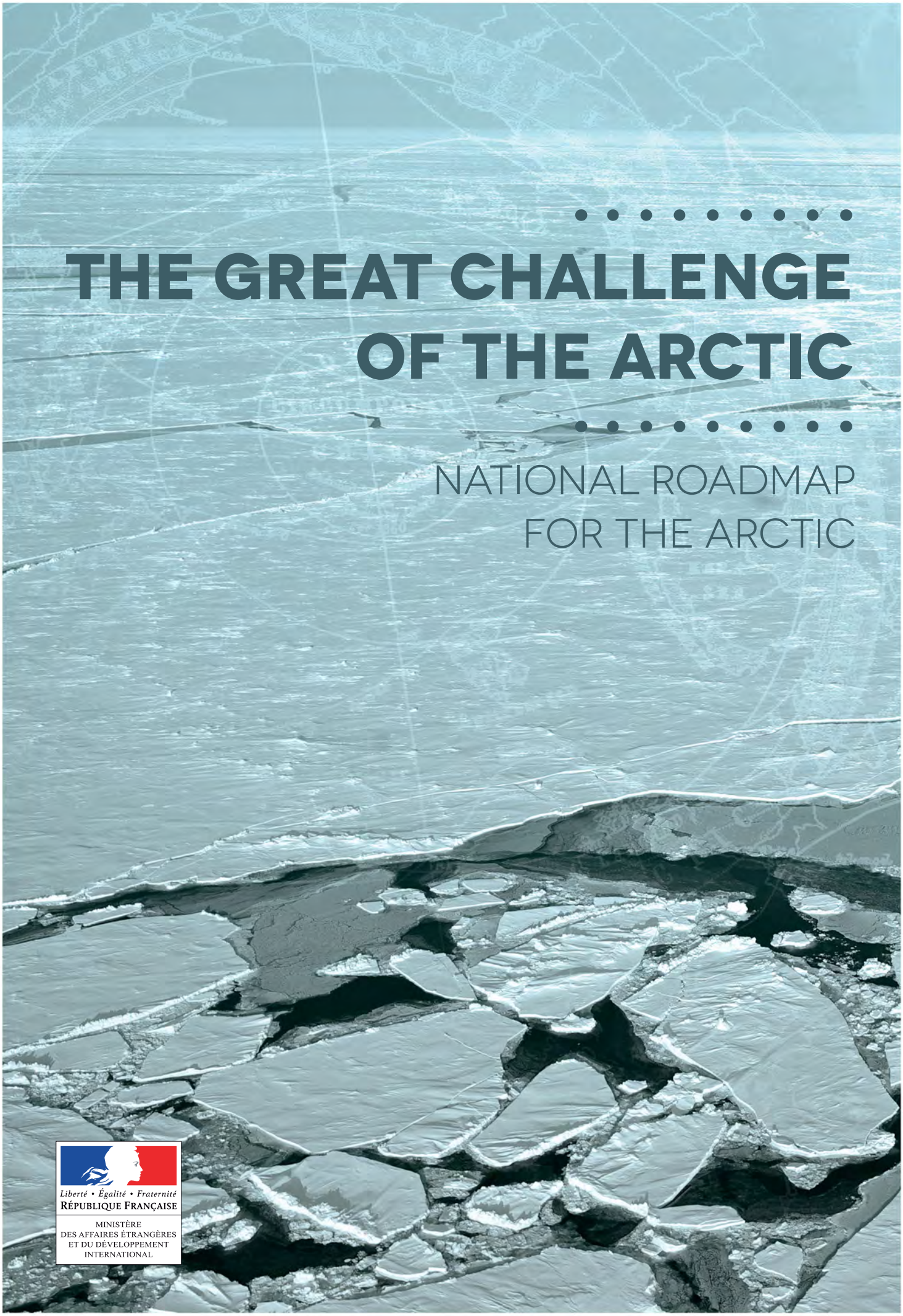

THE GREAT CHALLENGE OF THE ARCTIC

NATIONAL ROADMAP FOR THE ARCTIC

Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE

MINISTÈRE
DES AFFAIRES ÉTRANGÈRES
ET DU DÉVELOPPEMENT
INTERNATIONAL

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FOREWORD

The Arctic is both far from France and near to it. Although it lies at the far reaches of the temperate zone where we live, it extends over an area situated between 2500km and 5000km from the French coast, which, for a maritime power like France, with the second-largest maritime area in the world, remains relatively close. From France, the Arctic Ocean therefore seems like a natural extension of the North Atlantic, which laps at the western shores of our country.

The Arctic is also far due to its environment, which is hard to access and governed by extreme weather conditions; and yet close, for France has established itself over the last three centuries as a polar nation, with a strong tradition of expeditions and exploration, and permanent research bases at the poles. The names Jules Dumont d'Urville, Jean-Baptiste Charcot and Paul-Emile Victor are part of France's cultural heritage and collective imagination, inspiring new generations of explorers.

Lastly, up until recently, the Arctic seemed far away because it remained if not untouched, at least largely preserved from the changes caused by people. But the Arctic is feeling the full force of climate change. Over the last century, the temperature rise there was two to three times greater than the global average. Since the late 1970s, the volume of the Arctic Ocean is reported to have fallen by 75%, and experts predict that within a few decades, it will be entirely ice-free during the summer. This melting of Arctic sea ice would completely transform the world's ocean landscape, by opening a new sea connection between the North Pacific and the North Atlantic.

An environmental transformation such as this would certainly bring major economic opportunities for the Arctic region, in terms of both shipping and fisheries, but it would also pose immense challenges, such as the need to mitigate the inevitable loss of biodiversity, the increased risk of sea pollution and the impact on the ways of life of indigenous populations.

By virtue of their sovereignty and their jurisdiction over large areas of the Arctic Ocean, the five Arctic coastal States (the United States, Canada, Denmark, Norway and Russia) are on the front line in the face of these challenges. However, the nature and scale of the issue calls, now more than ever, for greater international cooperation.

That is why France has participated as an observer in the Arctic Council, an intergovernmental cooperation forum, for sixteen years, as well as in several other technical and scientific forums. For years, it has been promoting there the principle of placing greater responsibility on States outside the Arctic region, which are also responsible for the sustainable development of this unique and fragile environment.

This roadmap for the Arctic, the result of inter-ministerial work launched in 2013 by the French Ministry of Foreign Affairs and International Development, under the aegis of the

Ambassador for the poles and former Prime Minister, Mr Michel Rocard, is France's contribution to building this essential collective vision. It reaffirms our country's strong commitment to the Arctic, on a scientific, environmental, economic and strategic level. It sets out courses of action and work priorities for our policy in the region, which will need to be implemented in a spirit of cooperation with the Arctic coastal States. In particular, it reiterates France's commitment to a very high level of environmental protection for this irreplaceable heritage, the Arctic.

Jean-Marc Ayrault

French Minister of Foreign Affairs and International Development


CANADA
Alaska
RUSSIE
Cercle polaire arctique
OCÉAN
Pôle Nord
ARCTIQUE
80°
Svalbard
Groenland
Ny-Ålesund
70°
Islande
Norvège
Finlande
Suède
60°

THE ARCTIC, AN OCEAN SURROUNDED BY CONTINENTS

Size of the Arctic: mainland and sea area located inside the Arctic Circle (66.33° north latitude).	20.946 million km² (approx. 38 times larger than metropolitan France)
Size of the Arctic Ocean	14.2 million km² Canada and Eurasian Basins, Siberian Seas (Kara, Laptev and East Siberian seas), the Chukchi Sea, Beaufort Sea, Barents Sea, Greenland Sea, Baffin Bay and Hudson Bay.
Maximum depth of the Arctic Ocean	> 5,400 metres (Litke Deep) (approx. 60% of the area of the Arctic Ocean is less than 200 metres deep).
Minimum extent of summer sea ice (11 September 2015)	4.4 million km² (4th lowest extent of sea ice in the satellite record)
Maximum extent of winter sea ice (March 2015)	14.4 million km² (Sea ice extent in March 2015 was the lowest in the satellite record)
Arctic Ocean coastal countries	Canada, United States/Alaska, Greenland/ Denmark, Norway, Russian Federation
Arctic countries that do not have coasts on the Arctic Ocean	Iceland, Finland, Sweden
Main natural resources	Gas, oil, wood, nickel, cold-water fish, diamonds, rare earth elements, etc.
Extent of permafrost (frozen ground)	Approximately 24% of the land mass in the northern hemisphere and a large, poorly mapped, part of the ocean floor on the continental shelves of the Arctic seas.

INTRODUCTION

Background

In the last twenty years, developments in the Arctic climate and environment, which are under pressure from climate change, led to the recognition of the far northern latitudes as an area experiencing a major environmental crisis, as well as a potential new economic and trade area, with polar shipping routes, off-shore energy resources, biological resources, etc.

The International Polar Year 2007-2008, which involved several thousand researchers from 63 countries, helped to send out a resounding warning: the Arctic is the canary in the coal mine for the climate change occurring all over the world. Warming in the Arctic has been 2 to 3 times greater than the global average over the last century. From 1979 to 2012, warming of the northern climate was 4 times greater than global warming.

One of the most spectacular manifestations of current climate change is the large decrease in the extent of Arctic sea ice at the end of the summer. The total volume of Arctic sea ice is estimated to have declined by 75% since 1980. Although the exact date cannot be determined, the Arctic Ocean should become ice-free during the summer season sometime in the coming decades.

The melting of Arctic sea ice augurs greater accessibility of the marginal Arctic seas and, eventually, the central Arctic Ocean. This will benefit international shipping in the future, along with northern pleasure cruising, which is already a booming sector. Offshore energy resources, estimated to be very promising, will be also more accessible, along with new fisheries, although the latter are harder to gauge.

The overall economic and commercial prospects are still fairly unattractive because of the extreme weather conditions in the marine Arctic. Navigation is very hazardous and ports are rare. Many areas have no operational sea search and rescue facilities. The area is poorly charted on the whole and there is no technology for dealing with oil spills in the polar regions. Each economic prospect comes with several challenges that are largely related to the key issues in the marine Arctic, which are maritime safety and the environment (search and rescue, fighting pollution).

These opportunities and challenges primarily concern the five Arctic coastal states (United States/Alaska, Canada, Denmark/Greenland, Norway and the Russian Federation). Their sovereignty and jurisdiction over vast portions of the Arctic Ocean and their sovereign rights to the natural resources located there place them in a legitimate and special position to address them. Between 2006 and 2011, the five Arctic coastal states and the three non-coastal Arctic states with territories or areas under their national jurisdiction located inside the Arctic Circle, namely Finland, Iceland and Sweden, each set out their interests in national Arctic strategy documents, which all combine, to varying degrees, the issues of economic development, environmental protection, security and enhanced sovereignty.

Cooperation between the eight Arctic states is a recent initiative stemming from a shared political commitment to overcome the strategic past of the former cold war theatre. "Let the North Pole be a pole of peace" and "a genuine zone of [...] fruitful cooperation", said President Mikhail Gorbachev in 1987. He was the founder of the Arctic Council intergovernmental forum in 1996. The Council brings together the five Arctic coastal states, along with the three non-coastal Arctic states, and places them on an equal footing. The five Arctic coastal states reserve the right to meet without the others when they deem it necessary, to deal with specifically maritime issues.

Until recently, the Arctic Council included six European countries with observer status (France, Germany, the Netherlands, Poland, Spain and the United Kingdom). They were granted this status because of their research activities in scientific areas related to the Arctic. Since May 2013, the Arctic Council has granted observer status to Italy and five Asian countries (China, India, Japan, South Korea and Singapore) which have shown sustained interest in the economic and commercial opportunities in the north. Over the years, the Arctic Council has established itself as a key international forum on Arctic issues.

Strengthening sector-based governance of the Arctic Ocean includes the fundamental challenge of regulating human activity that may grow and intensify in a protected and fragile marine environment, as the clear decline in sea ice extent increases access. The Arctic Council has limited standard-setting powers and the involvement of the observer states is encouraged in working groups, but not at a political level, despite the responsibilities incumbent upon the countries that are potential users of the Arctic Ocean.

The five Arctic coastal states solemnly stated in the Ilulissat Declaration of 28 May 2008 that the United Nations Convention on the Law of the Sea of 10 December 1982 (hereinafter, "the Convention") should be the legal framework for all activities concerning the Arctic Ocean. Under the terms of the Convention, governance issues in the Arctic Ocean require balancing the interests of the coastal states with those of other states.

The current process in which coastal states are consolidating their sovereignty in their northern regions (maritime border disputes, extension of the continental shelf, legal status of polar straits, national security issues, etc.) sometimes raises collective governance issues that potentially concern the international community.

The Arctic Ocean is a protected and fragile area that has been severely affected by climate change. It is a key component in the regulation of the planet's climate. As the saying goes, "what happens in the Arctic doesn't stay in the Arctic", and the consequences of environmental and climate changes in the North circumpolar region are already being felt all over the planet.

Year after year, the nature and the scale of the challenges in the Arctic Ocean increasingly reveal a new inter-oceanic connection between the North Atlantic and the North Pacific, which calls for a high level of international cooperation between the states

that are directly and indirectly concerned. All of the potential users of the Arctic Ocean are responsible for addressing the challenges raised by the sensitivity of the environment and the low resilience of Arctic marine ecosystems to human activity in particular.

