**CHARLES UNIVERSITY IN PRAGUE**

**FACULTY OF SOCIAL SCIENCES**

**Institute of Political Science**

# Master's Thesis

**2013** **Mireille Pelletier**

**CHARLES UNIVERSITY IN PRAGUE**

**FACULTY OF SOCIAL SCIENCES**

**INSTITUTE OF POLITICAL SCIENCE**

**Mireille Pelletier**

# THE IMPACTS OF CLIMATE CHANGE ON ENVIRONMENTAL GEOPOLITICS OF THE ARCTIC

*Master's Thesis*

Prague 2013

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| Academic Year: | **2012/2013** |
| Supervisor: | **PhDr. Mgr. Jakub Landovský, Ph.D** |
| Date Submitted: | **17th May 2013** |

## Bibliographic Card

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### Anotace

Novinka, že životní prostřední se stává hlavním hybatelem geopolitických změn v oblasti za Polárním kruhem odstartovaly hlavně změny klimatu. Tento nový geopolitický aspekt je příčinou nejen napětí mezi jednotlivými státy, ale rovněž i hybatelem spolupráce v regionu. Otázkou je, do jaké míry dokáže změna klimatu prohloubit jak spolupráci tak i nesváry mezi danými státy. Účelem definování problému je porozumět, jakým výzvám budou čelit mezinárodní vztahy mezi dotčenými státy a jakou roli v nich hraje ochrana životního prostředí. Hlavním cílem práce je posoudit důležitost změn klimatu v rámci geopolitiky v oblasti za Polárním kruhem skrze několika oblastí geopolitiky: ochrana životního prostředí a biodiverzita, ekonomické činnosti v regionu, a svrchovanost, bezpečnost arktických zemí, a mezinárodní a diplomatické vztahy. Mezi hraniční a mezinárodní charakter problematiky ochrany životního prostředí je neméně důležitým faktorem, jelikož příroda nerespektuje lidmi vytvořené hranice států a otázky životního prostředí, jako ochrana klimatu a jeho dopady nemohou být záležitostí jednoho státu v pohraniční oblasti.



### Abstract

The new fact that the environment is becoming the main factor of geopolitical transformations in the Arctic region has been triggered mainly by climate change. In the North, this recent aspect of geopolitics, in correlation with the environment, leads sometimes to tensions between countries, but also to a need for cooperation. The question brought by such conditions is, to which extent will this climate change provoke cooperation or conflicts between the Arctic states. The purpose of addressing the problem is to understand what kind of challenges would be facing the international relations between circumpolar countries and how the environment is playing a geopolitical role in them. The objective of the main research question is to assess the importance of climate change over the geopolitics of the Arctic through several spheres of geopolitics: environment and bio-diversity, economic activity of the region, sovereignty and territoriality, security of the circumpolar states, and international and diplomatic relations. The trans-border and transnational nature of environmental issues is another important factor, since nature does not respect human-made boundaries and an environmental concern, such as climate change and its aftermaths, cannot be exclusive to a state along the lines of its borders.

## Klíčová slova

Arktida, biodiverzita, změna klimatu, mezinárodní spolupráce, konflikt, životní prostředí, geopolitika, mezinárodní právo, Lomonosovův hřbet, arktické lodní trasy,Severovýchodní cesta, svrchovanost, teritorialita, transhranicni jevy.

## Keywords

Arctic, biodiversity, climate change, cooperation, conflict, environmental geopolitics, international law, Lomonosov Ridge, NSR (Northern Sea Route), NWP (Northwest Passage), sovereignty, transboundary, territoriality.

**DECLARATION:**

I hereby declare that this thesis is my own work, based on the sources and literature listed in the appended bibliography. The thesis as submitted is 361,290 keystrokes long (including spaces), i.e. 170 manuscript pages.

Mireille Pelletier Date

## Acknowledgements

*A special thank you to my supervisor PhD. Mgr. Jakub Landovský PhD. for his insight and advices, to my father for being my first reader, to my brother Luc, who has been there when I needed him the most, and to my whole family and Christos for moral support. Special thanks also to Kendra M. Sundal for her friendship and her inestimable help with the editing. I would like to thank Mrs. Barbora Pelantová as well for her help and her patience. Last, but not least, I am grateful to my grand-mother Mado for providing me with the necessary means to make studies abroad a possibility.*

MASTER'S THESIS PROJECT MAY 2012

**CHARLES UNIVERSITY IN PRAGUE**
**FACULTY OF SOCIAL SCIENCES**
**GEOPOLITICAL STUDIES**

**MASTER'S THESIS PROJECT**

# THE IMPACTS OF CLIMATE CHANGE ON ENVIRONMENTAL GEOPOLITICS OF THE ARCTIC

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| Author | **Mireille Pelletier** |
| Subject: | **GPS** |
| Academic Year: | **2011/2012** |
| Supervisor: | **PhDr. Jakub Landovský PH.D** |
| Date Submitted: | **31st May 2012** |

# MASTER'S THESIS PROJECT MAY 2012

**Thesis Proposal for Mireille Pelletier,**
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**Candidate Signature: _____ Date: _____**

**Thesis Supervisor:**

PhDr. Jakub Landovský PH.D

**Supervisor Signature: _____ Date: _____**

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**Working Title:**

"The Impact of Climate Change on Environmental Geopolitics of the Arctic"

**Key-words:** Arctic, environmental geopolitics, transportation, mining, territory, sovereignty, biodiversity, environment, trans-border, transnational

## Part I: Topic

*Area of the topic*:

The field of geopolitics is in itself rather broad if we consider classical geopolitics, the German, Russian and French schools, and the more contemporary critical geopolitics. The geopolitical topic chosen for this Master's thesis, the impact of climate change on the environmental geopolitics of the Arctic, fits easily in all of the previously cited categories. Since the Arctic is a constantly evolving region, with the melting of the ice, the opening of the Northwest Passage, the territorial dispute over the Lomonosov Ridge, to name only a few of its many on-going geopolitical challenges, it is definitely worth analyzing the situation in the area. More importantly, the issue of climate change is one of the main reasons behind these new and contemporary geopolitical challenges. The trans-border and transnational nature of environmental issues is another important factor, since nature does not respect human-made boundaries and an environmental concern, such as climate change and its aftermaths, cannot be exclusive to a State along the lines of its borders. The impact that climate change has on the environment mainly, but also on the sovereignty, territoriality, international relations and the security of the circumpolar

states, is creating potential tensions in the region and these states might or might not wish to collaborate with one another in order to face this new Arctic situation.

Considering the environmental geopolitical issues at stake in the Arctic, how does climate change and the so-called «global warming» in this region impact on the countries' sovereignty, territory and environment? Also, how does it affect the diplomatic relations, the environment and integrity of nature in the region and how can natural resources be accessed while protected and preserved? Is collaboration among circumpolar countries possible when it comes to natural resources?

In order to start a dialogue on possible cooperation among circumpolar countries, they need to get organized and set some specific targets to eventually build up an "Arctic Agenda". Certain environmental issues must be established as priorities, and the impact of climate change must be acknowledged if it is to be tackled. There is hope for cooperation in the Arctic and the challenges imposed by climate change are simply giving the circumpolar countries the opportunity to work together, if they are ready to be giving up a part of their sovereignty in the process for the greater good.

**Part II: Literature review**

The literature review done for this thesis project includes monographs, articles and texts from different sources in English and in French.[1] Sources vary from circumpolar countries to other non-circumpolar countries, however academic literature on the Arctic is prevailing mostly in the circumpolar countries. It is possible to find Canadian, Russian, Danish, American, Norwegian, Swedish, Finnish and Icelandic articles quite easily while doing research. British sources on the Arctic are also quite plentiful, but the international interest in the Arctic in the other countries of the international community is still rather embryonic. The governmental websites of the circumpolar countries also offer detailed information about the different countries' positions on certain issues, about official statements made by governments and ministries, and finally about environmental and/or foreign policies.

The basic academic work that was reviewed in order to prepare this thesis project was the thesis of the graduate student from the GPS programme, Ms. Irina Valko. As a former student from the same program, her work truly was the backbone of the preliminary research. Such emphasis was put on Ms. Valko's thesis in order to make sure that this actual thesis does not overlap what has already been written at the Faculty of Social Sciences and in the Geopolitical Studies Master's program. Her thesis, *Cold Waters, Hot Stakes: Systemic Geostrategic Analysis of International Relations in the Arctic Transborder Region*, first takes a look at the Arctic on an inductive, descriptive and static way[2]. Using this way of analyzing, Ms. Valko divides the Arctic

[1] Other sources in Spanish, German and Czech might be added to the final bibliography of this thesis.
[2] Irina Valko. *Cold Waters, Hot Stakes: Systemic Geostrategic Analysis of International Relations in the Arctic Transborder Region.* Prague, 2011. ii.

in geostrategic actions spaces, one of them being physical and four others being human-constructed (military, economic, demographic, and information spaces). This division helps to understand in which areas can the Arctic be a major geopolitical stake. The second part of the thesis is deductive, analytical and dynamic.[3] The thesis analyzes the possibilities for cooperation and/or conflict in the Arctic region, based on projections to the year 2040. Lawson W.Brigham's four scenarios for 2040 are being observed, in interaction with the forces present in the geostrategic action spaces defined by Ms. Valko. These four scenarios, giving possible understanding of the events occurring in the region and their aftermaths, are "Globalized Frontier", "Adaptive Frontier", "Fortress Frontier" and "Equitable Frontier".[4] Ms. Valko's thesis is of crucial importance to assess the significance of the Arctic as a geopolitical "hot spot". The aim of the current thesis follows a similar path, that is to say, trying to project possible scenarios for cooperation and/or conflict. However, Ms. Valko's thesis is centered on the geostrategic aspects of the matter. The thesis presented here would rather focus on the environmental aspects of geopolitics.

Several authors, like Richard Sale and Eugene Potapov, have also observed this environmental focus. In their book *The Scramble for the Arctic: Ownership, Exploitation and Conflict in the Far North*. The authors provide an important and very detailed historical background of the Arctic region and more precisely of the history of ownership in the Arctic, i.e. how circumpolar countries came up with their current borders and territories, and why are some areas still problematic nowadays. The question of ownership in the Arctic is present in a lot of the literature and researches on the region (e.g. *After the Ice: Life, Death, and Geopolitics in the New Arctic* by Alun Anderson). The authors are providing also an entire chapter on the role of exploitation on the loss of bio-diversity, mainly animal, in the Arctic. The key chapter of their work is dealing with the Arctic within the frame of international law. It provides an insight on the previously signed agreements, treaties and on the cooperation goals that were fixed by the Arctic nations. They place their main focus always on the environment, showing how it affects different aspects of the Arctic life. The book follows a rather chronological logic that helps understanding and analyzing the circumstances into which agreements where made, and whether or not they were respected, achieved and/or abandoned. Sale and Potapov's work however, is rather focused on cooperation. As the research question also observes the possibility of conflict, the book did not provide satisfying answers to that prospect.

While Ms. Valko's thesis is focusing mainly on the geostrategic aspects of the Arctic, Sale and Potapov's work is doing almost the opposite, focusing rather on cooperation among Arctic nations. Brigham's projections provide a starting point for the projections planned in this thesis. It will be possible to compare and conclude whether the findings to this research are the same, or different from the ones projected by Brigham's for 2040.

Other writers are focusing on a completely different range of important issues in the Arctic that are still closely linked with the environmental geopolitics of the region. For instance, Mark Nuttall in *Pipeline Dreams: People, Environment, and the Arctic Energy Frontier*, is questioning

[3] *Ibid.*
[4] Lawson W. Brigham, *Thinking about the Arctic's Future: Scenarios for 2040,*

more the exploitation and use of natural resources like oil and gas. The author assesses the importance of these resources in the stakes of the Arctic and the potential consequences of future pipelines on the borders, the peoples, and the environment. Moreover, other searchers are more interested into the importance of the Arctic as a way of transportation and communications. Michael Byers wrote the article *Unfrozen Sea: Sailing the Northwest Passage* which analyzes and illustrates the complexity of the new challenges rose by the ever-melting ice of the Arctic. In the summer of 2006, the author participated into a trip north of the Arctic Circle into the arguably Canadian waters through the Northwest Passage. The Northwest Passage is likely to become an important navigation strait with the current speed of the melting of the ice and Byers even reports that the Northwest Passage could be open to more regular navigation if the melting of the ice continues.[5] Canada claims that the Passage constitutes Canadian internal waters[6], and this is only one of the many other aspects of the impacts of climate change (hence the melting of the ice) on the environmental geopolitics of the Arctic.

The literature reviewed so far is only a fraction of the literature that needs to be considered in order to make this thesis empirical and ethical. A more exhaustive literature review will thus certainly be an integral part of the final version of the thesis.

## Part III: Research objectives/research questions

**Research question:** How does the impact of climate change on the environmental geopolitics of the Arctic influence circumpolar countries to enter conflicts or to cooperate?

The objective of the main research question is to assess the importance of climate change over the geopolitics of the Arctic and its different components (environment and bio-diversity, the economic activity of the region, sovereignty, territoriality, international and diplomatic relations, the security of the circumpolar states, etc.). In order to fulfill this objective, the main question whether circumpolar countries could enter conflict or cooperation situations due to this climate change must be analyzed and answered.

**Sub-questions:**

- How does it affect the diplomatic relations regarding the environment and the integrity of nature in the region and how can natural resources be accessed while protected and preserved?
- Is collaboration among circumpolar countries possible when it comes to natural resources?
    - E.g. Use of International Law instruments in order to make formal agreements
-

[5] Michael Byers, "Unfrozen Sea: Sailing the Northwest Passage," *Options Politiques,* vol. 28, no.5, (May 2007): 31.

[6] Byers, "Unfrozen Sea: Sailing the Northwest Passage," 32.

- How are sovereignty and territoriality affected by the environmental geopolitics of the Arctic?
    - The issue of transportation
    - The economic component (commerce, Exclusive Economic Zones, fisheries, exploitation of natural resources)
    - The issue of boundaries and territorial claims (mainly the Exclusive Economic zone, but also the control over the frontiers and internal waters)
- Is conflict among circumpolar countries possible when it comes to natural resources?
    - Militarization of the region
    - Attempt at controlling exclusively resources and economic activities
    - Disputes over territories, boundaries, and difficulties in diplomatic relations

**Part IV: Concepts/theories, methodology**

Concept/theories

- Classical Geopolitics
    - Used in order to show that in certain theoretical frameworks, the size of a territory for instance is one of the main indicators of might and sovereignty. This could pose problems to the cooperation among the circumpolar countries in their search for a solution to the common threat of climate change.
- Theories linked to the environment
    - "Framing the global environment" (a) Global common issues, (b) Transboundary environmental problems, (c) Local-cumulative problems, (d) Commons, transboundary, and local-cumulative issues and environmental diplomacy.[7]
    - Geraoid O'Tuathail – on environmental geopolitics (Critical Geopolitics)
- International Relations (theories with impact on environmental policies)
    - Realism and Neorealism in relation to Classical Geopolitics
    - Liberalism, Constructivism and pre-Neoliberal theories in relation to Critical Geopolitics
- Environmental/Public International Law
    - Existing treaties, agreements, former summits, etc. (to name only a few: 1972 Stockholm, 1992 Rio de Janeiro, 2002 Johannesburg, 2009 Copenhagen Conference, etc.)
    - Existing agencies/organizations – e.g. IPCC
    - In the cases of disputes, how would they be solved? In what other situations could these be useful?
    - Possible solutions to conflicts/cooperation with the tools of International Law
    - Significant focus on UNCLOS – United Nations Convention on the Law of the Sea

Methodological Framework

[7] Kate O'Neill, *The Environment and International Relations*, (New York: Cambridge Press University) 31-33.

"Classic geopolitics was concerned with nature in a particular manner; access and control to resources."[8] In contemporary and critical geopolitics, however, the awareness of the fragility of the global ecosystem has also provoked the emergence of transnational ecological geopolitics.[9]The discussions and agendas of the states over global environmental issues are usually reflecting an economic interest that has been taking into consideration the growing importance of a common ecological problem. The states are thus torn between cooperating and negotiating in order to preserve and protect the environment, and their own interest in acquiring full control and access to the resources.

The dilemma between conflict and cooperation in terms of mainly the environmental and also the general policies in the Arctic should be first observed under the lens of the Classical Geopolitics tradition, in order to understand how the impact of climate change, although representing a common threat, might only reinforce the will for the circumpolar countries to claim their sovereignty over certain territories and resources. The Realism/Neo-Realism theory of IR might also be used to understand better the choices that the circumpolar states are making and how it can or cannot jeopardize their future collaboration.

Using then the environmental geopolitics from the Critical Geopolitics tradition, it is possible to see how the impact of climate change on the geopolitics of the Arctic might be bringing, instead, cooperation among circumpolar countries. By showing that a common threat or issue might be greater than one's need for sovereignty, it can be possible for them to end up signing certain treaties, or establishing certain policies. With the help of the Liberal and Constructivist IR theories, and also to some extent the pre-Neoliberal theories of Neofunctionalism and Transnationalism[10], it is possible to see that cooperation has been studied as an IR phenomenon and that environmental issues can be bringing new sources and needs for such phenomenon to occur. In order to find an institutionalized framework for these environmental policies, there will be a need for treaties or the use of environmental/international Law.

To start a dialogue on possible cooperation among circumpolar countries, they need to get organized and set some specific targets to eventually build up an "Arctic Agenda". Certain environmental issues must be established as priorities and the impact of climate change must be acknowledged in order to be tackled. There is hope for cooperation in the Arctic and the challenges imposed by climate change are simply giving the circumpolar countries the opportunity to work together, if they are ready to be giving up a part of their sovereignty in the process for the greater good. Working with the help of maps, scientific empirical data, and the work of several academics (Valko, Brigham, Huebert, O'Neill, Nutall, Sale & Potapov, to name only a few) this research will try to generate three projections; a short-term (5 years), a mid-term (10 years) and a long-term (15-20 years). The aim of these projections will be to draw possible scenarios over the state of the environment in the region (with the effects of climate change and

[8] Colin Flint, *Introduction to Geopolitics* (Abingdon, Oxon: Routledge, 2006) 210.
[9] *Ibid.*
[10] Alex Macleod and Dan O'Meara eds., *Théories des Relations Internationales: Contestations et Résistances,* (Outremont: Athéna éditions in collaboration with CEPES, 2007) 113.

the loss of permanent ice, for instance) and over the conflictive or cooperative interactions between circumpolar countries.

**Part V: Cases and data**

In the thesis, there will be 5 main cases observed. The reason for this is the fact that there are 5 main circumpolar countries: Denmark, Norway, Canada, the United States and Russia. I qualify them as "main" because they are the states with the greater share of territory and are also particularly challenged by certain territorial claims. I still acknowledge the importance of the three other circumpolar countries, Finland, Sweden and Iceland and they might play a role in the thesis, but they will not be part of the main research cases. Some researchers are considering Iceland, Sweden, and Finland in their studies of cases (Valko, 2011; Sale and Potapov, 2010), but for the purpose of this thesis, these three countries will be mostly excluded. Several academic researchers are also excluding Iceland, Sweden, and Finland from their works, which does not invalid or affect negatively their findings and results (Anderson, 2009).

There is a possibility to pursue research in a few of those countries (Canada, United States, Norway, and Denmark; Russia being excluded for visa and transportation issues), which can provide a valuable insight in the Arctic relations of some of these circumpolar countries.

The following aspects of geopolitics of the Arctic will also be taken into consideration, in relation with the environmental impact of climate change:

- Environment and bio-diversity
- Economic activity in the region (mining, fisheries, transportation routes, etc.)
- Sovereignty
- Territoriality
- Security of the circumpolar states
- International relations and diplomatic relations

The reason why these aspects have been chosen is because they are all affected by the environmental impact of climate change in the Arctic. They can and will be observed through the research and scenario projections (5, 10 and 15-20 years geographical projections) and put into relations with the findings. These specific aspects are also affecting the geopolitical interests of the circumpolar countries and the relations that these countries will be having between one another.

The main research question of the thesis; how does the impact of climate change on the environmental geopolitics of the Arctic influence circumpolar countries to enter conflicts or to cooperate?, has to be considering all of the above aspects in order to draw projections and/or conclusions on the nature of the relations between the circumpolar countries.

**Part VI: Structure outline**

# MASTER'S THESIS PROJECT MAY 2012

*A) Defining the elements of the issue at stake*

Introduction

- What is environmental geopolitics? History and definitions
    - Critical Geopolitics theories + Environmental policies in the field of IR
- What is climate change? History and definitions
    - *Use of scientific data, use of physical geography, use of satellite images to show the conditions of the ice, use of governmental data (ministries of circumpolar countries) and NGOs in order to assess the loss of bio-diversity, the changing conditions of nature in the region*
- Why climate change? What is the geopolitical impact of it?
    - Is climate change going to be a threat for the circumpolar countries' sovereignty since it is a global common environmental policy issue or could it be taken as a source of eventual cooperation, within a certain framework (*use of IR theories and/or International Law legal framework.)*
- Why the Arctic?
    - « In the heat » of the geopolitical debates resulting from the ice melting
        - e.g. The Lomonosov Ridge dispute + claim of EEZ
        - e.g. The Northwest Passage access
        - Access and use of natural resources
        - Transnational environmental policies (e.g. protection of biodiversity)
    - There could be cooperation or conflict in the region – nothing is settled yet and the circumpolar countries are belonging to different grouping (e.g. the EEA and EFTA (Denmark, Norway), the G8 (Canada, the USA, the Russian Federation), NATO (Canada, the USA), NAFTA (Canada, the USA), etc.)
    - The circumpolar countries might have to form certain alliances or sign some treaties in order to face the geopolitical challenges of climate change. This might mean that they need to solve their territorial disputes, which could serve as the basis for establishing a dialogue between them and setting a circumpolar agenda for the region
- The research question: How does the impact of climate change on the environmental geopolitics of the Arctic influence circumpolar countries to enter conflicts or to cooperate?

*B) Outline of the proposed argument* (This is only a preliminary outline of the possible chapters since yet, at this point in my research, I do not feel comfortable making this list exhaustive and final – the titles and the content are most likely to be modified throughout the redaction process)

Chapter 1: The Environment and Bio-Diversity

i) Changes in the physical setting of the region
ii) Impact of climate changes on fauna

iii) Accessibility to natural resources (oil and gas, fisheries, mining, etc.)

Chapter 2: The Economic Activity in the Region

i) National interests in natural resources
ii) Exclusivity of resources
iii) Control/accessibility to transportation routes

Chapter 3: Sovereignty and Territoriality

i) Delimitation of territory
ii) Territorial claims (e.g. EEZ)
iii) Control/accessibility/exclusivity to the territory

Chapter 4: Security

i) Environmental security of circumpolar states
ii) Natural challenges in the region
iii) Militarization of the Arctic

Chapter 5: International and Diplomatic Relations

i) Summits, Arctic Council, International meetings
ii) Treaties and the use of International Law
iii) Cooperation and/or Conflict

Chapter 6: Projections in a delimitated time frame (5, 10, 15-20 years)

i) Assessment of the physical geographical setting
ii) Hypothetical impacts on the region and the sub-mentioned aspects
iii) Foreshadowing the consequences of further modification in the environmental setting of the region (due mainly to climate change)

Expected Conclusions

Chapter 7: Future Policy Recommendations

Chapter 8: Synthesis of the Arguments Presented

Conclusion

**Part VII: Limitations**

The thesis is limited in one particular aspect concerning the environmental geopolitics of the Arctic, which is the human one. Indeed, due to my Canadian citizenship, I preferred to leave the issue of Native peoples as out of the thesis as possible. In Canada, in order to base a research on Aboriginal peoples, the ethic guidelines of the Canadian Institute of Health Research (CIHR), the Natural Science and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC) must be followed cautiously. The following arguments summarize "a recent SSHRC's document entitled *Opportunities in Aboriginal Research: Results of SSHRC's Dialogue on Research and Aboriginal Peoples* (McNaughton and Rock, 2003)

1. Decolonizing research: Current research on Aboriginal peoples should include 'indigenous knowledge, traditions, beliefs and values'; adhere 'to Aboriginal protocols at all stages'; involve Elders and Aboriginal researchers; involve partnership at all stages of research design; and use 'Aboriginal methodologies as appropriate to local traditions and the subject being addressed' (McNaughton and Rock, 2003: 15). (…)

2. Equitable treatment of Aboriginal researchers: Aboriginal peoples should be represented on grant adjudication committees; the merit of non-academic contributions should be considered; Aboriginal researchers should be identified as such in projects.
(…)

5. Arm's length partnership with Aboriginal peoples: SSHRC, NSERC, and CIHR have all created special advisory bodies that oversee research for and about Aboriginal peoples. The idea is to give 'Aboriginal scholars and other Aboriginal knowledge-keepers full responsibility for management of research' on Aboriginal issues (McNaughton and Rock, 2003: 17).

6. Gus-wen-tah and joint exploration: This refers to the Aboriginal way of knowing. Gus-wen-tah is also referred to as the Two Row Wampum, 'a treaty to express the rightful relationship between the Haudenosaunee (leadership of the nations) and European nations' (McNaughton and Rock, 2003: 18). The relation between 'Western knowledge' and the 'Aboriginal way of knowing' should be equal. Today, the 'Aboriginal way of knowing' is not primary in Canadian society. Researchers should work to place the 'Aboriginal way of knowing' on an equal footing (…)"[11]

Thus there might be valid arguments made on the impact of climate change on the environmental geopolitics of the Arctic Native communities, but there will be, in no ways, interviews made with the Aboriginal peoples. Since I do not have a chance to bring this thesis in front of an ethic committee, I will abstain, as much as possible, deeper research and use qualitative data in direct link with the Aboriginal communities of Canada (and of the other circumpolar countries in general). I cannot run the risk of having my thesis being invalidated or contested due to the fact that it is possibly or allegedly unethical.

[11] Gary D. Bouma, Rod Ling and Lori Wilkinson, *The Research Process – Canadian Edition*, (Canada: Oxford University Press, 2009) 155-156.

While fully acknowledging the importance of the Arctic Aboriginal peoples, I prefer to respect the ethical research methods of the country I am from and where I might eventually pursue a career, publish and do further research.

## Part VIII: Preliminary literature and key sources

### Monographs:

Agnew, John A. *Geopolitics: Re-Visioning World Politics*. Routledge, 2003.

Anderson, Alun. *After the Ice: Life, Death and Geopolitics in the New Arctic*. New York: HarperCollins Publishers, 2009.

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## Table of Contents

# Introduction

The new fact that the environment is becoming the main factor of geopolitical transformations in the Arctic region has been triggered mainly by climate change. In the North, this recent aspect of geopolitics, in correlation with the environment, leads sometimes to tensions between countries, but also to a need for cooperation. The question brought by such conditions is, to which extent will this climate change provoke cooperation or conflicts between the Arctic states. The purpose of addressing the problem is to understand what kind of challenges would be facing the international relations between circumpolar countries and how the environment is playing a geopolitical role in them. As climate change is an ongoing process, speculations about eventual outcomes can only be hypothetical, but can also be an asset as to how to shape foreign policy, international trade, cooperation through treaties, and respect of sovereignty, to name only a few. Assessing the situation in the Arctic, keeping in mind the ever-changing nature of the region (i.e. the still-morphing physical aspect of the territory), helps with being prepared to face the future challenges and to set some goals assuring peaceful relations and sustainability. From a theoretical lens, the importance of the impacts of climate change on the environmental geopolitics of the Arctic plays a role because it can be used as a model to know how to address environmental issues that are concerning 'public goods' while dealing with each state's sovereignty. Climate change is an interesting case to study since its impacts travel across national borders, regardless of whose territory it crosses. It becomes an international – even global – problem that needs to be addressed comprehensively by the international community, and more precisely by the countries directly affected by those changes. Most IR theories have a state-centric tradition that cannot have the same importance when it comes to climate change since it is hardly possible to find a true single guilty party and/or a single victim. Global environmental governance thus emerges and can be defined as such: "(…) efforts by the international community to manage and solve shared environmental problems" (Kennan (1970) cited in O'Neill 2009, 4). George Kennan observed the situation by saying that: "the entire ecology of the planet is not arranged in national compartments; and whoever interferes seriously with it anywhere is doing something that is almost invariably of serious concern to the international community at large" (Kennan 1970). Given the evident international nature of environmental

changes, its geopolitical role becomes the root of the issues at stake between different states, governments, agencies, and other non-state actors.

### I.1 The environment in the field of International Relations and Geopolitics

The role of the environment in the field of International Relations is largely analyzed in Kate O'Neill's book *The Environment and International Relations*. The author is pointing out the three mainstream theories of IR: realism (and neo-realism), liberal institutionalism and cognitivism. In each of these three mainstream theories, it is possible to see how the environment sometimes fits in as a possible case justifying the statements made by the theories, or again to see how it challenges the assumptions made by these same theories and their main thinkers. For instance, realism is challenged by the lack of power that the states have over the environment (they truly cannot control it), and by the transboundary nature of the events. However, realism also plays an important geopolitical role in the environmental policy, as states are often reassuring their territorial sovereignty (and thus the physical environment of it) with realist means (militarization, gestures such as flag-planting, financed exploration, etc.). For liberal institutionalism, environment serves to prove that states are much more interdependent than they pretend to be in theories like realism. Once again, the transboundary nature of the environment, and of climate change impacts, makes it harder for a country to find solutions alone without the cooperation of other states and the international community. However, it presents a challenge as well since liberal institutionalism has poor faith in treaties and contracts, given the anarchical state of the world. Thus, the role of the state is not central in liberal institutionalism and cooperation in terms of environmental policy goes to justify this aspect of the theory: "They see international cooperation succeeding when states can work together to realize joint gains, and when institutions are set up that can monitor compliance, increase transparency, reduce the transactions costs of cooperation, and prevent most, if not all, cheating. They assign non-state actors, such as the UN or NGOs important roles in fostering such transparency, and making durable cooperative agreements much more likely" (O'Neill 2009, 10). Finally, cognitivism or constructivism, the last theory observed by O'Neill from an environmental perspective, is all about ideas. It introduces ideational and normative elements into the equation (11). O'Neill reports:

> "cognitivism examines how international cooperation is shaped by the introduction of new information and ideas, or by international norms – shared conceptions of appropriate behaviour (Nadelman 1990; Finnemore and Sikkink 1998; Goldstein and Keohane 1993; Klotz 2002). These approaches tend to assign a far more influential role in international politics to non-state actors than do realists or even institutionalists, arguing they are more than supporting players. Instead, non-state actors are frequently the shapers and carriers of these new ideas or norms" (O'Neill 2009, 11).

The role played by multi-national corporations, NGOs, lobby groups, oil conglomerates, etc. in environmental politics is by far as important, if not more important, as the one played by state actors. For instance, the introduction to a new consciousness about 'fair trade' and 'ecological' commerce came from outside the state, per say, and rather from new ideas and norms carried by NGOs such as *Rainforest Alliance* or *Fairtrade International (FLO)*. This is simply an example of how the environment shapes news ideas and norms about which behaviour is to be expected from states. In international relations, cooperation is often also designed around those norms. In the Arctic case, they might come from environmental organizations or again from Native people organisations (e.g. the *Inuit Circumpolar Council (ICC)*). The cognitive theory is thus one of the mainstream theories that is the most easily recognisable when it comes to environmental governance or to environmental policy.

The environmental aspect of geopolitics is something that is too often of a low importance, if not forgotten altogether in most of the literature. Vaclav Smil, in *The Geopolitics Reader*, mentions, regarding the role of the environmental change in international relations for instance, that:

> "Students of conflict should be encouraged to include environmental change in their long term perspectives. (…) And they should not overstate the link between environmental change and social conflict by misinterpreting the former on the basis of inadequate understanding and questionable data while exaggerating the latter by suggesting all too readily the possibility, even inevitability, of violent outcomes" (Smil 1998, 213-214).

In that same train of thoughts, Murphy and Hommel, from the University of Oregon, are presenting in their work *The Geopolitical Implications of Environmental Change* an introduction to this environmental outlook on geopolitics. They state that the impact of environment over geopolitics can be traced all the way back to Mackinder, a founding father of the field of geopolitics, who considered geographical and environmental circumstances – things like distance, climate, or again topography – to be factors into historical imperial control and would likely influence future power balances (Murphy and Hommel 2006, 2). Indeed, Mackinder's reflection attempted to understand which parts of the Earth's surface, by their very spatial and material character, were critical to the geography of power (32). Regarding more precisely climate change, Murphy and Hommel added that applying Mackinder's general approach to a world that may increasingly be subject to climate change is useful, as it encourages looking beyond the circumstances of individual states – and thus abandon for a moment the more state-centered theories of International Relations and geopolitical studies – and considering the changing environmental circumstances of parts of the planet (32). Being often neglected from the main geopolitical analyses, for example in the US National Intelligence Council's Report, (see Murphy and Hommel 2006, 4),

> "environmental changes associated with a shifting climate system could alter the geopolitical foundations of international relations. The importance of incorporating climate change into geopolitical analysis comes into focus when one considers the assumptions that lie behind the geopolitical scenarios currently attracting significant attention (…) these assumptions are premised on ideas about the geography of power that are abstracted from the concrete possibilities and challenges that a changing environment presents" (Murphy and Hommel 2006, 7).

Geopolitics is usually understood from a classical point of view bringing along theories such as sea-power (thalassocracy) vs. land-power (tellurocracy), the significance of traditional military might, or the importance of the size of one's territory in order to assess the balance of power (Zoppo and Zorgbibe 1985). However, the critical branch of geopolitics, mainly led by scholars such as Geraóid Ó Tuathail or Simon Dalby, analyses the different situations through a distinctive lens. Rather than sticking to the strategic ambition of imperial or classical geopolitics (which is about the establishment of place or proper locus), critical geopolitics is a tactical form of knowledge (Ó Tuathail 1996, 68). As described by Ó Tuathail, critical geopolitics questions

the status of self-evident, natural, foundational, and eminently knowable realities of geopolitics. It observes and then wonders how " 'geography' and 'geopolitics' as signs have been put to work in global politics in the twentieth century and how they have supervised the production of visions of the global political scene" (Ó Tuathail 1996, 68). Far from being just coincidental, these signs mark the site of space/power/knowledge production systems, operations that script the actors, settings, and dramas of global politics in deeply geo-politicized ways (68).

In terms of introducing the environment in the school of critical geopolitics, Simon Dalby recalls in *The Geopolitics Reader* that:

> "what is especially important for the discussion here is the emergence of the "global environment" as an object for analysis and policy prescription (Porter and Brown, 1995; Vogler and Imber, 1996). (…) it is now the topic for discussion and analysis, and crucially of "management" by international agreements and agencies set up for the purpose, suggesting that a new form of power/knowledge is now part of the twentieth-century geopolitics (Liftin, 1994)" (Dalby 1998, 179).

Not only are the environmental issues a vibrant part of the twentieth (and twenty-first) century geopolitics, they are also geopolitical in their very existence "How these issues are described and who is designated as either the source of the problem, or provider of the potential solution to the problem, is an important matter in how environmental themes are argued about and in who gets to make decisions about what should be done by whom" (Seager (1993) cited in Dalby 1998, 180). The recurring question as to whether one is being a victim or a perpetrator of environmental challenges often remains unanswered due to their transboundary nature and thus triggers greater geopolitical tension among the states and actors. Dalby also quotes another scholar, Visvanathan, while saying that it is only fairly recently that "environment" has replaced "nature" and that environment seems to be in a constant clash with development and modernization. There is a need to divide and control "nature" in order to pursue goals of innovation (Dalby 1998, 186). He continues by saying that:

> "[t]he processes of enclosure and displacement are also a form of modern geopolitics where geographical space is divided up and controlled. Although working on a smaller scale than the

> divisions of political space into sovereign territorial states that traditional discussions of geopolitics usually deal with, these spatial divisions are part of the same global political economy. (…). In many cases the "owners" of the land are not the same people as those who traditionally used it before development and modernization arrived and imposed a very different social understanding of the environment and the appropriate ways of using it" (The Ecologist (1993) cited in Dalby 1998, 1984).

This emphasis on modernization and property of the land takes an important role especially when geopolitical concerns are brought to attention. The whole debate on resources and their appropriation, at the core of the whole issue of climate change all around the globe, is taking an increasing geopolitical role as resources go scarce and nationalist ambitions of territoriality grow more abundant. Once again, Dalby's analysis of environmental geopolitics shows that:

> "Sometimes traditional peoples are displaced to make way for large resource developments such as dams, mines or forestry plantations leading to what are now sometimes called the new "resources wars" or sometimes "environmental conflicts." Where these conflicts challenge the control by states over sections of their territory or disrupt supplies of resources for global markets they can become traditional armed conflicts, understood in traditional geopolitical terms of access to and control over resources at the large scale, and as matters of national security for the particular state concerned. What one considers the appropriate way of responding to these issues depends to a substantial degree on how the question is phrased in a geopolitical framework" (Dalby 1998, 184).

That last quote is of crucial importance in the Arctic case, since the environmental component of the geopolitics of the region is responsible for the tensions, the need for cooperation, the feeling of a need of greater security, the desire of ownership over resources, etc.

### I.2 The importance of climate change as a new factor of analysis

As early as the 1970s, the environment became an increasingly important issue for the international political agenda. Following the UN-sponsored Stockholm summit of 1972, the

status and importance of the environment as the physical setting into which human beings are evolving became more evident. It was understood that the impacts of the first major international convention on environmental issues were to be the cornerstones of the following international environmental politics that would follow in the upcoming decades. The 1972 UN summit also provided an important change of scale, from a rather local one to a regional, and eventually global one (O'Neill 2009, 25). This whole variation in scale draws the global attention to several phenomena affecting the so-called "global commons", or again "transboundary" nature of the environment. These phenomena are often labelled as environmental changes, a wide term designed to encompass a whole range of issues going from ozone layer depletion to desertification, and to loss of biodiversity. Then, the popular term "climate change" came along. Climate change is an important issue when it comes to the Arctic because "all environments are fragile: they have evolved slowly and rapid changes threaten their ecology" (Sale & Potapov 2010, 8). This consequence of climate change is amplified in the Arctic due to the harsh climate and the seriousness of the impacts that changes in such environment could have. The Arctic had long been out of the current international relations, but with the advent of climate change as a new increasingly popular geopolitical and environmental concern, the Arctic has been put back on the agenda of several countries. Sale and Potapov report that: "…things changed after the phrase "climate change" had become common currency" (138).

### I.3 The Arctic region as a case study for the impact of climate change on environmental geopolitics

The Arctic region comprises a large portion of the Northern hemisphere, but is too often forgotten in the fields of political science, international relations, and geopolitics. Climate change and its impacts draw attention to the region and uncover several cases of territorial disputes, challenges faced by the northern communities, and environmental challenges casting a shadow over the welfare of the Arctic's biodiversity, to name only a few. The region where the Arctic is located, and often defined as 'the North', is outlined on Canada's Department of Foreign Affairs and Trade website as the following:

> "[it] comprises the Canadian territories of the Yukon, the Northwest Territories, and Nunavut, plus Nunavik (northern Quebec) and all of Labrador; the US state of Alaska (except the area

known as the Southeast); all of Kalaallit Nunaat (Greenland); Iceland; the northern regions of Norway, Sweden and Finland; all of what Russia terms the Arctic and the Russian North; and the marine systems of the Arctic Ocean and its adjacent seas, including the Beaufort, Labrador, Bering, Chukchi, Greenland, Norwegian, Barents, Kara, Laptev and East Siberian seas" (Canada Department of Foreign Affairs and International Trade (DFAIT)).

Figure 1: The Arctic Region


Source: Conservation of Arctic Flora and Fauna

In this research paper, there will be five main cases observed. The reason for this is the fact that there are five main circumpolar countries: Denmark, Norway, Canada, the United States and Russia. They are qualified as "main" because they are the states with the greater share of territory, they are particularly challenged by certain territorial claims, but most importantly, they are the states surrounding the Arctic Ocean. In the following paragraphs, these five circumpolar states will be addressed as A-5, following the nomenclature given by Klaus Dodds (Dodds 2010, 71). The three other circumpolar countries, Finland, Sweden and Iceland, while still acknowledged, are not occupying a central role in this thesis. Some researchers are considering Iceland, Sweden, and Finland in their studies of cases (Valko 2011; Sale and Potapov 2010) but for the purpose of this thesis, these three countries will be mostly excluded from the research cases. Several academic researchers are also excluding Iceland, Sweden, and Finland from their works, which does not invalidate or affect negatively their findings and results (Anderson 2009; Charron 2005; Huebert 2012; Roberts 2010; Griffiths 2004).

### I.4 Objective and outline of the thesis

The objective of the main research question is to assess the importance of climate change over the geopolitics of the Arctic and its different components (environment and bio-diversity, the economic activity of the region, sovereignty and territoriality, the security of the circumpolar states, the international and diplomatic relations, and more). Indeed, all of these components are interacting with one another and are not mutually exclusive at all. Thus, dividing them into individual chapters serves more a logical and methodological purpose than a real separation between each factor observed. In order to fulfill this objective, the main question: "How does the impact of climate change on the environmental geopolitics of the Arctic influence circumpolar countries to enter into conflict or to cooperate?" must be analyzed and answered. A few sub-questions are also necessary in order to cover the elements of the main question:

- How does climate change affect the diplomatic relations regarding the environment and the integrity of nature in the region and how can natural resources be accessed while protected and preserved? (Environmental aspect, diplomatic and international relations)
- Is conflict among circumpolar countries a tangible threat? Could it be sparked by the divergence over the ownership of natural resources and/or navigation routes? (Diplomatic and international relations, security, sovereignty and territoriality, economic activity)

- How are sovereignty and territoriality affected by the environmental geopolitics of the Arctic? (Sovereignty and territoriality, diplomatic and international relations, security, economic activity)
- Is collaboration among circumpolar countries possible when it comes to natural resources? (Environmental aspect, International and diplomatic relations, sovereignty and territoriality)

Chapter One will be discussing mainly the environment and bio-diversity aspect. Details regarding the changes in the physical setting of the region, the impact of climate change on flora and fauna, and the accessibility to natural resources, for instance, will be presented. The first sub-question, how does climate change affect the diplomatic relations regarding the environment and the integrity of nature will be discussed and answered. There will be an outlook given on the different frameworks used by the state- (the circumpolar countries, or A-5) and non-state (oil conglomerates, lobbies, NGOs, etc.) actors, on the treaties and texts of law used in different circumstances and on the agreements that have passed along the years. There will also be a glance at the situation when cooperation and agreement is not possible and how it affects the diplomatic relations between the different actors. Chapter Two will be dealing with the economic activity in the region, more precisely regarding the national interests in natural resources and their possible exclusivity, and the control and accessibility to transportation/shipping routes. The sub-question associated to that chapter will be if conflict among circumpolar states (A-5) is a tangible threat and if it could be sparked by the divergence over the ownership of natural resources and/or navigation routes. Chapter Three will be about the sovereignty and territoriality of the A-5. It will examine the delimitation of territory, the territorial claims (e.g. the EEZ), and once again it will discuss the control, accessibility, and exclusivity to the territory. The sub-question about how sovereignty and territoriality are affected by the environmental geopolitics in the Arctic will be the main focus of the chapter. Chapter Four will be exploring the issue of security among the A-5. There will be the concern about the environmental security of each state, but also about the natural challenges of the region due to climate change, and finally attention will be drawn to the militarization of the Arctic. The sub-question about a possibility for conflict between the circumpolar states is also relevant for that part of the thesis, as well as the question on collaboration between these same states. Chapter Five will assess the diplomatic and international relations between the A-5 and will have a look at the different summits, councils, committees, and other organizations set in place in regards to the region. The different treaties, agreements, and tools of international law will also be studied in this part. The sub-question if collaboration is

possible when it comes to natural resources (and navigation routes) will be the main one observed. Chapter Six will then bring projections on what the future holds in for the Arctic region, based on the previously considered aspects of environmental geopolitics. There will be an assessment of the possible physical geographical setting, a list of hypothetical impacts on the region and the sub-mentioned aspects, and finally foreshadowing of the consequences of further modifications in the environmental setting of the region (due mainly to climate change). The time frame observed will be of 5-10 years, 15-20 years and 30-50 years or more ahead. Chapter Seven will discuss possible future policy recommendations based on the findings of the previous chapters and finally will synthesize the presented arguments and offer a conclusion.

