Ministry of Foreign Affairs

# The Netherlands' Polar Strategy 2021-2025

## Prepared for Change

*Polaire Strategie 2021-2025 | Prepared for Change | The Netherlands' Polar Strategy 2021-2025 | Prepared for Change | The Netherlands' Polar Strategy 2021-2025 | P*

*Photo credit: Ronald J.W. Visser*

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Photo credit: Yuri Kozyrev

# Summary

The polar regions are important for the Netherlands and for the health of the planet. Their vulnerable ecosystems have been severely impacted by climate change. Global warming is leading to major ice loss and is threatening the biodiversity of the polar regions. These developments have both direct and indirect consequences for the Netherlands, such as sea-level rise due to the melting polar ice caps, more extreme global weather, changes in biodiversity, new economic opportunities and changing geopolitical relations.

For some time now, Dutch polar policy has rested on three key concepts: sustainability, international cooperation and scientific research. Even at this time of rapid change, these cornerstones of policy remain relevant, and the Netherlands continues to regard them as the foundations of its polar policy. All aspects of climate change, safety and security now receive more attention than they did in the past. The Netherlands will continue working to protect the ecosystems and environment of the polar regions, strengthen international cooperation and ensure that economic activity is sustainable.

As regards the Arctic region, Dutch efforts focus primarily on the protection of human interests, the environment, and international security and stability. Where there is economic activity, we encourage compliance with international agreements and standards concerning sustainability. These efforts take several forms, including support for and (where necessary) reinforcement of the international legal and administrative frameworks, based on the United Nations Convention on the Law of the Sea. We also help preserve political stability in the region, as an active observer at the Arctic Council and in our bilateral contacts with the Arctic states, where we emphasise the importance of cooperation and engagement on the part of all relevant actors. With developments in the region accelerating, dialogue and cooperation on the Arctic region are more important than ever. The Netherlands therefore intends to step up its diplomatic efforts on the Arctic region, within the limits of our existing resources and capacity, to ensure that humankind's relationship with the polar regions is safe and sustainable. The post of Arctic Ambassador is to be continued.

Dutch efforts in respect of Antarctica primarily take place under the Antarctic treaty system. As a contracting party the Netherlands may decide on the management and future of the continent along with the 28 other consultative parties. The Netherlands is of the opinion that the international management of Antarctica should focus on preserving the region as a unique, unspoilt wilderness. Dutch policy on the Antarctic therefore gives priority to nature conservation in the region, and focuses on providing maximum protection to the fragile Antarctic environment and the ecosystems it supports. The Netherlands believes that sustainable management of Antarctica means that any activities there must have no more than a minimal or passing impact. Particular attention is paid to the issue of regulating tourism.

The Netherlands uses a number of instruments to achieve these goals, scientific research being the most important. Its consultative status under the Antarctic Treaty obliges the Netherlands to perform substantial scientific research in the region. The Netherlands has built a good reputation and acquired influence in the Arctic Council thanks to the research it performs in the Arctic. The Dutch Polar Programme – the programme of scientific research that is part of the Dutch polar strategy – is administered by the Dutch Research Council (NWO) and has its own budget with ongoing long-term funding. Dutch research enjoys an outstanding international reputation, is characterised by a high degree of international collaboration and contributes to a better understanding of the changes in the polar regions.

*Photo credit: Kadir van Lohuizen*

# Introduction

Climate change is having an unimaginable impact on the polar regions. At the time of writing (2020), sad records are being set. In the summer Russian towns in the Arctic saw higher temperatures than ever before, some as high as 38°C. Records were also broken in Antarctica. In February 2020 the highest ever temperature – 18.3°C – was recorded there. This is causing the ice sheets to melt faster than ever. Over the past 10 years Antarctica has lost three times as much ice as in the previous decade. Ice loss in Greenland has doubled.[1]

The cause lies mainly outside the polar regions, as emissions of greenhouse gases elsewhere lead to a rise in the global temperature. The Arctic region is in fact warming at a rate of two to three times the global average.[2] The effects of rising temperatures at the poles are not confined to the polar regions, however. Polar ice melt is for example causing sea-level rise and more extreme weather patterns, and are intensifying the greenhouse effect as methane is released from thawing permafrost.[3] The polar regions play an important role in regulating the global climate. The ice there acts as a kind of air conditioning system for the planet. The loss of ice will impair their ability to perform this function.

The climatological changes in the polar regions are therefore having a global impact, and cannot be seen in isolation from activities elsewhere in the world.

Since the previous Dutch Polar Strategy was published in 2016, climate change has accelerated further. The drop in emissions as a result of measures introduced to control the COVID-19 pandemic has done nothing to change this, as the drop is only temporary and is too small relative to the total emissions reduction required up to 2030 and 2050 to keep the goal of limiting global warming to 1.5°C within reach. The warming of the polar regions and its effect in exacerbating global climate change can only be stopped by ambitious implementation of the Paris Agreement.



The melting ice caps are also accelerating other developments at the poles. It is for example becoming less difficult to navigate, fish and – in the Arctic – extract natural resources, including oil and gas, there. The greater accessibility leads both to economic opportunities and challenges in terms of sustainability and changing geopolitical relations. Political, military, economic and ecological security cannot be regarded in isolation from one another.[4] This strategy naturally considers all these matters.

Since the 1980s the Netherlands has pursued a single policy covering both polar regions, for historic reasons but also to highlight the similar challenges in the two regions.[5] Both poles are highly sensitive to changes in the climate. They are the heartbeat of the climate system, as it were. This is one of the reasons why scientific research in these regions is so important. The Netherlands regards both the Antarctic and the Arctic – in so far as it does not fall within the jurisdiction of the Arctic states – as global public goods (also known as global commons). These are areas of unique importance to humanity and the earth's ecosystem, and as such are not only a matter for the states that border them. Moreover, the Netherlands has been conducting polar research in both regions for decades, with a research base on Spitsbergen and a mobile laboratory at the British Rothera base in Antarctica. Dutch scientists conduct internationally renowned polar research, which enables our country to make a constructive contribution to sustainable management and governance in the polar regions.

[1] https://www.ipcc.ch/srocc/.

[2] https://magazines.rijksoverheid.nl/knmi/knmispecials/2020/05/weer-en-klimaat-in-het-noordpoolgebied.

[3] Methane is 25-30 times more potent as a greenhouse gas than carbon dioxide.

[4] See also the letter to the House on the updating of the security section of the Dutch Polar Strategy 2016-2020 (Parliamentary Papers 35 000 V, no. 82).

[5] For more information on the history of the Netherlands in the polar regions, see the 2011-2015 policy framework: https://zoek.officielebekendmakingen.nl/blg-213294.pdf.

The three cornerstones of the previous polar strategy, 'Working Together on Sustainability' – sustainability, international cooperation and scientific research – remain relevant even at this time of rapid change, and remain the foundation of the Netherlands' policy on the polar regions. These cornerstones also include a focus on all aspects of climate change, safety and security. This strategy is set out along three strands: 'protecting natural habitats and the environment', 'strengthening international cooperation' and 'ensuring sustainable economic activity'. In it, the government sets out how the Netherlands intends to continue contributing to the protection of human interests, the environment, and international security and stability, to the fight against climate change and to better governance and management where necessary. Where there is economic activity, we seek to ensure that it complies with international agreements and standards concerning sustainability. The changes described mean we must step up our diplomatic efforts, within the limits of our existing resources and capacity, to ensure that humankind's relationship with the polar regions is safe and sustainable. This is a strategy that ensures the Netherlands is properly equipped for the future: prepared for change!

# Part I

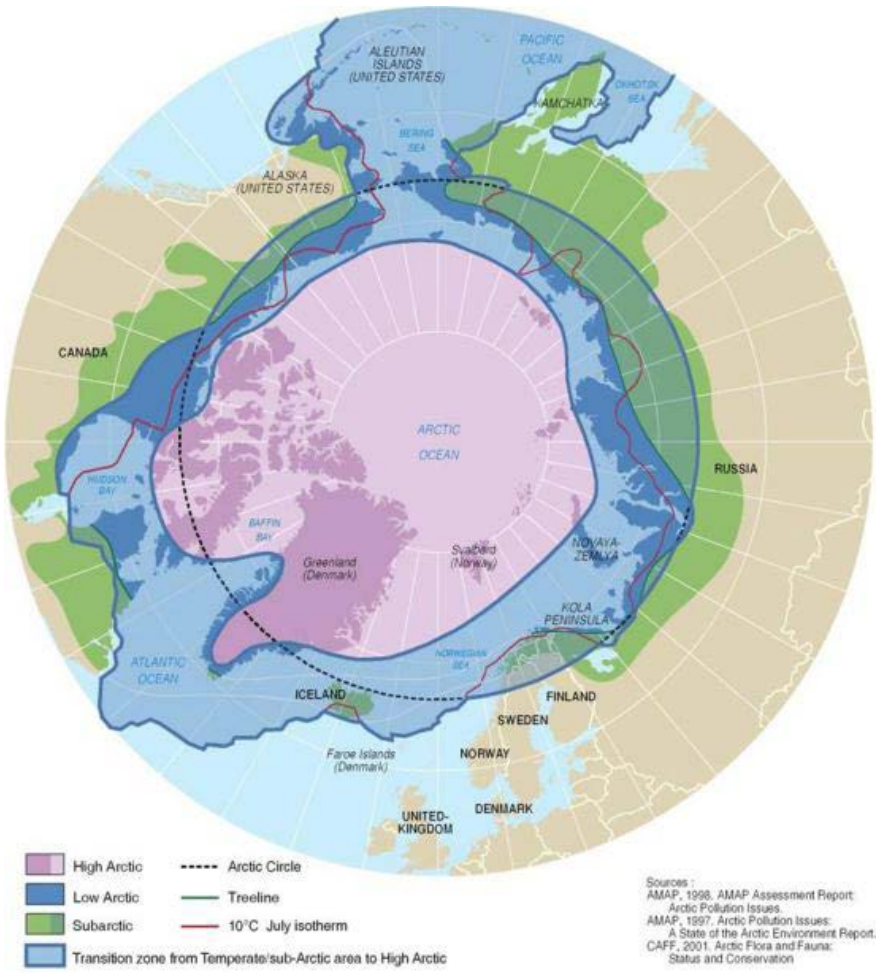
Photo credit: Kadir van Lohuizen

# The Arctic region

## 1.1 General

The Arctic is not a single region in a geographical or administrative sense. Its boundaries are not precisely delineated. The Arctic is most commonly defined as the region above the Arctic Circle, the region north of the tree line and the region to the north of the 10°C isotherm. The Arctic Ocean lies at the heart of the region. Surrounded by continents, it is the smallest and shallowest of all the oceans, and is largely covered by a floating ice sheet 0.5 to 4 metres thick. The *United Nations Convention on the Law of the Sea* (UNCLOS) applies to the Arctic Ocean. The Arctic states are the eight countries that have territory above the Arctic Circle. They are Russia, Canada, the United States, Norway, Denmark, Iceland, Sweden and Finland. The first five of these have territorial waters in the Arctic Ocean, and are therefore Arctic coastal states. In administrative terms, a large proportion of the Arctic region falls within the jurisdiction of the Arctic states, which work together in several international and regional forums. The most important intergovernmental forum for regional consultation and cooperation is the Arctic Council. The Arctic region is not equally accessible throughout. Alaska, the Northern European and western Russian regions are relatively easy to access. It is more difficult to undertake Arctic activities in Canada, eastern Russia and Greenland because of the different ice and weather conditions, and the fact that less infrastructure is present there. As a result, developments and interests also differ in the various parts of the Arctic.






https://www.grida.no/resources/7010

The Arctic region is warming two to three times faster than the global average. This process can be seen all too clearly in some places. For example, on Spitsbergen the winters of 2015/2016 and 2016/2017 were ten degrees warmer than an average winter between 1980 and 2010. In June 2020, furthermore, the Russian town of Verkhoyansk experienced the highest temperature ever recorded above the Arctic Circle, at 38°C. Climate change, particularly the receding polar ice, is changing conditions in the Arctic, prompting both Arctic and non-Arctic countries to become more active there. Reserves of oil, gas and rare earth elements that used to be difficult to exploit are now becoming more and more accessible. New shipping routes are opening up and there is more opportunity for tourism and fishing. These developments both increase the need for cooperation, on *search & rescue* (SAR) and sustainable management, for example, and heighten competition between states.

For the Netherlands, too, it is important that international relations in the north remain peaceful, with good cooperation aimed at sustainable management. Besides the global importance of the polar regions in terms of the climate, as described above, the proximity of the Arctic is also an important factor. Amsterdam is closer to the Arctic Circle than it is to European capitals like Lisbon, Athens and Bucharest.

In protecting the interests of people and the environment, and striving to ensure security, international stability and sustainable economic development in accordance with international agreements and sustainability standards, the Netherlands supports and (where necessary) helps strengthen international legal and administrative frameworks, based on UNCLOS. We also help maintain political stability in the region, for example by highlighting the importance of cooperation in our bilateral contacts with Arctic states and by promoting broad engagement on the part of all relevant actors. The Dutch Arctic Ambassador will continue to focus on this in the coming years. The growing accessibility of the Arctic region as a result of climate change is affecting geopolitical and security relations in the region. In the years ahead the Netherlands will focus more attention on this aspect, in line with the government's letter to parliament of 5 July 2019 on Arctic security.[6] The government aims to address Arctic security-policy developments primarily within NATO, whose members include five Arctic states – the US, Canada, Norway, Denmark and Iceland. In addition, it will also make every effort to discuss these developments with the relevant actors. The Arctic Council's important role in promoting and facilitating cooperation generally between and with Arctic states cannot, incidentally, be emphasised enough. This role is examined in more detail below, in relation to the themes of 'protecting natural habitats and the environment', 'strengthening international cooperation' and 'guaranteeing sustainable economic activity'.



*Photo credit: Wouter Jan Strietman*

[6] Parliamentary Papers 35 000 V, no. 82.

### 1.1.1 Governance and management in the Arctic

No integrated treaty regime exists for the Arctic region as it does for Antarctica. The Arctic falls largely under the jurisdiction of the eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States). These countries may therefore determine the rules in the areas within their jurisdiction, with due regard for international agreements.

The **Arctic Council** is the main consultative body for the entire Arctic region. It is an intergovernmental body and the only circumpolar Arctic policy forum. The work of the Arctic Council is done by six working groups: the Arctic Contaminants Action Programme (ACAP), the Arctic Monitoring and Assessment Programme (AMAP), Conservation of Arctic Flora and Fauna (CAFF), Emergency Prevention, Preparedness and Response (EPPR), Protection of the Arctic Marine Environment (PAME) and the Sustainable Development Working Group (SDWG).

The **UN Convention on the Law of the Sea** (UNCLOS) provides the legal basis for the rights and obligations of coastal states and flag states with regard to the maritime zones in the Arctic region, both within and outside state jurisdiction. The five Arctic states underlined the importance of the law of the sea in the Ilulissat Declaration of 2008.



