Ministry of Foreign Affairs

Polar Strategy 2026-2030

Dutch policy on the Arctic region and Antarctica





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Cover photo taken near Olavsvern (former submarine base near Tromsø), Norway.
Photo: Media Desk, Ministry of Defence



Photo: Lloyd Pikok Jr. – obtained through the Ukpeaġvik Inupiat Corporation and Arctic Economic Council (Arctic Encyclopaedia 2025).

About this document

This is the Netherlands' polar strategy for 2026-2030. The term 'polar regions' refers to the Arctic region and Antarctica. There are both similarities and clear differences between the two regions when it comes to the challenges they face and thus to Dutch policy relating to them. This strategy therefore distinguishes between the Arctic region (Part 1) and Antarctica (Part 2). Part 3 looks at the implementation of Dutch polar policy.

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Photo: Wouter-Jan Strietman

Summary

Part 1. The Arctic region

Almost every aspect of the Arctic region is changing at a rapid rate. It is increasingly becoming a region of great strategic importance, where climate dynamics and power politics reinforce each other. Geopolitics and geo-economic competition also play a key role.

Security, stability and the legal order

For a country such as the Netherlands, it is vital to safeguard the **stability** of the Arctic region. Whatever happens in this region has direct and indirect repercussions for the Netherlands and its position on the world stage. Consider, for example, the security of NATO's northern flank, European autonomy versus reliance on third countries, the impact of sea-level rise on the low-lying Netherlands or the effects of the loss of biodiversity through climate change and pollution. These diverse interests mean that Arctic policy is an integral part of Dutch security, climate and economic policy.

With regard to **security**, the Arctic plays a key role for the Netherlands, Europe and NATO. The region has long been known as a 'unique zone of peace', with a focus on cooperation between the Arctic states and the establishment of international agreements. It is now apparent, however, that countries are acting more assertively and are more willing to resort to power dynamics to protect their interests and exert or expand their influence in the region, with a rise in geopolitical tensions as a result. The Netherlands needs to respond to these trends, and it is doing so primarily in a European and transatlantic context. Dutch strategic security objectives in the Arctic are to maintain regional stability, strengthen collective defence and deterrence, protect freedom of navigation, combat climate change and environmental degradation, and respect and strengthen the **international legal order**.

The Netherlands

- aims to **promote stability** in the Arctic region through bilateral and international cooperation, by diplomatic, economic and military means, with NATO and the European Union as a starting point for security in the region;
- is committed to **complying** with international agreements and treaties, participates in exercises and military activities and is stepping up its environmental and climate-related cooperation;
- is committed to **active involvement in NATO** with regard to developments in the Arctic and is calling for a greater emphasis on incorporating Arctic capabilities into the NATO Defence Planning Process;
- contributes through NATO to **collective defence and deterrence** in the Arctic region;
- is increasing **situational awareness and situational understanding** of the Arctic region, partly by continuing to take part in existing military exercises with NATO partners in the region and by exploring the possibility of participating in other Arctic exercises, including in the Canadian and American parts of the region;
- factors the Arctic dimension into future **defence investments**;
- contributes through international cooperation (EU, NATO, ESA, Nordic-NL) to the consolidation of **space capabilities** in the Arctic region;
- conveys the message that respect for **international agreements and the legal order** in the Arctic region must underpin all decisions in the region;

- contributes to the preservation of **political stability** in the Arctic, for example through bilateral contacts with Arctic states and as an observer in the Arctic Council. Dialogue remains the main diplomatic tool wherever possible;
- closely monitors **relevant developments** in the Arctic region that impact Dutch interests. Dutch missions abroad, including embassies in the Arctic countries, play a key role in identifying issues;
- continues to contribute to **the work of the Arctic Council**, with a focus on priority and emerging topics, and closely monitors developments in the Council in its capacity as an observer.

Climate, the environment and biodiversity

Climate change is driving the geopolitical developments in the Arctic now that access to the region—and thus potentially to natural resources and shipping routes—is opening up as a result of warming in the region. The Arctic plays a crucial role in the earth's climate system, and the temperature in this region is rising faster than anywhere else in the world. A number of irreversible climate tipping points are located in the Arctic. For the Netherlands, as a low-lying country, it is therefore vitally important to ensure that thorough research is conducted into climate change in the Arctic region and to remain committed to limiting the rise in average global temperatures to 1.5 degrees. The Netherlands is also involved in research focused on preserving **biodiversity** and combating **pollution** in the Arctic, the importance of which extends beyond the region itself, with implications for both the Netherlands and the rest of the world.

The Netherlands

- will continue to work with the EU to limit global warming in the long term to **1.5 degrees**, keeping any temporary overshoots to a minimum in terms of level and duration, and to develop and implement **climate policy** designed to achieve the target of **climate neutrality in 2050** as set out in Dutch and European climate law;
- will continue to use its position as an observer in the Arctic Council to promote research into and **cooperation relating to climate, the environment and biodiversity** through Arctic Council working groups;
- is also committed to strengthening cooperation with respect to monitoring and conducting research on changes in the **Gulf Stream (AMOC)** and related effects;
- is calling at **European level** for a continued focus on climate, biodiversity and pollution in the Arctic and the associated risks. Within the EU, the Netherlands will also continue to work towards a UN treaty to combat plastic pollution and to ensure the effective implementation of the relevant treaties relating to chemicals, waste and pollution;
- will continue to make every possible effort to apply the **precautionary principle and the principle of prevention** as key starting points for policy and activities in the Arctic region, including those relating to the spread of avian flu, invasive non-indigenous species, pollution and geo-engineering.

Sustainable economic activity

Climate change is increasing both the opportunities for and the associated risks of economic activity in the Arctic region. The extraction of **natural resources** in the Arctic could help to boost Europe's resilience and reduce undesirable dependencies.
The Netherlands also considers it important to minimise the harmful environmental impact of such activities. With regard to **shipping**, new trade routes could substantially reduce travel time between Europe and East Asia. At the same time, the Arctic region is ecologically vulnerable and presents major operational challenges, which means that such activities carry risks. Furthermore, parts of the Arctic region are inhabited and the Netherlands therefore believes it is vital to take account of the views of local communities and Indigenous Peoples when it comes to developing economic activity. For the sustainable economic development of the region, the Netherlands is working to intensify cooperation with its Arctic partners, including in an EU context.

The Netherlands

- will continue to closely monitor developments relating to economic activity in the Arctic region and the **potential opportunities for and risks to** Dutch ecological, economic and security interests;
- is committed to increasing the **supply security** of critical raw materials, through the EU and in collaboration with Arctic partners who extract these raw materials responsibly;
- will actively monitor developments regarding **shipping** and interests, opportunities and risks relating to shipping routes, in consultation with the relevant sectors and stakeholders.

Research

The Netherlands contributes to international knowledge development by conducting **high-quality research** in the Arctic region through various Dutch research institutes and the Dutch Polar Programme, administered by the Dutch Research Council (NWO). In the context of Dutch Arctic policy, it is important to ensure thorough research on issues such as climate change, sea-level rise, changes in the Gulf Stream, ecosystems, avian flu, pollution and sustainable economic development. International cooperation with like-minded countries with regard to polar research and research infrastructure remains vital.

The Netherlands

- supports scientific **polar research in the Arctic region** through the Dutch Polar Programme and will continue to provide relevant expertise in the Arctic Council's working groups, including in relation to climate, biodiversity, pollution and sustainable development;
- is committed to continuing and intensifying cooperation in ocean observation, including in the Arctic region;
- will closely monitor relevant developments in a rapidly changing policy and geopolitical context. It is also important for the Netherlands to safeguard and support the advancement of scientific knowledge wherever possible, including in the **long term**;
- considers it vital that Dutch researchers abide by national and local legislation and ethical guidelines with regard to working with **Indigenous Peoples** or conducting research in areas they inhabit;
- collaborates with other like-minded countries in order to conduct polar research as efficiently as possible and stimulate the exchange of knowledge;
- participates actively in international initiatives designed to stimulate polar research, such as the **International Polar Year**.

Part 2. Antarctica

Antarctica differs from the Arctic in many respects. The continent is not permanently inhabited and therefore does not have an indigenous population. It has much lower average temperatures and is geographically much further from the Netherlands than the Arctic. There are, however, similarities and shared challenges, and climate change in Antarctica has major implications for the Netherlands. Geopolitical relations also play an increasingly significant role in Antarctica in terms of decision-making for the region and international research collaboration.

Governance and management

Antarctica is administered by 29 countries which are signatories to the **Antarctic Treaty** and its related conventions and which have consultative status. Under the Antarctic Treaty, existing territorial claims are frozen and military activity is prohibited. Antarctica may only be used for **peaceful purposes**, and **freedom of scientific investigation** is guaranteed. The Netherlands has been a signatory to the Antarctic Treaty since 1967 and obtained consultative status in 1990. It is also a member of the Environment Protocol (1991) and the Convention on the Conservation of Antarctic Marine Living Resources (1980). As a consultative party to the Antarctic Treaty, the Netherlands is **involved in joint decision-making** on the management and future of the continent. The Netherlands plays an active part in the annual Antarctic Treaty Consultative Meeting (ATCM).

Against the background of the geopolitical dynamic, the Netherlands will continue to actively monitor developments in the region and the conventions, maintain its active commitment, in treaty bodies, national policy and legislation, to strengthen the policy framework for the protection of Antarctica, and to strive for the exclusively peaceful use of Antarctica in accordance with the treaty. Furthermore, 2028 is set to be of particular significance as the Netherlands will then host the 50th ATCM.

The Netherlands

- is committed to **strengthening agreements in the Antarctic Treaty System** designed to protect Antarctica and its ecosystems, as well as wilderness values and other values, and to providing Dutch expertise for **polar research in Antarctica**;
- will continue to **monitor developments in Antarctica and the wider region closely**, partly by means of the Dutch mission network in order to track and interpret geopolitical and other developments in the region more effectively;
- will strive to increase **public awareness** of and broad engagement with Antarctica, also as the host nation of the 50th ATCM and the 30th Committee for Environmental Protection (CEP) in 2028, with a view to bringing about a gradual improvement in **transparency and communication** surrounding the ATCM and the CEP together with like-minded nations;
- is committed to gradual expansion of the tasks entrusted to the **Secretariat of the Antarctic Treaty** and will strengthen the relationship with the Secretariat;
- aims to ensure that the impact of such activities is minimised and purely temporary by using national policy, including the issuing of permits, to bring about the **strict regulation of tourism** and other non-governmental activities, and by assessing whether the activities contribute to education and awareness regarding the Antarctic environment.

Climate, the environment and biodiversity

Dutch efforts regarding Antarctica are focused on preserving and protecting the region as a **unique wilderness**, not least because of Antarctica's vital role for the global climate, marine- and other biodiversity, the ocean and worldwide sea-level rise. The Netherlands attaches great importance to the effective implementation of the agreements in the Antarctic Treaty and the Environment Protocol, aimed at protecting Antarctica and the ecosystems it supports as a 'natural reserve, devoted to peace and science'. This is of direct relevance to the Netherlands because Antarctica contains some 90% of the world's land ice and, through **climate change**, plays a major role in global sea-level rise. To protect Antarctica's fragile environment and the ecosystems it supports, the Netherlands takes the position, in line with agreements in the Environment Protocol, that any activities in the region should have no more than a minor or transitory impact. Particular attention is being focused on regulating tourism in Antarctica, countering the **loss of biodiversity** and **pollution**, preserving wilderness values, mitigating the risk of the spread of avian flu, preventing the introduction and proliferation of invasive non-indigenous species and strengthening environmental monitoring within the Treaty.

The Netherlands

- will continue to work with the EU to limit global warming to **1.5 degrees** in the long term, keeping any temporary overshoots to a minimum in terms of level and duration, and to develop and implement **climate policy** to achieve the goal of **climate neutrality in 2050**, as set out in Dutch and European climate law;
- is committed to **protecting the wilderness values and fragile ecosystems in and around Antarctica**;
- will strive in the ATCM for **appropriate application of and compliance with existing agreements for the protection of Antarctica**, including agreements regarding environmental impact assessment and the prohibition of permanent facilities for tourism and other non-governmental activities;
- will work with like-minded countries to develop a framework for **systematic monitoring of environmental indicators in Antarctica** to enable the monitoring of critical changes and the intensification of the international response;
- supports ATCM initiatives to **strengthen instruments for environmental impact assessment** within the Antarctic Treaty;
- will continue to press within the ATCM for the establishment of **agreements** relating to the **implementation of remediation measures** where activities have caused unforeseen harm, and supports research into the resilience of the ecosystem and potential measures to restore and preserve it. The Netherlands urges parties to ratify Annex VI of the Environment Protocol (regarding liability);
- **supports initiatives** designed to provide **extra protection for species that are sensitive to climate change, such as penguins and krill**;
- is committed to **increasing the number, size and representativeness of protected areas** within the treaty system and to conducting inspections to that end;
- is in favour of **additional guidelines** under the ATCM to prevent the introduction and proliferation of non-indigenous species in the Antarctic region;
- is committed, through the Dutch Polarflu research project, to filling the gaps that still exist in scientific knowledge regarding the **spread of avian flu**. The Netherlands will push for a more stringent application of the precautionary principle wherever necessary;
- is calling for the development of a **global legal framework for geo-engineering** to prevent unregulated development and application of technology that affects the earth's radiation balance. The Netherlands is also in favour of a similar framework for polar geo-engineering.

Sustainable economic activity

When considering what economic activities should be permitted in the region, to what extent and in what form, Antarctica's fragile ecosystem and its wilderness values must be taken into account. For this, the Netherlands takes the precautionary principle and the principle of prevention as its point of departure. Activities relating to the extraction of **natural resources** (other than for scientific research) are prohibited under the Antarctic Treaty and Environment Protocol. Economic activities such as fishing or tourism are regulated through the treaty system. The Netherlands has taken the lead in the development of a framework for sustainable **tourism**. Within the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), **fishing** is discussed in the context of protecting Antarctic marine life.

The Netherlands

- considers the extraction of **natural mineral resources**—other than for scientific purposes—to **be in contravention of provisions of the Antarctic Treaty**, as supplemented by the Environment Protocol and confirmed in Resolution 5 (2023), and will continue to promote compliance therewith;
- is working with like-minded countries to develop **a framework for the regulation of tourism** with the aim of minimising its impact;
- maintains its commitment to the application of the **precautionary principle and the principle of prevention** as important starting points for policy and activities in Antarctica, including in relation to the spread of avian flu, invasive species, pollution and geo-engineering;
- will continue efforts to ensure the sustainability of krill populations and to support the expansion of **specially protected marine areas** in the context of the CCAMLR. In cases where it is warranted by scientific evidence, the Netherlands also supports the designation of **specially protected species** under the Environment Protocol, such as the emperor penguin.

Research

Consultative status under the Antarctic Treaty entails the obligation to contribute substantially to scientific research in Antarctica. The Netherlands contributes internationally to knowledge development through **high-quality polar research** in Antarctica through various Dutch research institutes and the Dutch Polar Programme, managed by the Dutch Research Council (NWO). Research in Antarctica is extremely important for the Netherlands, as it provides vital information, for example on sea-level rise, and in support of climate policy and other policy. For a low-lying country such as the Netherlands, knowledge about Antarctica's melting ice caps and how the water from the melting ice contributes to the rise in sea levels is crucial. Issues such as the resilience of Antarctica's ecosystems, avian flu and the impact of tourism are also important research topics for the Netherlands. Through research, the Netherlands and its research partners are making a relevant contribution to the available data on changes in the Antarctic region and the impact they are having.

The Netherlands

- will continue to support **scientific polar research in Antarctica** through the Dutch Polar Programme;
- is also committed to investigating **Antarctica's role in the climate system**, specifically in sea-level rise, as well as supporting ongoing research into the development and impact of tourism, and jointly monitoring the impact of climate change, loss of biodiversity and pollution in Antarctica;
- will monitor developments closely in a rapidly changing geopolitical and policy-related context. Nevertheless, it is important for the Netherlands to safeguard and support wherever possible the advancement of **scientific knowledge in the long term**;
- attaches great importance to ensuring that, when research is conducted in Antarctica, the **disruption to the ecosystem is kept to a minimum** and that the agreements enshrined in the Antarctic Treaty and the Environment Protocol are respected, and therefore strives wherever possible to foster international collaboration in research and promote such collaboration in the CEP and the ATCM;
- will also continue its efforts to **minimise the construction of new research facilities** and to support the application of the relevant agreements in the Treaty;
- will continue to **work closely with like-minded countries** such as the United Kingdom and explore new bilateral cooperation opportunities with, for example, Uruguay and Chile;
- plays an active part in **international initiatives** designed to stimulate polar research;
- will continue to actively contribute, for example through NWO and relevant knowledge institutes, to **research and the exchange of knowledge and data** in international research forums, the EU and the European Polar Board.

Part 3. Implementation

The implementation of Dutch polar policy consists of three components. The **coordination of Dutch polar policy** is carried out through the Interministerial Polar Committee (IPO), in which five ministries are represented. The **coordination of Dutch polar research** is carried out through the Dutch Polar Programme (NPP) of NWO. The **issuing and enforcement of permits** under the Dutch Antarctic Protection Act are vested in Rijkswaterstaat (RWS) and the Human Environment and Transport Inspectorate (ILT).



Part I

Photo: Stefán Erlingsson

The Arctic region

Introduction

What happens in the Arctic region affects the rest of the world and vice versa. The Netherlands is closely connected to the Arctic because of interests and values in relation to security, the economy, climate, biodiversity and the environment. Even though it is not an Arctic state, the Netherlands is also connected to the Arctic in a geographical sense—simply because of its relative proximity. This heightens Dutch interests in relation to security and the economy, because the Netherlands and the North Sea are relatively easy to access via the Arctic. This part will look in more detail at the interests and values specific to the Netherlands in relation to the Arctic region.