Several states outside of the Arctic region, in Europe and in Asia, have set out their interests and responsibilities in Arctic strategy documents, and the European Union, which includes three members of the Arctic Council and seven countries with observer status, has stated its interests in an integrated policy for the Arctic.

Ultimately, of the different energy parameters (role of unconventional hydrocarbons, global energy demand, etc.), political parameters (Arctic 2020 strategy of the Russian Federation, US Chairmanship of the Arctic Council 2015-2017, etc.) and environmental parameters that are shaping the emergence of the Arctic as a geopolitical and geo-economic region, climate and environmental change in this area is indisputably the most predictable parameter: the Arctic Ocean should be ice-free during the summer season sometime in the coming decades.

National context

The warning sounded during the International Polar Year 2007-2008 was received loud and clear in France because of the country's extensive tradition of polar exploration and scientific research. In November 2008, France organised an international conference on the Arctic in Monaco as part of the French Presidency of the EU. The conference called for the creation of an Arctic scientific observatory to ensure national coordination of French research on the Arctic. Following a decision made by the Ministry of Higher Education and Research, this initiative was launched in 2010 by the National Scientific Research Centre, which coordinates nearly 400 researchers in earth sciences, environmental science and human and social sciences, in conjunction with the French Paul-Emile Victor Polar Institute (IPEV).

In addition to its scientific interest in the Arctic, France has also expressed ecological ethics concerns about the region in its "Grenelle" environment project (1*): "Whereas the Arctic region plays a key role in the overall balance of the planet's climate (…) and with the aim of protecting the Arctic environment, France will promote or support adaptation by the competent international bodies of international regulations to the new uses of the Arctic Ocean made possible through increased accessibility" (*Act 2009-967 of 3 August 2009, Article 2).

France already has political and economic interests in the Arctic (Total, Engie, Technip, Thalès, etc.) which are bound to grow. The issues and challenges of the Arctic involve all of the countries that are potential users of the Arctic Ocean.

In December 2009, the Blue Book explained that *"appointing a polar ambassador will underline France's commitment to contributing to an integrated sustainable development plan for this region, where the ecosystem is particularly fragile" and that the Arctic is "a worldwide concern".*

In view of the issues and challenges ahead in the Arctic, the Ministry of Foreign Affairs submitted a plan to the President of the Republic to create a diplomatic mission to coordinate polar affairs. The mission was established in April 2009. The letter of engagement of the Ambassador for the poles, the Arctic and Antarctica stresses the common interest aspect of the Arctic, which should be the framework in which national interests are expressed.

In April 2013, the Arctic made its first appearance in the Defence and National Security White Paper in the section on "threats and risks amplified by globalisation": *"the decrease in the extent of sea ice in the Arctic has strategic consequences, and the prospect of regular use of new Arctic shipping routes is growing nearer."*

In October 2013, the polar ambassador proposed setting up an inter-staff network between four Ministries (Defence, Ecology, Sustainable Development & Energy, Education & Research, Finance) and several government agencies (Paul-Emile Victor Polar Institute, National Hydrographic Service) under the aegis of the Ministry of Foreign Affairs and International Development to draft a "National Roadmap for the Arctic" that identifies, ranks and coordinates France's priorities with regard to the Arctic. Four main areas of work were selected:

- Identifying France's interests (economic, defence, scientific, influence, etc.) in the Arctic;
- Enhancing the legitimacy of France in Arctic affairs and forums;
- Working to balance national interest and the general interest in the governance of the Arctic Ocean;
- Promoting a high level of protection for this unique and fragile marine environment.

These four priorities were broken down into seven themes:

1. Scientific research and academic cooperation in the Arctic
2. France's economic interests and opportunities in the Arctic
3. Arctic marine environment protection policy
4. France's defence and security interests in the Arctic
5. France's presence in international forums
6. The European Union and the Arctic Region
7. Balancing national interests and global common interest in the Arctic

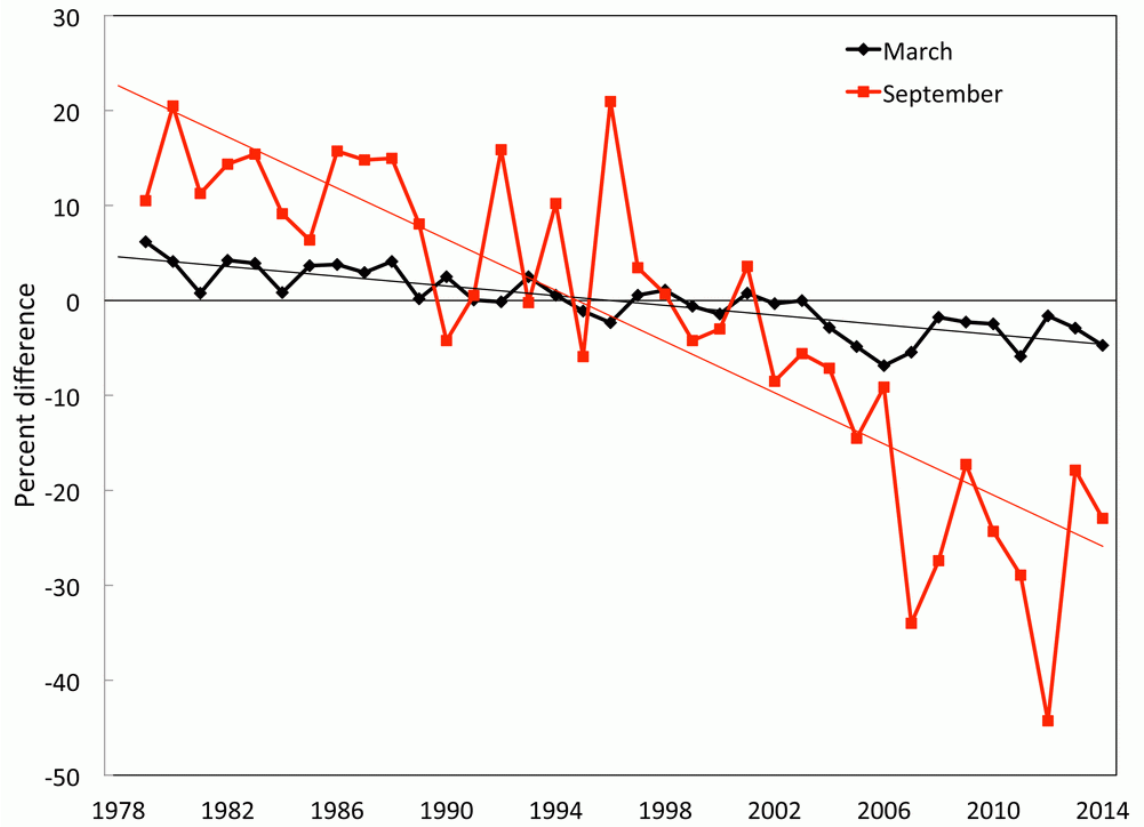
This document is the result of this work involving many French government departments and agencies. It provides a working framework and sets guidelines and priorities, which should make it possible in the coming years to align and prioritise action on Arctic issues and challenges that concern France, with a broader focus on sustainability and the common interest.

THE DECLINE OF ARCTIC SEA ICE

Sea ice covers seasonally or permanently a vast ocean area in the Northern hemisphere, which, with the exception of the Sea of Okhotsk and the Labrador Sea, mainly lies north of the 60th parallel. The extent of the sea ice doubles or even, as in recent years, triples between the summer and the winter. It currently ranges from 4 to 5 million km2 at the end of the summer to some 15 million km² at the end of the winter.

Evolution of Arctic sea ice , 1979-2014

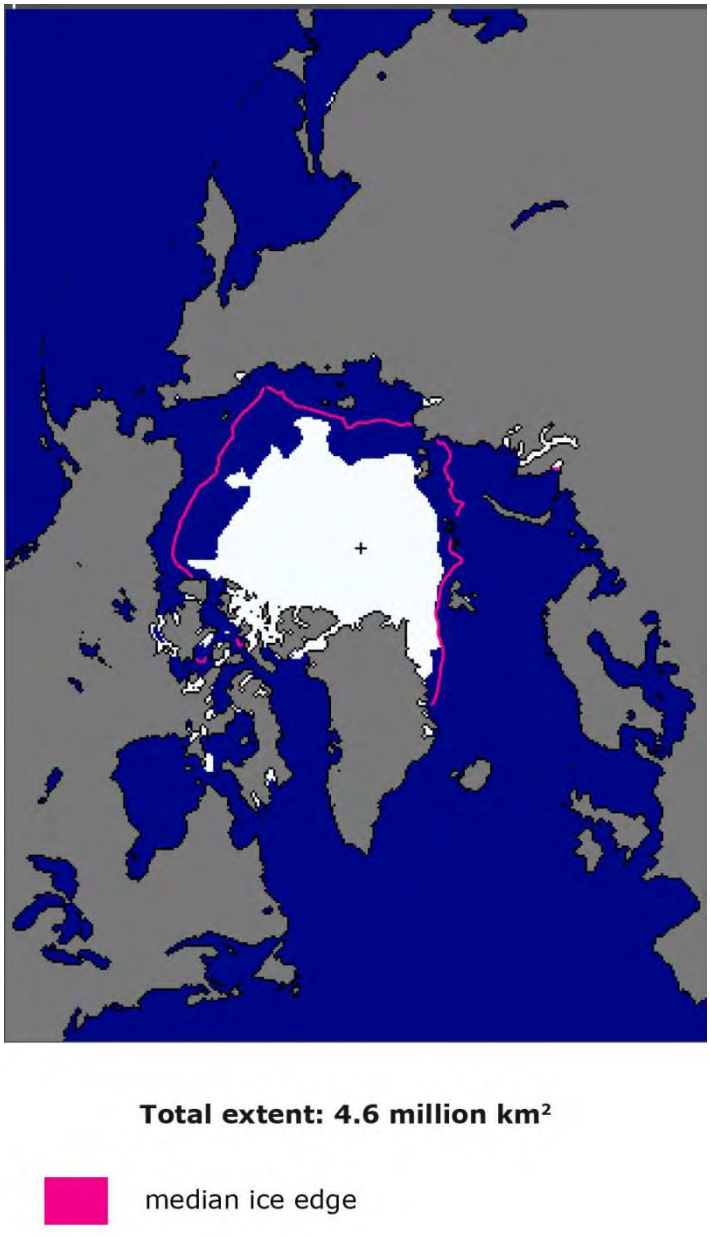
Source : NOAA



The recent measurements of sea ice extent were obtained using scanning multichannel microwave radiometer satellites. Over the 35-year satellite record (1979-2014), the trend has shown a persistent decline in annual average sea ice extent, by some 4% per decade compared to the average over the 1981-2010 baseline period (shown as the magenta line on the chart below). This decline can also be seen in the data for each month of the year, with a strong contrast between seasons. The trend is weakest in winter and spring. The decline in sea ice extent in March, when it is at its seasonal maximum, is no more than 2.6% per decade compared to the average extent in the baseline period. In contrast, the month of September, when sea ice extent is at its seasonal minimum, shows the most dramatic trend, with an average decrease in sea ice extent of 13.3% per decade compared to the average extent in the baseline period. This is an average decline of 86,500 km2 per year, which is 2 to 3 times the size of Brittany. This decrease is accompanied by an even faster decline in average sea ice concentration, meaning that the sea ice is less and less compact. The average winter sea ice thickness has

decreased from a maximum of 3.64 meters in the central Arctic Ocean in 1980, falling by 1.75 meters in less than 30 years, to 1.90 meters in 2008. The total volume of Arctic sea ice is estimated to have declined by 75% since 1980.

Arctic sea ice extent in September 2015
Source : NSIDC



The scientific community regards the extreme decline in the summer Arctic sea ice extent in recent years as one of the most dramatic manifestations of climate change. Although the exact date cannot be determined, the Arctic Ocean should become ice-free in the summer sometime in the coming decades. This rapid change opens up unprecedented prospects for the development of human activity. It makes predicting the future condition of sea ice a critical issue.



01

SCIENTIFIC RESEARCH AND COOPERATION

FRANCE'S LONG-STANDING POLAR TRADITION

In historical terms, the polar regions have had a special place in international scientific cooperation. Since the creation of the International Polar Commission in Hamburg in 1879, four International Polar Years (IPY) have been organised. The most recent IPY (2007-2008) involved 63 countries and more than 200 research programmes. France, which took part in 60 international research projects during the last IPY, is one of the nations that founded this tradition of international polar cooperation.

Scientific interest in the polar regions has grown considerably with the recent recognition of the roles that high latitudes play in witnessing, experiencing and portending shifts in our planet's natural balances, especially in the context of climate change. The international scientific community recognises the Arctic and Antarctica as important natural laboratories for studying climate change at the global level, making them areas of scientific interest for all of humanity.

Building on its long-standing tradition of exploration and expeditions in high latitudes, France has carved out its place as a polar nation over the last three centuries. France has permanent scientific bases in the Arctic and in Antarctica. All of France's polar land-based infrastructure and logistical resources are managed by the French Paul-Emile Victor Polar Institute (IPEV), which is an agency providing resources and skills to support science. Historically, some three quarters of the Institute's activities have been related to Antarctica.