### I.5 Limitations

The thesis is limited in one particular aspect concerning the environmental geopolitics of the Arctic, which is the human one. Indeed, due to my Canadian citizenship, I preferred to leave out the issue of Native peoples as much as possible. In Canada, in order to base research on Aboriginal peoples, the ethics guidelines of the Canadian Institute of Health Research (CIHR), the Natural Science and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC) must be followed cautiously. The following arguments summarize "a recent SSHRC's document entitled *Opportunities in Aboriginal Research: Results of SSHRC's Dialogue on Research and Aboriginal Peoples* (McNaughton and Rock 2003):

1. "Decolonizing research: Current research on Aboriginal peoples should include 'indigenous knowledge, traditions, beliefs and values'; adhere to 'Aboriginal protocols at all stages'; involve Elders and Aboriginal researchers; involve partnership at all stages of research design; and use 'Aboriginal methodologies as appropriate to local traditions and the subject being addressed' (McNaughton and Rock, 2003: 15).
   (…)
2. Equitable treatment of Aboriginal researchers: Aboriginal peoples should be represented on grant adjudication committees; the merit of non-academic contributions should be considered; Aboriginal researchers should be identified as such in projects.
3. (…)
4. (…)
5. Arm's length partnership with Aboriginal peoples: SSHRC, NSERC, and CIHR have all created special advisory bodies that oversee research for and about Aboriginal peoples. The idea is to give 'Aboriginal scholars and other Aboriginal knowledge-keepers full responsibility for management of research' on Aboriginal issues (McNaughton and Rock, 2003:17).
6. Gus-wen-tah and joint exploration: This refers to the Aboriginal way of knowing. Gus-wen-tah is also referred to as the Two Row Wampum, 'a treaty to express the rightful relationship between the Haudenosaunee (leadership of the nations) and the European nations' (McNaughton and Rock,

> 2003:18). The relation between 'Western knowledge' and the 'Aboriginal way of knowing' should be equal. Today, the 'Aboriginal way of knowing' is not primary in Canadian society. Researchers should work to place the 'Aboriginal way of knowing' on an equal footing. (…)" (Bouma, Ling and Wilkinson 2009, 155-156).

Thus, there might be valid arguments made on the impact of climate change on the environmental geopolitics of the Arctic Native communities, but there will be, in no ways, interviews made with the Native peoples. Since I do not have a chance to bring this thesis in front of an ethic committee (point 2), I will abstain, as much as possible, from deeper research and use qualitative data only, in direct link with the Aboriginal communities of Canada (and of the other circumpolar countries in general). While fully acknowledging the importance of the Arctic Aboriginal peoples, I prefer to respect the ethical research methods they have raised to be important to them.

I was also limited linguistically speaking, because I do not have any knowledge of Russian, Norwegian, or Danish languages. Therefore, I could not read some of the official governmental statements and/or policies in their original language. Most countries did offer an English version, but the language used might have been slightly different in translation. This seems to have been particularly the case with Russian, since the governmental documents were much harder to find in a translated version. Another limitation was the impressive amount of Canadian sources versus the sources from other origins. I had to be careful of a research bias coming from the amount of Canadian literature that was available to me, and try to search more thoroughly for other sources coming from elsewhere. The thesis is also limited by the fact that it does not include all of the Arctic countries, but rather only the circumpolar Arctic countries. There is therefore a non-circumpolar perspective missing, but that has been done on purpose, in order to focus my case-studies on the countries with access to the Arctic Ocean.

Enclosed in the previous pages of the thesis is the thesis project that has been proposed in May 2012. I have tried to follow most of the outline that I had set at the time, and overall it has been possible to do so. A few differences can be found in the outlined of the proposed argument section, where I do not follow exactly the layout that had been given at the time. In Chapter 6, I had to revise my projections to more realistic timeframes (short: 10-15 years, mid: 15-20 years, long: 30-50 years and more). The reason for such modification came along my research, when I have found out that short-term projections (5-10 years) are often too close in time to be taken into

consideration, and that long-term projections covering a further prospect allow to observe more dramatic increase in the predicted changes. Finally, I have also eliminated the idea of writing an 8th chapter as a conclusion and decided instead to fusion the recommendations and the conclusion together, to allow a greater flow of information and to wrap up the recommendations as concluding remarks.

# Chapter 1 – Environmental Geopolitics; the Environment and its Biodiversity

The Arctic being one of the last places on Earth to be left so untouched by human activity, it is natural that many of the main concerns outlined by the changes in the morphology of the region are raised from an environmental point of view. In fact, the environment is actually what defines the geopolitical importance of the Arctic and the need for new policies. Indeed, as the ice melts due to climate change, the region's importance shows up more often on political agendas – be them from state actors (governments of the A-5 countries, non-circumpolar countries, or union of countries, e.g. the European Union) or non-state actors (oil conglomerates, lobbies, NGOs, animals and/or environment protection groups). The introduction of the thesis has already announced the importance of the environment for International Relations and geopolitics. However, chapter one reveals the roles of environment and bio-diversity for the Arctic region, and how it is altered and often threatened by the transformations that are seen to occur in the North. This chapter also observes the different frameworks put into place in order to agree and cooperate on the protection and responsible use of the Arctic's fragile environment. Moreover, a glance at the situation in case of disagreement is also given. Disagreements usually rise from newly acquired economic opportunities and greater accessibility to resources, which is the theme discussed in chapter two.

## 1.1 The Arctic – Physical Setting of the Region

The evolution of the ice in the Northern Hemisphere has seen several different ice-covering patterns. To say it is cyclical is accurate, but these cycles are usually on a very slow pace (important changes in temperatures occurring generally over more than a thousand years); now, they appear to happen at a faster pace than previously;

> "Eighteen thousand years ago the northern hemisphere was in the depths of the last ice age. The ice had reached its maximum extent, covering north America as far south as St Louis, though, amazingly, leaving much of northern Alaska – that most Arctic of the United States – ice-free. All of Canada, both the mainland and the northern islands, was covered by ice, as was Greenland. Iceland lay beneath an ice sheet, as did most of northern Europe, the ice reaching as far south as Belgium and central Germany. (…) Although Scandinavia lay under many meters of ice, as did

> the bordering area of Russia to the east, the northern area of Russia – like Alaska a land renowned for near-Arctic conditions – was increasingly ice-free. Wrangel Island, today an important maternity denning area for female polar bears, escaped the ice, as did much of the northern coast of Chukotka. South of this ice-free area, permanent ice meandered its way across much of Siberia" (Sale and Potapov 2010, 11).

However, the work in this thesis is not to assess whether climate change and the physical changes in the Arctic are the results of anthropogenic or cyclical factors. Instead, it is rather an observation on the current state of the physical landscape and how its transformation affects the geopolitics of the region, particularly from an environmental point of view. The Arctic has one of the world's harshest climates – comparable only with the intense cold of the other polar region, Antarctica. Weather in the Arctic is so fundamental while describing the area, that: "[t]he climate of the Arctic, rather than it geological history, is the principle factor that gives the [A]rctic terrain its distinctive nature" (CIA 1978 cited in ACIA 2004, 10). The fact that this climate is changing opens the door to several speculations on the future of the Arctic's environment and physical landscape. The Arctic is also home to Siberia's Yenisey and Lena, two rivers carrying more water each than the Mississippi or the Nile (The Economist 2012, 1). Another unique aspect of the Arctic is the Artic Ocean – the world's smallest Ocean –, which is located in a deep basin surrounded by an almost entire belt of land. The North Pole, located in about the middle of the Arctic Ocean, lies over about 4 300 meters of water. The different water masses are similar to the ones found in the other oceans, but what distinguishes the waters of the Arctic Ocean is the fact that they are covered by an *ice pack* made of huge chunks of ice (*ice floes*). The ice pack is divided by opening channels called *leads,* looking like rivers. These ice floes are constantly moving around, depending on the effects of the wind and water currents (Pharand 1989, 140). The location of the Arctic makes it particularly sensitive to temperature change since in both hemispheres, the climate system shifts heat from the steamy equator to the frozen poles. In the north, the exchange of heat is much more efficient due to the landscape of mountainous Europe, Asia, and America that help mix warm and cold fronts (The Economist 2012, 2). Antarctica, surrounded by the vast southern seas is subject to much less atmospheric mixing; Antarctica is also slowly warming up, but its average temperature of -57°C prevents it from being as alarmingly fast as in the Arctic (2).

### 1.2 Climate Change – Arctic's New Reality

One of the most comprehensive scientific empirical works that has been done on the role of climate change in the Arctic is the Arctic Climate Impact Assessment. It is a joined international project of the Arctic Council and the International Arctic Science Committee (IASC), which was presented in November 2004 at the ACIA International Scientific Symposium held in Reykjavik, Iceland. The purpose of the assessment was to provide a comprehensive and authoritative scientific synthesis of available information about observed and projected changes in climate and UV radiation and the impacts of those changes on ecosystems and human activities in the Arctic, to review gaps in knowledge and to research in order to fill those gaps, to provide an accessible summary of the scientific findings written in plain language, and finally, to provide policy guidance to the Arctic Council to help guide the individual and collective responses of the different circumpolar countries to the challenges posed by climate change (ACIA 2004, 2). Although the assessment is almost ten years old, it is still an excellent tool for information about climate change in the Arctic region and it still offers an accurate outlook at its rapidly changing state. The IPCC has also made one of the most comprehensive and best-known assessments of climate change on a global basis in 2001, which served as a reference for the ACIA (6).

The climate of the Arctic varies quite greatly depending on the location and season. "Mean annual surface temperatures range from 4 °C at Reykjavik, Iceland (64 °N) and 0 °C at Murmansk, Russia (69 °N) through -12.2 °C at Resolute, Canada (74.7 °N), -18 °C over the central Arctic Ocean, to -28.1 °C at the crest of the Greenland Ice Sheet (about 71 °N and over 3000m elevation) (ACIA 2004, 10). Climate change is thus hard to assess from a sole temperature point of view. The thesis considers the climate in the Arctic as a whole despite the variations in different locations, since its temperatures altogether are more extreme than the ones in non-polar regions. One of the factors that influence the climate change and its extents in the Arctic is an important positive feedback called the 'albedo effect'. The albedo effect is best described as follow:

> "The winds that rush northwards carry pollutants, including soot from European and Asian smokestacks, which has a powerful warming effect over snow. (…) [adding to that]… the main reason for Arctic amplification is the warming effect of replacing light-coloured snow and ice with darker coloured land or water. Because dark surfaces absorb more heat than light ones, this

> causes local warming, which melts more snow and ice, revealing more dark land or water, and so on." (The Economist 2012, 2)

The feedback is described as positive because the phenomenon creates a cycle into which it is increasing its own effect and generates more warming. Some of the physical consequences of climate change (and of the albedo effect) are the erosion of the coastlines due to the disappearance of former ice buffers, melting glaciers, elevation of sea-level, and unbalanced thermohaline circulation, to name only a few (see The Economist 2012; Murphy and Hommel 2006). Statistics and researches are also being regularly published, supporting the claims that the Arctic's landscape is morphing. For instance, "[t]he IPCC stated in 2007 that the warming of the climate system is unequivocal - the IPCC projects an increase of global green house gas emissions (GHG) by 25-90% between 2000 and 2030." (Dittmann 2007, 21), "[t]he National Snow and Ice Data Center reported in September 2007 that the Arctic sea ice extent dropped to 4.13 million km2, 38% below the 30 year average and 24% below the previous 2005 level." (22), and "2007 summer ice coverage was half of what it was in 1910. The European Space Agency identified the average annual drop to be 100,000km2" (22). Moreover, in summer 2012, the Arctic ice pack was the smallest ever recorded. It was, at the moment, 18% smaller than previously measured minimum in 2007 and 50% smaller than the measured average size in the 1980s and 1990s (Radio-Canada and Agence France-Presse 2013). Julien Daemers, a French scholar, argues that it is quite difficult to make accurate predictions on the state of the ice-pack, since the situation is delicate due to the Arctic temperatures warming twice as fast as any other place on the planet, the albedo effect also accelerating climate change on a local and global level, and the irregularity (size and time needed to re-freeze) of the summer ice-pack from one year to another also being challenging. The melting ice-pack might have a local/regional impact (rather than global, i.e. it does not affect the global sea levels), but the melting of the *inlandsis* (the Greenlandic ice cover) does contribute to the rise in these levels. Both factors increase the number of icebergs drifting in Arctic waters (Daemers 2012, 5). Numbers and findings are pointing in the direction of some important changes in the Arctic region – both environmentally and geopolitically. Paul Dittmann illustrates these changes with the example that: "In 2007, for the first time in its history, the NWP was free and navigable for 36 consecutive days, allowing a non-sea ice capable commercial vessel ample time to transit it unhindered" (Dittmann 2007, 23). It shows that environmental changes are impacting on the geopolitical situation of the NWP,

making it an accessible and potentially desirable navigation route, giving way to greater economics opportunities (see chapter two).

All of these effects have further impacts primarily on the biodiversity of the Arctic, on the lives of the inhabitants (Natives and non-Natives), and consequently also on the economic, territorial, security, and diplomatic relations of the Arctic states. Valko reports in her thesis that certain elements of the physical environment of the Arctic are determining the overall shape and international organisation of the human-made spaces, which she identifies as the military space, the economic space, the demographic space, and the information space (Valko 2011, 55). Valko also illustrates the importance of the physical setting while highlighting the work of two other scholars:

> "Dussouy (2010) and Csurgai (2009) stress that location, size, physical shape, distribution of territory, climatic conditions and even deposits of natural resources are all factors of physical geography that should be considered in any geostrategic analysis, because they have "...a major impact on geopolitics in periods of peace as well as in war" (Csurgai 2009: 52)" (Dussouy 2010 and Csurgai 2009, cited in Valko 2011, 20).

Climate change has already changed the face of the physical setting of the region and of the economic activities taking place there. The ACIA predicts that: "[i]f the present climate warming continues as projected, these impacts are likely to increase, greatly affecting ecosystems, cultures, lifestyles, and economies across the Arctic" (ACIA 2004, 4). Altering the physical setting of the Arctic, climate change is also leaving place to a new reality and to a future that can only be speculated. The consequences of altered Arctic settings bring in some serious concerns, not only for the current generation, but for the future ones as well.

"Unlike the 'natural' risks of the past, the risks of advanced techno-scientific civilization are manufactured and have potentially catastrophic consequences. Though rarely considered, many of these consequences are beyond conventional rational calculations, beyond the local and the personal, beyond even human lifetimes and the human species" (Ó'Tuathail 1999, 11).

Throughout the next chapters, these different potential aftermaths and scenarios are being discussed in greater details.

### 1.3 Flora and Fauna – Impacts of Climate Change on the Arctic's Biodiversity

The ACIA reveals that: "[o]nly about 3% (5900 species) of the world's plant species occur in the Arctic north of the treeline (ACIA 2004, 11). and that: "[t]he diversity of [A]rctic animals north of the treeline (about 6000 species) is similar to that of plants (Chernov, (1995) cited in ACIA 2004). As with plants, the [A]rctic fauna accounts for about 3% of the global total (…)" (11). What is rather alarming when it comes to the adjustment of Arctic species to the impacts of climate change is the fact that their adaptation to their current environment limits their response to climate warming and other environmental changes (11). Often arguing that climate changes are cyclical, climato-sceptics are usually also suggesting that species adapted well enough during the previous environmental changes. However, the ACIA helps understanding that:

> "[d]uring environmental changes in the past, [A]rctic species have changed their distributions rather than evolving significantly. In the future, changes in the conditions in [A]rctic ecosystems may affect the release of greenhouse gases to the atmosphere, providing a possibly significant feedback to climate warming although both the direction and magnitude of the feedback are currently very uncertain" (ACIA 2004, 11).

Moreover, Arctic freshwater ecosystems (lakes and ponds, arctic wetlands, rivers) are summer home to hundreds of millions of migratory birds and are particularly sensitive to climate change because they rely on temperature, precipitation, and permafrost to be suitable (ACIA 2004, 12). The marine ecosystems in the Arctic are also of high importance since the Arctic Ocean takes about two-thirds of the whole Arctic space. The ACIA highlights the ocean's role in affecting heat exchange between water and atmosphere, light penetration to organisms in the water below, and providing a biological habitat above its ice cover (for example, for seals and polar bears) (12). Many of the Arctic marine mammals have actually survived previous mass extinctions of the ice ages that caused the loss of Arctic terrestrial mammals – for instance, the toothed whales, the seals, the walrus, the sea otters, and the Arctic's top predator, the polar bear (12). Yet, evolution and the simplicity of Arctic marine ecosystems, along with the specialisation of many of its species, make them potentially sensitive to environmental changes such as climatic change, exposure to higher levels of UV radiation, and increased levels of contaminants (12). Biodiversity loss is considered to be a 'local-cumulative' issue, i.e. its effects tend to be felt most immediately within national borders, but their ultimate impact is cumulative, or global (O'Neill 2009, 33).

Biodiversity loss is thus often used as an example of a local-cumulative issue and it became 'international' for a number of reasons:

> "[f]irst, the conservation biology community was able to make a pressing scientific case for the global impacts of species and ecosystems loss. Second, others made the case that biodiversity preservation had great cultural value to much of the world's population – regardless of whether or not they would ever see the Amazon, or a panda, [or a polar bear] in its natural habitat – as well as great (potential and actual) economic value (…)" (O'Neill 2009, 33).

In an article of *The Geopolitics Reader,* Gareth Porter writes:

> "Biological diversity is being lost at a rate estimated at 2 per cent to 10 per cent of all species per decade. This rate of loss is unparalleled since the lass mass extinction of species 65 million years ago. Biological diversity is one of humankind's chief resources for coping with diseases and other unexpected natural chances: its loss would dramatically reduce the chances of discovering natural substances that might hold the cure for existing and future diseases" (Porter 1998, 217).

There is thus more at stake, when talking about biodiversity loss in the Arctic due to climate change, than just the impressive sighting of polar bears and walruses.

Ultimately, modifications in the Arctic ecosystem mean modifications in the whole food chain and subsequent previously mentioned loss of biodiversity. Indeed, the ice – which, once again, is melting at an impressive pace – is absolutely vital to most animals of the Arctic. Alun Anderson, a British biologist and author, who has studied the Arctic ecosystem and travelled through the Arctic points out that:

> "(…) iconic animals – including the walrus, the white beluga, the narwhal with its extraordinary tusk, and the mighty bowhead whale – also may be at risk, as they all habitually live on, near, or under the ice. Then there are the seals of the Arctic, especially the ringed seal which the bear relies on heavily for its food, and the bearded, spotted, harp, and hooded seals. All too have a life connected to the ice" (Anderson 2009, 136-137).

He emphasizes the importance of the ice with the example of one of the best-known Arctic animals, the polar bear, and its struggle with climate change:

> "… there is another pressing danger, which will wipe out any small gains the bears are making [in growing their number of individuals]. That is, of course, the rapid disappearance of the sea ice. (…) [there is a] strange irony that the region's top predator, a terrifying and powerful hunter, is helpless without the ice" (Anderson 2009, 136).

Yet, not only the ice itself is an important factor of the Arctic ecosystem that impacts on the rest of the food chain, and is being challenged by climate change.

> "The algae growing inside and under the ice, along with many more that live in the sea where the ice has turned into open water, capture the sun's energy and power everything that lives among the Arctic seas. This is the bottom of the Arctic food chain, the base of the pyramid on which everything else rests. Zooplankton eat the algae, fish eat them in their turn, and so on upward to seals and birds and polar bears and to man, too, for two areas of the Arctic, the Bering Sea and the Barents Sea, are among the world's most productive fishing grounds" (Anderson 2009, 151).

Anderson's worries about the state of plankton's quality is also recounted by Michael Byers while referring to Jody Demming from the University of Washington: "…[she] is worried that as the water warms up, the activity of marine bacteria that feed on the dead plankton will increase, releasing carbon dioxide into the atmosphere (and thus creating even more climate problems)" (Byers 2007, 31). The observation of the food chain in the Arctic and the impacts of climate change over it goes to show that starting with something as basic as the melting of the ice can lead to consequences all the way up the food chain to human beings, affecting health, quality of life, and economic activities, along with threatening biodiversity.

### 1.4 Humans in the Arctic

Human settlements in the Arctic are going very far back in history. Some discoveries of flint tools close to Russia's Yana River, at 70°N, about 500km north of the Arctic Circle, suggest that man had penetrated deep into the sub-Arctic before the last ice age, the finds being dated to about 30,000 years BP (Sale and Potapov 2010, 12). Although most of the Arctic still remains today unindustrialized and relatively untouched, it does not signify that it has not been home to some people. The ACIA reports that: "[s]ome two to four million people live in the Arctic today, although the precise number depends on where the boundary is drawn" (ACIA 2004, 13). Almost

half of these people are located within the borders of Russia, and a large number of all the people living in the Arctic belong to one of the different indigenous communities (in certain places they are a majority, in others, new comers are more numerous). However, this trend tends to change with the economic potential of the developing Arctic, as a consequence of technological advancement and, also, as a consequence of climate change making the Arctic's climate less harsh. In fact, the demography of the Arctic is taking a turn since

> "[i]n the 20th century, immigration to the Arctic has increased dramatically, to the point where non-indigenous persons outnumber indigenous ones in many regions. The new immigrants have been drawn by the prospect of developing resources, from fishing to gold to oil (CAFF, 2001), as well as by the search for the new opportunities and escape from the perceived and real constraints of their home areas" (ACIA 2004, 13).

The populations of the Arctic are growing in certain areas (Alaska, Iceland, and the Faroe Islands) due to the advantages these locations are offering. However, several populations are declining importantly (e.g. across most of northern Russia) as climate change is not necessarily bringing along advantages for these locations (ACIA 2004, 14). In her thesis, Valko outlines the two social systems into which people evolve in the Arctic; indigenous and modern (Valko 2011, 46). This dichotomy shows, on the one hand, that the indigenous social system encompasses communities that are often small and remote, as well as located at some of the northernmost regions of the Arctic states (46). Valko adds that, on the one hand, the lifestyle of the indigenous communities is still based on hunting (reindeer/caribou (on land) and sea mammals (in coastal areas)). She also highlights the lack of access to social services due to sparse population, the inadequate housing, problems of energy, water, transportation systems, the lack of proper healthcare, the high risks of infectious and chronic diseases, as well as addiction problems (alcoholism, drug abuse), and psychological problems that can eventually lead to suicide (46). The ACIA dedicated a chapter of its report on the indigenous perspectives of climate change. Mainly, it shows that indigenous people have for millennia depended on and adapted to their environment (ACIA 2004, 62) and that climate change jeopardizes their ability to rely on their environment and their traditional knowledge. The instability of weather over the past years is posing an additional challenge when it comes to traditional activities. The A-5 countries are starting to integrate more of the indigenous knowledge and observations on the climate because it

provides an insider's point of view. Indigenous knowledge is cited as helpful to explain how caribou (reindeer) migrations may be triggered by seasonal cues such as day length, air temperature, or ice thickness. (Thorpe at al. (2001) cited in ACIA 2004, 67) The indigenous insight comes from being on the front line of experiencing the effects of climate change on the Arctic and its environment. In parallel, a more modern social system can be found closer to the regional centers of economic activity. It consists mostly of several groupings of (not always, but often) non-indigenous people who have migrated from the southern parts of the Arctic states during the second half of the 20th century, for economic reasons. (Valko 2011, 47) The biggest agglomerations of the Arctic are usually where such modern social system takes place, e.g. Fairbanks in Alaska, USA (metropolitan population: 97, 581 in 2010), Yellowknife in Canada (population: 19,234 in 2011), Tromsø in Norway (population: 69,116 in 2012), or again, Nuuk/Godthåb in Greenland, Denmark (metropolitan population: 18,039 in 2010). The modern social system of the Arctic is, once more according to Valko, not bound to the Arctic ecosystem. (Valko 2011, 46) This is an important detail because it means that the impacts of climate change are only affecting the Arctic modern social system at a lower level. Since the main economic activity and mode of subsistence in the cities is not hunting and/or fishing, the effects of climate change on fauna and hunting/fishing territories are not major concerns. However, it is the opposite for most of the indigenous communities within the indigenous social system. The discrepancies between the living conditions of indigenous and non-indigenous communities in the North are quite important. The indigenous lifestyle is highly influenced by the environment and the slightest change can bring important consequences (lack of food, dangerous hunting/fishing conditions, difficulties travelling from a point to another, etc.). Climate change is thus, also impacting on the lives of human beings in the Arctic, and not solely on fauna and flora. The risks brought to the security of the Northerners are also assessed in chapter four.

### 1.5 Conservation – Treaties and Agreements

After what has been tagged as the 'Earth Summit' in Rio de Janeiro in 1992, the environment and its preservation became one of the mainstream political topics and took a more important place in the debates and in the international relations. Additionally, the United Nations also encouraged several other international and interdisciplinary researches on the atmosphere and biosphere, playing a key role in generating research about the changing state of the global

environment, its causes and likely impacts. (O'Neill 2009, 27) The UN also sponsored multiple environmental agreements; it has organized and convened five global summits (the UNCHE in Stockholm, 1972; the previously mentioned UNCED in Rio de Janeiro, 1992; the WSSD in Johannesburg, 2002; the COP15 in Copenhagen, 2009; and finally the most recent one, the COP18 in Doha, 2012). O'Neill points out, while quoting two other scholars, that: "such "mega-conferences" raise international awareness, set important environmental norms, principles, and goals, and establish procedural frameworks in order to meet these goals (Seyfang 2003; Haas 2002)." (O'Neill 2009, 27) Often, these conferences are the first step or one of the stepping-stones onto which the basis of treaties are made. These treaties sometimes become later the body of international law. The role of international law and diplomatic relations in the Arctic is being examined in greater details in chapter five. One also has to bear in mind that not only state actors are involved in research, negotiations, and treaty agreements. There is also a whole range of non-state actors that are presenting their points of view and influencing the outcomes of the different summits or treaty negotiations. For instance, there are the NGOs, the lobbies, the states' populations (via petitions, protests, and mass movements), and the UN itself (as a non-state actor), to name only a few.

> "The most high-profile, and contentious, negotiating process has been over climate change and the 1997 Kyoto Protocol. (…) … although it entered into force in 2005, it has suffered from the active withdrawal of the US [and of Canada], and criticism from the environmental community for being too weak to seriously address greenhouse gas emissions." (O'Neill 2009, 5)

The Kyoto Protocol offers a good example of how complicated it is to make sovereign states agree and find common grounds for shared responsibilities, and how hard it is to trust treaties when countries are simply withdrawing from their previously signed accords. Interestingly enough, two of the countries that withdrawn from the Kyoto Protocol are among the A-5 countries. The Arctic region is no exception to these difficulties and agreements over the protection and conservation of the Arctic are also bound to be challenging for the A-5. Nonetheless, the circumpolar countries often managed to overcome their differences and to come forward with agreements and treaties that are aiming for the greater good of the region's environment and population.

One of the oldest treaties involving the Arctic is the so-called Svalbard Treaty (Treaty concerning the Archipelago of Spitsbergen 1920) between Norway, the United States of America, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Ireland and the British overseas Dominions, and Sweden concerning Spitsbergen, which was signed in Paris on February 9th 1920. Among other things, this treaty gave Norway the full and absolute sovereignty over the Archipelago of Spitsbergen, solving a problem of territorial claim. (Treaty concerning the Archipelago of Spitsbergen, and Protocol 1920, Article 1) It also determined the right to resources (fishing and hunting) accorded to all the High Contracting Parties, but leaving the responsibility of decreeing necessary preservation measures to Norway. (Treaty concerning the Archipelago of Spitsbergen, and Protocol 1920, Article 2) Norway is taking this protection and conservation seriously, stating for instance that: "These days, only scientists are permitted to go ashore on King Karl Land [in Norway], so as not to disturb the female bears who come here to build the dens in the snow where they will give birth." (Anderson 2009, 136) Another example of an important achieved agreement between circumpolar countries was The International Agreement on the Conservation of Polar Bears and Their Habitat (1973). Alun Anderson observes in his book *After the Ice: Life, Death, and Geopolitics in the New Arctic* that:

> "Everywhere in the Arctic the polar bear is protected now. In Alaska, where "sport hunters" used to shoot polar bears from airplanes, the polar bear was listed as a threatened species in May 2008. Russia long ago banned polar bear hunting in its part of the Arctic, but recently added a quota for indigenous peoples to help control poaching. Canada and Greenland also protect bears while granting a small number of hunting licenses to indigenous people. All the circumpolar nations work together under the terms of the International Agreement on the Conservation of Polar Bears, a remarkable agreement signed in 1973 when the Cold War was still on." (Anderson 2009, 136)

What is impressive with the International Agreement on the Conservation of Polar Bears is the fact that environmental cooperation was reachable even in very tensed geopolitical settings, during the Cold War era. The IACPB was signed by all of the A-5 countries (the Union of Soviet Socialist Republics being signatory for Russia at the time). It highlighted the importance of "the special responsibilities and special interests of the States of the Arctic Region in relation to the protection of the fauna and flora of the Arctic Region;" and recognized that: "the polar bear is a significant resource of the Arctic Region which requires additional protection;" (The

International Agreement on the Conservation of Polar Bears and Their Habitat 1973, Preamble) A final example of an Arctic initiative for environmental protection is the Arctic Waters Pollution Prevention Act (1970, R.S.C. 1985). Implemented by Canada, this text of law presents a plan to counter the possible pollution occurring in its Arctic waters by setting a framework of offences and punishments that can go as far as seizure and forfeiture of a national or foreign vessel, along with its goods (in Canadian internal waters) if it is polluting – e.g. through waste deposit. It states that: "no person or ship shall deposit or permit the deposit of waste of any type in the Arctic waters." (Arctic Waters Pollution Prevention Act, 1970, R.S.C. 1985) Some other frameworks are meant to a larger extent than the Arctic region solely, but are benefiting the area quite importantly. For instance, marine problems and resources degradation are impacting on the management of fish stocks, on the control of ocean dumping and on oil pollution at sea. Such problems have important consequences, including fish stock collapse, loss of marine biodiversity, and coastal and ocean pollution. Possible solutions to these problems can be found in the UN Convention on the Law of the Sea (UNCLOS, 1982), in the UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (1995), and in the MARPOL (1973) (O'Neill 2009, 36). Finally, Kate O'Neill illustrates how important these conventions, agreements, and treaties are for the "global commons":

> "In the biodiversity area, several of the early agreements deal specifically with transboundary conservation issues: the wildlife trade and migratory species. Negotiations over the Convention on Biological Diversity initially sought to define biodiversity as "global commons," and feared the international interventions that might bring. The final wording in the Convention thus stated that biodiversity is part of the "common heritage" of humanity" (O'Neill 2009, 36).

Nevertheless, international agreements over how environmental issues should be tackled are not always easy to reach. O'Neill points out that the practice and the study of international environmental cooperation are challenged by two different narratives. First there is:

> "this perspective of failure, which draws on the perceived weaknesses of existing treaty arrangements (Susskind 1994), the intractability of [certain] disputes… , the "summit fatigue" that has resulted from the proliferation of international meetings… (VanDeveer 2003), and the extent

> to which global economic governance regimes "trump" their environmental equivalents (Conca 2000)" (O'Neill 2009, 5).

Second, there is also the idea that environmental cooperation is too narrow:

> "(…) By examining non-traditional actors – environmental corporations, other modes of governance, such as forest certification schemes, transnational advocacy networks, and actions across scales – from local to global – we see a picture of a global governance that is far more multi-faceted, contentious and potentially more democratic than the dominant model of international environmental diplomacy. This perspective challenges the position of nation states as the primary agents of global governance…" (O'Neill 2009, 6)

Moreover, there is always the realist and neo-realist pessimism about international agreements and the unreliability of states in an anarchical world. If there are no mechanisms of punishment for countries that do not respect environmental agreements, then there is no guarantee that they are truly serving a purpose to begin with. Such cynicism is not entirely wrong when one considers the non-binding nature of most environmental agreements, and the ease with which countries often retract themselves from previously signed treaties (e.g. Kyoto and Canada). Also, despite the signed agreements and treaties, the Arctic states do not always find what they are looking for in them. Angelle C. Smith (2010), believes that the current frameworks in the Arctic are irrelevant because they do not respond to the actual needs of the A-5. She argues that UNCLOS is not a viable option because not all of the circumpolar countries are signatories (the US are not) (Smith 2010, 652). Smith considers that one of the solution for a proper legal framework in the Arctic could be a new Arctic regime combining elements from the International Court of Justice (ICJ), the mineral resource provisions in the Antarctic Treaty System (ATS), and the common heritage of mankind principles (653). Smith also thinks that: "strictly adhering to the framework in the climate change-oriented Kyoto Protocol will not stop the effects of global warming from drastically altering the Arctic's frozen environment" (659). The actual Arctic law regime being irrelevant due to its unreliability, according to Smith, the new regime should incorporate current mineral resource provisions and the common heritage of mankind principles, and also include components borrowed from the ATS. Without a new regime, international cooperation in the Arctic would not be sustained as the area becomes more accessible (669; 675).

Smith even pushes the idea that: "[c]ooperation and environmental protection are also stressed in a proposal to create an "international park" to handle the Arctic's jurisdictional problems" (676). This proposal would be a 'two birds with one stone' situation, since it offers a solution to both conservation and territorial disputes. These territorial disputes are being discussed in depth in chapter 3, but the 'international park' proposal suggests a (perhaps too) simple solution to a more complex issue.

# Chapter 2 – Economic Activities and Resources

Economic activity, potential or actual, is an important component of contemporary geopolitics. In a non-militarily inclined balance of power, economic might can determine whether a country is geopolitically more influential than another. If we go back in time, the Arctic region has not always been historically so important on an economic level, but there were still resources to be found. The north, mostly below the Arctic Circle, was mainly attractive due to "[t]he extensive natural resources of the region (…) first for trappers, then for gold miners, and eventually for fishermen and forestry and agricultural workers…" (Nord 2007, 209). However, climate change and its various impacts are making the Arctic a new highly coveted prize: an almost untouched and tremendously important reserve of resources (oil, natural gas, minerals, rare earths, fisheries, etc.). This new set of economical possibilities has already caught the attention of the circumpolar countries, but it is starting to catch up as well on the international community. Indeed, is UN starting to be concerned that a 'scramble for the North' is going to take place and then lead to an irresponsible use of the territory threatening the integrity of the fragile environment (Radio-Canada and Agence France-Presse 2013). The UN has reasons to worry that an ever-growing interest in the Arctic might bring hazards to the environment, and each of the A-5 has different arguments and/or plans validating their use of their territory, while promising an environmentally and ecologically responsible exploitation and use of it. No matter which method is chosen to exploit the territory responsibly, one variable remains sure: the A-5 countries intend to take advantage of climate change impacts on their potential resources and economic activities. While assessing what are the main sources of economic activities and resources in each of the A-5, this chapter will also be aiming at answering the questions of ownership of resources and transportation routes, potential conflicts and/or cooperation emerging from that ownership, and finally how can the A-5 countries assess the different impacts of climate change on their new geopolitical role in an Arctic with accessible resources.

## 2.1 Role played by climate change

Climate-sceptics doubt the anthropogenic nature of the so-called 'global warming', and often use elements of the past to defend their position that an age of melting ice is simply part of a natural cycle (Carter 2011). However, it is difficult to contest that there are indeed changes

happening in the Arctic landscape and that these changes are triggered by environmental, meteorological, and climatological causes. Radio-Canada, a state-owned Canadian media source, reports in February 2013 that:

> "The melting of the Arctic modifies the Great North's geography. During summer 2012, the Arctic ice pack (floe) turned out to be the smallest ever measured. The ice pack was, at that moment, 18% smaller than the recorded previous low of 2007 and 50% inferior to the average ice pack size of the 1980s and 1990s" (Radio-Canada and Agence France-Presse 2013).

Such important modification in the geographical setting of the region is most likely going to bring about intensive human activity and change the face of the Arctic as it is right now. Several challenges are emerging from this new northern landscape, as outlined by Payette and Roussel from the UQAM (Université du Québec à Montréal):

> "Global warming [regardless if it is argued to be anthropogenic or not] is affecting all communities around the pole... First, traditional human activities, including fishing and hunting, are becoming more difficult and affect an economy already in precarious shape, in addition to the disastrous effects of the European Union's ban on seal products for hunting communities. Second, rapid temperature rise is affecting all the infrastructures that have been built on the permafrost, from individual houses to airstrips. Third, global warming, which will probably make the north more accessible, is likely to trigger an increase in human activities in the region. Resource extraction, shipping, and tourism may become more common, hence increasing the demand for governmental control and assistance, such as search and rescue, traffic monitoring, environmental disaster response, and so on" (Payette and Roussel 2011, 953).

This quote, taken from the article *The Other Sovereignties: Quebec and the Arctic,* ought to mainly focus on the Canadian Arctic, but is still relevant for all other A-5 countries and their northern populations. Climate change brings a considerable amount of new challenges and though most of the new economic opportunities are seen in a good light, it is a reminder that it also has its negative sides. Those are mainly assessed at the end of the chapter. Considering a further time-frame for the impacts of climate change over the Arctic, one can come up with the following prediction: "Extrapolations of current trends and specialized Arctic models indicate an ice-free Arctic between 2013 and 2030. A commercially accessible Arctic does not require an

ice-free Arctic. Abnormally beneficial weather could evoke much earlier commercial efforts" (Backus, Millick and Rumpf 2011, 5). It demonstrates that A-5 (and other non-Arctic states) might not have to wait until climate change is done morphing the geography of the region before economic activity can be fully launched. This is, though, only a prediction and can only serve as a model in understanding the economic development and importance.

### 2.2 EEZ and UNCLOS

One of the most important aspects of the economic potential of the Arctic is the significance of its 'Exclusive Economic Zone' or EEZ, which is defined in the United Nations Convention on the Law of the Sea (UNCLOS). The UNCLOS gives coastal states, the A-5 states in the case of the Arctic, the right to establish maritime zones of control off their coasts. All of the Arctic coastal states have now created 200-nautical-mile 'Exclusive Economic Zones' from their coastline and are now in the process of determining the outer limits of their extended continental shelves; once established, those outer limits will extend far beyond the 200-nautical-mile zone (370 km) with an extra 150-nautical-miles (for a total of 648 km). It will allow the A-5 to control the seabed of most of the Arctic Ocean (Huebert 2012, 19). The actual text of law on the EEZ can be found in Part V of UNCLOS under articles 55 to 75, while the part on the continental shelf is in Part VI under articles 76 to 85. Continental shelves are described as the following: the seabed and subsoil that extend from the coast to the slope and rise between a continent and the deep ocean (UNCLOS 1982, article 76(1)). The extensions of continental shelves are currently disputed and mapping of the zones is necessary in order to determine what belongs to whom precisely. These territorial claims are further discussed in chapter three. As for the resources that are to be located beyond a potential enclosed and identified EEZ, the mineral resources of the deep sea-bed should normally form part of the common heritage of mankind, but their exact presence has not yet been precisely determined (Pharand 1989, 131).

### 2.3 Oil and Natural gas

(for example of undiscovered deposits, see Annex A)

According to the US Geological Survey of 2008, the Arctic region holds around 13% of the world's untapped reserves of oil and around 30% of the world's untapped reserves of natural gas (Department of the Interior, US Geological Survey 2008). A large share of these reserves of

oil and natural gas are located within the countries' EEZ and are thus not subjected to disputes, as illustrated by Julien Daemers, a French scholar specialized in the role of the EU in the Arctic relations:

> "(…) It … seems that the notion of a race for the Arctic hydrocarbons is highly exaggerated, as sovereignty over most of them is not contested. As to the economic part of the equation, most of these new fields are offshore, facing exploration and exploitation companies with the need for hi-tech and highly expensive drilling technologies, which most countries involved – with the exception of Norway – do not possess" (Daemers 2012, 6).

Some authors disagree with Daemers' idea that a race for the resources is exaggerated and are believing that a 'scramble for the Arctic', 'new Great Game', or 'new Arctic gold rush' might be taking place in a near future (see Dittmann 2009; Huebert 2004; Nuttall 2010). Contested or not, however, oil and natural gas sources are still of great importance for the emerging economy of the Arctic. A rather large share of the oil and gas deposits is located within Russia's EEZ; oil in the Pechora Basin, gas in the lower Ob Basin, and other potential oil and gas fields along the Siberian coast (ACIA 2004, 15-16). In fact, the oil and gas potential of Russia's Arctic regions constitute the world's largest energy reserve outside the OPEC countries (Blunden 2012, 118). In Canada, oil and gas fields are concentrated in two main basins in the Mackenzie Delta/ Beaufort Sea region and in the Arctic Islands. In Alaska, Prudhoe Bay is the largest oil field in North America and other fields have been discovered or remain to be discovered along the Beaufort Sea coast. Oil and gas fields also exist on Greenland's west coast and in Norway's Arctic territories (ACIA 2004, 15-16). Although the Russian Federation has the main sources of oil, it is rather reluctant to allow foreign investments in its oil and gas sector. That could be explained by the fact that the Russian authorities consider this sector to be related to national security. Norway is usually a key European player in achieving consortium allowing foreign companies (e.g. TOTAL, Statoil) to contribute with their advanced offshore technology (Daemers 2012, 16-17).

Technological advances in oil and gas industry, significant changes in world energy markets, and fluctuation in increasing global demand are all factors that have led to a major expansion of oil and gas exploration and development in many parts of the Arctic in over the last thirty years (Nuttall 2010, 9). Additionally, the current existing world's oil reserves might not be

enough to meet demand over the next 15 to 20 years (Nuttall 2010, 9). Mark Nuttall, a social anthropologist and expert on Arctic matters, also insists on the importance of the Arctic as a new energy frontier from a geopolitical point of view:

> "The circumpolar North becomes even more attractive to energy companies just as a combination of factors – depletion of existing reserves in places such as the North Sea (…), local conflicts in places such as the Niger Delta, and geopolitical tensions in the Middle East being just a few – make it more difficult for industry to continue to invest and work in areas which have, until now, provided much of the world's oil and gas" (Nuttall, 2010: 10).

Although these geopolitical aspects are not directly linked to the environment, they are still playing an important role in the environmental geopolitics of the Arctic because further developments in the region are consequential to them.

### 2.4 Other Mineral Deposits

Among all the economic opportunities of the Arctic region, mineral deposits are a quite important one. The American part of the Arctic, Alaska, has a great history of gold seekers and gold diggers and potential mineral resources are one of the reasons why the region attracted interest and eventually became more developed in the first place. The wide range of resources in mineral deposits goes from nickel to copper to ores, such as iron, and to gem-quality mineral, such as amethyst. There are also diamonds to be found in the Arctic, in quantities worth investing into extraction and mining activities. Mining certainly means some disturbances for the environment – fauna and flora – but represents at the same time an interesting chance for further development in the region, for governmental investments into remote areas (villages, settlements), for employment, and for general modernisation and industrialisation. Mining is already a good part of the Canadian, Russian, and American economies, and the respective governments of these countries are usually very open to the mining industry. For instance;

> "Russia extracts the greatest quantities of these minerals, including nickel, copper, platinum, apatite, tin, diamonds, and gold, mostly on the Kola Peninsula but also in Siberia. Canadian mining in the Yukon and Northwest Territories and Nunavut is for lead, zinc, copper, diamonds, and gold. In Alaska lead and zinc deposits in the Red Dog Mine, which contains two-thirds of US

zinc resources, are mined, and gold mining continues. The mining activities in the Arctic are an important contributor of raw materials to the world economy" (ACIA 2004, 16).