There are also major interests at stake for the EU—and therefore the Netherlands—in the Arctic region. Three of the eight Arctic states (Denmark, Sweden and Finland) are members of the European Union. In addition, the EU engages in extensive economic cooperation with the neighbouring countries of Norway and Iceland, and collaborates on various fronts with the US and Canada, all of which are Arctic states. Furthermore, the EU has a targeted policy in respect of the Arctic region, which is currently being reviewed. In November 2025, the European Parliament asked the European Commission for a robust and security-focused Arctic strategy.[1] The Netherlands has contributed actively to the new EU policy and has shared its input with the EU.[2]

For a long time, the Arctic region has been seen as a zone of low tension, where international cooperation between all Arctic states, including collaboration in research and environmental protection, was key. This has changed dramatically in recent years. Russia's illegal war of aggression against Ukraine has crippled cooperation with Russia in the Arctic Council—where the Netherlands has observer status—at political level, while the wider security threat in the Arctic region has increased. Relations in the region are tense, and there is no longer any question of peaceful cooperation between all Arctic states. Amid these developments, climate change is acting as a driver of further tensions in the region. The partial melting of the ice caps and the ensuing sea-level rise will eventually have major repercussions for the Netherlands. The melting ice also enables navigation, fishing and extraction of raw materials—including oil and gas—for longer periods each year. Access to shipping routes and natural resources in the area is leading to growing interest in the region and potentially to further geostrategic competition.

The strategic location, growing geopolitical interests and the region's rapid warming are accelerating the pace of security developments in the Arctic. This polar strategy marks a clear change of course in respect of its predecessor: for the Netherlands, the Arctic is now an integral part of the International Security Strategy[3], which prioritises collective defence and deterrence, protection of the international legal order and the expansion of Dutch and European autonomy.

Geopolitical developments also affect other issues that are extremely important for the Netherlands. The country has been involved with the Arctic region for decades through its contribution to high-quality scientific research, which will be continued. Protection of the environment and biodiversity as well as sustainable economic development also remain important principles for the Netherlands. The course of action for the Netherlands will be

[1] https://www.europarl.europa.eu/news/en/agenda/plenary-news/2025-11-24/16/the-eu-s-diplomatic-strategy-in-the-arctic.

[2] https://www.rijksoverheid.nl/documenten/2026/03/11/nederlandse-inbreng-eu-consultatie-arctische-strategie (in Dutch).

[3] The International Security Strategy is currently being developed and is expected to be published in the summer of 2026.

set out as explicitly as possible in this strategy. At the same time, there will be scope to develop Dutch polar policy further in the years to come and to adjust it where necessary.

The Arctic region in focus

The Netherlands' definition of 'the Arctic region' is in line with the definition in the Arctic Monitoring and Assessment Programme (AMAP, see page 35), as also used by the North Atlantic Treaty Organisation (NATO) in its Regional Perspectives Report. This definition covers the land and sea areas including the airspace north of the Arctic Circle (66°32' N), as well as the areas north of 62° N in Asia and 60° N in North America.[4] This definition also includes the northern parts of the Atlantic and Pacific Oceans, including the Bering Sea, and is therefore broader than just 'the area above the Arctic Circle'. In Figure 1, this definition is indicated by a red line.

A large part of this area falls under the jurisdiction of the eight Arctic states with territory above the Arctic Circle: Canada, Denmark (Greenland and the Faroe Islands), Sweden, Finland, Iceland, Norway, Russia and the United States (Alaska), as shown in Figure 2. With the exception of Finland and Sweden, they are all coastal states with territorial waters and an exclusive economic zone (EEZ) in the Arctic region. Part of the Arctic region—namely a large section of the Arctic Ocean—falls outside the jurisdiction of the Arctic states.

Figure 1: Map of the Arctic region as defined by AMAP.
Source: Arctic Centre Groningen



[4] NATO often uses the term 'High North' to refer to the Euro-Arctic region, but this expression does not have a specific geographic definition and is therefore not used in this strategy; https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/how-sweden-and-finlands-membership-in-nato-affects-the-high-north/.

Inhabitants of the Arctic region

The Arctic region is home to some four million people, 10% of whom belong to recognised Indigenous Peoples.[5] Drastic climate change, shifting ecosystems and geopolitical developments in the region are having a major impact on their lives, prosperity and future. As a result, they are being hit first and hardest. Dutch efforts to combat global climate change and maintain stability in the Arctic must take due account of the needs of the people who live there. With regard to Indigenous Peoples, this is also stipulated in international agreements to which the Netherlands is a signatory and which include the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).[6] The Netherlands also emphasises the importance of learning from the valuable knowledge and experience of Indigenous Peoples, who know like no other the land they have called home for centuries.



Tromsø as the European Youth Capital 2026
Photo: True North



Sisimiut, Greenland.
Photo: Arctic Explorer Foundation



Photo: Lloyd Pikok Jr. – obtained through the Ukpeagvik Inupiat Corporation and Arctic Economic Council (Arctic Encyclopaedia 2025)

[5] https://arctic-council.org/explore/topics/arctic-peoples/.
[6] https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf.

1 Security, stability and the legal order

Since the previous Polar Strategy in 2021, geopolitical tensions in the Arctic region have increased considerably. These developments, coupled with climate change, have repercussions not only for the people who live in the Arctic, but also for global and regional security, world trade, maritime security and the ecological system. This affects Dutch interests, such as protection of the international legal order, economic and physical security, sea-level rise, climate resilience and peace and stability in Northern Europe.[7] This chapter outlines the geopolitical developments in the Arctic region in the light of European and Dutch security and interests and sets out the various courses of action available to the Netherlands.

1.1 Geopolitical and security developments

The Arctic is a region of growing strategic importance for the Netherlands, the EU and NATO. The melting polar ice in the Arctic region is opening up new possibilities for fishing, maritime trade routes, the construction of subsea infrastructure such as cables, and access to natural resources such as oil, gas and rare earth elements. This is leading to greater military, economic and political interest and increasing the presence of both Arctic and non-Arctic states in the area, as evidenced by, for example, the recent opening of Canadian and French consulates in Nuuk, Greenland, and heightened military activity in the Arctic region. This is coupled with greater geopolitical rivalry and higher security risks: tensions between NATO allies and Russia, vulnerability of critical subsea and other infrastructure, potential incidents between military forces in an increasingly busy region, and the impact of the disruption of trade routes and energy supplies on European and Dutch security. This means that developments in the Arctic region have direct security implications for the Netherlands.

The Arctic region plays a key role in NATO's collective deterrence and defence. The strait between Greenland, Iceland and the United Kingdom—the GIUK gap[8]—is vital for protecting maritime supply lines between the US and Europe and preventing enemy submarines from entering the wider North Atlantic Ocean. This makes the Arctic region a geostrategic hub.

It is against this background that military and other activities in the region are increasing.[9] The re-militarisation of the Russian part of the Arctic region began with the announcement of the 'Foundations of State Policy in the Arctic' (2008). Since Russia's full-scale invasion of Ukraine in 2022, Russian assertiveness has increased.[10] Russia is reactivating military bases from the Soviet era, expanding its Arctic capabilities, and it refers to the protection of Russian national interests in the region as a core task in its National Military Strategy.[11] Russia is also conducting joint military exercises with China, which declared itself a 'near-Arctic state' in 2018 and has previously expressed the ambition to become a 'polar superpower' by the 2030s.[12] This mainly involves small-scale coastguard, naval and patrol exercises in the Bering Sea, in the part of the Arctic that lies to the east of the Netherlands.

[7] https://www.clingendael.org/publication/cold-calculations-future-arctic-security-and-role-netherlands.
[8] The 'GIUK gap' is a naval chokepoint between the Arctic North region and the wider Atlantic Ocean, making it a key checkpoint for NATO.
[9] https://atlasinstitute.org/from-exceptionalism-to-militarisation-the-changing-landscape-of-the-arctic.
[10] https://www.clingendael.org/publication/cold-calculations-future-arctic-security-and-role-netherlands.
[11] https://www.government.nl/documents/2021/03/01/polar-strategy.
[12] https://english.www.gov.cn/archive/white_paper/2018/01/26/content_281476026660336.htm.

In 2023, China was an observer in a large-scale Russian military exercise in the Barents Sea.[13] In July 2024, Chinese H-6 bombers also took part for the first time in a joint air patrol with Russia above the Chukchi Sea and the Bering Sea, off the coast of Alaska.[14] China and Russia are also intensifying their cooperation in relation to the management of the Northern Sea Route (NSR). Furthermore, Russia is endeavouring to strengthen this cooperation through initiatives such as a BRICS science centre in Pyramiden on Svalbard.

The American National Security Strategy issued in December 2025 specifically identifies the Arctic, as part of the Western hemisphere, as a core interest for US national security. The US is committed to strengthening partnerships with allies, expanding military capabilities and establishing a targeted presence to bolster collective defence. In support of this course of action, the US has appointed a special envoy to Greenland and the Arctic, with a mandate to promote US security interests and increase operational access to the region. The Netherlands emphasises the importance of security in the context of Greenland and the Arctic and sees NATO as the main forum in which to discuss it. The Netherlands also emphasises that decisions regarding the future of Greenland rest with Greenland and Denmark.

The Arctic region is also strategically important in the maritime domain. Mounting geopolitical tensions in the region are resulting in a growing risk of hybrid threats and seabed warfare. Together with the risks surrounding increased maritime accessibility—such as freedom of navigation violations—this poses a direct risk to critical undersea infrastructure, such as energy transport facilities. This critical infrastructure is vital for Dutch trade interests and energy security. There are currently very few Arctic cable connections. The construction of new connections in the Arctic region will boost the EU's digital autonomy, with the prospect of shorter and faster connections with Asia and North America. Europe will thus become less dependent on foreign digital infrastructure and will gain greater control and resilience in respect of its own digital networks.[15] The protection and construction of this critical infrastructure could play a role in strengthening the Netherlands' economic security. The Security Strategy for the Kingdom of the Netherlands therefore emphasises the importance of the Arctic region for digital infrastructure and maritime resilience.[16]



HNLMS Rotterdam in Tromsø during exercise Arctic Archer.
Photo: Media Desk, Ministry of Defence

[13] 'China's Arctic Strategy: A Comprehensive Approach in Times of Great Power Rivalry', Puranen & Kopkra, 2023, *Scandinavian Journal of Military Studies*, p. 247.
[14] https://edition.cnn.com/2024/07/24/politics/norad-russian-chinese-bombers-alaska/index.html.
[15] https://nordu.net/polar-connect/.
[16] https://www.clingendael.org/publication/cold-calculations-future-arctic-security-and-role-netherlands and https://www.rijksoverheid.nl/themas/recht-veiligheid-en-defensie/veiligheidsstrategie-voor-het-koninkrijk-der-nederlanden.

Reliable space capabilities are essential for ensuring security and stability in the Arctic region. Earth observation, PNT (positioning, navigation and timing) and satellite communication capabilities are vital for increasing situational awareness, supporting a military and civil presence, monitoring changes in the fragile Arctic environment and keeping track of the activities of other states. Given the international context and shared interests, Dutch efforts to consolidate these Arctic capabilities will be conducted mainly by way of international cooperation (EU, NATO, the European Space Agency (ESA) and Nordic-NL).

Space exploration

Issues relating to geopolitics, security, transport and logistics, climate, the human environment and biodiversity are all interconnected in the Arctic. Space exploration is at the very heart of our society and is inextricably linked to Dutch foreign and security policy.[17] Space activities play a key role in critical infrastructure and are often the result of international collaboration. That is why the Netherlands has had a National Long-term Space Agenda since the beginning of 2024: '*Vanuit de ruimte, voor de aarde*' (From Space, for the Earth)[18]. Space capabilities are crucial to the implementation of the Netherlands' Polar Strategy.

Without space exploration, climate research and thus also polar research would not be possible. Earth observation satellites from the EU's Copernicus satellite programme and research satellites from, for example, ESA and NASA measure ocean currents, sea and land temperatures, the salinity/freshwater balance, the thickness of snow and ice, volume estimates, vegetation and changes to flora, melting of glaciers, etc.

The melting ice means that passages in the Arctic are becoming more navigable, which could cut journey times between Asia and Europe considerably. Earth observation satellites monitor sea ice, and weather satellites warn of extreme weather conditions. Safe navigation is made possible by navigation and AIS (automated identification system) satellites.

Geopolitics and security require secure and reliable communications. From 2030, the new European IRIS2 satellite communication system will represent a major step forwards in terms of technology.

1.2 NATO and the Arctic region

NATO has been the cornerstone of Dutch security policy for decades. As a result, Dutch national security policy is closely linked to NATO's multilateral policy, including where the Arctic region is concerned. Under Article 6 of the NATO Treaty, the Arctic region is part of Alliance territory. The region is of major strategic importance to NATO and plays a key role in the defence of the treaty area as a whole. Since Russia's large-scale invasion of Ukraine, Finland and Sweden have joined NATO, which means that seven of the eight Arctic nations are now members of the Alliance.

[17] https://magazines-bz.rijksoverheid.nl/actueel/magazines/veiligheidsdiplomaat/2025/01/bz-toekomstvisie-ruimtedomein-2024-2035 (in Dutch).
[18] https://www.rijksoverheid.nl/documenten/rapporten/2024/01/25/bijlage-bij-kamerbrief-bij-rapport-vanuit-de-ruimte-voor-de-aarde (in Dutch).

From a military standpoint, the Arctic is also a key defence hub for the US and Canada, as part of the North American Aerospace Defense Command (NORAD). As such, the area houses missile defence facilities, radar systems and early warning locations. Greenland makes up the western flank of the GIUK gap and is thus important to NATO in monitoring Russian submarines and surface vessels heading towards the Atlantic Ocean. The GIUK gap also forms part of potential trajectories for intercontinental ballistic missiles.

Because of its central location, the Norwegian archipelago of Svalbard forms a hub between various parts of the Arctic region, making it strategically important for both NATO and Russia. The Svalbard Treaty of 1920 prohibits permanent military installations and the use of the archipelago for 'warlike purposes'. Norwegian sovereignty over the Svalbard archipelago means that it is covered by Norwegian defence, and thus that of NATO as well.[19]

The Arctic region has become more prominent on the NATO agenda in recent years. At the NATO Summit in Vilnius in 2023, the Alliance adopted a new generation of regional defence plans. One of those plans covers the North Atlantic and European Arctic region and falls under the authority of NATO Joint Force Command Norfolk. The seven Arctic NATO members are involved in this.[20] The regional plans form part of the wider Concept for Deterrence and Defence of the Euro-Atlantic Area (DDA) and represent the most comprehensive and detailed defence plans since the Cold War.

NATO put these new plans into practice by means of large-scale exercises, including some in the Arctic. The Netherlands played an active part. In July 2025, for example, the Netherlands led the Standing NATO Maritime Group One (SNMG1), which conducted patrols and maritime exercises in the Arctic. In March 2025, we also participated in NATO's Joint Viking exercise in Norway, along with allies such as the US, the UK, Germany and Finland. More than a thousand Dutch military personnel were involved, focusing on maritime operations and enhancing cooperation in challenging Arctic conditions.



Dutch paratroopers (from the Marine Corps and the Commando Corps) during Exercise JOINT VIKING in Northern Norway.
Photo: Media Desk, Ministry of Defence

[19] For more information about the Svalbard Treaty, see page 47.
[20] All Arctic states except Russia (Canada, Denmark, Finland, Iceland, Norway, US, Sweden).

On 13 February 2025, against a background of increased tensions in the Arctic, the Supreme Allied Commander Europe (SACEUR) announced a large-scale NATO enhanced Vigilance Activity (eVA), designed to increase situational awareness, presence and deterrence in the Arctic region. Arctic Sentry brings together all existing and planned national activities in the region by NATO allies, allowing NATO to consolidate these actions into one coherent, overarching operational approach. This will enhance cohesion within the Alliance and send a clear message of collective defence in the region.

In addition to the above-mentioned exercises and Arctic Sentry, NATO is boosting its resilience with other long-term initiatives as well. In 2024, for example, a specialised Maritime Centre for the Security of Critical Undersea Infrastructure was set up under NATO Maritime Command, dedicated to the security of undersea cables and pipelines, including vital connections between North America and Europe that pass through the Arctic region. The Netherlands is also exploring the possibility of discussing with NATO members whether Arctic capabilities could become part of the NATO Defence Planning Process, the process that links the NATO defence plans developed by SACEUR to the capabilities that allies need to develop and acquire.

Ultimately, it is important for the Netherlands that the security concerns of NATO allies in the Arctic be taken seriously so that the Alliance's security and deterrence capabilities remain effective. The Netherlands contributes visibly in this respect by way of exercises and maritime presence.

The EU is also thinking about Arctic security. Of the 27 EU member states, 23 are also members of NATO. The Netherlands encourages enhanced EU cooperation on matters of Arctic security, wherever such activities complement NATO's core tasks. The EU already supplements NATO activities in respect of, for example, civil and technological capabilities. This development is evident in the Arctic, where the EU is addressing the security of undersea infrastructure, monitoring of maritime activities and the expansion of Earth observation capabilities.[21] The Netherlands emphasised the EU's complementary role to NATO in the Dutch input for the new EU Arctic policy.[22]

1.3 Joint Expeditionary Force (JEF)

The Netherlands is a member of the JEF, a military coalition of 10 like-minded nations (Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, the Netherlands, Norway and Sweden, led by the UK). The JEF focuses primarily on Northern Europe, from the North Atlantic region in the west to the Baltic Sea region in the east. The premise of the JEF is that it can operate independently and is rapidly deployable to support NATO or other coalitions. Participation in deployment or exercises as part of the JEF is on a voluntary basis. Whenever the UK (as the framework nation) and at least one other country so require, the JEF can be operationally deployed and each country can decide whether to participate (opt-in principle). For the Netherlands, NATO's objectives are the determining factor. Participation in JEF activities will only occur if this does not run counter to the Netherlands' NATO obligations. In the JEF, therefore, the Netherlands works with all European Arctic partners to enhance security in the Arctic region.

[21] https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/copernicus-polar-roadmap-eu-satellite-observations-help-respond-emerging-polar-challenges-2024-09-03_en and https://www.kas.de/documents/272774/272823/Raspotnik+EU+Arctic+Briefing.pdf/fdfc07b8-93b3-0ae2-3ee1-a37d6df65ad9?version=1.0&t=1762961018702 (in Dutch).

[22] https://www.rijksoverheid.nl/documenten/2026/03/11/nederlandse-inbreng-eu-consultatie-arctische-strategie (in Dutch).