France was the first country to set up, in 1963, a scientific research base in the Arctic archipelago of Svalbard, where it shares a permanent base with Germany in the international scientific village Ny-Ålesund. The AWIPEV base has a geophysics, biology and chemistry laboratory that can host up to 16 researchers at a time. France also has an outpost located 5km from Ny-Ålesund: the Jean Corbel base, which specialises in physical and chemical measurements of the atmosphere and glaciology. It can host 8 people in the summer.

France ranks 9th among scientific countries for publications on the Arctic, whereas it ranks 5th in the world for scientific publications on Antarctica. At the national and international level, most publications on the Arctic deal with earth sciences and environmental sciences, including terrestrial and marine ecology. In addition to its work in experimental sciences, France has a long-standing tradition of internationally recognised scientific work in human and social sciences (anthropology, ethnography, etc.) related to the indigenous populations of the North.

Scientific research in the Arctic gave rise to post-cold-war cooperation between the 8 countries of the North circumpolar area. The Arctic Council was established in 1996 and based on a previous multilateral agreement called the Arctic Environmental Protection Strategy, or the "Finnish Initiative". Its activity consists largely of a joint scientific

advisory effort primarily carried out through six permanent working groups and ad-hoc task forces.

Non-Arctic states must engage in research in the Arctic to obtain official observer status in the Arctic Council. France applied for and obtained in 2000 observer status in the Arctic Council on the strength of its tradition of polar exploration and expeditions. This status is reviewed periodically on the basis of scientific contributions. Observer states' main means of participation is their contribution of expertise to the working groups.

France's growing interest in the new scientific, environmental and economic issues in the Arctic, and that of the international community, gave rise to a national initiative to coordinate Arctic research. This Arctic initiative is overseen by France's National Centre for Scientific Research and complements the work of the Paul-Emile Victor Polar Institute. A recent long-range planning exercise involving all of France's scientists from universities and major research bodies who are interested in scientific issues in the Arctic revealed the abundance and excellence of French Arctic research, but also its lack of coordination. The system based on the Arctic initiative and the Paul-Emile Victor Polar Institute is bound to play a more structural role in the coming years at both the national and international levels, as long as additional resources are allocated to it.

The excellence of France's polar scientific research and its integration with international research constitute a major asset of French foreign policy in the Arctic and underpin its legitimacy.

FRANCE'S MAIN SCIENTIFIC INTERESTS IN THE ARCTIC

The long-range planning exercise for the Arctic initiative identified 10 major scientific priorities:

1. Arctic and global atmospheric variability: amplification, linkages and impacts;
2. Water cycle and land ice;
3. The changing ocean: physical features and marine ecosystems;
4. Geodynamics and resources;
5. Permafrost dynamics in the context of climate warming;
6. Arctic terrestrial ecosystem dynamics in the context of climate warming;
7. Indigenous societies and global change;
8. Building an integrated programme on the land-sea continuum in the Arctic;
9. Pollution: source, cycles and impacts;
10. Sustainable development in the Arctic: impacts, implementation and governance.

With regard to human and social sciences, it is noteworthy that France is one of the few countries in the world that teaches Inuktitut (the language of the Inuit in Canada) at the National Institute of Oriental Languages and Civilisations (INALCO). Sometimes, Canadians come to the Institute to learn the language of the indigenous populations in the Canadian North.

Much of the Arctic Ocean is still a mare incognita. In addition to basic research in atmospheric and climate sciences, oceanography or marine biology, applied research on the Arctic marine environment (hydrography, bathymetry, meteorology, etc.) concerns potential civilian and military users of this ice-covered ocean that is becoming more accessible with each passing year.

France's scientific activities relating to the Arctic strengthen its legitimacy in dealing with Arctic affairs and are an essential condition for the renewal of its observer status in the Arctic Council.

In diplomatic terms, global scientific interest in the Arctic helps to preserve a common interest dimension, which prevails over national interests and which France fully supports by contributing the scientific expertise of its researchers to the international research effort on climate change in the North.

RECOMMENDATIONS **ON RESEARCH**

- Raise France's profile by building up the community of French scientists working on the Arctic and, more specifically, by ensuring that the development of the Arctic project that involves France's research bodies is consistent with the activities of the Paul-Emile Victor Polar Institute (IPEV), the national agency that provides resources for French scientific activities in the polar regions.

- Build up France's scientific role in the Arctic Council working groups and task forces, by bringing in French human and social science specialists in particular.
- Ensure that France participates fully in international scientific organisations, such as the International Arctic Science Committee.
- In calls for proposals, discussion groups and the preparation of calls for projects, encourage France's involvement in international science programmes on the Arctic.
- Develop the European aspects (cooperation between Arctic and non-Arctic European Union countries) of French scientific research on the Arctic, as part of the European Union research and innovation programme (Horizon 2020), and at the institutional level, through the European Polar Board (EPB) and its initiatives (e.g. the EU-PolarNet project).
- Develop and enhance partnerships with scientific organisations from the Arctic Ocean coastal states.
- Promote France's scientific expertise in human and social sciences and the teaching of Arctic languages in France to the Arctic states.
- Develop research contracts with businesses that may be interested by economic opportunities in the Arctic (transport, aerospace, shipping, energy, mineral resources, insurance, communications, health).
- **All of these initiatives require development of French Arctic research with strong institutional and scientific support:**

  - allocating operating grants for the coordination structure based on the Arctic project and the Paul-Emile Victor Polar Institute;

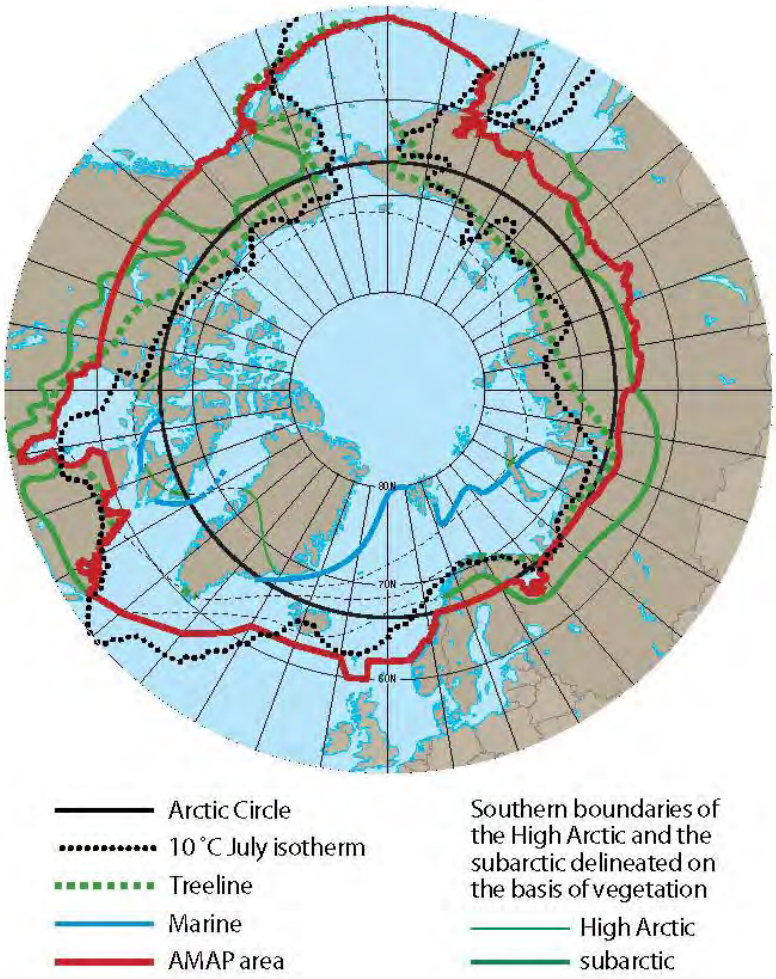
  - placing greater priority on the main scientific issues relating to the Arctic defined by the Arctic project in the other research funding agencies, including the National Agency for Research;

  - increasing funding for the Paul-Emile Victor Polar Institute to support scientific programmes and maintain national infrastructures in the Arctic.

THE ARCTIC, A REGION WITH MANY BOUNDARIES

The Arctic is defined by a number of different geographical and physical criteria: the Arctic Circle at 66°33′ North latitude (black line on the right hand figure), the 10° Celsius isotherm (dotted line), which defines all of the points where the air temperature does not go below ten degrees Celsius in July, the hottest month of the summer; the tree line (green line) which marks the southernmost continental limit of the treeless tundra that is typical of the polar climate; the limits of annual average sea ice extent; and the Arctic front (blue line) that marks the separation between cold "Arctic waters" with lower salinity and the warmer waters with higher salinity. Each of these definitions is relevant in a given scientific field (ecology, oceanography, climatology, etc.) and none of them is universally applicable. Geographers generally use a definition of the Arctic that is based on a combination of natural and human criteria, as is the case for the Arctic Council's Arctic Monitoring and Assessment Programme Working Group (red line).
Climate change means that the natural boundaries of the Arctic are increasingly variable with a tendency to drift northward.

Geographical and physical boundaries of the Arctic
Source : AMAP



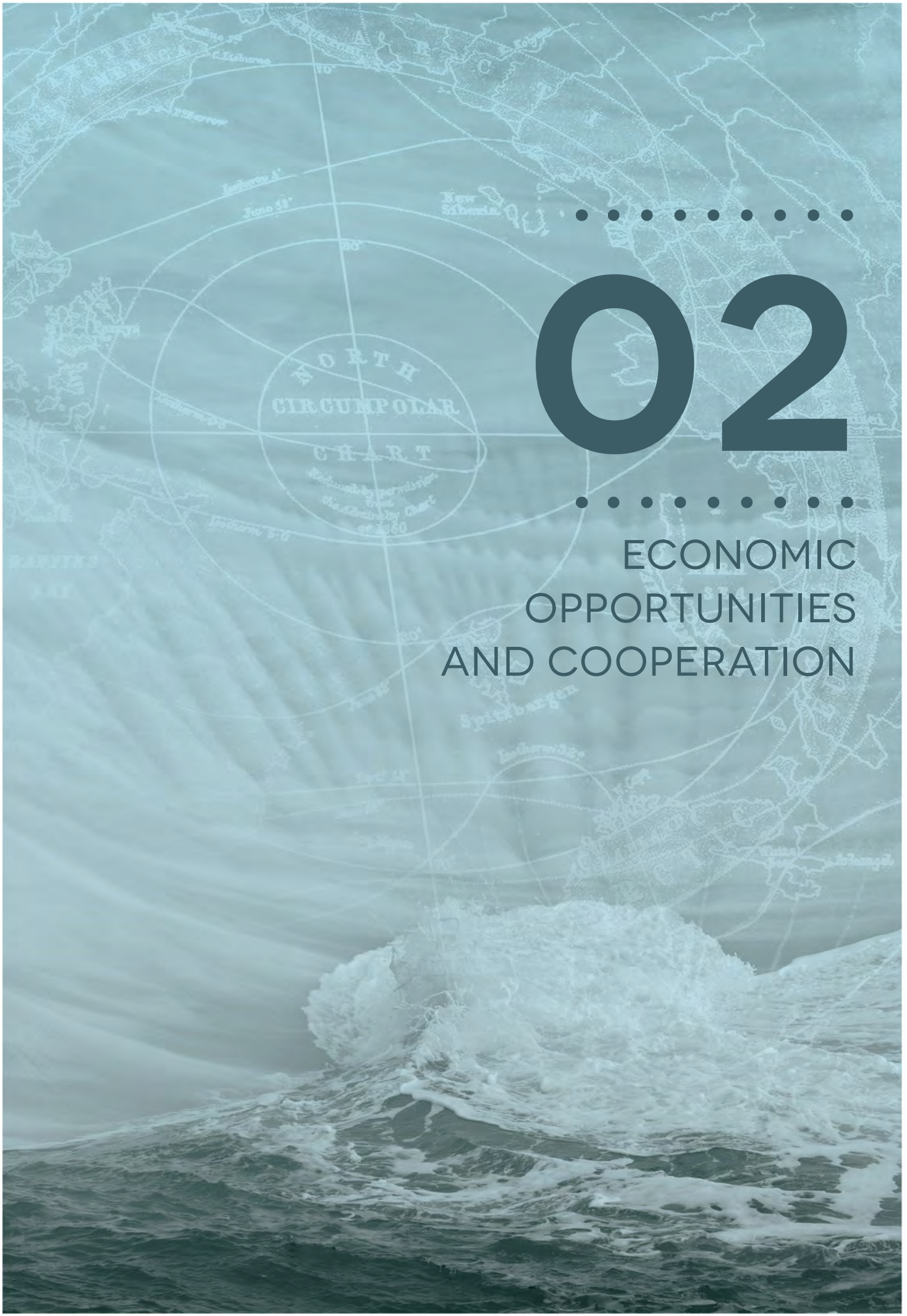
In addition to these scientifically defined boundaries, there are political and administrative boundaries. In Canada, the southern administrative boundary of the three northern territories (Nunavut, Northwest Territories and Yukon) is 60° North latitude, whereas in the Nordic countries, the southern boundary of the Norwegian North (Nordland, Troms and Finnmark), the Finnish North (Lappi, Kainuu and

Northern Ostrobothnia) and the Swedish North (Norrbotten and Västerbotten) is near the Arctic Circle. In 2013, the Russian Arctic was redefined in administrative terms in order to delimit the priority economic development zones as part of the Russian Federation's Arctic 2020 strategy. Even though Iceland is located just below the Arctic Circle, its Arctic strategy (2011) asserts its status as an Arctic coastal state, arguing that from an economic, political and security point of view, "the Arctic stretches from the North Pole to the North Atlantic Ocean".