The seabed beyond the delimitation of national jurisdictions is managed by the **International Seabed Authority** (ISA), which was established under UNCLOS. These parts of the seabed are part of the common heritage of humankind, and may not be explored or exploited without the permission of the ISA.

The Commission on the Limits of the Continental Shelf (**CLCS**) was also established on the basis of UNCLOS. The Commission makes recommendations on the establishment of the outer limits of the extended continental shelf.

The **OSPAR Convention** is important for the protection of the marine environment in the Arctic region, as it protects the North-East Atlantic. Under the auspices of the United Nations, work is currently also under way on an agreement under UNCLOS on the conservation and sustainable use of marine biodiversity in areas outside national jurisdiction, known as the **BBNJ process** (Biodiversity Beyond National Jurisdiction).

The International Maritime Organization (IMO) is the primary body for creating and improving the governance structure for international shipping. The IMO has adopted guidelines on shipping in the polar regions, the most important of which is the **IMO Polar Code**, intended to protect the Arctic and Antarctic regions against the negative effects of shipping in terms of safety, security and environmental pollution. The code lays down requirements on training for crews, preparedness for emergency response, etc.

The Arctic region is strategically important for the **European Union**. Any changes in the region can have implications for Europe's economy, security, climate and environment. EU policy on the Arctic region is based on the Joint Communication from the European Commission and the High Representative for Foreign

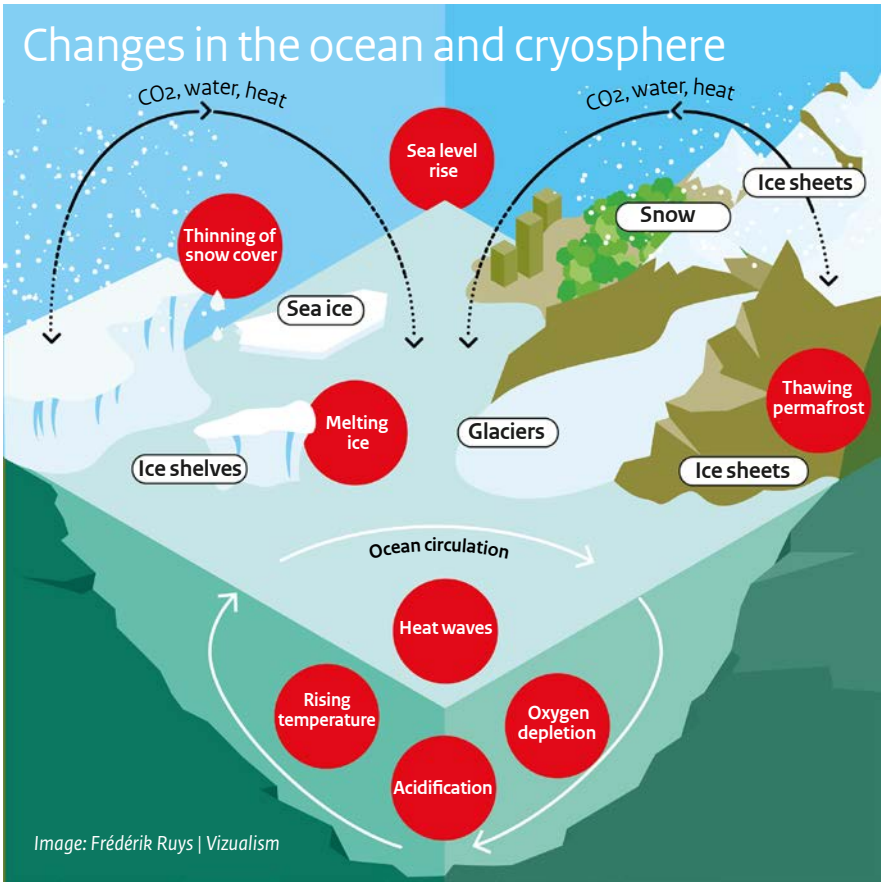
Affairs and Security Policy of 27 April 2016 on an integrated European Union policy for the Arctic and the associated Council conclusions of 20 June 2016.[7] The EU does not have official observer status at the Arctic Council but is a de facto participant in all activities in which official observers such as the Netherlands participate. The EU also contributes to Arctic cooperation through the **Northern Dimension** (ND), an EU partnership with Russia, Norway, Iceland, Finland and Sweden, and through the **Barents Euro-Arctic Council** (BEAC), which focuses on sustainable development in the Barents region.

## 1.2 Protecting natural habitats and the environment

In 2015 the UN launched its *2030 Agenda for Sustainable Development*. It encompasses 17 *Sustainable Development Goals* (SDGs) which are designed among other things to halt climate change. The Netherlands strives to achieve these goals at both national and international level. As set out in the coalition agreement 'Confidence in the Future', the government also works to ensure that the most ambitious goals of the 2015 *Paris Agreement* are achieved. These frameworks for our international efforts obviously determine our efforts in and regarding the Arctic to some extent. When it comes to the goal of protecting natural habitats and the environment, the Netherlands is working specifically to curb and adapt to climate change, prevent pollution in the Arctic region, and protect biodiversity, indigenous groups and the marine environment. These choices were made with a view both to Dutch interests and to the added benefit that the Netherlands can bring to international cooperation in these fields.



### Climate change




[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016JC0021 and https://www.consilium.europa.eu/en/press/press-releases/2016/06/20/fac-conclusions-arctic/.

The special report on the impacts of and emission pathways for limiting global warming to an average of 1.5°C published by the *Intergovernmental Panel on Climate Change* (IPCC) in 2018 showed that a global temperature rise of 2°C would have far greater impact than originally assumed.[8] Not only would sea-level rise be higher and marine life suffer more due to ocean acidification, but the risk of irreversibility – i.e. that the melting of the ice sheets could no longer be stopped, even if carbon emissions fell – would also be greater. A subsequent special report by the IPCC on the ocean and cryosphere in a changing climate made it clear that more ambitious climate policies are needed to combat irreversible systemic change.[9] It is essential that we limit global temperature rise to 1.5 degrees to ensure our planet remains habitable. The situation in the Arctic region is a key factor in this.

The warming of the Arctic is to some extent a self-perpetuating process, which has caused the average annual temperature in the region to increase two to three times faster since 1980 than the global average. Sea ice cover in September has declined by 40% since 1980, threatening biodiversity and the livelihoods of indigenous peoples. The rise in temperature will cause further thawing of the Arctic permafrost. An estimated 40 to 80% of the top layer will eventually disappear.[10] As permafrost thaws greenhouse gases are released, particularly $CO_2$ and methane (which is 25 times more potent that CO2), exacerbating the global greenhouse effect. Currently some 5,000 gigatonnes of carbon dioxide are stored in the Arctic region, an amount one hundred times greater than annual anthropogenic emissions of greenhouse gases.[11] Finally, the Arctic is particularly sensitive to the impacts of burning coal and oil all over the world, which releases soot particles as well as CO2. These particles are deposited on the snow and ice, making them darker and causing them to absorb more sunlight and therefore melt faster.



*Photo credit: Kadir van Lohuizen - Arctic Greenland*

The rest of the world, including the Netherlands, is experiencing changes as a result of the sharp rise in temperature in the polar regions. Changes in climate and weather patterns, atmospheric circulation patterns, gulf streams and the hydrological cycle, for instance, are leading to longer and hotter heatwaves, drought and extreme weather events in the

[8] IPCC rapport (2018): https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf?_sp=0cbbf920-ddf9-492d-a318-4d797e4e8efd.1541668640288.
[9] IPCC rapport (2019): https://www.ipcc.ch/srocc/.
[10] Royal Netherlands Meteorological Institute (KNMI) news item on permafrost: https://www.knmi.nl/over-het-knmi/nieuws/smeltende-permafrost-draagt-bij-aan-opwarming.
[11] KNMI news item on permafrost: https://www.knmi.nl/over-het-knmi/nieuws/smeltende-permafrost-draagt-bij-aan-opwarming.

temperate zones. The risk of flooding is increasing in low-lying coastal areas – particularly in developing countries in the southern hemisphere – and sea-level rise is accelerating the salinisation of groundwater resources. Many developing countries are particularly affected.[12] Unless we take adequate mitigating and adaptive action, these developments will make certain regions less habitable and become a potential source of conflict. Because of gravity, the water from the melting polar ice caps is not distributed evenly over the world's oceans. The sea level along the Dutch coast will probably rise only slightly if the Greenland ice sheet melts (in contrast to Antarctica).[13]

The best way to protect the Arctic is to stop climate change. The Netherlands' main aim in this respect is therefore to reduce emissions of greenhouse gases and other harmful substances, such as soot, as well as adapting to unavoidable change. The government works to achieve this at home, with the implementation of the National Climate Agreement and the National Climate Adaptation Strategy, and internationally through climate financing and climate diplomacy, as laid down in the foreign trade and development cooperation budget, the Homogeneous Budget for International Cooperation and the letter to parliament on climate diplomacy.[14]

In the changing global context brought about by COVID-19 the government continues to encourage others worldwide to play their part in achieving the goals of the Paris Agreement, while continuing to apply our national approach, including the National Climate Agreement. In multilateral and EU contexts and in its bilateral contacts, the government is pressing for green and inclusive economic recovery based on the principle of '*building back better*'. The substantial global economic recovery measures provide an opportunity to make the economy more sustainable and our societies more resilient, in line with the Paris climate goals and the SDGs. The COVID-19 crisis also underlines the importance of the EU taking a leading role in terms of global climate ambition, through undiminished commitment to the *European Green Deal*, ambitious carbon reduction targets and active international promotion of the need for a green recovery and climate measures.



*Photo credit: Yuri Kozyrev*

[12] https://www.knmi.nl/kennis-en-datacentrum/achtergrond/zeespiegelstijging.
[13] https://magazines.rijksoverheid.nl/knmi/knmispecials/2020/05/weer-en-klimaat-in-het-noordpoolgebied.
[14] Parliamentary Papers nos. 35300-XVII-1, 35571-1 and 31793-194.

## Biodiversity

The Netherlands not only shares weather systems with the Arctic region, but also flora and fauna. Unfortunately, the biological diversity of the Arctic is under threat. Compared to other parts of the world, intensified warming in the Arctic is causing more rapid changes to the Arctic ecosystem and thus also altering the habitats of countless species of plants and animals both on land and in water. Several animal species occur only in the region and are dependent on the cold conditions there. Organisms in the ecosystem are highly interdependent in both temporal and spatial terms. This makes the ecosystem highly sensitive to any disruption, such as a temperature rise. Research in 2019 showed that climate change has caused a shift within the Arctic ecosystem.[15] There is strong evidence that plants are flowering earlier and earlier in the year, at a point when there are no insects yet to pollinate them.[16] The conclusions of a recent UN report on the state of global biodiversity also give cause for concern about the global decline in animal species and biodiversity, including in the Arctic.[17] The report concludes that up to a million species are threatened with extinction.

These changes also affect the biodiversity of our own country. Changes in the Arctic ecosystem affect migratory birds that use the Waddenzee and Zeeland delta to overwinter or as staging points on the way to or from their breeding grounds in the Arctic. Birds like geese, waders and terns have already had to adapt. Global warming means that the growing season for the food they eat in the Arctic begins earlier, so the peak of food availability no longer coincides with their needs. There is therefore a risk that migratory birds will arrive too late, when insufficient food is available. New species are also arriving in the north now that it is warming up. Some compete for the same food, while others are predators that have a huge impact on the food system. These processes threaten biodiversity. More research is needed to identify the precise implications of these radical changes. Since 1992, therefore, the Netherlands has been contributing to the research performed by the Arctic Council's CAFF (*Conservation of Arctic Flora and Fauna*) working group, with a particular focus on migratory birds that also spend time in the Netherlands. It is, for example, investing in the Wadden Sea Flyway Initiative, a programme that monitors aquatic birds along the flyway from the Arctic to southern Africa.



*Photo credit: Wouter Jan Strietman*

[15] https://iopscience.iop.org/article/10.1088/1748-9326/aafc1b/meta.
[16] https://nos.nl/artikel/2279511-ongekende-veranderingen-rond-noordpool-met-verstrekkende-gevolgen.html.
[17] https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf.

Research into flora and fauna continues to be an important element of Dutch polar research. Through their research, Dutch scientists are in contact with CBird (*Circumpolar Seabird Expert Group*) and AMBI (*Arctic Migratory Birds Initiative*), which both fall under CAFF. The high standard of Dutch research is appreciated and provides a positive research agenda for collaboration with scientists from the Arctic states and from other observer states. Over the next five years, the Netherlands' specialist knowledge will continue to be used by the CAFF working group, helping to preserve Arctic biodiversity and protect the Arctic ecosystem.

*Photo credit: Maarten Loonen*



Biodiversity in the Arctic region does not exist in isolation, as evidenced by the annual migration of many species of bird. As set out in the government's letter to parliament of 9 April 2020 concerning a stronger commitment to international biodiversity, broader Dutch efforts in support of international biodiversity also define specific efforts concerning the Arctic region.[18] Within the EU, the Netherlands will press for the EU's ambitious objectives for preserving biodiversity as set out in the Biodiversity Strategy to be reflected in future EU policy on the Arctic. In line with the *International Ocean Governance* agenda the EU would welcome a legally binding agreement on the conservation and sustainable use of marine biodiversity of areas that fall outside national jurisdiction (BBNJ).

*Photo credit: Wouter Jan Strietman*

[18] Parliamentary Paper no. 26407-134.

The EU aims to ratify and implement the agreement as quickly as possible, and the Netherlands supports this ambition. Within international contexts the Netherlands advocates strengthening the *Convention on Biological Diversity* through the introduction of an ambitious new strategic framework with binding targets (*Post-2020 Global Biodiversity Framework*).[19] This would also help protect biodiversity in the Arctic.[20]

## Indigenous peoples

Around four million people live in the Arctic region, 10% of whom are members of recognised indigenous peoples (comprising approximately 40 ethnic groups). Indigenous peoples live in all the Arctic states, with the exception of Iceland, and in many cases have done so for thousands of years. They are a minority in all these countries. Climate change poses a growing threat to indigenous communities' cultures. Melting sea ice means they are less able to hunt, and the increased precipitation in the form of rain and sleet diminishes the grazing land for reindeer herds, which are an important means of subsistence for the Sámi, Europe's only indigenous group. Encroaching coastal erosion and thawing permafrost threaten the foundations of buildings. The lower yield from hunting combined with the declining infrastructure is causing food insecurity in the remote regions where indigenous peoples live.