1.4 Dutch security effort

In line with the Security Strategy for the Kingdom of the Netherlands, Dutch strategic security objectives for the Arctic region include promoting regional stability, strengthening collective defence and deterrence and protecting freedom of navigation. The region also presents opportunities for enhancing Dutch and European strategic autonomy and achieving more robust economic security. To protect these interests, any potential Dutch military deployment focuses primarily on NATO, which is why the Netherlands has established itself within NATO as a relevant and reliable partner for the Arctic states.

First of all, in line with the strategic course set out in the 2024 Defence White Paper, the Netherlands and its NATO allies contribute to stronger collective defence and guaranteed deterrence.[23] Through credible deterrence, NATO sends a signal that any hostile action towards an ally will provoke a joint military response; this also applies to the Arctic region, where NATO will mount a collective defence. For this, regional factors specific to the Arctic need to be taken into account in NATO's security plans. The Arctic region is an operational area characterised by extreme weather conditions, long periods of daylight or darkness and logistical challenges surrounding infrastructure and the functioning of satellite navigation and communication methods.



HNLMS Rotterdam and Marine Corps units during annual winter training in Northern Norway. Photo: Media Desk, Ministry of Defence

Secondly, bilateral cooperation with Arctic allies remains an important part of the Dutch commitment in this area. The Netherlands regards the Arctic Seven (A7)—Canada, Denmark (via Greenland and the Faroe Islands), Finland, Iceland, Norway, the US and Sweden—as the main partners in the region. For these seven nations, peace and stability in the Arctic are core interests. The Netherlands takes due account of the interests of the A7 in its Arctic policy. These countries also have the most knowledge and experience in the area. Information exchange with these partners contributes to the situational awareness and situational understanding of the region. The Netherlands endeavours to work bilaterally with its Arctic allies in an integrated way that cuts across thematic boundaries. Cooperation on sustainable economic development or research can, for example, contribute to cooperation on security.

[23] https://english.defensie.nl/latest/news/2024/09/05/defence-white-paper-2024-strong-smart-together.

At a multilateral level, the Netherlands is actively committed to EU cooperation, wherever activities complement the core tasks of NATO. The Netherlands will also continue to participate as an observer in the Arctic Security Forces Roundtable, a military forum that focuses on cooperation and security in the Arctic region. The Ministry of Defence is also continuing to conduct existing military exercises with Arctic partners.[24] In March 2026, for example, the Netherlands took part in Exercise Cold Response as part of Arctic Sentry in the north of Norway, Sweden and Finland. The exercise involving some 500 military personnel centred on high-latitude operations, including replenishment at sea, interoperability with allies and medical evacuation.

These exercises ensure that Dutch troops continue to gain experience in the extreme conditions of the Arctic region. The Netherlands is also exploring the possibility of rolling out activities in the Canadian and American parts of the Arctic, for example by participating in Canada's Operation NANOOK.[25]

International military forums that deal with Arctic security

North Atlantic Treaty Organisation (NATO)
Military alliance of 32 countries from North America and Europe dedicated to collective defence and deterrence in the Euro-Atlantic region. Seven of the eight Arctic nations are members of NATO.

Joint Expeditionary Force (JEF)
A military coalition of 10 like-minded countries that can operate independently and can be rapidly deployed to support NATO or other coalitions. The Netherlands is part of this coalition, together with the UK and the Northern and Baltic states.

Arctic Security Forces Roundtable
Military forum focusing on cooperation and security in the Arctic region. The forum brings together Arctic states and observers (including the Netherlands) in annual physical and virtual meetings. Russia has not participated in this forum since its annexation of Crimea in 2014.

[24] Recent exercises include Trident Juncture, Joint Viking, Cold Response and Joint Arctic Training in Norway.
[25] https://www.canada.ca/en/department-national-defence/services/operations/military-operations/current-operations/operation-nanook.html.

1.5 International legal order and stability

The Netherlands attaches great importance to the international legal order and the strengthening thereof. International agreements, dialogue and diplomacy offer stability and can prevent the escalation of interstate conflict. The international legal order is under pressure, however, and this pressure is also being felt in the Arctic region. The Netherlands believes that compliance with international law, including the agreements in Annex I[26], is essential for activities and interaction in the Arctic region, with full respect for the sovereignty of the Arctic states. These agreements (such as the United Nations Convention on the Law of the Sea, the Minamata, Basel, Rotterdam and Stockholm Conventions, the Convention on Biological Diversity, OSPAR and BBNJ) are vital for the protection of nature and the environment and serve as a framework for sustainable economic development without irreversible environmental harm. Lastly, it is particularly important in the context of the Arctic that the rights of local people, including the Indigenous Peoples, be safeguarded. This is also laid down in international agreements to which the Netherlands is a signatory.[27] Such agreements come under pressure if countries apply the rules selectively or interpret them opportunistically, thus undermining the international legal order. As a non-Arctic state which is impacted by developments in the Arctic region, the Netherlands believes it is vital to prevent this. It cannot do so alone and is therefore doing so as part of the EU and in collaboration with like-minded nations.

1.6 Governance in the Arctic region

The work of the Arctic Council is key in the Arctic states' joint governance of the region.[28] Through active observership in the Arctic Council and diplomatic contact with the Arctic states, the Netherlands helps wherever possible to maintain stability in the region. At a time when developments in the region are gathering pace, dialogue and cooperation on the Arctic region are more important than ever. The Netherlands has an Arctic ambassador who, together with the Dutch embassies in the Arctic States, safeguards Dutch interests in the Arctic region.

The Arctic Council

The **Arctic Council**, established in 1996, is the main intergovernmental forum regarding the Arctic region as a whole. All eight Arctic states are affiliated to it, supplemented by six permanent participants[29] (organisations that represent Indigenous Peoples) and 38 observers (13 of which are countries).[30] Decisions are made on the basis of consensus reached by the eight Arctic states. The Arctic Council focuses particularly on combating climate change, pollution and loss of biodiversity, as well as on sustainable social and economic development in the region. Security issues are expressly not discussed.

ARCTIC COUNCIL

[26] See pages 46-48.

[27] See for example: https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf or https://www.ilo.org/topics-and-sectors/indigenous-and-tribal-peoples#rights.

[28] See inset 'the Arctic Council' on this page.

[29] https://arctic-council.org/about/permanent-participants.

[30] The observer states are China, France, Germany, India, Italy, Japan, the Netherlands, Poland, Singapore, South Korea, Spain, Switzerland and the United Kingdom (https://arctic-council.org/about/observers).

Since the Russian invasion of Ukraine in 2022, there have been no more meetings in the Arctic Council at political level. However, the work of the six theme-based working groups has continued. Despite the fact that Russia's invasion of Ukraine has relegated put the work of the Arctic Council on the back burner, it will remain an important forum for cooperation between the Arctic states in the future.

The Netherlands has been an observer in the Arctic Council since 1998.[31] Observers do not vote, but they do attend meetings and are involved in the work of the Council, partly through the six working groups, which gather scientific knowledge and provide advice on specific themes.[32] The Netherlands is represented by polar experts in four of the six working groups: AMAP, CAFF, PAME and SDWG.[33] Dutch efforts in this regard focus on promoting knowledge exchange and cooperation on topics such as biodiversity (for example, the impact of climate on migrating species and avian flu), pollution and the sustainable socioeconomic development of Arctic communities. Attention is also paid to coordination and cooperation with other international forums. More information about the working groups and the Netherlands' involvement in them can be found in the inset on page 35.

The EU does not yet have observer status in the Arctic Council. Combined efforts through the EU strengthen the Netherlands' position when it comes to defending European and Dutch interests. The Netherlands therefore supports the EU's desire to acquire this status and welcomes initiatives to work jointly with other EU member states.

The Netherlands also plays an active role in the Warsaw Format Meeting, a Polish initiative that brings all observer states and the Council's Chairship to the table on an annual basis.[34] This is an excellent way for the Netherlands to stay in touch with other Council observers and representatives, certainly at a time when there are no political meetings of the Arctic Council.

The Netherlands

- aims to **promote stability** in the Arctic region through bilateral and international cooperation, by diplomatic, economic and military means, with NATO and the European Union as a starting point for security in the region;
- is committed to **complying** with international agreements and treaties, participating in exercises and military activities, and stepping up its environmental and climate-related cooperation;
- is committed to the **active involvement of NATO** with regard to developments in the Arctic and is calling for a greater emphasis on incorporating Arctic capabilities into the NATO Defence Planning Process;
- contributes through NATO to **collective defence and deterrence** in the Arctic region;
- is increasing **situational awareness** and **situational understanding** of the Arctic region, partly by continuing to take part in existing military exercises with NATO partners in the region and by exploring the possibility of participating in other Arctic exercises, also in the Canadian and American parts of the region;
- factors the Arctic dimension into future **defence investments**;

[31] And since 1993 it has been involved in the Arctic Environmental Protection Strategy (AEPS), the predecessor of the Arctic Council (AMAP and CAFF working groups).
[32] https://arctic-council.org/about/working-groups.
[33] The Arctic Monitoring and Assessment Programme (AMAP); Conservation of Arctic Flora and Fauna (CAFF); Protection of the Arctic Marine Environment (PAME); and the Sustainable Development Working Group (SDWG).
[34] https://arctic-council.org/news/bringing-observer-states-to-the-table-the-warsaw-format-meeting.

- contributes through international cooperation (EU, NATO, ESA, Nordic-NL) to the consolidation of **space capabilities** in the Arctic region;
- conveys the message that respect for **international agreements and the legal order** in the Arctic region must underpin all decisions in the region;
- contributes to the preservation of **political stability** in the Arctic, for example through its bilateral contacts with Arctic states and as an observer in the Arctic Council. Dialogue remains the main diplomatic tool wherever possible;
- closely monitors **relevant developments** in the Arctic region that impact Dutch interests. Dutch missions abroad, including embassies in the Arctic countries, play a key role in identifying issues;
- continues to contribute to the **work of the Arctic Council**, with a focus on priority and emerging topics, and closely monitors developments in the Council in its capacity as an observer.

2 Climate, the environment and biodiversity



Tourist excursion in Svalbard. Photo: Renno Hokwerda

2.1 Climate change as a driving force

The climate system in the Arctic region is changing rapidly; temperatures there are rising around three times faster than the global average. The amount of sea ice has decreased sharply over recent decades, in terms of both surface area and thickness. The Arctic Ocean could be completely free of ice in the summer by the middle of this century. On land, too, rapid changes are taking place: permafrost areas are thawing for longer periods and to greater depths, precipitation increasingly takes the form of rain rather than snow, and the glaciers and ice caps on Svalbard and Greenland are shrinking fast. The disappearance of snow and ice reduces the reflection of sunlight, leading to further warming of land and seawater. This partly explains the accelerated warming of the Arctic region.

Rapid warming is resulting in a wide range of adverse effects. The warming of tundra zones causes decomposition, peat fires and forest fires which in turn lead to higher greenhouse gas emissions. The thawing of permafrost contributes to further warming through a positive feedback loop, which could partially undermine efforts to combat climate change through emission reduction. The melting land ice and increased rainfall are producing a heavier flow of fresh water to the sea. That is contributing to the change in sea currents, such as a weakening of the Gulf Stream, officially known as the Atlantic Meridional Overturning Circulation (AMOC).[35] There are growing indications that, if global warming continues, the Gulf Stream could come to a standstill by the end of this century, with rapid and far-reaching consequences not only for the Arctic region and northwest Europe, but also for the rest of the world. Because the Gulf Stream carries warmth to northwest Europe, this region could become much cooler and drier, particularly in the winter, even as the rest of the world continues to warm. Adaptation would no longer be sufficient to mitigate the impact of such rapid and drastic climate change.

There are also signs that the warming of the Arctic region could be partially irreversible if it becomes too severe, even if atmospheric CO_2 concentrations are reduced to pre-industrial levels. Disruption of the Gulf Stream and partially irreversible warming are examples of tipping points in the climate system. These are points at which system changes occur that

[35] https://www.knmi.nl/over-het-knmi/nieuws/golfstroom-amoc-kantelpunt-tipping-point (in Dutch).

cannot be reversed in the foreseeable future. They will not only have far-reaching consequences for the environment and biodiversity, but also for European food supplies and economies. Given the irreversible nature of a tipping point, action must be taken to ensure that we do not reach that stage. Appropriate and coordinated monitoring of changes in the Gulf Stream and an understanding of the underlying processes are vital in order to comprehend the risks. The Netherlands is committed to improving collaboration on monitoring and researching changes in the AMOC.

In order to combat climate change in the polar regions and in particular to reduce the risk of reaching tipping points, the average global temperature rise must be limited to 1.5 degrees by the end of this century, with interim overshoots kept to a minimum in terms of level and duration. To this end, the Netherlands has undertaken at European level to achieve a 90% net reduction by 2040 compared to 1990 levels in the EU, and net-zero emissions—in other words, climate neutrality—by 2050 in both the EU and the Netherlands, as laid down in European and national climate law. After 2050, the Netherlands and Europe will need to contribute to negative emissions in order to reduce global warming.

2.2 A changing ecosystem

The gathering pace of climate change is causing drastic changes to the Arctic ecosystem. The warming of the oceans is causing a northerly shift of ecosystems to and within the northern hemisphere. This is leading to a change in the structure of the food web, as both Arctic and non-Arctic species will gravitate towards the north of the Arctic region and compete with each other there. For some Arctic species, such a move is impossible.



Photo: Renno Hokwerda

Besides warming, acidification is another danger in the Arctic Ocean. Increased CO_2 concentrations in the atmosphere lead to greater absorption of CO_2 by the oceans. As cold water absorbs CO_2 more quickly, acidification will occur more rapidly in Arctic regions. Acidification causes many problems, such as a reduced supply of calcium carbonate, which shell-building organisms (shellfish, corals and plankton) need for growth.[36] When warming or acidification leads to loss of habitat and endemic Arctic species are not able to adapt sufficiently, they will become extinct. Given that the Arctic food web is relatively simple

[36] Brandt, A., et al. (2023). 'Revisiting the footprints of climate change in Arctic marine food webs: From local to pan-Arctic impacts'. Frontiers in Marine Science 10, 1096222. https://doi.org/10.3389/fmars.2023.1096222.

because of low species diversity, a shift in or loss of one species could trigger a chain reaction that threatens the entire food chain.[37]



Brünnich's guillemots / thick-billed murres at Alkefjellet in Svalbard. Photo: Renno Hokwerda

These changes in the climate also affect biodiversity in the Netherlands. Migratory birds such as geese, waders and terns, which breed in the Arctic and overwinter in places such as the Wadden Sea, Zeeland delta and further afield in Africa, are facing increasing difficulties. Global warming means that the food they eat is available earlier, which means lower availability during the breeding season.[38] In addition, avian flu also poses a growing risk to birds and marine mammals. Avian flu is a particular threat to animals that live in close proximity to one another in breeding colonies and so can easily infect each other.[39] Infected migratory birds can then carry the virus back to the Netherlands and vice versa. There are different variants of avian flu, some of which also occur in mammals. For example, the H5N5 variant has been found in Arctic foxes. Over the coming years, the Dutch research project Polarflu will focus on the risks and on monitoring the spread of the different variants of avian flu.

The Netherlands will continue its efforts for the conservation and protection of Arctic biodiversity and ecosystems, focusing on limiting human sources of pressure. The Netherlands will support and actively promote treaties that further these aims,[40] such as the OSPAR Convention and the BBNJ Agreement, under which protective measures can be agreed for the high seas. Furthermore, the Netherlands supports the Kunming-Montreal Global Biodiversity Framework target to conserve 30% of land, waters and seas by 2030.



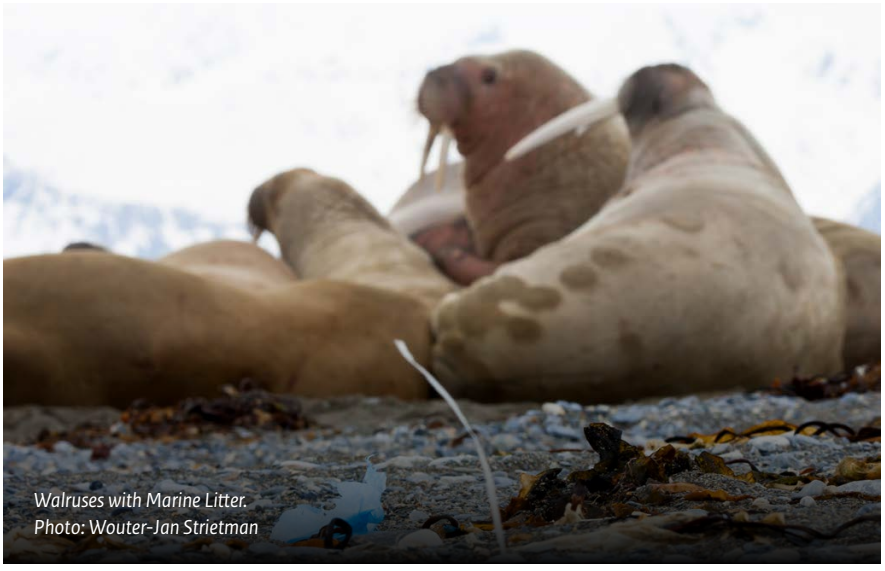
Common Eiders and King Eider on sea ice near Sallyhamna in Svalbard. Photo: Frits Steenhuisen

[37] Wirta, H.K., Vesterinen, E.J., Hambäck, P.A., et al. (2015). 'Exposing the structure of an Arctic food web'. Ecology and Evolution 5(17), 3842–3856.
[38] Smith, P.A., et al. (2019). 'Phenological mismatch in Arctic-breeding shorebirds: Impact of snowmelt and unpredictable weather on food availability and chick growth'. *Ecology and Evolution*. PMCID: PMC6580279.
[39] Brownell, R.L. Jr., et al. (2024). 'Avian influenza H5N1 threatens imperiled krill-dependent predators in Antarctica'. *Frontiers in Marine Science* 11, 1453737. https://doi.org/10.3389/fmars.2024.1453737.
[40] See Annex I (pages 46-48) for further information.

2.3 Pollution

Large quantities of pollutants from lower latitudes are transported to the Arctic via rivers, ocean currents and the atmosphere. The influx of plastic litter into the oceans is a global problem, but the Arctic Ocean has the highest concentration of plastic of all the world's oceans. This poses a direct threat to the region, to everything from plankton to polar bears, and to local people who rely almost entirely on the marine ecosystem for their food and culture. Further research is needed to identify the exact sources, underlying causes and the environmental impact of marine litter.