Administrative boundaries of the Arctic
Norwegian Polar Institute



The Arctic is also defined as one of the seven "socio-cultural regions" of the world recognised by the UN Permanent Forum on Indigenous Issues. The region is home to some forty ethnic communities that have, in some cases, been living in certain northern regions for more than a thousand years. Ultimately, the Arctic can be described as the juxtaposition of northern territories with very small populations (approximately 4 million individuals) that have a wealth of natural resources in countries where the main economic, political and population centres are, with the exception of Iceland, located much further south.



02

ECONOMIC OPPORTUNITIES AND COOPERATION

ECONOMIC OPPORTUNITIES IN THE ARCTIC

In the last few years, the Arctic has been identified as a new region for potential economic and commercial development. With this in mind, seven activities warrant special attention.

Mineral resources

In July 2008, the U.S. Geological Survey published an appraisal estimating that the Arctic contains up to 650 billion barrels of oil and oil-equivalent natural gas (BBOE), including 412 BBOE of undiscovered resources. This represents 13% of the oil and 30% of the gas that remain to be found on the planet. Some 84% of these resources are under the ocean and break down as follows:

Russia	United States	Norway	Denmark (Greenland)	Canada
52 %	20 %	12 %	11 %	5 %

These estimates make the Arctic a strategic region in terms of energy, but the issue is not straightforward:

- The U.S. Geological Survey estimates refer to undiscovered resources that have been extrapolated on the basis of the geology of uncharted sedimentary basins, particularly offshore formations, which are not the same as verified reserves. According to the French Institute of Oil and New Energy Sources, the energy potential of the Arctic consisting of as yet undiscovered resources might range from 65 BBOE to 412 BBOE.
- The added costs of mining in the Arctic, with its climate and ice, its lack of infrastructure, its isolation and its inherent dangers make these reserves much less attractive economically.
- Mining these resources incurs major environmental risks, because of the difficulty in dealing with an oil spill with no infrastructure and no effective techniques for dealing with such accidents in ice-bound waters, under extreme weather conditions and in a particularly fragile marine environment.

The presence of "rare earth" elements has also excited some interest, particularly in Greenland, which is estimated to have 25% of global reserves. Greenland could be an alternative to China's monopoly on these strategic metals, if its reserves could be exploited in the right conditions.

Transportation

The Northeast Passage reduces the distance from Rotterdam to Yokohama by 40% compared to the route through the Suez Canal. But shipping when summer sea ice recedes is not expected to increase significantly before 2030 at the soonest. In 2014, only 31 ships totalling some 1.3 million metric tons of cargo used the Northeast Passage, compared to the more than 750 million tons that pass through the Suez Canal each year.

Navigation conditions are restrictive and dangerous:

- extreme conditions: ice floes, fog, imprecise charts;
- lack of search and rescue infrastructure and lack of deep-water ports;
- lack of international shipping hubs or intermediate markets since Russia is the only country with a coast on the Northeast Passage;
- added cost of navigation in polar waters: more expensive shipbuilding and crew training requirements, need for ice-breakers, high insurance costs;
- commercial constraints: no guarantee of shipping times because of the variability of ice conditions, summer-only route;
- uncertain return on operating capital, since ship safety and environmental protection requirements that are especially difficult to implement make it hard for the Northeast Passage to be in the short to medium term a serious competitor for the Suez Canal or the Strait of Malacca. However, the development of projects to exploit the Arctic's natural resources are bound to lead to increased shipping traffic carrying mineral resources and logistical support. Consequently, local and regional shipping, particularly to mining platforms, mines and mineral deposits, is bound to grow rapidly. Furthermore, Arctic cruising is booming.

Infrastructures

The challenges of building infrastructure in a region where thawing permafrost (frozen ground) undermines land-based constructions concern the following:oil and gas mining infrastructures;

- oil and gas mining infrastructure;
- modernisation of port infrastructure;
- land-based transportation infrastructure between mining sites;
- communication infrastructure (undersea cables, etc.).

Satellite surveillance

New activities and rapid change in the Arctic stemming from global warming mean that satellites and space programmes are bound to become helpful tools in the following areas:

- telecommunications;
- maritime safety and navigation aids (ship identification and tracking, topography, coordination of sea rescue operations, predicting sea and land ice movements);
- environmental surveillance (ice detection and surveillance, pollution detection, etc.);
- sustainable management of marine resources.

Fisheries

Fish stocks could migrate northward as the climate changes. This migration and improved navigation conditions point to potential exploitation of new renewable biological

resources in the open sea, such as polar cod, American plaice and European plaice.

Renewable energy and new technologies

In a region where climate change opens up prospects for economic and commercial development, green growth is a crucial issue, relying on renewable energy sources, green technology and investment in innovation. The Arctic is a laboratory for new technologies in information and communication, robotics, automation, airborne systems and sensors.

Tourism

With the opening of Arctic seas during summer, new opportunities have arisen for the tourism industry, particularly polar cruises. Although these may help to raise public awareness, they pose a potential threat to the Arctic ecosystems.

FRANCE'S ECONOMIC INTERESTS IN THE ARCTIC

The Arctic encompasses a wide range of interests that need to be gauged.

French companies present in the Canadian, Norwegian and Russian Arctic

(partial listing)

Canada	- Areya : uranium exploration project in Nunavut - Bouygues and Colas : PPP for the renovation of Iqaluit airport - Canada Rail (Systra) rail infrastructures related to mining - Ponant: polar cruise company
Norway	- GDF Suez : oil and gas - COFELY Fabricom : platform maintenance - Technip : underwater engineering - Nexans : cables - CGG Veritas : underground exploration and oil-related services - Seabed Geophysics : collection of seismic data, sale of cables and surveillance - Bourbon Offshore Norway : shipping services for offshore oil drilling - FROM Nord and Euronor : fishing - CMA-CGM : commercial transportation - Ponant, GNGL, 66° Nord : Specialised travel companies
Russie	- Total & Technip : oil and gas - Ponant: polar cruise company

Several prospects are already opening up for the French public and private sector. On the whole, the profitability of business activities in the Arctic still seems to be limited for French companies.

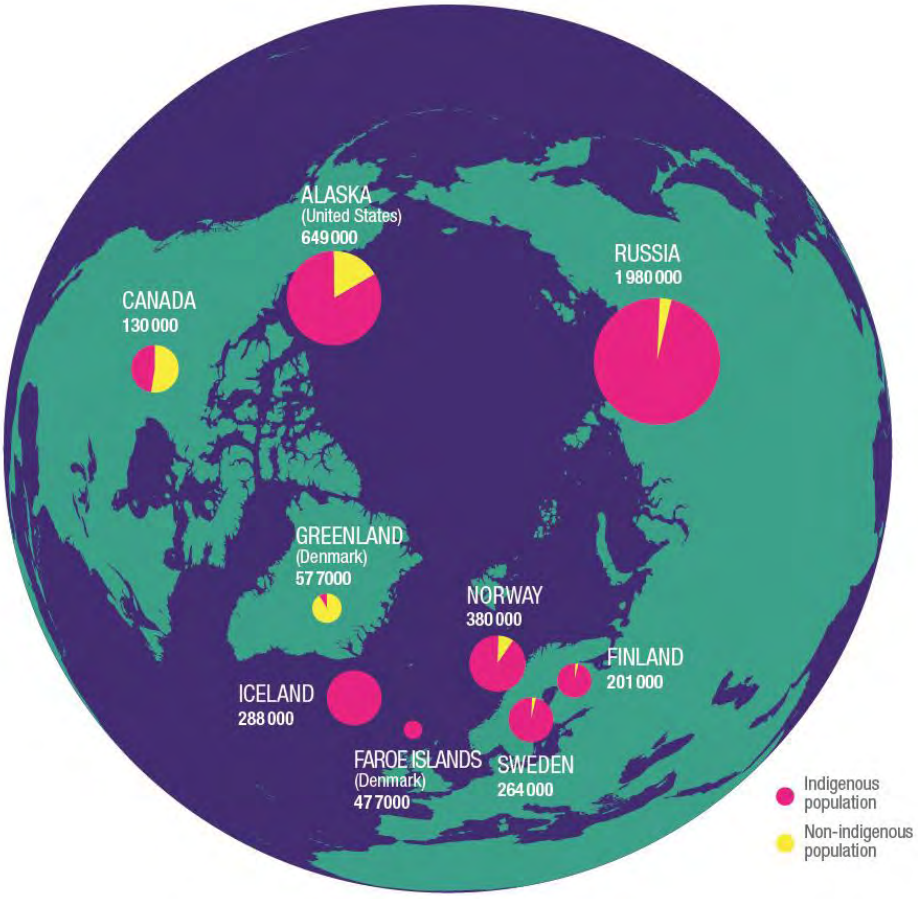
RECOMMANDATIONS **ON ECONOMIC OPPORTUNITIES AND COOPERATION**

- Ensure that France's industrial projects mainstream environmental protection concerns and local and indigenous community participation, in line with corporate social responsibility.
- Work to promote strict and ambitious environmental standards for all mining of raw materials and to promote French expertise in environmental technology.
- Encourage French companies to participate in the Arctic Economic Council and business events (Arctic Business Forum, Arctic Business Council, Arctic Oil and Gas Symposium, etc.) where they can make helpful contacts.
- Support French companies in the oil services industry and promote French technological expertise for the mining of resources.
- Promote French expertise in environmental technology.
- Promote the development of fair trade tourism that respects local populations and encourage French companies operating in the Arctic to hire and train local residents.

THE ARCTIC, A REGION WITH VERY FEW INHABITANTS

Approximately 4 million people live above the Arctic Circle, of which nearly half (approx. 1,900,000) live in the northern territories of the Russian Federation. The percentage of the population of the individual Arctic states living above the Arctic Circle ranges from 0.2% for the United States, (649,000 in Alaska) to 7% in the Fennoscandian countries (Finland, Sweden and Norway). Some 90% of the inhabitants of the Arctic are Westerners or Russians. Compared to the land mass located above the Arctic Circle or the 60th parallel, these numbers make the Arctic one of the least densely populated regions on the planet.

Population distribution in the Arctic
Source : UNEP/Grid



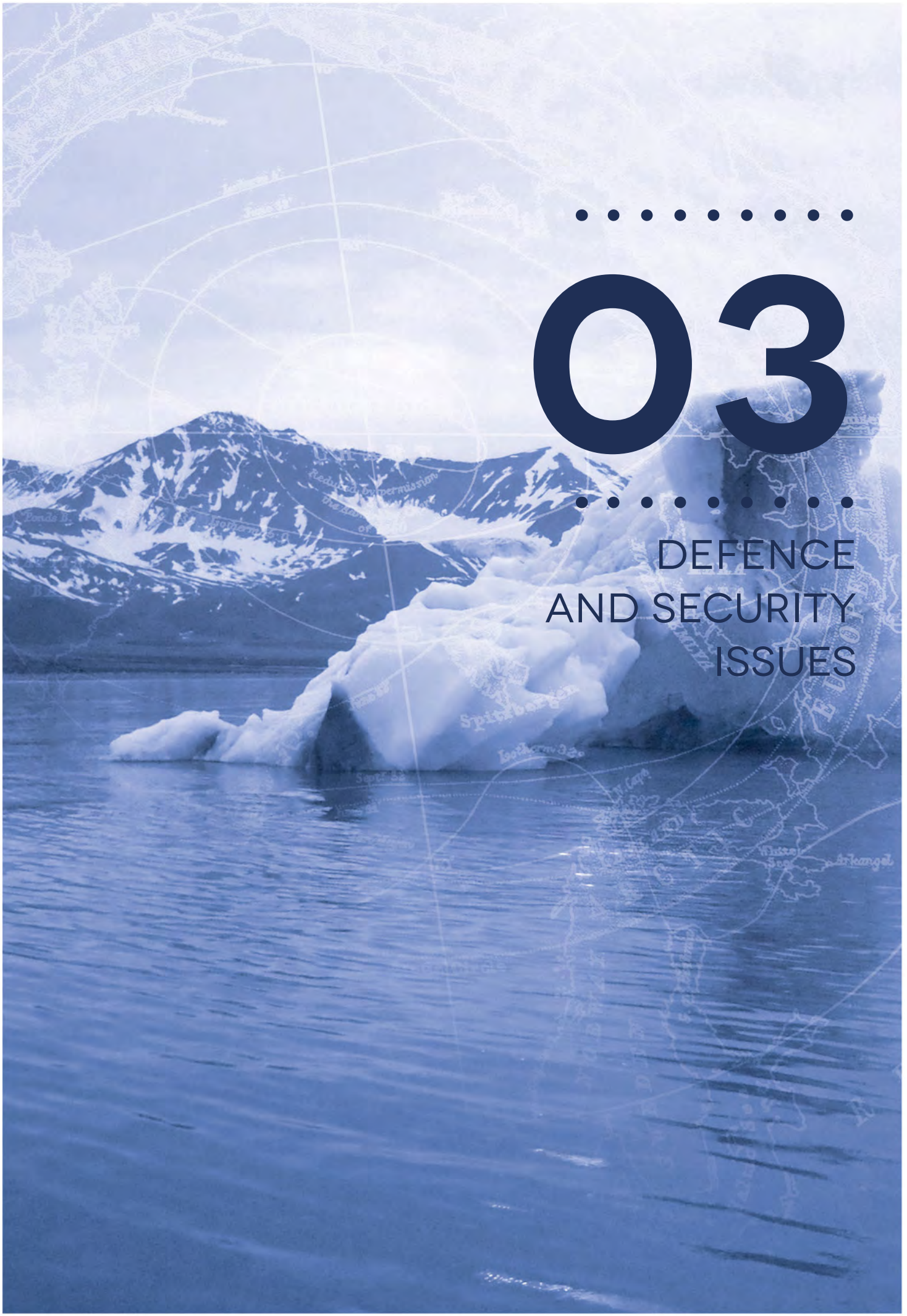
The other 10% of the Arctic population (approx. 400,000 people) consists of indigenous populations who have been living in some of the northern reaches of the Arctic for more than a thousand years in some cases. Some of these communities stretch across international borders: the Sami people inhabit the northern territories of Finland, Norway, Northwest Russia (Murmansk Oblast) and Sweden; the Inuit people live in the northern territories of the United States, Canada, Greenland and the Russian Federation (Kola Peninsula). The Sami people are the only indigenous population in the "European Arctic". In contrast to the average figures for the whole Arctic region, in Nunavut (Canada) and in Greenland (Denmark), indigenous inhabitants are in the majority and Westerners are in the minority. Approximately 40 indigenous languages have been spoken in the Arctic for hundreds or even thousands of years. Some of these languages are now under threat.

