctic states cooperate within the Arctic Council (AC)[31] signing several declarations[32] to collaborate and to establish Arctic governance. The Arctic Council, which the 1991 Arctic Environmental Protection Strategy (AEPS)[33] preceded and established by the non-binding document Ottawa Declaration (1996), does not have a permanent secretariat. The AC was divided into two groups, namely A5 and A8. The group A8 represents the original structure of the AEPS and later of the AC, *i.e.*, Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States. The A5 consists of the inner coastal states (sanctum), which are increasingly considered the states with legitimacy to act in the region under international law, *i.e.*, Canada, Denmark, Norway, Russia and the United States.[34] However, due to its relevance

[20] UNCLOS: United Convention on the Law of the Sea.

[21] Alexander N. Vylegzhanin, "Economic Activities in the Arctic Ocean – Universal, Regional and National Regulation", in Cécile Pelaudeix, Alain Faure & Robert Griffiths (eds.): *What holds the Arctic together?,* L'Harmattan, Paris, 2012, pp. 137-150 at 144.

[22] See Vylegzhanin, above, at 145.

[23] *Ibid*., at 148.

[24] There are some legal provisions of LOSC that are not considered by the US as part of customary international law.

[25] The Ilulissat Declaration, adopted by Canada, Denmark, Norway, the Russian Federation and the United States of America at the Arctic Ocean Conference in Greenland: "Notably, the *law of the sea* provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf, the protection of the marine environment, including ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea. We remain committed to this legal framework and to the orderly settlement of any possible overlapping claims.", p.1.

[26] Tromsø Declaration, adopted by the eight Arctic states in Norway: "Recalling that an extensive legal framework applies to the Arctic Ocean including, notably, *the law of the sea*, and that this framework provides a solid foundation for responsible management of this ocean.", p.1.

[27] The Arctic consists of the Arctic Ocean and parts of Canada, Russia, Denmark (Greenland), Norway, The United States (Alaska), Sweden, Finland and Iceland.

[28] Art.122 LOSC: "For the purposes of this Convention, "enclosed or semi-enclosed sea" means a gulf, basin or sea surrounded by two or more States and connected to another sea or the ocean by a narrow outlet or consisting entirely or primarily of the territorial seas and exclusive economic zones of two or more coastal States."

[29] Yoshinobu Takei, *Polar Complications in the Law of the Sea: A Case Study of the Regime for Research and Survey Activities in the Arctic Ocean*, (Presentation given at the Sixth ABLOS Conference "Contentious Issues in UNCLOS – Surely Not?", International Hydrographic Bureau, Principality of Monaco, 25-27 October 2010, p.3.).

[30] The Antarctic Treaty System (ATS) of 1961, with 50 signatory states, regulates international relations concerning the Antarctica. Nonetheless, it is important to emphasize that, whereas the Antarctic is a continent surrounded by an Ocean that remains *res nullius*, the Arctic is an Ocean surrounded by inhabited territories.

[31] The Arctic Council is a high-level intergovernmental forum to promote cooperation, coordination and interaction among the Arctic States.

[32] Arctic Declarations: Ottawa Declaration (1996), Iqaluit Declaration (1998), Barrow Declaration (2000), Inari Declaration (2002), Reykjavik Declaration (2004), Salekhard Declaration (2006), Tromsø Declaration (2009) and Nuuk Declaration (2011).

[33] Before the beginning of the negotiations for the AEPS in 1989 the Arctic was not intended to be a place for intergovernmental cooperation because of the relations between the two super powers of the Cold War. Finally, the AEPS was adopted by the eight Arctic states in 1991 to protect the Arctic ecosystem.

[34] Heather N. Nicol, *Human Security, the Arctic Council and Climate Change: Competition or Co-existence?*, Polar Record, Cambridge University Press, 2013, pp. 1-6 at 3.

in the Arctic governance, there are powerful states that want to have the observer status into the Council, such as China, South Korea or the entity of the European Union (EU).[35] In particular, because of the navigational and fisheries interests of the EU in the Arctic region,[36] it would be important for the EU to achieve a more inclusive governance arrangement for the Arctic.[37] However, on 29th April 2009 the AC rejected the European Union's application for observer status. The Inuit Circumpolar Council (ICC),[38] by the EU and by the US, supports the idea of improving the role of the Arctic Council; nevertheless, nowadays the creation of an Arctic Treaty in the same line as the Antarctic Treaty System is unlikely, which the future evolution of the Arctic Council compensates.[39] Thus, in the absence of an Arctic Treaty, on 12th May 2011 the Member states of the AC signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR), which is the first binding agreement negotiated within the AC.

Moreover, the International Maritime Organization (IMO) adopted on 2nd December 2009 the *Guidelines for Ships Operating in Polar Waters* (A 26/Res.1024), based on the *Guidelines for Ships Operating in Arctic Ice-Covered Waters* (MSC/Circ.506) of 2002. The 2009 Guidelines are not-binding because they have a recommendatory character and apply to both the Antarctica and the Arctic. They (A 26/Rs.1024) consider the climatic conditions of Polar waters to meet appropriate standards of maritime safety and pollution prevention,[40] basing their damage stability provisions on the revised chapter II.1 of the International Convention for the Safety of Life at Sea (SOLAS) of 1974. Thus, they apply until the adoption of the Polar Code, which will have a mandatory character and a much more precise spatial definition. The Polar Code will also have a specific description of the features of both Polar Regions; it would cover the full range of design, construction, equipment, operational, training, search and rescue and environmental protection, matters relevant to ships operating in the waters of the two poles.[41] As a result, a globalized Polar legal framework that regulates security for ships operating in polar waters.

3 CLIMATE CHANGE IN THE ARCTIC – CHALLENGES IN INTERNATIONAL ECONOMIC LAW

Climate change, which was recognized as an unquestionable reality by the IPCC[42] Fourth Assessment Report in 2007, could be qualified as the main threat for the Arctic because it causes the fast disappearance of its layer of ice from summer to summer. According to scientists, the Arctic could loss its sea-ice in 10 or 20 years, which would mean an increase of the heat absorption of solar radiation by the earth and consequently the liberation of high levels of greenhouse gas emissions.[43]

Thus, the thermohaline circulation of the ocean affects global climate, which transports heat via a poleward flow of warm surface water and an equatorward return of cold, less saline water at depth.[44] The frequency and intensity of overturning influence the density of water at the surface, which affects the outflow of low-salinity water from the Arctic. An increase in the Arctic outflow reduces the overturning and, consequently, the oceanic flux of heat, resulting in the elimination of atmospheric CO^2 to the deep ocean.[45]

There is a clear relationship between atmospheric temperature increases (with high levels of CO^2) and sea ice extent. Sea ice, as the fun-

[35] Timo Koivurova, *Limits and Possibilities of the Arctic Council in a rapidly changing scene of Arctic Governance*, Polar Record 46 (237), Cambridge University Press, 2010, pp. 146–156 at 149.