The Lomonosov Ridge, contested area between Canada, Russia, and Denmark is also a targeted mineral resources zone. At the Lomonosov Ridge, there is at stake an access to an estimated 10 billion tons of gas and oil deposits and significant sources of diamonds, gold, tin, manganese, nickel, lead and platinum (Dittmann 2007, 36).

### 2.5 Rare Earths Elements

(for example of rare earths elements, see Annex B)

The so-called 'rare earths elements/metals' or simply 'rare earths' are: "a group of 17 chemically similar elements crucial to the manufacture of many hi-tech products. Despite their name, most are abundant in nature but are hazardous to extract" (BBC 2012). As previously mentioned, they are extremely valuable for all of the newest technology devices production: magnets for powerful loudspeakers and computer hard drives, green technologies for wind turbines and hybrid cars, carbon lighting applications in studio lighting and cinema projection, catalytic converters in cars, process of refining crude oil, aircraft engines, X-ray and MRI scanning systems, refrigeration systems, making of televisions, computers, control rods in nuclear reactors, and many more (BBC 2012). Rare earths are especially present in Greenland, with the estimation of enough deposit in the Illimaussaq Intrustion on the southwestern shore to supply 25% of world demand for fifty years (European Parliament, subgroup "Arctic" of the European Parliament Intergroup "Climate Change, Biodiversity and Sustainable Development" 2011). The main source and market for rare earths as raw material is located in China, which has almost the monopoly on rare earths transformation – around 90% of the world's supply of rare earths is currently provided by China (European Parliament, subgroup "Arctic" of the European Parliament Intergroup "Climate Change, Biodiversity and Sustainable Development" 2011). This situation could strengthen the ties and create more exchanges between Denmark and China. It could also mean that Greenland is potentially able to compete with China on the rare earths market. Rare earth mining alone could potentially double Greenland's GDP and make it the principle supplier for European industry (European Parliament, subgroup "Arctic" of the European Parliament Intergroup "Climate Change, Biodiversity and Sustainable Development"

2011). However, the exploitation of rare earths is posing a dilemma to Denmark. Indeed, Denmark would need to revise its legislation on nuclear material, since it would inevitably be found while extracting rare earths. The rare earths elements thus represent an important economic opportunity, but they are not yet one of the main opportunities considered while discussing the emerging Arctic economy, and they are rarely discussed in the works and articles of scholars and experts.

### 2.6 Fisheries

(for example of fishing zones and EEZ, see Annex C)

The Arctic is known to be one of the most important sources of fish in the world, when it comes to commercial fisheries. Indeed, according to the ACIA research made in 2004:

> "In the Bering Sea and Aleutian Islands, Barents Sea, and Norwegian Sea annual fish harvests in the past have exceeded two million tonnes, although many of these fisheries have declined (in 2001 fish catches in the Bering Sea totaled 1.6 million tonnes). Important fisheries also exist around Iceland, Svalbard, Greenland, and Canada. Fisheries are important to many [A]rctic countries, as well as to the world as a whole. For example, Norway is [one of] the world's biggest fish exporter with exports worth four billion US dollars in 2001"(ACIA 2004, 16).

Fisheries are a lucrative activity and can be the source of tensions between circumpolar countries. One of the most cited examples is the case of the Svalbard Archipelago, opposing Russia to Norway. This case is further explained in the following chapter, since it emerges from a problem of territoriality and sovereignty. In fact,

> "[i]nternational conflicts over fishing grounds have been frequent in recent decades. (…) Without any international agreement on managing fish stocks that straddle the exclusive economic zones of states or that migrate between EEZs, or between coastal zones and the high seas, even normal fluctuations in stocks increase interstate competition over fishery resources. [Furthermore], with more than half the world's major maritime fisheries already in serious decline from overfishing and the rest exploited up to or beyond their natural limits, the potential and even military confrontation is growing" (Porter 1995, 218).

The anthropogenic impact of exploitation rates is an important factor of modifications in the

pattern of species present above the Arctic Circle. This event only fuels the already existing divergences between Arctic states. An environmental security approach to the fisheries conflicts is to suggest that: "the key problem is to conserve the resource in order to maintain adequate supplies well into the future, rather than trying to control more of a resource that is being depleted. (…) with maritime fisheries, it … require[s] global agreement" (Porter 1995, 218). The Arctic region is home to several different species fished commercially, such as the Norwegian spring-spawning herring, the polar cod, the Greenland halibut, the capelin, the northern shrimp, and the northeast Atlantic cod, to name only a few. From an environmental point of view, climate change will certainly bring modifications in fish populations, but it is yet unclear what those are going to be precisely (ACIA 2004, 692). The ACIA study predicts that a moderate warming will possibly improve conditions for some of the most important commercial fish stocks, e.g., Atlantic cod, herring, and walleye pollock. The reduced ice-cover would make it easier for populations to grow, and therefore make it simpler also to fish and would thus enhance the levels of production (692). Radio-Canada claims, in 2013, that fisheries are bond to increase in the Arctic region, with a study from the UNEP predicting an intensification of around 30% to 70% of fish being caught between now and 2055 (Radio-Canada with Agence France-Presse 2013). Fish stocks are accordingly likely to expand their populations beyond what had previously been seen. Climate change is also likely to change the species composition – relative population size, fish growth rates, spatial distribution of fish stocks, etc – needing new adjustments on quotas, policies, and fishing rights (see ACIA 2004, 692). The ACIA predicts that the climate change in itself is going to bring fewer changes to the fishing industry than the modifications of fisheries policies and their enforcement. In a long-term economic projection, climate change is not very likely to have a tremendous impact on fisheries at a national level. However, the communities that are highly dependent on fisheries might have some social consequences that are more important than the average national situation.

Norway is unquestionably the country with the most at stake when it comes to fisheries. "The fishery sector is of considerable economic significance in Norway, being among the country's main export earners" (ACIA 2004, 700). The most important fish stock in economic terms is beyond a doubt the northeast Atlantic cod. The ACIA indicates that most of the Norwegian fish harvest is taken in the Norwegian EEZ and that altogether, the waters under Norwegian jurisdiction cover 2 million km2 – more than six times the size of mainland Norway.

(see Annex C) Three main areas are the scene of most Arctic fisheries: the Barents Sea/Svalbard area, the north Norwegian coast, and around Jan Mayen (ACIA 2004, 700). Before the UNCLOS, the Norwegian maritime jurisdiction in the northern waters was preventing foreign nationals and, indirectly foreign states, from fishing freely in waters that were otherwise for century considered to be common fishing grounds to occidental Europe. Thus, the right of these other countries to fish there was simply based on Norway's agreement to let others fish in its jurisdiction, along with its good will and consent (Sollie 1989, 78). Fisheries and the access to them are examples of cooperation, in this case between Norway and other countries, since a substantial part of the catches in the Arctic is taken by fishers outside the region, such as those from southern Norway and elsewhere in Europe (ACIA 2004, 702).

### 2.7 Navigation routes

Although the ownership of navigation routes is being discussed in greater terms in the following chapter, their importance on the economic level is uncontested. As the ice disappears, there are two main transportation routes that are becoming increasingly essential to the economic development of the Arctic: the Northern Sea Route (NSR) and the Northwest Passage (NWP). From a geopolitical point of view, navigation routes are perhaps the most important aspect of the emerging issues at stake in the Arctic. Indeed, "changes in transport routes have historically been associated with seismic shifts in the balance of economic and political power" (Blunden 2012, 116). From a historically thalassocratic point of view, classic geopolitical thinker Alfred Thayer Mahan argues that the influence of sea commerce upon the wealth and strength of countries has been closely linked with the development of sea power:

> "'the necessity of a navy, in the restricted sense of the word, springs from the existence of peaceful shipping.' Sea power protected vital commercial flows when other, more peaceful methods had failed. In the seventeenth and eighteenth centuries,…, expanding maritime commerce and the associated growth of navies, led to the acquisition of secure bases along the major trade routes" (Mahan cited in Blunden 2012, 116).

Margaret Blunden, who has studied the geopolitical importance of the NSR in particular, makes a parallel between the potential significance of a new Arctic sea lane, in economic, geopolitical and security terms, with that of the opening of the new sea routes to the Indies during the Age of

Discovery (Blunden 2012, 117). Moreover, the NSR and the NWP could bring very interesting and advantageous alternatives to the actual more common straits and canals. Blunden illustrates how some of the issues currently present in other sea lanes are pushing for a greater and quicker development of the NSR:

> "… the projected increase in commercial maritime traffic to 2018 [total world fleet projected to include 100,000 vessels of 500 dwt or more, compared with 77,500 in operation in 2008 (Blunden 2012, 117)], and piracy and potential political instability along the existing route through the Suez Canal are all prompting the major players to hedge their bets. (…) Regular intercontinental transit of this route would depend not only on continued climate change: technological innovations in ice-capable shipping will be encouraged by the physical limitations of the Suez Canal for increasingly large vessels and could be precipitated, even in unfavourable climatic conditions, by disruption to this existing trade route" (Blunden 2012, 115).

One should be keeping in mind that today's trade routes between Europe and Asia, carrying a volume of trade previously unimaginable, are passing through choke-points, from the Strait of Malacca to the Suez Canal, which are highly vulnerable both to congestion and to deliberate or accidental disruption, as well as increased risk of collision. Moreover, the Suez and Panama canals are approaching their maximum carrying capacity, and the higher risks are also generating higher cost of insurance for ships (Blunden 2012, 117-119). In terms of insurance and security, numerous choke points around the world (the straits of Gibraltar, Hormuz, and Malacca; the Panama and Suez canals; the Red Sea; the Cape of Good Hope; and the Horn of [Africa]) are also vulnerable to mines, terrorist acts, or piracy (Dittmann 2007, 28). Distance is another advantageous reason for the northern sea lanes NSR and NWP to develop. On the one hand, the NSR certainly offers a shorter way for all ports north-east of Hong Kong and this is a significant advantage due to the fact that the economic centre of gravity in both Europe and Asia is moving northwards, in Europe from the west to the north-east, with the development of Central and Eastern Europe, and the German economic boom, and in Asia from the south-east to the north, with the growth of China (Blunden 2012, 120). The NWP, on the other hand, "encompasses approximately 5,000km of waterways that reduce European-Asian shipping routes by 8,000km and east coast North American-Asian routes by 7,000km over the standard Panama Canal route" (Dittmann 2007, 2). For all of these reasons, and because globalization depends heavily on maritime transportation, the opening of new sea lanes makes it necessary to prepare strategies and

to consider potential partnerships for the major trading powers of Europe and Asia. Li Zhenfu of the Dalian Maritime University wrote, in a very Mackinderian/Spykmanian fashion, that: "Whoever has control over the Arctic route will control the new passage of world economics and international strategies" (Zhenfu cited in Backus, Millick and Rumpf 2011, 6).

Figure 2: The Northern Sea Route


Source: Nordregio – Nordic Centre for Spatial Development

The NSR, or Northern Sea Route, located in the Russian Arctic and connecting the Atlantic Ocean to the Pacific Ocean through Murmansk on the Barents Sea, follows Siberia's coastline, and finally reaches the Bering Strait. Once it reaches that point, the waterway can continue further along the coasts of Asia. The NSR is a contested waterway and the name Northern Sea Route is actually the Russian appellation for what is often known outside Russia as the Northeast Passage (NEP) (Ragner 2008, 114). The NSR, despite being called a *Route*, is not a single linear way, but rather a whole sea area. The NEP had been part of the European colonial projects ever since the 16th Century, when shorter seaways to Asia were eagerly sought. The relevance of the NEP as an international transit waterway diminished after the Russian Revolution in 1917, since the access to the Russian Arctic was restricted for non-Soviet vessels (Ragner 2008, 115). The NSR was then used as an internal waterway and developed further in that sense, creating an opportunity to improve industrial development of the Arctic and its resources. The NSR was also vital to the Soviet Union during the Cold War era, playing an important wartime role in transporting armaments and supplying the Arctic region. The route was

an integrated part of Soviet Cold War strategic plans and it remained firmly closed to foreign vessels, while providing delivery services to the many indigenous, industrial, military, and scientific settlements in the Arctic, as well as serving as an export route for timber, ores, and other products, such as oil (Ragner 2008, 116). It was the last President of the Soviet Union, Mikhail Gorbachev, who suggested that the USSR opens the NSR to foreign vessels, after the Murmansk Initiative in 1987, but the decision only became official in July 1991. After the collapse of the Soviet Union, the NSR was not a targeted key transportation route for most foreign companies due to the still existing climate of mistrust about the recent political events, and the fear of running commercially high risks. Operationally speaking, the NSR was also still quite unknown to the rest of the world – having been kept shut by the USSR – and thus the logistics of commercial travels were still to be developed.

The NSR's geopolitical and economic interest came back to life with the increasing knowledge about climate change, and its potential effect on transportation routes. The combined validation of the ending of the Soviet Union, along with modified physical conditions made it more likely for shipping to occur in the NSR. Nowadays,

> "three distinct cargo flows dominate sea transport in the Russian Arctic: [t]he traditional export of ores and processed metals from the Norilsk industrial complex via the Yenisey river to Murmansk and beyond…, [o]il and gas exports (…) [taking] place from the Barents and Western Kara Seas westwards. (…), [i]mport of food, fuel, building materials and other necessities for the Arctic settlements. (…) Most of the seaborne deliveries to settlements on the northern coast originate in Murmansk and Akhangelsk" (Ragner 2008, 117).

In order for foreign companies to use the NSR, Russia has implemented mandatory ice-breaker fees, which are said to be quite high and not always directly linked to the actual services rendered. This fee system is also a major obstacle to transit traffic, and since the opening of the NSR to foreign vessels in 1991, the Russian authorities have yet to design a system that encourages the use of the route even under otherwise progressively ameliorating conditions (Ragner 2008, 119). Despite the difficulties brought by the fees, climate change shall increase the sailing season of the NSR significantly, going from about 20-30 days currently to around 120 days in a 100-year scenario (Ragner 2008, 120).

Figure 3: The Northwest Passage


Source: Geology.com

The NWP, Northwest Passage, is a series of seven channels or charted shipping routes, which link the Atlantic and Pacific oceans at the top of North America (Charron 2005a, 831). This waterway's status is controversial due to its declaration as historic internal waters by Canada, while being claimed an international strait by several other countries (notably, the US). Although frozen most of the year, the increase of climate change events suggests that an ice-free NWP for a few weeks at a time is not only possible, but also imminent. One of the first trips that caught the attention of Canada and the other circumpolar countries in the NWP was the journey of the American supertanker *Manhattan*, which traversed a portion of the passage twice as part of a feasibility study of oil delivery routes to the US (834-835). The first voyage of the *Manhattan* supertanker triggered Canada's interest to protect its sovereignty, but also to protect the delicate environment of the passage. What is important, with the NWP, is the fact that if the passage is to become the hotbed of international shipping everyone expects, coordination between littoral

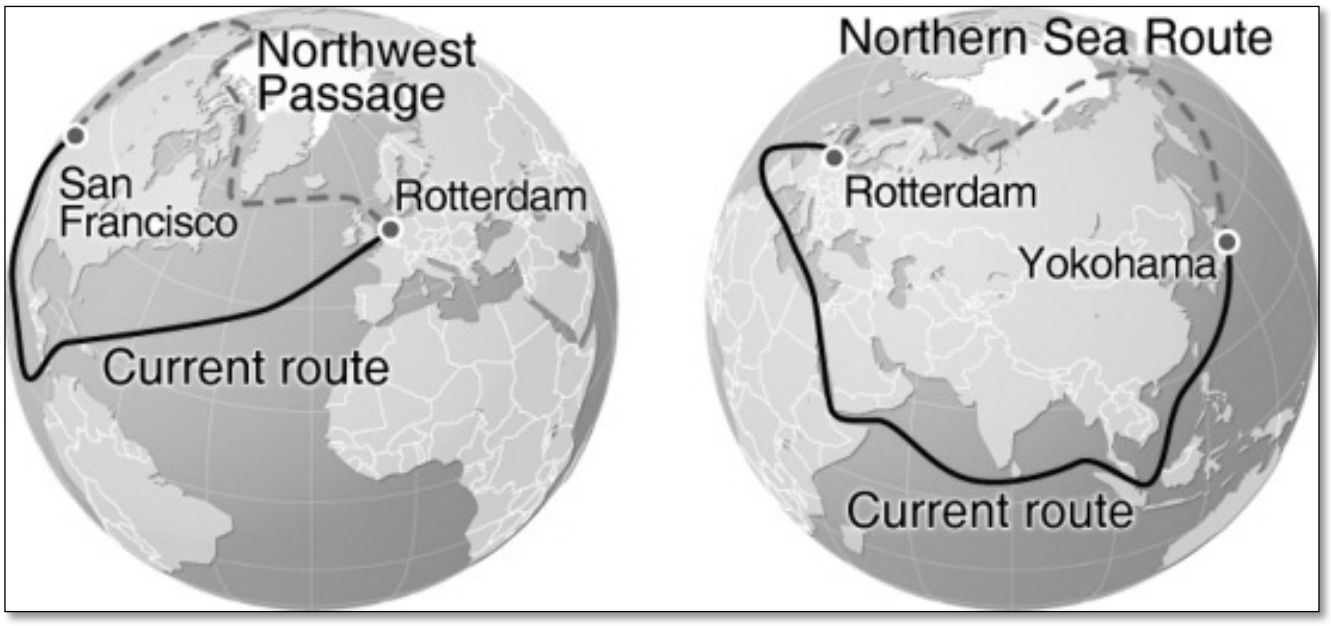
states of the US, Canada, and Denmark/Greenland will be essential (845). It presents an opportunity to overcome jurisdictional issues in favour of more pragmatic issues such as which country shall be responsible for providing which services. There also needs to be a standardisation for tankers, rules for safe operations in Arctic waters, traffic control, aid to navigation (including icebreaking – by far the most important, ice-forecasting, and rescue), and environmental protection (845).

Despite offering great new shipping openings, the NSR and the NWP are not entirely made out of advantages compared to the already established navigation lanes. For instance, Daemers records that:

> "… observers are divided on whether using the Arctic routes is financially interesting for companies. For instance, a Marseille-Shanghai journey is shorter through the Suez Canal than through the NSR. Moreover, the profits made from a shorter journey have to be counterbalanced by the supplementary costs caused by the slower speed, insurance costs, the need for icebreakers, and unexpected expenses" (Daemers 2012, 6).

Andrea Charron, a Canadian scholar specialized in the Arctic and the NWP, also states a few facts that would make the development of the NWP less advantageous, regardless of the commercial interests increasing and competing. For instance, vessels will still need to be ice-strengthened, the shipping season will be a matter of a few weeks and likely never the same few weeks because of wind and weather variables, navigation is likely to be hazardous, the passage resembling an "ice-infested labyrinth", especially during the four months of the year that is plunged into complete darkness 24 hours a day, etc. (Charron 2005a, 837). The technological needs to make such travel safe are also an extra challenge that needs to be addressed before journeys through the Arctic seaways become the norm. High risks, logistically speaking, are costly in terms of insurances and require ice-breaker assistance. The cost-benefits of commercial shipping through the Arctic are therefore possibly not quite attractive yet, but the increasing changes seen in the region might rebalance these cost-benefits into another scenario.

Figure 4: Distance differences between current routes and NWP/NSR




Source: GRID-Arendal

**2.8 Tourism**

A new phenomenon brought along by climate change is definitely the tourist business that is starting to bloom in the Arctic region. Arctic cruises are more popular and polar tourism is expected to grow in coming years as awareness of the effects of climate change draws worldwide attention to the Arctic (Canadian Government, the Standing Senate Committee on Fisheries and Oceans 2010, 4). In recent years, several cruise passengers travelled to and through Alaska and the German registered ice-strengthened ships *Hanseatic* and *Bremen* both transited the NWP, along with a number of private yachts and motorboats making the voyage (Canadian Government, the Standing Senate Committee on Fisheries and Oceans 2010, 4). The North is home to a range of renewable resources that make important contributions to its economy and society, and that can be interesting sights for Arctic tourists. "Arctic tourism, for example, is fast becoming a new source of revenue and business for the Inuit that the government of Canada has encouraged" (Charron 2005a, 843). The Canadian government, for instance, is providing increased funding for tourism promotion and for local and community cultural and heritage institutions. In Nunavut, for example, the Government is helping to establish a cultural facility where students will participate in Inuit cultural programs and study many elements of traditional

land-based knowledge (Canadian Government 2009, 16). The A-5 countries shall also continue establishing protected land- and sea-based areas so that biodiversity and ecological integrity can be assured. Besides, protected areas are a great opportunity for promoting ecotourism and for safeguarding that tourism is developed in a sustainable way. Furthermore, polar tourism expands the awareness of the effects of climate change worldwide and 'puts the Arctic on a map' for Southerners who might see the North as a remote, inhabited, unused place. Tourism in the Arctic has also to be developed in a way that keeps in mind several different aspects of polar tourism: market dimensions, human dimensions, environmental dimensions, and policy and governance dimensions (Lück, Maher, and Stewart 2010).

Arctic tourism would not only bring good economic opportunities, but also new challenges for the A-5 countries. Having been so far ignored by the tourism industry due mostly to inaccessibility, the Arctic and more specifically the Arctic Ocean have been protected from security issues and from strict law and policy observation, which are being applied more strictly in the southern regions of the circumpolar countries. Additionally, from a security perspective, increased marine activity, resource development activity, and tourism will increase the risk of search and rescue (SAR) incidents (Canadian Government, the Standing Senate Committee on Fisheries and Oceans 2010, 42). There is also always a risk, when it comes to polar ship tourism transporting numerous passengers, that the vessels used for this purpose may not be suited for navigation in Arctic. In the United States, for instance, there are a rising number of cruise ships and foreign pleasure crafts in the waters near Alaska. This creates difficulties for the United States since it has very little SAR capability along the North Slope and it would be hard to respond quickly to an accident in the Beaufort Sea (Canadian Government, the Standing Senate Committee on Fisheries and Oceans 2010, 44). The A-5 countries and their different coast guards would thus need to come up with proper equipment, strategies, and solutions for required SAR operations in the Arctic, and perhaps even with a specific strategy for polar tourism, that is to say with people who do not necessarily have the skills scientists, mining workers, military, locals, and other Arctic regulars might already have.

### 2.9 Negative impacts of economic development

While many authors perceive the economic development of the Arctic region as something positive for the A-5 countries and their populations, other authors are more pessimistic regarding the possible impacts that the development could have. One of them is the Canadian scholar and Arctic expert Rob Hubert:

> "Many of the expected changes will be negative; already, permafrost is melting in Siberia, and apartments and factories are sinking into quagmires. The melting of the Arctic ice, however, will also open sea-lanes to shipping and allow access to enormous oil and gas reserves beneath the Arctic Ocean. The prospect of increased Arctic commerce brings with it competition among countries and companies for control of the area's riches, and international competition always carries the possibility of conflict" (Huebert 2012, 17).

In addition to what worries Huebert, there are also social and environmental potentially negative effects, which authors are also concerned about, such as possible natural catastrophes that could be linked to economic activity in the Arctic. Indeed, as Mark Nuttall notes: "[t]he future development of Arctic resources alarms indigenous communities, conservationists and environmental groups already preoccupied with lobbying northern states to protect the Arctic and its wildlife from contaminants and the impacts of climate change" (Nuttall 2010, 13). He mentions that, due to its sensitivity and vulnerability to climate change and to the impacts of industrial developments, along with its fragile ecology, the Arctic could take decades to recover from resources extraction. Moreover, the direct and immediate impacts of the oil and gas development on the ecology and the environment of the Arctic makes traditional resource-use practices and the well-being of indigenous and local peoples more difficult (13-14). There is also the environmental threat to biodiversity associated with oil and gas development, such as oil spills, obstacles to the movement and migration of animals (e.g. caribou/reindeer herds), pollution by loud continuous noise which can disturb wildlife, diverting animals from migration routes and away from traditional hunting areas (Nuttall 2010, 16-17; Daemers 2012, 5).

The development of economic possibilities in the Arctic is not all black or white. As assessed in this chapter, there are both positive and negative outcomes to the exploitation of resources. However, what is vital to Arctic economic, industrial, and technological development is to keep sustainability an absolute priority. Sustainability can be defined as the responsible use

of the land/resources/territory while keeping in mind the well-being and the protection of future generations. The present generation simply should not jeopardize the future generation's potential by being too greedy and/or irresponsible environmentally and economically.

### 2.10 Conclusion

In conclusion, the economic opportunities of the Arctic enhanced by climate change are possible factors of both conflict and cooperation. However, in light of what has been outlined in this chapter, it seems like cooperation is the most likely and desirable outcome in terms of economy. Globalisation and the current state of the world economy are making it quite evident that the countries are interdependent and that the circumpolar states are no exception to that rule. As the importance of the NSR and NWP were assessed, their geopolitical possible significance is augmented by the fact that 90% of world's economy goes through maritime shipping (see Daemers 2012; Dittmann 2009). Moreover, all issues such as construction standards for tankers, rules for safe operations in Arctic waters, traffic control, aids to navigation (ice-breaking, ice-forecasting, rescue), and environmental protection require management and funding which can better be provided through a cooperation framework (Charron 2005a, 845). Extraction of resources could be also eased by cooperation between the A-5 states, for instance with Norway lending its off-shore drilling expertise to the other circumpolar countries. Norway is also already quite cooperative within the fishing industry. Danish rare earths, Russian oil, Canadian diamonds, American polar tourism, show that each country has opportunities to offer expertise, and to receive help developing its main economic opportunities.

Finally, the ACIA highlights the main economic opportunities for the Arctic: "The three most important economic resources of the Arctic are oil and gas, fish, and minerals" (ACIA 2004, 15). Many new economic opportunities are also coming from outside the A-5 countries, offering investments and prospective economic partnerships. For instance, the NSR and the NWP cannot possibly achieve their full potential without the involvement and projected use of the sea lanes by the European Union or China. Rob Huebert, although usually rather pessimistic in terms of Arctic cooperation, claims that:

> "[t]he Arctic, in order to remain economically sustainable, needs to keep an open mind about

foreign investments and non-Arctic countries' involvement. Moreover, as climate change advances, the Arctic is being transformed in many interconnected ways. New technologies are increasing the reach of non-Arctic actors, including South Korea, which has recognized the economic possibilities of an opening Arctic and position itself as a leader in the design and construction of Arctic-capable commercial vessels. Such innovative shipping technologies will accelerate the abilities of other nations to ship through the Artic Ocean, even as some ice remains" (Huebert 2012, 18).

The situation in the Arctic is certainly going to go through more changes, but "… it could be argued that conducting climate change research is the best way to adapt to climate change, notably when it comes to identifying economic opportunities" (Daemers 2012, 19).

# Chapter 3 – Territoriality and Sovereignty

Territorial claims being at the very core of the geopolitical changes brought by the impacts of climate change in the Arctic, it is quite important to understand, through a geographical lens, what is meant exactly by 'territory' and 'territoriality'. A territory is an area claimed by an individual or a group, in this case by sovereign states. This territory is an expression of their social and political power and it has strong implications for societies and spaces on either side of its recognized borders and delimitations (Wastl-Walter and Staehli 2004). Territoriality is first and foremost defined as "… a pattern of behavior whereby living space is fragmented into more or less well-defined territories whose limits are viewed as inviolable by their occupants…" (Glassner 1993, 11) and it refers to the assertion of control through actions and/or strategies that influence a territory and its content. Traditionally, the nation-state has often been at the centre of the studies on territory (e.g. the importance of sovereignty and security). It goes without saying that territoriality is at the core of geopolitics, and its classic traditions. All the way back to Mackinder or Spykman, one can see the importance of territory when it comes to asserting control and gaining power (e.g. the Heartland theory, or later the Heartland-Rimland theory). Territoriality, in a geographical and geopolitical understanding of the term, thus also means: "[t]he state's power to control space or territory and shape the foreign policy of individual states and international political relations" (Knox, Marston, and Nash 2007, 390). It also implies the importance of the territorial integrity – which, when it cannot be asserted, might mean a failure from the state. A state needs to have authority within its own borders, but also to be recognized as having such authority. This particular aspect also plays a key role in the material and ideological constitution of every modern state since confidence in external relations is a reflection of internal control. Territoriality is also geopolitically defined by the fact that:

> "[a]ll states are territorial and all foreign policy strategizing and practice is conditioned by territoriality, shaped by geographical location, and informed by certain geographical understandings about the world. (…) … geography is an inescapably social and political *geo-graphing*, and 'earth writing'. It is a cultural and political writing of meanings about the world. Similarly, geopolitics is a writing of the geographical meanings of politics and states" (Ó Tuathail 1999, 109).

From a legal point of view, international law is based on the concept of the state and then the state lies upon the foundation of sovereignty, which expresses internally the supremacy of the governmental institutions and externally the supremacy of the state as a legal person (Shaw 2008, 487). Without territory, a legal person cannot be a state (487). The concept of territory also implies that: "[t]he central role of territory in the scheme of international law may be seen by noting the development of legal rules protecting its inviolability" (488). However, climate change and a number of other factors have tended to reduce the territorial exclusivity of the state in international law. Technological and economic changes have had an impact as globalisation and interdependence are more present and visible and the rise of such transnational concerns as environmental degradation and preservation have tended to encroach upon this exclusivity (488). Shaw illustrates that the international rules regarding territorial sovereignty are rooted in the Roman law provisions governing ownership and possession, and the classification of the different methods of acquiring territory is a direct descendant of the Roman rules dealing with property, showing that the importance of territory and territoriality goes far back in history and tradition (490).

This chapter outlines its main topic through examples given for each of the A-5. Every circumpolar state has some territorial or sovereignty issues with another or with multiple other A-5 countries, and thus, can provide a clear image of how law, international relations, conflicts, and cooperation are playing different roles in the disputes while being mainly influenced by climate change and the challenges that are brought along with it. Often, the issues opposing the A-5 are interlinked and observing one as an example for one circumpolar state is inevitably giving an example out for another circumpolar state. For the Canadian territorial case, examples are plentiful, but one that has caught the attention of academic researchers and experts in the past few years and even few decades is the one of the Lomonosov Ridge and its debate on the continental shelf. An issue dealing more with sovereignty is the status of the Northwest Passage. Implying the US, the A-5 state whose Arctic territory is mostly uncontested, the Northwest Passage raises questions about whether or not it is national Canadian territory and its sovereignty lies entirely within Canadian authority, or whether it is a question of international law (similarly, the delimitation in the Beaufort Sea are problematic as well). For Norway, problems are mainly related to sovereignty in the Svalbard Archipelago and to the different treaties in place (mainly in

accordance with Russia) about the way the zone is being utilised. Denmark has also a few continental shelf issues, essentially at the North Pole. There is also a historical debate about the ownership of Hans Island and Denmark, through Greenland, is being challenged mainly by Russia and Canada in these issues. Finally, Russia has a geopolitical advantage with the control of the Northern Sea Route. The NSR is likely to become, just like the NWP, an important strait through which commercial shipping can become not only a possibility, but also a reality. Russia, however, has to assert full territoriality in the region in order to assure that this geopolitical control remains. Russia is also, de facto, implied in the territorial disputes that Canada, Denmark, and Norway are confronted to.

Along with the examples given for each of the A-5 different sovereignty and territoriality issues, there is plenty of academic and non-academic literature supporting different claims and defying other ones. Nationalism certainly plays a role in the attention that is being drawn on certain issues, and the way articles and books are portrayed depends often on that national sentiment, being part as well of the whole concept of 'territoriality'.[1]

### 3.1 Sovereignty, Identity and Nationalism

Territoriality and sovereignty, as it has been exposed thus far, are closely linked with nationalism and identity. Each of the A-5's population might feel like the Arctic is part of their identity and that their territorial claims over certain parts of it are just falling under their natural right to do so. Geraóid Ó Tuathail, in his work *Understanding Critical Geopolitics* explains this feeling from a geopolitical perspective: "Popular geopolitics refers to the geographical politics created and debated by the various media-shaping popular culture. It addresses the social construction and perpetuation of certain collective national and transnational understandings of places and peoples beyond one's own borders, (…)" (Ó Tuathail 1999, 110). It gives the sense that the national feeling of territoriality is shaped by diverse discourses. Ó Tuathail shows that along with the official statements (foreign policy statements, agreements, and treaties), nation-building efforts are also brought together by different actors. Plus, the populations are influenced partly by the media and the way they project governmental positions, national symbols, threats to

[1] Class notes from the University of Ottawa GEG3311 Political Geography taught by Mike Bulthuis inspired territoriality definition and details.

the sovereignty, and so on. This sovereignty can be defined as complete power or authority. Dittmann adds:

> " ... this implies freedom from interference by other states; freedom of action within its territory; and the ability to maintain a presence on that territory to exert its authority. In short, sovereignty is the ability to use and influence its territory and its people" (Dittmann, 2009: 10).

Dittmann also cites Arctic scholars Franklyn Griffiths and Douglas Johnston while they offer that sovereignty can be broken into two components: 'legal sovereignty', which is the state's right to impose exclusive jurisdiction over an area, thus allowing it to enforce its laws – what W. Harriet Critchley called "functional jurisdiction" (what the A-5 are mostly seeking through territorial claims), and then 'political sovereignty', which is the freedom from control by outside states in the governance of an area (what mutual recognition of sovereignty usually brings along) (Dittmann 2009, 11). For the A-5 countries, sovereignty also means that they can act to govern over and respond to threats and actions against their territory (Dittmann 2009, 11). To add to the already quite extensive definition of sovereignty, the Arctic Security Interdepartmental Working Group (ASIWG) says it is "a recognized right, ability and will to exercise exclusive jurisdiction within a geographical area (with a defined border, people within it and some form of government)." ASIWG was established by the Canadian Forces Northern Area (CFNA) in l999 to enhance security and sovereignty through information-sharing and cooperation (Governments of Yukon, Northwest Territories and Nunavut 2005, 4). Territoriality passes thus by the assertion of sovereignty and by the popular perception whether sovereignty is asserted or not. This perception can also be influenced by the media and can be perceived for instance in several newspapers and magazines coming from the different circumpolar countries, offering different perspectives on the stories covered and on the issues at stake.

Although Canadians already consider Canada a 'Nordic country', they do not seem to realize that on a polar map (map using azimuthal projection, e.g. the Universal Polar Stereographic map (UPS)) it is clearly visible that, after Russia, Canada has the greatest share of Arctic landmass (followed then by Greenland, the US, and Norway). It is also possible to notice that the tip of Ellesmere Island – Canada's most northern point – is in fact closer geographically from the Russian Federation than from most populated Canadian areas of Ontario or Quebec (Halstead 1989, 31). Notwithstanding the importance of geographical location in terms of the

geopolitical importance of the Arctic and its meaning for territoriality and identity, "… being an Arctic society means much more than being located in a certain geographical area. It also means the establishment of a deep physical and mental relationship with the territory – a mental representation, a form of identification with the territory, or a sense of entitlement" (Roussel & Payette 2011, 943). In a 2007 paper titled *In Search of an Identity Canada Looks North*, Jessica Shadian illustrates the importance of the close collaboration between the Canadian Government and the Inuit living in the Arctic for strengthening Canadian legitimate Northern and Arctic identity (Shadian 2007). Rob Huebert, voiced the national feeling saying:

> "There is little doubt that Canadians see themselves as a northern people—even if the vast majority live along a narrow band along its southernmost border. The harsh climate and resulting ice conditions have meant that Canadians have been able to believe that few have challenged Canadian claims to have its secure and sovereign Arctic" (Huebert 2011, 809).

For Russians, this Arctic identity is channelled mainly through its northern population, and also through identity-building process including the projected conquest of the High North. The president's special representative for cooperation in the Arctic and Antarctica, famous polar explorer and member of United Russia, Arthur Chilingarov, does not hesitate to celebrate Russian ambitions in the Arctic. During the Polar Year 2007, leading the highly publicised Russian expedition to the North Pole, he participated in planting a Russian flag on the seabed of the Arctic, while in 2009, he again said bluntly that Russia would not cede the Arctic to anyone (Laruelle 2011, 63). Following the thoughts of Shadian, Huebert, and Laruelle on identity and its consequent feeling of territoriality and need to assert sovereignty, Roussel and Payette, from the University of Quebec in Montreal (UQAM) also add that this Arctic feeling is, in certain cases, limited to a specific region or area of a circumpolar state: "(…) In other cases, such as in the United States or Denmark, this Arctic identity is confined to a given region, like Alaska for the former, and Greenland and the Faroe Islands for the latter" (Roussel & Payette 2011, 944). It outlines the fact that, although being labeled 'Arctic States', the United States' and Denmark's Arctic identity is not necessarily felt in most regions and by most people. This is particularly relevant for the United States, whose largest population lives outside of Alaska and do not necessarily share a strong bond with the Arctic. However, in Denmark, the governmental *Strategy for the Arctic 2011-2020* states that:

> "The three parts of the realm – Denmark, Greenland and the Faroe Islands – share a number of values and interests and all have a responsibility in and for the Arctic region. The Arctic makes up an essential part of the common cultural heritage, and is home to part of the Kingdom's population" (Denmark, Greenland and the Faroe Islands, Kingdom of Denmark Strategy for the Arctic 2011-2020, 7).

Norwegians also have a strong Northern identity, the very meaning of the name of their country actually being "the way to/of the North" (Sollie 1989, 76). Moreover, there is a strong pride in the Norwegian heroes such as Fridtjof Nansen and Roald Amundsen, both renowned for their polar expeditions (Støre 2012).

These national sentiments and the Arctic sense of identity would justify the popular support that Arctic states governments are getting when they tackle issues having to do with sovereignty. The different Arctic populations (indigenous and non-indigenous) might feel like they are entitled to these parcels of land or sea and that preventing them from enjoying fully their sovereign rights over them is an affront. Climate change is impacting strongly in the whole Arctic region because as it "progresses, previously ice-bound regions will become increasingly ice-free, leaving their use by maritime traffic a possibility and adding fuel to the debate about the status of ownership" (Dittmann 2009, 31). The same can also be said about the possibility of ownership of natural resources, and of territory in general.

### 3.2 A flag at the bottom of the sea

One of the most media-covered stories about the Arctic was undoubtedly the Russia flag-planting event of July 2007. Certainly being one of the factors that triggered national and popular interests for the Arctic, and a certain 'scramble' for the territory, the flag-planting incident also took place at a strategic time, the International Polar year increasing in itself awareness on the Polar Regions. The Russian Arctic expedition sent bathyscaphs to the seabed beneath the North Pole, where it planted a Russian flag made of titanium alloy (Trenin 2010, 8). This event is said to have "inflamed public opinion in North America and Europe, prompting authorities to take action, such as enhancing air patrols, expanding icebreaker fleets, and beefing up the light military presence in the High North" (Trenin 2010, 8). Indeed, it precipitated a series of policy and media-level reactions including expressions of outrage and discontent (Dodds 2010, 63). It

was immediately interpreted as a gesture of possession by Russia, pressing claims to the North Pole and the Arctic Ocean. One of the most eloquent citations to express the other circumpolar countries' feelings came from the Canadian Foreign Minister at the time and now Minister of Defence, Peter Mackay. He declared in a Canadian newspaper:

> "This isn't the fifteenth century. You can't go around the world and just plant flags and say 'we're claiming this territory.' There is no threat to Canadian sovereignty in the Arctic… we're not at all concerned about this mission – basically it is just a show by Russia" (Montreal Gazette 2007).

This declaration speaks volume to express not only the Canadian strong reaction to the flag, but also the general sense of annoyance over the obsolete method of possession that Russia was perceived to portray. It also shows that by addressing the issue, Mackay did the exact opposite of what he was stressing; his statement gave the impression that Canada cared much more than it dared admitting. Klaus Dodds, a geopolitical thinker specialised in the Arctic, said that:

> "This flagging incident seemed to me [to Dodds] to present an opportunity to reflect on how Arctic territories are being made legible and re-legible for the purpose of intervention and/or management. Legibility, as such, allows for all sorts of textual and visual interventions (…)" (Dodds 2010, 63).

It is the spark that was needed to ignite all other territorial claims in the Arctic, to cover the issues in the mainstream media, to put them up the governmental agendas, and to grasp public attention on the region, which might have been otherwise overlooked in favour of more conventional national interests, closer to the urban agglomerations. Dodds also highlights the importance of climate change as the main factor that changed the way resources and accessibility is looked at. He links also the neo-realist international relations theories school of thoughts to the situation:

> "… a nightmarish neo-realist vision of international politics with the central Arctic Ocean as an anarchic space, at the apparent mercy of the competing geopolitical imperatives of coastal states and other interested parties is brought to the fore. (…) Growing evidence of material changes such as sea ice-thinning (and with consequences for seaborne accessibility via the Northwest Passage and Northern Sea Route) and new resource assessments by state agencies such as the US Geological Survey (…) have added gist to the neo-realist mill" (Dodds 2010, 63-64).

After the flag-planting broad media coverage, the Arctic would be, for the first time after the Cold War era, back on governments' and people's minds and a what is happening in the region would not further go unnoticed. The flag on the Arctic seabed was sure to recall the Cold War-era space race, but Russia affirms that these incidents themselves were not inherently aggressive (Roberts 2010, 970). Rather, according to Kari Roberts, it is the perception of these events that is instructive; if other nations assume these actions are meant to be aggressive and perceive energy security (or scientific research) with a zero-sum mentality, the potential may exist for hostilities (Roberts 2010, 970). The flag-planting issue is only an example of foreign policy in the Arctic, but it serves as a good illustration of how tense the relations can get and how sensitive countries are about their sovereignty in the region.

### 3.3 The Canadian case

Figure 5: Canada and its Arctic Archipelago


Source: Canadian Archipelago Throughflow Study

Canada is known to be one of the A-5 with the most territorial disputes with its neighbours. Several scholars believe that some of these sovereignty threats and territorial claims are awakening national sentiments among the population (Sale & Potapov 2010; Huebert 2002; 2003; 2004) and are even used in a too alarmist tone (see Griffiths 2004; Charron 2005a). Others such as Roussel and Payette, claim that:

> "… the federal government's concerns are also fuelled by real (even if dormant) territorial conflicts with international neighbours. Canada is party to five territorial conflicts. The first two, with Denmark in the Lincoln Sea and over Hans Island, are insignificant save for their symbolic dimension. The third one, with the US in the Beaufort Sea over a triangle of 6000 nautical square miles, is more significant, but can certainly be solved through diplomatic negotiations and legal

> arbitration, as has been the case with other bilateral disputes over maritime areas. The fourth is more complex, because it basically pits Canada against the rest of the international community over the legal status of the Northwest Passage: is it an internal Canadian waterway or an international straight [sic] open to any innocent passage? Finally, a fifth, potentially pitting Canada against Russia, is about the exclusive use of the seabed that is a part of the continental shelf" (Bartenstein in Lasserre 2010, cited in Payette & Roussel 2011, 946).

Most of the issues listed above are discussed further in the chapter, and they show how serious Canada is about protecting the integrity of its Arctic region. Some of these claims might indeed be of a lesser importance, but it is more what they represent to Canada's sovereignty rather than the actual piece of land at stake that matters (e.g. in the Hans Island dispute which is discussed further in the chapter). Two of these territorial conflicts have more at stake and are more mediatized than the other three when it comes to Canadian territoriality. Those are the issue of the Lomonosov Ridge (the continental shelf disputed with Russia) and the issue of the legal status of the Northwest Passage (NWP).