Indigenous representation in the Arctic Council

Source : Arctic Council



The indigenous populations of the Arctic are represented in the Arctic Council by six indigenous organisations that have the status of "Permanent Participants" that entitles them to full consultation rights for the decisions adopted by a consensus of the 8 Member States. As is the case elsewhere, the indigenous peoples of the Arctic claim specific rights that are more than human rights or minority rights (right to self-determination, land and/or natural resources rights, right to be consulted, etc.). These rights have been set out in the International Labour Organization Convention No. 169 and in the United Nations Declaration on the Rights of Indigenous Peoples, which is not legally binding. To date, Norway is the only state in the Arctic to have ratified the ILO Convention No. 169, whereas all of the Arctic states, with the exception of Russia, have adopted the United Nations Declaration on the Rights of Indigenous Peoples.



03

DEFENCE AND SECURITY ISSUES

THE ARCTIC, A REGION OF COOPERATION

Despite the uncertainty surrounding the prospects for exploiting natural resources and the safe use of Arctic shipping routes that have opened up as a result of rapid changes in the Arctic Ocean, new sovereignty issues have emerged. Although the Arctic coastal states are the first concerned, the problems relating to economic activity, the environment and maritime security require France to give more consideration to the region in terms of its global interests and its responsibilities as part of the international community.

France's membership of the European Union and NATO means that it may have to contribute to maintaining the stability of the Arctic, since it is one of the few countries with the capability to deploy significant resources at such great distances.

Even though the military role of the Arctic has faded into the background since the end of the cold war, it offers room for manoeuvre which has once again become a theatre for contradictory ambitions, especially as Russia's strategic stance changes.

Russia's participation in regional cooperation bodies and bilateral cooperation programmes means that the Arctic has progressively become a region of cooperation between the eight countries directly concerned. Under the terms of the Ilulissat Declaration of 28 May 2008, these countries made a commitment to peaceful settlement of maritime disputes based on the United Nations Convention on the Law of the Sea of 10 December 1982 (hereinafter, "the Convention"). This means:

- Maritime boundaries between neighbouring coastal countries are defined through an advanced bilateral or trilateral negotiation process, which has already produced 6 agreements, including a historic treaty between Russia and Norway in 2011 that ended a 40-year dispute.
- The coastal states' claims to the continental shelf extending more than 200 nautical miles offshore are addressed as part of a UN process under the terms of the Convention. At present, Norway is the only one of the five coastal states to have defined the outer limits of its continental shelf in the Arctic Ocean. Denmark/Greenland, Russia and Canada have started the process of filing claims with the competent United Nations commission. Since the United States has not ratified the Convention, it cannot take part in this process to extend its jurisdiction. However, the United States has been conducting a vast programme since 2008 to define the limits of its extended continental shelf (U.S. Extended Continental Shelf Project) in six ocean areas, including the Arctic Ocean. This programme is coordinated by the U.S. National Oceanic and Atmospheric Administration.

Ultimately, much has been achieved in terms of regional cooperation in the Arctic. The spirit of dialogue of the Arctic states has played a critical role, as shown by the creation of an intergovernmental forum, the Arctic Council. However, the Arctic Council has no authority to deal with military security issues. Such matters are addressed by the Arctic

Security Forces Roundtable, a group of military representatives from Arctic and non-Arctic states. France is a regular Roundtable participant. With the relevant partners, it is able to highlight the model developed in its national maritime security strategy.

FRANCE'S MAIN DEFENCE AND SECURITY INTERESTS IN THE ARCTIC

At this point, France's main interests in the Arctic primarily concern its economy, security and the environment, rather than military and defence issues. However, any threat to the stability and security of the Arctic, which is a frontier for mining minerals and energy, as well as a future shipping lane between Asia and Europe, would affect our present and future interests. We must ensure the security of our energy supply and, more specifically, our supply of strategic minerals (niobium, tantalum, etc.), which are critical for the high-tech defence sector.

France is allied with the Arctic states as a member of the European Union (Denmark, Finland, Sweden) and the Atlantic Alliance (Canada, United States, Denmark, Iceland, Norway), which means it is concerned by the stability and security of this area that lies between 2,500 and 5,000km from the French coast.

The gradual opening of Arctic shipping routes, the increase in commercial shipping traffic (pleasure cruising and, to a lesser extent, cargo) will involve French ships and French interests. This raises new challenges for France in its capacity as a leading naval power: protection and rescue of ships and passengers, fighting pollution, critical legal issues concerning freedom of navigation, etc.

Lastly, the Arctic Ocean is also a manoeuvre area for navies. In operational terms, France's armed forces must remain able to use the Arctic Ocean for transit of its naval and air forces and, potentially, for naval air force operations.

RECOMMANDATIONS ON **SECURITY AND DEFENCE**

- Monitor regional political and military developments and develop in-depth understanding of the area:

  - assign French officers to ships belonging to the Arctic coastal states;

  - work with other ministries to study the feasibility of sending oceanographic and hydrographic ships on a mission to the Arctic Ocean;

  - offer opportunities for scientists to embark and conduct experiments on the vessels deployed;

  - step up the exchange of oceanographic information between the French navy and its foreign counterparts, possibly by offering information in our possession about other regions of the world.

- Support our economic and industrial interests:

  - maintain the technological understanding and know-how needed to design Arctic equipment with due consideration of the operational needs of the armed forces; capitalise on feedback from the use of French and foreign equipment;

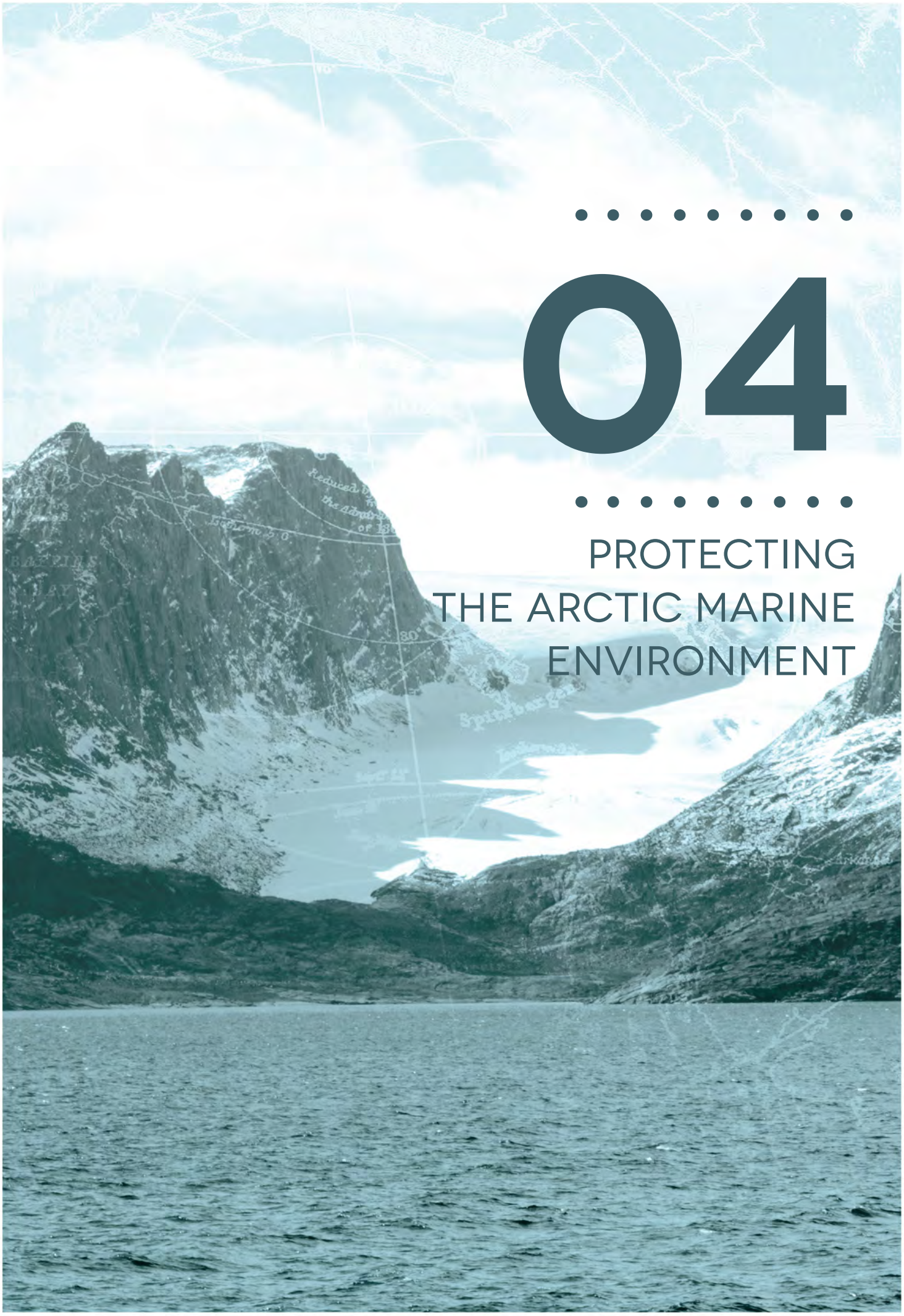
  - organise periodic meetings between players from the public and private sectors, and players from the defence, energy and transport sectors who are concerned by Arctic issues.

- Enhance the legitimacy of France's participation in regional governance through its contribution to the stability and security of the region.

- In operational terms, strive to develop and maintain the capacity of the French forces to operate in the Arctic:

  - assert our commitment to compliance with the Convention, particularly with regard to freedom of navigation in Arctic waters.

- Promote outside of the Arctic Security Forces Roundtable a bilateral approach focusing on practical objectives with countries having proven capabilities in the Far North.



04

PROTECTING THE ARCTIC MARINE ENVIRONMENT

THE ARCTIC OCEAN, A UNIQUE AND FRAGILE MARINE ENVIRONMENT

The waters of the Arctic Ocean are key components for climate regulation in the northern hemisphere. Their ecosystems are undergoing major changes as a result of changes in the chemical composition of the atmosphere, global warming and increasing pressure from human activity facilitated by declining summer sea ice: sea water is acidifying, shipping traffic is increasing, access to fishing and mineral resources is growing easier, pleasure cruising is developing, pollutants are accumulating, etc.

France is committed to protecting the Arctic marine environment. It supported the drafting of a Polar Code by the International Maritime Organization in the form of amendments to the SOLAS Convention on safety at sea and the MARPOL Convention on pollution from ships in polar waters, taking an active role on the Marine Environment Protection Committee (MEPC), the Maritime Safety Committee (MSC) and the ad hoc working group. Yet there are still many maritime safety issues to be resolved:

- The existing shipping monitoring systems are insufficient in number and do not yet operate as a network, which limits their effectiveness in the event of an accident. There is a lack of satellite surveillance. Search and rescue capabilities, depending on the location, may be limited or slow to respond, making it very hard to fight pollution.
- The great variability of the climate makes it difficult to forecast sea ice locations over time accurately.
- Charts of the Arctic Ocean, along with hydrographic, meteorological and oceanographic data are patchy, increasing the risk of grounding, which can result in pollution.
- Very few of the standard requirements address the ecological and human impact of shipping.