[36] There are three EU-member states that are Arctic states: Denmark, Finland and Sweden. In addition, Iceland has applied for EU membership

[37] See Koivurova, above, at 152.

[38] The ICC is a multilateral non-governmental organization and Indigenous Peoples' Organization representing the Inuit people, with status of Permanent Participant on the Arctic Council.

[39] See Koivurova, above, at 152.

[40] IMO, Media Centre: "Shipping in Polar Waters - Development of an international code of safety for ships operating in Polar waters (Polar Code)", available on the Internet at: <http://www.imo.org/MediaCentre/hottopics/polar/Pages/default.aspx> (visited 16 April 2013).

[41] *Ibid*.

[42] The IPCC is the Intergovernmental Panel on Climate Change established by the United Nations to provide comprehensive scientific assessments about the risks of climate change.

[43] Greenpeace: "El Ártico y los efectos del cambio climático en España – Salvar el Ártico es salvar mucho más", March 2013, pp. 1-32 at 5.

[44] See McBean, above, at 32.

[45] *Ibid*., at 33.

damental feature of the marine Arctic, is sensitive to climate change because it reflects solar radiation and insulates the ocean waters against loss of heat and moisture, particularly during winter.[46] Accordingly, if there is a thermal expansion of ocean waters in the Arctic, this results in an increase of the sea levels in the Atlantic and the Pacific through Bering Strait, Fram Strait and the Canadian Archipelago, which affects ecosystems and communities near coastlines and has effects in the whole world.[47]

To avoid this situation, the Durban Climate Change Conference of 2011 agreed to launch a new platform of negotiations under the UN Climate Change Convention (UNCCC) to create a new and universal greenhouse gas reduction protocol with legal force by 2015 for the period beyond 2020.[48] In addition, the melting of sea ice increases the panorama of resource exploration in the Arctic, which represents a challenge for international economic law. The next sections will analyze the main areas affected.

3.1 Scientific research

Part XIII of LOSC and other relevant provisions, thereof, constitute the legal framework for marine scientific research activities.[49] Art.239 LOSC, which provides the promotion and facilitation of marine scientific research,[50] forms the basis for some international legal instruments that refer the relevance of scientific research in the Arctic Ocean The agreements referred include: the Agreement on the Conservation of Polar Bears, Article VII; Declaration on the Establishment of the Arctic Council, preamble, para.5; Agreement between Canada and the United States of America on Arctic Cooperation (Ottawa, 11 January 1988), para.3; Agreement between the Denmark and Canada for Cooperation Relating to the Marine Environment (Copenhagen, 26 August 1983), Article VI. The relevance of scientific research is also a prerequisite to apply Art.234 LOSC, whose last sentence states: "[s]uch 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*."

However, LOSC does not define "marine scientific research", which is problematic because not all types of researches are unanimously considered "marine scientific research". This is the particular case of "hydrographic surveys".[51] Thus, LOSC does not provide the right to conduct hydrographic surveys for ships either during the right of innocent passage in territorial waters, the EEZ or the high seas. To solve the controversy, it could be argued that, based on Art.87(1)(f) LOSC,[52] hydrographic surveys could be considered as a form of survey activities or scientific research in the high seas. In the same line, the freedom of scientific research in the high seas, and, therefore, of hydrographic surveys, could be applied to the EEZ in the light of Art.58(1) LOSC[53] and Art.58(2) LOSC.[54] On the contrary, other scholars are of the opinion that hydrographic surveys in the EEZ of another state shall be performed with the express consent of the coastal state.[55]

[46] See McBean, above, at 33.

[47] *Ibid*., at 33.

[48] United Nations Framework Convention on Climate Change: "Durban – Towards full implementation of the UN Climate Change Convention", available on the Internet at: <http://unfccc.int/key_steps/durban_outcomes/items/6825.php> (visited 3 April 2013).

[49] In particular there are remarkable LOSC Articles 19(2), 21(1), 40, 87, 143, 245-246 and 256-257.

[50] Art.239 LOSC: "States and competent international organizations shall promote and facilitate the development and conduct of marine scientific research in accordance with this Convention."

[51] Yoshinobu Takei, *Polar Complications in the Law of the Sea: A Case Study of the Regime for Research and Survey Activities in the Arctic Ocean*, (Presentation given at the Sixth ABLOS Conference "Contentious Issues in UNCLOS – Surely Not?", International Hydrographic Bureau, Principality of Monaco, 25-27 October 2010, p.4.). To read more about the concept of "hydrographic surveys" see: Advisory Board on Law of the Sea (ABLOS), "A Manual on Technical Aspects of the United Nations Convention on the Law of the Sea – 1982", Special Publication No. 51, 4th edition (2006), at Chapter 1, pp. 7-8.

[52] Art.87(1)(f) LOSC: "freedom of scientific research, subject to Parts VI and XIII."

[53] Art.58(1) LOSC: "*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, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention."

[54] See Takei, above, at 4.

See Art.58(2) LOSC: "Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part."

[55] Ocean Policy Research Foundation, EEZ Group 21, "Guidelines for Navigation and Overflight in the Exclusive Economic Zone" (2005), at Article IX(a), first sentence: "Hydrographic surveying should only be conducted in the EEZ of another state with the *consent* of the coastal state."

The obligation to preserve and to protect the marine environment by virtue of Part XII LOSC also affects scientific research. Even though there is no particular reference to the Arctic in LOSC, the majority opinion states that the drafters of LOSC had in mind the Arctic Ocean while drafting Art.234 LOSC (ice-covered seas).[56] Art.234 LOSC refers to "non-discriminatory laws or regulations" for the protection of marine environment within the limits of the EEZ in ice-covered areas, but it does not mention international standards. As a result, states may have stricter regulations in their EEZ of the Arctic area.[57] Thereby, unless national laws indicate the opposite, research vessels would be covered by this Article as a type of "vessels".[58]

Assuming hydrographic surveys are governed by a different regime from marine scientific researches, the question now is whether hydrographic surveys can be regulated by coastal states within their EEZ by virtue of Art.234 LOSC, which mention the notion of "pollution of the marine environment". This concept is defined broadly by Art.1(1)(4) LOSC as follows: "the introduction by man […] of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health [or] to marine activities […]." Thus, if seismic surveys impact marine mammals, it could be affirmed that hydrographic surveys might fall within the definition of "pollution of marine environment" and consequently, coastal states may regulate such activities within their EEZ under Art.234 LOSC.[59]