### *3.3.1 The Lomonosov Ridge*

Beginning with the territorial dispute over the Lomonosov Ridge, it is possible to see that many territorial disputes in the Arctic remain, to this day, unsolved. This specific dispute, opposing Canada and the Russian Federation, will possibly see some new outcomes this year (2013), with the deposition of Canada's continental shelf mapping and claims.

In terms of territory, Canada and the Russian Federation govern already 80% of the Arctic landmass (Russian Geographical Society). However, both are always seeking more territory, particularly in the Arctic Ocean. Canada's Arctic region starts at the northern borders of British Colombia, Alberta, Saskatchewan and Manitoba, and covers the territories of Yukon, Northwest Territories, Nunavut, and all of the Canadian Arctic Archipelago. It thus spreads all the way to Canada's most northern point, the village of Alert on Ellesmere Island. The Russian Arctic territories within the Arctic Circle can be defined mainly as followed; the Arkhangelsk Oblast, the Murmansk Oblast, the Nenets, Yamalo-Nenets, Taimyr and Chukotka autonomous okrugs, Vorkuta in the Komi Republic, Norilsk and Igarka in Krasnoyarsky Kray, and those parts of the Sakha Republic whose boundaries lie closest to the Arctic Circle, Franz Josef Land, the New

Siberian Islands, the Novaya Zemlya Islands, the Severnaya Zemlya Islands, and finally the Wrangel Island (Valko 2011, 8). Despite their respective important Arctic territories, both countries are highly motivated to claim their territorial rights in the Arctic region. Actually, Canada's deadline is approaching since the United Nations Convention on the Law Of the Sea specifies that territorial claims have to be deposited within ten years of the treaty's ratification by a state. Canada and Russia are both signatories of the UNCLOS (more precisely the so-called UNCLOS III (1982), which was outlining particularly the question of continental shelf). Canada ratified the UNCLOS in November 2003, and the Russian Federation ratified it in March 1997. This means that the last chance for Russian territorial claims over the Lomonosov Ridge was in 2007, and that Canada has to present this year, in 2013, its final territorial claims, in the event those are going against the previously made Russian ones. Undeniably, the Russian Federation and Canada are disagreeing on the dividing lines that should take place on the Lomonosov Ridge and are both claiming rights under the principle that "Coastal States have sovereign rights over the continental shelf (the national area of the seabed) for exploring and exploiting it; the shelf can extend at least 200 nautical miles from the shore, and more under specified circumstances;"(United Nations Convention on the Law of the Sea Overview 2011).

The 200 nautical miles extension of the continental shelf is precisely what creates tensions in Canadian-Russian relations, since they are unable yet to prove with accurate precision what belongs to whom. In the middle of the Arctic Ocean, one can see the Lomonosov Ridge, and the overlapping potential extended EEZ of Canada and Russia (see Annex D). This is the central territorial claim for Canada and Russia, as the Canadian government argues it is attached to Canada by the continental shelf, and Russia disagrees, saying that it is attached to its own continental shelf. As previously mentioned, in the summer of 2007, particular events triggered the desire to assert a stronger Canadian sovereignty in the Arctic, and influenced the diplomatic relations with Russia. It was reported that: "Russia planted its flag on the seabed below the North Pole and resumed flights of strategic bomber jets over the Arctic Ocean, a practice that had been halted shortly after the collapse of the Soviet Union" (Canwest News Service via Canada.com 2008). The current Canadian Minister of Defence and Minister of Foreign Affairs at the time, Peter MacKay, reacted to such events with his now famous statement on the fifteenth century and it showed that on one hand, Canada intends to solve the territorial claims with the help of the

instruments of diplomacy rather than a simple demonstration of one's sovereignty with actual gestures. On the other hand, it also showed that Russian Foreign Policy in this specific case was steered in a very realist/classic geopolitical manner. Russian authorities later claimed that the purpose of such flag-planting was to conduct some geological expedition, but it has always seemed suspicious to the Canadian government.

Annually, Putin and his Ministers have been taking trips to the Northern part of Russia. The Deputy Prime Minister Sergei Ivanov said in the summer of 2011, during a visit in the Arctic circle town of Naryan-Mar that he was expecting to be able to present, within the next year, a well-based scientific claim on the expansion of Russian borders in the Arctic, declaration which was later followed by then Prime Minister and now President Vladimir Putin's declaration that Russia shall strongly and consistently defend its interests in the Arctic, while remaining in constant contact with its regional partners over the issue (Hürriyet Daily News with Agence France-Presse 2011). The Foreign Affairs Ministers of both countries have also been meeting frequently to assess the issues in the Arctic and to keep relations between Canada and Russia in a good, stable state. The question then remains open as to who owns what in the Arctic, but the countries have agreed on relying on the UN Convention on the Law of the Sea, the international law, and the UN in order to solve their territorial disputes (Zysk 2010, 107). Discussions between the Foreign Affairs Ministers of Canada and Russia in 2009 led to Russian Minister Lavrov telling Canadian Minister Cannon that:

> "Russia would conform to the United Nations Convention on the Law of the Sea, which will be used to settle future border claims among Arctic countries scrambling for the region's oil and gas wealth that will become more assessable as polar ice continues to melt" (Blanchfield 2009).

As for more recent relations, a press release issued in 2011 by the Ministry of Foreign Affairs of the Russian Federation states that the actual Ministers of Foreign Affairs, John Baird and Sergey Lavrov have met on the sidelines of the APEC forum in Honolulu in November of that same year. They have discussed the relations between Canada and Russia and the release says:

> "During their conversation they touched on issues of bilateral relations with emphasis on Russia-Canada collaboration in the Arctic, reinforcement of the legal framework for cooperation between

> our countries, improvement of consular visa practice, and expansion of commercial and investment ties. There was noted the overall positive dynamics of Russian-Canadian dialogue.(...)" (Ministry of Foreign Affairs of the Russian Federation 2011).

The Lomonosov Ridge in itself is an important issue because it is believed to hold considerable amounts of natural resources that could be exploited and that would thus bring great economic opportunities. It is also a question of political power and political image. The extension of the continental shelf translates into a direct expansion of territory for one of the two already biggest countries in the world. Denmark also has a say in the dispute over the Lomonosov Ridge, claiming parts of it as well, but the main arguments are involving predominantly Canada and Russia.

*3.3.2 The Northwest Passage and Canadian sovereignty*

The Northwest Passage, going through the Canadian Arctic Archipelago, is made of five main channels and at least two other possible seaways (See Figure 3). All of these channels and seaways are potentially seasonally accessible to navigation, but the actual conditions and technologies do not allow yet using them to their full maritime capacity (Pharand 1989, 145). The NWP presents some particular challenges in terms of the Law of the Sea and in terms of sovereignty and territoriality. The issue opposes Canada to the United States (and arguably to the international community in general). Canada and the US have originally established, in 1988, the Agreement on Arctic Cooperation, to advance the shared interests in Arctic development and security of the two nations (Sale and Potapov 2010, 148). Not only are the two countries disagreeing on the status of the NWP (internal waters vs. international strait), their perception of potential threats to security is thus also diverging. The transit of the American tanker *Manhattan* (see chapter 2) has been seen as an affront by Canadian public, but the truth is that its trips, in 1957 and 1962, had been planned as aiding Canadian security (149). The Canadian public reaction of surprise and anger forced the Canadian authorities to assert more sovereignty in the NWP by extending its territorial waters to 12 nautical miles (in contrast with the 3 nautical miles previously claimed) and by enacting the Arctic Waters Pollution Prevention Act (AWPPA) which gave Canada jurisdiction over 100 nautical miles of water measure from the low-water mark of the mainland and all islands, and the right to enforce standards of vessel construction and

operation to any ship sailing those waters (149). This is a quite important stance of sovereignty on behalf of Canada, which reached as far as Canada's right to veto a transit by any vessel which failed to meet the standards it has set. Canada managed to get support from other Arctic states – Norway, Sweden, and the USSR – and to push forward Article 234[2] when the UNCLOS was adopted in October 1982 (150). Sale and Potapov are suggesting that support was accorded to Canada because, at the time, global warming (or climate change to be more exact) was not part of mainstream thinking, and an ice-free NWP was not envisaged before decades, if not more (150). Canadian sovereignty over the NWP has also been asserted through increased air and maritime activity in the area and promises to build new ice-breakers (that did not, however, yet take place). Canada is taking its sovereignty very seriously and although some partnership and some settlements with the US over the status of the Passage were discussed, nothing has yet been agreed on due to a fear of public perception of weakening Canadian claims of sovereignty (see Sale and Potapov 2010).

Canadian scholars do not always agree on the way the status of the NWP should be handled. On one hand, Rob Huebert, from the University of Calgary and a Canadian expert on Arctic questions, is one of the loudest voices warning Canada of the dangers threatening sovereignty, especially regarding the Northwest Passage. On the other hand, another Arctic expert, Franklyn Griffiths, from the University of Toronto, is challenging the importance that Huebert is according to security and sovereignty. Andrea Charron, of Carlton University in Ottawa, has summarized and put a more theoretical frame around the feud between the two academics in her work on the Northwest Passage (see Charron 2005a). The first conceptual framework she identifies is called "sovereignty first and foremost". It assumes that Canada's sovereignty is tied directly to the ice. This way of thinking assumes that any solutions or suggestions regarding the status of the NWP has to have solidification of Canada's total legal control as their ultimate goal. The second framework is named "sovereignty to one side" and tries to concentrate on the more practical issues associated with an ice-free passage such as protecting

[2] 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. (UNCLOS 1982, article 234)

the environment, ensuring security of Canada and the North American continent, facilitating navigation, breaking ice, harvesting and protecting raw materials and resources, monitoring and enforcing national and international laws, and keeping good relations with the US and other circumpolar countries. While Huebert belongs to the first theoretical framework school of thought, Griffiths belongs to the second one. Huebert takes Canadian sovereignty very seriously and believes that climate change is casting a light on its importance:

> "When the threat has been framed as a US challenge to Canadian sovereignty, Canadian decision makers have always made bold statements at the height of the perceived crisis, but quickly moved on to other topics, seldom actually spending money on the protection of Canada's Arctic security. The impacts of climate change, however, have finally forced Canada to take Arctic security needs seriously" (Huebert 2012, 18).

He also adds: "Of [the government Northern Strategy of 2009] four main priorities, the first was the exercising of Canadian Arctic sovereignty for the protection of Canadian Arctic security…" (Huebert 2012, 19). Griffiths has a different opinion on the situation. In essence, Griffiths thinks that Huebert has brought an overly alarmist tone to the sovereignty question. Griffiths says that: "Huebert believes that an increased volume of foreign shipping and, consequently, a sovereignty challenge are both very likely, and require sovereignty-affirming actions by the federal Government without delay" (Griffiths 2004, 1). The final fallacy Griffiths tackles is the assumption by alarmists that Canada-US relations are bound to deteriorate further in the future because the Passage could become ice-free (Charron 2005a, 837). Griffiths' stance is rather the following:

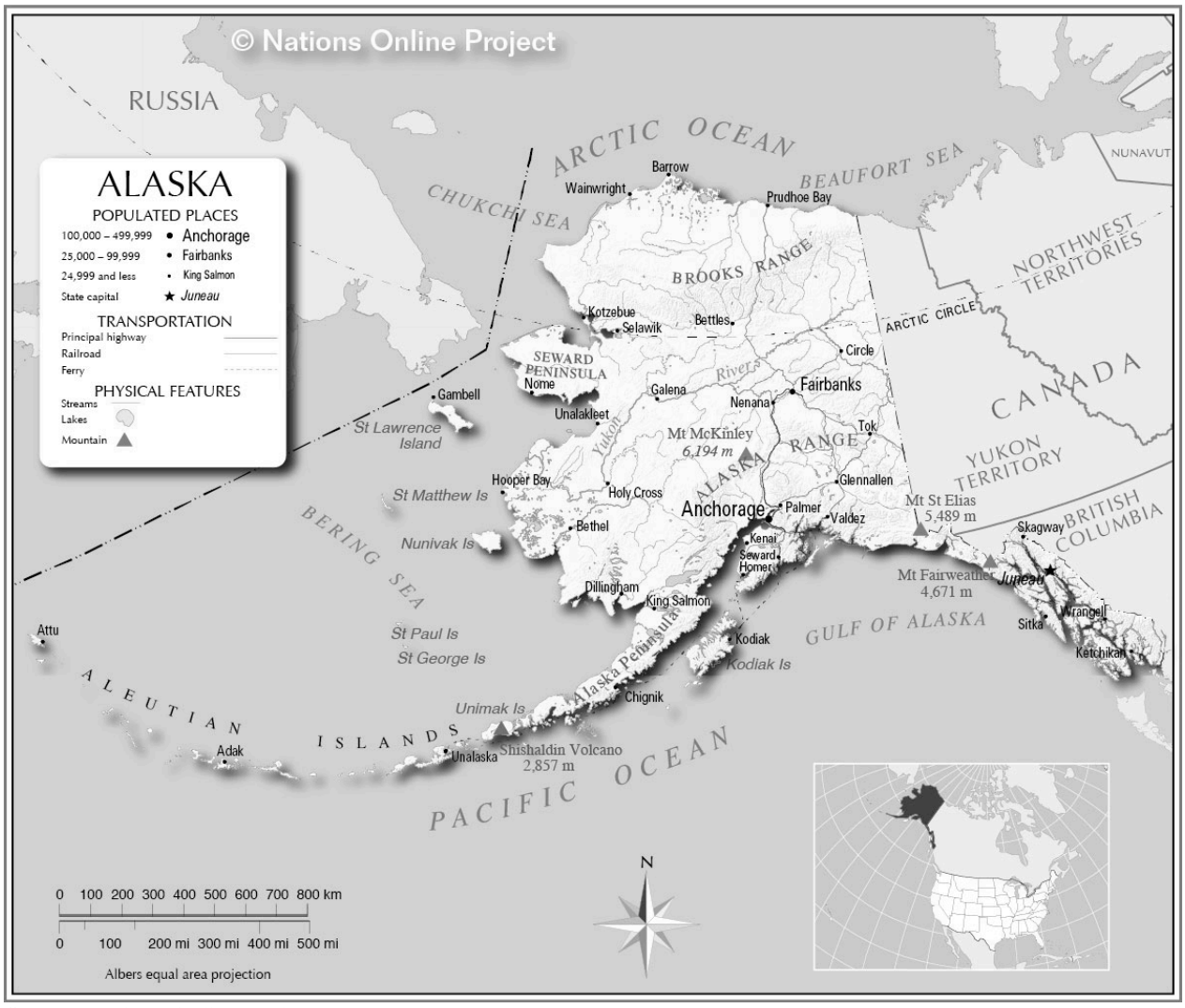
> "It is my view that climate change presents us with no serious sovereignty problem in the Northwest Passage where commercial navigation is concerned. (…) I am not worried about sovereignty over the Passage, and would instead have us do a better job of looking after the Archipelago in its entirety" (Griffiths 2004, 1).

Other scholars also support Griffiths' idea that focusing on Canada's sovereignty claims only obscures the clarity of one's thinking at the expense of other important issues and requirements (see Charron 2005a; Griffiths 2004; Young 1989; Critchley 1989). A criticism of the second

framework school is that: " eventually, "the big elephant in the room", namely sovereignty, must be acknowledged and addressed" (Charron 2005a, 846). The debate around Canadian sovereignty importance stresses the importance of understanding that scholars, academics and experts – even when from the same country – do not always reach consensus as to what concerns a threat to sovereignty and what does not.

### 3.4 The American case

Figure 6: The American Arctic – Alaska




Source: Nations Online Project

*3.4.1 The Northwest Passage, from an American perspective*

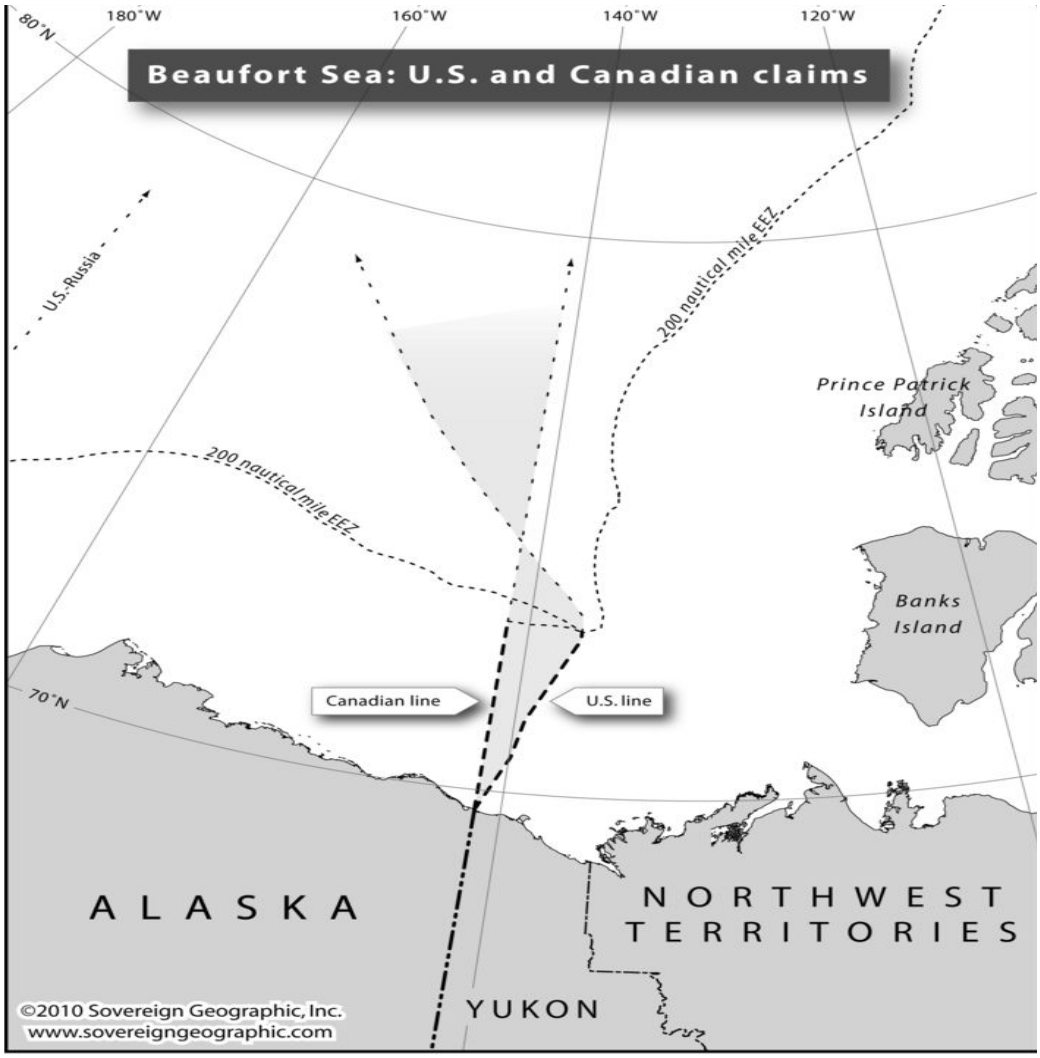
As previously stated, the other circumpolar countries are hardly challenging the territoriality of the American Arctic. Ever since acquiring the territory of Alaska from Russia, the Arctic has played a rather minor role in American affairs, with the exception of the Cold War era that has seen the region develop into a sort of battlefield where no battle was physically started, but where tensions were tangible. US Government has always been, and is still, interested in the Arctic from an economic or a security angle, which are being discussed further in other chapters. Nonetheless, the importance of the Arctic in terms of sovereignty and territoriality has been seen mostly as a reaction to the Canadian territoriality in the Northwest Passage. The Northwest Passage is one of the "hot topics" in geopolitics of the Arctic because of all the possibilities brought along in terms of transportation and economic activities. The US position, after Canada's establishment of a 12-nautical mile limit to its territorial waters, was to render it irrelevant as the Passage was actually a series of channel connecting waters which were "high seas" (Pacific and Atlantic Oceans, mainly) and thus, the Passage itself was also "high sea" (Sale and Potapov 2010, 151). In terms of law, the US sourced their argument in the Corfu Channel Case, which was heard by the International Court of Justice in 1949. In a nutshell, the ruling of the Corfu Channel Case was that as the channel linked sections of international waters, transit was acceptable without prior agreement and that the channel should be kept open and free of hazards (see Sale and Potapov, 2010; Corfu Channel Case ICJ 1949). Accordingly, as Andrea Charron stated in her paper *The Northwest Passage: is Canada's Sovereignty Floating Away?* : "Idea of total control [over the Northwest Passage] is just unrealistic" (Charron 2005a, 838). This supports the American view that Canada should concede, if not the status of international strait, at least some shared responsibilities and sovereignty in the Northwest Passage. As pointed out by Charron: "The difficulty is that many (notably the US) believe the passage constitutes an international strait. An international strait is a waterway that joins one area of high seas to another and is used for international navigation" (Charron 2005a, 834). She continues saying: "Canada's insistence that it have [sic] absolute and complete control of the passage symbolically serves to rattle the cage of a (very large, powerful, and anti-obstructionist) US beast" (Charron 2005a, 834). However, Canadian authorities are strongly disagreeing on the validity of the international status that should be given to the NWP, claiming the waters of the channel are 'historical waters' and thus shall not be part of the jurisdiction of a ruling from the ICJ like it was the case for the Corfu

Channel. From a functional point of view, Canadians are also making the point that the number of transits through the NWP is yet so small; it can hardly be considered an international strait from a legal point of view. Interestingly, climate change is likely to bring a higher number of transits and consequently reopen the question and perhaps invalid this very argument made by Canada

The US is particularly sensitive in terms of security since September 2001, and the worry about a lack of proper Canadian infrastructures to do surveillance and prevent disasters (environmental, social, etc.) in the NWP is apparent. Canada is insisting that its position on the status of the NWP is actually enhancing US security. Indeed, the Canadian argument is that a free-for-all in the NWP would give potential enemies and terrorists the ability to use the seaway as a backdoor to the United States (Sale and Potapov 2010, 152). However, the task of monitoring the NWP if climate change brings an important flow of transits is likely to be too big for Canadian Coast Guards and authorities to handle and if the waters are not policed properly then inevitably unregulated traffic will increase (Sale and Potapov 2010, 153). This constitutes a reason for the Americans to question Canada's sovereignty in the NWP, and to maintain their position of "international strait" where they do not have to rely on Canadian's capacities to defend the access to their coasts. It is worth mentioning that the Canadian Coast Guards are working on already two – arguably three with the Arctic Ocean – fronts at once (Atlantic Ocean coast and Pacific Ocean coast). Historically, it is very rare for Canada and the US to disagree on some issues, especially in the North. The NWP dispute is most probably not going to evolve into a conflict, but it is certainly souring the Arctic relations between the two countries. It is also interesting to note that the European Union, China and Japan are also joining the US in denying the status of 'historical waters' to Canada and in supporting its status of international strait.

*3.4.2 The Beaufort Sea*

Figure 7: Beaufort Sea: US and Canadian claims




Source: Sovereign Geographic via Who Owns the Arctic?

In March 1867, the United States gained sovereignty over Alaska through a treaty settled with Russia. The treaty conceded all of Alaskan territory and the neighbouring islands, located between the 141st meridian and a line going through certain islands following approximately the 168th meridian. The whole territory covers roughly 600,000 square miles – the equivalent of about a fifth of the whole continental American territory. The transaction to acquire Alaska cost the US the modest amount of $7,200,000 (Pharand 1989, 132). Considering natural resources present in Alaska – gold, oil, fishstock, etc. – Russia made a gift to the US by giving Alaska

away at that price. The border between Alaska and Yukon is not exactly easy to draw and Canada declares that its border with the US extends northward along the 141st meridian into the Beaufort Sea. The US disputes this assertion maintaining that the Yukon-Alaska border extends following a perpendicular line of equidistance from the coast that cuts eastward into 16,182km2 of Canadian-claimed territorial waters (Dittmann 2010, 38). In the issue of the Beaufort Sea, Canada is looking primarily to avoid losing completely the undersea territory, which has a great potential for resources (oil and natural gas mainly). The contentious zone in the Beaufort Sea is thus located, as previously mentioned, between the Prudhoe Bay (Alaska) and the Mackenzie Delta (Yukon), both areas already producing notable amounts of oil and natural gas. The Canadian and American conceivable solutions are differing in the method of delimitation each state wishes to apply. The US is favourable to an equidistance method while Canada wishes to apply a delimitation based on the extension of continental borders (the 141st meridian) (Frédérick 1988, 689). The ultimate goal of this division is the right to a greater portion of estimated recoverable billions barrels of oil and between 13 and 63 trillion cubic feet of natural gas (Dittmann 2010, 39).

The issue of the Beaufort Sea is also somewhat closely linked to the issue of the NWP status since the navigation through the passage would automatically lead to the Beaufort Sea. Therefore, "Northern Pearls[3]" could be necessary in order to adapt to the new geopolitical reality and assure security for both countries while creating a choke point for vessels transiting the NWP on the coastal waters of the Beaufort Sea and in the area of Herschel Island (Standing Committee on Fisheries and Oceans 2010, 22; Blunden 2012, 129).

> "The [American] policy framework [of the Arctic] focuses on Alaska as the core of the US interests in the region, highlighting the boundary dispute between the United States and Canada in the Beaufort Sea and identifying the freedom of seas as a top national priority. (8)" … a potentially serious challenge to Canadian sovereignty concerns the right to control shipping in the

[3] Following the idea of Alfred Thayer Mahan and its thalassocratic vision, choke points are geographical features on land such as a valley or at sea such as a strait. An armed force (or in this case, commercial shipping) is forced to pass through it and its narrower front provides an advantage to the (coastal) state. The term 'String of Pearls' comes from a series of choke points through the Chinese sea lines of communication, which extend to Port Sudan. It runs through strategic choke points such as: Strait of Bab el-Mandeb, Strait of Malacca, Strait of Hormuz, and Strait of Lombok. (notes from class PhDr. Michael Romancov, PhD. Geopolitics of Land, Sea, Air & Space 2012, Charles University in Prague)

> Northwest Passage – the water routes that connect the Davis Strait in the east to the Beaufort Sea in the west." (14) Moreover, in terms of economic activities, there are currently no commercial marine fisheries in the Beaufort Sea, but the environment for commercial development is changing, partially due to climate change and its impacts, and the area might easily develop into a fishing zone eventually." (Standing Committee on Fisheries and Oceans 2010, 4)

What remains thorny when it comes to Canadian-American disputes over sea borders is the fact that the US is not a signatory to the UNCLOS. Therefore, usual legal frameworks in place to solve judicial issues in the seas cannot be used and the countries have to come up with solutions on their own. If the US intends to eventually sign the Convention, it might simplify the matter, as the two states can simply trust the UN with finding a solution. However, a ratification of the UNCLOS by the US is not predicted in a near-future and thus the unresolved territorial dispute in the Beaufort Sea will need some other diplomatic and legal instruments in order to get solved.

> "Although Canada and the United States have different positions on key issues, such as where to place the maritime boundary between Alaska and Yukon in the Beaufort Sea, and over the legal status of the Northwest Passage, from an operational standpoint, there is a great deal of cooperation between the CCG and the USCG, …" (Standing Committee on Fisheries and Oceans 2010, 50).

There might be some frictions between Canada and the US, but their vital relationship in terms of economic and political activities shall make it extremely unlikely to see an actual conflict erupt between the two North American states.

### 3.5 The Norwegian case

Figure 8: The Svalbard Archipelago


Source: The National Geographic

*3.5.1 The Svalbard Archipelago*

The most important part of the Norwegian Arctic is undoubtedly the Svalbard Archipelago, where a good share of the fisheries, essential to Norway's economic activity, takes place. One of the consequences of Norway's shape and geography is that, according to the Convention on Continental Shelf 1958 and UNCLOS 1982, Norway has sovereignty and exclusive national jurisdiction over natural resources in the waters of most of Northern Europe. Only a small 200 nautical miles, in the middle of the Norwegian Sea, remain international waters. This means that Norway's waters are stretching from the centre of the Northern Sea all the way up to the 84° north, in the Svalbard (Sollie 1989, 77) (see Annex C). Most of the territorial issues in the Svalbard Archipelago were solved with the 1920 Svalbard Treaty, but as it is described in greater details in the following chapter, there are still some misunderstandings in terms of sovereignty in this region.

The 1920 Svalbard Treaty (officially named Treaty concerning the Archipelago of Spitsbergen, and Protocol 1920) states that:

> "The High Contracting Parties undertake to recognise, subject to the stipulations of the present Treaty, the full and absolute sovereignty of Norway over the Archipelago of Spitsbergen, comprising, with Bear Island or Beeren-Eiland, all the islands situated between 10deg. and 35deg. longitude East of Greenwich and between 74deg. and 84deg. latitude North, especially West Spitsbergen, North-East Land, Barents Island, Edge Island, Wiche Islands, Hope Island or Hopen-Eiland, and Prince Charles Foreland, together with al the islands great or small and rocks appertaining thereto" (Treaty concerning the Archipelago of Spitsbergen, and Protocol 1920, article 1).

showing that the Treaty clearly gives full sovereignty to Norway, making it, under the law, unquestionable. However, Russia has had some issues with the way Norway was using the Svalbard region, seeing it as a breach in the Treaty and thus questioning the way this 'full and absolute' sovereignty is being applied. Indeed, Russia has had a few concerns about the way Norway sets rules and standards to protect the environment in the Svalbard. The Treaty clearly states that:

> "…Norway shall be free to maintain, take or decree suitable measures to ensure the preservation and, if necessary, the re-constitution of the fauna and flora of the said regions, and their territorial waters; it being clearly understood that these measures shall always be applicable equally to the nationals of all the High Contracting Parties without any exemption, privilege or favour whatsoever, direct or indirect to the advantage of any one of them. (…)" (Treaty concerning the Archipelago of Spitsbergen, and Protocol 1920, article 2).

,which is thought to bring negative consequences on the fishing industry and on the economies of countries who are depending on the zone for their fishstock. Russian's interests and doubts about Norway's sovereignty have not gone unnoticed as "[t]he Norwegians have perceived an escalation in the tactics Russia employs to convey its territorial claims, notably the 2008 decision to resume Russian surface naval patrols near Spitsbergen Island, which is a region long disputed between the two countries" (Roberts 2010, 958-959). Such demonstrations by Russia are similar to the ones that took place in the airspace of Canada in 2007. It is also relevant to recall, when it comes to demonstration of Russian territoriality in Norway, the 2005 incident in which Norwegian authorities attempted to detain a Russian fishing trawler, the *Elektron*, in the Svalbard fisheries protection zone, considered to be Norway's sovereign jurisdiction (Roberts 2010). The Russian vessel had failed to comply with Norway's fisheries rules and the Norwegian Coast Guards had to take action. That being said, the relations between Norway and Russia are still good and have been historically such for decades. Norway can be told to be Russia's best neighbour – the only neighbour they had no open conflict with yet in history, despite some tensions and disagreements (Sollie 1989, 81).

However, when it comes to scientific research, Norway is quite open and does not exert a strong territoriality. Openness to scientific projects is even included in the Svalbard Treaty, (article 5), and the idea of the scientific base of Ny-Ålesund on Spitsbergen Island, where great international cooperation is seen and where several countries are represented serve as great examples of this very fact.

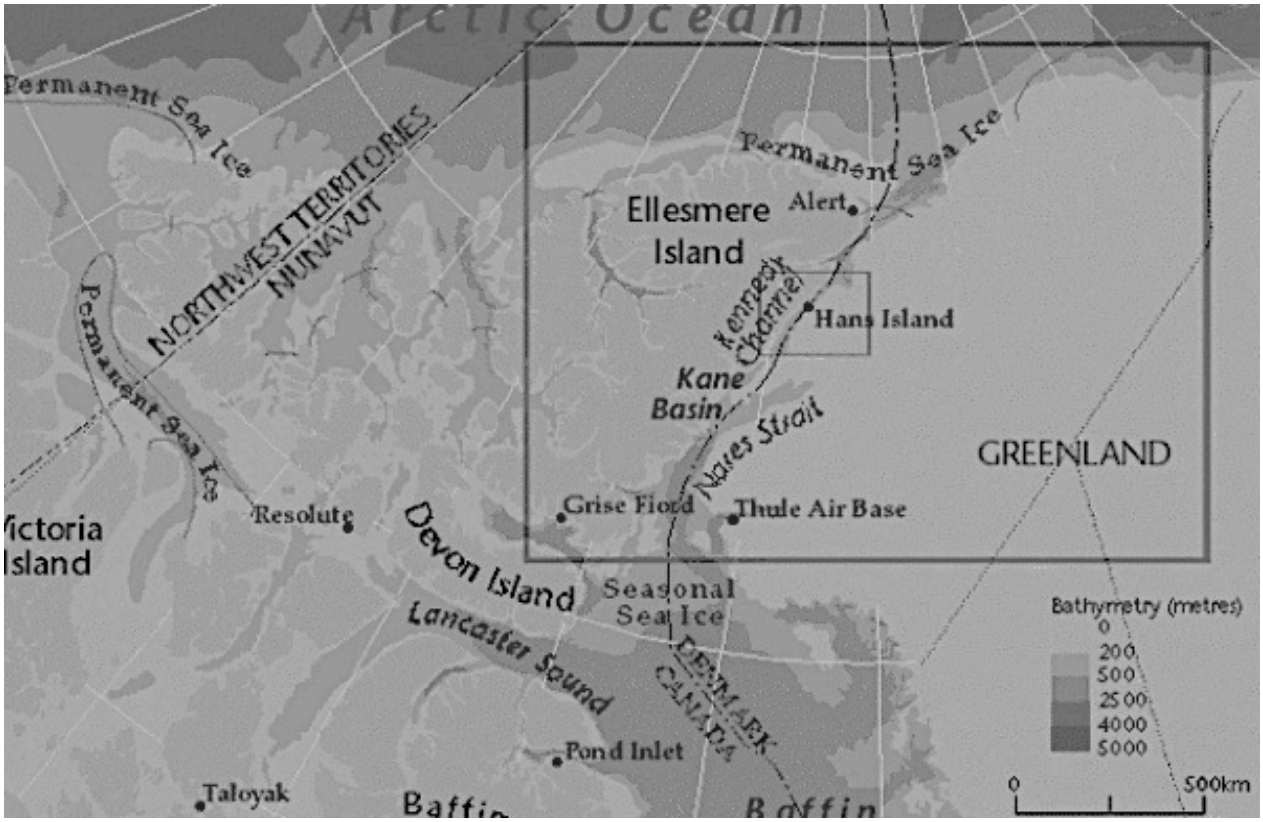
> "Ny-Ålesund is a special place in Arctic science. (…) it is the world's most northerly civilian settlement. Ten countries – Norway, France, Germany, Britain, the Netherlands, Italy, Japan, South Korea, India and China – have research stations in the village, and scientists from many

others pass through. (…) The only rules are: remove your boots inside, carry a rifle outside (there are often polar bears about) and fly no national flags" (The Economist 2012, 4).

Norway is not a particularly belligerent Arctic country and its territory, being majorly uncontested, helps the feeling of cooperation that emanates from the country. However, it also demonstrates a strong will to defend its territory and its sovereignty, if it feels it is being threatened in any way.

### 3.6 The Danish case

Figure 9: Greenland's Coast and Hans Island



Source: Canadian Geographic

Denmark's Arctic sovereignty, entirely residing in Greenland and the Faroe Islands (although below the Arctic Circle), is not as controversial and mediatized as the controversial topic of transportation channels that are the NWP and the NSR. That does not mean, however, that Greenland is not facing territorial pleas as well. The ownership of the North Pole, for instance, is one of the questions Danish authorities are trying to answer. This is closely linked to

continental shelf extension claims occurring at large in the Arctic Ocean (see Annex D). Finally, Denmark also has a disagreement with Canada over the ownership of a "barren Arctic rock", Hans Island (National Post via Canada.com 2009). Greenland has been a colony of Denmark until 1953, and is today an autonomous overseas territory of Denmark enjoying some self-determination through what is called *Home Rule* (Haroff 1989, 45). Although Denmark enjoys a greater position in the sphere or international politics than Greenland, in terms of territory and geography Greenland is much more imposing – being the world's greatest islands with 2,175,600 km2. Greenland is also what provides Denmark the 'Arctic' and 'circumpolar' status, and Denmark should be thought as a whole with Greenland and the Faroe Islands.

### *3.6.1 The North Pole, the Lomonosov Ridge, and Hans Island*

The American air power strategist Alexander P. de Seversky was one of the firsts to emphasize the importance of the North Pole in terms of military power and strategy. De Seversky thought of the North Pole as an area of decision highlighted by the proximity of circumpolar countries in the North. The phenomenon had not received much attention before, and he was the one who stressed the importance to adapt to such geopolitical reality. The North Pole has thus been a long coveted prize and its geopolitical importance is well-known among circumpolar countries. In fact,

> "In April 1948 a Soviet aircraft landed at the North Pole – the occupants becoming the first people to have unquestionably stood there – while ten years later the US nuclear submarine *Skate*, surfaced at the Pole. The USSR nuclear-powered ice-breaker *Arktika* reached the North Pole in August 1977, the first surface vessel to do so. There are now regular trips in the summer using the Russian nuclear-powered *Yamal*, as well as the newer ships *Sovietskiy Soyus* and *50 Let Pobedy*, which are regularly charted by western travel companies" (Sale and Potapov 2010, 137).

Denmark has some claims to the North Pole going all the way back to "… its acquisition of Western Greenland from the US back in 1916. The Lomonosov Ridge [also disputed by the Canadians and the Russians], the Danes maintain, is an extension of the Greenland shelf" (Dittman 2009, 37). However, the Danish government says in its official statements that it does not intend to fight intensely for the North Pole. It states in the governmental document *Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011-2020* that:

> "… coastal states of the Arctic Ocean committed themselves politically to giving negotiation and cooperation pride of place in handling disputes, challenges and opportunities in the Arctic, and thus hopefully once and for all dispelling the myth of a race to the North Pole." (Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011-2020 2011, 10)

The Danish Realm has nonetheless, despite its declarations of willingness to cooperate and avoid a "race", certain territorial claims that it wishes to win – mainly its claim over its share of the continental shelf of the Lomonosov Ridge (conveniently located below the North Pole).

> "To document the claim on the continental shelf the Danish Realm has launched a continental shelf project that is based in the Ministry of Science, Technology and Innovation and is run in cooperation with the Government of the Faroes and the Government of Greenland, the Prime Minister's Office, the Ministry of Foreign Affairs, and the Ministry of Finance. The project includes the participation of the Danish, Faroese, and Greenland authorities and scientific institutions, and is charged with identifying areas where the rights to new seabed claims can be made, and to collect, interpret and document the data necessary to submit a claim to the CLCS. The Kingdom has submitted documentation to the CLCS for claims relating to two areas near the Faroe Islands and by 2014 plans to submit documentation on three areas near Greenland, including an area north of Greenland which, among others, covers the North Pole." (Denmark, Greenland and the Faroe Islands: Kingdom of Denmark Strategy for the Arctic 2011-2020 2011, 14)

The other main territorial dispute of Denmark is over Hans Island. Canada, having territorial disputes with all of the other A-5 – with the exception of Norway – has thus also an issue with Denmark. Hans Island is a 1.3 km2 piece of land floating between Ellesmere Island (Canada) and Greenland. It is located in the Kennedy Channel, near the Strait of Nares (see Figure 9). The disagreement was sparked by Canadian claims dates back to the transfer possessions in the Arctic to Canada in 1880 (Dittman 2009, 39). However, "the public recognition of the island's Canadian lineage arose in 1967 after it appeared on a map of Canada for the first time" (Dittmann 2009, 40). Further questions about its sovereignty were raised in 1973 while Denmark negotiated continental shelf limits with Canada. Despite their discussions,

neither country has acknowledged the other's claim to the island nor was its sovereignty resolved (Dittman 2009, 40). Median lanes were drawn; up to a distance of 3 nautical miles on each sides of the Island, while the Island itself remained unshared (Haroff 1989, 56). In the first decade of the 2000s, Hans Island came back to surface after a Canadian geologist flew to the island in 2001 (Dittman 2009, 40). There have been, between 2003 and 2005, several warships and politicians from both countries visiting Hans Island to reaffirm their possession of it. (Dittmann 2009, 40) Interestingly, in 2002 and 2005 respectively, Denmark and Canada have both organized a flag raising ceremony on the inhabited island. Such event is not without recalling the Russian flag-planting incident on the seabed, which happened a few years later in 2007. However, later in a 2012 article from the Canadian media CBC, Danish Ambassador to Canada, Erik Vilstrup Lorenzen, declared:

> "For a while we've agreed to disagree, and negotiations are taking place and once we've solved some of the very technical issues … then we will have the solution," he said. "But it does take some time to do these very technical considerations" (CBC 2012).

CBC reports that in 2005, both countries had agreed to work together in order "to settle the simmering territorial dispute" (CBC 2012). They have also even been working collaboratively to chart the continental shelf area in the Hans Island since back then (Dittmann 2009, 40). A UN settlement of the question has been considered, but is not urgently required since the relations between the two countries are remaining good. However, Canadian scholar Rob Huebert argues that if Canada were to lose sovereignty over Hans Island, it would establish a "dangerous precedent" (Huebert 2002 , 12). Indeed, as Paul Dittmann completes on Huebert's opinion: "An UNCLOS ruling on Hans Island could be an expeditious affair given the situation, but if settled out of Canada's favour it could prompt other challengers to Canada's Arctic to lodge formal contest under UNCLOS" (Dittmann 2009, 41). For this reason, and given also the very good relations that Denmark and Canada are enjoying, it is in both countries' interest to remain on peaceful diplomatic terms and to seek cooperation through their different, most probably taking advantage of the opportunity to build bilateral relationship. Among the discussed outcomes, there could be a shared jurisdiction over the island, common efforts in mapping leading to that

conclusion. This solution is particularly interesting because it would make Denmark and Canada become conterminous – a first for Canada with a European country.

### 3.7 The Russian case

Figure 10: Russian Arctic (and coastline)

Source: http://www.choicesadoption.ca/international/ics_russia_countryprofile.php

Paul Dittmann claims that: "It's clear Russia has taken the lead in today's race" (Dittmann 2009, 38). This rather subjective statement can however be backed by a few examples of how Russia handles most of its territorial claims and disputes. As previously mentioned, the Russians have certain territorial disputes with several other A-5 countries. Although this might depict Russia as a belligerent country, the fact that the quarrels, disagreements, and misunderstandings over laws are often implying the Kremlin is simply due to the fact that a very large chunk of the Arctic already belongs to it. Russians, as the other territorial issues have shown, are almost always implied (near or far) in the disputes. The examples provided by the Lomonosov Ridge, the Svalbard Archipelago, and the North Pole/Continental shelf were there to show how Russia deals with contested territories that are not necessarily fully under its control, or not yet assigned to a specific power for full sovereignty. However, the following example is more similar to the one of the Northwest Passage in Canada. It implies the Northern Sea Route (NSR). As it will be demonstrated in the following paragraph, Russia already has full sovereign powers over the NSR,

and contestations over the status or use of the waterway come from diverse other actors; other A-5 countries, the EU, and even some non-Arctic state, like China.