Easier access to biological and mineral resources leads to more offshore mining and increases the risks of leaks or worse, oil spills. The impact of any spill in the Arctic is substantial because of the particularly vulnerable marine environment and its weak resilience stemming from extreme climate conditions. Resources are located almost exclusively on the continental shelves of the Arctic coastal states, which have the sole power to set standards in this regard. In 2013, these countries, acting within the framework of the Arctic Council, adopted a non-binding agreement on preventing and fighting oil spills, which defines some best practices (particularly conducting exercises) and prescribes closer cooperation for fighting oil spills.

Furthermore, climate change, which has very significant effects in the Arctic and the North Atlantic, has led to a trend for fish stocks to migrate northwards, pointing to new prospects for fisheries.

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trend for fish stocks to migrate northwards, pointing to new prospects for fisheries.

The five Arctic coastal states met in Oslo on 16 July 2015 to sign a "Declaration Concerning the Prevention of Unregulated High Seas Fishing in the Central Arctic Ocean". In April 2016, the European Commission was invited by the United States to participate in the five Arctic coastal states' negotiation of a draft legally binding agreement on preventing illegal fishing in the central Arctic Ocean.

ECOLOGICAL ISSUES FOR FRANCE IN THE ARCTIC OCEAN

France takes part in the work of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic, which has jurisdiction over a large part of the Arctic Ocean (40%).

France, with Saint-Pierre and Miquelon, and as a Member State of the European Union, belongs to two regional fisheries management organisations, the Northwest Atlantic Fisheries Organization (NAFO) and the North East Atlantic Fisheries Commission (NEAFC), that cover the fringes of the Arctic. The European Union and Greenland ensure sustainable management of their fisheries in Greenland's waters under the terms of a partnership agreement that deals with shrimp in particular.

France does not currently have any major interests in commercial shipping in the Arctic. If this sector should develop, we must ensure that shipowners comply scrupulously with the provisions of the Polar Code. On the other hand, pleasure cruises, run by specialised French companies, are booming.

The sensitivity of marine ecosystems to increased human activity represents a challenge and meeting that challenge is the responsibility of all potential users of the Arctic Ocean. This prospect and the obligations of environmental ethics mean that it is France's responsibility to behave in an exemplary manner and to promote this vision.

RECOMMANDATIONS ON ECOLOGICAL ETHICS

MARITIME SAFETY

- Work to implement the regulatory framework for vessels operating in the Arctic ("Polar Code") within the framework of the International Maritime Organization (IMO).
- Maintain our involvement in the IMO's work to broaden the scope of the binding Polar Code (Phase II) to include vessels that are not covered by the SOLAS Convention (vessels below 500 gross tonnage, fishing vessels and vessels making only national voyages).
- Enhance the safety of shipping routes by equipping the coasts and ports with infrastructure to aid navigation and establishing emergency response resources, such as an operational unit to prevent oil spills.

- Support map-making efforts and efforts to pool scientific information on marine ecosystems, through direct exchanges between researchers and the participation of French scientists in Arctic Council working groups.
- Work to develop pleasure cruising that is environmentally sensitive by encouraging the industry to comply with the good conduct codes being developed by coastal states.

Mining

- The Arctic coastal states have the authority to regulate activities within the areas under their jurisdiction. However, it is still important to campaign at the multilateral and bilateral levels for:

  - regulation of extractive industries' activities that is commensurate with environmental risks in the Arctic, which could lead to a complete ban in cases where the risks appear to be too great;

  - adopting processes that ensure an ecological expert assessment and an impact study prior to undertaking any new activities;

  - French companies' compliance with best practices, such as the Arctic Council's Arctic Offshore Oil and Gas Guidelines, to mitigate the environmental impact of these industries by preventing and fighting air and sea pollution;

  - a plan to set up a compensation and reparations fund for damages stemming from offshore activities throughout the Arctic, which could be managed by an independent structure.

Protection of biodiversity and conserving the environment

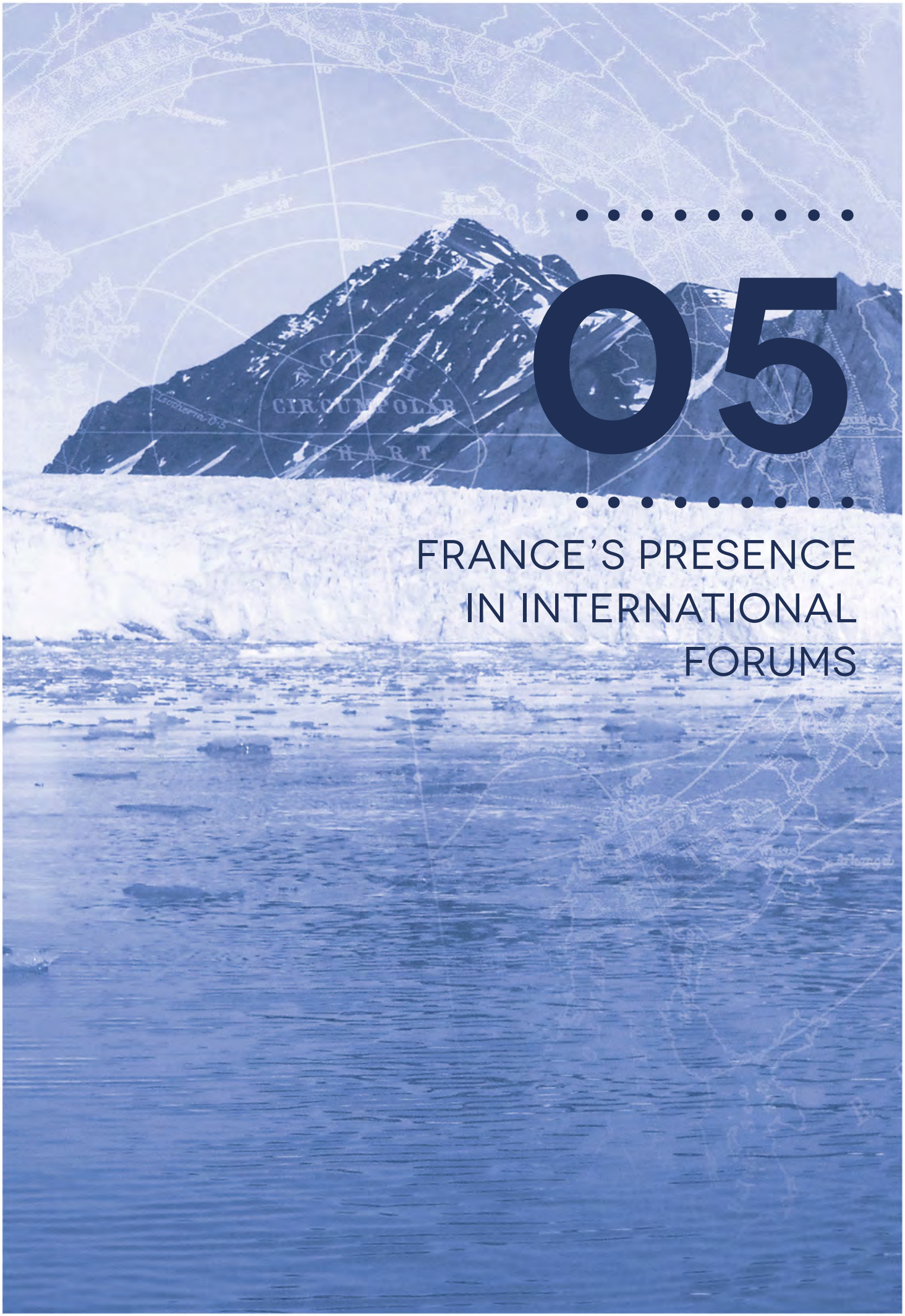
- Support the process of defining marine protected areas in the Arctic (areas of great ecological and cultural importance), working in consultation with stakeholders.
- Encourage measures to mitigate the impact of shipping on sea mammals.
- Work with the European Union to monitor the sustainable management plan for Arctic fisheries put forward by the five Arctic coastal states and ensure that the plan is consistent with the work of the NEAFC on protecting marine ecosystems.
- Promote France's recognised expertise on ocean acidification and contribute to research in this area by joining the relevant Arctic Council working groups, such as the working group on Protection of the Arctic Marine Environment (PAME) or the working group on the Arctic Monitoring and Assessment Programme (AMAP).
- Promote policy decision-making based on the best scientific knowledge available.

Fisheries

- Support, within the context of the Common Fisheries Policy, any initiative aimed at establishing a framework for the sustainable management of Arctic fisheries.
- Support and participate in research on changes in fish stocks in the Arctic Ocean.

ORGANISATION CHART OF THE ARCTIC COUNCIL

Member States	Permanent Participants	Observers		
		Countries	**International organisations**	**Non-Governmental Organisations**
Canada	*Aleut International Association*	Germany (1996)	*International Federation of Red Cross and Red Crescent Societies (IFRC)*	*Advisory Committee on Protection of the Seas (ACOPS)*
Denmark/ Greenland/ Faroe Islands	*Arctic Athabaskan Council*	Spain (2006)	*International Union for the Conservation of Nature (IUCN)*	*Arctic Institute of North America (AINA)*
Finland	*Gwich'in Council International*	France (2000)	*Nordic Council of Ministers (NCM)*	*Association of World Reindeer Herders (AWRH)*
Iceland	*Inuit circumpolar Council*	Netherlands (1998)	*Nordic Environment Finance Corporation (NEFCO)*	*Circumpolar Conservation Union (CCU)*
Norway	*Russian association of indigenous peoples of the North (RAIPON)*	Poland (1996)	*North Atlantic Marine Mammal Commission (NAMMCO)*	*International Arctic Science Committee (IASC)*
Russian Federation	*Sami council*	United Kingdom (1996)	*Standing Committee of the Parliamentarians of the Arctic Region (SCPAR)*	*International Arctic Social Sciences Association (IASSA)*
Sweden	According to the founding Ottawa Declaration (1996), an additional permanent participant seat could be created	China (2013)	*UN Economic Commission for Europe (UN-ECE)*	*International Union for Circumpolar Health (IUCH)*
United States of America		South Korea (2013)	*UN Development Programme (UNDP)*	*International Work Group for Indigenous Affairs (IWGIA)*
		India (2013)	*UN Environment Programme (UNEP)*	*Northern Forum (NF)*
		Italy (2013)		*University of the Arctic (UArctic)*
		Japan (2013)		*World Wide Fund for Nature-Global Arctic Program (WWF)*
		Singapore (2013)		
		EU (Permanent guest)		



05

FRANCE'S PRESENCE IN INTERNATIONAL FORUMS

EMERGENCE OF AN INTERNATIONAL FORUM ON ARCTIC ISSUES

The Arctic Council, created under the 1996 Ottawa Declaration signed by the eight Arctic states is the key political forum for regional cooperation on Arctic issues. The Arctic Council adopts texts that are not legally binding, but they carry enough political weight that countries comply with them. The Council's policy decisions are adopted at a meeting of Foreign Ministers held every two years. The decisions are based on the work of the Council's six scientific working groups and give due consideration to the interests expressed by the representatives of indigenous peoples. Two factors in particular have helped to establish the legitimacy of the Arctic Council:

- Its special relationship with indigenous peoples. The Permanent Participants have an equal say alongside the Member States at the meetings of ministers and are consulted during the decision-making process, but they do not have a vote. In practice, decisions are adopted by consensus. In principle, this gives the Permanent Participants a say in decisions that are likely to affect them directly.
- The growing number of non-Arctic states applying for observer status. France has been an observer since 2000. Certain Asian countries became observers in 2013: China, South Korea, India, Japan and Singapore brought the number of observer countries up to 12 (the EU is a "permanent guest"). The arrival of the major emerging countries is testimony to the growing interest in the Arctic and its resources, as well as the Arctic Council's realisation that it needs to involve countries where greenhouse gas emissions have major consequences for the Arctic. Since 2010, at the initiative of Poland, the observers have held informal meetings with the Chairmanship of the Arctic Council known as "Warsaw Format" meetings, which ensure their voices are heard. At present, the consideration of new applications for observer status, from Estonia, Greece, Mongolia, Switzerland and Turkey, has been deferred for lack of a consensus on the number of observers and their role.

The Arctic Council is still a young organisation, which explains why it does not deal with governance issues. As it celebrates its 20th anniversary and given its development, the Council plans to adopt a more comprehensive approach, encompassing issues relating to the role of potential non-Arctic users of the region or to economic issues in the Arctic.

Working alongside the Arctic Council, other forums are intended to deal with certain aspects of Arctic issues.

These include the **Barents Euro-Arctic Council**, on which the European Union sits as a member and France as an observer, and the European Union's **Nordic Dimension**.

The **International Maritime Organisation** drew up a "Polar Code", which is a collection of amendments to the SOLAS and MARPOL Conventions on the safety of vessels operating in polar waters. France has played an active role on the Marine Environment Protection Committee (MEPC), the Marine Safety Committee (MSC) and the ad hoc

working group that drafted the texts.

We should also closely monitor the work of the Arctic Regional Hydrographic Commission (ARHC) of the International Hydrographic Organization and possibly contribute to it.

FRANCE'S DIPLOMATIC ACTION RELATING TO THE ARCTIC

With its history in the Arctic, France should rely on its experience and the recognised excellence of its polar research to make a helpful contribution to the Arctic Council working groups. France cannot strengthen its legitimacy in the Arctic or promote its scientific, environmental and economic interests in the region without providing the necessary resources for French scientists to play an active and substantial role in these working groups.