*Photo credit: Yuri Kazyrev - Siberian Arctic Nenets*



The protection of these indigenous peoples is the subject of a number of declarations issued by international organisations such as the UN and *the Organization for Security and Co-operation in Europe*, and of international treaties like ILO Convention 169 (the *Indigenous and Tribal Peoples Convention, 1989*). The Netherlands is one of the few countries that has ratified ILO Convention 169. Within the EU, indigenous peoples in the Arctic are protected by specific provisions in Union law and also benefit from the EU's regional policy and cross-border programmes. The Netherlands greatly values the annual *Arctic Indigenous Peoples Dialogue* organised by the European Commission. The *United Nations Declaration on the Rights of Indigenous Peoples* was adopted in 2007, enshrining the individual and collective cultural and economic rights of indigenous peoples. It includes the *'Free, Prior and Informed Consent of Indigenous Peoples'* (FPIC). This means that indigenous groups must be consulted on, for example, proposals for industrial activities in the region. Increased economic activity in the region also creates opportunities for indigenous peoples in the form of employment. The downside is that adapting to a rapidly changing world can be incompatible with

[19] Partly in order to implement the Jetten/De Groot motion (Parliamentary Paper 21501, no. 1440).

[20] See also the letter to parliament of 2 April 2019 setting out the government's response to the FAO report on biodiversity and food security (ref.: DGNVLG / 19067648).

preservation of their traditions and culture. It is therefore important for indigenous peoples that developments take a sustainable form and do not harm local ecosystems.

*Photo credit: Sean Desjardins - Foxe Basin*

The organisations that represent indigenous peoples are an integral part of the Arctic Council and are known as Permanent Participants. The Arctic Council is concerned with sustainable development in the region, including economic and social development, improvements to health and preserving the culture of indigenous peoples.



The Netherlands supports the preservation and autonomous development of the Arctic cultural sphere and will therefore remain an active member of the Arctic Council's *Sustainable Development Working Group* (SDWG) over the next five years. The Netherlands helps indigenous peoples become involved in SDWG projects, which range from promoting gender equality to research into sustainable housebuilding methods for the Arctic climate.

## Protection of the marine environment

To protect the marine environment and biodiversity in the Arctic, the Netherlands supports the establishment of a network of *marine protected areas* (MPAs) in the region and, where possible, IMO designation of shipping routes through *particularly sensitive sea areas* (PSSAs). It will make active efforts to ensure a good management system is established in the Arctic under conventions with a mandate in the region. The Netherlands also encourages more international knowledge sharing, particularly within the Arctic Council, on environmental impact assessment of projects and programmes.

Work is under way under the auspices of the United Nations on an implementing agreement under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, otherwise known as the BBNJ process (*Biodiversity Beyond National Jurisdiction*). This agreement will be important for the conservation and sustainable use of Arctic marine areas that do not fall under the jurisdiction of any of the Arctic states. The envisaged provisions concern marine genetic resources, regional management instruments, environmental impact assessment and capacity building, and transfer of maritime technologies. The Netherlands supports the development of this international legally binding instrument and actively participates in the process at both UN and EU level.

Underwater noise – caused by shipping and construction work, for example – can have a harmful effect on animals that are sensitive to noise, such as seals, various species of whale and dolphin, and certain fish species. Given the fragile nature of the Arctic region and the

likely increase in human activity there, the Netherlands believes it is important to implement a monitoring programme to establish the level and pattern of underwater noise through measurements and modelling. Policymakers and other stakeholders could use this as a basis for determining where noise might have a negative impact on marine fauna. The Netherlands can offer the knowledge and experience acquired by institutes like TNO in collaboration with partners from other North Sea states. Rijkswaterstaat (the Dutch government body responsible for public works and water management) leads the JOMOPANS project *(Joint Monitoring Programme for Ambient Noise North Sea)*, which is developing a framework for this purpose for the North Sea. The register set up by OSPAR (the mechanism through which 15 governments and the EU collaborate to protect the North-East Atlantic) could also be used for monitoring impulsive noise. The Netherlands and the EU are attempting to get underwater noise on the agenda of the *Marine Environment Protection Committee* (MEPC), part of the *International Maritime Organization* (IMO).


The area above the Arctic circle is mostly ocean, some of it frozen. The international ambitions associated with SDG 14 – Life Below Water – apply to this area. However, as activities on land also impact on the ocean (including the Arctic Ocean), the Netherlands favours an integrated approach to the entire SDG agenda, in order to achieve the greatest impact on individual SDGs. The Netherlands accordingly supports the use of *marine spatial planning*, an approach that brings together the various sectors and parties with an interest in the ocean – such as transport, fisheries, energy, industry, recreation, nature conservation and governments – for informed and coordinated decision-making on sustainable use of the marine environment and its resources. The Netherlands also advocates *nature-based solutions*, which sees sustainable use of nature as a solution to socio-ecological challenges, and the *source-to-sea* management approach, which encourages all parts of industry and society, including those far inland, to identify and minimise their negative impacts downstream, right down to coastal areas and marine ecosystems.



Oceans absorb some 30% of anthropogenic carbon emissions,[21] a process that causes acidification of seawater. On average oceans are now some 26% more acidic than before the industrial revolution. Since cold water absorbs carbon dioxide more readily, the effects of acidification are greatest in the polar oceans. Ocean acidification impedes the growth of or even dissolves the shells and skeletons of calcifying organisms like corals, snails and molluscs and various species of plankton. The food chain in the Arctic is relatively simple and the disappearance of one species of organism due to acidification could jeopardise the entire food system. Ocean acidification is expected to continue over the next century, ultimately harming fish and marine mammal populations. Carbon emissions must be limited to combat this process. To ensure that ocean acidification receives the attention it deserves in international policymaking, the Netherlands is a member of the *International Alliance to Combat Ocean Acidification*.

The warming of the oceans causes entire ecosystems – including certain species of fish – to migrate northwards, both within and towards the northern hemisphere. To ensure that marine ecosystems remain healthy and fisheries sustainable, in 2019 the European Union acceded to an international agreement to prevent unregulated fishing on the open seas in the central Arctic Ocean. The agreement bans commercial fishing in this area for an initial period of 16 years (extended automatically every five years), until scientists confirm that sustainable fishing is possible.

[21] Gruber, Nicolas, et al. 'The oceanic sink for anthropogenic CO2 from 1994 to 2007.' *Science* 363.6432 (2019): 1193-1199.

## Pollution

Large quantities of pollutants from the European continent and the tropics and subtropics are transported to the Arctic by rivers, ocean currents and the atmosphere. Besides visible pollutants like plastic waste, this also includes smaller particles that are invisible to the eye, like persistent organic pollutants (POPs) – toxic substances that do not degrade readily, if at all. These substances accumulate in living organisms (bioaccumulation) like fish and marine mammals and, following consumption, in the human body. Since 1997 the Arctic Council's AMAP working group, in which the Netherlands plays an active role, has published several reports on radioactivity, persistent organic pollutants and mercury in the Arctic region. The levels of classic POPs have been showing a downward trend for some time.[22] This shows that international agreements like the Stockholm Convention on Persistent Organic Pollutants are having an effect. In recent years many new substances have begun to accumulate in the food chain, including brominated flame retardants and PFOS36. Secondary emissions of classic POPs could also occur as sea ice and permafrost melt in the Arctic. The Netherlands will therefore continue to contribute actively to the work of AMAP.

*Photo credit: Wouter Jan Strietman*



The growing quantities of plastic waste in our oceans is a global problem, but the Arctic Ocean contains more of it than any other.[23] This poses a direct threat to wildlife in the region, from plankton to polar bears, and to the inhabitants whose food and culture are almost entirely dependent on the marine ecosystem.[24] At the moment little is known about the precise sources, underlying causes and environmental effects of marine litter. The Netherlands will therefore support initiatives for further research into the problem, nationally and internationally, including in the framework of the implementation of the *EU Marine Strategy Framework Directive*, the *Water Framework Directive* and the *EU Single-Use Plastics Directive*. The Netherlands believes it is important both that existing pollution be reduced (effect-driven policy) and that plastic litter be prevented from ending up in the oceans (policy aimed at tackling the source). At national level, the government is working with the private sector towards an economy that will run entirely on recyclable and reusable resources by 2050.[25] Given the transboundary nature of the problem, however, international collaboration is needed, so we also work with other countries in the North Atlantic region (in the context of OSPAR), for instance on joint monitoring. *The OSPAR Regional Action Plan on Marine Litter*,

[22] Such as dichlorodiphenyltrichloroethane (DDT) and hexachlorocyclohexane (HCH).
[23] https://www.nationalgeographic.nl/milieu/2019/10/waarom-de-noordpool-meer-plastic-bevat-dan-andere-plekken.
[24] https://magazines.rijksoverheid.nl/knmi/knmispecials/2017/02/economische-ontwikkelingen-in-de-arctic.
[25] https://www.government.nl/topics/circular-economy.

adopted in June 2014, includes many of the measures taken nationally in the Netherlands. We are also working to reduce marine litter via the IMO and the *UNEP Global Partnership on Marine Litter* (GPML). The Arctic Council's PAME working group, of which the Netherlands is a member, is developing a *Regional Action Plan on Marine Litter*.[26] The Netherlands welcomes the efforts of the Arctic states to move this issue up the agenda of the Arctic Council. In addition, since 2014 initiatives have been launched in a UN context (*United Nations Environment Assembly*, UNEA) to tackle marine plastic waste and microplastics. UNEA resolutions encourage the introduction of the life-cycle approach, which explicitly considers the geographical areas with the largest sources of marine plastic litter. At the third session of UNEA in 2017 the *Ad Hoc Open Ended Expert Group* (AHOEEG) was established to survey the marine litter and microplastics situation and identify potential solutions. The Netherlands is an active member of the AHOEEG. Additional actions will be set out for a global approach to the problem at UNEA's fifth session, based on the outcomes of the expert group.

Heavy metals like mercury are also harmful to people, animals and the environment in the Arctic. Mercury is a highly toxic substance which can pose severe risks to ecosystems and to human health. Weather patterns and chemical reactions cause a large proportion of mercury emissions to accumulate in the Arctic. The *University of Groningen's Arctic Centre* has been providing spatial data on emissions for use in various transport and deposition models for a number of years, as part of the Netherlands' contribution to AMAP. The work of AMAP is also used to assess the effectiveness of the *Stockholm Convention on Persistent Organic Pollutants (*which aims to protect people and the environment by limiting the production and use of POPs) and, more recently, of the *Minamata Convention on Mercury*. This convention, which came into force in 2017, is designed to protect human health and the environment from anthropogenic emissions of mercury and mercury compounds. The Netherlands has ratified both of these conventions.



*Photo credit: Kadir van Lohuizen - Arctic Alaska*

Radioactivity is also a problem in the Arctic region. Spent nuclear fuel and radioactive waste generated by the former Soviet Union's Northern Fleet, for example, is a dangerous legacy of international proportions. The regions bordering the White Sea, the Barents Sea and the Kara Sea have the highest number of unsafe radioactive waste storage sites in the world.[27] The inhabitants of the Arctic will probably be exposed to increasing radiation from radon gas as the permafrost thaws. It is important that monitoring of radioactive isotopes in the

[26] https://arctic-council.org/en/projects/regional-action-plan-on-marine-litter/.
[27] AMAP Assessment 2015: 'Radioactivity in the Arctic'.

Arctic region continue, so that we remain abreast of any changes, including as a result of climate change. In the Arctic Council's AMAP working group the Netherlands is closely following the situation. The working group also flags new developments, such as the use of nuclear technology for energy generation and in weapons systems.

The envisaged increase in shipping on the northern routes will also have implications for the Arctic environment. Although shorter routes will reduce carbon emissions, they will increase atmospheric pollution in the Arctic. The *International Maritime Organization* (IMO) is the primary body for developing and improving the governance structure for international shipping. The IMO has adopted guidelines on shipping in the polar regions, the most important of which is the *Polar Code*, which came into force on 1 January 2017. It is intended to protect the Arctic and Antarctic regions from negative safety and environmental impacts of shipping by training crews, preparing for emergency response, etc. The Netherlands is working in the context of the IMO on a step-by-step plan to study and curb the accelerated ice melt as a result of emissions and deposition of soot from increased shipping. It was also co-initiator of a proposal for a ban on the use and transport of heavy fuel oil in the Arctic. In response to this proposal the IMO is currently working towards the introduction of a ban. The Netherlands has also been an active member of the Arctic Council's PAME working group since 2019, which is concerned in part with shipping in the Arctic. The Netherlands will use the coming period to ascertain which PAME projects on shipping it can join.

## 1.3 Strengthening international cooperation



International scientific collaboration is considered in part III. This section examines international governance and management, and geopolitics and security.

### International governance and management

As an advocate for the strengthening of and compliance with the international legal order, the Netherlands believes that consensus-based organisations, agreements and treaties – like UNCLOS, the IMO and OSPAR – have important roles to play. Agreements such as these help strengthen cooperation, not only among the Arctic states but also between the region and the broader international community.

The Arctic region falls largely under the jurisdiction of the eight Arctic states (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US). These countries can set the rules in the areas under their jurisdiction, with due regard for international agreements. Currently, there is a large degree of cooperation between these states on a broad range of matters. UNCLOS provides the basis for the rights and obligations of coastal states and flag states in the marine areas of the Arctic, both within and outside national jurisdiction. The five coastal states of the Arctic reaffirmed the importance of the law of the sea in the Ilulissat Declaration of 2008.

The Netherlands also regards UNCLOS as the most important basis for a sustainable governance and management regime for the seas in the Arctic region, including the mandatory conflict resolution mechanism. It will therefore continue to call for its ratification by all Arctic states. The United States is currently the only Arctic state that has not ratified the convention.

The *Commission on the Limits of the Continental Shelf* (CLCS) was also established on the basis of UNCLOS. The Commission makes recommendations on the outer limits of the continental shelf. Coastal states must submit to the CLCS any claims to the continental shelf beyond the exclusive economic zone (EEZ), which extends to 200 nautical miles from the coast. Beyond the 200-mile zone, a coastal state may submit a claim for an extended continental shelf if it can demonstrate that the seabed is a natural continuation of its land mass. Only parties to

UNCLOS may submit such claims. A number of countries have submitted claims for their northern coastal regions: Russia (in 2001 and 2015), Norway (2006), Denmark (Greenland) (2014) and Canada (2019). The CLCS issues a recommendation on the outer limit of the continental shelf in response to the claims it receives. In 2009 it issued a recommendation on Norway's claim. The Netherlands is closely following the situation as regards the other claims.

Several bilateral boundaries have not yet been defined, such as that between Alaska and Canada and between Canada and Denmark. The unresolved boundary conflicts in the Arctic are maritime issues, with the exception of Hans Island, to which both Canada and Denmark (Greenland) lay claim.

The seabed beyond national jurisdiction is managed by the *International Seabed Authority* (ISA). These parts of the seabed are part of the common heritage of humankind, and may not be explored or exploited without the permission of the ISA. As a party to UNCLOS, the Netherlands is a member of this authority.

Norway has sovereignty over the islands in the Spitsbergen Archipelago, under the 1920 Spitsbergen Treaty. The other parties to the convention and their nationals have the right to access and use the territories, including use of its natural resources and freedom to conduct scientific research, subject to the same conditions as Norwegian nationals (under the non-discrimination principle). Norway is responsible for regulating tourism on and around Spitsbergen, with due regard for the principle of equal rights of access in compliance with the Spitsbergen Treaty.