### *3.7.1 The Northern Sea Route*
(see Figure 2)

The Northern Sea Route's history goes far back to the sixteenth century when the Dutch and the British were trying to find navigable ways. Russian control was assumed afterwards and the potentially navigable ways of the NSR were partially or totally closed to non-Russian/non-Soviet vessels from the seventeenth century (around the time of the conquest of Siberia) until the breakdown of the Soviet Union in the late twentieth century. Russian sovereignty over the NSR can be thus asserted through the claim that the waters are historical waters. Furthermore, Russia also has a claim to their internal waters status since, in 1985, the USSR has drawn straight lines from the Arctic islands to the mainland and has declared all the waters within the lines to be internal (Sale and Potapov 2010, 155). Margaret Blunden offers a rather detailed portrait of the situation in the Northern Sea Route in her article *Geopolitics of the Northern Sea Route* published in 2012. She summarizes the situation saying that: "The NSR is a contested waterway, Russian claims of sovereignty conflicting with the official US and EU position that it passes through international straits. Most interested parties have so far not challenged Russia's de facto control, buttressed by its regional military superiority, or its regulatory regime (Blunden 2012, 116). The increasingly widespread adoption of the Russian name, the Northern Sea Route, rather than the North-East Passage (the earlier European term), is significant in itself (Blunden 2012, 116). It confirms the Russian identity of the passage, and resonates in the other states' minds as Russian as well by adopting a name that is being chosen by the country where the Route is located. To reassert control over the NSR, Russia makes sure that a permit is required to visit the border zone and exit from Russia may only be from designated points of exit. The idea of a border zone dates from Soviet times when the country needed to be protected from both outside and within, requiring, for instance, that anyone wanting to visit the border area had to be screened and issued with approved documentation. These regulations were abolished when the USSR broke up, but were re-instated in 2002 (Sale and Potapov 2010, 155). The opening of the NSR to foreign vessels coincided with Mikhail Gorbachev's famous Murmansk speech of 1987, where he declared that, under ice-breaker escorts, the NSR could be open to foreign vessels. This is,

theoretically, a step forward in good Arctic relations, but in practice, tolls, regulations, and insurance for risks are still making the NSR a second-choice option (see next paragraph and chapter 2).

In terms of sovereignty or territoriality, non-circumpolar/non-Arctic countries often raise the NSR's issues. For instance, in October 2010, Senior Admiral Vladimir Vyotsky warned that several states were trying to penetrate and advance their interests very intensively, in particular China, and that Russia would not give up a single inch in the Arctic (Blunden 2012, 127-128). Blunden relates that: "Russia's Arctic doctrine states that it will build and develop infrastructure, including ports, customs facilities and marine checkpoints, along its 17,500km of Arctic coastline in the period 2011-2015" (Blunden 2012, 116). Russia's arguments for keeping a tighter control over the NSR follow the article 7 (straight baselines) of the UNCLOS. Indeed, Russia believes that a larger part of the NSR is located within its internal waters and not within its EEZ, thus allowing it the freedom to decide who is to access the waters. Russia would consider, under geographic necessity, that the baseline for determining sea borders should not follow the Russian coastline, but rather should follow a straight baseline, where the coastline is deeply indented and cut into for instance (Daemers 2012,). However, according to the French scholar Julien Daemers, the European Union does not agree with this application of article 7 of the UNCLOS for the Russian coast, since it does not comply with the criteria set up by the ICJ and the UNCLOS (Daemers 2012). Russia also tried, like Canada, to resort to article 234 of UNCLOS about ice-covered waters. Like Canada, Russia claims 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 EEZ. Such laws and regulations are directly linked to the environmental concern over protection and preservation of the marine environment on the best available scientific evidence. Once again, the European Union objects the application of this article to the Russian understanding of the UNCLOS, due to the use of certain terms of the article that can be left to interpretation and to dispute the *de facto* right taken by Russia to enact severe environmental regulation obstructing full access to the NSR for the EU shipping industry (Daemers 2012). Russian regulations are currently very strict; for instance, Russian authorities are making it compulsory for shipping companies to request an authorisation for navigation in the NSR from the Ministry of Transportation at least four months prior to their journey, and they are

imposing the use of ice-breakers for security reasons (costing approximately up to 14,000$ a day per ice-breaker) (Daemers 2012, 10).

The Arctic is important for Russia and the NSR is an anticipated critical transportation link for Russian petroleum to European and Asian markets (Roberts 2010, 963). Among the Asian countries, China is the one with the most at stake in the NSR, for its projected regular intercontinental transit and, more importantly for the moment, for its immediate supply of raw material from Russia. Countries of the European Union, such as Germany, are also seeking to have Arctic resources declared international property for the sake of an open participation and to exclude the possibility of governance over the maritime area. That being said, the NSR remains so important – not only for Russia, but also for countries with economic interests in the transportation route – that the main controversy in the Arctic is not over contested sovereignty of hydrocarbon resources. In fact, the main controversy between the EU and Russia concerns rather commercial shipping in the NSR (Daemers 2012, 12). Yet, there is hope for an arrangement between the EU and Russia. Once again according to Daemers, there is a new law scheduled to take place in February 2013 that could resolve several issues between the EU and Russia over the NSR. The law would demand that vessels using the NSR compulsorily subscribe to insurance for civil liability, would reaffirm the state monopoly of the use of ice-breakers in the waters of the NSR and would determine the costs of an ice-breaker escort on the basis of the volume of services provided. The agency would also take up the responsibility for SAR operations along the route. The most important part is the adoption of a new definition of the NSR, under Russian terms. The NSR would thus include: internal waters, territorial waters, the contiguous zone, and the EEZ and would be delimited at its eastern end by the Bering Strait and in the west by the Novaya Zemlya Islands. Consequently, maritime areas west of the Novaya Zemlya Islands are not falling under this new legal regime legislation and would fall under the common maritime regulations (Daemers 2012, 13).

### 3.8 Brief word on the Arctic airspace

Generally speaking, the legal status of airspace is conditional to the terrestrial and maritime spaces underlying. Consequently, a state's sovereignty also reaches the airspace above its territory (land or sea). There is no right of innocent passage for foreign aircrafts in a state's

airspace, unless certain treaties or conventions have been set to claim differently (Shaw 2008, 542). Above territorial waters, however, the right to fly over is the same as the right to navigate through the waters below (as stated in the UNCLOS 1982). When it comes to the Arctic, the regulations are the same; unless a convention specifies otherwise, there is no right to fly over territories and islands, but this right exists above the continental shelf, the EEZ, and the Arctic Ocean. As for the airspace above the NWP and the NSR, there is no right to fly over waters that are included in straight baselines since they are included in the territorial waters of the state they belong to and that state has, consequently, full sovereignty. However, if the NWP or the NSR were to become international straits, all ships and aircrafts would enjoy the right of innocent passage in and over the waterways. Two of the circumpolar countries have also applied "air defense identification zones", the United States and Canada. Canada's identification zone requires the pilot to provide a plan of the flight before take-off (if the aircraft goes at a speed of 180 knots or more). The pilot should also notify its position through radio once it is airborne and report any modification in schedule and/or itinerary. These zones of identification are not legally found in international conventions beyond territorial waters, but they seem to fall into international customary law and to be accepted and adopted by a certain amount of states (all information on airspace in Pharand 1989, 160-161).

### 3.9 Conclusion

Territoriality plays on a sensitive string since it triggers emotions in the populations and consequently puts pressure on the states' governments. Sovereignty and territoriality are not just political; they are also components of identity. Some states might perceive threats or attacks in a strategically and politically calculated vision. The emotions are closely intertwined and giving up a division line might be equivalent to giving up part of one's territory, sovereignty, and ultimately identity. Geopolitical thinker Geraóid Ó Tuathail points out that:

> "[w]ith increasing globalization comes increasing deterritorialization and with an increasing deterritorialization comes increasing insecurity. This, in turn, can render the need for the old foundational myths of state, territory, and identity all the greater. In the midst of the unraveling of these old apparent certainties, the will to remythologize them in ever more aesthetic ways can be intensify" (Ó Tuathail 1996, 254).

This analysis of the situation shows that the questions of territoriality, sovereignty, and even identity are also often tangled with the security concerns or the perceived threats to a people or to a state. The reaction is thus to reinforce the mechanisms of nation-building, identity-building, nationalism, territoriality, and the need for a complete and recognised sovereignty. Territoriality and sovereignty are perhaps the Arctic "area" that is the most prone to generate conflicts among the A-5 countries. The following chapter deals with security, which is, as previously stated, closely linked to the issues of territoriality and sovereignty. According to earlier cited scholar Rob Huebert, security and sovereignty are issues that simply should not ever be taken as separate. It constitutes an academic "mistake" trying to divide them (Huebert 2011). Keeping in mind the concepts or sovereignty and territoriality, as well as all their components and the sentiments they steer in the different A-5 countries, one can see that they are closely linked to perceived national security threats.

Finally, the impact of climate change over the territoriality and sovereignty concerns, and thus over geopolitics of the Arctic, is particularly interesting because it is all about speculations. The territorial claims were practically non-existent a few decades ago, because there was no considered future use of the territory or no "scramble" for territorial assertions and automatic sovereignty over land/sea and its resources. Cooperation might seem hard to perceive in an area where countries mainly disagree over the issues at stake, but it would be too simplistic to conclude that cooperation is impossible. Already, the commitment to the UNCLOS, that four out of five circumpolar states have made, shows a will to use diplomatic measures to solve some of the disputes. Russia is one of the countries that are the most adamant about the use of the UN as an instrument of multilateralism in world politics. This is undoubtedly linked to its own place in the UN Security Council, which affords Russia a voice it might otherwise be denied among the major powers (Roberts 2010, 961). Moreover, Russia is in general very vocal about its intention to solve most of the issues it is involved in with peaceful settlements. For instance:

> In April [2010], Russia announced its willingness to resolve the long-standing maritime border dispute with Norway in the Barents sea—half of the 155,000 square kilometer–wide area would go to Russia, the other half to Norway. This is more than a gesture. It points to the "reset" in Russia's relations with the United States and Europe, which are now seen less as geopolitical competitors and more as external sources of Russia's technological modernization drive. This is

> certainly good for the Arctic, but also for the wider relationship between Russia and the West. (Trenin 2010, 10)

Another example of desirable cooperation might rise on the American-Canadian front. Despite their disagreements, both countries have a lot at stake in terms of security and the unclear status of the NWP and the Beaufort Sea might lead them to join actions in order to assure proper security and SAR operations, regardless whose jurisdiction it is. Moreover, local people (indigenous and others) are also generally cooperative in the Arctic. Their Arctic identity is often transcending the established political borders of the A-5. As mentioned in previous chapters, there might be a need for a completely reformed system of law in the Arctic, drawing elements from diverse already existing treaties and agreements (the Antarctic Treaty System, the creation of an International Park to handle jurisdictional problems, the Common Heritage of Mankind, etc.), since the United States is not a signatory to the UNCLOS and thus, it would be unfair to use an unsigned treaty as the basis of resolutions in the Arctic (at least in the conflicts involving the US) (Smith, 2010).

# Chapter 4 – Security in the Arctic region

The 20th century has seen a geographical revolution with the introduction of new political elements and strategic orientations in the pattern of historical conflicts and the traditional pattern of economic development and industrialisation (Sollie 1989, 72.) A key component of this geographical revolution has been a shift to the North establishing a new equilibrium in the relations of the world's greatest powers (Sollie 1989, 72). The peak point of this shift was undoubtedly the Cold War era and the bipolarity opposing the US and the Soviet Union, both circumpolar countries, and, conveniently or not, neighbours in the Arctic region. The Cold War era gave thus front stage attention to the Arctic region. As explained by Douglas C. Nord:

> "The military and strategic significance of the North that had emerged during the Second World War became increasingly evident to both Canadian and American foreign policymakers during the course of the Cold War. By the late 1940s, it was clear that the circumpolar North was to become one of the potential "zones of conflict" between major alliance systems of the day" (Nord 2007, 210).

As previously mentioned in the last chapter, Alexander De Seversky had already incorporated the North in its strategic thinking. De Seversky's influence led to initiatives such as the DEW (Distant Early Warning Line), which aimed at covering all major cities of Canada and the USA within radar lines. The vital Thule Air Base in Greenland was also used to set radar and the US, with the influence of De Seversky's work, pushed so that all states within the region would be protected (Canada, Denmark, USA, Norway, and Iceland). The whole area from the Tropic of Capricorn to the Arctic Ocean was considered under NATO's protection. The so-called GIUK gap (Greenland, Iceland, United Kingdom) would become the only part from which the Soviets could deploy large parts of their navy and/or air force. Then, as the Cold War progressed, Canada and the United States expanded their defence cooperation in the North.

> "In 1951, they agreed to build the Pine Tree Radar Defense System, which would give early warning of a possible Soviet bomber attack across the Arctic region. In 1955, this was followed up by a joint commitment to construct a more sophisticated Distant Early Warning (DEW Line) radar system in the High Arctic of Canada. Finally, in 1958, the two countries signed the North American Air Defense Agreement (NORAD), which went a substantial way toward integrating

American and Canadian defense planning for North America (Jockel 1991)" (Nord 2007, 210).

Although the Cold War Era has now been over for a little more than two decades, the 21st century and the upcoming challenges brought by the ever-changing climate are introducing new security concerns that are not necessarily understood in traditional, military terms. For each of the five circumpolar countries, there will be given an example as to how security is an important component of that state's foreign and security policy, and how it affects its relations with other circumpolar countries. Security being a multi-faceted issue, the examples of Canada and the US will be covering mainly the difficulties raised by natural challenges, Russia and Norway will be exposing the idea of a perceived military threat from other circumpolar countries, and finally, Denmark will serve as an example of "civilian" militarisation of the Arctic. In conclusion to this chapter, the main sub-question related to the possibility of conflict and/or collaboration between circumpolar states will be addressed in light of the previously stated examples and analysed cases. Finally, a conclusion will be given, offering a portrait of the situation in the Arctic when it comes to security, and more particularly environmental security.

### 4.1 Environmental Security

Being closely linked to territoriality and sovereignty, security is another very important constituent of the geopolitics of the Arctic. Security implies a fundamental preoccupation for all states, to assure a certain preparation in the face of possible threats (Macleod 2007, 60). However, security in the Arctic is not always assumed in classical terms, such as national security or militarisation. It is nonetheless true that military pressures, such as the one posed during the Cold War era, have traditionally threatened the security of the Arctic. Involving a more realist view of international relations or a more classical perspective on geopolitics, these military pressures should also be taken into consideration in order to grasp the threats and challenges posed to the security of the Arctic states. However, Gareth Porter points out that: "as military threats have subsided or disappeared [with the end of the Cold War], other threats, especially environmental ones, have emerged with greater clarity" (Porter 1998, 215). Security can be mainly divided into three dimensions: conflict or cooperation, the units of analysis (states, non-states, local, regional, global, transboundary, etc.), and the type of threats (military, economic, social and health related, environmental, etc.). Each of these dimensions is playing an important role and should be considered in order to analyse the security policies of a state. To assess the

importance of security, and most importantly of environmental security, it is necessary to first define what is meant by "environmental security". Once its concepts are more clearly outlined, attention can be focused on the natural challenges triggering a need for greater environmental security or challenging the states' security in terms of environment. Moreover, one of the key components of security is militarisation, and it will be discussed next, in order to explain how militarisation is present and used in the Arctic region so as to increase national and environmental security.

When attempting to define environmental security, it is important to note that it addresses two distinct issues: the environmental factors behind potentially violent conflicts, and the impact of global environmental degradation on the well-being of societies and economies (Porter 1998, 215). "Environmental security deals with threats that are not only the unintended consequences of social and economic activities, but that also develop very slowly compared with military threats" (Porter 1998, 216). Environmental security, being inherently global rather than national in character (transboundary) and overall rather hard to project in a fully accurate fashion (Porter 1998, 216), is the responsibility of all states, since no single state can pretend to be fully out of danger of environmental pressures. Porter points out how certain aspects of environmental security are similar and even linked to military and national security:

> "The relationship between scarce natural resources and international conflict is not a new issue. But unlike traditional national security thinking about such conflicts, which focus primarily on non-renewable resources like minerals and petroleum, the environmental security approach addresses renewable resources (…) conflicts involving renewable natural resources are of two kinds: those in which resource depletion is the direct objective of the conflict and those in which it is an indirect cause of the conflict" (Porter 1998, 217).

Matthias Finger, in an article published in *The Geopolitics Reader*, recalls that throughout history, the military has viewed the environment as a tool to be used to deny resources to the enemy and as a potent weapon. It is essentially environmental warfare (Finger 1998, 223). Finger offers another definition of environmental security:

> "The term environmental security seeks to overcome the distinction between the interests of the individual and the interests of the nation state. Security, for the individual, is a matter of

> perception; it is subjective but nonetheless absolute at a certain moment of a person's life and in a certain socio-cultural context…" (Finger 1998, 226).

He continues:

> "The security of individuals – even when provided by states – is epistemologically different from the security of nation states. States derive their security from their perceived relationship with other states; their security is relative, not absolute. It is therefore perfectly conceivable to have an absolute increase in the threats to nation state system, this absolute increase in threats will not translate into a decrease in national security" (Finger 1998, 226).

In other situations, environmental security is not perceived as an entirely new concept, but rather as a classic issue of security that simply finds, through the environment, a new relevance (Frédérick 1993, 753-754). For instance, states would analyse a security challenge through the lens of their own national security and then project the consequences of this analysis on a global environmental level. The joint efforts in terms of environmental security would thus emerge from the perceived national threat first, and only then it would shift towards the global security, making the environment simply an addition to the actual security needs. An ultimate result of environmental security would be the amelioration of the environment's condition, indeed, while combining political, economic, technologic, and ethical approaches to create a worldwide environmental security (Frédérick 1993, 759).

### 4.2 Natural challenges bringing security challenges

Environmental changes and natural challenges, along with the consequential economic variations, often bring a significant transformation in the essential data of the military and non-military security. (Lasserre and Roussel 2007, 273) The biggest natural challenge that the A-5 are facing is undeniably the important thawing of the ice in the Arctic region. Changing the geographical physical setting of the area, the melting is also bringing along some important security concerns. Examples of how this ice phenomenon is influencing the security policies of the circumpolar countries can be found in the policies of Canada and the US. In the Canadian case, the issue is rising even more dramatically in the Northwest Passage region, where security has to be assured and improved while the waterways are become increasingly ice-free. In the US, the concerns are traditionally rather about the participation of the state to the joint efforts in

environmental security (e.g. its refusal to ratify the Kyoto Protocol). Recently though, the constantly needed reassurance of national security opened the door to a possible partnership with Canada in terms of security policies, and the environment plays an important role in this participation.

*4.2.1 The American need of security partnership*

The US has been particularly sensitive to security matters in the past decade, after the tragic events of September 2001 with the attacks on the World Trade Centre and the Pentagon. The threats that might be coming to and from the Arctic are not necessarily of the same nature, but that does not mean they are non-existing. For instance:

> "There are real security threats, from eco-terrorists, fundamentalist terrorism, drug cartels, smugglers, and northern/southern hemisphere populations who see the development of the Arctic as a threat to their way of life. Hostile nations and non-state actors may have little incentive to honor the international laws regarding national waters. In all these situations, the U.S. submarine fleet has minimal capability to deter threats or maintain security. The security resources needed to provide situational awareness and quick-response capabilities are not only different from those needed in less harsh environments, but the requirement of the security assets will need to continually adjust to transforming physical and economic realities" (Backus, Millick, and Rumpf 2011, 7).

A document of the Department of Defense of the United States also declares that:

> "Climate change is increasingly recognized as having a multiplier effect for existing tensions and regional instabilities. It places additional stress on the political system, complicating the ability of governments to meet the demands placed on the system by a suffering population and by reproducing system resilience. This can lead to a loss of legitimacy, internal conflicts, state failure, population migration, and the growth of extremist ideology. Climate change threatens US national interests at the regional levels [e.g. the Arctic region]" (US Department of Defense 2011, 76).

The Polar Regions were generally thought to be too isolated to be facing this type of threat. Some signs of a shift in this situation were perceived when a Romanian illegal migrant managed to

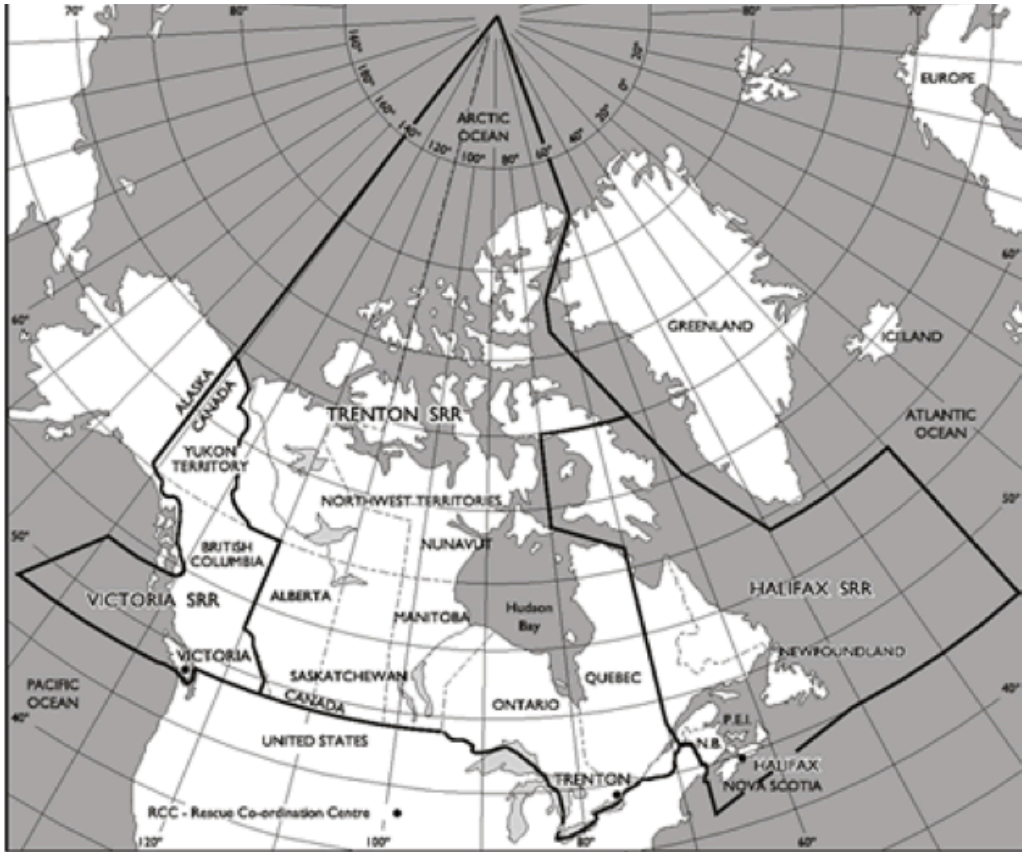
make his way to the southern tip of Canada's most northern point, Ellesmere Island in Nunavut, after having already been expelled from both Canada and the US (see CBC News 2006; Casey 2006), or again when joint efforts from the environmental authorities of Canada and the US have dismantled a narwhal-tusk smuggling ring in early 2013 (see Boswell 2013; The Globe and Mail 2013; Bidgood 2013). These events justified the newly acquired need for greater security in the Arctic and justified also the feeling that the ice-melting brings along more security challenges than what both countries were used to in this region. The post-2001 policies have also seen some sort of integration in the North American border security. Both Canada and the US signed agreements on common immigration rules, creating similar institutions (e.g. *Department of Homeland Security* and *Northern Command* in the US, and the *Ministry of Public Safety* and *Canada Command (COMCAN)* in Canada). If the Arctic keeps on worrying both countries in terms of security, there are chances that an integration of their policies would take place there as well (Lasserre and Roussel 2007, 275).

*4.2.2 The Canadian need for logistic and strategy*

Canada's consistency on experiencing every ten or fifteen years a new sovereignty and security crisis in the North is one of its most regular foreign policy and defence characteristic (Lasserre and Roussel 2007, 267; see Shadwick 2002). One of the main natural challenges that Canada is facing, in terms of security, does not come from the melting of the ice, but rather from the geography of Canada itself. Indeed, the Canadian Navy and Canadian Coast Guards have to be working on three fronts (Atlantic, Pacific, and Arctic) in order to offer an adequate coverage of the territory and the task is simply too great to be properly achieved. Moreover, Canada has the world's greatest coastline. The creation of a tri-oceanic Navy is a goal that has been discussed in Canadian policy since the end of the 1980s (Halstead 1989, 29). Demographically, defence and surveillance of Canada is also complicated by the fact that the territory is large, but not densely populated. In 2010, in contrast to the United States' 33.8 people per square kilometer, Canada has a modest 3.75 people per square kilometer (Trading Economics 2012). Additionally, most of the population lives in the south of the country. This goes to show that, in addition to the natural challenges, the social situation of Canada makes it harder for the state to exert proper defence policies when compared to the economic, demographic, and military giant that is the United States. With such a vast territory and a sparse population, John Halstead argues that the best way

to protect the Canadian territory is to collaborate on international peace and security, while cooperating with allied states (Halstead 1989, 37). Also, another difference between the US and Canada is the importance of their military budget. In 2011, Canada was spending about 1.4% of its annual GDP for defence while the US was spending 4.7% (The World Bank 2013). However, the Arctic occupies a much more important place on the defence agenda of Canada than on the one of the US. Therefore, despite its lower budget, Canada is still putting a sufficient number of defence resources into the Arctic region. Moreover, Canada has traditionally been protected by its extreme climates and the ice cover prevented all but a small and determined few from entering the northernmost reaches. Climate change makes this situation different by making it easier to transit through the Arctic, particularly through the NWP and the NSR (Huebert 2012, 17-18). Once the NWP is ice-free, there is always a possibility a vessel could gain access to the passage and its resources (Charron 2005a, 845). Being one of the two main navigation ways of the Arctic (along with the NSR), the NWP offers a gateway to North America to any vessels passing through one of its channels. The thawing of the ice brings a natural challenge to Canada because it forces the country to apply a greater surveillance of the area while still struggling with having a constant presence in such a wild environment presenting risks to non-ice-strengthened vessels. The risks are not only the traditional threats to state, but also the need for more Search and Rescue (SAR) operations and the risk that Canada (and the US) would not be able to provide such services. Moreover, greater tourism activity and greater air traffic above the Arctic Circle also means more responsibilities for the Canadian Forces, especially in terms of SAR, for which they are not necessarily yet adequately equipped (Lasserre and Roussel 2007, 274).

Figure 11: National Search and Rescue Regions




Source: Standing Senate Committee on Fisheries and Oceans 2010.

Cooperation and agreements on defence policies between the US and Canada were standard in the Cold War era. For instance, in 1982, the United States and Canada agreed to a North American Air Defence, Master Plan and, four years later, to extend NORAD another five years (Conant 1988, 370). Moreover, according to Melvin A. Conant, the defence of North America, especially of the Arctic, has been regarded as a special Canada-US responsibility since the founding of NATO in 1949 (Conant 1988, 372). Canada and the United States being strong economic partners, and enjoying a healthy bilateral relationship in most spheres of international relations, Ottawa cannot afford the luxury of ignoring the threats that might surface in the Arctic region, even if it is just to reassure Washington (Roussel and Payette 2011, 954). Canada should also be careful as to not run the risk of needlessly complicating and compromising its security by making arrangements with the US that could be difficult to implement (Charron 2005a, 842). The previously mentioned issues on the status of the NWP are casting a shadow on good North American Arctic relations, and Griffiths implies that by mirroring American security concerns in Canada, Canada is working towards the mutual satisfaction of both countries and on

harmonisation of policies (Charron 2005a, 842; Griffiths 2004). Already in 1988, Conant, an American scholar, was pointing out that an outsider looking at the needs for Canadian Arctic security will find ice-breakers and nuclear submarines lead the list (Conant 1988, 373). A quarter of a century later, in a Post-Cold War Era, Canadian independent think tanks are suggesting that the real need for Canada is not to build armed ice-breakers for military purposes and to assure sovereignty in the North, but rather to build ice-breakers for the Canadian Coast Guards. Providing the Coast Guards with more effective ships would allow them to patrol effectively the Atlantic and Pacific front, and consequently, to devote also more attention to the Arctic Ocean (Brewster 2013). The phenomenon that made the Arctic relevant again after the Cold War Era, for both countries, is definitely the natural challenges posed first and foremost by climate change. Indeed, climate change is fundamentally transforming the Canadian and American north, altering the geopolitical environment, and opening the Arctic to the rest of the world, both in perception and in reality.

### 4.3 Militarisation and securitisation

Several scholars, researchers, and politicians are of course criticising environmental security. They argue that its adoption could result in the militarisation of environmental issues, making the agenda vulnerable to manipulation by traditional national security constituencies, especially the military (Porter 1998). Geopolitically speaking, with its mainland and islands stretching far to the North and framing the maritime link between the Atlantic and the Arctic, Norway is very well situated with a strategic position allowing it to be the gateway to and from the Arctic Basin (Sollie 1989, 71). This new geopolitical reality has an important meaning for Norway since it now occupies a more important place in international events. It is not solely on the margins or on the periphery anymore, at least in European and Arctic affairs. This shift in the role played by Norway also requires a shift in mental maps that do not place it in the strategic centre of interests (Sollie 1989, 73). The newly acquired importance of Norway, strategically speaking, created tensions between Russia and Norway over the Svalbard region. The tensions offer a great example of misunderstanding over environmental issues and their use (alleged or proven) as a tool of greater militarisation. In a residual Cold War stereotyping, Russia has indeed created a security dilemma of some sort by generating insecurity about its motives among its neighbours (Roberts 2010, 975). Kristian Åtland and Torbjørn Pedersen analysed the situation

between the two countries in regards to their mutual misinterpretation of the Svalbard Treaty of 1920. The authors exposed the rise of securitisation following certain scientific inquiries made in the north of Norway and in the Svalbard archipelago. They showed that Russia considered a number of security concerns pertaining to the Svalbard Archipelago, among which:

> "(1) that the Svalbard Environmental Protection Act – a piece of legislation adopted by the Norwegian Parliament in 2001 – was aimed at obstructing Russian mining operations and could be forcing Russia to abandon the archipelago. (2) that Norway was violating the Freedom of the Seas by taking enforcement measures against Russian fishing vessels in the Svalbard Fisheries Protection Zone, and (3) that Norway was violating the demilitarisation clause of the Svalbard Treaty by allowing the construction and operation of radars and satellite stations that could potentially be used in a US missile defence scheme" (Åtland and Pedersen 2008, 228-229). (see Annex C)

For this particular chapter, the first and third points stressed by the authors are the most useful to understand how Russia has used securitisation in response to the security threat it perceived in the Norwegian attitude. Åtland and Pedersen first define what is meant by securitisation:

> " 'Securitisation' theory as laid out in the theoretical works of the so-called Copenhagen School of security studies in the mid and late 1990s offers a comprehensive conceptual framework for studying how and why certain issues become security issues. The Copenhagen School contributed to a widening of the concept of security by including, in addition to the military sector (military security), the political sector (political security), the economic sector (economic security), the societal factor (societal security), and the environmental sector (environmental security). (…) 'Securitisation' is defined by Danish political scientist Ole Waever as 'the intersubjective establishment of an existential threat with a saliency sufficient to have political effects'. The aim of a 'securitising move' is typically to enable 'emergency that can secure the survival of a referent object" (Åtland and Pedersen 2008, 230).

In the case of the Russian perception of security, the most important elements brought by securitisation are the ones concerned with military security, economic security, and previously discussed environmental security. Russian national security is closely tied to its economic wealth, and Russia has made no secret of its view that its energy resources, economic activities, and

national security are intimately connected (Roberts 2010, 975). Securitisation typically constructs a political problem from a situation. The first worries about Norwegian activity in the Svalbard were of a military nature and they were raised in such fashion after Svalbard had become the arena for an increasing number of space-related activities (Åtland and Pedersen 2008, 232). Norway saw there an "opportunity for studying geophysical processes in the near-Earth space over the Arctic, (…) [and] round-the-clock downloading of data from polar-orbiting satellites (…)" (Åtland and Pedersen 2008, 232). The project worried the Russian authorities because it has been interpreted as a violation of article 9 of the Svalbard Treaty, which states that the archipelago may not be used 'for warlike purposes' (Åtland and Pedersen 2008, 232). There were misunderstanding and mistrust in the intentions of both countries, when it came to the geographic location, the environmental situation, and the respect of international law (Svalbard Treaty). Russia was most concerned with "the radars' ability to detect, and collect data about the flight paths and 'signatures' of, Russian intercontinental and submarine-launched ballistic missiles (ICBMs and SLBMs) during test launches in the Arctic" (Åtland and Pedersen 2008, 232). Russia was mainly accusing Norway's installations of having a 'dual' purpose, considering that the Post-Cold War Era's general atmosphere justified their doubts. Åtland and Pedersen report that:

> "Concerning the foreign policy context at the time of the 'securitising move', three developments in the mid and late 1990s stand out as particularly relevant to Russia's securitisation of the Svalbard radar issue: (1) The eastward enlargement of NATO, (2) Norway's adaptation of its self-imposed restrictions on allied military activity east of the 24th meridian, and (3) the United States' announcement of its intention to withdraw from the 1972 US-Soviet ABM Treaty." (Åtland and Pedersen 2008, 235).

Although the example of how Russia perceived Norway as a security threat in military terms is already two decades old, it is still relevant today when it comes to understanding how the relations between the circumpolar countries have evolved. Traditionally and historically, it may be fair to suggest that Russia has created a security dilemma of some sorts by generating insecurity about its motives among its neighbours (Roberts 2010, 975). Thus, although there are arguable motives for Russia to feel insecure in the face of Norwegian Svalbard projects, there are also reasons for Norway to keep an eye on its northern neighbour.

Specifically on northern security, the Soviet Union used to be quite vulnerable in the Arctic with about half of its total landmass north of the 60th parallel, and more than half of its coastline on the Arctic Ocean (Issaraelian 1989, 61). In the second half of the 1980s, tensions were at their peak point, and this was certainly an incentive for the Murmansk Initiative, which was later seen as the beginning of better relations in the Arctic.

"The Murmansk Initiative represents a significant contribution to the whole process of confidence-building by proposing, in particular: to limit the number of large exercises; to include Barents Sea, along with other Northern seas, in a zone of peace; to ban anti-submarine activities in agreed areas of the Northern and Western Atlantic; to include the reduction of military activities in the Arctic on the agenda of the second stage of the Conference on CBM and Disarmament in Europe; to reduce naval activities in international straits; and to pursue the establishment of a Nordic nuclear weapon-free zone for which the Soviet Union would act as a guarantor" (Issaraelian 1989, 61).

The Murmansk Initiative was incorporating constructive ideas presented previously by other states, while offering a new political perspective on solutions to problems of security and cooperation among Nordic countries (Issaraelian 1989, 63). The USSR was also insisting that cooperation and security, in order to be mutual, could not be built on "containment", deterrence, and retaliation (Issaraelian 1989, 64). In a sense, using a more contemporary example, the Murmansk Initiative was in a way a predecessor to the current 'reset' of the Russian-American relations. Good intentions on the behalf of the USSR, and later of the Russian Federation, however, do not automatically equal a complete disappearance of any tensions in the North. Nevertheless, Finn Sollie, a Norwegian scholar, points out that although there have been some mistrust and tensions between Norway and Russia, the Arctic neighbours are still coexisting peacefully. Norway has never been openly at war with Russia and the relations (despite securitisation on Russia's behalf) have generally been fairly courteous. On the one hand, the Russo-Soviet attitude towards Norway has generally been better than the attitude towards the other A-5 (Sollie 1989, 81). On the other hand, the Norwegian Government has used the catch-phrase 'High North – Low Tension' to develop its High North policy and to insist on resolving practical problems between Russia and Norway in a pragmatic way and to make close, pragmatic

cooperation between Norway and Russia an important priority (Norway Government Ministry of Foreign Affairs (MFA) 2011, 21).

### 4.4 Civilian Military Tasks

For some countries, environmental issues can be used to assure military security in a rather "civilian" way. Although Denmark has also a long history of military cooperation, especially in terms of surveillance (e.g. Distant Early Warning) and foreign military bases in Greenland (e.g. American basis in Thule), it remains an example of a country that uses environmental security and militarisation, combined, in order to provide help in certain areas. Denmark has several new "civilian" military tasks. Civilian military tasks – or Civil-Military Operations – can be defined as:

> "…a range of possible activities that are considered based on the desired level of civilian support, availability of resources, and inadvertent interference by the local population. The purpose of CMO is to facilitate military operations, and to consolidate and achieve operational… objectives, through the integration of civil military actions while conducting support to civil administration…, populace and resources control …, foreign humanitarian assistance …, nation assistance …, and civil information management … ." (United States Department of Army, Department of Navy, Department of Air Force, and United States Coast Guards 2008)

Among the new civilian military tasks, there are: search and rescue (SAR), oil spill surveillance, oil exploitation watch, fisheries watch, sovereignty watch (with the help of satellites), etc. Official Danish policy emphasises the importance of maritime security, acknowledging the increase of tourism in the region and the need for a greater cooperation among cruise ships. These cruise ships often sail with many passenger, often with limited local knowledge and enhanced maritime security would thus of an inestimable value (Kingdom of Denmark Strategy for the Arctic 2011-2020 2011, 17). The document continues with the role of the armed forces, stating: "the armed forces is building a habitual picture of activities in the waters around Greenland and the Faroe Islands. The armed forces presence and overview of activities in the Arctic establishes a basis for solving many other tasks, including providing assistance to the Greenland community" (Kingdom of Denmark Strategy for the Arctic 2011-

2020 2011, 21). This same document also acknowledges the role of enforcing sovereignty by the armed forces through a visible presence in the region where surveillance is central to the task, but also the important role in the provision of a range of more civilian-related duties (Kingdom of Denmark Strategy for the Arctic 2011 2011-2020, 20). Other A-5 countries are, undoubtedly, also carrying similar civilian military tasks in the Arctic, and this role is also outlined in their official policies. The case of Denmark is used solely here as an example for such activities and to recognize the role armed forces are often playing in non-traditional military activities.

### 4.5 Human Security in the Arctic

The Arctic circumpolar states, when it comes to security, should pay particular attention to securing the quality of life of their Northern inhabitants. They should invest in adapting the infrastructures, in making sure that the daily life is not being challenged by climate change and by newly arrived economic activities (tourism, resources extraction, etc.) and/or military activities, and in making sure that sufficient resources are deployed if needed. Usually, human security in the Arctic is always a central part of the A-5's official strategies and policies, but actions have to also follow these statements. As Canadian scholar Rob Huebert points it out: "… one of the most important issues that Canada will face in its Arctic region will involve the security of its own northern population. The decrease of ice cover and the increasing interest of the outside world in the Arctic are drastically changing the lifestyle, environment, and economic realities facing all Canadians who call the north home" (Huebert 2012, 20). Circumpolar states should also be prepared to face the eventuality of having to move northern communities to different locations if conditions deteriorate and their well-being is jeopardized. In a way, these people could become some sort of "environmental refugees" and governments need to be ready to deal with this reality. Coastal villages are particularly sensitive to this situation due to the erosion of the shores, which is disturbing economic activities, stability of infrastructures, physical security of people, exposure to natural hazards, and perturbing biodiversity.

Local people are also vital to the 'northern' identity of the circumpolar countries. Indeed, with the vast majority of the population of the A-5 countries living either in the southern part (e.g. Canada, USA, Russia) or living on the mainland part (e.g. Norway, Denmark), local people are bringing legitimacy to any Nordic claim laid by the Arctic states. They are the eyes and ears

of their governments in the north, their physical presence and, often, their justification for claims of historical use (e.g. NWP and Canada). They are the personification of the *Arcticness* of the circumpolar states. Beyond geography, the demographic factor is also very important to assert a state's sovereignty and entitlement to a certain area or region. It is thus in the A-5's interest to always keep the well-being of its northern population in mind and to make it a pillar of strategic security thinking. From an environmental point of view, as Paul Dittmann writes:

> "Physical security also has an environmental component: the environment is the framework that encompasses the people who inhabit the land and their prosperity and culture. In the Arctic, protection of the environment and the ability to prevent damage to it has evolved as a key issue to the survival of its residents, especially for the basics such as water, food, and health" (Dittmann 2009, 10).

He sums up his idea by adding that physical security from military, economic or environmental threats is about understanding and possessing the capability to react to them and to ensure the viability of the people who live there. (10)

### 4.6 Non-Arctic States and their role in the Arctic security

In terms of security, a lot of tension and potential tension in the Arctic is rising from non-Arctic states. As a matter of fact, some scholars even believe that "[s]ecurity tensions will most likely come not from the Arctic nations themselves, but from non-Arctic nations and non-state actors with both licit and illicit interests in Arctic opportunities" (Backus, Millick and Rumpf 2011, 7). Indeed, cooperation has rarely been stronger among the circumpolar states and their misunderstanding of the nature of some actions regarding the law (e.g. Russia and Norway), of the status of an area (e.g. the NWP in Canada), or again of the ownership of an area and its resources (the Lomonosov Ridge, the Hans Island, the North Pole), but this does not seem to foreshadow possible open conflicts between the states. (see chapter 5 for more details) In fact, circumpolar states tend to stick together, especially when faced with outside Arctic challenges (for instance, with the Arctic Council where non-Arctic states are only given observer status). Non-Arctic states do not necessarily pose a security threat in a classic military way. More often than not, they are challenging on a sovereignty and/or economic level. Rob Huebert, who is famous for his mistrust of other states' intentions towards Canadian sovereignty, declared:

> "… Canada is facing new Arctic security challenges to which it has not yet responded. The first such challenge concerns the non-Arctic actors who are becoming increasingly interested in the region. To name but a few, the European Union, China, and Japan have all begun to develop Arctic policies and the means with which to enter the region. These new actors are adding complexity to the security policies of Arctic states" (Huebert 2012, 20).

Northern Sea Route geopolitics specialist Margaret Blunden also highlights that one of the challenges Russia could face with a greater transit of vessels through the NSR would be: "… the possible scenario of Chinese naval vessels, tasked with protecting Chinese merchant ships, in the seas north of Russia or in the North Atlantic, would confront Russia and NATO with a challenging new security environment" (Blunden 2012, 116). However, despite potential tensions, the risks of an open conflict remain quite low. "Diplomatic tensions among Russia, China, the U.S. and Canada may exist, but all the incentives are to establish a limited level of military presence that ensures the recognition of sovereign rights" (Backus, Millick, and Rumpf 2011, 5).

In terms of 'Astropolitik', the Arctic, given its geographical position, does not offer a very interesting vantage point to most Space Programmes and therefore, it is very unlikely to offer a new scene for political tensions in the Arctic. Also, some the most important space actors (US and Russia) already have advantageous access to the Arctic airspace. However, the airspace of the Arctic could still be useful for different purposes. For instance:

> "… the EU Space Policy should allow the EU to bring an added value to the Arctic in crucial dimensions such as navigation, monitoring, data processing, research and communication. Before large-scale shipping, fishing or a tourist industry using Arctic routes can develop, SAR facilities need to be available with ready-made capacity to provide assistance and respond appropriately to an accident involving vessels. The risk of accidents and challenges of search and rescue in the Arctic are more serious than anywhere else due to freezing temperatures, severe icing, iceberg collision, uncharted waters, and the extreme vulnerability of the environment to pollution. The Galileo programme [of the European Union] in particular should be able to map the newly ice-freed Arctic areas in very high definition and to monitor shipping navigation in near-real time.

> Such high-level capabilities are urgently needed to secure safe transit for shipping in the Arctic." (Daemers, 2012: 15)

This example given by Daemers shows that not only can tensions rise from non-Arctic states in terms of security, but that there is also room for cooperation, and if the Arctic states willingly include the non-Arctic states in their regional fora and their organisations, the level security in the region could even be increased.