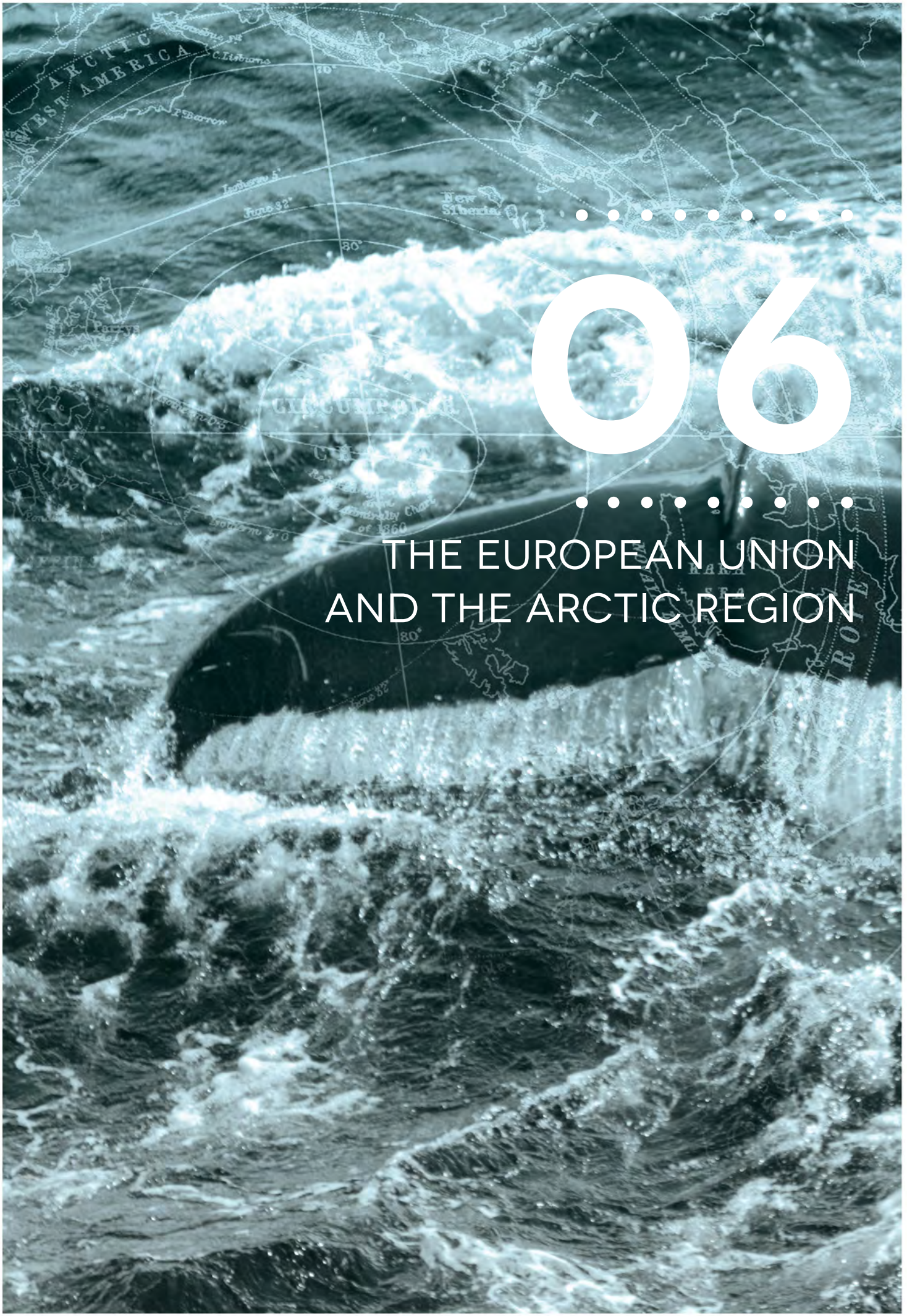
The quality of the work of the Arctic Council working groups also creates an opportunity to enhance our bilateral scientific cooperation with the Arctic states. This will also be an opportunity to promote France's scientific expertise.

The new observer status, adopted at the 2013 Kiruna Ministerial Meeting, involves a periodic review of the observers' interests in the region. Consequently, observers seeking to renew their status are invited to submit to the Arctic Council all relevant information about their activities in the Arctic and their contributions to the work of the Council. With this in mind, it has become particularly critical to provide appropriate resources to strengthen France's scientific presence in the working groups, since the new Asian observers have already joined most of them.

Maintain a presence in all the relevant forums in order to promote France's interests, maintain the positions of French players and promote a common interest vision (conservation of the environment, combating climate change, balanced governance, etc.)

RECOMMANDATIONS ON **DIPLOMACY**

- **France's diplomatic action is based primarily on steady and sustained participation in the Arctic Council, which is the key political organisation for Arctic issues. Our action must also aim to enhance France's scientific cooperation through bilateral initiatives and involvement in other technical forums (International Maritime Organization, Arctic Security Forces Roundtable, International Organization for Standardization, etc.).**
- Strengthen our scientific presence through sustained and structured participation in at least two or three Arctic Council working groups.
- Continue our task-force participation with the help of the diplomatic network.
- Strengthen our links and plan cooperation projects with the Permanent Participants.
- Take an active part in the dialogue between the observers and the Chairmanship of the Arctic Council at "Warsaw Format" meetings.
- Plan bilateral action on the Arctic Council's priorities with the Member States (sustainable development and green growth, fighting land and sea pollution, research on climate change and its impact on biodiversity).
- Identify opportunities for synergy with the observers.
- France's diplomatic network in the Arctic states and in the Arctic Council observer states must play its full role in implementing the National Roadmap for the Arctic.



06

THE EUROPEAN UNION AND THE ARCTIC REGION

THE EUROPEAN UNION AND THE ARCTIC

France, as a Member State of the European Union, supports EU policy on the Arctic and coordinates its action with this policy, with the view that the EU is significantly involved in the Arctic and a key actor in this region.

Three Member States of the European Union (Denmark, Finland and Sweden) have territories beyond the Arctic Circle and seven Member States are observers on the Arctic Council.

The EU is also the world's largest maritime economic power (transport, insurance, shipbuilding techniques, tourism, offshore energy production, research) and a key player in the trade of fishery products in the European sub-Arctic and Arctic. The EU is a member of the North East Atlantic Fisheries Commission (NEAFC) and the OSPAR Commission.

In addition, in terms of energy security, Europe relies on imports for more than 50% of its energy and over two-thirds of its imports are from Russia and Norway, which have large offshore oil fields in the Arctic that are in production or under development.

The EU is heavily invested, as both a key player and a major donor, in the field of Arctic research. The European Union has committed over 200 million euros (and 40 million euros for 2016-2017) to research and development programmes in the Arctic in the last ten years. The Seventh Framework Programme for Research and Technological Development provided funding for more than 100 projects, including 40 collaborative projects on climate change, contaminants and health, infrastructures, environmental technologies, capacity-building, cartography, space and soil. Several research programmes were set up for sustainable development in the Arctic, with total funding of 1.14 billion euros for 2007-2013 (improving recycling and pollution treatment techniques; water management; nuclear safety and civil defence). From 2014 to 2020, the Creative Europe and Horizon 2020 programmes will further increase EU involvement in the region. More specifically, Horizon 2020 should continue funding three programmes: SIOS-PP (4 million euros), INTERACT (7.3 million euros) and ICE ARC (10.9 million euros).

The Arctic dimension is present in many of the EU's sector-specific policies, such as the raw materials strategy (mining of oil, gas and mineral resources), fisheries (monitoring fish stocks), shipping and navigation, socio-cultural changes, the Neighbourhood Policy (the Northern Dimension, a partnership for implementing the policy in the Far North; the Arctic Inter-Service Group) and the security policy (the new European Security Strategy and the European Union Maritime Security Strategy).

France is supporting the EU in its work to develop an integrated European policy for the Arctic, which began in 2006. The communication published on 27 April 2016 by the High

Representative of the Union for Foreign Affairs and Security Policy and the Commission is the last step towards "an integrated European Union policy for the Arctic". It serves to increase the legitimacy of EU action in the Arctic. This action fully warrants the European Union being granted observer status in the Arctic Council, which France has advocated from the outset.

The EU and France share the view that the Arctic needs to remain stable, sustainable and prosperous, in the interests of not only the EU and its Member States, but the whole world.

Science, research and innovation are central to EU action in the Arctic, which focuses on three strategic priorities:

1. combating the effects of climate change;
2. sustainable development;
3. international cooperation.

The EU focuses its action on the European part of the Arctic where it has the legitimate right to take action, since it is represented there by the Arctic territories of Finland and Sweden (Lapland, Kainuu and Northern Ostrobothnia provinces in Finland and Norrbotten and Västerbotten provinces in Sweden). Norway and Iceland, which have territories and/or maritime areas under their national jurisdiction that are located north of the Arctic Circle, are members of the European Economic Area. Several EU documents refer to the "European Arctic" (and the "European sub-Arctic") or to the "indigenous people of the European Arctic", meaning the Sami, a transnational indigenous community found in Finland, Norway, Sweden and the Russian Federation.

Three main tools are used to implement EU policy on the Arctic: the framework programme for European Arctic research (Horizon 2020); the Northern Dimension; and the European Instrument for Democracy and Human Rights. These tools are backed by development funds and a regional policy structured around transnational and cross-border programmes, with the participation of Ireland, Finland, Sweden, the United Kingdom, Greenland, Iceland, the Faroe Islands and Norway.

In 1999, the EU launched the Northern Dimension (ND) to develop cooperation on the environment, security, nuclear power and cross-border links in a vast region encompassing the European Arctic and sub-Arctic, the southern shores of the Baltic Sea including the neighbouring countries, and stretching from Northwest Russia in the East to Iceland and Greenland in the West. The ND brings together Norway, Russia, Iceland, and other regional cooperation forums such as the Arctic Council, the Barents Euro-Arctic Council, the Council of the Baltic Sea States and the Nordic Council. The ND is now organised around four partnerships in the following sectors: the environment, public health and social well-being, culture, and transport and logistics.

The EU is also a member of the Barents Euro-Arctic Council (BEAC), a regional cooperation body, alongside Denmark, Finland, Iceland, Norway, the Russian Federation and Sweden. Its role on the BEAC is all the more important as the Council relies greatly on the resources and partnerships of the Northern Dimension. France holds observer status in the Council.

Barents Euro-Arctic Region
Source : BEAC



The Northern Dimension, along with the BEAC, was one of the few European-Russian cooperation formats that were not shut down when the European Union imposed restrictions on Russia following the annexation of Crimea and Russian intervention in Eastern Ukraine. The EU, including France, intends to work towards this aim of maintaining stability in the Arctic by promoting regional cooperation.

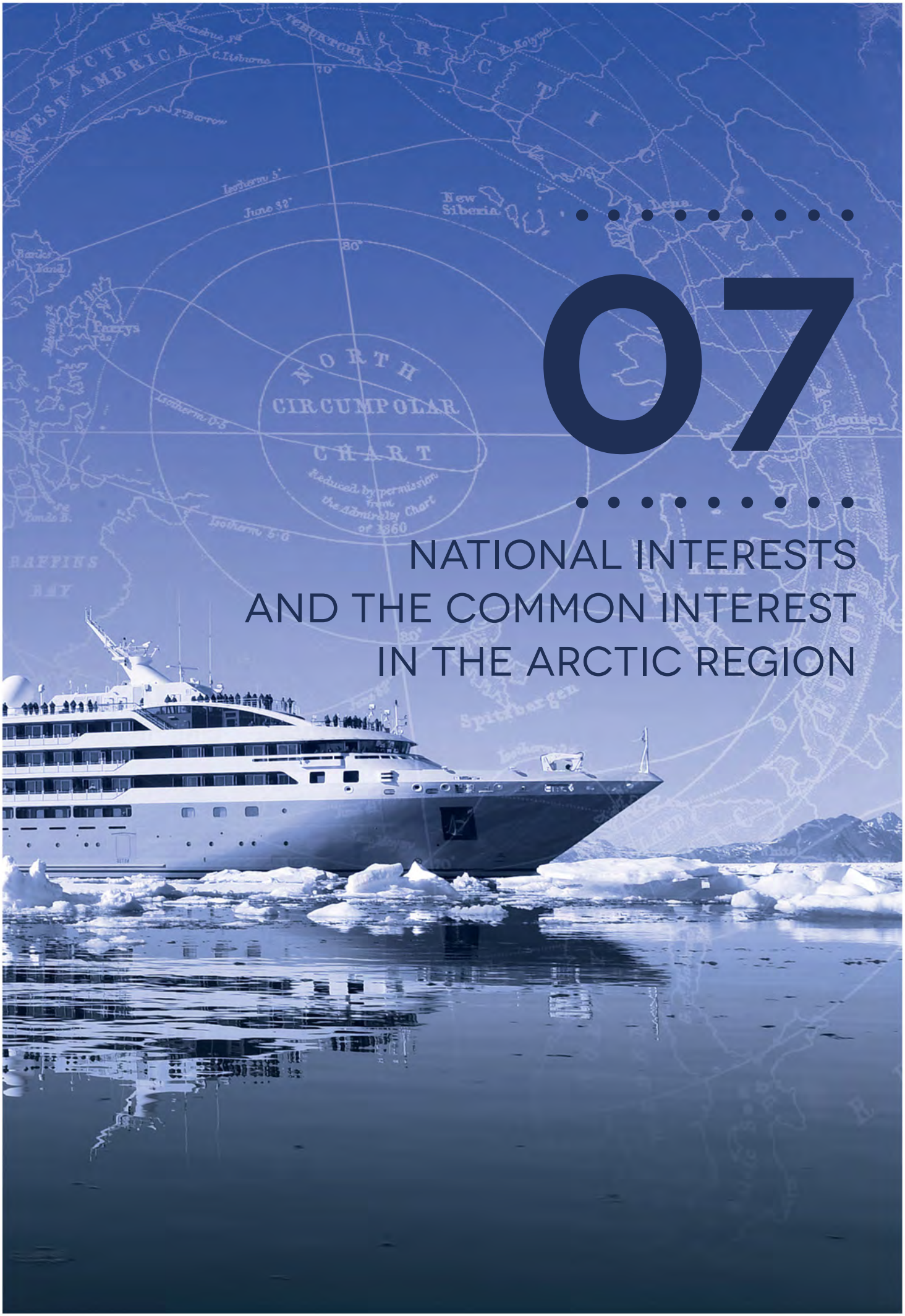
The European Union is therefore striving to obtain a role and status in the Arctic Council that is commensurate with its scientific, technical and financial investment in the Arctic.