There is a difference of opinion between Norway and the other parties to the Spitsbergen Treaty concerning the rights of those other parties, including the Netherlands. Norway contends that the Treaty applies only to the islands and their territorial waters, not to the exclusive economic zone (EEZ) and continental shelf. The Netherlands and several other parties are of the opinion that the Treaty applies to all maritime zones (territorial waters, fishing zone and continental shelf) around Spitsbergen, and that the non-discrimination principle applies in particular to specific commercial interests, such as the mining of minerals and fishing rights. The Netherlands will where possible support the European Commission in its efforts to resolve this debate with Norway on this matter, in so far as this lies within the competence of the EU.

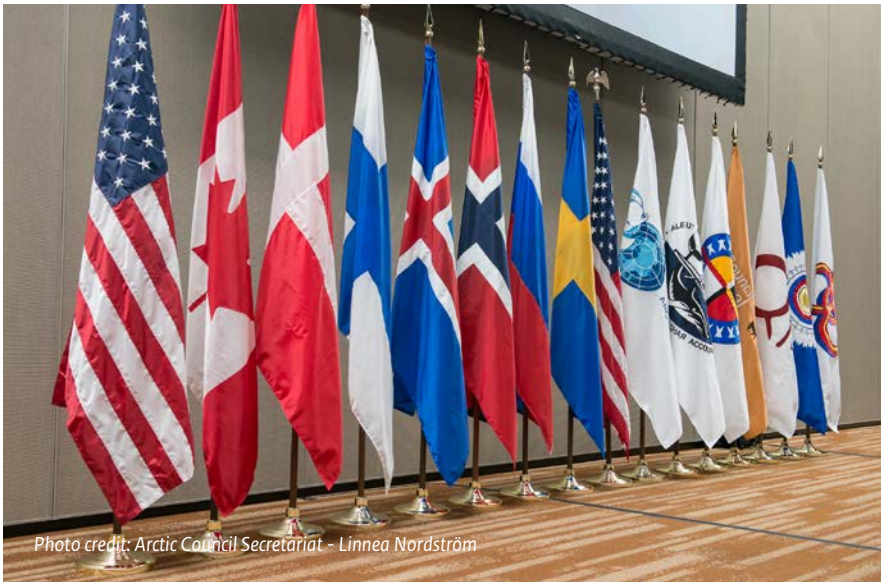


*Photo credit: Arctic Council Secretariat - Linnea Nordström*

### *Arctic Council*

The Arctic Council (AC) is the main forum for dialogue and cooperation on Arctic affairs. It meets at ministerial level every two years, and the chairmanship rotates between the member states with the same frequency. A permanent secretariat was set up in 2013, based in Tromsø. The AC has eight member states (the eight Arctic states), six permanent participants (organisations representing indigenous peoples) and 38 observers (13 countries, 13 intergovernmental and interparliamentary organisations, and 12 NGOs).[28] The AC is not an executive organisation of the countries concerned, has only a limited budget, and its decisions are not binding. It confines itself to issuing political declarations, recommendations and guidelines. However, the *Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic* (2013) and the *Agreement on Cooperation on Aeronautical and Maritime Search and Rescue* in the Arctic (2011), which were concluded in the framework of the AC, are binding.

The focus of the AC is on the environment, biodiversity, science and social developments. Geopolitical and security issues are not generally discussed in this forum. This approach has enabled constructive cooperation on the Arctic region since 1996, with a focus on the Arctic states' shared interests. The Netherlands is keen for the constructive cooperation to continue, and takes an optimistic view of the efforts to involve observers more closely in the AC's work.

In line with the previous Polar Strategy (2016-2020), the Netherlands has over the past few years become more involved in the AC's working groups. It is represented on several AMAP, CAFF and SDWG projects and expert groups, and has participated in PAME (on marine litter and shipping) since 2019. Over the next five years, the Netherlands will continue its active participation in the working groups and, given the changing projects in the working groups and their increased relevance to policy, will attempt to ensure a more flexible and policy-based approach to these working groups.



*Photo credit: Arctic Council Secretariat*

### *Bilateral cooperation*

In light of the importance of the Arctic region for the Netherlands, as explained in this strategy, the government aims to intensify its bilateral relations with the Arctic states, for example by engaging in dialogue with them on a more regular basis, in part with a view to

[28] https://arctic-council.org/en/about/observers/.

exploring the potential for more collaboration on scientific research and policy concerning the Arctic region. This applies particularly to the European Arctic countries and the EU. In order to conduct these talks at the appropriate level both in the Netherlands and abroad, and to raise the profile of Dutch polar policy abroad, the post of Arctic Ambassador (an ancillary position) created in the Polar Strategy 2016-2020 will be continued at the Ministry of Foreign Affairs.

### *European Union*

The Arctic region is of strategic importance to the EU. Changes there have potential implications for Europe's economy, safety and security, climate and environment. Three Arctic states are EU member states, and two others are in the European Economic Area. The EU makes considerable sums available in research budgets and regional development funds. EU legislation, particularly on fisheries, energy and transport, have an impact on the Arctic. The EU is therefore an important player in the Arctic region. Though it does not have official observer status at the Arctic Council, the EU is a de facto participant in all activities in which official observers like the Netherlands participate. The Netherlands is in favour of giving the EU official observer status at the Arctic Council.

EU policy on the Arctic region is based on the Joint Communication from the European Commission and the High Representative for Foreign Affairs and Security Policy of 27 April 2016 on an *Integrated European Union policy for the Arctic* and the associated Council conclusions of 20 June 2016.[29] To achieve its goal of a safe, stable, sustainable and prosperous Arctic, the policy focuses on three priority areas: climate change and safeguarding the Arctic environment; sustainable development in and around the Arctic; and international cooperation on Arctic issues. To this end, the policy promotes international cooperation to curb the impact of climate change on the fragile Arctic ecosystem and contributes to the sustainable development of the region, particularly the European part of the Arctic. On 9 December 2019 the Council requested that the European Commission and the EEAS update the EU's Arctic policy. The updated policy is due for publication in 2021. The Netherlands has provided input in various ways, including in response to the European Commission's consultation.[30] The government intends to work with the EU in areas where the Netherlands and the EU can reinforce each other's efforts – such as in research and sustainable development – and to contribute Dutch expertise to arrive at an active and effective European Arctic policy. The precise details and scope will depend on the substance of the new EU policy.



The EU has also been actively contributing to Arctic cooperation for some time through the Northern Dimension (ND), an EU partnership with Iceland, Norway and Russia, and through the Barents Euro-Arctic Council (BEAC).

## Geopolitics and security

In July 2019 the government sent a letter to parliament on security in the Arctic.[31] To ensure that this strategy presents a complete and integrated overview of Dutch Arctic policy, parts of this letter have been included here, with certain editorial changes, an analysis and updates.

[29] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016JC0021 and https://www.consilium.europa.eu/en/press/press-releases/2016/06/20/fac-conclusions-arctic/.

[30] https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2020Z21211&did=2020D45356

[31] Letter to parliament on an update to the security element of the Dutch Polar Strategy ('Actualisering veiligheidsdeel Nederlandse Polaire Strategie 2016–2020'), Parliamentary Papers 35 000 V, no. 82.

Arctic security encompasses the political and military, economic and ecological spheres. These three spheres of security interests cannot be seen in isolation from each other. Climate change is opening up the Arctic for economic activities such as shipping, fishing, tourism and mining, making it even more important for the region to be managed sustainably, thus increasing its political relevance. The government will continue to actively monitor developments in ecological, economic and political and military security in the Arctic with a view to optimally pursuing Dutch interests. The increased importance of developments in the Arctic for our own safety and security in the broadest sense also means that any effects of our own actions on relations in the Arctic will have to be considered carefully in policy decisions. The government will continue to use its observer status at the Arctic Council to advocate good cooperation between its members, and between members and observers, including the Netherlands, and other stakeholders. Now, more than ever, it is important that the Arctic Council retain its non-political character. Political and military security is examined in more detail below. Ecological security is considered in section 1.2 and economic security in section 1.4.

Activities in the Arctic have traditionally been undertaken in a spirit of cooperation. This is not surprising, given the extreme conditions in the region, its inhospitable landscape and the associated high costs of activities. Stakeholders have an interest in the North Pole remaining a peaceful, stable and low-tension region where the main focus is on cooperation. The EU also deems this a strategic interest in its *EU Global Strategy*.

Climate change – particularly the receding polar ice – is changing conditions in the region and increasing activity on the part of both Arctic and non-Arctic states. Reserves of oil, gas and rare earth elements that were previously difficult to reach are becoming more and more accessible. New shipping routes are opening up, and there are more opportunities for tourism and fishing. These developments both increase the need for cooperation in areas such as *search & rescue* (SAR) and sustainable management, and heighten competition between states.



The Netherlands believes it is vital to continue and deepen cooperation between and with all relevant actors in the region. The sustainable, peaceful and secure management of the region depends on close consultation. Stability based on cooperation and consultation also prevents developments in the Arctic from having a negative impact on the Netherlands' resource security in the broadest sense – our flow security.

Fortunately, all kinds of international cooperation are taking place, particularly between the eight Arctic states, within the EU, NATO and the Arctic Council (including non-Arctic observer states and indigenous peoples), and also in the BEAC, the Northern Dimension, the Nordic Council, the Northern Group, the Nordic Defence Cooperation, the Arctic Coast Guard Forum, the Arctic Security Forces Roundtable, the Joint Expeditionary Force, the UN, the IMO, the Arctic Science Ministerial, and with the private sector, NGOs and knowledge institutions. The Northern Flank of the Arctic Security Forces Roundtable, for example, specifically analyses the potential military threat in the Arctic.

The Arctic Council remains the main forum for dialogue and cooperation on Arctic affairs. The focus there is on the environment, biodiversity, research and social developments. Geopolitical and security issues are not generally discussed in this forum. This approach has enabled constructive cooperation in the Arctic region since 1996, with a focus on the common interests of the Arctic countries. The Netherlands sets great store by preserving this form of constructive cooperation.

From the outset, cooperation on military security has been excluded from the work of the Arctic Council. At the instigation of the US, this was explicitly stated in the first footnote of the Ottawa Declaration, which established the Arctic Council: '*The Arctic Council should not deal*

*with matters related to military security*'. Any decision to change this would have to be taken unanimously by the Arctic states. At the same time, there is growing pressure to allow discussion of political and military matters, as this could play an important role in nipping any potential conflict in the bud and safeguarding regional cooperation. The strategic importance of the region to both Russia and NATO, Russia's increasing military activity, and China's growing interest in the Arctic have all strengthened this trend.

The Netherlands is in favour of any security developments in and around the Arctic being dealt with principally within NATO. The Arctic states Canada, the US, Norway, Denmark and Iceland are all NATO members. The Netherlands also supports such developments being discussed with the relevant actors. As discussed in a report by the Clingendael Institute published in April 2020, current developments also mean that political and military issues must be discussed with all Arctic states, and considered in the broader perspective of ecological and economic developments.[32]

As the polar ice melts and economic opportunities emerge, strategic security interests in the Arctic are also increasing. Greater accessibility of the region poses a direct security threat to Russia, in the eyes of that country's political and military leadership. Alongside economic considerations, the disappearance of the natural protective barrier behind which Russia considered itself safe is leading to a growing Russian focus on the Arctic region. Notably, the Arctic features increasingly prominently in Russia's security strategies and military doctrine of recent years. On 1 December 2014 Russia established a new strategic military command specifically for the region. The Russian National Military Strategy published in 2015 actually refers to the protection of the country's national interests in the Arctic as a core task. This goes hand in hand with a greater Russian military presence in the region. Russian President Vladimir Putin has decided that the country's Northern Fleet will be upgraded to the status of fifth military district as of January 2021. Recently Russia published an Arctic strategy for the period up to 2035.[33] The emphasis is on preserving sovereignty and territorial integrity, exploiting resources for economic development, increasing inhabitants' prosperity, preserving peace in the Arctic, developing the Russian Arctic including the Northern Sea Route, and protecting the environment and the traditional way of life of the indigenous peoples.



Moscow describes the growing Russian military presence in the region as defensive, a necessity in order to protect the country and its resources. The Russian desire to develop the Arctic region and the necessity of cooperating with other countries in order to achieve this means that Russia would not benefit from increased tensions in the region.

It is important to continue monitoring the security situation in the Arctic region with a view to stability in the longer term.[34] Tensions elsewhere in the world could have implications for relations in the Arctic region (spill-over effects). The improved accessibility of the region and the disappearance of natural protective barriers could also lead to increased tension. The Netherlands, the EU and NATO will of course remain vigilant. The *Readiness Action Plan* adopted at the NATO summit in Wales (2014) includes measures for a swift, flexible and firm response to any threats on the borders of the NATO treaty area, including the Arctic. NATO has no permanent military facilities north of the Arctic Circle and engages in only limited activities in the region. The Arctic region bordering the 'GIUK gap' (the North Atlantic between Greenland, Iceland and the United Kingdom) is strategically important to NATO for

[32] Clingendael Institute, 'The Future of Arctic Security', Clingendael report, April 2020. https://www.clingendael.org/sites/default/files/2020-04/Report_The_future_of_Arctic_security_April2020.pdf.

[33] 'Strategy for the Development of the Arctic Zone of the Russian Federation and National Security for the Period up to 2035'. See also: https://www.sipri.org/commentary/essay/2020/russias-new-arctic-policy-document-signals-continuity-rather-change.

[34] See also https://www.defensie.nl/downloads/publicaties/2020/10/15/defensievisie-2035.

communications and transport. The NATO allies and relevant EU member states, including the Netherlands, are therefore concerned with the security situation in the Arctic region. The Netherlands regularly discusses this matter with its partners in the *Northern Group* and the *Joint Expeditionary Force*, as well as in bilateral meetings and in the *Tri Marine Corps* staff talks (United States, United Kingdom and the Netherlands) with Norway on the Arctic region.

Alongside vigilance and the guarantee of deterrence, it is important to keep the channels of military and security dialogue with Russia open. The Netherlands will urge NATO to resume consultative structures with Russia, or to involve them in existing talks on security and stability in the Arctic region. It will therefore support initiatives to make NATO more transparent as regards its activities in the Arctic region, and encourage Russia to be more open about its own activities and intentions. A modernised Vienna Document would provide a good framework for this.[35] The Netherlands is committed to a strong international legal order and active cooperation in relevant forums, which could help to achieve the required transparency. This would help ensure that the activities of all actors in the Arctic, both Arctic and non-Arctic states, contribute to peaceful and sustainable developments in the region.

Other matters that might be covered include security and confidence-building measures, prevention of incidents, closer cooperation on *search and rescue*, and civil-military cooperation in disaster response. Continued cooperation under existing mechanisms such as the Arctic Council and UNCLOS will help prevent any escalation in the Arctic region.