3.2 Energetic exploitation – Energy efficiency and security

The rapid melting in the Arctic as the result of climate change allows the passage of ships through new routes available for transit during the summer and makes the oil and gas deposits under the Arctic seabed much easier to access, which benefits oil companies to explore the Arctic and to exploit the potential oil and gas bourses. In this sense, the US Geological Survey (USGS) estimates the energetic reserves in the Arctic as follows: 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, of which about 84% is expected to be found in the offshore areas.[60] This is enough to meet global demands approximately for three years.[61]

LOSC is the global convention that establishes the rights and obligations of coastal states to regulate oil and gas exploration and production in their EEZ and on their continental shelf,[62] as well as to protect the marine environment controlling pollution form devices, such as oil rigs in order to keep energy security. Pursuant to Art.58(1) LOSC, in the EEZ other states, different from the involved coastal states, enjoy the freedom of navigation and the right to lay submarine cables and pipelines. This is important because until now LOSC is the only multilateral convention accepted by the Arctic states to regulate their relationships.

The Tromsø Declaration (2009) is an instrument that publishes the working goals of the Arctic Council for present and in the future. Thus, it decided "to strengthen cooperation on prevention of, and response to accidental spills of oil and hazardous substances in the Arctic", based on the legal provisions: "protection of the marine environment" of Art.145 LOSC, on the general obligation of Art.192 LOSC to protect the marine environment and on Art.197 LOSC.[63] In addition, the Declaration bases its arguments regarding energy on the "UN Environment Programme" (UNEP). It urges mem-

[56] S. Rosenne, & A. Yankov (eds.), United *Nations Convention on the Law of the Sea 1982: A Commentary* (Virginia Commentary), vol. IV (1991), at pp. 392-398.

[57] A. Chircop, The *Growth of International Shipping in the Arctic: Is a Regulatory Review Timely?*, 24 International Journal of Marine and Coastal Law (2009), at pp. 369-370.

[58] See Takei, above, at 6.

[59] *Ibid*., at 6.

The impacts of seismic testing on marine mammals were discussed in the case in the Nunavut Court of Justice in Canada: *Qikiqtani Inuit Association vs. Canada (Minister of Natural Resources)*, Nunavut Court of Justice, Judgment of 8 August 2010, 2010 NUCJ 12.

[60] Peter H. Stauffer, *Circum-Arctic Ressource Appraisal – Estimates of Undiscovered Oil and Gas North of the Arctic Circle*, Circum-Arctic Resource Appraisal Assessment Team, USGS Fact Sheet 2008-3049, 2008, available on the Internet at: <http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf> (visited 3 April 2013).

[61] See Byers, above, at 10.

[62] See Articles 56, 60, 81 and 193 of LOSC.

[63] Art.192 LOSC: "States have the obligation to protect and preserve the marine environment."

Art.197 LOSC: "States *shall cooperate* on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, *in formulating* and elaborating *international rules, standards* and recommended practices and procedures consistent with this Convention, *for the protection and preservation of the marine environment*, taking into account characteristic regional features."

ber states to apply the precautionary approach of Principles 15 and 16 of the Rio Declaration (1992), as well as to conduct environmental assessment for "exploration, development, transport and storage of oil".[64] In addition, it recognizes the potential of "energy efficiency", which was a concept developed in the UN Conference on Sustainable Development (UNCSD) of 2012 - the so called "Rio+20" -,[65] in the Arctic region via renewable energy resources as a unique development opportunity.

In this regard, it is interesting to note that the UNCSD discussed the concept of "green economy",[66] which is fundamental for "energy efficiency". Energy is the main contributor to climate change because it accounts for around 60% of greenhouse gas emissions. Hence, the reduction of carbon intensity of energy is fundamental for long-term climate goals. This can be achieved through "energy transition", which means the transition to sustainable economy by means of renewable energy, energy efficiency and sustainable development. The author draws attention to the fact that "energy efficiency", which is one of the goals of the Arctic Council set up in the Tromsø Declaration, is a key part thereof.

Furthermore, the Tromsø Declaration approves "the revised Arctic Council Offshore Oil and Gas Guidelines [29 April 2009] and urges all States to apply these Guidelines throughout the Arctic as minimum standards in national regulations to keep energy security." These Guidelines "are intended to be of use to the Arctic nations for offshore oil and gas activities during planning, exploration, development, production and decommissioning." (the first paragraph of the Guidelines' purpose). They establish four general principles, some of which the Principles of the Rio Declaration form the basis:[67] Principles of the precautionary approach (Principle 15 of the Rio Declaration); Polluter pays Principle (Principle 16 of the Rio Declaration); Principle of continuous improvement; and Principle of sustainable development.

Linking the UNEP mechanisms with the Arctic Council instruments, the Tromsø Declaration fosters the protection of the Arctic marine environment, not only founded on the basic LOSC legal provisions, but on a higher level. This is very important to achieve energy efficiency in the Arctic, taking into account its relevance in the climate change.

3.3 Fishing exploitation – Fisheries subsidies

During the past decades the ice floe in the Arctic was a *de facto* natural marine reserve for fishing; local fishermen were fishing in a sustainable way over the years. In fact, regional and bilateral agreements cover fishery activities in the Arctic seas, such as the 1980 North-East Atlantic Fisheries Convention or the Norwegian-Russian Federation Fisheries Commission. However, with melting ice new fishing-grounds appear and, consequently, industrial fishing fleets start to exploit the marine re-

[64] United Nations Environment Programme (UNEP), Environment for Development: "Rio Declaration on Environment and Development", 3-14 June 1992, available on the Internet at: <http://www.unep.org/documents.multilingual/default.asp?documentid=78&articleid=1163> (visited 4 April 2013):

Principle 15: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

Principle 16: "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

[65] Energy efficiency is developed by paragraphs 128, 129 and 136 of the UN General Assembly Resolution 66/288, "The Future We Want" (Zero Draft of the Outcome Document of the Conference "Rio+20"), as a result of the "Rio+20" UN Conference on Sustainable Development, 20-22 June 2012. More accurate is the initiative by the Secretary General on "Sustainable Energy for All", that focuses on access to energy, energy efficiency and renewable energies. This initiative is considered to be launched by para.136 of the agreement "The Future We Want" to make "sustainable energy for all a reality, and through this, help eradicate poverty and lead to sustainable development and global prosperity."

[66] "Green economy" focus the concept not only on environment, but also on social aspects:

Definition by the UNEP: "Economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities."

Definition by GA Res. 66/288: "Green economy should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems."