### 4.7 Conclusion

Each of the A-5 countries has a different approach to security in general and to security in the Arctic. Environmental security is at the heart of all security matters in the Arctic, since climate change, the melting of the ice, and the discovery of resources, to name only a few, are the very elements changing the geopolitical scene of the region. Security is a sensitive topic for most of the world's states and the Arctic states are no exception to that fact. Therefore, security is one of the political areas where tensions are the most likely to surface and where states are the most likely to mistrust one another. Geopolitical thinker Geraóid Ó'Tuathail shows what this mistrust climate leads to:

> "Most within the Western security community now (…) have a strong appreciation of the value of coordinated international diplomatic efforts through diplomacy, international assistance, arms control, and non-proliferation initiatives to shape the international geopolitical environment. However, two tendencies tend to undermine such efforts, the first a unilateralist and neo-isolationist reflex in states (like the US) which disparages international cooperative initiatives, the second an unwillingness on the part of Western states, alliances and economies to reflexively examine how they themselves may be contributing to global insecurity" (Ó'Tuathail 1999, 119).

However, this does not mean that security is always a source of conflict. Indeed, as the Danish scholar Frederick Harhoff points out, cooperation on its own plays a central role in terms of security. The better countries are at making cooperation agreements and partnerships in given regions, the less risky it is for this region to see a rise of conflicts leading to violence (Harhoff 1989, 16). Julien Daemers makes an important point about cooperation within the Arctic states, despite the reported tensions, when he claims:

> "… in recent years, the media have relayed security concerns about the development of a so-called 'new Cold War' in the Arctic. Basing their analysis mainly on a 'new scramble' for Arctic resources, these media forget to mention that the Arctic has been governed since 1982 by the United Nations Convention on the Law of the Sea (UNCLOS) and that political cooperation has never been stronger than now among Arctic coastal states. It is true that these states are investing in modernizing and increasing the proportion of their military forces able to intervene in the Arctic region. However, the degree of cooperation among these military forces tends to suggest that the coastal states are trying to gain the capacity to patrol their enlarging territory rather than to prepare a military confrontation" (Daemers 2012, 4-5).

Cooperation is strong within the Arctic Council, but it is not in its mandate to deal with matters related to military security (as stated in the 1996 document on the establishment of the Arctic Council, the Ottawa Declaration). Security is thus left to either other alliances (e.g. NATO), to partnerships (e.g. Canada-US on borders and migration), or again to a state's personal national security measures.

Some challenges will remain despite nations' efforts to deal with or eradicate them. For instance, "[e]nvironmental clean-up, maintaining life-critical infrastructure, and search and rescue will permanently be a challenge in the Arctic" (Backus, Millick, and Rumpf 2011, 5). No single Arctic country is safe from such issue and consequently, joint efforts could alleviate the burden of security tasks. For example:

> "The sea-based economic activity in rapidly evolving Arctic climate will assuredly lead to larger volumes of search-and-rescue, nature disaster relief, environmental mishap, humanitarian assistance, and policing than currently anticipated, and happening sooner than expected. Physical and geographical conditions may change so quickly in the Arctic that the continual expansion and re-fitting of security assets will require a major revamping of defense acquisition processes" (Backus, Millick and Rumpf 2011, 7).

The transboundary nature of environmental challenges (see chapter 1) also creates a need for cooperation. Since the circumpolar states are surrounding the Arctic Ocean, and since the climate and environmental conditions are similar in all locations (i.e. in all A-5 Arctic regions) and are somehow interdependent, one's problem can easily become everyone else's. Therefore, sole

national security is perhaps not the best approach to tackle environmental security issues. As geopolitical thinker Geraóid Ó'Tuathail points out:

> "… the problematic of 'national security' in the contemporary era is now global. While regional and state-centered threats are still significant security concerns, the most pressing security challenges, from terrorism to international organized crime and proliferating weapons of mass destruction, are now 'deterritorialized' and global" (Ó'Tuathail, 1999: 119).

By focusing less on territoriality, circumpolar states are not only developing a greater understanding of transboundary nature of security issues, but they are also developing greater climate for negotiations and cooperation, which will be both needed to tackle those issues.

# Chapter 5 – Diplomatic and International Relations

The geopolitical situation in the Arctic is, as previously mentioned several times, changing due to the impacts of climate change and the transformation of the physical setting. In the midst of all the territorial claims, the new environmental challenges, and the potential tensions rising between Arctic and non-Arctic states, there is a need for order and for organization. In this context, the importance of international law and of the international treaties and associations is absolutely central. This chapter aims at offering firstly a global view of the rule of law in the Arctic. It then secondly observes the different summits, conferences, agreements, alliances, etc. that the A-5 states are taking part of, and finally, it examines the external pressure on the Arctic diplomatic relations. Once more, as in all the previous chapters, the question on the role of cooperation is observed. The international law and the different organizations into which the Arctic states are participating are offering good frameworks and examples for institutionalised cooperation and diplomatic ways of solving tensions and/or conflicts. The willingness of the Arctic states to resort to the use of such tools can translate in a willingness to further cooperate and to find common policies and solutions for the Arctic problems, be them environmental, societal, economic, or military, to name only a few.

## 5.1 International Law in the Arctic

Defining first and foremost what is being considered as the law and as international law helps understanding more clearly what roles they play in the Arctic region and among the Arctic states. According to Malcolm Shaw,

> "[l]aw is that element which binds the members of the community together in their adherence to recognised values and standards. It is both permissive in allowing individuals to establish their own legal relations with rights and duties, as in the creation of contracts, and coercive, as it punishes those who infringe its regulations" (Shaw 2008, 1).

Public international law, however, covers relations between states, may be universal or general – in which case the stipulated rules bind all the states – or regional (2). As it is often pointed out in several International Relations theories schools, the state of the world is "anarchic"; there are no

independent institution able to determine an issue and give a final decision within the international system. In international law, there is no system of courts and the ICJ in The Hague can only decide cases when both sides agree, and even then, there are no ways to ensure that its decisions are complied with (3). International law, is created by the states themselves and they choose to obey or disobey it (6). It is also primarily formulated by international agreements, which create rules binding upon the signatories, and customary rules, which are basically state practices recognised by the community at large as laying down patterns of conduct that have to be complied with (6). The importance of international law comes when countries are involved in a disagreement or a dispute (e.g. the Lomonosov Ridge and the extension of continental shelf opposing Russia to Canada). It is handy to have recourse to the rules of international law since it offers a common frame of reference and an opportunity for the states to prepare their cases knowing how the other state will develop its argument (7). This is particularly important for the A-5 countries since, as it was uncovered in previous chapters, they do have issues and disputes between each other. The strength of their commitment to international law is the key to a peaceful settlement of the different disagreements in the Arctic. Yet, beyond the spectrum of possible disputes, international law also assures that the states interact with one another based on a certain set of rules and that mayhem is not a very likely outcome of the interactions and relations between states. Certain frameworks of international law are more important than others in the Arctic and should therefore be described in greater details.

### *5.1.1 The Importance of the UNCLOS*

One of the main texts of law relevant for the Arctic region is certainly the United Nations Convention on the Law of the Sea (1982). The 1982 Convention contains 320 articles and 9 Annexes. It was adopted by 130 votes to 4, with 17 abstentions. The Convention entered into force on November 16th, 1994, twelve months after the required 60 ratifications. Many of the provisions in the 1982 Convention repeat principles enshrined in the early instruments and others have since become customary rules, but many new rules were also proposed (Shaw 2008, 555-556).

The high seas in the Arctic Ocean are undoubtedly *res communis*, meaning they do not belong to any state in particular and are subjected to no states' sovereignty and jurisdiction. Hugo Grotius and his doctrine of the open seas are mainly at the origin of this principle. However, the

rest of the Arctic Ocean is widely contested, as examined in chapter 3, based on several principles found in the articles of the UNCLOS. Shaw reveals that:

> "[t]he fundamental principle governing the law of the sea is that the 'land dominates the sea' so that the land territorial situation constitutes the starting point for the determination of the maritime rights of a coastal state" (Shaw 2008, 553).

This dominance of land over sea (in terms of determination of maritime rights) is also the starting point of most disputes in the Arctic (e.g. continental shelf disputes, baseline disputes, ownership of islands, etc.). Before the *res communis* of the high sea, several scales of sovereignty/maritime rights are accorded to the coastal states. Gradational sovereignty can be found in different articles of the UNCLOS and offers a hierarchy of the different rights and duties of states in the sea. Annex E offers a scheme of this gradational sovereignty, from mainland to continental shelf extension. Such structure helps understanding where claims are coming from, the reason why they are placed, and whether they are legitimate or not. It is the basic framework to resolve most disputes occurring in the seas.

The United Nations Convention on the Law of the Sea is therefore also the body of rules that manages sea disputes. Part XV, section 1 lays down the general provisions, while article 279 expresses the fundamental obligation to settle disputes peacefully in accordance with article 2(3) of the UN Charter and using means indicated in article 33, but the parties are able to choose methods other than those specified in the 1982 Convention (Shaw 2008, 635). The UNCLOS also encourages, through article 283, both parties to interact with one another and to exchange their points of view, in order to find a settlement to their dispute. UNCLOS even suggests in article 284 the possibility to create a conciliation commission when states are wishing to solve their conflict in this way (635). In the event of an impossibility to resolve the conflict by means freely chosen by the parties, the compulsory procedures laid down in Part XV section 2 become operative (635). The dispute settlement options are the International Tribunal for the Law of the Sea, the International Court of Justice, and arbitral tribunal under Annex VII, or a special arbitral tribunal under Annex VIII for specific disputes (635-636). Certain articles of the UNCLOS refer to specific types of disputes and therefore should be taken into greater consideration when states are arguing about those precise issues. For instance, a few of those are: Article 297(1) and the

exclusive economic zone, Article 297(2) and the marine scientific research, Article 297(3) and fisheries, Articles 187 and 188 and the stance on the seabed and its exploitation. The Convention also provides a Tribunal for the Law of the Sea as one of the dispute settlement mechanisms under Part XV (638). The role of the UNCLOS in peaceful, diplomatic, and legal dispute settlements is therefore undoubtedly a central, if not an essential one.

Certain authors, however, disagree with the importance of the UNCLOS in the Arctic region. Among them, there is Angelle C. Smith, an American scholar, who believes that a new Arctic regime should be set into place. This new Arctic regime would be combining elements from the International Court of Justice (ICJ), the mineral resources provisions in the Antarctic Treaty System (ATS), and the common heritage of mankind principles (Smith 2010, 653). The Arctic circumpolar countries are not, indeed, all signatories of the UNCLOS. The United States is still, up to date, not taking part in it, and therefore the reliance on its jurisdiction to solve issues in the Arctic is perhaps not entirely fair to the US, despite the fact that customary rules in the provisions are binding *prima facie* all states. Only the parties to the five treaties (of the UNCLOS) will be bound by the new rules contained therein (Shaw 2008, 556). However, the UNCLOS component that recommends limits of the continental shelf has not achieved the status of customary international law (Smith 2010, 652). That shows that, although the UNCLOS is widely perceived as one of the best instruments to assure order and peace in the Arctic, it is not perfect and its flaws can still generate future challenges.

### *5.1.2 Common Heritage of Mankind*

The principle of *Common Heritage of Mankind* is claimed in the Arctic by a few, mostly non-Arctic countries. Germany, and the European Union in general, have been the most vocal about their desires to participate more in the Arctic affairs. Margaret Blunden recalls:

> "[t]here is particular concern that German research in the Arctic, which is of political as well as scientific importance, may be jeopardized by restrictions imposed by the Arctic states, particularly Russia, which are highly resistant to the German view of the region as 'the common heritage of mankind'" (Blunden 2012, 123).

Articles 136 and 137 of the 1982 UNCLOS provide that no sovereign or other rights would be recognised with regard to the Area, except in the case of minerals recovered in accordance with

the Convention, and that exploitation could only take place in accordance with the rules and structures established by the Convention (Shaw 2008, 533). An important difference between the *res communis* regime and the Common Heritage regime is that the *res communis* regime permits freedom of access, exploration and exploitation, and the Common Heritage regime strictly regulates exploration and exploitation, establishes managements mechanisms and employs the criterion of equity in distributing the benefits of such activity (534). Examples of such Common Heritage of Mankind can be found in the Moon Treaty (1979) and the Antarctic Treaty System (1959). Naturally, this argumentation is strongly disapproved by the A-5 countries since some of them (mainly Russia and Canada, less importantly Denmark) have a lot at stake if the extension of their continental shelf is granted. They may also feel like its an infringement on their sovereignty to deny them the right to extend their EEZ, if the UNCLOS stipulates that this is possible, due to a Common Heritage regime.

### 5.2 Different Associations Linking A-5 and other organisations

Circumpolar countries generally have a lot in common and a lot at stake. It is thus only natural for them to associate in order to protect their assets, promote their shared values, raise awareness to some particular issues, or again to simply discuss eventual policies that could benefit the whole Arctic community. Several Arctic organisations exist, either circumpolar or more regional, and the main one is probably the Arctic Council. However, other ones also have important roles in the international relations of the circumpolar countries, and are worth mentioning. Here are a few examples of these associations, and their mandate, members and level of influence. These associations were chosen as examples because they depict different levels of integration; pan-regional in the case of the Arctic Council, regional or local for the Illulissat Declaration (within the Arctic circumpolar zone) and the BAEC, and ethnic-regional in the case of the ICC. Other examples of Arctic and non-Arctic associations are also briefly stated, as to show how numerous and varied the initiatives for cooperation are in the Arctic region.

#### *5.2.1 The Arctic Council*

Established in 1996 after the Ottawa Declaration, the Arctic Council aims, among other things, at providing a means for promoting cooperative activities to address Arctic issues requiring circumpolar cooperation, and ensuring full consultation with and the full involvement

of indigenous people and their communities and other inhabitants or the Arctic in such activities (Ottawa Declaration 1996). It is an intergovernmental forum in which issues and concerns related to the environment, sustainable development, and social and economic matters are considered. This council can only function by putting sovereignty to one side in order to tackle the wider common concerns of the member states, which are Canada, Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States. The council, however, is not a forum for tackling interstate, legal arguments; it has neither the mandate nor the jurisdiction (Charron 2005a, 844). The Arctic Council includes as permanent participants the Inuit Circumpolar Conference (ICC), the Saami Council, the Russian Association of Indigenous People of the North (RAIPON), the Arctic Athabaskan Council (AAC), the Aleut International Association (AIA), and the Gwich'in Council International (GCI). Permanent members are all indigenous communities of the North, having through the Arctic Council a forum to voice the different opinions and to bring the knowledge and insight of the Native peoples in front of the member states, other permanent members, working groups, and observers. There are many working groups in the Arctic Council such as the Arctic Contaminants Action Program (ACAP), the Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), or again the Protection of the Arctic Marine Environment (PAME), to name only a few. Finally, there is also an observer status to the Arctic Council, which is open to non-Arctic states, inter-governmental and inter-parliamentary organisations (global and regional), and non-governmental organisations. Observers are able to propose projects through an Arctic State or a Permanent Participant, but financial contributions from observers to any given project may not exceed the financing from Arctic States, unless otherwise decided by the Senior Arctic Officials (Arctic Council official website). The non-Arctic states that have been granted observer status are France, Germany, The Netherlands, Poland, Spain, and the United Kingdom. There are also nine inter-governmental and inter-parliamentary organisations, and eleven non-governmental organisations as observers in the Arctic Council. Several other countries and organisations have been applying for observers status, notably the People's Republic of China, Japan, the Republic of Korea, the European Union, India, and Greenpeace. The Arctic Council changes chairmanship every two years, but occasionally, members get organised regionally so that they can deliver results on the major challenges facing the Arctic region in a timeframe greater than two years (Arctic Council official website). The Norwegian, Danish, and Swedish chairmanships shared

common objectives and they were in charge from 2006 until 2013. In 2013, the chairmanship is going back to Canada, which had it first, back in 1998. The USA is getting the chair in 2015. In terms of cooperation, the Arctic Council is a very important forum because it brings together the states and their different perspectives on politics, the Native peoples of the North and their local insight, the working groups and their environmental or social agenda aimed at protecting the assets of the Arctic and raising awareness, and finally the observers giving outsiders a chance to watch and progressively participate in the Arctic affairs.

### *5.2.2 The Illulissat Declaration*

The Illulissat Declaration was signed in Greenland in July 2008 at an Arctic Ocean Conference. It is a commitment passed between the A-5, concluding the invitation to hold discussions by the Danish Minister for Foreign Affairs and the Premier of Greenland. The circumpolar countries, through the meeting in Illulissat, acknowledged the challenges raised by climate change and by the melting of the ice and recognised as well that they are "in a unique position to address these possibilities and challenges" (Illulissat Declaration 2008). The A-5 countries therefore evoked that an extensive international legal framework applies to the Arctic Ocean, as discussed in Oslo the previous year in 2007, and reassured in Illulissat that they remain committed to this legal framework. In the Declaration, they also acknowledged once more that the Arctic Ocean is a unique ecosystem and that the five coastal states have a stewardship role in protecting it. The A-5 assured that they would be following international law and cooperating with the other circumpolar states and interested parties to ensure the protection and preservation of the fragile marine environment of the Arctic Ocean. The Illulissat Declaration is basically a document stating the Arctic coastal states commitment to cooperation, and this cooperation covers areas from safety of maritime navigation to reduction of ship-based pollution, to search and to rescue capabilities, to sharing of information, which is a prerequisite for addressing all of these challenges. The Declaration also reinstates the fact that there is already cooperation among the Arctic coastal states on a scientific level (data collection on the continental shelf), and on protection of the marine environment. In the future, the A-5 countries wish to have a stronger cooperation, based on mutual trust and transparency. The Illulissat Declaration is an important document in terms of circumpolar affairs because all of the coastal states are involved, and it is a more exclusively circumpolar agreement than the ones discussed at larger Arctic fora, like the

Arctic Council. The Declaration concludes with the commitment that: "[t]he five coastal states of the Arctic Ocean will continue to contribute actively to the work of the Arctic Council and other relevant international fora" (Illulissat Declaration 2008). It restates the willingness of the Arctic coastal states to share responsibilities and to cooperate not only with each other, but also with other actors of the Arctic region.

### *5.2.3 Barents Euro-Arctic Council (BEAC)*

Being a much smaller association of countries, the BEAC "is the forum for intergovernmental cooperation on issues concerning the Barents Region. The BEAC meets at Foreign Ministers level in the chairmanship country at the end of term office. The chairmanship rotates every second year, between Norway, Finland, Russia and Sweden" (Barents Euro-Arctic Council official website). The cooperation in the Barents Euro-Arctic region was launched in 1993, on an inter-governmental and on an inter-regional level. Given the history of the region during the Cold War Era, the initiative of the BEAC was to make sure that close cooperation could secure political long-term stability an reduce possible tensions. In a similar fashion as with the Arctic Council, the BEAC has member states (Denmark, Finland, Iceland, Norway, Russia, Sweden, the European Commission), observer states (Canada, France, Germany, Italy, Japan, The Netherlands, Poland, the United Kingdom, the US), and working groups and task forces established to deepen cooperation on issues relevant to the Barents region. The BEAC also includes working groups of Indigenous Peoples, which is of a certain importance since out of a population of approximately 5.3 million people in the Barents region, there is around 187 000 of them who are Indigenous (BEAC official website). Being an example of a more regional association, the BEAC shows that not only circumpolar countries in a larger sense can organise themselves in a forum. Narrowing issues to a regional level allows the BEAC to focus on what are the important challenges and responsibilities in the Barents region, and tackling these issues at a regional level alleviates the load of greater associations, since the challenges have been addressed already. It allows the bigger fora to focus on wider problems with the peace of mind that more regional issues are dealt with at a regional level.

### *5.2.4 Inuit Circumpolar Council (ICC)*

At the difference of the Arctic Council and the BEAC, the ICC is not only a regional or a pan-regional association; it is also an ethnic association. According to its official website, the ICC is "an international Indigenous Peoples' Organization representing approximately 160,000 Inuit living in the Arctic regions of Alaska, Canada, Greenland, and Chukotka, Russia" (ICC official website). The principal goals of ICC are: to strengthen unity among Inuit of the Circumpolar region, to promote Inuit rights and interests on the international level, to ensure and further develop Inuit culture and society for both the present and future generations, to seek full and active participation in the political, economic, and social development in their homelands, to develop and encourage long-term policies which safeguard the Arctic environment, and to work for international recognition of the human rights of all Indigenous Peoples (ICC official website). The ICC is involved internationally at the United Nations and in the Arctic Council, and is also involved in issues concerning human rights, Indigenous Peoples Rights, climate change, and environment. The importance of this forum, in comparison to the other ones previously stated, is that it is a direct voice for a share of the residents of the Arctic region, who can recognise themselves and each other as ethnically Inuit, and get organised promoting projects and values that Inuit people consider more important. Their voice is also stronger while combined together as a group (despite their geographical distances – reaching all around the Arctic Ocean) and it allows them to have a level of recognition that might not be achieved if they were not organised as an ethnic association across the Arctic. As an example of a non-state actor playing an important role in the Arctic politics and policies, the ICC definitely stands out. Involving populations directly over states, the ICC is also an important tool of democracy and it might be easier to reach out to such organisation than directly to the government for some of the Inuit. The ICC is therefore a bridge between the Inuit people and the political sphere of Arctic affairs – promoting cooperation between northern inhabitants and their governments.

### *5.2.5 Other Arctic Associations*

There are many other Arctic associations promoting cooperation and working together to tackle certain issues and to build a stronger and safer Arctic region. For instance, there is the Conference of Parliamentarians of the Arctic Region (CPAR), the Nordic Council, the Pacific Northwest Economic Region Arctic Caucus (PNWER), the Northern Forum, and many more. Different organisations, whether with the participation of states or not, are aiming at emphasizing

certain aspects of the Arctic, either having to do with security, social, economic, or environmental agendas, or being more focused on specific regions and/or peoples. These organisations, although much smaller in scale than the Arctic Council or the ICC, are still important since they put pressure on the states and on the politics and policies of the Arctic region in general, in order to push cooperation further and to promote aspects of the Arctic life that might have otherwise been overlooked.

#### *5.2.6 Other non-Arctic Associations*

The A-5 countries are also members of several other non-Arctic associations, with different aims, either promoting international cooperation, economic integration and exchange, bi- or multilateral agreements, security cooperation, etc. While the Arctic coastal states are willing to cooperate with each other, they always have to bear in mind the commitments made to these other associations and the possible contradictions that can arise from all the different mandates of the organisations. For instance, all of the Arctic states are members of the United Nations. This organisation, in terms of commitment, is more important than their membership to the Arctic Council. Although rather unlikely, in the event that the two organisations would have different agendas, the A-5 countries should devote their resources and obligations to the greater organisation of the two. Annex F shows the gradational commitment that the different A-5 have with the international Arctic and non-Arctic organisations. This list is not exhaustive, since the different associations are plentiful and for the sake of this work, the full inventory is not necessary. It gives simply a few examples of how commitments to different levels of associations influence the cooperation of the A-5 states, with the larger international community, and between themselves.

### 5.3 External Pressures on Diplomatic Relations

Several factors are impacting the tensions that can be sensed among the A-5 countries, as it was highlighted in all the previous chapters. Another one of these factors is undoubtedly the external (non-Arctic) pressure applied on the Arctic coastal states and how that undermines peaceful diplomatic relations both between themselves and with other state and non-state actors. Most of these external pressures are exercised in order to obtain a certain level of participation in the Arctic affairs. Sometimes the outsider simply cannot voice its concerns or demands at one of

the Arctic fora, other times the place allowed is not enough for the agenda that it is pushing. Some examples are given, in order to understand those external pressures and their impacts on diplomatic relations.

Beginning with the non-governmental organisations, their role in the Arctic is often to request special attention to their causes (environmental, social, economic, etc.). Often, environmental groups are among the loudest voices in the Arctic region, petitioning for a greater concern for conservation of species, for awareness of climate change and its negative impacts, for the preservation of bio-diversity, etc. These groups with environmental goals are particularly vocal, given the environmental aspect of the geopolitics of the Arctic, the new development due to climate change, and the rise of natural challenges faced by nature, the inhabitants of the Arctic, and the Arctic coastal states. Among such groups, there is the World Wildlife Fund (WWF), Greenpeace, the Alaska Wilderness League, Alternatives North, the Bellona Foundation, the Circumpolar Conservation Union, Earthjustice, Friends of the Earth/Norges Naturvernforbund, the Indigenous Peoples Secretariat, the International Polar Foundation, the previously mentioned Northern Forum, Oceana, Pacific Environment, the University of the Arctic, Wetland Internationals, and many more. Most of them reached a certain level of organisation among themselves with the help of the Arctic NGO Forum promoting cooperation and influencing policy-making by a facilitating NGOs' access to policy makers. Beyond the spectrum of activities covered by the Arctic NGO Forum, certain NGOs feel the need to do some work on their own. An event, in early 2013, raised certain political and security concerns for the A-5. Indeed, activists from Greenpeace trekked to the North Pole in order to campaign for the creation of a sanctuary in the area and to voice their opposition to the mining industry in the Arctic. The expedition symbolically planted a 'Flag for the Future' (part of a capsule containing the names of three million people who signed petitions to oppose mining in the Arctic). This is not without reminiscing on the events of 2007 when a Russian submarine symbolically planted a flag as well, on the seabed of the very same location (Al Jazeera 2013). The reason why such an event might put pressure on the Arctic coastal state is mainly because it poses a security challenge since the countries have to prepare some SAR effectives in order to assure the safety of the people involved in the expedition. It also makes the negotiations among each other and with the mining industry companies more sensitive to the public opinion, since the expedition receives media

coverage and public awareness is raised. It politicises the issue as well, creating a dilemma between economic and environmental priorities for the Arctic states, having to choose how to make policies that would please their fellow A-5 countries, their populations, and the industry. Such a gesture from Greenpeace is also rather dangerous because most of the participants do not have experience in such harsh conditions and ice-packs, floes, winds, blizzards, and other circumstances, are making conditions sometimes unpredictable. It can be life-threatening and it adds an extra need for SAR teams to be ready since the risks are very high. This is, of course, simply an example chosen among others, but it gives a sense of how NGOs sometimes put pressure on the Arctic coastal states, even as outsiders.

The other main source of external pressure that the Arctic coastal countries are facing is the one from other states. Certain non-Arctic states are particularly eager to participate in the Arctic organisations and to have their say in the policies adopted by the Arctic states. Margaret Blunden has listed a few of these non-Arctic interests and, in some cases, the responses that it generated among the Arctic countries. For instance, in Europe,

> "[t]he policy institutes have agonized about how Germany, a country disadvantaged by geographical distance from the region, could best assert its Arctic claims. The influential SWP has argued that Germany can claim a certain standing in Arctic affairs on the basis of its long years of Arctic research, its participation on various Arctic committees and its allegedly 'justifiable maritime interests'" (Blunden 2012, 122-123).

Once more in Europe;

> "The Arctic Council has for the past two years put on hold the EU's application for permanent observer status. EU member states individually have limited influence. Denmark's control of the foreign affairs of Greenland has already weakened, as the world's largest island moves towards independence and possible greater integration into the American sphere of political and economic influence" (Blunden 2012, 122).

The Arctic countries are not keen at all about having non-Arctic countries interfering with the Arctic affairs. Moreover, the EU's case is particularly delicate; the stance the EU has taken against seal products causes problems to Native populations' economic situation in the Nordic countries (especially in Canada). Moreover, as the quote from Blunden shows, the European

Union as a whole exerts greater influence than individual countries. The Arctic Council might therefore be more interested in admitting them on a case-by-case basis.

The Asian countries are also putting pressure on the Arctic region, especially from an economic point of view. Blunden writes: "Japan, with Asia's largest flagged merchant fleet, applied for membership of the Arctic Council in 2009, citing the importance of maritime questions to the country, and was admitted as an ad hoc observer" (Blunden 2012, 124). She also points out that South Korea, a major Arctic shipbuilder, is, like China and Japan, trying to get permanent observer status on the Arctic Council. South Korea has a stake in Arctic research—it has since 2002 been running a station at the Ny-Ålesund research base—but its interest in the Arctic is overwhelmingly commercial (Blunden 2012, 125). Finally, the Asian giant that is China is also trying to play a more important role in the Arctic; "'[t]he current scramble for the sovereignty of the Arctic among some nations has encroached on many other nations' interests,' (…), arguing that China should play an indispensable role in Arctic exploration as it had one-fifth of the world's population" (Blunden 2012, 126). China is playing the demographic card to push its interests and preconize certain policies. For instance,

> "[i]nternational pressure to define the Arctic as part of the common heritage of humankind would probably mount, and unusual alignments may well come into play. China's interests, like those of the EU and the United States, in the definition of the Arctic sea passages as international straits, would be set against the resolute position of Russia and Canada that these passages run through territorial waters" (Blunden, 2012: 129).

This situation shows that new alliances could be created, based on the states' different point of views on the status of the Arctic, its navigable way, its resources, its associations, its security, its environment, etc. Any sphere of the political world on which states are likely to disagree opens a door for alliances to form and to push for their demands. This creates extra tensions in the Arctic, especially among the A-5 countries.

### 5.4 Cooperation over Conflict

To conclude this chapter, international law and the different Arctic associations have shown that there is a strong will to respect the law, for harmonious diplomatic relations, organisation, and cooperation. It is worth mentioning as well that there can never be a complete

separation between law and policy, and that the influence of one is often seen in the other (Shaw 2008, 11). The part on external pressures has shown that despite good intentions from the A-5 and the different other Arctic states and non-state actors, there is always the risk of disagreement and outsiders are particularly prone to voice their disagreements with concrete gestures if they feel like they do not have a voice in the existing fora and associations. The external pressure is, as Daemers points out, one of the greatest challenge faced by the A-5 countries, given that cooperation and mutual understanding (outside territorial claims) is generally quite good. (Daemers 2012) Nevertheless, an interest in the north could also translate into common projects between Arctic states and non-Arctic states, along with participation of the NGOs. Andrea Charron mentions that: "[r]esearch of northern interests has served as a focus from which a spirit of cooperation has blossomed" (Charron 2005a, 843). The scientific research base of Ny-Ålesund is a great example of such project, where permanent research stations from the Arctic and non-Arctic states of Norway, Germany, France, the UK, Japan, China, South Korea, Italy, India, and Sweden, to name but a few, are coexisting peacefully, aiming at nothing but improving scientific knowledge on the Arctic (Svalbard Science Forum website). What is important to keep in mind is that the international relations in the Arctic and more specifically between the A-5 countries are not entirely dictated by them and that there is a great deal of external influence in the way diplomatic and international relations are being dealt with. The importance of associations is not to be underestimated, as it constitutes a commitment and a will from the states and NGOs to give up part of their decision-making power (sovereignty, in other words) to cooperate and to work together towards common goals. However, the risk of having new alliances encompassing opposite perspectives and creating thus confronting paradigms is omnipresent and should not be underestimated.

# Chapter 6 – Environmental Geopolitics and the Future of the Arctic

At the light of everything that has been analysed and described so far, it is possible, in this chapter, to bring projections on what the future holds in for the Arctic region, based on the previously considered aspects of the environmental geopolitics. There is an assessment of the possible physical geographical setting, a list of hypothetical impacts on the region in relation to the sub-mentioned aspects studied in the previous chapters, and finally an eventual foreshadow of the consequences of further modifications in the environmental setting of the region (due mainly to climate change). The timeframes observed will be a short-term one (around 5-10 years), a mid-term one (around 15-20 years) and a long-term one (around 30-50 years or more ahead). Of course this all remains within the realm of speculations, but studies and researches conducted by other authors can corroborate or invalidate projections that have been made on the state of the Arctic's future.

## 6.1 Global temperature, the state of the ice, and climate change

What future holds in for the Arctic climate and the state of the ice is not necessarily optimistic in terms of environment and the well-being of its population. Indeed, as it has been observed in chapter 1, the effect of climate change on the Arctic are being experienced more and more every year, and this tendency has very little chance of being reversed. Indeed, as the Arctic rivers flow from temperate areas to the northern ocean, it brings along agricultural chemicals, pesticides, and industrial pollution (Sale and Potapov 2010, 179). Added to the already positive feedback mechanism of the albedo effect and of the thawing of the permafrost (releasing more greenhouse gases), the conditions of Arctic environment seem to only be declining at an increasing pace. Annex G is giving a good example of how the global temperature changed over the years. The years 1900-1909, 1950-1959, 1980-1989, and 2000-2009 have been chosen as examples, as they show progression of heat (anomaly temperature) from the beginning (1900) to 50 years later, then 40 years later, and finally around 10 years later. One can notice that progression of temperature rise is much stronger in the last two images, and is prominently centered on the northern polar region. Similarly, Annex H is offering images of the sea ice concentration in percentage over the years 1999 to 2012. The examples chosen for this work are the beginning of the 21st century (1999-2000), the symbolic International Polar Year (2007-

2008), and finally the most recent data (2012-2013). Observations are taken for the month of March (winter) when the extent of the ice has reached usually its maximum, and the month of September (autumn) when the sea ice is considerably thinner, when not disappeared altogether, and is considered having reached its minimum. This is naturally due to the fact that the summer months heat has accumulated and thawing is therefore more important. This layer of ice cap in the Arctic Ocean has been monitored since 1978 and satellite images have shown that the rate of sea ice decline steeped after the turn of the twenty-first century. In September 2002, the summer minimum ice extent was the lowest it had been since 1979, and it has, ever since, continued to break a series of record or near-record lows in the Arctic (NASA The Earth Observatory). In 2007, a new Arctic milestone has been reached when the Arctic sea ice extent set a record low in early August (a month before the end of the melt season). Moreover, the NWP opened that year, interestingly the International Polar Year (a time chosen to raise awareness about the Arctic thawing), and also the same year geopolitical interests for the Arctic became greater due to, among other factors, the infamous Russian expedition and its flag on the seabed. The 2007 record was beaten in summer 2012, with more than 700,000 square kilometers of sea ice below the 2007 minimum. Of course, there are cycles of natural variability such as the one called the *Arctic Oscillation*. However, important shifts in sea ice concentration cannot be explained by natural variability alone. Climate change is therefore the major factor: a combination of natural variability, positive feedback from the albedo effect, and greenhouse gas emissions, resulting in a rise in global temperatures (NASA The Earth Observatory).

If the trend continues, in short-, mid-, and long-term predictions in the 21st century, thinning of the sea ice and eventual complete seasonal disappearance could be observed. The United States Environmental Protection Agency reports that for every 2°F (around 1°C) of warming, some models project about 15% decrease in the extent of annually averaged sea ice and 25% decrease in September Arctic sea ice. The coastal sections of the Greenland ice sheets are expected to continue to melt or slide into the ocean, eventually adding significantly to global sea level rise. Glaciers are expected to continue to decrease in size, which will also contribute to sea level rise (United States Environmental Protection Agency). According to the National Snow and Ice Data Center, climate change's impacts can already be seen and chances are they will only intensify in the upcoming years. It reports that: "[i]n the first half of 2010, air temperatures in the

Arctic were 4°C (7°Fahrenheit) warmer than the 1968 to 1996 reference period, according to the NOAA [National Oceanic and Atmospheric Administration]" (National Snow and Ice Data Center). Additionally, the NSIDC says that frozen ground in the Arctic has started to thaw out. This could lead to further release of gas emissions in the air since a lot of gas is trapped in the ice of the Arctic. The NSIDC also reminds that climate change impacts in the Arctic are of a crucial importance for global climate, since the Arctic acts as a refrigerator for the rest of the world, giving off more heat to space than it is absorbing from outside, which helps cool the planet (National Snow and Ice Data Center). The intensification of sea ice melting is also worrisome due to the previously mentioned albedo effect and its positive feedback. However, some negative feedback effects are also possible, such as warm temperatures making the Arctic growing season longer, more plants able to survive and take up more carbon from the air. However, according to the NSIDC, most evidence suggests that the positive feedback effects outweigh the negative feedback effects (National Snow and Ice Data Center).

*6.1.2 The Arctic's future projected through timeframes*

In order to make projections about the Arctic's future, it is judicious to consider different timeframes, ideally short-term (about 5-10 years), mid-term (about 15-20 years), and long-term (30-50 years or even more). Based on projections drawn by the United States Environmental Protection Agency, Annex I is showing a series of maps taken from the NRC that are projections of how the climate is likely to change in the upcoming years, based on the current observations and based on the average temperature for the period between 1961-1990. The images follow a short-, mid-, and long-term projection timeframe that is slightly further ahead than ideal projections, but still relevant for predicting the Arctic's future (2011-2030, 2046-2065, and 2080-2099). The three different scenarios are also depicting three different patterns of emissions, based on the IPCC Special Report on Emissions Scenarios (United States Environmental Protection Agency). Once more in these projections, just like in the Annex G and the images from the NASA Earth Observatory, one can notice that the greatest changes in temperatures are present in the Arctic region. Following another long-term projection, Annex J offers images of the sea ice projections based on current data. By comparing the actual sea ice thickness and applying a simulation (considering climate change, warming of global temperatures, gas emissions, albedo effect, etc.), it is possible to create a projection of what the sea ice thickness might be like

towards the end of the 21st century. Of course, there is no absolute certainty in these projections, but the factors taken into consideration, combined with previous and current data, lead to believe that such situation is likely to happen. The Arctic Institute also made a map showing the different layers of sea ice extent and the projections that most models are making of the situation all the way until 2100 (see Annex K).

The Centre for Indigenous Environmental Resources, based in Canada, has created a guide for managing the risks of climate change for the Arctic and Northern Communities. In it, the authors are saying that the changes experienced in the north in the past few decades are expected to accelerate as greenhouse gases accumulate in the global atmosphere (Black, Bruce, and Egener 2010, Annex 1, p. 2). In a rather mid-term projection, the guide also adds that:

> "In general, the models project for 2050 a 3°C to as much as a 5°C temperature increase in Western areas and 3°C to 4°C in eastern regions for median GHG [greenhouse gas] emission and concentration projections. (…) Winter and autumn changes are projected to be greatest" (Black, Bruce, and Egener 2010, Annex 1, 2).

A long-term projection is also provided in the guide:

> "Over the next 50 years, the active layer in cold thick permafrost could increase from 0 to 50% depending on local circumstances. In Yukon and much of Southern NWT [Northwest Territories] where permafrost is warmer than -2°C on average, much of this permafrost will thaw or continuous permafrost will become discontinuous by 2050. This has important implications for landslides, buildings, pipelines and for surface and groundwater resources" (Black, Bruce, and Egener 2010, Annex 1, 3).

Some of the most important impacts of climate change in the future of the Arctic imply: coastal erosion, species composition of both terrestrial and aquatic ecosystems changing, thawing of permafrost augmented by clearing of vegetation and heat, problems of design and maintenance of buildings, roads, pipelines, etc; Arctic shipping and potential mineral and eased fossil fuel resources access, higher risks of flash flooding due to rapid snowmelt combined with intense rains during spring and summer, animals eating habits and migration patterns disrupted, and

finally, changes in marine species distribution requiring adaptive management strategies by coastal communities (Annex 1, 3-4). Some similar and further consequences were also predicted by the ACIA and are summarised as ten key points in the ACIA Status Report. They were listed as follow:

- Arctic climate is now warming rapidly and much larger changes are projected;
- Arctic warming and its consequences have worldwide implications;
- Arctic vegetation zones are very likely to shift, causing wide-ranging impacts;
- Animal species' diversity, ranges, and distribution will change;
- Many coastal communities and facilities face increasing exposure to storms;
- Reduced sea ice is very likely to increase marine transport and access to resources;
- Thawing ground will disrupt transportation, buildings, and other infrastructure;
- Indigenous communities are facing major economic and cultural impacts;
- Elevated ultraviolet radiation levels will affect people, plants, and animals;
- Multiple influences interact to cause impacts to people and ecosystems.
  (ACIA Status Report 2005, 5-7).

Predictions are often not exact and the National Oceanic and Atmospheric Administration (NOAA) has also some noteworthy material on the Arctic future. Interestingly, it shows that the Arctic sea ice loss is occurring 30 years earlier than anticipated. The extent of sea ice cover for summer 2009 was more than that in 2007 and 2008 (which were both very low), but it is still 25% below the average for 1979-2000. Using the observed 2007-2008 summer ice extents as a starting point, computer models predict that the Arctic could be nearly sea ice free in summertime within 30 years (mid- to long-term projection) (National Oceanic and Atmospheric Administration). The NOAA also adds that:

> "[c]omputer simulations indicate that Arctic sea ice retreat will not continue at a constant rate into the future. Instead they show several abrupt decreases in summer Arctic sea ice cover in the future. The projections for a likely ice retreat suggests that the Arctic could transition from perennial year-round ice to seasonal winter ice, with numerous implications for the climate system" (National Oceanic and Atmospheric Administration).

It also suggests: "[i]n the year when the models predict a nearly ice-free Arctic, about 30 years from now, only a small area north of the Canadian Archipelago and Greenland (…) retains some sea ice approaching a thickness of 6.6 feet or 2 meters" (National Oceanic and Atmospheric Administration).

Model predictions in a rather short-term timeframe are harder to find, possibly due to their likeliness to resemble the current situation. At the light of previously stated data, one could estimate that, in a 5-year span, the global temperature is likely to remain almost the same, since changes can only be observed on a much longer period of time, but the state of sea ice cover might be already different. Given the differences between year 1999-2000 and 2007-2008, it is possible to see that a period of about 5 years is already enough to make a visible discrepancy in ice cover extent. What 2018 holds in for the Arctic is still unknown, but if the trends continues, there are high chances that the sea ice cover (especially in September) will be considerably diminished, and that ships will attempt, progressively, to circulate in the Arctic waters.

### 6.2 Other authors' opinions and predictions

The future of the Arctic is certainly one of the main topics discussed by scholars and researchers interested in the area. Whether it is from a scientific, legal, or political point of view, the opinions are varied and authors do not seem to reach a consensus on their predictions and speculations. For the sake of choosing only a few examples, the analysis of Valko regarding the work of Brigham will be first observed. Then, a brief overview of the Arctic 2030 scenarios of Huebert, Morozov, and Backus will also be examined.

Valko, using the scenarios developed by Lawson W. Brigham, offers a complete analysis and a wide range of possibilities for the Arctic future. Brigham's predictions are up to year 2040, and according to Valko, this is a proper timeframe (mid-term) since "all models are fairly consistent for the period up to 2040, but beyond that the projected temperatures vary enormously…" (Valko 2011, 70). Valko examines each of the four scenarios suggested by Brigham ("Globalized Frontier", "Adaptive Frontier", "Fortress Frontier", "Equitable Frontier") and schematises them in a table with the distinct features of each scenario (see Annex L). Put rather simply, the first scenario, "Globalized Frontier" is driven by a realist vision of constant

conflict (71). The second scenario, "Adaptive Frontier", presents the region as an area of a widespread international cooperation (72). Valko indicates then that: "[t]he third scenario, "Fortress Frontier", assumes constant tensions in international relations, in the spirit of classical political realism" (72). Finally, the fourth scenario presented by Brigham, "Equitable Frontier", assumes that the region will become an area of international cooperation, in the spirit of classical liberalism (73). Valko acknowledges the attempt Brigham has made at simply offering conceivable scenarios, despite the lack of high probability of some of them. Brigham justifies his scenarios by saying: "These four scenarios of the Arctic are designed to be provocative but plausible. Hopefully, they will stimulate strategic thought and rational discussion about how the Arctic region should evolve throughout the twenty-first century" (Brigham 2007, 34; Valko 2011, 74). Valko's insight on Brigham's projections is bringing a more realistic tone to them and is taking into consideration a wider range or factors that she labels as 'forces strengthening the Arctic system and forces weakening the Arctic system' (75-76).