China's interest in the Arctic appears to be closely associated with economic opportunities: the reserves of oil, gas, rare earth elements and raw materials, and the possibility of shorter shipping routes are important to the economic growth of the country, which has been an observer to the Arctic Council since 2013, and has declared itself a '*near Arctic state*' and '*important Arctic stakeholder*'. China imports increasing quantities of Liquefied Natural Gas (LNG) from the Russian Arctic. Since 2016 Chinese state enterprises have acquired interests in the mining of rare earth elements in Greenland. China is also working more closely with Iceland, on geothermal energy among other things. In January 2018 China published its first policy document on the Arctic, a white paper entitled '*China's Arctic Policy*',[36] which states that China intends to comply with all current Arctic regulations and structures, such as UNCLOS and the IMO, including the IMO Polar Code. There are at present no indications in the Arctic that China intends to deviate from this, but the Netherlands remains alert and vigilant.



The US sees the polar regions more and more in light of its own economic and security interests. This is reflected, for example, in an expansion of certain capabilities, such as new icebreakers, and also in the securing of bases and units for the region. The opening of a US consulate in Greenland also reflects its growing interest in the region. The US is also concerned about Chinese activities in the Arctic, as illustrated by a speech given by US Secretary of State Mike Pompeo the day before the Arctic Council meeting on 7 May 2019, in which he drew attention to the fact that China is developing infrastructure and research facilities there. These facilities could be used for military purposes in the future, he warned.

The Netherlands realises that the Arctic region is under a great deal of scrutiny, and that we must proceed carefully and cautiously in order not to exacerbate tensions. In the opinion of the Netherlands, a strong international legal order and active cooperation in relevant forums increase transparency. This is the way to ensure that activities by all actors in the Arctic, including China, contribute to peaceful and sustainable development, in everyone's interests, and enable us to protect our own security interests. This is also in line with the Dutch policy paper on China, 'The Netherlands & China: A New Balance' of 15 May 2019.[37]

[35] https://www.osce.org/files/f/documents/a/4/86597.pdf.

[36] http://english.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

[37] See policy paper on China, 'The Netherlands & China: A New Balance', https://www.government.nl/documents/policy-notes/2019/05/15/china-strategy-the-netherlands--china-a-new-balance.

## 1.4 Ensuring sustainable economic activity

### Introduction

The first ice-free summer in the Arctic Ocean is projected to occur somewhere between 2030 and 2050. This will create more opportunities for economic activity – navigation, fishing and resource extraction, including oil and gas, will become less difficult – as well as challenges. More intense economic activity in the Arctic made possible by climate change may further exacerbate climate change and could be at odds with sustainability goals. The government believes that economic activities must be regulated on the basis of the precautionary principle and the ecosystem approach. The latter refers to integrated management of human activities based on knowledge of the ecosystem's dynamics. The goal is sustainable use of ecosystem products and services, and the preservation of the integrity of the ecosystem by identifying mechanisms that are critical to the health of the system and taking action on that basis. This is an important principle for the Netherlands when it comes to economic activities in the Arctic. The government also expects companies, including financial institutions, to exercise responsible business conduct (RBC). The Netherlands uses the *OECD Guidelines for Multinational Enterprises* as the standard for RBC. The Guidelines also incorporate the *UN Guiding Principles on Business and Human Rights* (UNGPs). Specifically, this means that companies must consider the potential and actual negative impacts of their own activities, services or products, and those of their commercial partners (e.g. their suppliers), on aspects like climate change and environmental pollution. Companies are expected to exercise due diligence. They must identify, prevent or mitigate the risk of negative impacts and provide accountability for this process, as described in the OECD Guidelines and the UNGPs.



*Photo credit: Kadir van Lohuizen - Arctic Canada*

In this context the Netherlands will work to promote sustainable management of the Arctic, lobbying – along with the Arctic states and, where possible, in a broader international framework – for sustainability criteria to be tightened up and for additional, strict and binding international standards and agreements to be put in place. The private sector and civil society will be involved in this process, and of course the interests of the inhabitants of the Arctic, including indigenous peoples, will be considered. The Netherlands will encourage compliance with these standards and agreements.

With their knowledge and expertise, Dutch companies and knowledge institutions can play an important role in developing technologies for safe and sustainable activities in extreme conditions. In this way they can contribute to responsible and sustainable economic development in the Arctic, including through activities deployed by others. The Netherlands

will bring the specific knowledge and expertise of the Dutch private sector to the attention of the Arctic states whenever possible. Several companies, knowledge institutions, NGOs and representatives of a number of ministries have formed the *Dutch Arctic Circle* (DAC), which informally shares knowledge regarding Arctic activities. The DAC will be used over the coming years to mobilise Dutch companies' relevant knowledge and skills, and identify how they could be used for sustainable development in the Arctic. This is also in line with the recommendation of the Clingendael Institute that this network be used more actively to coordinate the activities and policies of key Dutch stakeholders involved in the Arctic.[38] In 2014 the Arctic Council established the *Arctic Economic Council*, an independent organisation where economic opportunities are discussed and companies can exchange knowledge about sustainable economic development. Membership of the Arctic Economic Council is open to all companies, trade bodies and indigenous groups with an economic interest in the Arctic.

## Developing sea routes

The receding Arctic sea ice has made it possible to travel by sea from Asia to Europe via the Arctic, which is considerably shorter than the route via the Suez Canal. This is known as the Northern Sea Route (NSR). In August 2018 shipping company Maersk became the first to navigate the Northern Sea Route with a commercial container vessel, partly with the help of icebreakers. How soon this route becomes permanently navigable and commercially viable depends on many factors, and is difficult to predict. Some 500 vessels used the route in 2019.[39] As well as environmental and security issues, shipping in the Arctic faces other challenges: extreme and highly unpredictable weather conditions, rapidly changing ice conditions, limited satellite range and a lack of port infrastructure. There are also width and depth restrictions, so it is not possible for the largest ships to navigate the NSR, as they can the Suez Canal. In the short and medium term, the northern routes are therefore unsuitable for scheduled services, which rely on accurate port arrival and departure times for container shipping, for example. However, several countries, including Russia, China and Iceland, are investing in new ships, icebreakers and ports to facilitate the expected growth. Russia has declared its ambition to transport 80 to 92.6 million tonnes of freight via this route each year by 2025 – compared to 18 million tonnes in 2018. To achieve this ambition, the Russians are making big investments in infrastructure, nuclear-powered icebreakers and the modernisation of ports. The *Netherlands Bureau for Economic Policy Analysis* (CPB) forecasts that, in the longer term, if the NSR becomes commercially viable, two-thirds of goods now transported via the Suez Canal will travel via this route. This would increase trade flows between northwest Europe and northeast Asia by approximately 10%.[40] Major ports like Rotterdam would therefore tranship more freight and become even more important hubs. The *Netherlands Institute for Transport Policy Analysis* expects that the NSR may eventually become an alternative route for high-quality, time-sensitive products.[41]



Another route that might eventually become navigable is the Northwest Passage. In 2014 a container ship travelled from Quebec to China in 26 days, without the use of icebreakers, for the first time ever. This route is difficult because of the many islands, and it has more ice cover than the NSR, so it is unlikely to become navigable as quickly.

A third potential route for shipping, from Spitsbergen directly to the Bering Strait, is known as the Transpolar Sea Route. Any opening of this route would lie even further in the future. At the moment it is not possible to say whether or when this route will ever be navigable. Scientists estimate that it will at any rate be well after 2050, and only in summer.

[38] https://www.clingendael.org/publication/future-arctic-security.
[39] Source: Atomflot 2020.
[40] 'Melting Ice Caps and the Economic Impact of Opening the Northern Sea Route'. CPB Netherlands Bureau for Economic Policy Analysis, 2015.
[41] https://www.kimnet.nl/publicaties/rapporten/2020/04/21/trends-en-de-nederlandse-zeevaart.

Of course the navigability of the Arctic has implications for the Netherlands, particularly its North Sea ports, tourism and fisheries. The Netherlands uses international forums to advocate compliance with international agreements and standards of free trade, security and sustainability when it comes to developments in the areas of shipping, resource extraction, tourism and fishing in the Arctic. The government is guided by the precautionary principle and the ecosystem approach in its support of and frameworks for economic and other activities. Dutch commercial actors would of course be wise to prepare for future developments, which will bring both opportunities and risks. Companies currently active or wishing to become active in the Arctic can count on government support within the framework of this strategy, among other things, and on economic diplomatic services, as set out in the Digital Agenda for Foreign Trade and Development Cooperation[42] and the letter to parliament entitled 'International financing instruments for global prospects'.[43]

## Energy and resources

As a result of new technologies, greater accessibility and projected future demand, Arctic oil and gas fields have attracted more interest over the years. It is becoming more and more economically attractive for the Arctic states to exploit these resources. Russia expects that the Arctic region, including the Arctic Ocean, will in the near future become the biggest supplier of oil and gas to the Russian economy.

Given the major environmental and safety risks, particularly for the vulnerable ocean ecosystem, the Netherlands has reservations about far-reaching exploitation of oil and gas in the Arctic. Any activities that do take place there must comply with stringent environmental and safety standards, with due regard for the specific vulnerability of the Arctic region. At the UN, in the Arctic Council and in its bilateral contacts, the Netherlands will therefore continue to urge that oil and gas extraction be subject to the strictest environmental and safety standards, to safeguard the region's fragile ecosystems, ecosystem functions and Arctic species. The global transition from fossil fuels to renewable energy should accelerate over the coming years, in line with the Paris Agreement and the SDG agenda. The government will phase out financial support for exploration and development of new oil and gas reserves abroad as of 2020, as announced in the above-mentioned letter on international financing instruments. The Arctic countries have committed to the *Arctic Offshore Oil and Gas Guidelines* (2009), which stipulate that an environmental impact assessment must be performed before any activity commences.[44]



The Arctic is also a rich source of rare-earth elements and minerals. They are used in the manufacture of solar panels and batteries for electric vehicles, for example, and as such are important for the Dutch (and global) energy transition. Mining already takes place on a large scale in Finland, Sweden and Norway. Sweden has the biggest iron mine in the world, for example, and Norway has advanced plans for a new copper mine in the far north. In Greenland, the melting of the ice sheet enables new reserves to be accessed, particularly in the south of the country. Three of the companies interested in exploiting Greenland's natural resources are Chinese. For the Netherlands, it is important that the extraction of resources, including minerals and rare-earth elements, is done responsibly, as described above, and that one-sided strategic dependencies be avoided.

[42] Parliamentary Paper 34 952, no. 30.
[43] Parliamentary Paper 34 952, no. 44.
[44] https://oaarchive.arctic-council.org/bitstream/handle/11374/63/Arctic-Guidelines-2009-13th-Mar2009.pdf?sequence=1&isAllowed=y.


Photo credit: Yuri Kozyrev

## Shipping

The receding sea ice is opening up larger and larger areas of the Arctic Ocean for tourism, research and fishing. This has positive effects, including rising incomes and employment, but goes hand in hand with ecological risks, such as pollution due to accidents, illegal emissions and dumping of waste at sea. To minimise these risks, international agreements have been made on environmental and safety requirements for shipping, including the International Maritime Organization's Polar Code. The Code lays down certain requirements for ships operating in the seas surrounding the North and South Poles. The IMO is gradually raising the standards for ships operating in the Arctic. Norway is ahead of the IMO in this respect, and is attempting to implement stricter standards around Spitsbergen. The Kingdom of the Netherlands is an IMO member state, and contributed to the development of the Polar Code. See also section 1.2 on Dutch efforts within the IMO.



There is tourism in the region, particularly in Spitsbergen and Greenland, but also other parts of the Arctic. Most shipping companies operating there are affiliated to the *Association of Arctic Expedition Cruise Operators* (AECO). AECO draws up guidelines for its members to ensure that expeditions, cruises and tourism in the European Arctic are undertaken with due regard for the fragile environment, local cultures, and safety at sea and on land. The Netherlands encourages Dutch shipping companies to join AECO, as members commit to the guidelines by virtue of their membership. In addition the Netherlands will more strongly argue the case for sustainable tourism in the Arctic at the Arctic Council and IMO. Progressive input by the Netherlands at the IMO is important, with a focus on a level playing field and a customised approach to, for instance, smaller sailing vessels. These efforts will largely be informed by the outcomes of Dutch research into the development and effects (including environmental effects) of and response to polar tourism.

Photo credit: AECO

## Fishing

Fishing is still a relatively marginal activity in the Arctic Ocean. There is no large-scale commercial fishing there, and the Dutch sector has little to no interest in it. However, indigenous peoples in the Arctic are heavily dependent on fisheries for their livelihoods. The melting of the ice is opening up new fishing grounds, and some fish stocks are expected to shift northwards as the ice recedes and the water becomes warmer. By far the majority of fishing grounds are within the Arctic coastal states' EEZs. As regards commercial fishing in the high seas of the Arctic Ocean, beyond the national jurisdictions of the Arctic States, in 2019 the EU acceded to an international agreement to prevent unregulated fishing in those areas. The agreement bans commercial fishing for an initial period of 16 years (to be renewed automatically every five years).



Photo credit: Wouter Jan Strietman - Arctic Fishing

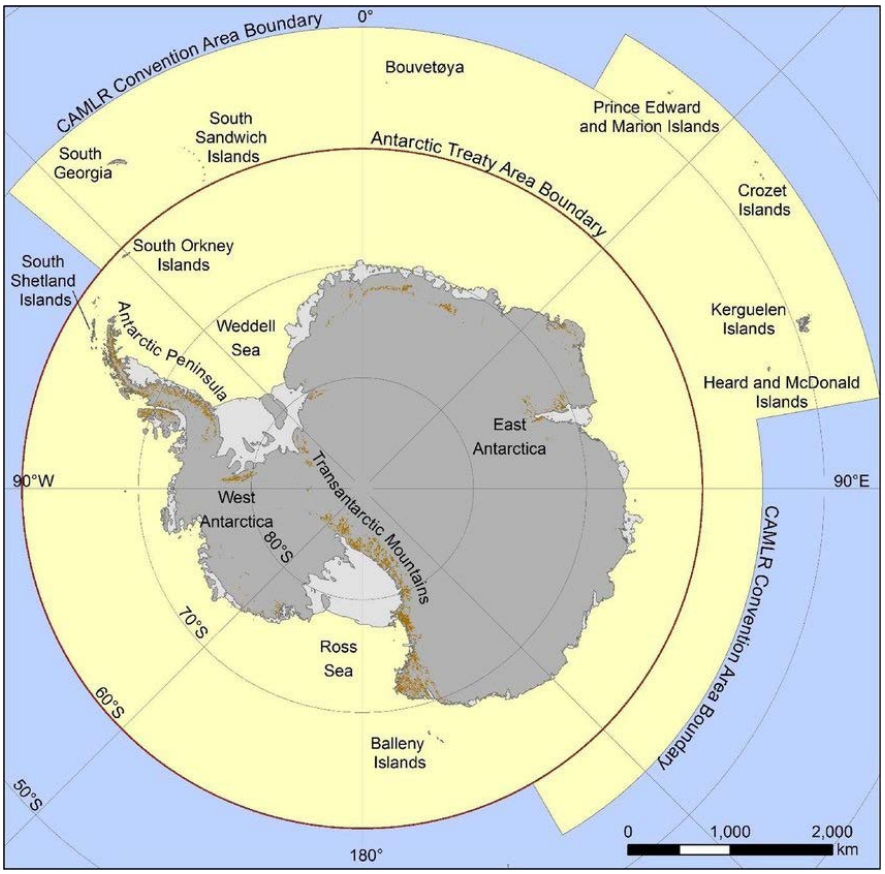
# Part II

*Photo credit: Dick van der Kroef - Antarctica Landscape*

# Antarctica

## 2.1 General

Antarctica is a land mass surrounded by ocean – the opposite of the Arctic, in fact. In this strategy, Antarctica is defined as everything to the south of 60° south latitude – both the Antarctic continent and the waters surrounding it – and the parts of the oceans to the north of 60° south latitude that are part of the Antarctic convergence zone (the 'CCAMLR Convention Area').