[67] Paragraph 17 of the "The Future We Want" recognizes "the importance of the three Rio Conventions to advancing sustainable development and in this regard we urge all Parties to fully implement their commitments under the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD), in accordance with their respective principles and provisions."

sources of the Arctic Ocean, which affects the local ecosystems because of the risk of overexploiting.

Coastal states have sovereignty over fishing resources within their own EEZ; nevertheless, this is not the case for the high seas. In this sense, Art.87 LOSC[68] applies the freedoms of the high seas to "all parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State." (Art.86 LOSC), establishing an open access regime. Thus, Art.87(1)(e) LOSC sets up the freedom of fishing, which is supported by Art.116 LOSC ("right to fish on the high seas"), which could be understood as a potential problem for overexploitation of fishing resources, especially in the area of the Arctic Ocean (at the centre of the Arctic Ocean) that does not fall within the maritime boundaries of any coastal state. To solve this, it is important to mention Articles 118 and 119 LOSC, which impose the obligation on states to cooperate in the conservation of marine living resources as well as the possibility to go to arbitration in case of violation of regional or sectoral agreements.[69] These legal provisions protect the conservation of fisheries in the high seas. In addition, the five Arctic coastal states signed the United Nations Fish Stocks Agreement of 1995 to complete LOSC regarding responsible fisheries in the high seas.[70]

In relation to overfishing of Arctic fish stocks, it is fundamental to eliminate harmful fishing subsidies to fleets[71] because it increases their fishing capacity causing that ships can fish longer, harder and further away exhausting marine living resources.[72] This can be shown, for instance, with the case of migratory fish species, where subsidized fleets can adapt itself for fishing better -increasing their trade expectations- than those fleets that are not subsidized. Since fisheries subsidies are a generalized practice in the global economy, the World Trade Organization (WTO) launched at the Doha Ministerial Conference negotiations to improve WTO disciplines on fisheries subsidies. These negotiations were intensified in 2005 at the Hong Kong Ministerial Conference[73] as an Annex to the WTO Agreement on Subsidies and Countervailing Measures (SCM), the Annex VIII. Albeit subsidies have an unquestionable economic dimension because they are mechanisms that may distort trade,[74] they were included into the WTO negotiations because of their negative environmental impact concerning fishing overexploitation.[75] In this sense, a specific regulation within the WTO SCM legal framework is necessary because the SCM focus on subsidies with regard to trade distortions and it does not deal with economic problems within the productive area.[76]

Thus, the draft of Annex VIII to the SCM ("Fisheries Subsidies") sets up in Art.1 the prohibition of certain harmful fisheries subsidies that contribute to overcapacity and overfishing, *inter alia*: (1) subsidies conferred on the acquisition, construction, repair, renewal, renova-

[68] Art.87 LOSC: The freedom of the high seas includes, inter alia: "(a) freedom of navigation; (b) freedom of overflight; (c) freedom to lay submarine cables and pipelines, subject to Part VI; (d) freedom to construct artificial islands and other installations permitted under international law, subject to Part VI; (e) freedom of fishing, subject to the conditions laid down in section 2; (f) freedom of scientific research, subject to Parts VI and XIII."

[69] See Art.188 LOSC, Annex VII LOSC and Annex VIII LOSC

[70] A/CONF.164/37, Objective of the Convention – Art.2: "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of the Convention." See the general principles of the Convention established by Art.5 thereof.

[71] GRID-Arendal, Publications: "The Environment Times – Arctic Times", August 2002, p.15, available on the Internet at: <http://www.grida.no/publications/et/at/> (visited 8 April 2013).

GRID-Arendal is a centre based in Norway since 1989 that collaborates with the UN Environmental Programme communicating environmental information and facilitating environmental decision-making.

[72] WTO Website: *Introduction to fisheries subsidies in the WTO*: "The Food and Agriculture Organization (FAO) of the United Nations reports that 80 per cent of world fish stocks are either fully exploited or overexploited", available on the Internet at: <http://www.wto.org/english/tratop_e/rulesneg_e/fish_e/fish_intro_e.htm> (visited 8 April 2013).

[73] WT/MIN(05)/DEC, Annex D, paragraph 9 : "the Group should strengthen disciplines on subsidies in the fisheries sector, including through the prohibition of certain forms of fisheries subsidies that contribute to overcapacity and overfishing [...] special and differential treatment for developing and least-developed Members should be an integral part of the fisheries subsidies negotiations."

[74] See Art.1(1) SCM, which defines a subsidy as a financial contribution by a government or a public body conferring a benefit; and Art.2 SCM, which provides that only specific subsidies are subject to the SCM Agreement.

[75] Carlos Teijo García, "El desarrollo progresivo de las normas sobre subvenciones pesqueras en el Derecho de la OMC – Una aproximación a la conservación de los recursos pesqueros desde la perspectiva del Derecho internacional del comercio", in: Julio Jorge Urbina, & María Teresa Ponte Iglesias (eds) *Protección de intereses colectivos en el Derecho del mar y cooperación internacional*, Iustel, Madrid, 2012, pp. 109-140 at 112.

[76] See Teijo García, above, at 114.

tion, modernization of fishing vessels, (2) subsidies conferred on operating costs of fishing including fuel, (3) subsidies in respect of port infrastructure, (4) income support to fishermen, and (5) price support for fisheries products.[77] At the same time, Art.2 of Annex VIII establishes general exceptions for those fisheries subsidies that can be useful, *inter alia*, to improve fishing or service vessel; to adopt environmentally friendly technologies; or for re-education, retraining and redeployment of fish-workers when fisheries activities are not sustainable anymore in a particular region.[78] On the grounds of the negotiations at the Hong Kong Conference of 2005, Art.III of the Annex VIII applies special and differential treatment of developing country Members establishing, *inter alia*, more exceptions for developing country Members, such as exceptions for inshore fishery, and the exception that least-developed country Members are not subject to these prohibitions. These legal provisions are very important for the inshore fishery practiced by the indigenous populations that habit the Arctic, such as the Inuits. It is interesting to add that Annex VIII provides in Art.VIII a specific dispute settlement procedure for fishery.