Valko presents possibly one of the most realistic vision of the Arctic's future and one that matches most of the findings in this work. She claims that: "[i]n terms of the theory of international relations, the spectrum of Brigham's scenarios is wide – starting with defensive realism ("Fortress Frontier"), ending with liberal universalism ("Globalized Frontier"), and positioning "Adaptive Frontier" and "Equitable Frontier" somewhere between the two" (74-75). Valko also acknowledges that given the organisations most of the Arctic countries are members to, it is highly unlikely that they would risk their long-standing alliance relationships like the "Fortress Frontier" suggests. She concedes that Russia, although not part of most of the integration networks, is not planning to enter into direct confrontation with the rest of the Arctic states (76). She adds that: "…since all Arctic states are in favor of cooperation instead of conflict, the existing cooperation frameworks will clearly strengthen by 2040" (76). Finally, she also points out that the "Fortress Frontier" scenario comes up with the idea that the Arctic Council would be concerned with security and economy issues, despite the fact that it clearly states nowadays that it has no mandate in terms of security and military operations (76). However, not only the "Fortress Frontier" scenario is perhaps too far-fetched. The "Equitable Frontier" scenario is slightly too optimistic. While not predicting any conflict among the Arctic states, the "Equitable Frontier" scenario seems to forget that the legal status of the NSR and the NWP, as

long as the territorial claims that are already seen in the Arctic affairs are likely to continue to exist in the future (76-77). Moreover, the United States has not ratified the UNCLOS and does not seem to plan ratification in a very near future. Similarly to what Angelle C. Smith (2010) says about the lack of a proper framework beyond UNCLOS (see chapter 5), the non-ratification of the UNCLOS by the United States makes territorial disputes and sovereignty claims harder to deal with. Valko says about that lack of a proper framework encompassing all of the Arctic countries: "…the Arctic system will be less resistant to an internal shock, due to the lack of a common mechanism for conflict resolution" (Valko 2011, 77). Valko suggests that a 'hybrid' scenario between the scenarios proposed by Brigham would be the most accurate. Her hybrid scenario would be based on the following assumptions: competition (conflict) is the main engine of international relations; regional integration into the global economy is controlled (limited) and gradual; economic activities are not yet booming (due to economic, rather than political, reasons); the fishing industry is open to the Arctic states; air and marine traffic is regulated internationally; tourism flourishes; the profile of indigenous peoples' organisations is high; the impacts of climate change over the physical and human environments are dramatic; the Arctic states assert their sovereignty rights over resources beyond 200 nautical miles from their shores; the Arctic Council serves as a main dispute resolution mechanism; and finally, outside participation is restricted to the Arctic states (78-79). This scenario proposed by Valko for 2040 is taking into consideration geopolitical factors and geostrategy, and the physical, military, economic, demographic, and information spaces of the Arctic region.

Other authors are presenting projections based on their previous researches and the articles that they have published. Sometimes, they also base projections on a common topic presented from different perspectives. That is the case for Rob Huebert, Yury Morozov, and George Backus, who have all been offering their perspectives on the military, environmental, and economic outlook for the Arctic in 2030. Morozov writes from a Russian perspective, Huebert from a Canadian perspective, and finally, Backus offers an American point of view. This assignment, although not offering clear scenarios like Brigham's four frontiers or Valko's hybrid scenario, gives a general sense of how scholars from three different states perceive the mid-term future of the Arctic (around 15 years ahead). It illustrates what they perceive as challenges, threats, strengths, and changes in their respective countries, and in the other circumpolar and non-

circumpolar countries. Each author has the interests of its state in mind and gives importance to cooperation as a key feature of the future of the Arctic. Common themes are being assessed by the authors, such as the impacts of climate change, not only locally, but also globally, the new security challenges (especially those coming from non-Arctic states), and the importance of new economic opportunities (see Morozov 2012; Huebert 2012; Backus 2012). Morozov insists on the importance of the NSR for Russia's future and on the intention of Russia to use the NSR as a tool for cooperation, but also for resources exploitation. He also points out the fact that experts disagree on predictions about the state of the ice in the Arctic. He says:

> "Russian scientists from the Institute of the Arctic and Antarctica disagree with those forecast [that the Arctic Ocean could become ice free as early as 2019]. They believe the Russian sector of the Arctic will be completely open to navigation during the summer season (April to September) by the early 2030s, but the Canadian and US sectors will not be ice free until the early 2070s" (Morozov 2012, 23).

Morozov also acknowledges the advantages that this ice free situation will give to Russia, making it easier to engage in economic activities in northern latitudes (23) and providing Russia with certain control over the NSR due to the need to traverse the most difficult section of the NSR in convoy with Russian nuclear ice breakers (23). The state of infrastructures based on permafrost is also raising concern in Morozov's analysis (24). He adds that Russia is keeping the door wide open for cooperation and is promoting it with great interest, but it also keeps military response to rising tensions and potential conflicts on the back burner (25-26). Finally, Russia, which already has the world's biggest fleet of ice breakers, is still planning to expand it (25). Rob Huebert, one of Canada's most famous Arctic expert, has also uncovered the Canadian intention to augment the national ice breakers fleet, just like Morozov (2012) said Russia would do (Huebert 2012, 19). Huebert insists that Canada is facing new security challenges, mainly rising from non-Arctic actors (20). This is also a point that has been made by both Morozov and Backus. One of the issues that worries Huebert the most is the dramatic transformation of Canadian northern societies and the health, economic, and educational security of these societies (19). Just like Morozov, Huebert also expresses Canada's willingness to cooperate with its fellow Arctic states. This seems especially the case with the mapping effort to determine the outcomes of overlapping

claims (20). The American perspective offered by Backus offers first an assessment of the predictions made by several different scientists:

> "The latest report from the Naval Studies Board indicates a possible ice-free date of 2030 (Naval Studies Board, 2011). Computer modeling for the last assessment report of the Intergovernmental Panel on Climate Change (Meehl et al., 2007) indicated that an ice-free Arctic could occur by 2040 (Holland et al., 2006), while newest results, which the panel will present in its 2013 report, suggest a later time of 2070 (Vavrus et al., 2011)." (Backus 2012, 9)

Backus shows that the biggest concerns about the Arctic future for the US is focused mainly on the security issues. He points out that the security issues in the Arctic might not be US national defence urgency, but rather the need for efficient SAR teams, which is vital (10). Backus also believes that economic and security concerns will have priority over climatic conditions. In the same way as Morozov and Huebert, he also believes that non-Arctic countries are playing a great role in these economic and security concerns, adding that: "[m]any Asian countries will experience a competitive disadvantage if they do not have as much access to the Arctic Ocean as they currently have to Pacific, Atlantic, and Indian Ocean trade routes" (10). This could lead to tensions and eventual conflicts. Moreover, in a rather American perspective, Backus insists that there would be no reason to believe the Arctic is immune to the global war on terrorism (12). It fuels the need for higher security in the Arctic and, as Backus points out, there are no modern precedents to an ice free Arctic (11). Backus also thinks that abrupt changes in the nations' expectations of climate change could trigger conflict (13). However, Backus still believes in cooperation and that "[t]he effort of the Arctic Council to codify cooperation among the Arctic nations minimizes the chances of armed hostilities among them" (11).

### 6.3 Geopolitical factors

Certain situations are likely to change and/or increase in importance in the upcoming years and decades. For instance, the increasing need for energy supplies will be progressively more important as several emerging economies' demand will grow following their economic development and greater industries (mainly the BRICS[4] countries, the Asian countries, and the other developing nations). Consequently, the global need for energy might put pressure on the

[4] Brazil, Russia, India, China, South Africa

Arctic states and force them to allow oil companies, mining companies, and other energy sector actors to have a greater access to their territory and resources, despite possible disadvantages for the environment. Moreover, the loss of sea ice cover extent will make navigation much easier, especially in the NSR and the NWP. As mentioned in chapter 2 and 3, the control over navigable ways is a very important asset in terms of geopolitical power, and the status of both passages is likely to be still widely debated. In terms of territorial claim, the near-future could already bring resolution to most of the continental shelf conflicts. Indeed, as the circumpolar states having ratified the UNCLOS have ten years to prepare their claims, Russia, Canada, and Denmark will have already passed their deadlines. The environment is also likely to play an important role, especially if the population's awareness to the deterioration of the Arctic's nature, bio-diversity, and living conditions is increasing. Public opinion might have a role to play in the policies of the A-5, although it is often an element of geopolitics that is not taken much into consideration.

Indeed, the environmental geopolitical factors of the Arctic – transboundary and originating in the environment – are playing a key role in the future projections since most of the changes that will be observed and most of the challenges that are likely to rise will be consequential of climate change. However, no model, author, or research can predict with absolute accuracy what would be the states' reactions, the public opinion's support or disapproval of states' policies, the roles of the economy and industries, the ascending or declining pressures on the A-5 countries from outsiders, or again the willingness to cooperate and overcome tensions and conflicts between the circumpolar countries. Scenarios and models certainly help drawing a picture of what is ahead, but in the end, only time will tell.

# Chapter 7 – Recommendations and Conclusion

The analysis conducted throughout this thesis highlighted the main challenges and geopolitical transformations brought by climate change and offered several examples of what the states will have to deal with in the future. As mentioned in the introduction, climate change is an ongoing process, but speculations and predictions about the eventual outcomes can be an asset as to know how to shape foreign policy, international trade, cooperation through treaties, all while respecting the sovereignty of the states involved. Indeed, a deeper knowledge of the impacts of climate change and of the environmental geopolitical consequences of it helps preparing to face future challenges and to set some goals assuring peaceful relations and sustainability. Analyses in political science and in international relations, as well as in geopolitical studies, should not only serve an analytical purpose, but should also attempt to be prescriptive. For instance, climate change is not a right-left issue and a cross party framework is necessary in order to prevent and tackle the problems that are coming along with it (Brown 2010, 300). "Progress on climate change can be achieved only through "political and economic convergence" (p.8) meaning that climate change must overlap with other political goals, and that economic and technological innovations developed to address climate change must be competitive" (Brown 2010, 300). This serves as the basis on how to deal with climate change and the factors that are being studied, along with the actions and reactions from the states. It is also a way to create a basis for further recommendations.

The circumpolar countries usually already have an official foreign policy or strategy in place, announcing their main goals in terms of Arctic affairs and the way they intend to achieve them. Whether it is called *The Northern Strategy: our North, our heritage, our future* (Canada), *The High North: visions and strategies* (Norway), *The Strategy for the Arctic 2011-2020* (Denmark), *The Arctic Region Policy* (United States), or again *The Fundamentals of State Policy of the Russian Federation in the Arctic in the period up to 2020 and beyond* (Russia), every state has some kind of official statement on what are the stances and the aims on different Arctic issues from a governmental and national point of view. Each of these official documents usually portrays a list of the countries priorities such as sovereignty, economic and social development, the environment, and international relations, to name only a few. Most of these documents have a

great understanding of the situation in the Arctic, of changes brought by the climate and of the national interests at stake. Therefore, a policy recommendations list for the Arctic states is not necessarily very long, as most of the states already have in mind their interests and goals and the way they wish to achieve them. The first policy recommendation would be for the United States to ratify the United Nations Convention on the Law of the Sea, so that all Arctic states would share a common framework and would be able to discuss and solve their issues following the same rules of international law. The second policy recommendation would be, in the case of a non-ratification of the UNCLOS by the United States, to adopt a new Arctic framework, as the one suggested by Angelle C. Smith (see chapter 5; Smith 2010). The third policy recommendation would be for the circumpolar states to give a bigger voice to the indigenous peoples of their respective states, within their national governments, when it comes to Arctic issues. Indeed, as it has been exposed in chapter five, indigenous peoples might group themselves ethnically, in order to get organised and claim certain rights or policies. If the Arctic countries include them more into their decision-making process and in the actual government, the general feeling that the decisions of the north are being taken in the south might dissipate and Arctic states would gain legitimacy in their Arctic demands by having the very inhabitants of these lands supporting their claims and pressures to negotiate. It is not a bad thing that indigenous peoples get organised independently from the state, but they should not feel like this is necessary in order to have a say in the Arctic affairs. A good example of how this is already being achieved is the territory of Nunavut in Canada, and the participation of almost exclusively indigenous people to its decisions. Following Valko's hybrid scenario from the four scenarios suggested by Brigham, some more policy recommendations would be to regulate air and marine traffic internationally (following the UNCLOS), to stimulate the tourism industry so that it flourishes, to integrate indigenous peoples and to make sure that the profile of their organisations is high, and finally to resort to the Arctic Council to solve issues that are intra-Arctic while limiting the participation of outsiders (Valko 2011, 78-79). Finally, another recommendation would be for Artic states with territorial disputes regarding continental shelf to make public their mapping and oceanographic data, in order to gain greater legitimacy to their claims, and to increase transparency in the eyes of the public. These maps are perhaps already available, but a greater and easier access to them would be ideal. Of course, policy recommendations are only ideals of what the circumpolar state should be doing, and they remain within the realm of speculations. For some circumpolar

countries, it is harder to implement certain policies because the Arctic is not a priority for them (e.g. the United States), while for some other countries, their sovereignty is partially shared with a higher instance, which means that the decisions taken by the states have to be coherent with the commitments this state already has with this higher instance (e.g. Denmark and the EU). In most countries, provinces, territories, states, or specific areas might have more at stake than the state itself, and therefore more importance would have to be given to these specific regions (e.g. Canada and the territories of Nunavut, Yukon, and the Northwest Territories; Norway and the Svalbard Region; Russia and its long Arctic coastline; Denmark and Greenland; the United States and Alaska).

The thesis also aimed at reviewing what are the different spheres of geopolitics affected by climate change and in what ways they are affected. The thesis also brought together perspectives from different experts and scholars from the A-5 countries, from non-A-5 countries, and from NGOs. It took into consideration as well governmental documents and official statements from governments. A close look to the media interest in the region was also given, using examples and quotes from media sources (online or printed, newspaper, magazines, journals, etc.). By analysing first the impacts of climate change on the environment and bio-diversity, it was possible to see that these impacts are first and foremost physical. They morph the actual landscape and affect all of the living beings on it (animal or vegetal). This particular aspect had to be examined first because it is the basis of everything else, of all other consequences. As Valko shows in her work, the physical setting of the Arctic is affecting all the other spheres of interactions between the A-5 countries, its inhabitants, and its international relations (see Valko 2011). In the second chapter, a closer look at the economic aspect of the geopolitics of the Arctic and their ever-changing state due to climate change was given. Economic impacts of climate change on the Arctic are important to assess because they act as a motivation to most of the claims that are to be found in chapter three, the chapter on territoriality and sovereignty. Being closely interlinked, chapter two, three, and four presented a multifaceted range of reasons why circumpolar countries might disagree (territorial claims, loss of sovereignty, economic advantages and opportunities, security threat, misunderstanding and mistrust in terms of security issues, etc.), but it also showed a whole range of areas where the A-5 states are willing to keep their relations peaceful and even to cooperate with one another to solve their disagreements.

Chapter five presented the different frameworks available to the A-5 countries in order to assure and promote these peaceful relations and this cooperation. The structure offered by the international law, more precisely by the United Nations Convention on the Law of the Sea, allows the circumpolar states (excluding the United States for the UNCLOS matters) to have a common basis of understanding of what are the rules in the Arctic Ocean and how rights, territories, responsibilities, and duties are divided and how a state knows the scope of what is or is not acceptable in terms of behaviour in front of its fellow Arctic states and the rest of the international community. Moreover, that chapter offered an outlook at the different organisations and associations of which circumpolar states are members. Other organisations, non-governmental or non-Arctic were also examined and their influence on the Arctic affairs was assessed in order to understand that the pressures on the Arctic states are not always internal, and they are not always pulling the strings. Finally, chapter six moved forward in time, offering a forecast of the situation in the Arctic in a short-, mid-, and long-term time period. It assessed the projections for global temperatures and sea ice cover extent, both important consequences of climate change. It also studied different scenarios suggested by several scholars, attempting to give some estimation as to what the future of the Arctic and of the Arctic states might look like. The thesis also raised a few sub-questions to the main question, what are the impacts of climate change on environmental geopolitics of the Arctic. These sub-questions were the following:

- How does climate change affect the diplomatic relations regarding the environment and the integrity of nature in the region and how can natural resources be accessed while protected and preserved?
- Is conflict among circumpolar countries a tangible threat? Could it be sparked by the divergence over the ownership of natural resources and/or navigation routes?
- How are sovereignty and territoriality affected by environmental geopolitics of the Arctic?
- Is collaboration among circumpolar countries possible when it comes to natural resources?

Each of them have been answered throughout this work, if not directly, with the help of the different examples given, sources explored, and arguments built throughout the chapters. Cooperation has been stressed as the most likely outcome in most of the chapters and as an answer to most of these sub-questions due mainly to the highly politicised and globalised nature of the tensions and potential conflicts in the Arctic. The countries with most at stake are often countries that are intending to be big international players and therefore they cannot go “rogue”

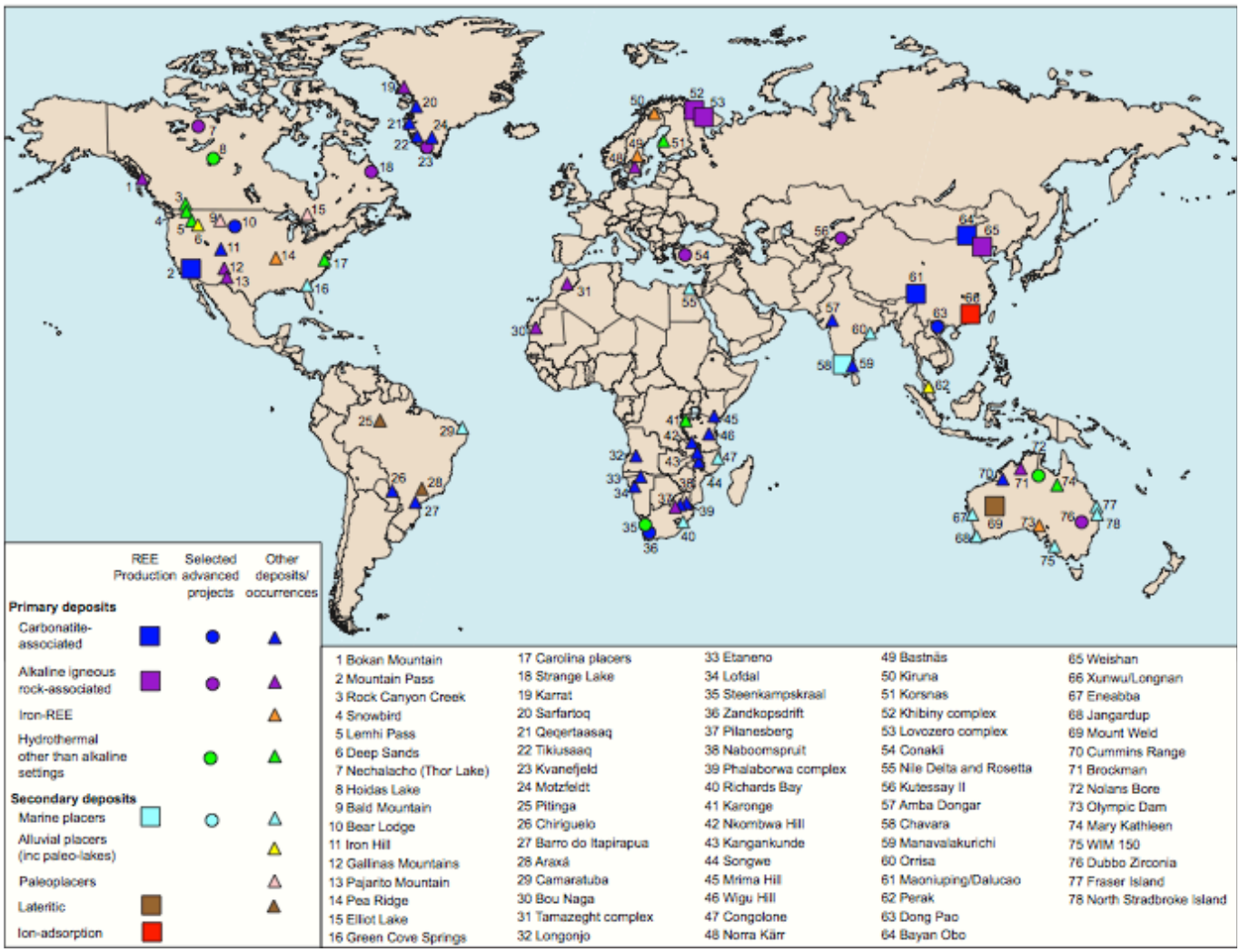
and turn their back on diplomacy and international law. All of the Arctic states have shown, through the different cases studied, their willingness to keep Arctic relations peaceful and to base most of their decision on mutual agreements. There is, indeed, some mistrust among the circumpolar countries, but as time goes by, the old Cold War stereotypes seem to slowly fade away. The countries that are the most likely to have rising tensions are possibly Canada and Russia. Canada and Russia have a history of relatively good international relations with one another, including cooperation, partnership on defence, economics, or politics, and several common projects and frameworks (for example; the UN, G8, APEC, NATO-Russia Council, the Arctic Council, WTO etc.). Being the two largest countries in the world – in terms of superficies – they have only been rarely disputing directly over similar interests, and seldom in a way that could have escalated to an actual conflict. Moreover, one has to keep in mind that despite Article 5 of NATO, Canada is no match to Russia in terms of military power. Cooperation, or at least peaceful diplomatic problem-solving, is the therefore the most likely outcome for most of the issues in the Arctic region.

The study of challenges brought by climate change is a very contemporary topic and it is going to be still a subject for studies and for research in upcoming years. Lately, at the end of April 2013, the Scripps Institution of Oceanography, in collaboration with the Mauna Loa Observatory (Hawaii) affiliated with the NOAA, have found that the concentration of CO2 could surpass the 400ppm (particles per million) in May, which would be a new set record in human history (La Presse with Agence France-Presse 2013). This goes to show that the effects of climate change might increase more importantly and more rapidly than the current estimates are suggesting and that the Arctic states might be exposed to bigger pressures than the ones estimated in this thesis. It goes also to show that a study conducted five or ten years from now might also have different findings and conclusions, based on the greater impact of climate change on the region.

Annex A – Undiscovered Oil/Gas Deposits


Source: The Economist, 2012.

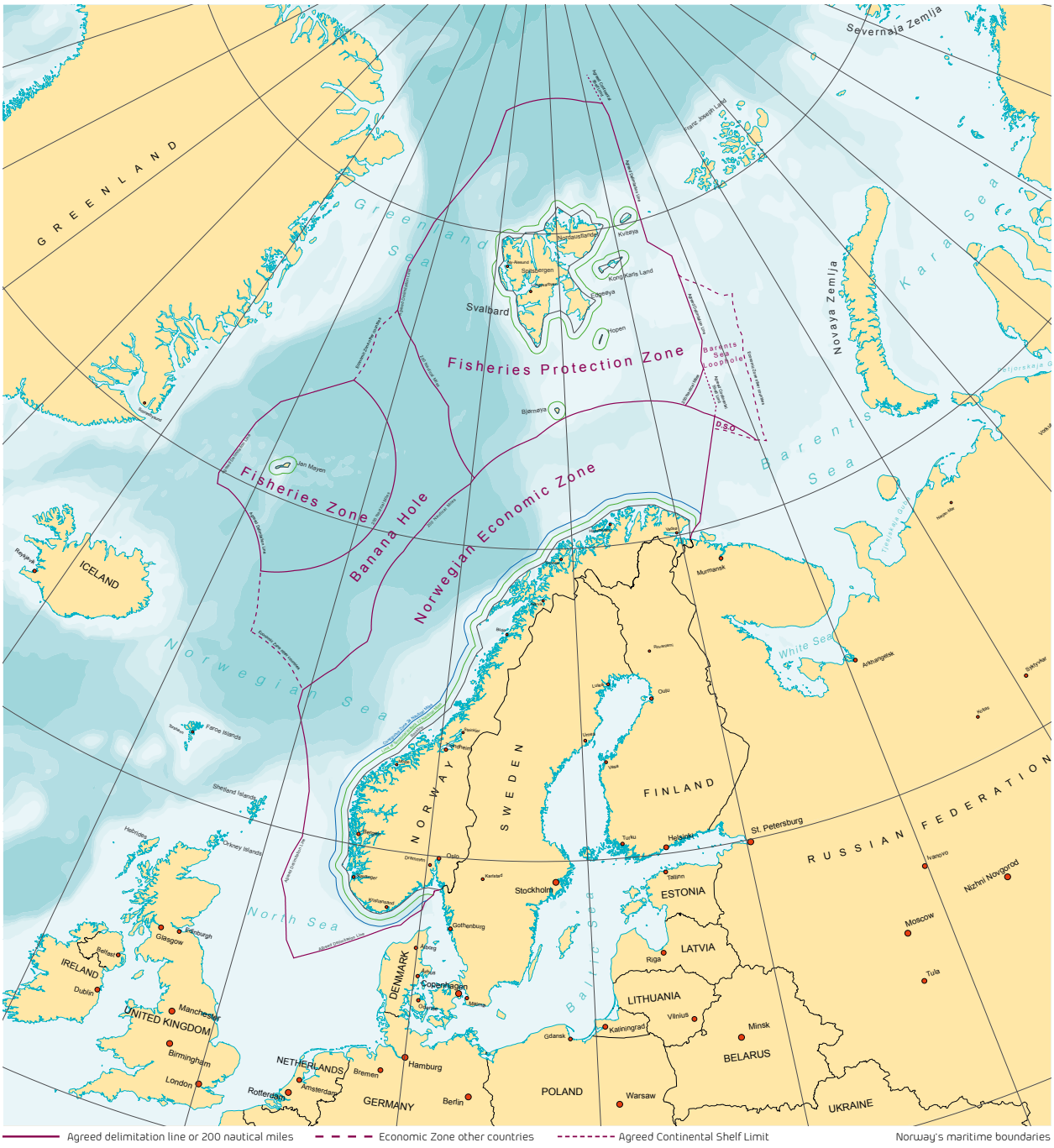
# Annex B – Rare Earths Elements Deposits




Source: British Geological Survey

The rare earths elements are particularly present in the southwest Greenland, as shown by numbers 19, 20, 21, 22, 23, and 24. Canada has also a few rare earths deposits as shown by numbers 1, 3, 7, 8, 15, and 18. All of the deposits in Greenland and Canada are considered "primary deposits". None of them is a REE production yet, and they all remain as "Selected advanced projects of Other deposits/occurrences".

# Annex C – Svalbard Archipelago and Norway's EEZ (Fisheries zones)




Source : Norway Ministry of Foreign Affairs (MFA) 2011

Annex D – Maritime Jurisdiction and Boundaries in the Arctic Region


Source: International Boundaries Research Unit, Durham University


Source: International Boundaries Research Unit, Durham University

Agreed maritime boundaries

Canada-Denmark (Greenland): continental shelf boundary agreed 17 December 1973.

Denmark (Greenland)-Iceland: continental shelf and fisheries boundary agreed 11 November 1997.

Denmark (Greenland)-Iceland-Norway (Jan Mayen): continental shelf and fisheries boundary agreed 18 December 1995 following adjudication by the International Court of Justice.

Denmark (Greenland)-Iceland-Norway (Jan Mayen): tripoint agreed 11 November 1997.

Denmark (Greenland)-Norway (Svalbard): continental shelf and fisheries boundary agreed 20 February 2006.

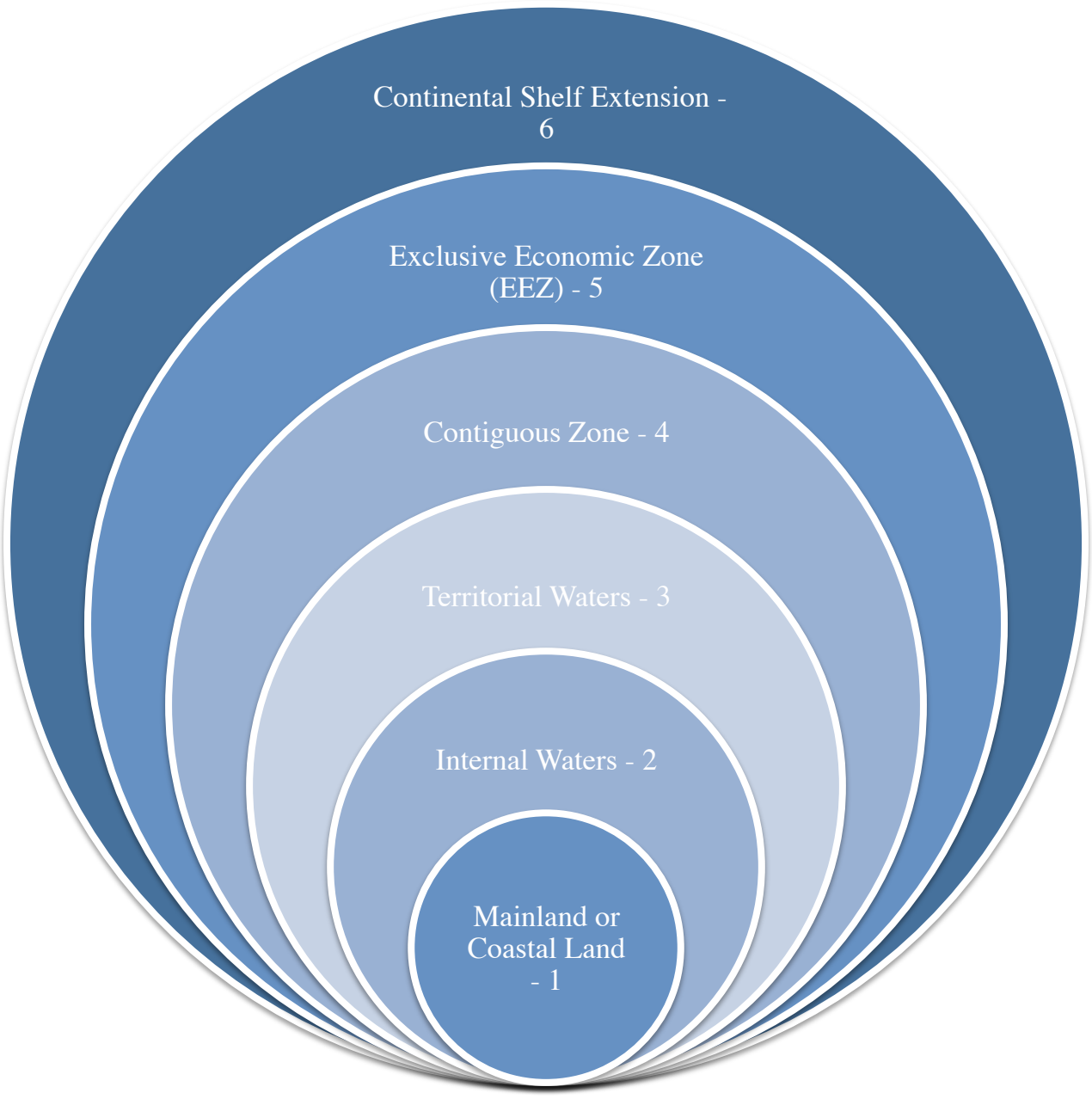
Iceland-Norway (Jan Mayen): fisheries boundary following the 200nm limit of Iceland's EEZ agreed 28 May 1980; continental shelf boundary and joint zone agreed 22 October 1981.

Norway-Russia: maritime boundary in Varangerfjord partially delimited 15 February 1957 and extended 11 July 2007. Agreement on the maritime boundary in the Barents Sea and Arctic Ocean signed on 15 September 2010 and entered into force on 7 July 2011.

Russia-USA: single maritime boundary agreed on 1 June 1990.

(International Boundaries Research Unit, Durham University 2013)

Annex E – Gradational Sovereignty and the UNCLOS (1)



Annex E – Gradational Sovereignty and the UNCLOS (2)

## Legend:

1- *Mainland or Coastal Land*

2- *Internal Waters* (UNCLOS 1982, Article 8)
   a. 12 nautical miles
   b. Waters to be found on the landward side of the baselines and are assimilated with the territory of the state.
   c. No right of innocent passage – except where the straight baselines enclose as internal waters what had been territorial waters.
   d. Coastal state may exercise jurisdiction over foreign ships within its territorial waters to enforce its laws, although the judicial authorities of the flag state may also act where crimes have occurred on board ship.
   e. Merchant ship in a foreign port or in foreign internal waters is automatically subject to the local jurisdiction (unless there is an express agreement to the contrary).
   f. If the foreign vessel is a warship, the authorisation of the captain or of the flag state is necessary before the coastal state may exercise its jurisdiction over the ship and its crew because the warship acts as a direct arm of the sovereign of the flag state.
   g. In internal waters, sovereignty is strong and unquestioned.

3- *Territorial Waters* (UNCLOS 1982, Part II)
   a. Up to 12 nautical miles (Article 3)
   b. Determined from the low-water mark around the coasts of the state. (Article 5).
   c. The territorial sea appertains to the territorial sovereignty of the coastal state and thus belongs to it automatically.
   d. It cannot be disputed that the coastal state enjoys sovereign rights over its maritime belt and extensive jurisdictional control, having regard to the relevant rules of international law.
   e. Right of innocent passage for foreign vessels. (Article 17)
   f. Coastal state's sovereignty extends over its territorial sea and to the airspace and seabed and subsoil. (Articles 1 and 2 of the Convention on Territorial Sea 1958)
   g. A cession of land by the coastal state automatically includes any band of territorial waters.
   h. Coastal state has the right to exclude foreign nationals and vessels from fishing within territorial sea and from coastal trading, reserving these activities for its own citizens.
   i. Coastal state also has the right to adopt laws and regulations concerning innocent passage in certain circumstances (UNCLOS 1982, Article 21 (1)).
   j. Coastal state may only exercise its criminal jurisdiction on a foreign ship as regards the arrest of any person or the investigation of any matter connected with a crime committed on board ship in defined situations (UNCLOS 1982, Article 27 (1), reaffirming 1958 Convention on the Territorial Sea, Article 19(1)). Authorities

of the coastal state cannot act where the crime was committed before the ship entered the territorial sea, providing the ship is not entering or has not entered internal waters.

k. Coastal state should not stop or divert a foreign ship passing through its territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board ship, nor levy execution against or arrest the ship, unless obligations are involved which were assumed by the ship itself in the course of, or for the purpose of, its voyage through waters of the coastal state, or unless the ship is passing through the territorial sea on its way from internal waters (UNCLOS 1982, Article 28).

l. Warships and government ships operated for non-commercial purposes are immune from the jurisdiction of the coastal state.

m. Sovereignty is quite strong and generally unquestioned.[5]

4- *Contiguous Zone* (UNCLOS 1982, Section 4)

a. Coastal state may claim a contiguous zone up to 24 nautical miles from the baselines (UNCLOS 1982, article 33).

b. Diminution of the principle of the freedom of the high seas as the jurisdiction of the coastal state has been extended into areas of the high seas contiguous to the territorial sea, albeit for defined purposes only (e.g. to prevent infringement of customs, immigration or sanitary laws of the coastal state, or to conserve fishing stocks in a particular area)

c. It is a compromise between the interests of the coastal state and the interests of other maritime nations seeking to maintain the status of the high seas.

d. Such contiguous zones are clearly differentiated from claims to full sovereignty as parts of the territorial sea.

e. Contiguous zones have to be claimed. They are not automatically attached to the land territory of the coastal state.

f. Sovereignty is weaker and restrained to certain conditions. It is not automatically granted, it is important for the state to place a claim for the recognition of contiguous zone.

5- *Exclusive Economic Zone (EEZ)* (UNCLOS 1982, Part V)

a. Article 55 provides that the zone starts from the outer limit of the territorial sea, but by article 57 shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

b. Area beyond and adjacent to the territorial sea, subject to the specific legal regime established under the UNCLOS (UNCLOS 1982, Article 55).

c. Coastal state has sovereignty rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of

[5] An exception to the strength of the territorial waters' sovereignty is the creation of an international strait (e.g. the contested status of the NWP). International Straits were established by the 1982 Convention and used of international navigation. A new right of transit passage is posited with respect to straits 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. It involves the exercise of the freedom of navigation an overflight solely for the purpose of continuous and expeditious transit of the strait and does not preclude passage through the strait to enter or leave a state bordering that strait. The regime of innocent passage applies with regard to straits used for international navigation excluded from the transit passage provisions by article 38(1) and to international straits between a part of the high seas or economic zone and the territorial sea of a foreign state. (UNCLOS 1982, Article 45) Transit passage cannot be suspended for security or indeed any other reasons. (Shaw 2008, 577)

the waters superjacent to the seabed and of the seabed and its subsoil and with regards to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds (UNCLOS 1982, article 56(1)a).

d. Coastal state also has jurisdiction with regard to (i) the architecture and use of artificial islands, installations and structures; (ii) marine scientific research; (iii) the protection and preservation of the marine environment (UNCLOS 1982, Article 56 (1)b).
e. When the relevant waters between neighbouring states are less than 400 miles, delimitation becomes necessary. The resolution is to be on the basis of equity, in the light of all the relevant circumstances.
f. Islands generate economic zones, unless they cannot sustain human habitation.
g. High seas freedom of navigation, overflight and laying of submarine cables and pipelines (UNCLOS 1982, Article 58).
h. It would appear that given the number and distribution of states claiming economic zones, that the existence of the exclusive economic zone as a rule of customary law is firmly established.
i. Sovereignty is weaker and restrained to certain conditions. It can also be questioned and disputed, a principle of equity generally serves as a resolution.

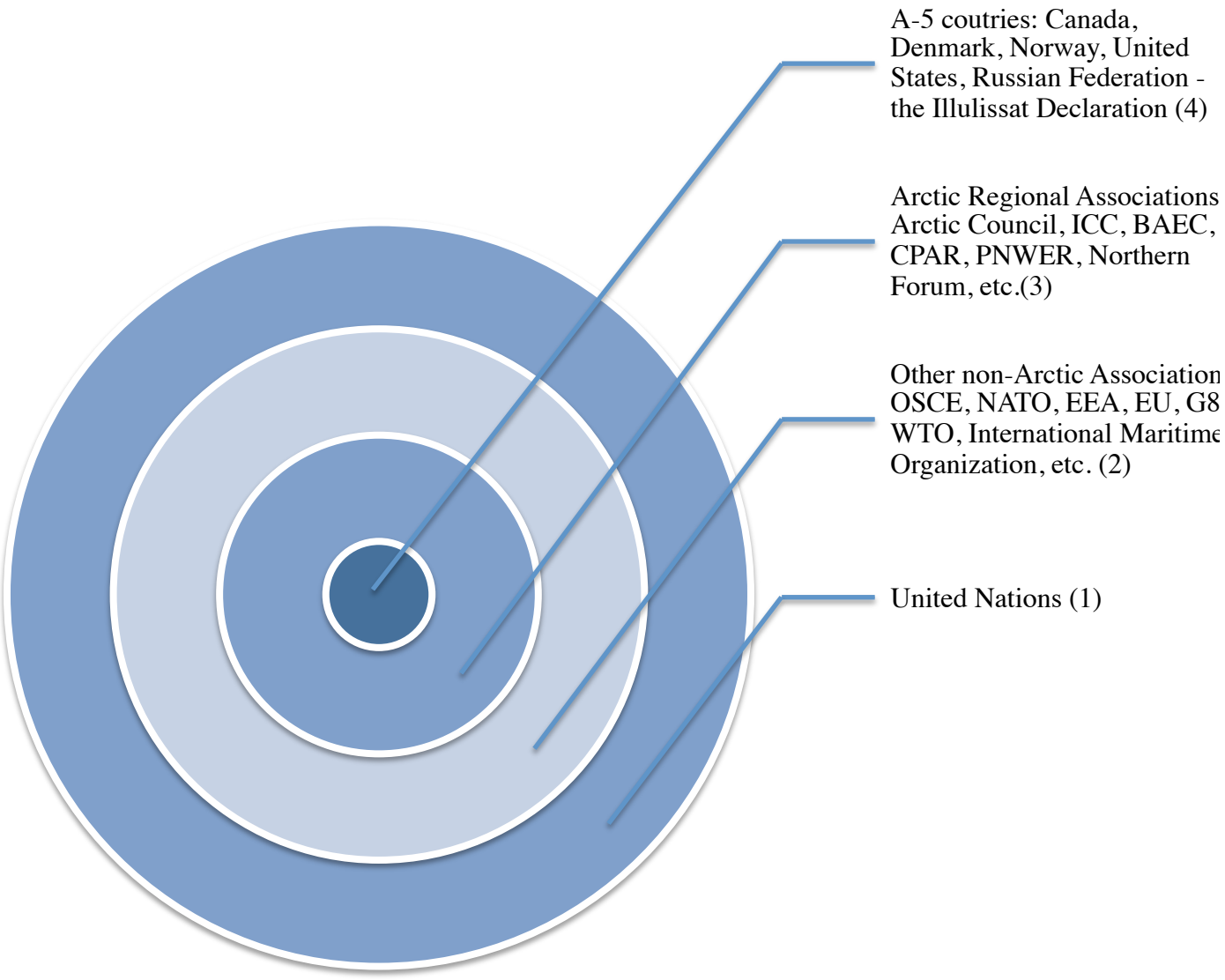
6- *Extension of Continental Shelf* (UNCLOS 1982, Part VI)

a. Where the continental margin actually extends beyond 200 nautical miles, geographical factors are to be taken into account in establishing the limit, which in any event shall not exceed 350 nautical miles from baselines or 100 nautical miles from the 2,500-metre isobaths. (200 nautical miles EEZ + 150 nautical miles)
b. Geological expression referring to the ledges that project from the continental landmass into the seas and which are covered with a relatively shallow layer of water (some 150-200 metres) and which eventually fall away into the ocean depths (2500 metres deep).
c. Rich in oil and gas resources and quite often host to extensive fishing grounds.
d. Article 4 of Annex II to the 1982 UNCLOS provides that a coastal state intending to establish the outer limits to its continental shelf beyond 200 nautical miles is obliged to submit particulars of such limits to the Commission on the Limits of the Continental Shelf along with supporting scientific and technical data as possible but in any case within ten years of the ratification of UNCLOS by that state. The limits of the shelf established by a coastal state on the basis of these recommendations are final and binding.
e. First submission to the Commission was made by circumpolar state of Russia in 2001.
f. Coastal state may exercise 'sovereign rights' over the continental shelf for the purposes of exploring it and exploiting its natural resources (UNCLOS 1982 Article 77). Such rights are exclusive in that no other state may undertake such activities without the express consent of the coastal state.
g. There is no territorial title since the Convention (1982) does not talk in terms of 'sovereignty'. 'Sovereign rights' do not depend upon occupation or express proclamation.

h. The Convention (1982) expressly states that the rights of the coastal state do not affect the status of the superjacent waters as high seas, or that of the airspace above the waters (UNCLOS 1982, Article 78).
i. UNCLOS does not mention 'sovereignty' as a territorial title when it comes to continental shelf extension, but rather 'sovereign rights'. Therefore, in terms of sovereignty, it is considerably weaker and restrained to certain conditions. It can also be questioned and disputed (e.g. Canada and Russia disputing the Lomonosov Ridge), and it needs to be claimed in front of the Commission with supporting evidences and within a time limit of ten years.