The Netherlands supports initiatives for further research into the sources and environmental impact of marine litter, particularly plastics, and contributes actively to this at various national and international levels, for example through implementation of the EU Marine Strategy Framework Directive, the Water Framework Directive and the EU Single-Use Plastics Directive. Given the transnational nature of the problem, international collaboration is needed, so we work with other countries in the North Atlantic region (through OSPAR), for instance on joint monitoring and measures to reduce marine litter. The Netherlands is also working within the UN towards an internationally legally binding instrument to combat plastic pollution.



Walruses with Marine Litter.
Photo: Wouter-Jan Strietman

Besides visible pollutants like plastic waste, there are also smaller particles that are invisible to the eye, such as 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, when eaten, in the human body. While the levels of conventional POPs have been showing a downward trend for some time now, partly because of the successful implementation of international agreements such as the Stockholm Convention on Persistent Organic Pollutants, recent years have seen an increase of new substances in the food chain, including brominated substances used in flame retardants and $PFOS_{36}$. As Arctic sea ice and permafrost melts, secondary emissions are expected to lead to an increase in pollution from conventional POPs.

Heavy metals such as mercury are also harmful to people, animals and the environment in the Arctic. Mercury is highly toxic and poses a risk to ecosystems and human health. Weather patterns and chemical reactions cause a large proportion of mercury emissions to accumulate in the Arctic region. The Minamata Convention on Mercury, which entered into force in 2017, is designed to protect human health and the environment against anthropogenic emissions of mercury and mercury compounds.

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, represents 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, but radioactive waste was also left behind in Greenland at the former US base Camp Century when the mobile nuclear power plant was dismantled. Inhabitants of the Arctic are also likely to be exposed to increasing radiation from radon gas in the near future as permafrost thaws. Permafrost normally acts as an impermeable barrier that keeps radon in the ground. When this layer thaws, the accumulated gas could be released, seep into buildings via cellars and build up inside. It is vital that radioactive isotopes continue to be monitored in the Arctic to provide a clear and constant picture of any changes, including those resulting from climate change.

2.4 Geo-engineering

As the impact of climate change becomes ever more apparent, geo-engineering is increasingly being seen as a potential solution to global warming. Geo-engineering involves large-scale, deliberate intervention in the climate system to counteract or slow down climate change. In the polar regions, this is increasingly referred to as 'polar geo-engineering'. This applies to both the Arctic region and Antarctica. For the principles underpinning Dutch policy, see 2.7 in Part II on Antarctica.

The Netherlands in the Arctic Council working groups[41]

The Arctic Monitoring and Assessment Programme (**AMAP**) is the Arctic Council's environment and climate working group. As well as reducing pollution by, for example, plastics, heavy metals (such as mercury) and persistent organic pollutants (such as PCBs, PFCs and pesticides), the Netherlands is also interested in emerging areas of research, such as the effects of geo-engineering and the growing risk of zoonotic diseases (transmissible between animals and humans) as a result of climate change.

Conservation of Arctic Flora and Fauna (**CAFF**) focuses on the protection and restoration of Arctic biodiversity. CAFF's main themes are climate change, monitoring animal and plant populations, causes of loss of biodiversity, ecosystem-based management, protection of key areas and public information about all these activities. The Netherlands is also particularly interested in research on migratory birds because of their relevance to the Netherlands. Two important initiatives on that issue are AMBI (Arctic Migratory Birds Initiative; geese and waders) and CBird (Circumpolar Seabird Expert Group).

Protection of the Arctic Marine Environment (**PAME**) looks at marine policy in the context of climate change resulting from activities both on land and at sea. As part of the Netherlands' commitment to contribute to the protection and sustainable management of marine ecosystems in the Arctic, relevant issues include the reduction of marine pollution (plastic/litter), the circular economy and sustainable shipping. The Netherlands is actively involved in the Marine Litter Working Group and the Regional Action Plan on Marine Litter developed within that working group, which will be further implemented in the coming years. Efforts are also being made to connect with activities within OSPAR[42] and the EU.

The Sustainable Development Working Group (**SDWG**) is concerned with the human dimension in the Arctic and focuses on Indigenous Peoples, sustainable economic development and energy transition, oceans, climate change and biodiversity. The Netherlands emphasises the importance of cooperation, reciprocity and learning from local knowledge in consultation with relevant stakeholders, including Indigenous Peoples and other inhabitants of the Arctic region.

There are two other Arctic Council working groups in which the Netherlands is not currently represented: Emergency Prevention, Preparedness and Response (**EPPR**)—for the promotion of international collaboration in respect of the prevention of, preparation for and action in emergencies—and the Arctic Contaminants Action Program (**ACAP**)—working to prevent and reduce pollution and environmental risks in the Arctic. The Netherlands will consider whether representation in these working groups would be appropriate and whether the required expertise is available.

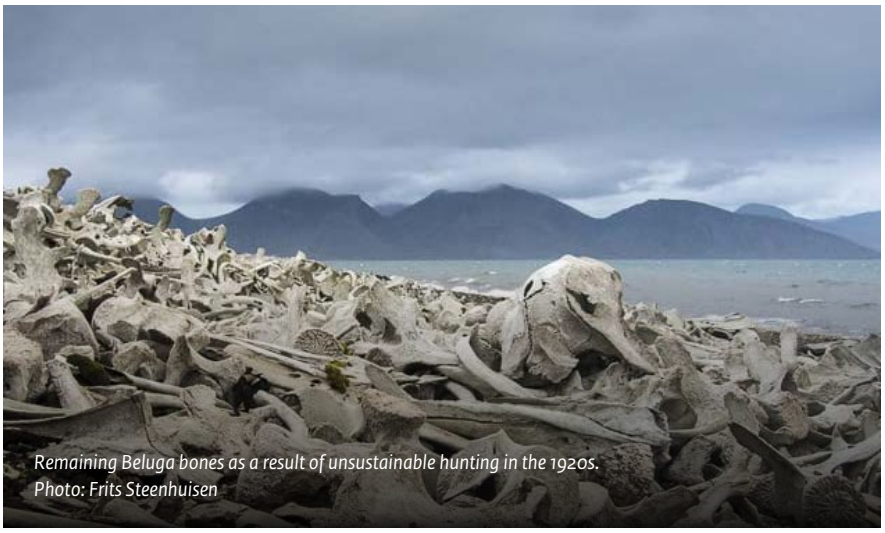
[41] See also the inset on pages 27-28 regarding the Arctic Council.
[42] See Annex I, page 47.

The Netherlands

- will continue to work with the EU to limit global warming in the long term to **1.5 degrees**, keeping any temporary overshoots to a minimum in terms of level and duration, and to develop and implement **climate policy** designed to achieve the target of climate neutrality in **2050** as set out in Dutch and European climate law;
- will continue to use its position as an observer in the Arctic Council to promote research into and **cooperation relating to climate, the environment and biodiversity** through Arctic Council working groups;
- is also committed to strengthening cooperation with respect to monitoring and conducting research on changes in the **Gulf Stream** (**AMOC**) and related effects;
- is calling at **European level** for a continued focus on climate, biodiversity and pollution in the Arctic and the associated risks. Within the EU, the Netherlands will also continue to work towards a UN treaty to combat plastic pollution and to ensure the effective implementation of the relevant treaties relating to chemicals, waste and pollution;
- will continue to make every possible effort to apply the **precautionary principle and the principle of prevention** as key starting points for policy and activities in the Arctic region, including those relating to the spread of avian flu, invasive non-indigenous species, pollution and geo-engineering.

3 Sustainable economic activity

The rapid warming of the Arctic is leading to greater accessibility of raw materials and shipping routes in the region. This will result in new economic opportunities in the future, potentially for Dutch businesses too. The Netherlands and the EU want to intensify their collaboration with like-minded countries in order to reduce undesirable dependencies. Collaboration with Arctic allies such as Norway or Canada could help in this regard. However, economic activities such as resource extraction involve risks for people and nature. The Netherlands therefore believes it is vital that such activities be conducted responsibly.



Remaining Beluga bones as a result of unsustainable hunting in the 1920s. Photo: Frits Steenhuisen

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.[43] 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 matters 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.

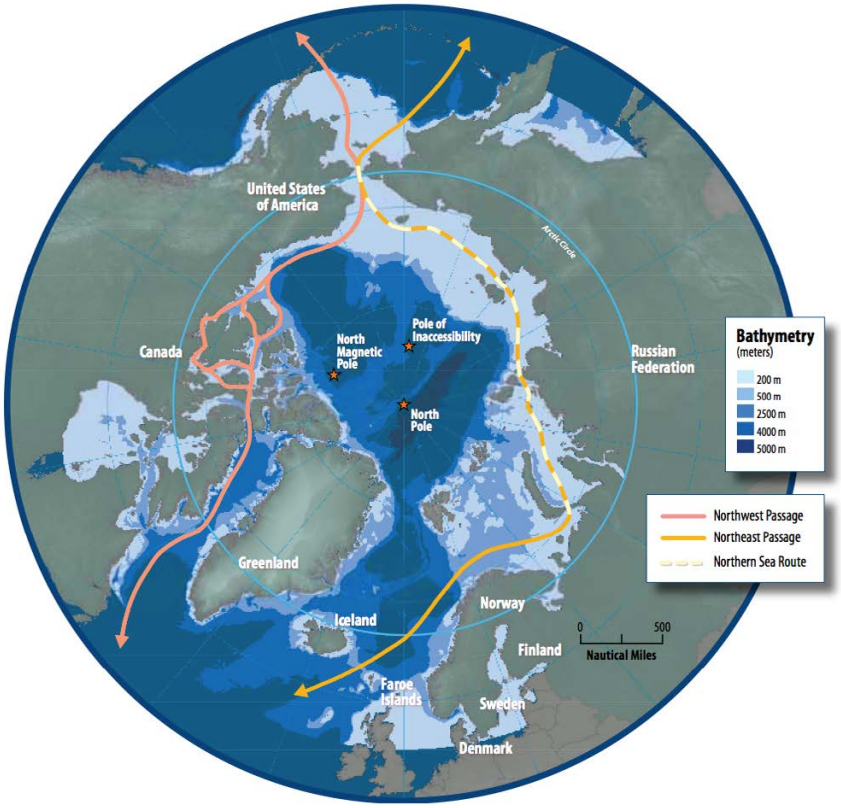
3.1 Shipping

As sea ice continues to melt, the Arctic region is becoming increasingly navigable, particularly in the summer. This is most evident on the Northern Sea Route (NSR), which runs along the coast of Russia, but even the Northwest Passage above Canada is becoming more navigable. If the sea ice melts to even more extreme levels, the Transpolar Sea Route could also open up, passing Svalbard on the way to the Bering Sea.

Any expansion of shipping in the region would present opportunities and risks. The NSR could potentially reduce journey times between parts of East Asia and Europe significantly. For example, the route between Rotterdam and Yokohama in Japan is some 20,000 kilometres via the Suez Canal, but less than 9,000 kilometres via the NSR.[44] This could reduce journey times and fuel costs considerably, as well as shipping-related emissions.

[43] https://english.rvo.nl/topics/rbc/oecd-guidelines-themes.
[44] https://www.thearcticinstitute.org/future-northern-sea-route-golden-waterway-niche.

Another potential advantage of the route is that it would reduce dependency on the existing trade route through the Red Sea and the Suez Canal, for instance in the event of a blockade or security risk, such as attacks on shipping in the Red Sea.



Map of (possible) sea routes in the Arctic region.
Source: Arctic Council / Wikimedia Commons

A wide range of challenges still remain, however, even in the summer months, including extreme and unpredictable weather patterns, rapidly changing ice conditions, routes that are difficult to navigate (e.g., because of less stable satellite communications and the lack of accurate nautical and ice charts), a limited number of ports, complex logistics and high costs for icebreaker escorts. Partly because of these challenges, researchers and shipping experts remain generally cautious or sceptical about the potential of this route.

Arctic routes also entail safety risks and new dependencies, for instance if a ship runs into difficulties or a crew member falls overboard. Arctic conditions make it more difficult for rescue services to operate, and a large section of the NSR runs along the coast of Russia. Furthermore, there is a heavy dependency on US research institutes, such as the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA), for access to satellite data, the production of ice and nautical charts and data on other relevant climatic conditions, and the willingness to share that data.

More intensive use of the route could also have an adverse impact in terms of the environment and biodiversity, for example for marine mammals that are sensitive to underwater noise. Ships that still largely run on heavy fuel oil deposit soot on the ice, causing it to darken, reflect less heat and melt even faster. Russia is showing a desire to make more intensive use of the route for shipping oil and gas from the Arctic which, if oil and gas extraction increases, will lead to higher emissions. The risk of environmental disasters, such as oil spills, and their impact on the highly vulnerable Arctic region also

needs to be taken into account, particularly when ships can operate under the radar, under flags of convenience and without adequate insurance, as in the case of Russia's 'shadow fleet'.

In other words, growing economic potential is creating opportunities, but is also leading to additional challenges in terms of sustainability and to shifting geopolitical relations. Political and military security cannot be seen in isolation from economic and ecological security. The Netherlands is currently looking at new shipping routes with some degree of caution. Environmental as well as safety and security issues, in combination with numerous uncertainties, mean that the importance of Arctic routes should not be overestimated in the coming years. It is vital, therefore, to gain a clear understanding of the potential advantages and disadvantages of the route from different perspectives and in the light of different interests. Given the international interest, from Russia as well as from countries in Asia (China and South Korea), these routes, particularly the NSR, are expected to see an increase in shipping in the long term. As a maritime nation, the Netherlands will therefore continue to monitor developments closely and focus on expanding knowledge in relation to safety and security risks, environmental impact and potential economic advantages.



Photo: Royal Wagenborg

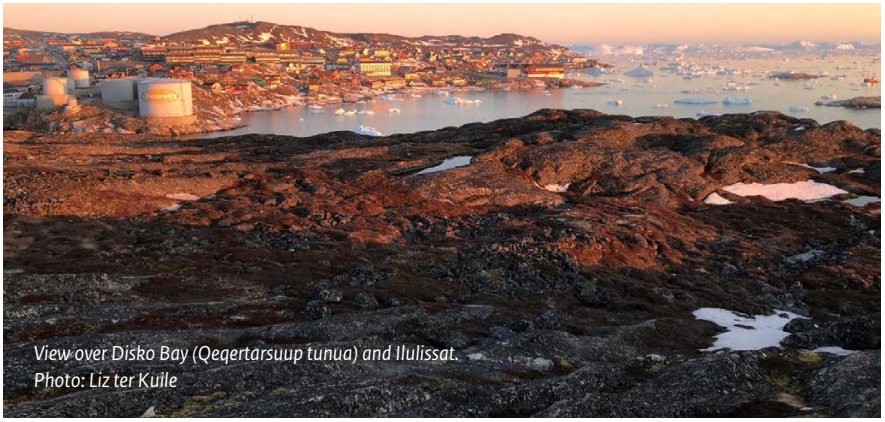
Alongside the UN Convention on the Law of the Sea, which is the main framework for the Arctic Ocean, agreements in the International Maritime Organization (IMO) make up the main policy framework in this area. IMO has adopted guidelines on shipping in the polar regions, the most important of which is the Polar Code. This Code, which entered into force on 1 January 2017, is intended to protect the Arctic and Antarctic regions against the negative effects of shipping in terms of safety and the environment through crew training, preparedness for emergency response, etc.

Within the IMO the Netherlands is working on a step-by-step plan to study and curb the accelerated ice melt as a result of emissions and deposits of soot from increased shipping. It was also the co-initiator of a ban on the use and transport of heavy fuel oil in the Arctic region from 2029. The aim is to mitigate the risk of pollution resulting from any heavy fuel oil spills in the Arctic. Still in the context of IMO, the Netherlands is also advocating for a requirement to use cleaner fuel in the Arctic to reduce soot emissions. The Netherlands also supports the IMO designation of 'particularly sensitive sea areas' (PSSAs) as well as the establishment of a network of marine protected areas in the region on the basis of the BBNJ.

3.2 Natural resources

The Arctic is a rich source of natural resources, including rare earth metals, minerals, oil and gas. Most of these resources lie within the land borders of the Arctic states, which decide autonomously whether or not to extract them. In the mounting geo-economic competition between the Arctic states as well as third countries, access to resources plays a key role. For example, there is growing interest in the Arctic from China and other countries, partly because of the abundance of resources. The region offers opportunities for the EU too. The EU is seeking to reduce strategic dependencies in terms of natural resources, and close cooperation with Arctic EU member states and allies could help in this respect. In March 2024, for instance, an EU Office was opened in Nuuk, Greenland, with the signing of various cooperation agreements and investments in areas such as critical raw materials.[45]

For both the Netherlands and the EU, it is important that extraction of resources is done responsibly. The Arctic is fragile, and responsible extraction of resources is not only crucial for the Arctic states themselves and their inhabitants, but also for the rest of the world. That is why we are investing in collaboration with countries that also consider sustainable extraction of resources to be important, including Canada and Norway.



View over Disko Bay (Qeqertarsuup tunua) and Ilulissat. Photo: Liz ter Kuile

3.3 Fishing

The warming of the oceans is causing entire ecosystems, including certain species of fish, to migrate northwards. To ensure that marine ecosystems remain healthy and to guarantee sustainable fishing, the EU signed an international agreement in 2019 to prevent unregulated fishing in the high seas portion of the central Arctic Ocean (Central Arctic Ocean Fisheries Agreement, CAOFA). This agreement contains a ban on commercial fishing in the high seas portion of the central Arctic Ocean for an initial period of 16 years, to be extended automatically every five years, until scientists confirm that sustainable fishing is possible.

Given the suspension of political meetings in the Arctic Council, the meetings concerning the CAOFA provide a valuable opportunity for the Netherlands to maintain dialogue with the Arctic states and other signatories through the EU. CAOFA thus plays a key role both in terms of fisheries and marine biodiversity and on the diplomatic front.

[45] https://ec.europa.eu/commission/presscorner/detail/it/ip_24_1425.

The Netherlands

- will continue to closely monitor developments relating to economic activity in the Arctic region and **potential opportunities for and risks** to Dutch ecological, economic and security interests;
- is committed to increasing the **supply security** of critical raw materials, through the EU and in collaboration with Arctic partners who extract these raw materials responsibly;
- will actively monitor developments regarding **shipping** and interests, opportunities and risks relating to shipping routes, in consultation with the relevant sectors and stakeholders.