However, negotiations on fishery subsidies are at present in a deadlock mainly because of different interests concerning the scope of prohibitions on subsidies as well as the special and differential treatment on developing country Members.[79] Thus, a possibility to get going again would be to focus negotiations on international regulation of subsidies over fisheries on the high seas by creating legally binding obligations for states. This leads to renouncement of subsidies for fisheries in the EEZ and in this way, international organizations would be limited to give technical assistance to those countries that want to implement programs to reduce subsidies.[80] In any case, if Annex VIII to SCM comes into force, it would improve considerably the law of the sea regulation regarding conservation and protection of marine life resources due to its insertion within the institutional and substantive legal framework of WTO law.[81]

Due to the feedback between climate change, research of the sea and its living resources as well as fisheries, the Joint Norwegian-Russian Federation Fisheries Commission in 2009 agreed to consult the International Council for the Exploration of the Sea (ICES) about possible consequences of climate change, including the distribution into the Central Arctic Ocean. Since fish stocks in the Atlantic Ocean are moving North owing to climate change,[82] the ICES Convention of 1964 pursuant to Art.2 deals with "the Atlantic Ocean and its adjacent seas and primarily concerned with the North Atlantic". It should be reconsidered if fish populations from the Atlantic Ocean continue to migrate to the Arctic Ocean.[83] This is a clear example of the relevance of fisheries subsidies in the Arctic, as explained above. In such a case, and since the eight Arctic countries are ICES Members,[84] not only LOSC would apply regarding research in the Arctic. Thus, the ICES Convention would also be relevant in the region,[85] which would regulate research on a

[77] TN/RL/W/213, 30 November 2007, Annex VIII, Art.1.

Nakagawa, Junji: "Doha negotiation on Fisheries Subsidies", International Economic Law and Policy Blog, 19 October 2008, available on the Internet at: <http://worldtradelaw.typepad.com/ielpblog/2008/10/doha-negotiatio.html> (visited 8 April 2013).

[78] TN/RL/W/213, 30 November 2007, Annex VIII, Art.2.

[79] WTO Website, Forum: "Fishing Subsidies", WWF Briefing Series, available on the Internet at: <http://www.wto.org/english/forums_e/ngo_e/wwf_fishsubs_e.pdf> (visited 8 April 2013): "Friends of Fish, which includes the United States, Australia, New Zealand, Chile, Iceland, the Philippines and Peru, argue that a reduction in subsidies could result in reduced over-exploitation of the marine environment, the removal of trade distorting subsidies, and lower government expenditure. The inclusion of fishing subsidies within the WTO has been opposed by Japan, Korea, and the EU – among the world's leading subsidisers of fishing – on the grounds that there is no link between subsidies and over-fishing. They have argued that discussions should take place outside the WTO, particularly in the FAO. Since the Doha meeting, the EU have reformed their Common Fisheries Policy, leaving Japan and Korea isolated in their opposition to the inclusion of rules on fishing subsidies within the WTO."

[80] See Teijo García, above, at 140.

[81] Since "fisheries subsidies" is not the main topic of this paper, to read more about it see:

Seung Wha Chang: *WTO Disciplines on Fisheries Subsidies – A Historic Step towards Sustainability*?, Journal of International Economic Law 6(4), Oxford University Press, 2003, pp. 879-921.

[82] Proceedings of the International Arctic Fisheries Symposium: Managing Resources for a Changing Arctic, 19-21 October 2009, Hotel Captain Cook, Anchorage, Alaska, February 2010, at p. 2.

[83] Proceedings of the International Arctic Fisheries Symposium: Managing Resources for a Changing Arctic, 19-21 October 2009, Hotel Captain Cook, Anchorage, Alaska, February 2010, at p. 28.

[84] ICES Members: Belgium, *Canada*, *Denmark*, Estonia, *Finland*, France, Germany, *Iceland*, Ireland, Latvia, Lithuania, the Netherlands, *Norway*, Poland, Portugal, *Russian Federation*, Spain, *Sweden*, United Kingdom, and the *United States of America*.

[85] See Articles 1 and 5 of the ICES Convention.

higher scientific level giving as a result a stronger protection of fisheries in the Arctic.[86]

3.4 Traffic transit

As explained, melting in the Arctic, as a result of climate change, opens new maritime transit routes across the Arctic Ocean that can be used to improve commercial transit, to have faster communications and to encourage investment opportunities. Thus, LOSC and other more specific agreements, such as the International Convention for the Prevention of Pollution from Ships (MARPOL), which the IMO supervises, regulate shipping in the Arctic. However, some authors are concerned that a dramatic increasing in shipping through the new routes can damage the environment; conversely, technological advances in maritime transport could improve the safety of the passage resulting in a routine traffic that benefits world trade.[87] Next, the most important new maritime routes in the Arctic will be analyzed.

3.4.1 Northwest Passage

The Northwest Passage links Europe and the Atlantic Ocean with Asia and the Pacific Ocean. The route is 9000 km shorter than the route through the Panama Canal and 17000 km. shorter than the Cape Horn route, which saves time, fuel and transit fees.[88] In fact, the Northwest Passage's deepwater route could accommodate super-tankers and container ships that are too large for the Panama Canal.[89] Thus, the increasing shipping traffic in this area due to melting has revived debate over the legal status dispute of the Northwest Passage between Canada, which claims that the passage lies in its internal waters, and the United States and the European Union, which argue that it is an international strait.

A vast archipelago of nineteen thousand islands and countless rocks and reefs that open several routes through Canada's High Arctic make up this passage.[90] However, the United States have always considered that the passage is an international strait pursuant to Art.37 LOSC[91] because it connects two expanses of high seas (the Atlantic Ocean and the Arctic Ocean) and it is used for international navigation. From this perspective, Canada owns the waterway and foreign vessels have a right of transit passage.

On the contrary, Canada considers the Northwest Passage as internal waters, which indicates that foreign vessels need Canada's permission and are subject to Canadian domestic law while crossing the strait. Thereby, Canada adopted the 1970 Arctic Waters Pollution Prevention Act (AWPPA) imposing strict environmental requirements on all shipping within 100 nautical miles (today 200 nautical miles after the amendment of AWPPA in 2009, based on Art.57 LOSC)[92] of Canada's Arctic coast.[93] The Canadian Act asserted the principle of international law of maritime control within the EEZ, which was later recognized by LOSC. Thus, Art.234 LOSC could be understood as an international response to Canadian claims regarding Arctic waters.[94] In this manner, Art.234 LOSC covers the Northwest Passage sea traffic control system, with the exception of warships because pursuant to Art.236 LOSC, warships are not subject to Art.234 LOSC.[95]

[86] ICES Website: "ICES is an intergovernmental organization whose main objective is to increase the scientific knowledge of the marine environment and its living resources and to use this knowledge to provide advice to competent authorities." It has "almost 150 Expert/Study Groups that address the many diverse issues of the marine ecosystem.", available on the Internet at: <http://www.ices.dk/explore-us/what-we-do/Pages/default.aspx> (visited 8 April 2013).

[87] James Kraska, *The Law of the Sea Convention and the Northwest Passage*, The International Journal of Marine and Coastal Law, Vol.22, No.2, Koninklijke Brill NV, 2007, pp. 257-281 at 258.