Source: https://www.researchgate.net/figure

Antarctica is a continent of extremes, where the world's lowest temperatures (down to almost -90°C) and highest wind speeds (up to 250kph) have been recorded. It is also the most elevated continent, at an average of 2,250 metres above sea level. And it is the driest continent, despite the fact that it contains 90% of the world's ice, which accounts for 70% of its fresh water. With an area of 14 million km², Antarctica is bigger than Europe.

Unlike the Arctic region, the Antarctic is not permanently inhabited. Nevertheless, many tourists now visit every year, some of whom also go on land. Anyone who wishes to repeat Roald Amundsen's gruelling expedition of 1911-1912 as a tourist can simply book a package tour these days. Other human activities in Antarctica include fishing, bioprospecting,[45] scientific research and activities in support of science (e.g. transport, building of research stations). The continent now has over 110 research stations.

[45] Prospecting for natural resources, mainly with a view to biotechnological uses.

Photo credit: Dick van der Kroef

The Antarctic Treaty of 1959 is still the successful cornerstone of peace and cooperation it was designed to be when it was signed over 60 years ago. This major achievement was crowned in 1991 when Antarctica was designated a nature conservation area, where no resource extraction would be allowed until at least 2048. Given the Netherlands' desire to strengthen the international legal order – and later also out of concern for Antarctica as a global common and for the protection of natural habitats and the environment – the country acceded to the Antarctic Treaty in 1967. In 1989 it decided to apply for consultative status under the Treaty, which was granted in 1990. Since then, the Netherlands has been involved in decisions on the management and future of the continent, along with the 28 other consultative parties. Decision-making takes place at the annual *Antarctic Treaty Consultative Meeting* (ATCM).



Dutch efforts on behalf of Antarctica mainly take place within the framework of the Antarctic treaty system. The Netherlands believes that the international management of Antarctica should focus on preserving the region as a unique, unspoilt wilderness. Dutch Antarctic policy thus gives priority to nature conservation in the region, and remains focused on affording maximum protection to the fragile Antarctic environment and the ecosystems it supports. The Netherlands is of the opinion that sustainable management of Antarctica means that any activities there must have no more than a minor or transitory impact. This position is set out in more detail below in relation to the strands 'protecting natural habitats and the environment', 'strengthening international cooperation' and 'ensuring sustainable economic activity'.

## 2.2 Protecting natural habitats and the environment

### Climate change

Climate change will have major consequences in Antarctica, impacting on the region itself and on the rest of the world. Antarctica contains some 90% of the world's land ice, and only 2% of the continent is free of ice in the summer. If only a relatively small proportion of the ice melts, it will contribute directly to global warming and significant sea-level rise all around the world, affecting low-lying countries, small island states and delta regions like the Netherlands. Like the Arctic, Antarctica plays a key role in the global climate, particularly through global atmospheric circulation, ocean currents and the associated spread of pollutants. The IPCC's Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC, 2019) shows that the ice sheets of Greenland and Antarctica are losing mass at an

accelerating rate, and are thus making a growing contribution to global sea-level rise.[46] Up to 2000, Antarctica's contribution to sea-level rise was approximately 7%. By around 2010 the figure already stood at 12%. The pace of ice loss has risen fourfold over that period, and continues to increase.[47] Climate change also has effects in Antarctica itself. Due to rising temperatures, ice-free areas in particular are becoming more vulnerable to the introduction and survival of non-indigenous plant and animal species.

*Photo credit: Dick van der Kroef*



Tackling climate change is a key priority for the Netherlands, as explained in section 1.2. It is therefore important that scientific research give us a clearer picture of the effects of climate change in Antarctica, improve our understanding of climate change processes and monitor the global impact of changes in the Antarctic. For although it is clear that future sea-level rise will be determined above all by the melting and disintegration of the Antarctic ice sheet, we know little about the relationship between the climate and the ice sheets and about instability in the ice sheets due to the warming of the atmosphere and ocean, particularly the implications of changes in the Antarctic ice sheet for sea-level rise in the Netherlands. Large-scale national and international research projects have been launched to explore these questions.[48]

## Environmental impact assessment

The designation of Antarctica as a nature reserve and the ambition to preserve the continent as an unspoilt wilderness do not rule out activities in Antarctica, ranging from research to tourism, all of which have an individual and a cumulative impact on natural habitats, wildlife and the environment. *Environmental Impact Assessment* (EIA) is therefore an important instrument for the Netherlands. Reliable information about the environmental effects of potential activities should be available when decisions are made about those activities. However, the system still has a number of weaknesses that limit its ability to protect the environment. Countries implement EIA obligations in different ways, for example, and there is virtually no consideration of the cumulative effects on wilderness values. Furthermore, the Antarctic system – unlike the Espoo Convention on EIA and EU law – does not include strategic environmental assessment. The Netherlands will therefore work at ATCM level to ensure that the EIA instruments for Antarctica are strengthened.

[46] https://www.ipcc.ch/srocc/.

[47] https://www.ipcc.ch/srocc/ and https://magazines.rijksoverheid.nl/knmi/knmispecials/2019/03/index.

[48] E.g. 'Beyond Epica': https://cordis.europa.eu/project/id/730258 and a study by Utrecht University, KNMI/ University of Groningen and TU Delft/Deltares https://www.nwo.nl/nieuws/vier-toekenningen-binnen-nederlands-polair-programma.

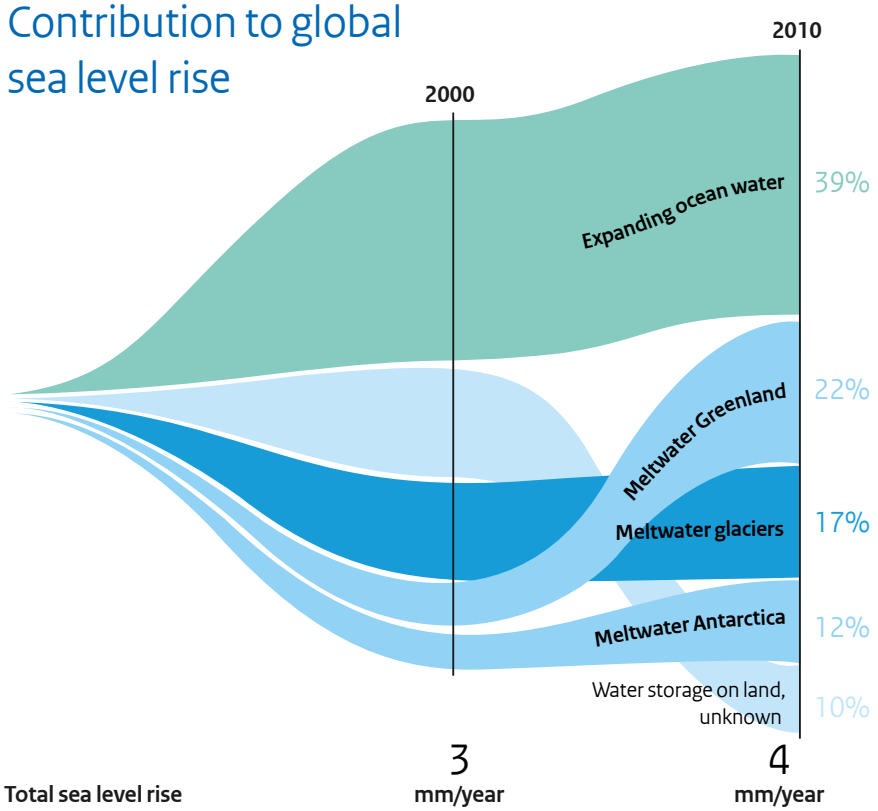



Image: Frédérik Ruys | Vizualism

## Protected areas

One important instrument for protecting sensitive values and functions is to designate special protected areas, both marine and terrestrial. At CCAMLR the Netherlands will join with like-minded partners in efforts to set up five large marine protected areas. In addition, *Antarctic Specially Protected Areas* (ASPAs) or *Antarctic Specially Managed Areas* (ASMAs) can be designated under the Environment Protocol. ASPAs are land and sea areas in Antarctica that enjoy special status and protection because of their outstanding environmental, scientific, historic, aesthetic or wilderness value. ASMAs are designated to ensure coordination or planning of activities in the area and/or to minimise activities' environmental impact. Access to ASPAs is restricted; most of the areas are closed to tourism and recreational activities. Under the Dutch Protection of Antarctica Act ('Wet bescherming Antarctica') permits may be issued for only five ASPAs which also include a historic site or structure. The Netherlands will work to more systematically identify values and functions requiring special protection and submit proposals for the designation of larger areas, in collaboration with the *Scientific Committee on Antarctic Research* (SCAR), an *International Science Council* body. In this connection, we will consider the ecological values, as well as the importance of maintaining pristine areas in Antarctica as a reference point for science and for the preservation of wilderness values. The wilderness value of an area will be determined on the basis of three key attributes: 1) a relatively large size; 2) the absence of permanent infrastructure or other evidence of human influence, as well as remoteness from man-made facilities or artefacts; and 3) naturalness.

The Netherlands supports initiatives designed to provide extra protection for species that are sensitive to climate change, such as penguins and krill. Penguins could for example be protected by giving their habitats ASPA status. The Netherlands is also in favour of expanding the ASPA instrument, and adopting additional guidelines under the ATCM with the aim of preventing the introduction and spread of non-indigenous species in the Antarctic region.


Photo credit: Frits Steenhuisen

Finally, within the ATCM the Netherlands will continue to call for agreements on remediation measures where activities cause unforeseen harm. To this end, it is necessary to conduct more research into appropriate measures and the resilience of ecosystems, and to lay down international agreements supplemental to Annex VI.



## 2.3 Strengthening international cooperation

### Governance and management

Article I of the 1959 Antarctic Treaty, which 54 countries have now signed, states that Antarctica will be used for peaceful purposes only and that all measures of a military nature are prohibited there. The Protocol on Environmental Protection to the Antarctic Treaty designates Antarctica a natural reserve, devoted to peace and science. These goals are still central to the governance of Antarctica. Although several countries (Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom) have laid claim to parts of the region, they all comply with the status quo enshrined in article IV and act in the spirit of the treaty, which focuses on international cooperation. Antarctica has thus evolved into a global common without parallel.


Photo credit: Frits Steenhuisen

As a consultative party the Netherlands has had administrative responsibility under the Antarctic Treaty since 1990, thus fulfilling its desire to contribute to the sustainable management of the region. Specifically, this involves attending the annual *Antarctic Treaty Consultative Meeting* (ATCM) and the *Committee for Environmental Protection* (CEP). One explicit requirement for acquiring and retaining consultative status under the Antarctic Treaty is that a country must perform substantial scientific research in the Antarctic.

The *Convention on the Conservation of Antarctic Marine Living Resources* (CCAMLR) was drawn up in 1980 to protect the marine ecosystem. It is part of the Antarctic treaty system which, besides the Antarctic Treaty, also includes the *Protocol on Environmental Protection to the Antarctic Treaty* (the Environment Protocol) and the *Convention for the Conservation of Antarctic Seals* (CCAS). The *Agreement on the Conservation of Albatrosses and Petrels* (ACAP) is also closely linked with the system. The Netherlands is a party to the Antarctic Treaty, CCAMLR and the Environment Protocol. It is not a party to the CCAS and ACAP. CCAMLR currently has 34 parties, including the European Commission. Of these contracting parties, 25 countries and the European Commission are members of the CCAMLR Commission, which is empowered to take decisions. The Netherlands joined the Commission as a fully-fledged member with voting rights on 8 October 2019. The Commission gives effect to the objective and principles of the convention, such as the creation of a network of protected marine areas around Antarctica. The CCAMLR mandate follows the Antarctic Convergence, which in some places extends as far as 45° south latitude, so that the area to which the CCAMLR applies is larger than the area covered by the Antarctic Treaty. The protection regime is based on an ecosystem approach.



*Photo credit: Dick van der Kroef -ATCM Praag 2019*

The Netherlands regards the successful Antarctic Treaty and supporting international regimes (known collectively as the Antarctic Treaty System) as the cornerstone of international cooperation in the region, and the ATCM and CCAMLR Commission as the competent and legitimate decision-making bodies for the treaty areas. In this respect, the Netherlands also supports a gradual expansion of the tasks entrusted to the Secretariat of the Antarctic Treaty in Buenos Aires.

The Netherlands does not recognise any territorial or maritime area claim in the Antarctic Treaty area, and no action (or omission) on the part of the Netherlands may be interpreted as recognition of such a claim. It routinely and consistently communicates this position.

The Netherlands is in favour of cooperation with and coordination between international organisations if this benefits the Antarctic region. In this connection, it will press for a clear division of powers between the ATCM and the CCAMLR Commission, as such clarity would help make management of the region more efficient.

### National efforts: Protection of Antarctica Act

The Netherlands has implemented the *Environment Protocol to the Antarctic Treaty* in the *Protection of Antarctica Act* ('Wet bescherming Antarctica') and its secondary legislation, particularly the *Protection of Antarctica Decree* ('Besluit bescherming Antarctica'). The Act stipulates that any Dutch organiser or Netherlands-based organiser of an activity requiring access to or implementation in Antarctica must be granted a permit. All Dutch nationals in the Antarctic are also subject to a number of prohibitions and a general duty of care.

The Act was recently amended to resolve a number of issues with its implementation. The basis for applying for a permit has been expanded; a permit may be granted for access to ASPAs in five areas that include a historic site or monument and where tourism is permitted under international rules; and a procedure for designating Dutch nationals as international observers has also been introduced.

*Photo credit: Dick van der Kroef*



The process of issuing permits is based on the precautionary principle. Besides the Protection of Antarctica Act and the Protection of Antarctica Decree, Rijkswaterstaat – which is responsible for assessing permit applications – bases its decisions on the policy principles set out in this strategy, and on international agreements in the context of ATCM. These three grounds for assessment are to be combined into a single implementation framework. Rijkswaterstaat may also ask applicants to supply evidence of sufficient expertise and experience.

The development of international tourism in the Antarctic is a cause of concern for the Netherlands (see also section 2.4). Tourism has seen explosive growth and is also rapidly diversifying. The Netherlands campaigns internationally for stricter regulation, but under its own national policy – by refusing permits or including conditions in permits, for example – it can also help ensure that tourism has no more than a minor and transitory impact. It is however important to prevent overly strict national rules from leading organisers of activities to apply to other countries for permits, thus evading Dutch supervision. At international level the Netherlands therefore advocates closer consultation between bodies that issue permits.