4 Research in the Arctic region

Scientific research in the Arctic is highly important for the Netherlands, as the Dutch climate and ecosystems are closely linked to the region. Studying the region closely ensures that our policy is based on scientific fact. This is why Dutch knowledge institutions are conducting research into, for example, Arctic warming, glacier melt and the resilience of Arctic ecosystems, such as studies of Arctic migratory birds that spend the winter in The Netherlands.



Taking fungal samples, Edgeøya, Svalbard. Photo: Renno Hokwerda

In collaboration with similar bodies in of other countries, Dutch research institutes collect data about the Arctic region to create as comprehensive a picture as possible. This is particularly vital for a low-lying country like the Netherlands, as it contributes to a better understanding of the role that the Arctic plays in the global climate system and the implications for sea-level rise. Geopolitical changes complicate the issue. For example, Russia's illegal war of aggression against Ukraine put a stop to collaboration with Russian research institutes, which hold a great deal of Arctic data. Certain countries with pioneering Arctic research programmes are scaling back their capacity in favour of research into topics such as climate change. This makes it all the more important for the Netherlands to continue investing in scientific polar research.

Involving Indigenous Peoples in scientific research

In the context of the Arctic region, involvement of Indigenous Peoples living in areas where Dutch research is being conducted is essential. Their involvement in the formulation of research questions, collaboration in implementation and access to research findings are important to Dutch researchers and the NWO. The Netherlands considers it vital that researchers comply with the national and local standards of the relevant authorities in respect of involving indigenous and local populations in the Arctic. In addition, the Netherlands urges researchers to familiarise themselves with documents produced by, for example, the Inuit Circumpolar Council[46], which sets out in detail how research in the region can be conducted responsibly and ethically and what the research priorities are for the Indigenous Peoples of the region in question.

[46] The Inuit Circumpolar Council represents approximately 180,000 Inuit across Alaska, Canada, Greenland, (Kalaallit Nunaat) and Chukotka.

4.1 Research infrastructure in the Arctic region

In the Arctic, Dutch researchers work at a facility in Ny-Ålesund on Svalbard. The current facilities have served their purpose for decades thanks to the efforts of the Dutch research community, but they are now outdated. In consultation with the Norwegian authorities, therefore, thought is being given to what facilities could be used in future to facilitate Dutch research, which is extremely important for the Netherlands. As well as the Ny-Ålesund facility, the Netherlands also has a research fleet. The new flagship (the *Anna Weber-van Bosse*), a light ice-class vessel, was brought into service in 2026 and will be used for research in the Arctic region. In addition, Dutch research institutes such as the Royal Netherlands Institute for Sea Research (NIOZ) contribute to ocean observation in the Global Ocean Observing System (GOOS) by participating in international programmes to chart the underwater environment in the Arctic. This is done by means of sea-based networks of Argo floats and anchored measuring devices (OSNAP) as well the Copernicus Marine Service. This fundamental research infrastructure is vital for gaining an understanding of relevant processes such as the slowing of the Gulf Stream.



Fieldwork on the Greenland Ice Sheet.
Photo: Arctic Explorer Foundation

In the Arctic, many places of scientific interest are difficult to reach. Many countries therefore collaborate bilaterally and multilaterally to facilitate research in inaccessible locations as efficiently as possible. For example, the Netherlands works closely with the Alfred Wegener Institute (Germany). This collaboration is important, not least because it gives Dutch researchers access to the icebreaker *Polarstern* and the expertise and capacity of the Alfred Wegener Institute. In 2025, the NWO and the Alfred Wegener Institute intensified their collaboration through joint research projects in which both talented young researchers and nationally supported consortia in the Netherlands work closely with German partners (2026-2030). Partly in view of the proven success of ongoing bilateral collaborations, efforts will be made in the coming years to explore whether, alongside these existing partnerships, there is potential for bilateral collaboration with other countries or with research organisations in those countries.

4.2 International research collaboration

The Netherlands participates in various international forums, scientific and otherwise, relating to the Arctic region. The country has built up an excellent reputation in the Arctic Council by conducting high-quality scientific research in the Arctic, thereby boosting the Netherlands' involvement. Through the NWO, the Netherlands is also affiliated with various international polar research consortia, such as the International Arctic Science Committee (IASC) and the European Polar Board (EPB). The NWO hosted the EPB Secretariat in The Hague from 2015 to 2024. The EPB is concerned with international scientific collaboration, access to polar infrastructure and minimising the environmental and climate

impact of research in the polar regions. Dutch research institutes also participate in the European Union's research and innovation programme, Horizon Europe. This programme is important in that it helps to facilitate international scientific collaboration in respect of the Arctic, which allows data to be exchanged between participating countries, infrastructure to be shared and the impact of developments in the Arctic on Europe to be better understood. Lastly, the Netherlands takes part in international knowledge and research forums about the ocean, where polar issues are also discussed. Examples are the Joint Programming Initiative Healthy and Productive Seas and Oceans (JPI Oceans) and UNESCO's Intergovernmental Oceanographic Commission (IOC-UNESCO).

The coming years will be characterised by the run-up to the International Polar Year (IPY-5) in 2032-33.[47] Over that year, organised by a large number of international organisations (including the International Arctic Science Committee (IASC) and the Scientific Committee on Antarctic Research (SCAR)), worldwide attention will be focused on polar research. The Netherlands will be taking part in the international meetings being held in preparation for IPY-5. The update to the Dutch Polar Programme will take account of the priorities of the International Polar Year, and the national research agenda will be aligned wherever possible with international initiatives in order to amplify the impact of the research.

Dutch Arctic research in focus

The Polarflu project[48], funded by the Dutch Polar Programme, is investigating the spread of avian flu in migratory birds. The virus has spread from poultry to wild bird populations, where it has adapted to infect these birds and spread further to other species before returning to poultry. Research into this area, conducted in collaboration with various partner nations, involves testing geese that breed in the Arctic and spend the winter in the Netherlands. In addition to birds, marine mammals are also included in the research to gain a better understanding of the transmission of the virus between animal species and the risk of infection to humans. The Polarflu research project will provide valuable insights into how the avian flu virus spreads and evolves in wild bird populations and to what extent populations are immune to it.

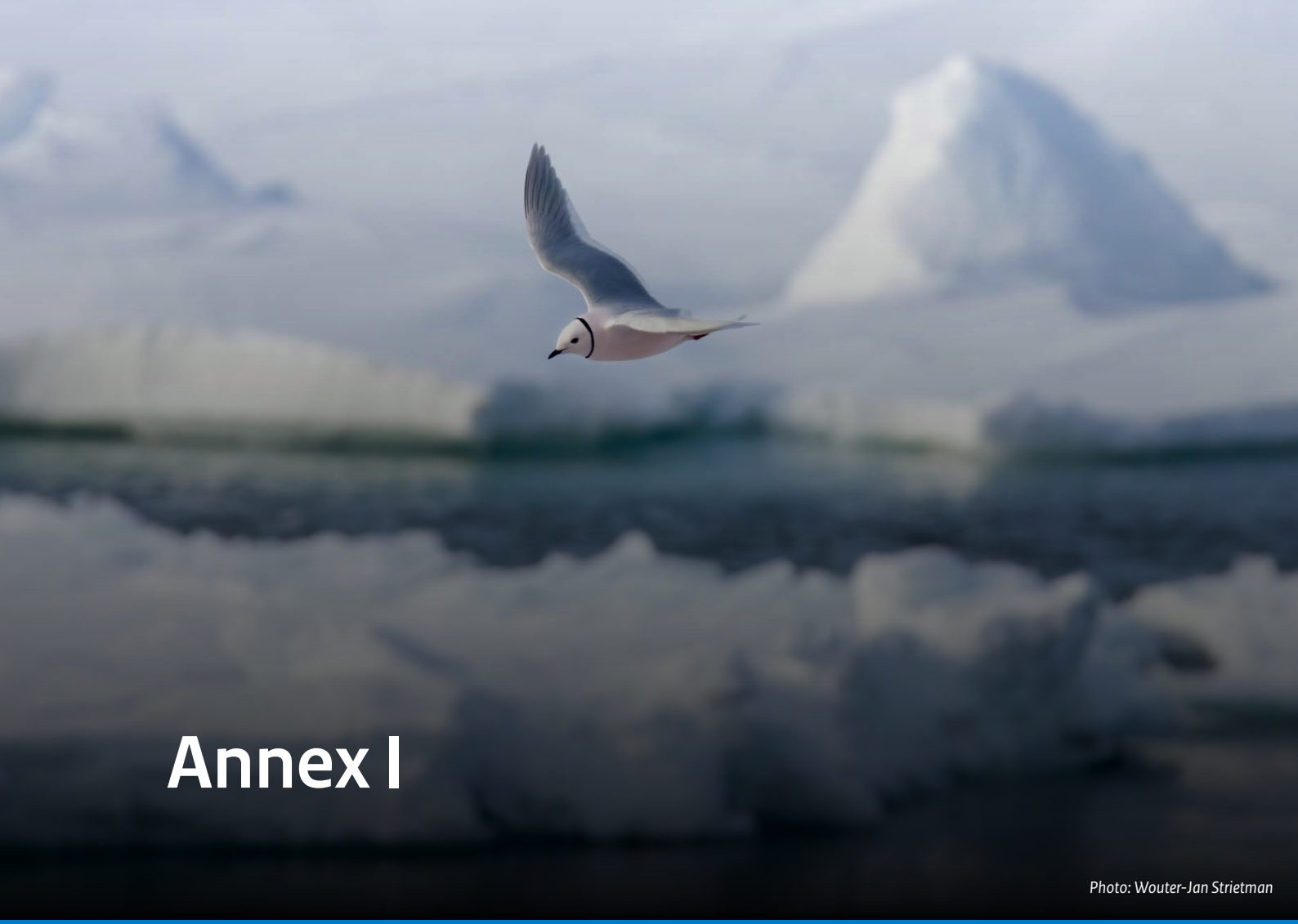


Archaeologists take samples at a Pomorian site in Svalbard. Photo: Dutch Polar Programme, NWO

[47] https://ipy5.info.
[48] https://www.nwo.nl/en/news/grant-for-urgent-research-into-avian-flu-in-polar-wildlife.

The Netherlands

- supports scientific **polar research in the Arctic** through the Dutch Polar Programme and will continue to provide relevant expertise in the Arctic Council's working groups, including in relation to climate, biodiversity, pollution and sustainable development;
- is committed to continuing and intensifying collaboration in ocean observation, including in the Arctic region;
- will closely monitor relevant developments in a rapidly changing policy and geopolitical context. It is also important for the Netherlands to safeguard and support the advancement of scientific knowledge wherever possible, including in the **long term**;
- considers it vital that Dutch researchers abide by national and local legislation and ethical guidelines with regard to working with **Indigenous Peoples** or conducting research in areas they inhabit;
- collaborates with other like-minded countries in order to conduct polar research as efficiently as possible and stimulate the exchange of knowledge;
- participates actively in international initiatives designed to stimulate polar research, such as the **International Polar Year**.



Annex I

Photo: Wouter-Jan Strietman

Key treaties for the Arctic region

United Nations Convention on the Law of the Sea

The UN Convention on the Law of the Sea (UNCLOS) provides the 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. Various treaties and institutions relevant to the Arctic region have also been established under the UN Convention on the Law of the Sea. The most important of them are listed below.

International Seabed Authority (ISA)	The seabed beyond the delimitation of national jurisdictions is managed by the International Seabed Authority, which was also established under UNCLOS. Agreements regarding exploration and exploitation of the seabed, such as extraction of raw materials, must be made by ISA.
Commission on the Limits of the Continental Shelf (CLCS)	This commission makes recommendations on the establishment of the outer limits of the extended continental shelf. This is important because countries can use these recommendations to determine the outer limits of the area for which they have rights and can extract raw materials. Land claims could overlap here.
Biodiversity Beyond National Jurisdiction (BBNJ)	A treaty for the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. It is also known as the 'High Seas Treaty'.

Svalbard Treaty

Under the Svalbard Treaty of 1920, Norway has sovereignty over the Svalbard Archipelago. The other parties to the treaty and their nationals have the right to access and use the territories, including its natural resources, and the freedom to conduct scientific research, subject to the same conditions as Norwegian nationals. Under the Svalbard Treaty, militarisation of Svalbard through permanent installations or fortifications is prohibited. The Netherlands has been a signatory to the Svalbard Treaty since its inception in 1920. Svalbard is important to the Netherlands because of the polar research which has been conducted there for decades, by Dutch scientists and others.

OSPAR Convention (Oslo-Paris Agreement)

The OSPAR Convention is concerned with the protection of the marine environment in the northeastern part of the Atlantic Ocean. The Arctic marine area falls within OSPAR Region I: Arctic waters, which constitutes approximately 40% of the entire OSPAR maritime area. In the OSPAR Commission, various Contracting Parties and the European Commission work together to develop policy for the protection and restoration of maritime waters. This takes the form of agreements and recommendations.

IMO (International Maritime Organization)

IMO is the primary organisation for creating and improving the governance structure for international shipping. IMO has adopted guidelines for shipping in the polar regions, the most important of which is the IMO Polar Code. This code is intended to protect the Arctic and Antarctic regions against the adverse effects of shipping in terms of safety, security and environmental pollution and contains obligations and safety requirements relating to aspects such as ship design, equipment, crew training and environmental protection.

CAOFA (Central Arctic Ocean Fisheries Agreement)

This agreement protects the central Arctic Ocean against unregulated fishing activities. CAOFA has imposed a temporary ban on commercial fishing in the portion of the central Arctic Ocean defined under marine law as the 'high seas'.

CBD (Convention on Biological Diversity)

The Convention on Biological Diversity is dedicated to the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits from the use of genetic resources. The CBD is implemented through the Kunming-Montreal Global Biodiversity Framework (GBF), in which targets have been agreed for 2030.

The goal of conserving and restoring biodiversity is also pursued by other global treaties which are relevant to the Arctic region and to which the Netherlands is a party. Key examples include the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Convention on Wetlands, or the Ramsar Convention) and the Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention).

UNDRIP (UN Declaration on the Rights of Indigenous Peoples) and ILO Convention 169

The protection of the rights of Indigenous Peoples in the Arctic is the subject of various treaties and resolutions adopted by international organisations. The Arctic region is home to more than four million people, some ten percent of whom belong to indigenous communities.

UNDRIP enshrines the rights of Indigenous Peoples and is thus an important document for the Arctic region. The Netherlands voted in favour of this Declaration when it was adopted in 2007.

The Netherlands is one of 24 countries to have signed and ratified the International Labour Organisation's ILO Convention 169 (also known as the Indigenous and Tribal Peoples Convention, 1989).

Treaties on chemicals and waste (Basel and Rotterdam Conventions (waste), Stockholm Convention (POPs) and Minamata Convention (mercury))

These conventions set out provisions on the prohibition or regulation of persistent organic pollutants (Stockholm) and the transfer of hazardous waste (Basel and Rotterdam) and mercury (Minamata).



Part II

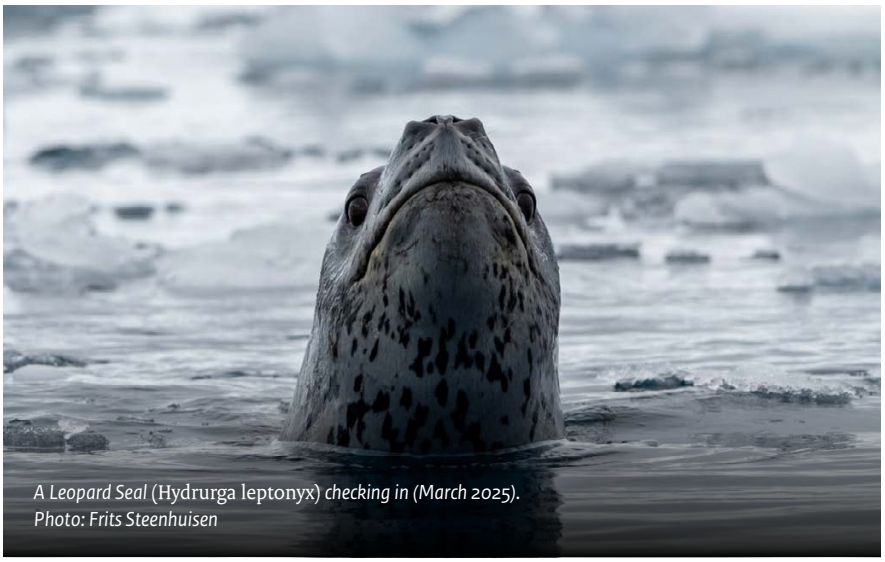
Elevation on the Antarctic Peninsula.
Photo: Arctic Explorer Foundation

Antarctica

Introduction

Antarctica consists of a land mass surrounded by the cold, deep Antarctic Ocean, isolated from other continents, making it the opposite of the Arctic. A place of extremes, it is the world's highest continent (with an average elevation of 2,250 metres above sea level). It is cold, with the lowest recorded temperatures on Earth (as low as nearly -90°C) and exceptionally high windspeeds. It is also extremely dry, despite the fact that it contains some 90% of the world's ice and consequently around 70% of its fresh water. The region is characterised by vast icebergs and glaciers, making it an inhospitable place for life on land due to the cold and lack of water. In the summer months, less than 0.05% of Antarctica is free of ice and snow. These unfrozen areas are mainly to be found along the coast, where terrestrial life then emerges. Throughout the winter, the ocean is largely covered by sea ice, but this melts away almost entirely in early spring and summer. This yearly cycle largely determines the diversity and growth of life in the region. This makes Antarctica's ecosystems unique.

Antarctica is home to a significant proportion of Earth's remaining wilderness. Around one-third of the continent has never been visited by humans and much of the rest of the continent still qualifies as wilderness as defined in the international literature: vast areas with relatively intact ecosystems and no permanent evidence of modern human presence.[1] The Netherlands believes that the region should be preserved as a unique natural area and is thus committed to protecting the fragile ecosystems in and around Antarctica.