[88] See Kraska, above, at 258.

[89] See Byers, above, at 40.

[90] *Ibid*., at 38.

[91] Art.37 LOSC: "This section [transit passage] applies to traits which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone."

[92] The Bill C-3 is the Act to amend the Arctic Waters Pollution Prevention Act (AWPPA) concerning the definition of "Arctic waters" to extend the geographic application of the Act from 100 to 200 nautical miles offshore Canadian land north of the 60th parallel of north latitude. It entered into force on 11 June 2009.

[93] In 1977 Canada created, under the AWPPA, a voluntary maritime registration system (NORDREG) that applies to all ships larger than 300 tons. In spite of being a voluntary system, 98% of all ships register under the NORDREG.

[94] Anne Choquet, "Towards a common Polar Navigation Code – When the Antarctic and the Arctic converge", in Cécile Pelaudeix, Alain Faure, & Robert Griffiths (eds.): *What holds the Arctic together?,* L'Harmattan, Paris, 2012, pp. 123-136 at 124.

[95] See Choquet, above, at 125: "[Canada and Russia] concurred that the Arctic should be regarded as a special zone for navigation and environmental protection, in accordance with Article 234."

Together with the adoption of the AWPPA, Canada alleged that the straits and channels between the Arctic islands, including the Northwest Passage, were Canadian historic internal waters. To support the historic claim of the Northwest Passage, Canada based its arguments on the three centuries of British exploration in the area (1576-1850), which concluded when Britain transferred title over the archipelago to Canada in 1880, excluding Greenland.[96] Thus, Canada adopted legislation on whaling in the zone and in 1926 designed most of the archipelago as "Arctic Islands Preserve" to protect wild life and the Inuit that lived there.[97]

Concerning the consideration of historic internal waters it is noteworthy that, under international law, three factors are to be taking into account: (1) the exercise of authority over the area of the claiming nation; (2) the continuity of this exercise of authority; and (3) the acquiescence of foreign nations.[98] Thereby, the US and the European Union on the grounds of the third factor suggest that the Northwest Passage does not constitute Canadian internal waters.[99]

According to Donat Pharand,[100] the main mistake of the Canadian "historic waters" argument lies in the fact that this argumentation was not accompanied with an explicit claim to the straits and channels between the islands; the United States always opposed the later expressions of a claim.[101] In this regard, the strongest Canadian claim was based on the occupation by the Inuit, who are Canadian citizens settled in the Arctic that fished, hunted, travelled and lived on the Northwest Passage for millennia.[102] Canada used "straight baselines"[103] to define the outer limit of the country's historic internal waters on the grounds of the ICJ's statement in the 1951 *Anglo-Norwegian Fisheries* case. The court stated, "the survival of traditional rights reserved to the inhabitants of the Kingdom [of Norway] over fishing grounds […] founded on the vital needs of the population and attested by very ancient and peaceful usage, may legitimately be taken into account in drawing a line which, moreover, appears to the Court to have been kept within the bounds of what is moderate and reasonable."[104]

However, drawing new straight baselines cannot close an existing international straight; therefore, the question is whether the Northwest Passage was an international straight before 1985.[105] On the grounds of the *Corfu Channel* case,[106] where the ICJ held that an international strait connects two parts of the high seas and international navigation uses it, it was clear that the Northwest Passage connects two parts of the high seas, *i.e*., the Atlantic and Arctic Oceans. Nevertheless, the phrase "being used for international navigation" was subject of concerns. The most accepted opinion to identify the strait as "international" is the argument based on the volume of traffic; actually the *Corfu Channel* case was a very useful route for ships of seven states. Thus, Donat Pharand could only proof sixty-nine transits in the Northwest Passage, having obtained all foreign vessels prior Canadian authorization or assistance.[107] Accordingly, the Northwest Passage did not fulfill the requirements of an international strait prior 1985. In any case, it is interesting to note that due to the fact that there were diplomatic protests regarding the drawing of the straight baselines; therefore, they were not widely recognized and there is still a possibility for the Northwest Passage to have the status of an international strait if foreign ships begin sailing through it without Canada's permission.[108] In addition, it is no secret that US sub-

[96] See Byers, above, at 49.
[97] *Ibid*., at 49.
[98] Juridical Regime of Historic Waters, Including Historic Bays, UN Doc A/CN.4/143 (1962) at 56.
[99] See Kraska, above, at 264.
[100] University of Ottawa, Research, Awards and Recognition, *Donat Pharand*: "Professor emeritus of the University of Ottawa, he is one of the foremost experts on the international law of the sea, particularly as it relates to the Arctic regions. Thanks to his research and writings, Canadian sovereignty over the Northwest Passage is generally accepted. He is also a key figure with respect to the status of French in Ontario schools.", available on the Internet at: < http://www.research.uottawa.ca/excellence-awards-recipient_228.html> (visited 10 April 2013).
[101] See Byers, above, at 50.
[102] *Ibid*., at 50.
[103] Straight baselines are lines drawn on a map between outer headlands or fringing islands. They are regulated by Art.7 LOSC. Straight baselines were employed by Denmark, Iceland and Russia.
[104] Fisheries Case (United Kingdom *vs*. Norway), Judgment of 18 December 1951, ICJ Reports 1951, at 142.
[105] See Byers, above, at 54.
[106] Corfu Channel Case (United Kingdom *vs.* Albania), Judgment of 9 April 1949, ICJ Reports 1949, at 28.
[107] See Byers, above, at 55-56.
Michael Byers, "Who owns the Arctic? – Arctic Sovereignty and International Relations", *Canada can help Russia with Northern Sea Route*, The Moscow Times, 9 June 2012: "The United States has twice sent surface vessels through the Northwest Passage without seeking Canada's permission: the *SS Manhattan*, an American owned-and-registered ice-strengthened super-tanker, in 1969; and the *USCGC Polar Sea*, a coastguard icebreaker, in 1985. [Nevertheless, both vessels needed Canadian assistance]."
[108] See Byers, above, at 56.

marines, likely British, French and Russian submarines too, have regularly used the Northwest Passage probably without the Canadian permission.[109] The fact that Canada knew the situation -about some of them- and kept quiet could be evidence that Canada has surrendered its claim because it would establish non-consensual usage of the Passage by international shipping.[110]