Given the growth in tourism and the risks it poses to natural habitats and the environment in Antarctica, the Netherlands is tightening up its policy in the assessment framework described above. The first general point to consider in assessing permit applications is that activities must not have any more than a minor and transitory effect on the Antarctic environment and the region's wilderness values. Cumulative effects are also considered and decisions are based on the precautionary principle, as mentioned above. A second general point is that activities must be specifically linked to Antarctica, to the extent that they cannot be carried out elsewhere. In line with international ATCM guidelines, activities are assessed to establish whether they are sufficiently educational and intended to raise awareness of the Antarctic environment. Activities such as heli-skiing, helicopter sightseeing and use of drones for tourism in coastal zones with important biodiversity values are not eligible for permits. Recreational camping will be permitted for one night, at specific locations. International efforts are under way to draw up specific guidelines for camping. The Netherlands is not in favour of individual trekking on the Antarctic ice sheet, such as trips to the South Pole, and will comprehensively assess the skill and experience of any applicants requesting permits for such activities.

Information on permits issued by the Netherlands is submitted to the Secretariat of the Treaty twice a year, as part of information exchange on planned and implemented activities.

## 2.4 Ensuring sustainable economic activity

### Tourism



Polar tourism has grown exponentially over the past few years. In Antarctica the number of tourists in the 2019-2020 season almost doubled to 75,000, compared with 42,000 in the 2018-2019 season (data from International Association of Antarctic Tour Operators, IAATO). Furthermore, a small but rapidly growing portion of tourists arrive by aeroplane, creating incentives for the construction of permanent infrastructure. The growth of tourism has also caused a substantial increase in the number of cruise ships and the landing places they use. The variety of activities for tourists is also expanding fast. Most tourists still come for a wilderness experience and to see the polar landscape and ecosystem, but the continent is also increasingly being used as a setting for extreme sports (e.g. heli-skiing, BASE jumping and marathons) with a potentially high environmental burden, and risks of disrupting scientific research.

*Photo credit: Dick van der Kroef - Antarctic Tourism*

These developments are rapidly increasing pressure on the Antarctic environment, affecting the climate (emissions), biodiversity (entering of habitats, disruption, introduction of invasive species) and wilderness values. The risk of major impacts due to accidents is also growing. Most tourist activities are concentrated in a few areas of Antarctica, with the Antarctic peninsula being particularly popular because of its relatively easy accessibility and many sights.

Although the direct negative consequences for the region appear at first glance to be limited, there is growing international concern about the longer term impact (and the cumulative effects of other sources of pressure, such as climate change). Tourism is therefore an important topic of discussion at the annual CEP and ATCM meetings. The Netherlands is one of the parties that is taking the lead on this issue at the ATCM. Alongside countries like Germany, New Zealand and the UK, the Netherlands consistently raises the issue and works actively to find solutions. In 2019, for instance, the Netherlands initiated an international workshop on Antarctic tourism. The CEP and ATCM adopted the conclusions and recommendations from the event in their entirety, and these formed the basis for a large number of new policy initiatives designed to further restrict the risks posed by tourism. Among other things, the guidelines for visitors are being revised, a programme to monitor the effects of tourism is being set up, and a new joint assessment system is being devised for permit applications for new activities, to ensure that permitting countries appraise applications in the same way. The scope for improving cooperation between inspectorates in Antarctica is also being studied, with a view to strengthening supervision. Permits are issued by various parties to the Environment Protocol, with a range of legal systems. There is a need for more coordination, information exchange and harmonisation where possible, to encourage more consistent implementation of international agreements and to ensure new developments are considered. Initial steps have been taken to this end, based on the outcomes of the workshop.



Given the growing urgency of this issue, during the period covered by this strategy the Netherlands will step up its efforts at both CEP and ATCM, to develop an international, integrated, long-term vision on and strategy for Antarctic tourism. Proposals to this effect will be put forward in the near future. Possible instruments to sufficiently limit the cumulative impact of tourism include a cap-and-trade system for tourism, restrictions on the total number of visitors per region or area, the closure of fragile areas, restrictions on the number of sites accessible to visitors, the introduction of a season during which tourism is allowed, and bans on certain forms of tourism. The Netherlands is pressing for a clear list of permitted activities to be drawn up, distinguishing between activities that are allowed only in certain designated locations and under strict conditions, and activities that are in principle allowed anywhere.

The Netherlands can also take measures or introduce restrictions that are not yet required internationally (such as rejecting permit applications on the basis of the above framework).

The Netherlands is of the opinion that Antarctica should be accessible in principle, subject to strict conditions. The Netherlands is opposed to overnight tourism or any permanent tourist infrastructure in Antarctica. The Netherlands is equally opposed to government facilitated or approved commercial exploitation of facilities set up for the purpose of scientific research. Although a far greater number of tourists than scientists travel to the continent each year, the latter group also contributes to the human footprint on Antarctica. The Netherlands wants all visitors to Antarctica to be subject in principle to the same stringent guidelines, whatever the purpose of their visit.

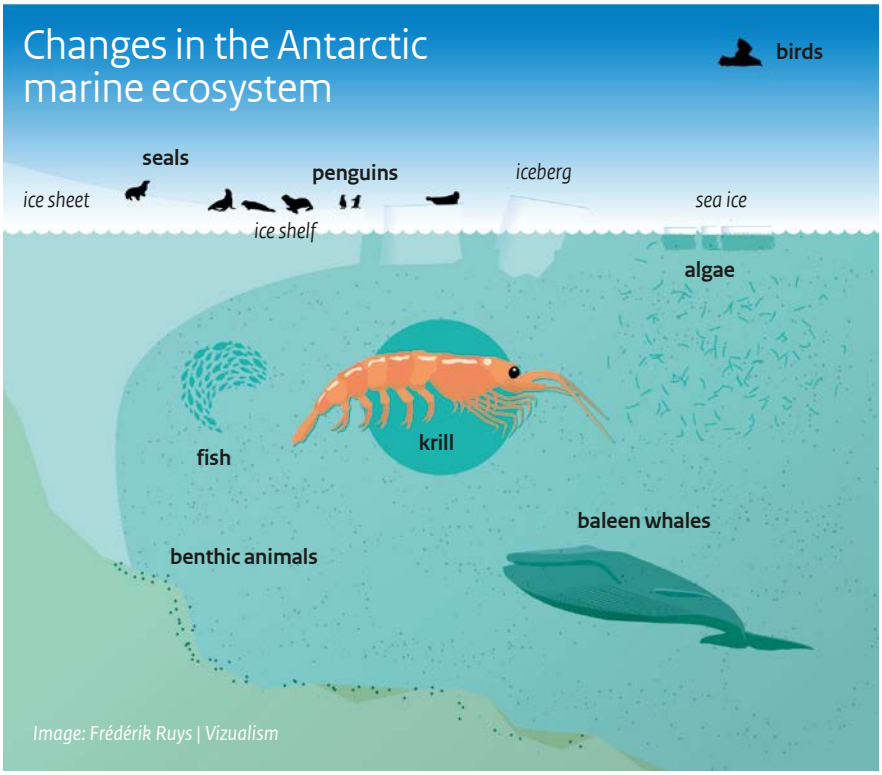
One positive point is that almost all tour operators that offer trips to Antarctica are members of the *International Association of Antarctic Tour Operators* (IAATO), which facilitates contact between the sector and the ATCM, and these companies implement a system of

self-regulation. IAATO embraces the objectives of the Antarctic Treaty and the Environment Protocol, and takes measures to protect wildlife, habitats and the environment in Antarctica, often before any formal decision by the Treaty parties.

## Shipping

The waters around Antarctica are not part of normal shipping routes and they are not busy, except for the waters off the Antarctic peninsula. Maritime traffic around Antarctica – fishing vessels, cruise ships and supply ships for the scientific bases – is destination traffic. As in the Arctic, nautical conditions are difficult. Drift ice is common, coastal waters have not been fully charted, and there is limited emergency-response capacity in the event of accidents or environmental disasters. To reduce the risk of environmental harm, in 2011 the IMO introduced a ban on the transport and use of crude oil south of 60 degrees south latitude, at the request of the ATCM. Furthermore, the IMO Polar Code applies to the waters around Antarctica. The Netherlands supports initiatives to guarantee the safety of shipping in Antarctica and to limit its environmental impact. Antarctic shipping regulations must be coordinated with the IMO. The designation of marine protected areas could be accompanied by additional measures for shipping.

One growing problem is illegal access to the treaty area by vessels sailing under the flag of a treaty party but operating without a permit. The Netherlands supports an international study on the scope for drawing up a blacklist so that offenders can be dealt with more quickly and effectively.






## Marine environment

The Netherlands is of the opinion that the interests of the Antarctic continent and the surrounding waters should be the key focus of the CCAMLR. It therefore endorses the ecosystem approach and precautionary principle applied by the Commission in regulating human activities under the convention. The Netherlands also endorses creating a network of marine protected areas in the Southern Ocean and believes it is important that the CCAMLR take the lead on this. Given that a considerable proportion of the area under the

CCAMLR mandate lies beyond recognised national jurisdictions, the designation of marine protected areas by the Commission could set an important example for the designation of other areas beyond national jurisdiction. The CCAMLR has undertaken several initiatives to create marine protected areas, such as the international waters around the South Orkney Islands and in the Ross Sea. Work is currently under way to designate more protected areas.

The CCAMLR has extensive powers when it comes to research, data collection, statistics on fish stocks, identifying the need for protection, taking protective measures, conducting inspections, designating fishing areas, protected areas and protected species, and determining the fishing season. Marine mammals (seals and whales) are not covered by the Convention. Seals are protected under the *Convention for the Conservation of Antarctic Seals* (CCAS) and the *Environment Protocol to the Atlantic Treaty*, and whales under the *International Convention on the Regulation of Whaling* (ICRW). The Netherlands is not a party to the CCAS, but it is party to the Environment Protocol and the ICRW. Dutch policy on whaling informs its efforts at the *International Whaling Commission* (IWC).

Antarctic life is concentrated in the oceans, with the islands and the continental coastline serving mainly as resting and breeding grounds for birds, penguins and seals. Global warming has major implications for wildlife, habitats and biodiversity in the Antarctic region. The melting of sea ice will for example cause a decline in algal biomass and a change in its composition, putting pressure on krill populations, which are a vital link in the Antarctic food chain. The survival of species that depend on krill, such as penguins, seals and cetaceans, will therefore be increasingly jeopardised. A market has also arisen for products that can be derived from krill, such as ingredients for cosmetics, food additives and feed for farmed salmon. This is placing even greater pressure on krill populations. Catch limits based on scientific advice are therefore set each year. Dutch efforts focus on safeguarding sustainable krill populations, if necessary through further restrictions on krill fishing.



## Resources

Resource exploration and extraction in Antarctica for non-scientific purposes is banned under the *Environment Protocol*. It is not however clear whether the ban applies to offshore activities. The Netherlands' view is that the ban on minerals extraction for non-scientific purposes applies both onshore and offshore. After 2048, the continent can theoretically be opened up for exploitation, provided this is the unanimous wish of the treaty parties and agreements have been reached on avoiding any unacceptable environmental consequences. It is therefore a misconception that the ban will lapse in 2048 and that all activities will be permitted thereafter, despite the increase in global demand for resources. The Netherlands is in favour of a permanent ban and regards activities involving minerals – except for scientific purposes – as incompatible with provisions of the Antarctic Treaty and its Environment Protocol.

There is growing interest in the use of genetic material from Antarctic organisms (some of them rare) for scientific research and for commercial applications, particularly in the biochemical and pharmaceutical industries. This subject is on the ATCM's agenda, but discussion has so far been limited to the question of whether it is necessary and/or desirable to regulate this activity in the Antarctic treaty area, particularly as regards the release of scientific data by researchers, the equitable distribution of revenues in the event of commercial applications, and the environmental effects of collecting biological material. Since the Netherlands believes it is important to prevent the exhaustion of natural resources and to regulate access to *ex situ* collections of Antarctic organisms, the Netherlands will strive within the ATCM for adequate regulation of access to and use of genetic material from Antarctic organisms for scientific research and commercial applications.

# Part III

Photo credit: Kadir van Lohuizen

# Implementation – Programmes and resources

## 3.1 General

Parts I and II of this strategy document describe the goals and priorities of Dutch polar policy, which informs the Netherlands' position in international talks on the polar regions. This third part describes the policy instruments available to the Netherlands under various programmes, over and above the policy and diplomatic efforts described in parts I and II.

Scientific research is the main instrument at our disposal. The consultative status under the Antarctic Treaty which the Netherlands acquired in 1990 obliges us to perform substantial scientific research in Antarctica. The Netherlands has acquired a good reputation and a certain degree of influence in the Arctic Council by performing scientific research in the Arctic. In this sense, the scientific programme for research in the polar regions, the Netherlands' Polar Programme (NPP), also supports policy. Dutch polar policy as described in this strategy document and the NPP are therefore inextricably linked and constitute the main pillars of the Netherlands' polar policy.

The NPP funding framework, which as of 1 January 2021 is laid down in a convenant, is as follows:

Annual contribution by ministries*) from 2021 in euros (x 1,000)**):

| | 2021 | 2022 | 2023 | 2024 | 2025 onwards |
|---|---|---|---|---|---|
| OCW | 1,500 | 1,500 | 1,500 | 1,500 | 1,500 |
| I&W | 792 | 792 | 792 | 792 | 792 |
| NWO ***) | 750 | 750 | 750 | 750 | 750 |
| BZ | 675 | 675 | 675 | 675 | 675 |
| EZK | 50 | 50 | 50 | 50 | 50 |
| LNV | 400 | 400 | 400 | 400 | 400 |
| **Total** | **4,167** | **4,167** | **4,167** | **4,167** | **4,167** |

*) OCW=Ministry of Education, Culture and Science; I&W=Ministry of Infrastructure and Water Management; NWO=Dutch Research Council; BZ=Ministry of Foreign Affairs; EZK=Ministry of Economic Affairs and Climate Policy; LNV=Ministry of Agriculture, Nature and Food Quality

**) This includes €270,000 a year intended for the Polar Activities Programme (PAP), through which the ministries fund activities in support of policy. The PAP is separate from the NPP.

***) Including €250,000 a year for the costs of coordination and support provided by the NPP secretariat. Guaranteed minimum input of €500,000 a year (five-year average) for polar research to be acquired from NWO funding lines. If this minimum is not achieved from these sources, NWO will make the resources available for polar research.

*Photo credit: Dick van der Kroef*

## 3.2 Dutch polar research

The Netherlands invests in polar research of the highest standard. Scientific research at the poles is funded by universities, partnerships with the private sector and NWO's generic funding instruments.[49] Core funding for Dutch polar research is provided through the Netherlands' Polar Programme (NPP), which is administered by NWO and funded by Dutch government ministries and NWO. The quality and topicality of the programme is safeguarded by NWO assessment procedures and the support of the NPP secretariat (under the NWO umbrella). The Programme Committee of the NPP is responsible – within the frameworks defined by NWO and the ministries concerned – for drawing up and implementing the NPP. It monitors the coherence of the programme and other relevant national and international research efforts, and ensures timely evaluation and strategic revisions. The NPP Programme Committee does the groundwork for decisions on grant awards, and advises NWO's executive board in this regard.