A Leopard Seal (Hydrurga leptonyx) *checking in (March 2025).*
Photo: Frits Steenhuisen

The foundation of Antarctica's marine food chain consists of microscopic, single-celled algae floating in the water. These microalgae, which are even found on the underside of the sea ice, make up the primary food source for zooplankton, which in turn forms the basis of the diet of fish, penguins, seals and whales. The microalgal group in Antarctica is highly diverse, ranging from relatively large diatoms (up to 0.5mm) to very small species of algae. Microalgae also play a vital role in sequestering carbon dioxide (CO_2) and producing oxygen, thereby influencing the climate.

[1] Leihy, R.I., Coetzee, B.W. T., Morgan, F., Raymond, B., Shaw, J.D., Terauds, A., Bastmeijer, K., & Chown, S.L. (2020). 'Antarctica's wilderness fails to capture continent's biodiversity'. Nature, 583(7817), 567-571. https://doi.org/10.1038/s41586-020-2506-3.

Krill play a key role in Antarctica's marine ecosystem. They form the basic diet of penguins, whales, seals and many species of fish, such as the Antarctic silverfish. However, krill can only consume large algae and are therefore vulnerable to change in the ratio between large and small algae, for example as a result of climate change.

The vegetation consists of mosses and lichens. Only two indigenous plant species[2] grow here, in the west and north of Antarctica. The mosses, lichens and microorganisms that live within them form the basis of the terrestrial food chain: springtails, mites, nematodes and tardigrades, of no more than a few millimetres in size.

Antarctica's fauna is concentrated in the ocean, with islands and continental coastline serving mainly as resting and breeding grounds for birds, penguins and seals. As they are entirely dependent on the sea for their food, they do not strictly speaking belong in the terrestrial category. However, penguin and storm petrel droppings are an important source of nutrients for life on land. Consequently, the greatest biodiversity of springtails, mites and nematodes is found in areas populated by penguins.

Antarctica's ice volume, its unique ecosystems and its role in the climate system mean that the region is relevant to the entire planet. The governance and management of Antarctica are regulated through the Antarctic Treaty System. Antarctica is not permanently inhabited and there is no indigenous population, but human influence is becoming increasingly evident in the region. As well as long-range pollution from surrounding countries, this is mainly in connection with activities relating to tourism, fishing and research. For instance, there are now more than 110 research stations, and the number of tourists has risen from between 5,000 and 10,000 annually in the 1990s to nearly 125,000 in 2024.

Although generally speaking Antarctica is located a long way from the rest of the world, the continent is of great strategic importance for a number of reasons. As well as playing a vital role in the global climate system, Antarctica is also key to Earth observation from space and to worldwide communications, including for satellite testing. Scientific research in Antarctica is an important pillar for international collaboration. Conducted at the various research stations maintained by different countries across the continent, it generates knowledge about major climate processes, biodiversity and pollution. Although military activity and raw material extraction are prohibited in Antarctica, some countries are showing a growing willingness to test the limits of the treaty under the guise of raw materials research or bioprospecting.[3] The continued expansion of research facilities is also giving rise to considerable debate. For countries that are relatively nearby, such as Chile, Argentina, New Zealand and Australia, the continent also plays a role in regional security.

[2] The grass species *Deschampsia antarctica* and the cushion-like plant *Colobanthus quitensis*.
[3] Exploration of natural resources mainly for biotechnological purposes.

Antarctica in focus

In accordance with the Antarctic Treaty, the Netherlands defines 'Antarctica' or the 'South Pole region' as the area to the south of 60°S latitude. This includes both the Antarctic continent, largely covered by ice caps, and the surrounding waters and islands.

Seven states (Argentina, Australia, Chile, France, Norway, New Zealand and the UK) have had territorial claims on parts of Antarctica since the first half of the last century; another two (the US and Russia) have reserved the right to make such claims. The Netherlands does not recognise any territorial or maritime area claims in the Antarctic treaty area, and no action (or omission) on the part of the Netherlands may be interpreted as recognition of such claims. The Netherlands will continue to communicate this position routinely and consistently. This means that the interests of the various states in the region differ significantly. However, the Antarctic Treaty stipulates that existing claims should be frozen and new ones prevented. It opts specifically for joint management of the region in order to safeguard peaceful activity and research.

Map of the continent of Antarctica
Source: Arctic Centre Groningen



1 Governance and management in Antarctica

1.1 The Antarctic Treaty System

Governance and management in Antarctica are regulated by the Antarctic Treaty System. The Antarctic Treaty (1959)[4] and the subsequent Environment Protocol (1991)[5] form the cornerstone of peaceful, scientific collaboration and the protection of Antarctica, together with the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR, 1980)[6] for the protection of Antarctica's marine ecosystem, and the Convention for the Conservation of Antarctic Seals (CCAS, 1972).[7]

Fifty-eight countries are signatories to the Antarctic Treaty. Of these, 29 countries have consultative status. This means that these countries are responsible for the region's administration under the Antarctic Treaty. Motivated initially by a desire to help to bolster the international legal order—and later by concern for Antarctica as a global common and the protection of nature and the environment—the Netherlands signed the Antarctic Treaty in 1967 and has been a consultative party since 1990. As such, it has a say in the management and protection of the Antarctic region. The Netherlands actively contributes to the joint management of the Antarctic region and to scientific research. The Dutch premise in this respect is the importance of conserving and protecting this region as a nature reserve where, in accordance with the treaty objectives, peace and scientific cooperation are key and where particular attention is focused on Antarctica's unique wilderness value. This is especially important in view of its vital role in biodiversity, the global climate, and the oceans and its significant impact on potential sea-level rise. For a low-lying country such as the Netherlands, active involvement in formulating and implementing Antarctic policy is essential.

Through its participation in the annual Antarctic Treaty Consultative Meeting (ATCM), the Committee for Environmental Protection (CEP) and the CCAMLR Commission, the Netherlands, as a country with consultative status, contributes actively to the management of Antarctica on the basis of the relevant priorities for Dutch involvement. In addition, cooperation with other countries includes joint scientific research, agreements regarding the use of each other's infrastructure and research stations, logistic support, monitoring and knowledge sharing.

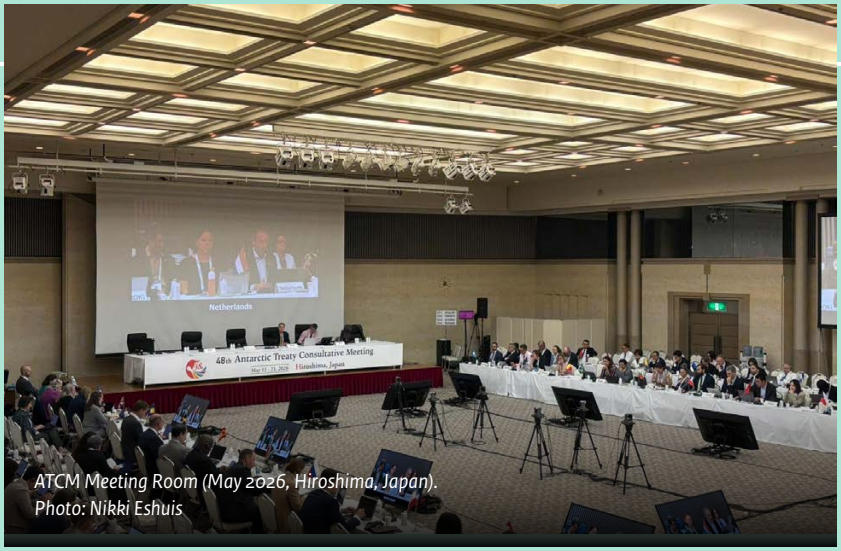
Antarctic Treaty Consultative Meeting (ATCM)

The Antarctic Treaty Consultative Meeting (ATCM) takes place every year. This is the decision-making meeting of the 29 consultative contracting parties to the Antarctic Treaty, including the Netherlands, which together manage Antarctica on the basis of consensus. The chairship, which rotates alphabetically among the consultative contracting parties, also involves organising the ATCM (and the CEP). The meeting is also attended by representatives from non-consultative parties, observers (such as the Scientific Committee on Antarctic Research) and other experts (such as the Antarctic and Southern Ocean Coalition (ASOC, a coalition of NGOs, including the World Wide Fund for Nature (WWF)), the International Union for

[4] Antarctic Treaty.
[5] Protocol on Environmental Protection to the Antarctic Treaty.
[6] https://www.ccamlr.org/en/organisation/home-page.
[7] The Netherlands is not party to the Convention on the Conservation of Antarctic Seals (CCAS) as the Environment Protocol now provides for similar protection of these animals.

Conservation of Nature (IUCN) and the International Association of Antarctica Tour Operators (IAATO).

The Committee for Environmental Protection (CEP) meets annually at the same time as the ATCM. The CEP, which is made up of representatives from the Parties to the Environment Protocol, is open to observers and experts, such as those from IUCN, ASOC and IAATO. The CEP advises the ATCM on implementation of the Environment Protocol and any supplementary measures relating to the protection of the Antarctic environment.



ATCM Meeting Room (May 2026, Hiroshima, Japan).
Photo: Nikki Eshuis

The Netherlands as ATCM host
In 2028, it will be the Netherlands' turn to organise the 50th ATCM; the first (and only) time this responsibility fell to the Netherlands before was in 1996. The year 2028 will also mark the 30th anniversary of the entry into force of the Environment Protocol. By organising the annual meeting, the Netherlands can demonstrate its involvement in the governance and management of Antarctica and thus play a part in preserving peace, scientific cooperation and environmental protection in the region—the three pillars of the Antarctic Treaty System. Organising the event will also provide an opportunity to highlight the Netherlands' overall commitment to policy and research in respect of the polar regions.

Interest in the Antarctic Treaty is growing. In the past three years, for example, four new countries have acceded to the treaty (Costa Rica, San Marino, Saudi Arabia and the United Arab Emirates) and Canada, Belarus, Colombia and Türkiye have expressed a wish to join as consultative parties. At the same time, we see that many non-consultative parties to the Antarctic Treaty are not party to the Environment Protocol or other conventions within the treaty system. Although parties still endorse the treaty's objectives, geopolitical relations and divergent interests in the region are playing a growing role in negotiations, as in the case of consultative status for Canada and Belarus, for example.

It is also becoming increasingly difficult to act on the recommendations of the scientific committees in the treaty system, as evidenced, for example, by China's opposition to the designation of the emperor penguin as a specially protected species under Annex II of the Environment Protocol, or the opposition of various countries to the implementation of precautionary measures to prevent the spread of avian flu.

The Netherlands regards the Antarctic Treaty and the underlying international regimes as the cornerstone of international cooperation in the region, and the ATCM, the CEP and the CCAMLR Commission as the main decision-making bodies for the treaty areas. In this respect, the Netherlands supports the further development of agreements to protect Antarctica and its ecosystems, as well as wilderness values and other values specified in the Environment Protocol. Priorities for the Netherlands in this regard are ensuring stricter regulation of tourism in Antarctica to protect the environment and wilderness values, enhancing environmental monitoring, minimising the cumulative effects of human activity, deepening our understanding of the importance of Antarctica in the climate system and promoting climate action and the use of the precautionary principle (for example, with regard to the spread of avian flu, the introduction of invasive non-indigenous species and geo-engineering (solar radiation modification activities)) and the use of Dutch expertise for polar research.

The Netherlands also supports a gradual improvement in transparency and communication surrounding the ATCM and the CEP, as well as a gradual expansion of the tasks entrusted to the Secretariat of the Antarctic Treaty in Buenos Aires. The Netherlands considers it important for the wider public to be able to hear about and understand, in broad terms, what is being discussed at the annual meetings, as this could raise awareness of Antarctica and its global significance as well as increase public engagement. This is a key point of departure for the 2028 ATCM, which will be organised by the Netherlands as the host nation.

1.2 Protection of Antarctica Act

The Netherlands implements the Antarctic Treaty and the Environment Protocol through the Protection of Antarctica Act *(Wet Bescherming Antarctica)*.[8] This act, the Protection of Antarctica Decree[9] and the associated Orders[10] stipulate that organisations and individuals from the Netherlands that undertake activities in Antarctica must apply for a permit and comply with its conditions. They also designate specially protected areas in Antarctica in accordance with the treaty.

This means that these organisations are also responsible for conduct of participants in the activities they arrange. The permit requirement also applies to Dutch nationals who organise activities in Antarctica from outside the Netherlands. For activities that have more than a minor or temporary impact on the Antarctic environment, an environmental impact assessment is needed and a report must be submitted after the activity has taken place. The permit applicant may also be asked to provide proof of sufficient expertise and experience.

In addition, the treaty imposes specific prohibitions and requirements that apply to each and every Dutch national in Antarctica. Examples include a ban on leaving waste behind or extracting raw materials, the prevention of disturbance to wildlife and of the introduction of non-indigenous species, and a general duty of care in respect of the Antarctic environment.

In line with the above, the Dutch Ministry of Foreign Affairs has produced a travel advisory for Dutch nationals visiting Antarctica.[11]

[8] Wet bescherming Antarctica (in Dutch).
[9] Besluit bescherming Antarctica (in Dutch).
[10] Regeling vaststelling formulier vergunningaanvragen Wet bescherming Antarctica and Regeling Aanwijzing speciaal beschermd Antarctisch gebied (in Dutch).
[11] https://www.nederlandwereldwijd.nl/reisadvies/antarctica (in Dutch).

The Netherlands

- is committed to **strengthening agreements in the Antarctic Treaty System** designed to protect Antarctica and its ecosystems, as well as wilderness values and other values, and to providing Dutch expertise for **polar research in Antarctica**;
- will continue to **monitor developments in Antarctica and the wider region closely**, partly by means of the Dutch mission network in order to track and interpret geopolitical and other developments in the region more effectively;
- will strive to increase **public awareness** of and broad engagement with Antarctica, also as the host nation of the 50th ATCM and the 30th Committee for Environmental Protection (CEP) in 2028, with a view to bringing about a gradual improvement in **transparency and communication** surrounding the ATCM and the CEP together with like-minded nations;
- is committed to gradual expansion of the tasks entrusted to the **Secretariat of the Antarctic Treaty** and will strengthen the relationship with the Secretariat;
- aims to ensure that the impact of such activities is minimised and purely temporary by using national policy, including the issuing of permits, to bring about the **strict regulation of tourism** and other non-governmental activities, and by assessing whether the activities contribute to education and awareness regarding the Antarctic environment.

2 Climate, the environment and biodiversity

2.1 Climate change and sea-level rise

The Netherlands points out that Antarctica has a global function: the volume of ice, the unique ecosystems and the role of Antarctica in the global climate system mean that the region is important for the entire planet. The melting of even just certain parts of the Antarctic ice caps due to climate change could result in a global sea-level rise of several metres. As a low-lying country, the Netherlands therefore has a direct interest in continuing involvement in the research, governance and sustainable management of the continent.

For a long time, it was thought that Antarctica was relatively unaffected by global climate change, but that view has changed drastically. Climate change in and around Antarctica has a major impact on the world's expected sea-level rise, with the effect being particularly pronounced not around Antarctica itself, but further away, such as in the Netherlands. As the ice mass in Antarctica shrinks, the gravitational pull on the surrounding seawater diminishes, causing sea levels to fall nearby and rise elsewhere. In its latest Sixth Assessment Report (AR6), the Intergovernmental Panel on Climate Change (IPCC) notes an acceleration in sea-level rise, driven in particular by a greater contribution from the melting ice caps in Greenland and Antarctica. Global average sea-levels are now expected to rise 28-55 cm in 2100 in the lowest emissions scenario and 63-101 cm in the highest, compared to the 1995-2014 average. This rise will continue for centuries after 2100 (regardless of emission reductions) due to the ongoing melting of ice caps and the expansion of warming seawater, and could reach 0.3-3 metres to 2-7 metres respectively by 2300.[12]

Since the publication of the IPCC AR6 Working Group I (WGI) in 2021, a growing number of scientific studies have been published suggesting that the loss of ice caps could mean that future sea-level rises will be much greater and occur sooner and that parts of Antarctica could thaw irreversibly if global warming continues. Of particular concern is the Thwaites Glacier in West Antarctica, which is retreating at an ever-increasing and seemingly unstoppable rate.[13] Recent studies have confirmed that warm seawater is flowing through deep channels to deep beneath the glacier's ice shelf. This is causing the underside to melt, whereby the ice mass is destabilising faster than previously thought. Together with surrounding glaciers, the loss of the Thwaites Glacier will cause global sea levels to rise by a metre.[14] If the glacier collapses, this could trigger a chain reaction in the rest of the West Antarctic ice cap, potentially leading to a further sea-level rise of several metres. It is still unclear when the tipping point for this will be reached, at which point the melting caused by the shearing of the ice sheets could trigger a self-reinforcing, irreversible process. Melting glaciers then cause the 'underlying' ice to slide forward, and once it is in contact with the warmer seawater, it will melt as well. Some studies suggest that the risk of this eventuality increases rapidly above 1.5 degrees of warming.

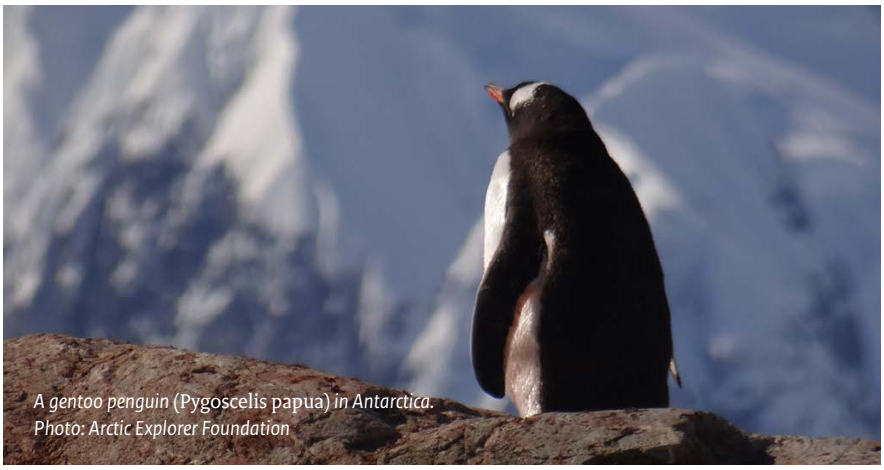
Given the implications for sea-level rise, the fate of the Netherlands is thus closely linked to that of Antarctica. This highlights the importance of further climate research into ice dynamics in and around Antarctica to improve model predictions and thus insight into the risks of sea-level rise. The consequences of sea-level rise for the Netherlands are the main reasons for doing our utmost to combat climate change and for supporting the objective of

[12] https://www.ipcc.ch/assessment-report/ar6.
[13] https://www.un.org/en/climatechange/reports/sea-level-rise.
[14] https://www.knmi.nl/over-het-knmi/nieuws/unieke-metingen-bevestigen-kwetsbaarheid-thwaites-gletsjer (in Dutch).

limiting global warming to 1.5 degrees by the end of this century, keeping potential interim overshoots to a minimum in terms of level and duration.