Coordination with the EU

France is in favour of establishing an integrated European policy for the Arctic which strengthens the legitimacy of European action there, with a view to obtaining permanent observer status in the Arctic Council and improving the coordination of many European

programmes. Within the EU, France will therefore pursue the following objectives to support EU action:

- implement this roadmap, which has an ambitious general interest aim of conserving the Arctic marine environment and ecosystems;
- establish a regional fishery management organization and a regional sea convention for the Arctic ocean;
- uphold the principles of international law, particularly in terms of freedom of navigation and the right of innocent passage;
- increase discussions with the five Arctic coastal states on the regulation of activities in the central Arctic Ocean;
- strengthen the Arctic dimension within the Northern Dimension and the Barents Euro-Arctic Council, especially for environmental and transport issues;
- consolidate the discussions begun with our European partners on security issues in the Arctic maritime area, especially in the framework of the Arctic Security Forces Roundtable (ASFR);
- integrate the Arctic into long-term planning for the European Energy Security Strategy.



07

NATIONAL INTERESTS AND THE COMMON INTEREST IN THE ARCTIC REGION

THE ARCTIC, AN INTERNATIONAL CONCERN

The new situation in the Arctic caused by the dramatic retreat of summer sea ice has gradually become an international concern.

The consequences of changes in the polar environment and climate are already being felt all over the planet.

The Arctic is a zone of global scientific interest.

As access to the Arctic Ocean increases year by year, it reveals a connection between the North Pacific and the North Atlantic, opening up opportunities and challenges that could concern the international community.

As an observer in the Arctic Council, France recognises the Arctic states' sovereignty, sovereign rights and jurisdiction in the Arctic.

By virtue of their sovereignty, their sovereign rights and their jurisdiction over vast portions of the Arctic Ocean, the five coastal states are in a special position to respond to the challenges and issues in the Arctic.

The nature and the scale of the issues and challenges in the Arctic call for a high level of international cooperation between the states that are directly and indirectly concerned.

France subscribes to the idea that the United Nations Convention on the Law of the Sea signed on 10 December 1982 is the legal framework for all activities concerning the Arctic Ocean.

Under the Convention, governance issues in the Arctic Ocean imply a process that balances the interests of the coastal states with those of other states.

A COMMON INTEREST APPROACH TO THE ARCTIC

France's scientific, economic, ecological ethics, political and defence interests in the Arctic are bound to grow stronger.

On the strength of its long scientific tradition in the polar regions, France has become an active participant in international research on the effects of climate change in the North and its consequences for the earth's natural balances.

As a maritime power, France, like the United States and the European Union, is committed to preserving freedom of navigation in the Arctic seas.

The central Arctic Ocean, as a pocket of "high seas", is a maritime space where each state has control and jurisdiction over its own vessels. France, working alongside the European Commission, intends to assert its obligations and rights in discussions on the regulation of future activities in the central Arctic Ocean.

Maritime safety (safety of persons, prevention of pollution from ships) in polar waters, which are remote, vulnerable and potentially hazardous, is a challenge that is the

responsibility of all potential users of the Arctic Ocean.

The sensitive environment and the weak resilience of Arctic marine ecosystems to human activities (commercial shipping, oil drilling, pleasure cruising, etc.) is a challenge that is the responsibility of all potential economic players.

France supports the common interest principle of a multi-sector precautionary approach to this fragile marine area undergoing major environmental changes as a result of climate disruption. France attaches particular importance to the quality, sustainability and stability of fisheries management in this area.

As a member of NATO, France is concerned by the issues of stability and security that could concern the Arctic states that are members and partners of the Alliance.

Generally speaking, France works alongside the other directly and indirectly concerned states to promote the balancing of national interests and common interest.

France promotes the principle of the empowerment of the non-Arctic states that are potential users of the Arctic through greater involvement of these states in the planning and decision-making processes relating to sustainable and responsible governance of the Arctic Ocean.

RECOMMENDATIONS ON **PROMOTING THE GENERAL INTEREST**

- Express our political interest in the Arctic through a high level of representation at the Ministerial Meetings of the Arctic Council.
- Ensure a high level of participation of French scientists in the Arctic Council's working groups and task forces.
- Relay to the Arctic partners the joint request of the 12 observer states in the Arctic Council for greater participation, both in terms of access to certain working groups on strategic matters and in terms of the format of the processes for preparing and adopting decisions.
- France's diplomatic action with regard to the Arctic requires sustained diplomatic and scientific representation on the Arctic Council.
- Make the most of our permanent scientific presence in Svalbard.
- Support the principle of ambitious environmental standards for oil drilling in the polar regions, particularly in the "Arctic Operations" Technical Committee of the International Organization for Standardization (ISO).
- Promote a high level of conservation of the Arctic environment in forums with the legal competence or authority to extend their jurisdiction over some or all of the Arctic Ocean (OSPAR, NEAFC, etc.).
- Promote and implement the collection of hydrographic data by government and private vessels to improve ocean cartography and safe navigation (collaborative

opportunistic hydrography).

- Ensure a limited but long-term presence in Arctic waters.
- Work with the EU to develop the Commission's position on plans to regulate activities in the central Arctic Ocean.
- In the run-up to the entry into force of the Polar Code on 1 January 2017, play an active role in the process of harmonising national regulations and the new international regulations on shipping in polar waters.
- Ensure participation in international scientific organisations on the Arctic, particularly the International Arctic Science Committee (IASC), and in major international events on the Arctic (Arctic Circle in Iceland, Arctic Frontiers in Norway, etc.).

CONCLUSION

This document testifies to France's level of interest in the new situation in the Arctic, where economic opportunities and environmental and climate challenges are inextricably linked.

In his speech to the Arctic Circle conference in Reykjavik, Iceland on 16 October 2015, the President of the French Republic, François Hollande, said:

> "France will do everything that it can, here in the Far North of the planet, to take action, mobilise its researchers and its businesses, to enable us to preserve this part of the world, which is undoubtedly one of the most beautiful."

For France, and for many other countries that are directly and indirectly concerned, the Arctic is an area of global scientific interest. France calls for increased scientific cooperation in the Arctic, in which it intends to play an active role by increasing its resources and its investment in scientific research on the Arctic. The Arctic is an important natural laboratory for studying climate change at the global level, making it an area of scientific interest for all of humanity.

France supports a multi-sector environmental precautionary approach based on the conservation of Arctic marine ecosystems and it adheres to the principle put forward by the US Chairmanship of the Arctic Council (2015-2017) stating that the Arctic is a testing ground for developing green technologies.

As the President of the French Republic, François Hollande, said in Reykjavik on 16 October 2015:

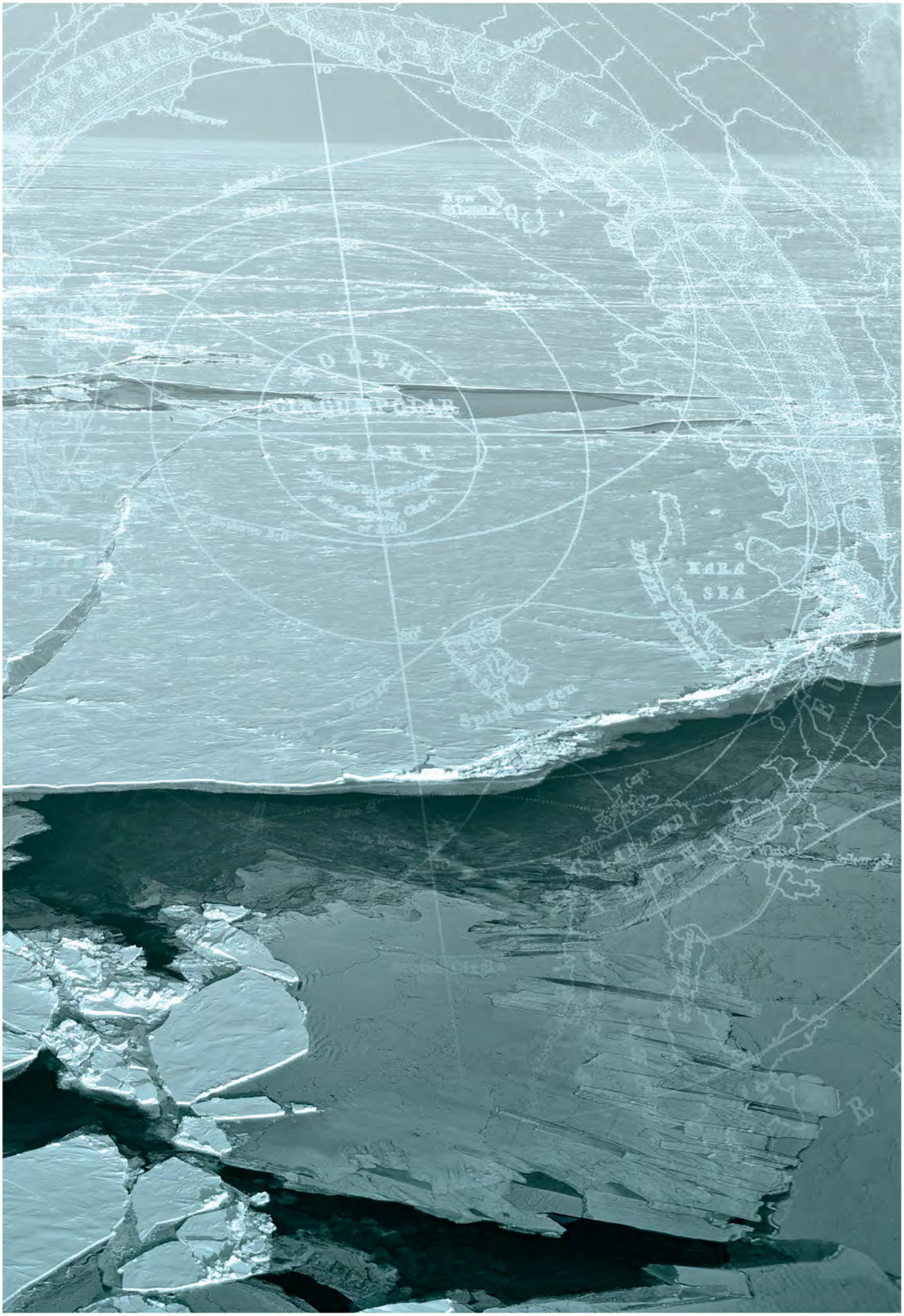
> "France will never think that the Arctic Ocean can be treated like any other ocean in terms of the level of environmental precautions. We are calling for implementation of special, more stringent environmental safety standards in the Arctic where French operators are present."

France promotes the principle of the empowerment of the non-Arctic countries that are potential users of the Arctic Ocean through greater involvement of these countries in the planning and decision-making processes relating to sustainable and responsible governance of the Arctic Ocean.

France will work with other directly and indirectly concerned states to promote a balance between national interests and the common interest in the Arctic Ocean, which, year after year, reveals a new inter-oceanic connection between the North Atlantic and the North Pacific.

Ultimately, for France, the Arctic is an ecologically sensitive area where France's interests must be expressed within a clear framework of sustainability and common interest.

NORTH
CIRCUMPOLAR
CHART
Reduced by permission from the Admiralty Chart of 1860
NORTH AMERICA
ARCTIC
Barrow
Isotherm 0°
June 21st
New Siberia
Lena
Yenisei
Banks Land
Parry's
Melville Island
Isotherm 5°
BAFFINS BAY
KARA SEA
NOVAYA ZEMLYA
Spitzbergen
Isotherm 32°
Sept. 21st
June 21st
July 31st
GREENLAND
ARCTIC
Archangel
Arctic Circle
NORWAY
SWEDEN
FINLAND
RUSSIA


NORTH
CIRCUMPOLAR
CHART
MARA
SEA