Access to the waterway for the US is not in fact at issue because of the security cooperation of both countries, namely, Canada and the US, in North America. Paradoxically, in spite of the US arguments, the recognition of the Northwest Passage as Canadian internal waters would help to protect security in North America, concerning terrorist attacks[111] or illegal entry of people and goods, because domestic Canadian laws would apply. Thus, if Canada promotes the goals of security, safe navigation and environmental protection in the Passage by applying appropriate jurisdiction, it would facilitate international widespread recognition and acceptance of the Northwest Passage as Canadian internal waters, which would fulfill within the third abovementioned requirement of international law: "the acquiescence of foreign nations". Due to melting, it would be important a legal reconciliation between the US and Canada to build a secure and environmentally sustainable Arctic gateway for the world in the Northwest Passage.[112]

3.4.2 Northern Sea Route

The Northern Sea route[113] links the Atlantic and Pacific Oceans along the Eurasian continent. The route is much shorter than the alternative Southern Sea Route through the Suez Canal;[114] hence, if it becomes a stable shipping lane, it would permit to save time, fuel – consequently greenhouse gas emissions - and to carry more types of goods within a cheaper traffic transit context, due to the reduction of the icebreaker fees established by Russia. According to ACIA, summertime access to most coastal waters of the Eurasian Arctic will be almost ice-free within a few decades; thus, first-year ice will dominate this route in winter with a decreasing of multi-year ice in the coastal seas and a more extensive melting as well as more open water during the summer.[115]

Since the route runs along the Russian Arctic coast from the Barents Sea to the Bering Strait and Far East, Russia considers it as internal waters (Articles 8 and 50 LOSC), which means that states must have the Russian permission to cross the route, *i.e*., there is no right of transit passage for foreign ships. Russia claims jurisdiction on the grounds of Art.234 LOSC, which entitles coastal states the right to unilaterally adopt and enforce non-discriminatory laws and regulations in ice-covered zones within their EEZ. Thus, in order to justify its claim, in 1985 the Soviet Embassy in Ottawa publicly supported Canadian claim on the Northwest Passage, by saying: "[w]hether it is the Northwest Passage or the Northeast Passage does not matter. Our position is based on provisions of international law. The waters around islands belonging to a country are the internal waters of that country."[116] However, during the Cold War there was not cooperation on the matter between these countries because the United States was the most important NATO[117]-ally for Canada.

With regard to the notion of historic internal waters, most states have shown a general tolerance by means of tacit consent with the legal regime settled by the Soviet Union and afterwards Russia, which can be observed, *e.g*., with the international tacit support to the *Decree of the Presidium of the Central Executive Committee of the USSR* (1926) and nowadays with the recent *Federal Law No.132-FZ on amendments to certain legislation of the Russian Federation* regarding state regulation of merchant shipping in the waters of the Northern Sea Route (it entered into

[109] *Ibid*., at 75.
[110] *Ibid*., at 76-77.
[111] The US security interests in the Arctic have changed since the end of the Cold War. Thus, melting causes new security worries -in particular since the 9/11 attacks (2001)- due to the terrorist threats against North America, which would be best dealt with through Canadian domestic law. In fact, a new terrorist attack took place in the Boston Marathon on 15 April 2013.
[112] See Byers, above, at 85-87.
[113] Before the 20th century, the Northern Sea Route (name given by Russia) was called the Northeast Passage (European name).
[114] Christoph Seidler, *A Navigable Arctic – Northeast and Northwest Passages both free of ice*, Spielgel Online International, 28 August 2008: "The northern route is just 7,400 nautical miles - just 40 percent of the 11,500 nautical mile haul through the Suez."
[115] Arctic Climate Impact Assessment (ACIA): "Impacts of a Warming Arctic – Arctic Climate Impact Assessment", Cambridge University Press, 2004, p.116.
[116] Michael Byers, "Who owns the Arctic? – Arctic Sovereignty and International Relations", *Canada can helpaaaas Russia with Northern Sea Route*, The Moscow Times, 9 June 2012.
[117] NATO: North Atlantic Treaty Organization. It is an intergovernmental military alliance based on the North Atlantic Treaty, signed on 4 April 1949.

force in January 2013), which defines the Northern Sea Route as "historical national transport communications of the Russian Federation." In this manner, the Northern Sea Route fulfills with the three abovementioned factors of international law to be considered Russian historic internal waters, namely, (1) the exercise of authority over the area of the claiming nation; (2) the continuity of this exercise of authority; and (3) the acquiescence of foreign nations.

After the Cold War the political situation changed; thus, Canada and Russia decided to cooperate with the Arctic states. In this way, Russia and Norway signed on 15th September 2010 a treaty on maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean. On 12th May 2011 the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic was signed by the member states of the Arctic Council, namely, Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States, being the first binding agreement negotiated within the Arctic Council. This indicates that the growing economic importance of the Arctic region will have as result that the boundary issues, such as the Northwest Passage and the Northern Sea Route, will be solved on a peaceful and collaborative basis by bilateral agreements without recourse to dispute settlement bodies.[118]

4 SOVEREIGNTY IN THE ARCTIC: THE *ICE-COLD WAR* WILL NOT TAKE PLACE

Besides the Russian and Canadian aspirations, the other Arctic coastal states have also boundary claims: Denmark (owing to its sovereignty in Greenland), Norway (because of the Svalbard Island) and the United States (through Alaska).

As granted by Part VI LOSC, coastal states may wish to expand their EEZ beyond 200 nautical miles (nm) to cover the extended continental shelf; thereby, based on Art.76(8) LOSC, Russia submitted an official claim to the Commission on the Limits of the Continental Shelf (CLCS)[119] on 20th December 2001 to establish the outer limit of its continental shelf beyond the 200 nm based on the fact that the Lomonosov and Mendeleev ridges are natural extensions of the continental shelf of the Eurasian continent. Indeed, on 2nd August 2007 Russia planted a Russian flag on the seafloor of the North Pole proclaiming symbolically (without legal validity) the zone to be Russian territory. Conversely, Russian claims could be dismissed under international law because firstly, taking into account Art.76(5) LOSC,[120] the natural extension of the continental shelf may not go beyond 350 nm and without natural extension, the maximum width is 300 nm. Secondly, Russian claims rights on the grounds of a submarine chain, but Art.76(6) LOSC[121] states that the existence of submarine chains does not affect the maximum width of the continental shelf, *i.e.,* 350 nm. Nevertheless, it is important to note that the CLCS rejected the Russian application on 14th June 2002 because its claims needed further clarification, in particular regarding the Lomonosov Ridge. Thus, on 28th February 2013 Russia submitted to the CLCS a partial revision of its first submission, which will be included in the provisional agenda of the thirty-second session of the CLCS in New York from 15th July to 30th August 2013.[122]

Likewise, by virtue of Art.76(8) LOSC, Norway submitted its claims to the CLCS on 27th November 2006 and the CLCS accepted them on 27th November 2009. The Norwegian sub-

[118] Thilo Neumann, *Norway and Russia Agree on Maritime Boundary in the Barents Sea and the Arctic Ocean*, American Society of International Law, Volume 14, Issue 34, 2010, available on the Internet at: <http://www.asil.org/insights101108.cfm> (visited 10 April 2013).