2.2 A changing ecosystem

Antarctica's ecosystem is under pressure because of increasing climate change and human activity. Studies show, for example, that the iconic emperor penguin could become extinct by the end of this century if no action is taken.[15] Global warming has huge implications for wildlife, habitats and biodiversity in Antarctica itself. The melting of sea ice will cause a decline in algal biomass and could change its composition, putting pressure on krill populations. Species that depend on krill, such as penguins, seals and cetaceans, could then struggle increasingly to survive. In some areas, the krill swarms that feed on algae have already disappeared completely as a result of the decline in sea ice. The Netherlands supports initiatives aimed at providing extra protection for species vulnerable to climate change, such as penguins and krill, for example by designating their habitats as ASPAs (see 2.4 below) or granting them protected status, as recommended in the case of the emperor penguin.



A gentoo penguin (Pygoscelis papua) *in Antarctica. Photo: Arctic Explorer Foundation*

Ocean acidification caused by climate change could also have an adverse impact on seabed-dwelling creatures, fish, krill and phytoplankton. Many of these species produce calcium for their internal or external skeleton and this calcification is actually inhibited by acidification. Lower availability of krill because of acidification or a decline in sea ice will have an adverse impact on animals at the top of Antarctica's food chain, such as whales that migrate to the region in the summer to forage.

Human sources of pressure on the ecosystem are also on the rise, particularly because of the growth in tourism and the ever-increasing range of tourist and other non-governmental activities. A growing number of locations at which tourist activities take place (see 3.2 on Tourism) as well as the increasing expansion of permanent research facilities by parties to the treaty are causing a significant growth in the ecological footprint and thus placing additional pressure on both the ecosystems and the wilderness values in the region. The Netherlands is striving internationally for effective, site-specific regulation of tourism and other non-governmental activities in order to alleviate this pressure. In this context, the Netherlands considers the correct application of and compliance with existing

[15] Fretwell, P. T., Boutet, A. & Ratcliffe, N. (2023). 'Record low 2022 Antarctic sea ice led to catastrophic breeding failure of emperor penguins'. *Communications Earth & Environment* 4, 273. https://doi.org/10.1038/s43247-023-00927-x of: SCAR, Updates on emperor penguins: Review of recent studies, 2025. https://scar.org/~documents/route%3A/download/6421.

agreements, including those regarding environmental impact assessment and the prohibition on permanent tourist facilities and other non-governmental activities (Resolution 5(2022)) to be extremely important. The Netherlands is also committed to adopting additional guidelines in the ATCM, aimed at preventing the introduction and spread of non-native species and avian flu in Antarctica.

In 2023, avian flu was detected in Antarctica for the first time.[16] Avian flu can be carried to Antarctica by migratory birds or other species. Human activity could pose additional risk. This is a cause for concern, because many species in Antarctica, such as penguins and albatrosses, live in close proximity to each other and are particularly vulnerable because they have never been in contact with the virus before. The Dutch research project Polarflu aims to fill the gaps in the scientific knowledge surrounding the spread of avian flu.[17] The Netherlands will strive to apply the precautionary principle more strictly where necessary.

2.3 Pollution and disruption

Atmospheric deposition (POPs and heavy metals)

The ice in Antarctica serves as a kind of archive for research into the past and current transport of pollutants to the region. Ice cores can be used as climate archives from which scientists can extract information, including data on trends in the concentrations of various pollutants, such as persistent organic pollutants (POPs) and heavy metals such as lead, chromium, copper, zinc, cadmium, mercury and arsenic.

Conditions in Antarctica are hugely important in determining the way in which pollutants are absorbed into the environment, how they spread and what impact they may have. There are few local sources of pollution; pollutants mainly reach Antarctica by way of long-range transport, air circulation and ocean currents. The closest sources of pollution via long-range transport are located in areas of dense population and industrial activity in South America. For example, the Troll Research Station in Antarctica was able to trace aerosol readings back to forest fires in Brazil four weeks earlier. Because the depletion of the ozone layer above the continent has implications for the exposure of organisms to UV radiation, the worldwide emission of ozone-depleting substances, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), are also significant for Antarctica.

There are relatively few studies on atmospheric pollution in Antarctica and the southern hemisphere. Those that do exist focus mainly on transport mechanisms and processes to distinguish between local sources of pollution and pollution that is transported over long distances. The Netherlands would like to see more systematic monitoring of and more research into pollutants and their impact in Antarctica. Concentrations fluctuate throughout the year, depending on when coastal air masses reach the continent, after which pollutants can accumulate in ice and snow. During the summer thaw, pollutants from the previous year are released from the snow and ice; because of climate change, however, pollutants that have also accumulated in permafrost or the soil could be released over time. The impact of climate change on the remobilisation and deposition of POPs in Antarctica has already been reported, as have the subsequent increased concentrations in organisms.

[16] Bauer, H. et al. (2024). 'Detection and spread of high pathogenicity avian influenza virus H5N1 in the Antarctic Region'. *Nature Communications*. https://doi.org/10.1038/s41467-024-51490-8.

[17] https://www.nwo.nl/nieuws/toewijzing-voor-urgent-onderzoek-naar-vogelgriep-bij-wilde-dieren-in-poolgebieden (in Dutch).

The most common persistent organic pollutants (POPs) in Antarctica are hexachlorobenzene (HCB), dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). New pollutants such as flame retardants (polybrominated diphenyl ethers, PBDEs) have also been detected. Measured concentrations range from a few nanograms per gram in krill (mainly HCB) to two orders of magnitude higher up the food chain (seabirds and marine mammals). Fish that live on the continental shelf contain pollutants such as DDT, PCBs and PAHs in concentrations that correspond to their main food source, namely krill. Measured concentrations are lower than in fish in other waters. Emperor penguins and Adélie penguins are regarded as reliable indicator species for the marine food chain as they breed on the continent itself. Studies from Palmer Station show, for instance, that levels of DDE (a breakdown product of DDT) in Adélie penguins on the Antarctic peninsula have remained unchanged for 30 years, unlike DDT levels, which fell significantly in the eggs of seabirds across Antarctica between 1975 and 2003.

Heavy metals have been detected in Antarctic organisms, including low concentrations of mercury in elephant seals and seabirds, and low concentrations of cadmium in most organisms, with the exception of fish. Some invertebrates had very high levels of zinc and copper. Marine mammals in Antarctic waters generally have much lower concentrations of pollutants than those in the Arctic region, but variations between species in Antarctica can be significant.

Direct pollution

Research stations contribute to highly localised pollution because of emissions and discharge of household waste, waste water and combustion gases. In addition, cruise ships and other types of vessels represent a mobile source of pollution in the area, mainly because they discharge ballast water and burn heavy fuel oil. In various studies on the pollutant load of research stations, contaminants such such as PAHs (linked to diesel generators) and PCBs, and brominated flame retardants were found in indoor air and waste water. To date, no systematic attempt has been made to identify the consequences of these localised pollution sources on a continental scale in Antarctica.

At the ATCM, the Netherlands is committed to promoting more consistent monitoring and to further research into pollution and the impact of climate change on the biogeochemical cycle of POPs, bioaccumulation and the effects on Antarctica's ecosystem.

Underwater noise

Human activities in the Southern Ocean generate underwater noise; these range from research activities (including ships and marine seismic surveys), to tourism and fishing. Shipping is increasing year after year; the number of tourist ships in particular is rising sharply. Underwater noise can affect Antarctic micro- and megafauna, from zooplankton to whales. It affects animals' behaviour and communication and perception of their surroundings. It can trigger stress responses and drive animals from their habitats, disrupt their vital functions (including feeding and reproduction), reduce the availability of prey, or cause direct injury. The effects of multiple stress factors and how they interact are not yet fully understood. The Netherlands' efforts to minimise the impact of human activity in Antarctica, including the regulation of tourism and international research cooperation, should also help to mitigate the impact of underwater noise.

2.4 Protected areas

In the Antarctic Treaty System, the designation of specially protected areas, both marine and terrestrial, is a key instrument for protecting fragile ecosystems and wilderness values of Antarctica. In the CCAMLR, the Netherlands and like-minded partners are committed to the

creation of five large marine protected areas. The Netherlands is also committed to area protection through the designation of Antarctic specially protected areas (ASPAs) and Antarctic specially managed areas (ASMAs) under the Environment Protocol. ASPAs are land and marine areas in Antarctica that enjoy special status by virtue of their exceptional ecological, historical, scientific, aesthetic or wilderness values. AMSAs are specially managed areas designed to coordinate activities carried out or planned in the area in question and/or to minimise the environmental impact of those activities.

Access to ASPAs is restricted. Entry to an ASPA is only possible with a permit that must be in keeping with the management plan for the area as set out by the ATCM. Most areas are closed to tourism. Under the Protection of Antarctica Act, permits are only available for five ASPAs, as these contain a historical site or monument that may be visited.

The Netherlands is committed to enhancing these instruments, partly by joining forces with the Scientific Committee on Antarctic Research (SCAR), an organisation of the International Science Council, to call for a more systematic identification of values and functions requiring special protection and the designation of larger areas on the basis of, for example, ecological values, the importance of pristine areas in Antarctica as a reference for scientific study and the preservation of wilderness values.

Together with Spain and Uruguay, the Netherlands has taken the initiative to evaluate the effectiveness and performance of AMSAs as a treaty instrument. On the basis of the management plans and their implementation, consideration will be given to whether the designation of these areas and the enhanced cooperation associated with it are helping to protect the ecosystem and other values.

Furthermore, the Netherlands will continue within the ATCM to call for agreements on remediation measures where activities have caused unforeseen harm. More research is required into the resilience of the ecosystem and possible measures to restore and preserve it. Further arrangements need to be made on this matter to supplement and implement Annex VI to the Environmental Protocol concerning liability, which will enter into force once it has been ratified by all consultative parties.

2.5 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. The environmental impact assessment (EIA) is therefore an important instrument for the Netherlands. However, the assessment 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 does not include any strategic environmental assessment. The Netherlands will therefore work at ATCM level to ensure that the EIA instruments for Antarctica are strengthened.

2.6 Monitoring

Because the problem of pollution in Antarctica was not until now regarded as significant, there is no overarching monitoring programme for pollutants. Little research is currently being carried out into the concentrations of pollutants in Antarctica's marine food chain. Monitoring activities in Antarctica will provide vital data on global pollution patterns and

the effectiveness of international agreements designed to reduce environmental pollution. There is also scope for improving and strengthening collaborative monitoring of the impact of climate change. Current observations, modelling and assessments indicate significant changes in both the marine environment and on land, with climate change playing a key role. Sea-level rise is the most significant change expected to have a global impact. Further global consequences of the changes in Antarctica include extreme climate and weather conditions, drought, wildfires, flooding and ocean acidification. These consequences lead to the disruption of ecosystems and loss of biodiversity, also beyond Antarctica. At ATCM level, the Netherlands is committed to improving the systematic monitoring of the state of the environment and related impact in Antarctica and contributes substantively to the research programme, for example through the TRI-POLAR programme, which focuses on the integrated study of climate, biodiversity and pollution in the polar regions.

2.7 Geo-engineering

Just as in the Arctic region, there is growing interest in Antarctica in controversial measures to combat global warming. The most radical and controversial measures fall under the heading of 'geo-engineering', as they could have a large-scale and potentially irreversible impact on ecosystems or people. Measures designed to influence Earth's radiation balance in order to slow down the rise in temperature have been ruled out by the Netherlands because of significant risks, including the inherent risk that interest in mitigation will wane.[18]

Different forms of geo-engineering

Carbon removal refers to technologies, practices and methods that remove carbon dioxide (CO_2) from the atmosphere and store it. In a polar context, this could include carbon sequestration in the soil, biochar production, carbon capture and storage, restoration of peatlands and wetland areas and improvement of ocean alkalinity or ocean fertilisation.

Solar radiation modification (SRM) involves measures that influence Earth's radiation balance. By reducing the amount of solar radiation absorbed by the earth, global warming could potentially be counteracted or slowed down. Possible methods include stratospheric aerosol injection (SAI), cloud thinning or brightening, surface albedo enhancement and the use of space-based sunshades and reflectors.

Polar geo-engineering aims to slow down the loss of sea ice, ice shelves and the polar ice caps. This involves techniques such as the installation of underwater curtains in front of ice shelves to block the flow of 'warm' seawater, sea-ice management to adjust reflectivity, using sea-ice thickening techniques, for example by scattering glass beads, pumping seawater onto the surface of the ice in winter, and slowing the drainage of ice caps into the ocean by pumping water to the surface (of glaciers) before it drains into the sea.

[18] https://www.rijksoverheid.nl/documenten/2025/03/14/minvkgg-klimaatplan-2025-2035 (in Dutch).

Geo-engineering could pose new risks for people and ecosystems. Its use could have transboundary and irreversible consequences. The Antarctic Treaty's scientific committee (SCAR, 2025) emphasises that geo-engineering should not be seen as a substitute for or alternative to emission reduction. On the basis of the information available,[19] the committee concluded (in 2025) that none of the geo-engineering techniques proposed for Antarctica and the Southern Ocean met the essential criteria to be considered safe, responsible and feasible.

For the Netherlands, the principle of prevention, according to which new technologies are not permitted until a strategic and project environmental impact assessment have been carried out, and the precautionary principle, which requires that account be taken of any risks (scientific uncertainties) associated with these technologies, are key points of departure for evaluating policy in respect of geo-engineering activities. Complex ethical, legal and security-related issues are associated with the use of geo-engineering, and much is still not known about the potentially significant transboundary risks. There are also concerns about the possible use of SRM technology by state and non-state actors as a means to achieve strategic geopolitical objectives, or the use of such technology in armed conflict.

Although certain forms of carbon removal are essential to achieve negative emissions, the Netherlands feels that caution is needed in respect of the large-scale, speculative and in some cases unproven application of carbon removal that are more difficult to regulate or reverse. One example of this is ocean iron fertilisation.

The Netherlands is committed to developing a global legal framework for geo-engineering in order to prevent the unregulated development and application of technologies that affect the earth's radiation balance (solar radiation modification). The Netherlands also advocates a similar framework for polar geo-engineering.

[19] See ATCM 47 Working Paper 51, 'Geo-engineering in Antarctica and the Southern Ocean', SCAR (page 6).

The Netherlands

- will continue to work with the EU to limit global warming in the long term to **1.5 degrees**, keeping any temporary overshoots to a minimum in terms of level and duration, and to develop and implement **climate policy** designed to achieve the target of **climate neutrality in 2050**, as set out in Dutch and European climate law;
- is committed to **protecting the wilderness values and fragile ecosystems in and around Antarctica**;
- will strive in the ATCM for **appropriate application of and compliance with existing agreements for the protection of Antarctica**, including agreements regarding environmental impact assessment and the prohibition of permanent facilities for tourism and other non-governmental activities;
- will work with like-minded countries to develop a framework for **systematic monitoring of environmental indicators in Antarctica** to enable the monitoring of critical changes and the intensification of the international response;
- supports ATCM initiatives to **strengthen instruments for environmental impact assessment** within the Antarctic Treaty;
- will continue to press within the ATCM for the establishment of **agreements** relating to the **implementation of remediation measures** where activities have caused unforeseen harm, and supports research into the resilience of the ecosystem and potential measures to restore and preserve it. The Netherlands urges parties to ratify Annex VI of the Environment Protocol (regarding liability);
- **supports initiatives** designed to **provide extra protection for species that are sensitive to climate change, such as penguins and krill**;
- is committed to **increasing the number, size and representativeness of protected areas** within the treaty system and to conducting inspections to that end;
- is in favour of **additional guidelines** under the ATCM to prevent the introduction and proliferation of non-indigenous species in the Antarctic region;
- is committed, through the Dutch Polarflu research project, to filling the gaps that still exist in scientific knowledge regarding the **spread of avian flu**. The Netherlands will push for a more stringent application of the precautionary principle wherever necessary;
- is calling for the development of a **global legal framework for geo-engineering** to prevent unregulated development and application of technology that affects the earth's radiation balance. The Netherlands is also in favour of a similar framework for polar geo-engineering.

3 Sustainable economic activity

3.1 Natural resources

Economic activities are strictly limited in Antarctica by the Treaty and Environment Protocol: exploitation of mineral resources, other than for scientific research, is prohibited.[20] If a party wishes to change this prohibition, this can only be done after 2048 by calling for a review conference into the Environment Protocol's operation. Even then, there are conditions, including the fact that a legal framework must be established for any modification of the prohibition of raw materials extraction, containing the conditions for activities relating to the raw materials and requiring the unanimous agreement of all parties (consensus). The Netherlands is in favour of a permanent ban and regards activities in Antarctica in respect of mineral resource extraction—other than for scientific purposes—as incompatible with the provisions of the Antarctic Treaty, as supplemented by the Environment Protocol.

There is also growing interest in the use of genetic material from Antarctic organisms (some of them rare) for scientific research and commercial use, particularly in the biochemical and pharmaceutical industries. ATCM discussions focus on the necessity or desirability of regulation for the Antarctic Treaty area, particularly as regards the release of scientific data, the equitable distribution of revenues in the event of commercial applications (in line with agreements under the biodiversity treaty) and the environmental impact of collecting biological material. The Netherlands is in favour of appropriate regulation of genetic material from Antarctic organisms, including measures to prevent the exhaustion of natural resources (see also 3.3, Fishing).

3.2 Tourism

The Netherlands views international developments in tourism and other non-governmental activities in Antarctica with concern and is taking a leading role when it comes to strict regulation of tourism in Antarctica. International tourism in Antarctica is growing at an explosive rate and is having an adverse impact on the region's fragile ecosystem and wilderness values. In 2024, around 124,000 tourists visited Antarctica. We are also seeing an increasing variety of activities taking place across the continent, from weddings to marathons, and an increase in the number of areas in Antarctica being visited by tourists. Both through national policy, including the issue of permits, and at international level, the Netherlands is committed to stricter regulation of tourism and other non-governmental activities, with the aim of ensuring that the impact of these activities is minimal and no more than temporary. Activities must be deemed appropriate, both in terms of impact and risk and in terms of Antarctica's special status and values.