NWO periodically sets out a programme for Dutch polar research under the NPP, in consultation with the ministries involved. Known as 'Pole Position NL', it covers the four main themes of polar research, which tie in with Dutch policy questions and polar research agendas at both national and European level. The latest edition, Pole Position NL 3.0 (2021-2025), is structured around four themes, similar to the 1.0 and 2.0 editions. These four themes, which reflect the breadth of Dutch polar research, are as follows:

I. Climate change, focusing on research into changes in the polar oceans, atmosphere, sea ice and land ice;
II. Ecosystem dynamics, consisting of research into biological and ecological processes in water, on land and associated with sea ice and land ice, including permafrost;
III. *Social sciences and humanities*, focused on research into sustainability, liveability and security/safety, from the perspectives of law, history, sociology, economics, public administration and cultural studies;

[49] Over 2016-2020 the NPP invested €14.4 million in research projects and some €5 million in other activities. Over the same period, NWO provided €12.8 million in funding to polar research through its Open Competitions, Talent Programme (Veni, Vidi, Vici), RUBICON and its User Support for Space Research programme.

IV. *Sustainable development*, consisting of research into integrated impact analysis of human activities and technologies in cold regions in order to improve the sustainability and safety of all forms of exploitation in the polar regions, from economic to scientific.

*Photo credit: Dick van der Kroef - Nederlands Poolstation, Ny Alesund*



Funding for scientific research under the NPP is mainly allocated through calls for proposals inviting applications from researchers from all research institutions in the Kingdom. Research projects in the framework of *Pole Position NL 3.0* should focus on applied and policy-oriented research questions. The strategy document for *Pole Position NL 3.0* recommends holding three types of call:

I. Thematic calls, on a single topic or policy issue. The above themes can serve as a basis;
II. Geographical or facility-based research, such as research in Greenland, on Spitsbergen or at the Dirck Gerritsz Laboratory in Antarctica;
III. National and international opportunities promising major benefits for science and for visibility. Examples include the call for Arctic research for the Water & Maritime Technology Top Sector (2017), the MOSAiC North Pole expedition (2018) and participation in the Belmont Forum's 'Arctic resilience' call (2019).

The scope for 'multipliers' is continually being explored, such as calls for polar research under the *National Research Agenda* (NWA) and the *Voluntary Agreement on Knowledge and Innovation* (KIC). One application submitted to the thematic programmes of the *National Research Agenda* (NWA action line 2) that emerged from interministerial polar consultations has already resulted in a research programme examining polar tourism, funded by a combination of NPP and NWA resources. This programme will be opened for proposals in 2021.

The Netherlands Polar Programme is primarily a research programme, and the scientific quality of research proposals is a basic prerequisite for eligibility for a grant. In calls focused on applied research or policy, extra conditions apply (such as urgency and implementation strategy). Smaller projects with a focus on fundamental knowledge and scientific curiosity are generally served by NWO's regular open competitions. Some of the NWO's contribution to the NPP for polar research is channelled via the organisation's own generic funding instruments.

Photo credit: Esther Kokmeijer - Departure MOSAIC expedition

The NPP is evaluated periodically, most recently in 2020 by an external evaluation committee. Some key observations were as follows:

- Dutch polar research is of a high standard and the NPP plays a clear role as a catalyst for research. The synergy in polar research could be enhanced by, for example, offering a strategic perspective, drawing lessons from the approach taken in other areas of science.
- Restraint should be exercised when it comes to imposing additional conditions for research funding, and any such conditions should be proportionate to the scale of the call.
- Now that stable long-term funding has been secured for the NPP, it is important to look further than five years ahead in the interests of strategic policymaking and safeguarding the monitoring of long time series.
- Fragmentation of Dutch polar research must be prevented. More active strategy and interest from the field are needed in the arts and humanities, in particular. Junior scientists must be offered adequate prospects.
- Expansion of the international cooperation and infrastructure portfolios should be based on clear demand in the field, and should be consistent with broader NPP objectives.



These observations by the external evaluation committee were incorporated into *Pole Position NL 3.0*. The NPP Programme Committee will draw up a work plan for the implementation of the NPP, based on Pole Position NL 3.0 and the evaluation report.

## 3.3 Polar infrastructure and international academic collaboration

### Polar infrastructure

Polar research is impossible without polar infrastructure and international cooperation. In early 2018 the *Committee for Polar Infrastructure* (CPI) advised NWO on polar research infrastructure and how it should be financed. Notably, it advised that the Dirck Gerritsz Laboratory in Antarctica be kept in operation and that the Dutch government invests in an Arctic facility capable of remaining open year-round, at Ny-Ålesund, on the island of Spitsbergen. The advisory report's main supposition was cooperation with international partners, in this case Germany, France and Norway. Besides advising on polar research infrastructure, the CPI also made broader recommendations on (additional) investments in polar research. In accordance with the CPI's call for stable long-term funding, a five-year rolling budget was agreed for the research programme. The CPI also expressed a wish for additional investment to raise the general level of funding available to the NPP.


Photo credit: Frits Steenhuisen

The CPI recommended that the development of a *Virtual Dutch Polar Centre* be considered, to serve as a platform for the Dutch polar research community. The goal would be to improve coordination, long-term planning and communication between researchers and policymakers, as well as to arouse public interest and improve the management of data from Dutch polar research. The question of whether such a centre is desirable will be explored during implementation of this strategy, as well as what form it might take and what additional benefits it might have compared to the current structure.



## International scientific collaboration

As well as investment in outstanding scientific research, another distinctive feature of the NPP is extensive international collaboration. This is vital, given the high cost of polar research and the associated logistics and infrastructure, due to the extreme climatological conditions and geographical location. Polar research would not be possible for the Netherlands without international collaboration. The United Kingdom (British Antarctic Survey, BAS) and Germany (Alfred Wegener Institute, AWI) are important partners for the Netherlands. Thanks to collaboration with the BAS the Netherlands was able to set up a mobile research facility, the Dirck Gerritsz Laboratory at the British Rothera base in 2013. This laboratory gives Dutch Antarctic research a long-term focus and raises its visibility, while minimising its impact on wilderness values. The goal is to continue the operation of the facility and the collaboration. The partnership agreement with the AWI gives Dutch researchers access to the research vessel *Polarstern*, an icebreaker that is instrumental to marine research in both polar regions. In view of the proven value of these ongoing bilateral partnerships, under this polar strategy it would be worth exploring the scope for bilateral partnerships with one or more other countries.

Multilateral partnerships also help to coordinate and consolidate Dutch polar research. Through the NPP, NWO is a member of several international polar research forums, such as the International *Arctic Science Committee* (IASC) and the above-mentioned SCAR. To safeguard essential logistical access for researchers, the Netherlands is also a member of *the Forum of Arctic Research Operators* and the *Council of Managers of National Antarctic Programs* (COMNAP). In addition, since 2015 NWO has hosted the secretariat of the *European Polar Board* (EPB), which is concerned with matters like international cooperation, access to polar research infrastructure and minimising the environmental and climate impact of research in the polar regions. The EPB secretariat also facilitates the networks of leading projects funded by the European Commission, such as *EU-PolarNet 2* and the *EU Polar Cluster*.

To stay abreast of policy developments, NWO follows with interest the work of the *Arctic Council* and the *Antarctic Treaty Consultative Meeting.* The number of research stations in Antarctica continues to grow, even though some stations have unused capacity. The Netherlands believes that, with a view to protecting the fragile ecosystems there, it is important to exercise restraint when it comes to building new stations and is calling for international cooperation as an alternative.

The *Arctic Science Ministerials* (ASM), held every two years since the body was established by the US government in 2016, and the *Arctic Funders Forum*, which is currently being established, hold great promise for international cooperation and synergy. Both are focused on Arctic research.

There is growing international recognition of the importance of diversity and inclusion in polar research. In 2020, for example, the first *Polar Pride* took place. The Netherlands is keen to promote diversity and inclusion in the fields of research and education, and has set out its ambitions in this regard in a national plan of action. A learning and working environment that allows everyone to develop their potential and safeguards the diversity of the workforce and the research will ensure the highest possible standards of research.[50]

### Highlights of Dutch polar research 2016-2020

Highlights of Dutch polar research since 2016 include the following:

- The Netherlands participated in three projects in the MOSAiC expedition. The icebreaker *Polarstern* spent a year locked in the pack ice of the Arctic Ocean to collect samples of plankton, the atmosphere and the sea ice, among other things.
- Dutch researchers from the *Institute for Marine and Arctic Research Utrecht* (IMAU) helped write the IPCC report on the state of the oceans and cryosphere in 2019.[51]
- Participation in the '*Beyond EPICA*' project, which is extracting the oldest ice core in the world from the East Antarctic Ice Sheet, with the aim of producing a detailed climate record to improve understanding of current climate processes. The project will run until at least 2025.
- The Netherlands is taking part in *EU-PolarNet 2*. The Dutch contribution, focused on social sciences and humanities and on stakeholder engagement, is led by the University of Groningen.
- NWO is sponsoring two collaborative projects in the *Belmont Forum's Arctic Resilience call* that include Dutch research participation and that focus on the interface between natural and social sciences. The Belmont Forum is an international organisation to which national research funding councils like NWO can elect to contribute on a call-by-call basis.
- A total of €4.5 million over the entire period has been made available from the joint budgets of the *National Research Agenda* and the *Dutch Polar Programme* for scientific research into polar tourism.
- The annual Polar Symposium in The Hague is attended by both researchers and policymakers.
- The successful SEES expedition of 2015 was scheduled to be repeated in August 2020. Participants in this *citizen science* expedition to Edgeøya in the Spitsbergen archipelago were to include 40 Dutch and 10 foreign researchers, as well as 50 members of the public and the Minister of Education, Culture and Science. The expedition was postponed to 2021 due to COVID-19.



[50] Parliamentary Papers, House of Representatives, 2019/20, 29338, no. 220.
[51] https://www.ipcc.ch/srocc/.


Photo credit: NWO

## 3.4 Polar Activities Programme

Besides the resources made available for the NPP, the Polar Strategy also has a budget for activities in support of policy, known as the Polar Activities Programme (PAP). This budget is intended for participation in meetings of the Arctic Council working groups and expert groups by representatives of Dutch research institutions, the rent and operational costs of the Dutch research station on Spitsbergen, carrying out studies that are relevant to policy, organising workshops, supporting Dutch policy input to ATCM and CEP, and ad hoc policy-related projects. The PAP budget is €270,000 a year and is administered by the Ministry of Foreign Affairs (which coordinates Dutch polar policy) on behalf of the *Interministerial Polar Committee* (IPO). Ad hoc support activities may be for either polar region and may take place either in the Netherlands or abroad. All expenditure is assessed in accordance with the general framework set out in this strategy.



## 3.5 Communication

Science communication plays a key role in connecting polar research, polar policy, society and the private sector. It allows people to share in fascinating scientific knowledge of the polar regions, helps them distinguish fact from fiction, highlights the importance of protecting ecosystems and the vital role of international cooperation in this effort, and gives people the opportunity to contribute to that effort and to research. The Polar Strategy therefore has a permanent focus on funding science communication initiatives, with a particular emphasis on getting young people involved. During the current period, a more systematic funding structure for these initiatives will be devised, using existing quality frameworks for citizen engagement, science education and science communication.[52] Where possible, partners with relevant expertise in this field will be sought for collaboration, for instance the *NEMO Science Museum* (science education) and the science communication campaigns of the *National Research Agenda*.

[52] See the Rathenau Institute's science communication assessment instrument (https://www.rathenau.nl/sites/default/files/2020-02/Rapport_Beoordelingsinstrument_Wetenschapscommunicatie_2020.pdf) and the quality criteria on citizen science set out in the National Open Science Programme.

# List of abbreviations

| | |
|---|---|
| **ACAP:** | Arctic Contaminants Action Program |
| **AECO:** | Association of Arctic Expedition Cruise Operators |
| **AIV:** | Advisory Council on International Affairs |
| **AMAP:** | Arctic Monitoring and Assessment Program |
| **AC:** | Arctic Council |
| **ASMA:** | Antarctic Specially Managed Area |
| **ASPA:** | Antarctic Specially Protected Area |
| **ATCM:** | Antarctic Treaty Consultative Meeting |
| **BBNJ:** | Biodiversity Beyond National Jurisdiction |
| **BEAC:** | Barents Euro-Arctic Council |
| **BZ:** | Ministry of Foreign Affairs |
| **CAFF:** | Conservation of Arctic Flora and Fauna |
| **CCAMLR:** | Convention on the Conservation of Antarctic Marine Living Resources |
| **CCAS:** | Convention for the Conservation of Antarctic Seals |
| **CEP:** | Committee on Environmental Protection |
| **CLCS:** | Commission on the Limits of the Continental Shelf |
| **COMNAP:** | Council of Managers of National Antarctic Programs |
| **DAC:** | Dutch Arctic Circle |
| **EEAS:** | European External Action Service |
| **EEZ:** | Exclusive Economic Zone |
| **EIA:** | Environmental Impact Assessment |
| **EPB:** | European Polar Board |
| **EPPR:** | Emergency Prevention, Preparedness and Response |
| **EU:** | European Union |
| **EZK:** | Ministry of Economic Affairs and Climate Policy |
| **IAATO:** | International Association of Antarctic Tour Operators |
| **IASC:** | International Arctic Science Committee |
| **ICRW:** | International Convention on the Regulation of Whaling |
| **I&W:** | Ministry of Infrastructure and Water Management |
| **IMO:** | International Maritime Organization |
| **IPCC:** | Intergovernmental Panel on Climate Change |
| **ISA:** | International Seabed Authority |
| **IWC:** | International Whaling Commission |
| **KNMI:** | Royal Netherlands Meteorological Institute |
| **LNV:** | Ministry of Agriculture, Nature and Food Quality |
| **NATO:** | North Atlantic Treaty Organization |
| **ND:** | Northern Dimension |
| **NGO:** | Non-governmental organisation |
| **NIOZ:** | Royal Netherlands Institute for Sea Research |
| **NPP:** | Dutch Polar Programme |
| **NWO:** | Dutch Research Council |
| **OCW:** | Ministry of Education, Culture and Science |
| **OSPAR:** | Convention for the Protection of the Marine Environment of the North-East Atlantic |
| **PAME:** | Protection of the Arctic Marine Environment |
| **PAP:** | Polar Activities Programme |
| **PSSA:** | Particularly Sensitive Sea Area |
| **SAR:** | Search & rescue |
| **SCAR:** | Scientific Committee on Antarctic Research |
| **SDWG:** | Sustainable Development Working Group |
| **UN:** | United Nations |
| **UNEA:** | United Nations Environment Assembly |

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