[119] The CLCS is made up of scientists elected by the ratifying states that make recommendations based on geographic and geological facts. These recommendations do not concern overlaps between claims. In such a case, the states involved should negotiate a solution through agreements or referring the issue to an international court or arbitral tribunal.

[120] Art.76(5) LOSC: "The fixed points comprising the line of the outer limits of the continental shelf on the seabed, drawn in accordance with paragraph 4 (a)(i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres."

[121] Art.76(6): "Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs."

[122] United Nations Oceans and Law of the Sea, Division for Ocean Affairs and the Law of the Sea, CLCS, Outer limits of the continental shelf beyond 200 nautical miles from the baselines – Submissions to the Commission: Partial revised submission by the Russian Federation, available on the Internet at: <http://www.un.org/Depts/los/clcs_new/submissions_files/submission_rus_rev.htm> (visited 16 April 2013).

mission included parts of the Arctic Ocean seabed north of the Svalbard Islands without approaching any zone that Canada could claim. Denmark did it concerning the Southern continental shelf of Greenland on 14th June 2012, and Canada has still time to submit its claims until the end of 2013. However, the idea of dividing the Arctic into sectors measured by meridians of longitude (sector theory)[123] among the Arctic states can be considered erroneous because the Arctic sea floor is not composed of a physical continental shelf. Hence, the seabed, which is not made of an extension of the continental shelf, may not be owned.[124] Accordingly, the sector theory can be rejected based on international law because no Arctic coastal state fulfills the following requirements: (1) a coastal state only has full sovereignty up to 12 nm (Art.3 LOSC), and (2) a coastal state only has sovereignty over marine resources up to 200 nm (Art.57 LOSC and Part VI of LOSC).

With regard to the United States, since it is not a party to LOSC,[125] and accordingly Part XI of LOSC (The Area) and Art.76 LOSC (Definition of the continental shelf) are not rules of customary international law, the United States will take into account Art.1 of the 1958 Geneva Convention on the Continental Shelf[126] in order to delimit its continental shelf.[127] Thus, it could be argued that, pursuant to Art.1 of the mentioned Geneva Convention, the US continental shelf extends "to where the depth of the superjacent waters admits of the exploitation of the natural resources" of submarine areas. According to the US, this corresponds to more than 900 nm to the north of Alaska (without respecting relevant LOSC mechanisms) in the light of Art.1 of the 1958 Convention on the Continental Shelf.[128]

Besides the rejection of the sector theory, the scenario of a continental shelf race in the Arctic is not convincing because there is no need for that. Nearly 95% of the hydrocarbon deposits and almost all of the mineral deposits are likely located in the EEZ of each Arctic coastal state; albeit climate change stimulates the economic interests of Arctic maritime access, it does not determine the schedule for submitting Arctic claims to the CLCS. It is a matter of time established by Art.76 LOSC that does not affect the state's right to extend its continental shelf beyond 200 nm. States actively cooperate in establishing their claims and in their search for maritime and geological resources. Arctic states committed themselves within the AC context through the Ilulissat Declaration (2008) to accept the principles of international law enshrined in LOSC regarding the definition of the limits of continental shelves, and on 12th May 2011, the Member states of the AC signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue (SAR) in the Arctic.[129] All these elements indicate that the outstanding maritime boundary issues will be solved likely through bilateral agreements among the five Arctic coastal states, avoiding an "ice-cold war" and establishing a cooperation area in the Arctic.

5 CONCLUSIONS

Due to climate change, the Arctic is changing from a vast ice-bound and impenetrable ocean to a middle sea with easier access. The access to the Arctic Ocean allows states to make research expeditions in order to extract natural resources, such as fish, oil, gas and minerals, which are located on the seabed. Furthermore, there are new maritime routes that open the door to traffic transit and consequently foster trade, save time, transit fees and fuel, which reduces greenhouse gas emissions.

[123] See the explanation of "Arctic sector" in footnote 13 of section II.A of this paper.

[124] Frédéric Lasserre: "Continental shelves and maritime boundaries in the Arctic – the new Cold War will not take place", in Cécile Pelaudeix, Alain Faure & Robert Griffiths (eds.): *What holds the Arctic together?,* L'Harmattan, Paris, 2012, pp. 107-122 at 114.

[125] Clive Archer, "International and Regional Regulation of the Arctic – There a role for the European Union?", in Cécile Pelaudeix, Alain Faure & Robert Griffiths (eds.), *What holds the Arctic together?,* L'Harmattan, Paris, 2012, pp. 169-182 at 171: "The US Arctic strategy actually pointed to the benefits of ratification: "The Senate should act favorably on US accession to the UN Convention on the Law of the Sea promptly, to protect and advance US interests, including with respect to the Arctic." [White House, 2009 C4]."

[126] Art.1 of the 1958 Geneva Convention on the Continental Shelf: "For the purpose of these articles, the term "continental shelf" is used as referring (a) to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands."

[127] Alexander N. Vylegzhanin, "Economic Activities in the Arctic Ocean – Universal, Regional and National Regulation", in Cécile Pelaudeix, Alain Faure & Robert Griffiths (eds.), *What holds the Arctic together?,* L'Harmattan, Paris, 2012, pp. 137-150 at 144.

[128] See Vylegzhanin, above, at 144.

[129] See Lasserre, above, at 117-118.

In this current situation that creates new challenges in international economic law, the Arctic coastal states submitted claims to the CLCS to obtain sovereignty over a portion of the Arctic territory, which was understood as the beginning of the "ice-cold war". However, it has been shown that states do not need to enter into a continental shelf race in the Arctic because the majority of the natural resources are located within their EEZ. Accordingly, it is more interesting and beneficial to encourage cooperation in the region, creating an "Arctic for everyone".[130] By means of cooperation, states join to obtain better and more economical results in the region concerning research, fisheries, extraction of oil and gas and security.

The CLCS has not provided recommendations for these claims yet. Nevertheless, sovereignty and cooperation are compatible terms. Sovereignty facilitates cooperation providing clear jurisdiction that regulates traffic transit, the extraction of natural resources and protection against security threats.[131] Cooperation is the key word for the Arctic region; hence, independent of the CLCS's recommendations, the main challenge for international economic law concerning this matter is the creation of an inter-state cooperation zone that respects the idea of an Arctic beneficial for everyone and, as it was explained above (Arctic legal governance), this is already happening.

[130] See Byers, above, at 127.

[131] See Byers, above, at 128.

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