Within the ATCM, the Netherlands has therefore taken steps to develop a framework for sustainable tourism. The Netherlands is calling for the harmonisation of rules for the issue of permits, a certain level of expertise of those participating in tourist activities, the introduction of strict conditions governing permission for such activities and measures to limit their impact, including any cumulative effects.

[20] Article 7 of the Protocol on Environmental Protection to the Antarctic Treaty: 'Any activity relating to mineral resources, other than scientific research, shall be prohibited'.

Activities such as heli-skiing, helicopter trips (both sightseeing and transportation), other motorised activities for tourism or other non-governmental activities, the establishment of semi-permanent or permanent facilities for tourism and other non-governmental activities, and the use of drones for tourism and other purposes in coastal zones with important biodiversity values will not be permitted. Recreational camping will be permitted for one night, at specific locations. International efforts are under way to draw up specific guidelines on this matter.



Tourists on a walk in Antarctica. Photo: Yousra Makanse

The Netherlands is not in favour of individual trekking on the Antarctic ice cap, such as journeys to the South Pole, and will comprehensively assess the skill and experience of any applicants as well as the values (including wilderness values) of the areas they wish to visit. The Netherlands also urges closer consultation between the bodies that issue permits in treaty party countries, not least to prevent organisers from applying for a permit in another country (forum shopping), thus evading Dutch supervision.

3.3 Fishing

The main body responsible for discussing the protection of Antarctic marine species is the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The Netherlands has been a member since the first convention in 1980.

CCAMLR has extensive powers when it comes to research, data collection, statistics on fish stocks, identifying conservation needs, implementing protective measures, conducting inspections and designating fishing areas, protected areas and protected species, and determining the fishing season.

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 the precautionary principle that the CCAMLR applies in regulating human activities under the convention. The Netherlands is also in favour of creating a network of marine protected areas in the Southern Ocean and considers it important that the CCAMLR take the lead in this. Given that a significant part of the area covered by the CCAMLR mandate lies beyond the boundaries of recognised national jurisdictions, the designation of marine protected areas by the Commission could set an important precedent 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.

Furthermore, a market has 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.

Marine mammals (seals and whales) are not covered by the CCAMLR; 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 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).

The Netherlands

- considers the extraction of **natural mineral resources**—other than for scientific purposes—to **be in contravention of provisions of the Antarctic Treaty**, as supplemented by the Environment Protocol and confirmed in Resolution 5 (2023), and will continue to promote compliance therewith;
- is working with like-minded countries to develop **a framework for the regulation of tourism** with the aim of minimising its impact;
- maintains its commitment to the application of the **precautionary principle and the principle of prevention** as important starting points for policy and activities in Antarctica, including in relation to the spread of avian flu, invasive species, pollution and geo-engineering;
- will continue efforts to ensure the sustainability of krill populations and to support the expansion of **specially protected marine areas** in the context of the CCAMLR. In cases where it is warranted by scientific evidence, the Netherlands also supports the designation of **specially protected species** under the Environment Protocol, such as the emperor penguin.

4 Research in Antarctica



Research by the Arctic Centre Groningen into the accumulation of pollutants in Antarctic seals (March/ April 2025). Photo: Frits Steenhuisen

Consultative status under the Antarctic Treaty entails the obligation to contribute substantially to scientific research in Antarctica. Research in Antarctica is extremely important for the Netherlands, as it provides Dutch society with information, for example on sea-level rise, and vital data in support of climate policy and other types of policy. For a low-lying country such as the Netherlands, knowledge about Antarctica's melting ice caps and how the water from the melting ice contributes to the rise in sea levels is crucial. Issues such as the resilience of Antarctica's ecosystems, avian flu and the impact of tourism are also important research topics for the Netherlands. Through research, the Netherlands and likeminded countries are making a relevant contribution to the available data on changes in the Antarctic region and the impact they are having. Now that leading international Antarctic research programmes have been scaled back substantially, for example in respect of ocean observation and climate-related studies, it is all the more important that the Netherlands' research contribution be maintained.

4.1 Research collaboration in Antarctica

Antarctica's remote location and climatological conditions require specific and costly infrastructure to transport and accommodate scientists. Many countries collaborate bilaterally and multilaterally to facilitate research in Antarctica as efficiently as possible. The Netherlands manages the Dirck Gerritsz Laboratory in Antarctica, which is based within a larger facility (the Rothera Research Station run by the British Antarctic Survey) owned by the United Kingdom. Opened in 2013, the laboratory provides a long-term focus and visibility for the Netherlands' Antarctic research, while minimising the impact on the environment. In 2025, use of this facility and scientific collaboration with the British were boosted through a funding programme (2025-2029).

The number of research stations in Antarctica continues to grow, even though some of them 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 it is calling for international cooperation as an alternative. Based partly on the proven success of existing cooperation, the Netherlands will explore opportunities for

seeking collaboration with countries such as Chile and Uruguay in the coming years, two countries that are important to the Netherlands in the context of Antarctica.



Dirck Gerritsz Laboratory, British Antarctic Survey – NWO.
Photo: Dutch Polar Programme, NWO

The Netherlands collaborates with other countries through international forums active in Antarctica, such as the Scientific Committee on Antarctic Research (SCAR), the Scientific Committee on CCAMLR (SC-CAMLR) and the Council of Managers of National Antarctic Programs (COMNAP). NWO, which is also a member of the European Polar Board (EPB), hosted the EPB Secretariat in The Hague from 2015 to 2024. The EPB is concerned with matters such as international cooperation, access to polar infrastructure and minimising the environmental and climate impact of research in places such as the Antarctic region.

Dutch research institutes also participate in the European Union's research and innovation programme, Horizon Europe. This programme is important in that it helps to facilitate international scientific collaboration in respect of Antarctica, which allows data to be exchanged between participating countries, infrastructure to be shared and the impact of developments in Antarctica on Europe to be better understood.

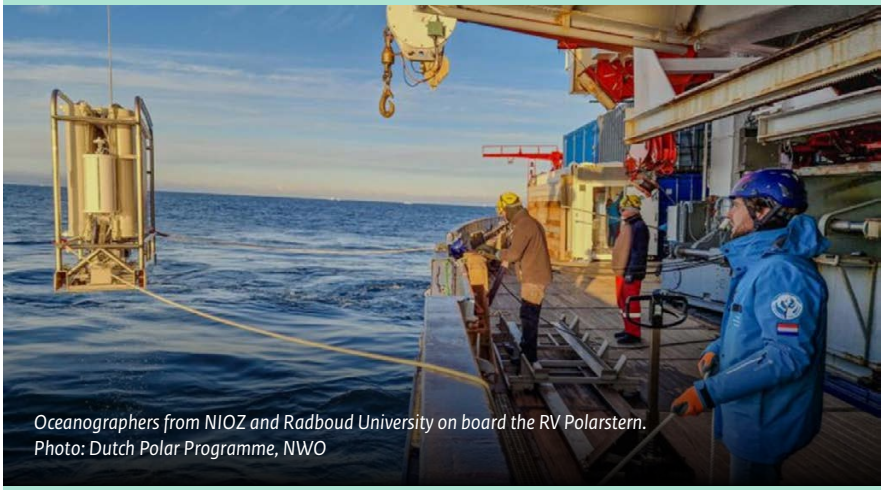
The coming years will be characterised by the run-up to the International Polar Year (IPY-5) in 2032-33.[21] In addition, through a call for proposals, the Netherlands is joining the large-scale Antarctica InSync initiative[22] to synchronise international research across Antarctica and the Southern Ocean, connecting ice, ocean, climate and ecosystems.

Dutch Antarctic research in focus

The Antarctic region has a direct impact on coastal protection in the Netherlands by way of glacier melt, which will cause sea levels to rise. Through large-scale projects such as HiRISE[23] and 'Evolution of the Larsen C firn layer', the Netherlands is studying the vulnerability of Antarctica's glaciers in a warming climate, and is developing scenarios for the sea-level rise that will occur in the coming decades and for which the Netherlands must make timely preparations. The knowledge required for this is gathered through a combination of field work in Antarctica, meteorological

[21] See 4.2 of part I (the Arctic region).
[22] https://www.antarctica-insync.org.
[23] https://www.nwo.nl/en/projects/ocenwgroot2019091

observation, satellite imagery and computer models, providing greater insight into the way in which glaciers and ice sheets disintegrate and what this means in the long term for sea levels along the Dutch coast.



Oceanographers from NIOZ and Radboud University on board the RV Polarstern. Photo: Dutch Polar Programme, NWO

The Netherlands

- will continue to support **scientific polar research in Antarctica** through the Dutch Polar Programme;
- is also committed to investigating **Antarctica's role in the climate system**, specifically in sea-level rise, as well as supporting ongoing research into the development and impact of tourism, and jointly monitoring the impact of climate change, loss of biodiversity and pollution in Antarctica;
- will monitor developments closely in a rapidly changing geopolitical and policy-related context. Nevertheless, it is important for the Netherlands to safeguard and support wherever possible the advancement of **scientific knowledge in the long term**;
- attaches great importance to ensuring that, when research is conducted in Antarctica, **disruption to the ecosystem is kept to a minimum** and that the agreements enshrined in the Antarctic Treaty and the Environment Protocol are respected, and therefore strives wherever possible to foster international collaboration in research and promote such collaboration in the CEP and the ATCM;
- will also continue its efforts to **minimise the construction of new research facilities** and to support the application of the relevant agreements in the Treaty;
- will continue to **work closely with like-minded countries** such as the United Kingdom and explore new bilateral cooperation opportunities with, for example, Uruguay and Chile;
- plays an active part in **international initiatives** designed to stimulate polar research;
- will continue to actively contribute, for example through NWO and relevant knowledge institutes, to research and the exchange of knowledge and data in international research forums, the EU and the European Polar Board.



Part III

Photo: Renno Hokwerda

Implementation

1 Coordination of Dutch polar policy

Dutch polar policy has been coordinated in recent years by five ministries, brought together in the Interministerial Polar Committee (IPO):

- Ministry of Foreign Affairs;
- Ministry of Economic Affairs and Climate;
- Ministry of Infrastructure and Water Management;
- Ministry of Agriculture, Fisheries, Food Security and Nature;
- Ministry of Education, Culture and Science.

The review of the polar strategy for 2026-2030 also involved close collaboration with the Ministry of Defence.

As well as funding the Dutch Polar Programme (NPP – see below), the IPO manages a Polar Activities Programme (PAP), with support from the Netherlands Enterprise Agency (RVO). The PAP funds policy support activities that do not fall into the research category. One example of this is the representation of the Netherlands by polar experts in the Arctic Council's working groups. Researchers and organisations that see a need for policy-support activities in the context of the polar strategy are eligible to apply for PAP funding. Together with RVO, the IPO will then assess whether there is sufficient support and funding available.

2 Coordination of Dutch polar research

Dutch polar research focuses on both the Arctic region and Antarctica. It is coordinated by the Dutch Polar Programme (NPP)[1] and funded by the ministries in the IPO.[2] The NPP is administered by the Dutch Research Council (NWO) in collaboration with Dutch universities and research institutes.

The NPP is the only dedicated instrument in the Netherlands for investment in polar research projects. The quality and relevance of the programme is safeguarded by NWO assessment procedures and the support NOW provides to the NPP secretariat. Within the frameworks defined by NWO and the ministries concerned, the NPP's Programme Committee is responsible for drafting the NPP and overseeing its implementation.

In consultation with the ministries involved, NWO periodically sets out a programme for Dutch polar research under the NPP, describing the main themes of scientific polar research. These align with Dutch policy questions and polar research agendas at both national and European level. The NPP's new scientific strategy (2026-2031) will be issued in 2026.

The NPP is currently working on a programme that focuses on investigating the relationship between climate change, biodiversity loss and pollution in the polar regions. The programme, which will be launched in 2026 under the name 'Triple Planetary Crisis in the Polar Regions' (TRI-POLAR), will use scientific research to develop sustainable and mitigating policy-support insights into climate change, biodiversity and pollution on behalf of the Netherlands, the polar regions and the international community.

Diversity and inclusion

The Netherlands attaches great importance to the social and physical safety of researchers, including those working at remote locations in the polar regions. It is therefore essential

[1] https://www.nwo.nl/en/researchprogrammes/netherlands-polar-programme.
[2] An annual sum totalling €4,167,000.

that robust structures are in place at such locations to ensure the safety of every researcher, regardless of their gender, ethnic origin or sexual orientation. NWO plays a key role in this respect.[3]

The Netherlands also underlines the importance of diversity and inclusion in polar research on an international front and therefore welcomes initiatives such as Polar Pride, which was organised for the first time in 2020. The Netherlands considers it important to promote diversity and inclusion in research and education and has set out its ambitions on this front in a national action plan. A learning and working environment in which everyone can flourish and where diversity in people as well as research content is guaranteed ensures the highest possible quality of research.[4]

Communication

Science communication plays a key role in connecting polar research, polar policy, society and the private sector. It gives people an understanding of these remarkable regions and how they are connected to the Netherlands, helps them to 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. There is therefore a permanent focus on funding science communication initiatives, with a particular emphasis on engaging young people. Where possible, collaboration will be sought with partners with relevant expertise in this field, such as NEMO Science Museum, Museon-Omniversum, National Research Agenda science communication campaigns and the Dutch Association of Polar Early Career Scientists (APECS Netherlands).

3 Issue and enforcement of permits (Protection of Antarctica Act)

Issuing permits under the Protection of Antarctica Act (*Wet bescherming Antarctica*, see page 56) is the responsibility of Rijkswaterstaat, while the Human Environment and Transport Inspectorate (ILT) is responsible for enforcing the law. The precautionary principle, as enshrined in the Protection of Antarctica Act, the policy principles set out in this strategy and the international agreements made in the ATCM form the basis for assessing permit applications for activities in Antarctica. This is explained in the assessment framework available on the Rijkswaterstaat website.[5] From the perspective of the precautionary principle, consideration will also be given to whether activities will have no more than a minor or transitory impact on the Antarctic environment and the region's wilderness values, taking into account the cumulative effects of such activities. Another key principle is to assess, in line with international ATCM agreements (including Resolutions), whether the activities contribute to education and awareness in respect of the Antarctic environment. This will mean considering whether a particular activity is specifically connected to Antarctica or whether it could take place elsewhere. Information on permits issued by the Netherlands for planned and implemented activities in Antarctica is submitted to the Secretariat of the Antarctic Treaty twice a year.

[3] https://www.nwo.nl/en/diversity-and-inclusion.
[4] Parliamentary Papers II 2019/20, 29338, no. 220.
[5] https://open.rijkswaterstaat.nl/publish/pages/204097/2024_toetsingskaderwba_december_2024.pdf (in Dutch).

Abbreviations

ACAP	Arctic Contaminants Action Program (Arctic Council)
AMAP	Arctic Monitoring and Assessment Programme (Arctic Council)
AMBI	Arctic Migratory Birds Initiative
AMOC	Atlantic Meridional Overturning Circulation
ASOC	Antarctic and Southern Ocean Coalition
ATCM	Antarctic Treaty Consultative Meeting
BBNJ	Agreement under the United Nations Convention on the Law of the Sea on the Conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction
CAFF	Conservation of Arctic Flora and Fauna (Arctic Council)
CAOFA	Central Arctic Ocean Fisheries Agreement
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCAS	Convention for the Conservation of Antarctic Seals
CEP	Committee for Environmental Protection
CLCS	Commission on the Limits of the Continental Shelf
COMNAP	Council of Managers of National Antarctic Programs
CO_2	Carbon dioxide
DDA	Concept for Deterrence and Defence of the Euro-Atlantic Area (NATO)
DDT	Dichlorodiphenyltrichloroethane
EEZ	Exclusive economic zone
EIA	Environmental impact assessment
EPB	European Polar Board
EPPR	Emergency Prevention, Preparedness and Response (Arctic Council)
ESA	European Space Agency
GOOS	Global Ocean Observing System
HCB	Hexachlorobenzene
(H)CFCs	(Hydro)chlorofluorocarbons
IAATO	International Association of Antarctica Tour Operators
IASC	International Arctic Science Committee
ICRW	International Convention on the Regulation of Whaling
ILT	Human Environment and Transport Inspectorate
IMO	International Maritime Organisation
IOC	Intergovernmental Oceanographic Commission
IPO	Interministerial Polar Committee
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
IUCN	International Union for Conservation of Nature
JEF	Joint Expeditionary Force
JPI Oceans	Joint Programming Initiative Healthy and Productive Seas and Oceans
NASA	National Aeronautics and Space Administration (United States)
NATO	North Atlantic Treaty Organisation
NOAA	National Oceanic and Atmospheric Administration
NORAD	North American Aerospace Defense Command
NPP	Dutch Polar Programme
NSR	Northern Sea Route
NWO	Dutch Research Council
OECD	Organisation for Economic Cooperation and Development
OSPAR	Oslo-Paris Agreement
OSNAP	Overturning in the Subpolar North Atlantic Program
PAHs	Polycyclic aromatic hydrocarbons
PAP	Polar Activities Programme

PBDEs	Polybrominated diphenyl ethers
PCBs	Polychlorinated biphenyls
PFCs	Perfluorocarbons
PNT	Positioning, navigation and timing
POPs	Persistent organic pollutants
PSSAs	Particularly sensitive sea areas
RBC	Responsible business conduct
RVO	Netherlands Enterprise Agency
RWS	Rijkswaterstaat
SACEUR	Supreme Allied Commander Europe (NATO)
SAI	Stratospheric aerosol injection
SCAR	Scientific Committee on Antarctic Research
SC-CAMLR	Scientific Committee on CCAMLR
SDWG	Sustainable Development Working Group (Arctic Council)
SNMG1	Standing NATO Maritime Group 1
SRM	Solar radiation modification
TRI-POLAR	Triple Planetary Crisis in the Polar Regions (NWO call)
UNCLOS	United Nations Convention on the Law of the Sea
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
WBA	Protection of Antarctica Act *(Wet Bescherming Antarctica)*
WWF	World Wide Fund for Nature



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