(all information found and cited in this annex, see Shaw 2008, 553-644; United Nations Convention on the Law of the Sea 1982)

Annex F – Gradational Commitment of the A-5 (1)



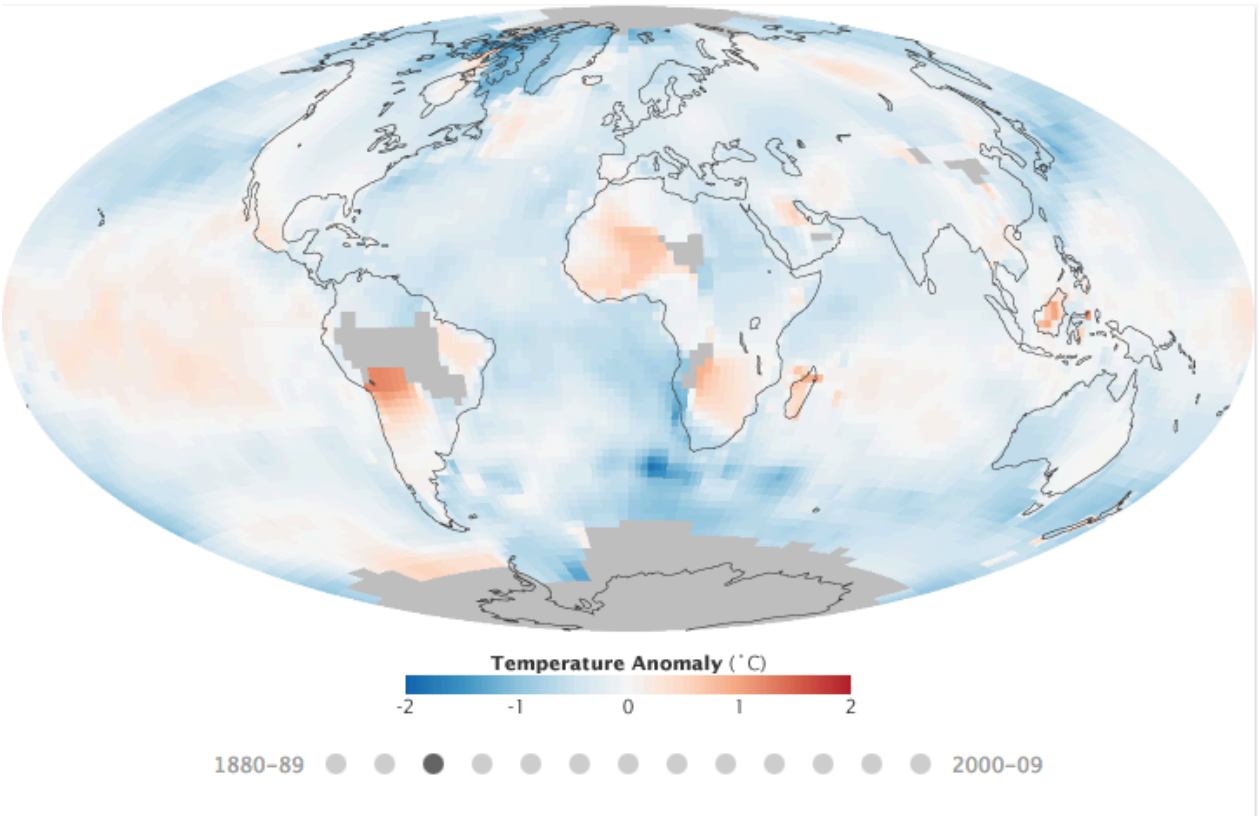
## Legend:

1- *A-5 Countries*
    a. In this circle, the circumpolar countries are locally organised. Illulissat Declaration serves as an example of commitment between the A-5 countries directly. There is no implication or interference from other states and/or organisations to the integration of their policies and common decision-making processes.
2- *Arctic Regional Associations*
    a. The Arctic Regional Associations are regionally organized, focusing on projects and priorities directly linked to the Arctic in general. By regional, one understands that these associations are still located in or aimed at an area above the 60$^{th}$ parallel, but not in or necessarily around the Arctic Ocean. These associations are of a greater spectrum than the solely A-5 countries associations/agreements. They almost always include at least one non-circumpolar member, and the decisions, recommendations, and proposals are reaching out of the exclusive circumpolar area and its interests. Often, when the actors within the first circle (1) have commitments in the second circle (2), these commitments are of a greater importance in terms of diplomacy and international relations (either a great cooperation agreement, or a treaty involving more parties).
3- *Other non-Arctic Associations*
    a. The other non-Arctic associations are much wider fora or organisations within which the A-5 countries are member with many other states (located or not within the Arctic Circle). The commitments to within this third ring are much stronger in terms of international impacts. For instance, Denmark is an A-5 country, it is also a member of the Arctic Council, but more importantly even, it is a member of the European Union. Its commitment to the EU are much stronger and much more important in terms of politics, policies, security, economics, culture, etc. Therefore, all commitments made within the first and second circle (1,2) would be relayed to the bottom of its priority list, if they were to be contradictory to the commitments Denmark made to the EU. Denmark might even have to give up on a commitment made to its fellow circumpolar states in the first circle (1), if it really goes against a policy or a conviction of the EU. Denmark serves merely as an example, but the hierarchy in the commitments of the A-5 countries is stronger in the outer circles (3,4).
4- *United Nations*
    a. Theoretically, the United Nations should be the ultimate commitment that the states (circumpolar or not) are making. It should be the best platform to promote peace and security, development, human rights, humanitarian affairs, and last but not least, international law. The UN is what creates some kind of order in an otherwise anarchical state of the world. By committing to the UN principles through different charters, treaties, agreements, and so on, the states are participating to the highest level of cooperation and making global progress a part of their agenda. No decision taken within the inner circles (1,2,3) should be able to undermine the promises the A-5 have made within the outer circle (4).

The Gradational Commitment illustrates the level of commitment and integration that each organisation enjoys, from a hierarchical point of view. Certain groupings and associations have a rather very local or regional agenda, and very specific issues-oriented goals. Being of a much smaller scale, they do not have the power to impact strongly on the outer circles, as their policies and goals do not necessarily touch the greater circles' interests and priorities. Contrariwise, however, the greater circles decisions, priorities and commitments are impacting very strongly on the smaller circles. The decisions of the outermost circle, the United Nations, are respected (in theory at least) by most associations within the inner circles. The decisions and agreements made within the first circle (1: A-5 countries) of the Gradational Commitment are of lower impact on the other circles and are of close to no impact at all on the last gradational circle (4: United Nations). The further one gets from the center (1), the weaker are the commitments of the A-5 countries are impacting on the other circles (2,3,4). The further one starts (4), the stronger the commitment and the more it impacts on the inner rings (3,2,1).

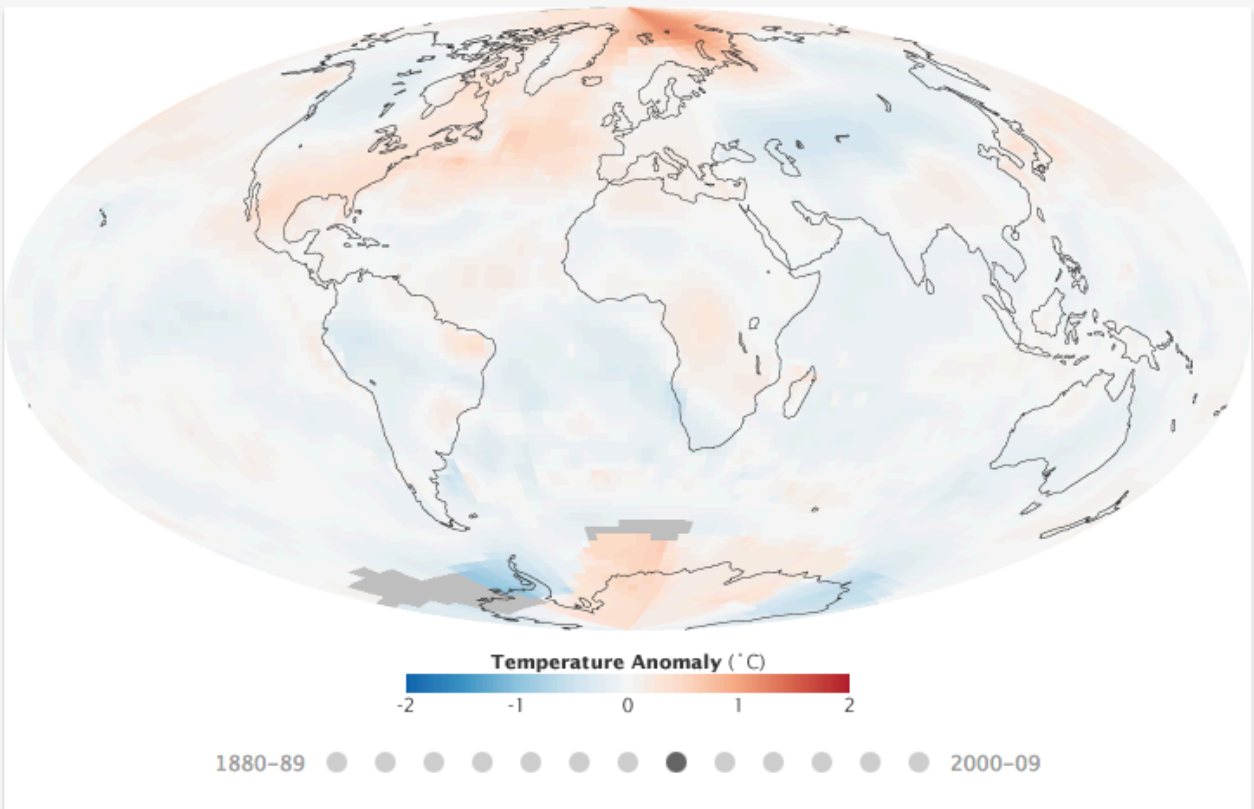
# Annex G – Images of Global Temperatures

Global temperatures for the time period 1900-1909



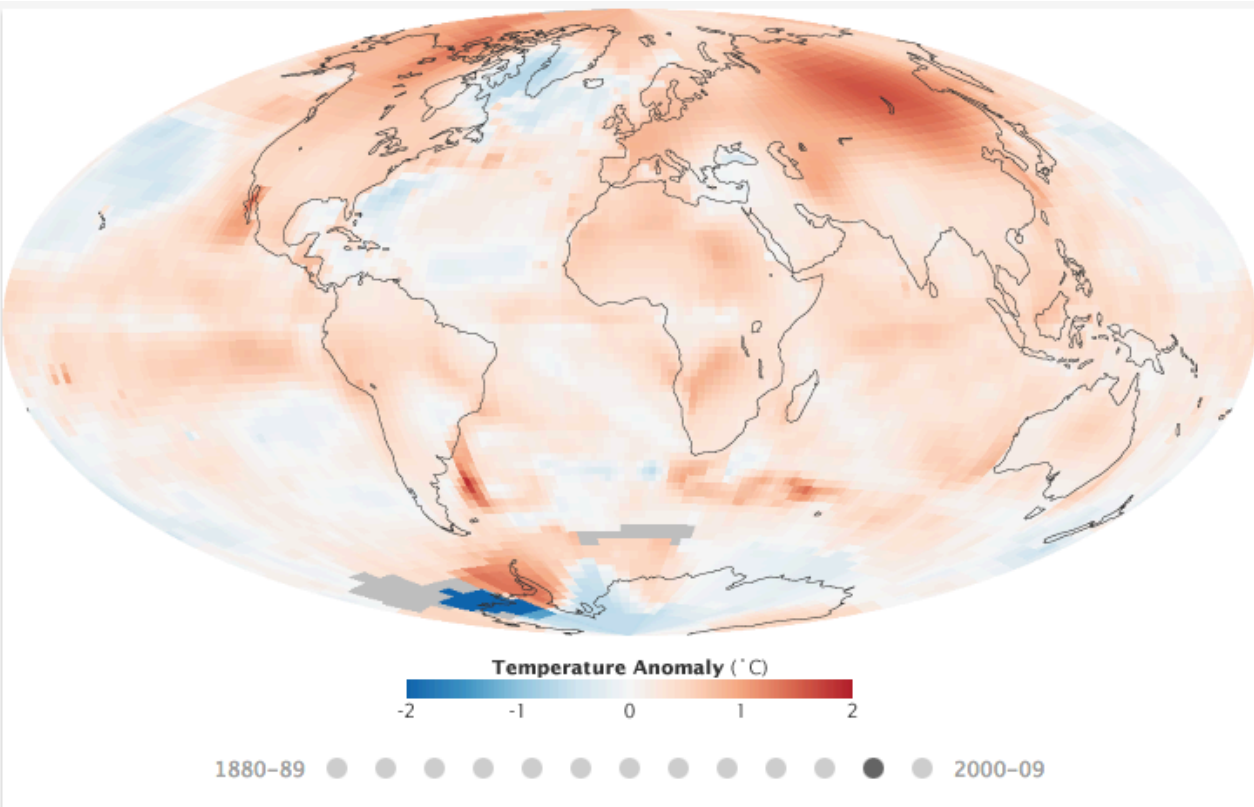

Source: NASA Earth Observatory (a)

Global temperatures for the time period 1950-1959



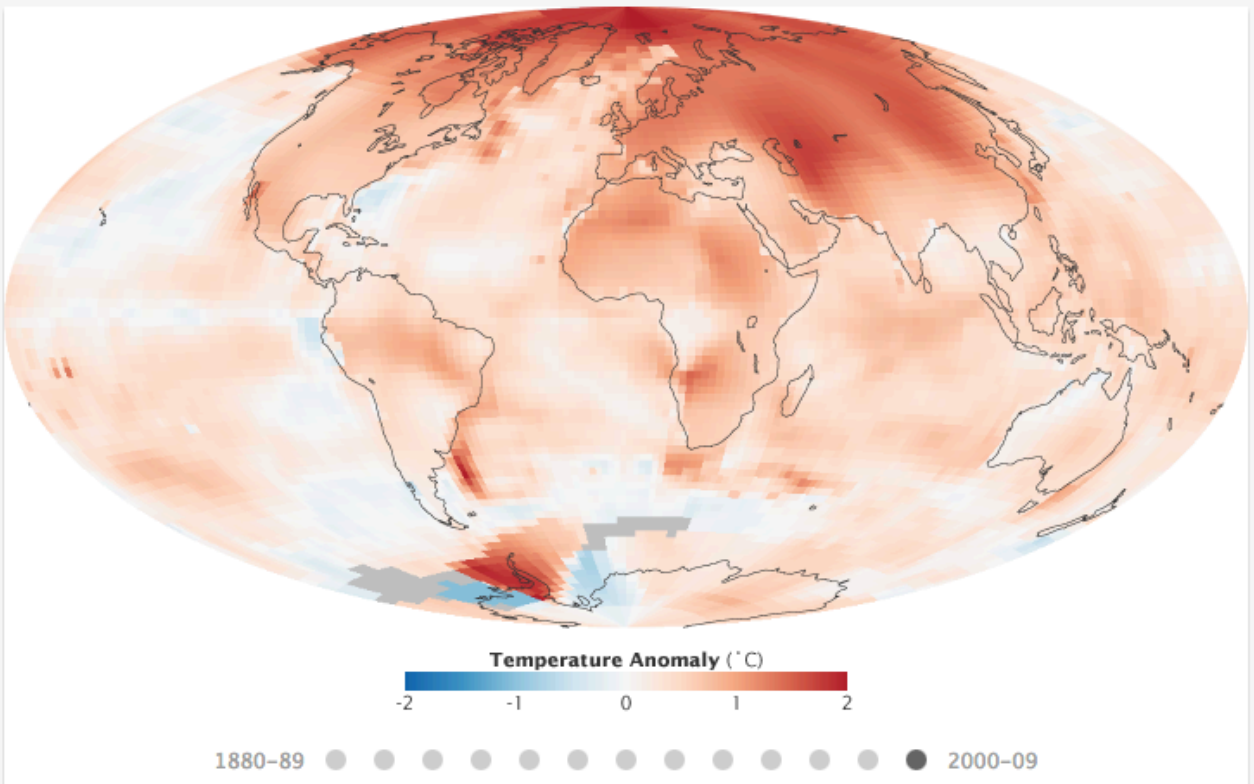

Source: NASA Earth Observatory (a)

Global temperatures for the time period 1980-1989




Source: NASA Earth Observatory (a)

Global temperatures for the time period 2000- 2009

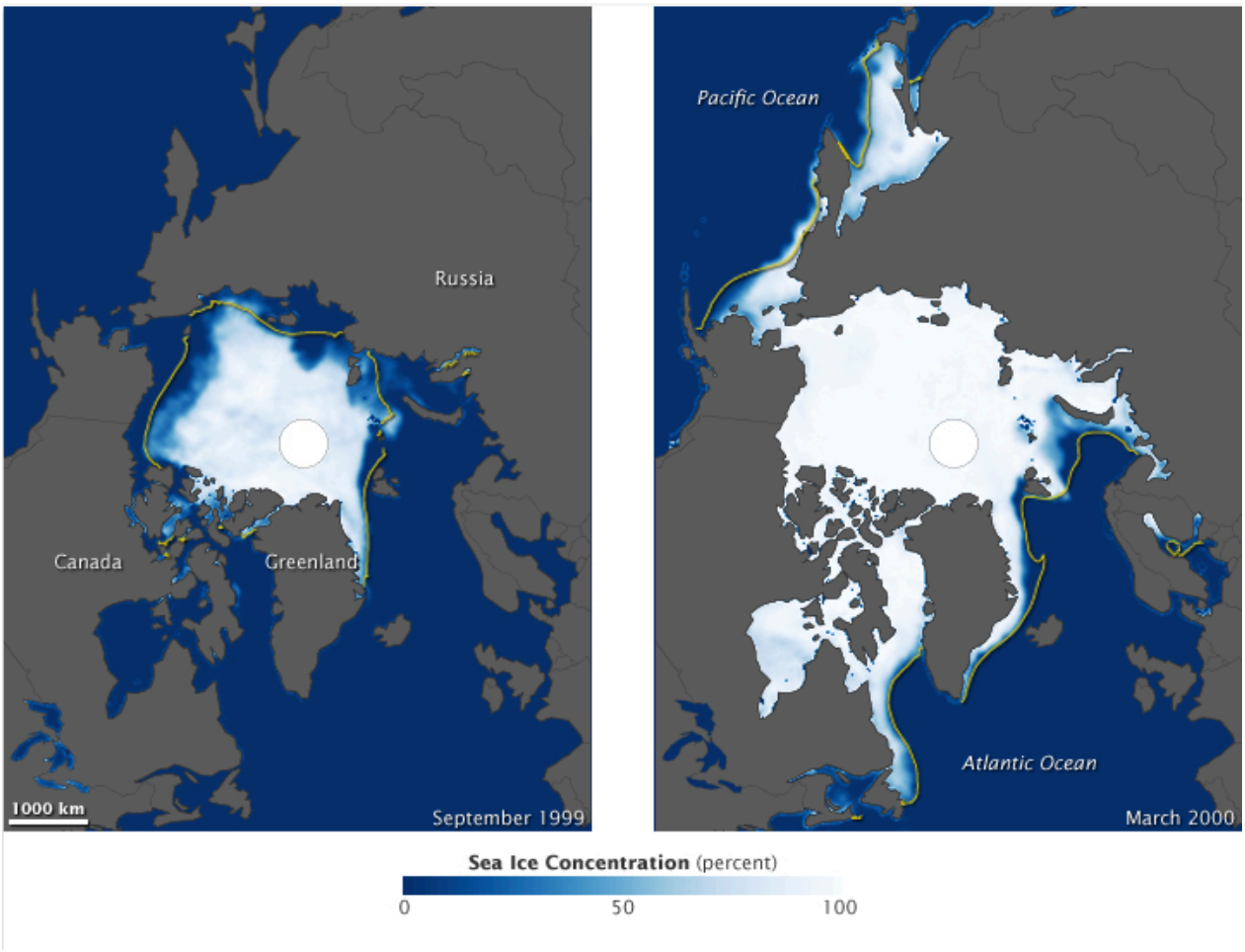



Source: NASA Earth Observatory (a)

The maps above show temperature anomalies, or changes, not absolute temperature. They depict how much various regions of the world have warmed or cooled when compared with a base period of 1951-1980. (The global mean surface air temperature for that period was estimated to be 14°C (57°F), with an uncertainty of several tenths of a degree.) In other words, the maps show how much warmer or colder a region is compared to the norm for that region from 1951-1980 (NASA Earth Observatory).

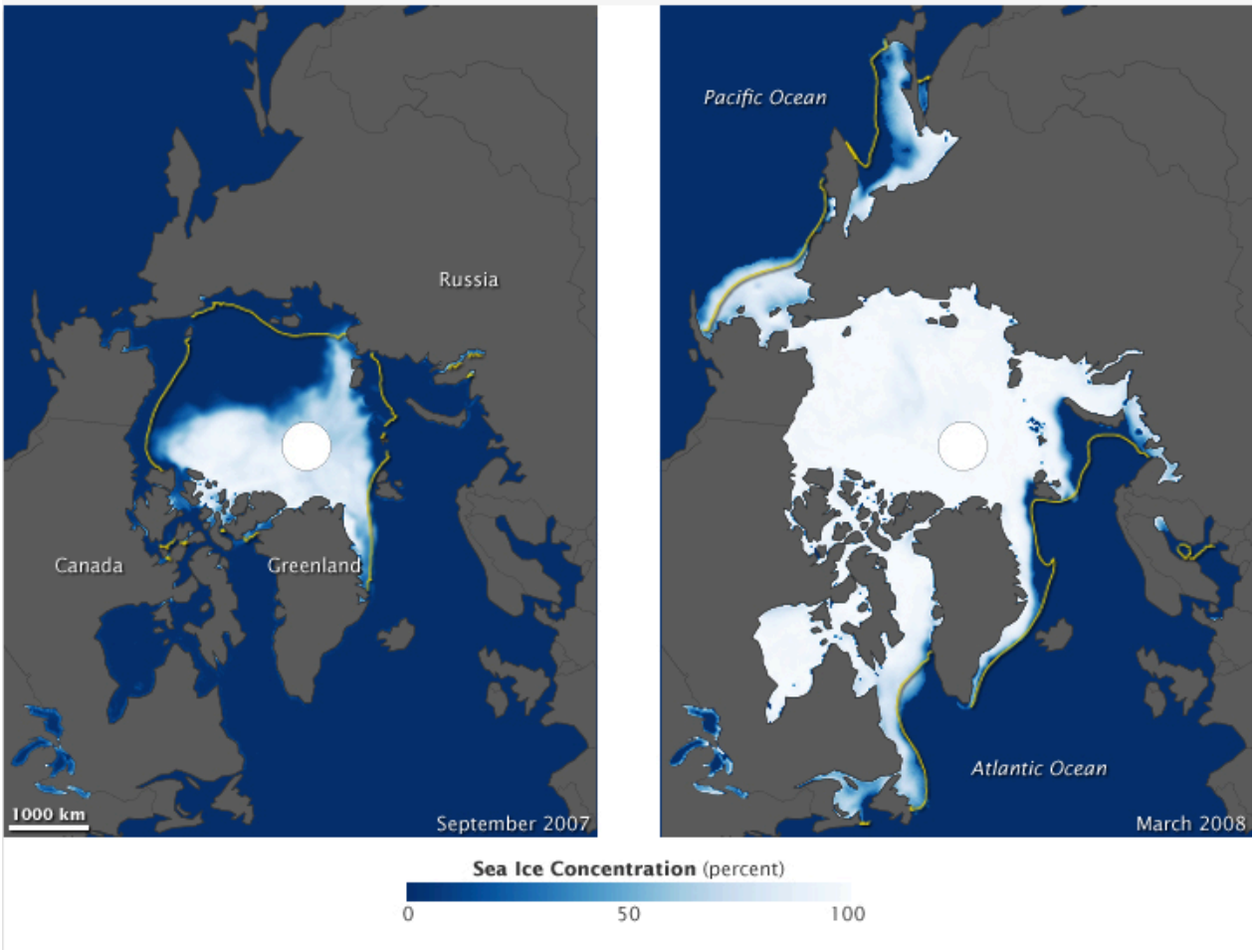
# Annex H – Sea Ice Concentration (current data)

Sea ice concentration for the time period 1999-2000



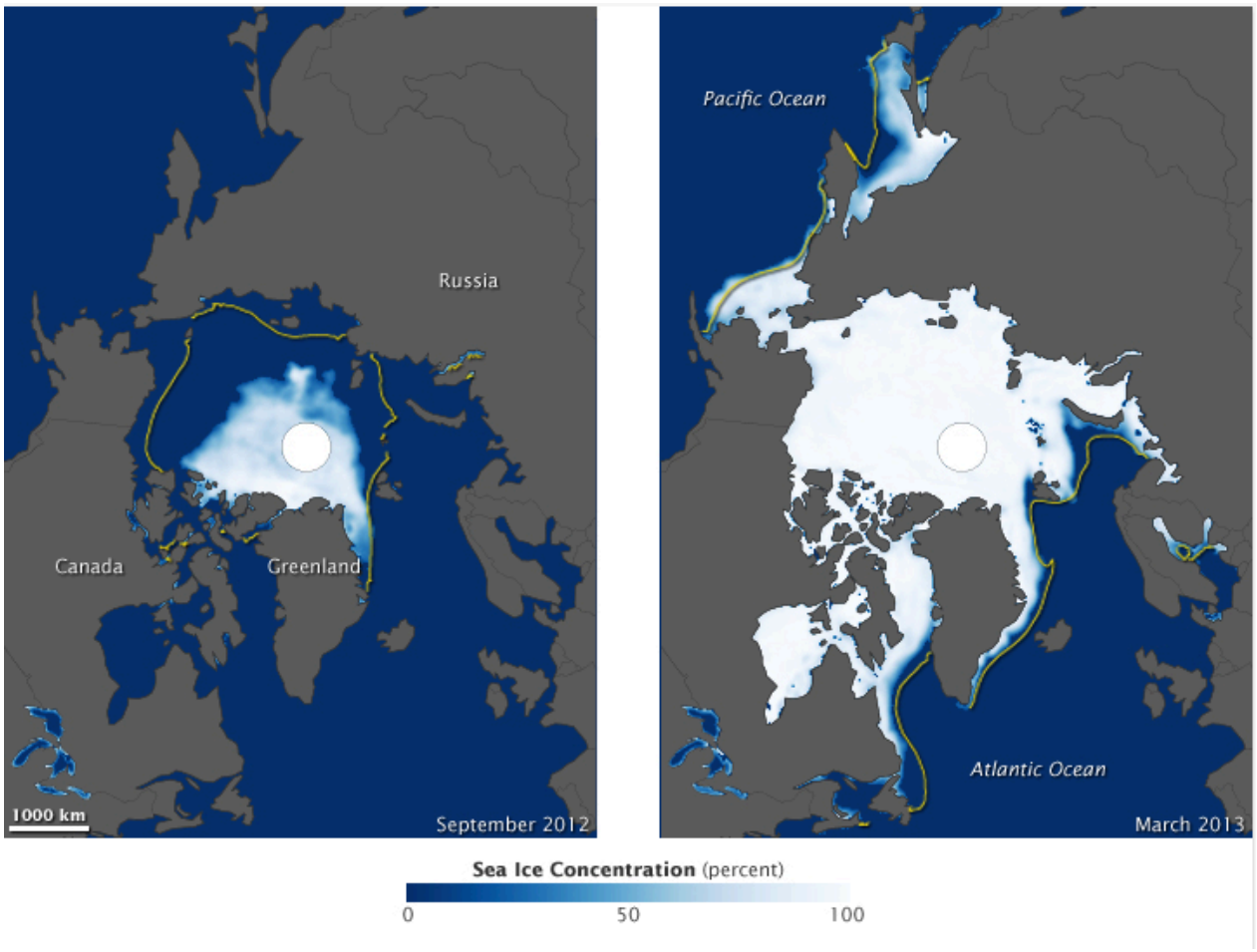

Source: NASA Earth Observatory (b)

Sea ice concentration for the time period 2007-2008 (International Polar Year)




NASA Earth Observatory (b)

Sea ice concentration for the time period 2012-2013




NASA Earth Observatory (b)

"The yellow outline on each image shows the median ice extent observed by satellite sensors in September and March from 1979 through 2000. Extent is the total area in which ice concentration is at least 15 percent. The median is the middle value. Half of the extents over the time period were larger than the line, half were smaller" (NASA Earth Observatory (b)).

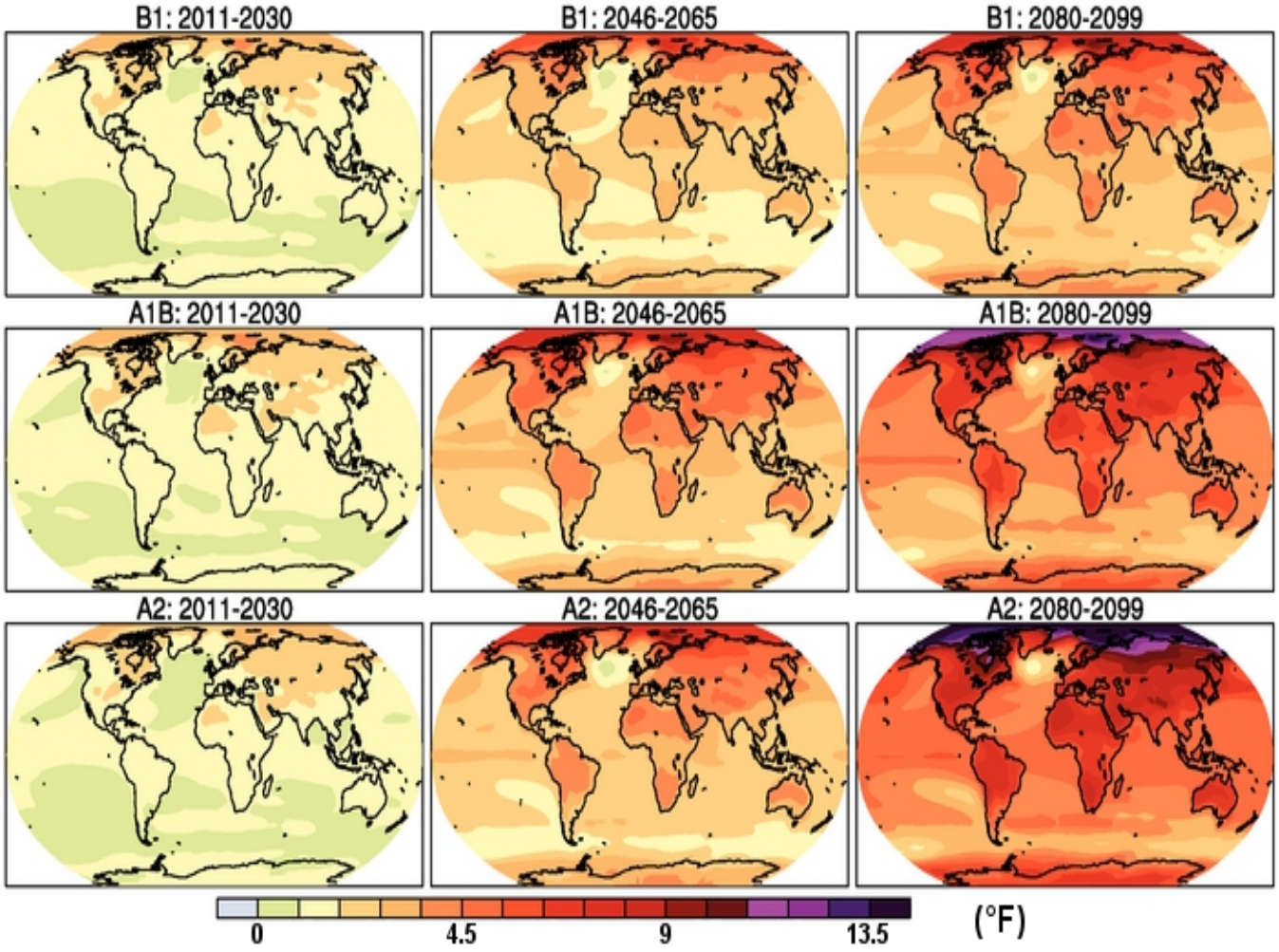
"The new lows, combined with poor wintertime recoveries from 2004 to 2007, heralded a sharpening in the rate of decline in Arctic sea ice. Since 2002, ice extent at the summer minimum has not returned to anything approaching the long-term average (1979-2000). Though winter extent has fluctuated, satellite and *in situ* observations have shown that there is less multiyear ice and more annual ice" (NASA Earth Observatory (b)).

Table of sea ice concentration based on the 1979-2000 mean

| September/March (minimum/maximum) | September Average Extent (millions of square kilometers) | March Average Extent (millions of square kilometers) |
|---|---|---|
| 1979–2000 mean | 7.0 | 15.7 |
| 1999/2000 | 6.2 | 15.3 |
| 2000/2001 | 6.3 | 15.6 |
| 2001/2002 | 6.8 | 15.4 |
| 2002/2003 | 6.0 | 15.5 |
| 2003/2004 | 6.2 | 15.1 |
| 2004/2005 | 6.1 | 14.7 |
| 2005/2006 | 5.6 | 14.4 |
| 2006/2007 | 5.9 | 14.7 |
| 2007/2008 | 4.3 | 15.2 |
| 2008/2009 | 4.7 | 15.2 |
| 2009/2010 | 5.4 | 15.1 |
| 2010/2011 | 4.9 | 14.6 |
| 2011/2012 | 4.6 | 15.2 |
| 2012/2013 | 3.6 | 15.0 |

Source: NASA Earth Observatory (b)

# Annex I – Projected Changes in Global Average Temperatures

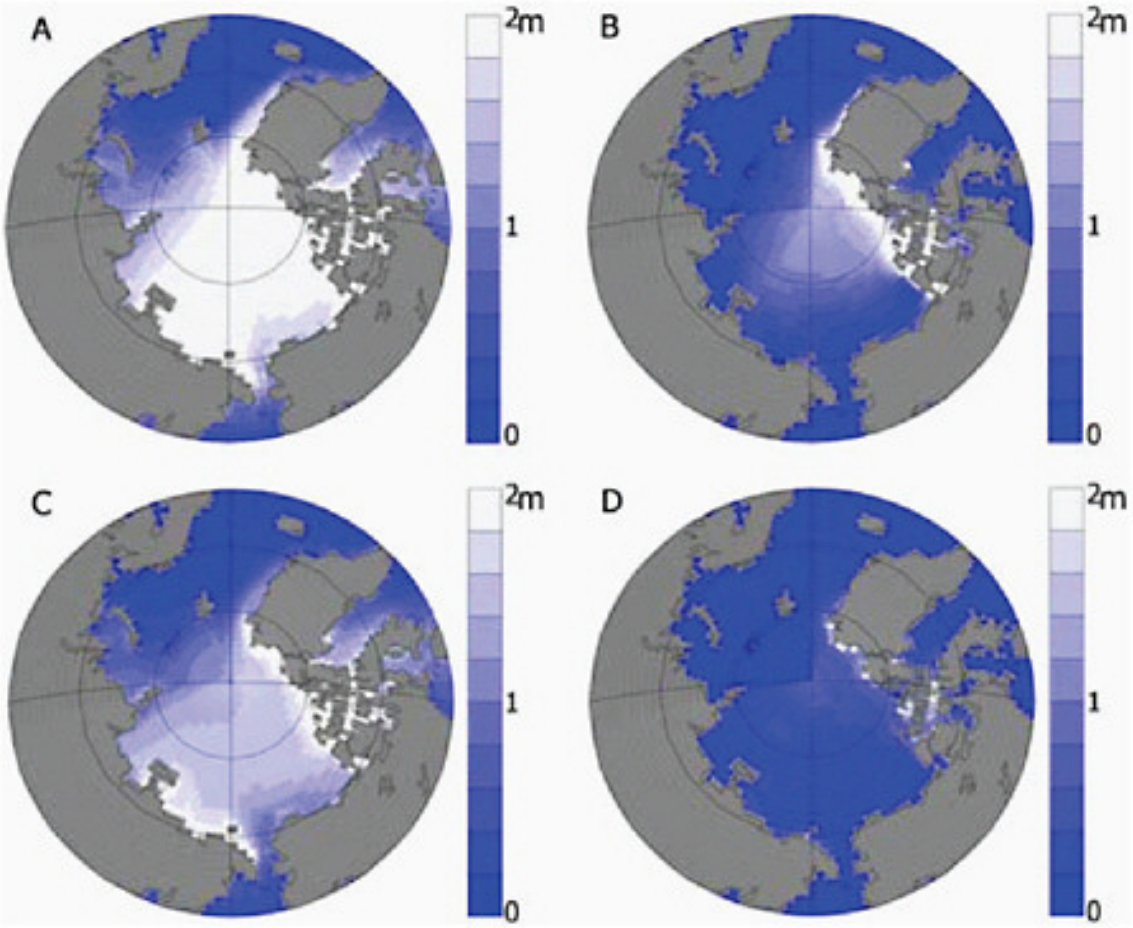



(United States Environmental Protection Agency – map source: NRC 2010)

"Projected changes in global average temperatures under three emissions scenarios (rows) for three different time periods (columns). Changes in temperatures are relative to 1961-1990 averages. The scenarios come from the IPCC Special Report on Emissions Scenarios: B1 is a low emissions scenario, A1B is a medium-high emissions scenario, and A2 is a high emissions scenario (Source: NRC 2010)" (United States Environmental Protection Agency).

Temperatures are indicated here in Fahrenheit since the source used is a US governmental website. These temperatures are a scale used to show the projected changes from the average temperatures used as a basis for the model (1961-1990). In Celsius, this scale would be designed as going from 0°C, 2.5°C, 5.0°C to 7.5°C.

# Annex J – Sea Ice Projections



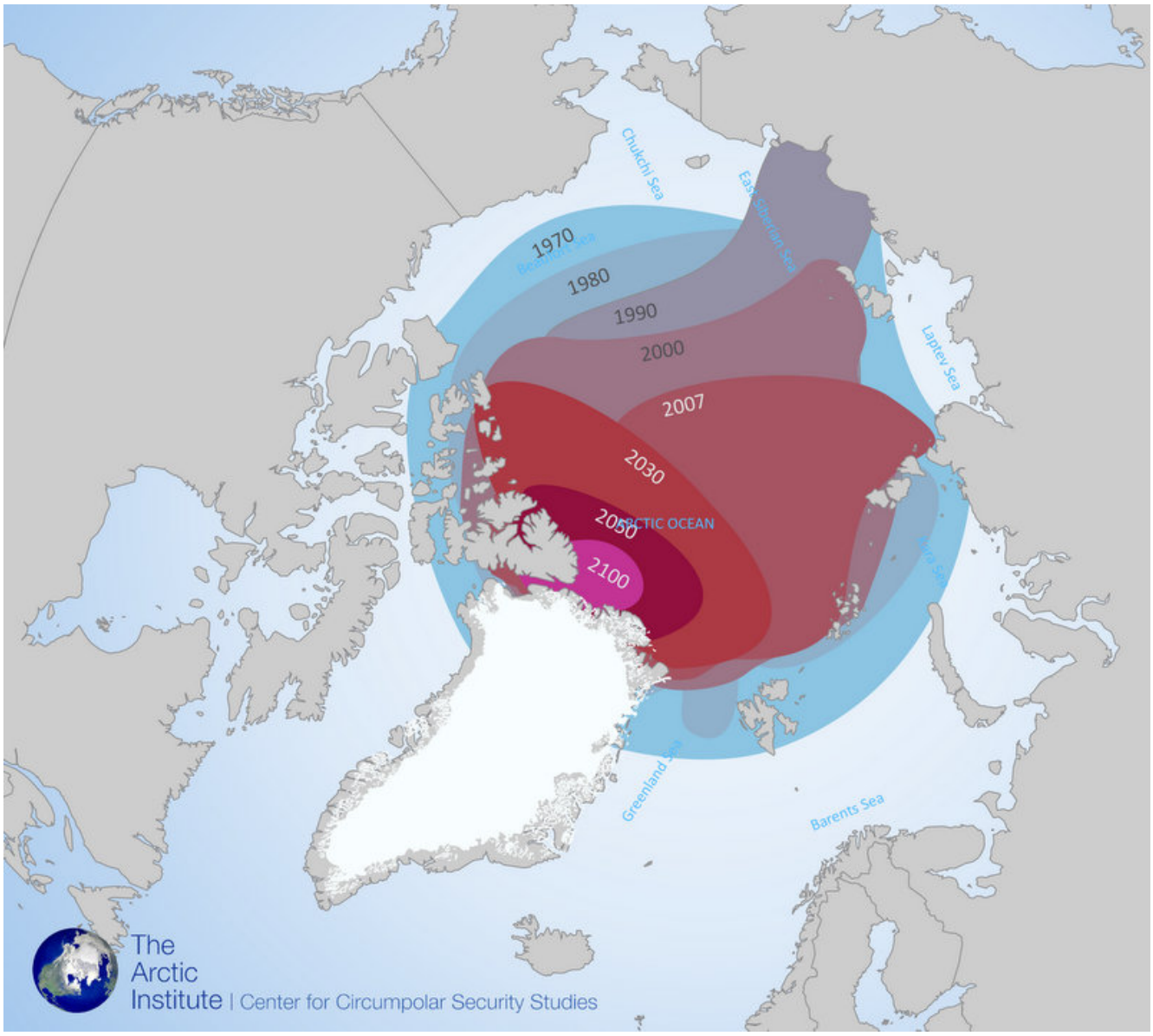

(Source: Board on Atmospheric Sciences and Climate )

Projections based on the computer modeling of the USEPA

Mean sea-ice thickness for (left) March and (right) September based on ensemble members from six models under A1B emissions scenario. (a and b) Year when the September ice extent reached 4.6 million $km^2$ by these models and (c and d) year when the Arctic reached nearly sea-ice conditions (less than 1.0 million $km^2$) in September. Source: Wang and Overland, (2009: Figure 3). (Board on Atmospheric Sciences and Climate)

"These maps show projected losses of sea ice. A and B show climate model simulations of sea ice thickness in March (A) and September (B) under current conditions. C and D show climate model simulations of sea ice thickness in March (C) and September (D) near the end of the 21st century. In the future, March is projected to have thinner ice (more blue in panel C); September if projected to be nearly ice-free (almost all blue in panel D)" (United States Environmental Protection Agency).

# Annex K – Sea Ice Extent Projections from The Arctic Institute




Source: The Arctic Insitute

"Sea ice extent observations (1970 to 2007) and forecast (2030 to 2100) reproduced using data from the NOAA GFDL model. Yearly extent represents an average 80 percent sea ice concentration" (The Arctic Institute).

# Annex L – Valko's Table of Brigham's Scenarios

**Appendix I: Lawson W. Brigham's "Four Scenarios for 2040"**

| | *Scenario One: "Globalized Frontier"* | *Scenario Two: "Adaptive Frontier"* | *Scenario Three: "Fortress Frontier"* | *Scenario Four: "Equitable Frontier"* |
|---|---|---|---|---|
| *Nature of international relations* | Conflict | Cooperation | Conflict | Cooperation |
| *Integration into global economy* | Full, rapid | Limited, gradual | Limited, rapid | Full, gradual |
| *Economic activity* | Booming | Not yet booming | Booming | Not yet booming |
| *Fishing* | Free (Arctic States-only) | Regulated (Arctic States-only) | Free (Arctic States-only) | Regulated (Arctic States-only) |
| *Air and marine traffic* | National regulation | International regulation | National regulation | International regulation |
| *Tourism* | Flourishing | Flourishing | Flourishing | Flourishing |
| *Impact of climatic change* | Dramatic | Dramatic | Dramatic | Less dramatic |
| *The profile of indigenous peoples' organizations* | Limited | High | Limited | High |
| *Scramble for the region* | Arctic States assert their sovereignty over resources beyond 200 nm | Arctic States assert their sovereignty over resources beyond 200 nm | Arctic States assert their sovereignty over resources beyond 200 nm | Arctic States assert their sovereignty over resources beyond 200 nm |
| *Role of the Arctic Council* | Dispute resolution | Sustainable development, social inclusion | Economic and security concerns | Social equity, environmental well-being |
| *Outside participation* | Restricted | Partially-restricted | Restricted | Partially-restricted |

Source: Brigham 2007, pp. 27-34.

(Source: Valko 2011, 103)

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