India and itd Arctic relation

Published On: 21-12-2023

Why is in news? India set to man its Arctic base around the year with new expedition

Himadri, India's Arctic Research Station at Ny-Ålesund in the Norwegian archipelago of Svalbard in the Arctic Ocean, will **now remain operational throughout the year**. On December 18 India **sent off its first winter expedition**, comprising four scientists from four different institutions, to Himadri.

About the expedition:

The winter expedition by four scientists from the Indian Institute of Tropical Meteorology, Pune, IIT-Mandi, Raman Research Institute, Bengaluru, and National Centre for Polar and Ocean Research, Goa, the nodal agency for India's polar explorations, will last until January 15, 2024.

The research areas will include **atmospheric sciences, astronomy, astrophysics, and climate studies**.

Scientists will **study lightning over the Arctic in winter**, the role of precipitation in climate change, characterisation of radio frequency environment, and the role of aerosols on climate change.

Himadri has been equipped for observations during polar nights (that last longer than 24 hours), and supplied with special winter gear, transport, and logistics support from Norwegian agencies.

Bases in the Arctic:

At least **10 countries have set up permanent facilities** at the International Arctic Research base in **Ny-Ålesund**, a small town above the 78th parallel N, about 1,200 km from the North Pole.

The Svalbard group of islands is the closest human habitation to the North Pole.

The mean temperature in Ny-Ålesund in February, the coldest month, is minus 14 degree Celsius, and that in July, the warmest, is 5 degree Celsius.

Due to the extreme cold, taking scientific observations or sampling has **remained largely limited to the summer** months.

India will join a small group of countries that operate their Arctic research bases through the winter.

Arctic research:

The polar regions, Arctic and Antarctica, offer pristine environments for scientists to study a range of natural phenomena for atmospheric, oceanic, biological, geological, glaciological and earth sciences research. In recent years, climate change research has been attracting scientists to the Arctic region.

Research stations of **atleast 11 countires**, including India, Ny-Ålesund, Svalbard region of Norway.

The area **above the Arctic Circle**, north of latitude 66° 34’ N, is part of eight countries — Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the US — who make up the **Arctic Council**, **plus the Arctic Ocean.**

Scientific research in the Arctic region is governed by international legal instruments like the **Svalbard Treaty of 1920** and the **UN Convention on the Law of the Seas**, apart from the individual jurisdictions of the Arctic countries.

Arctic Council:

The Arctic Council is the **leading intergovernmental forum** promoting cooperation, coordination and interaction among the Arctic States, Arctic indigenous communities and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic.

The Arctic Council works as a **consensus-based body** to deal with issues such as the change in biodiversity, melting sea ice, plastic pollution and black carbon.

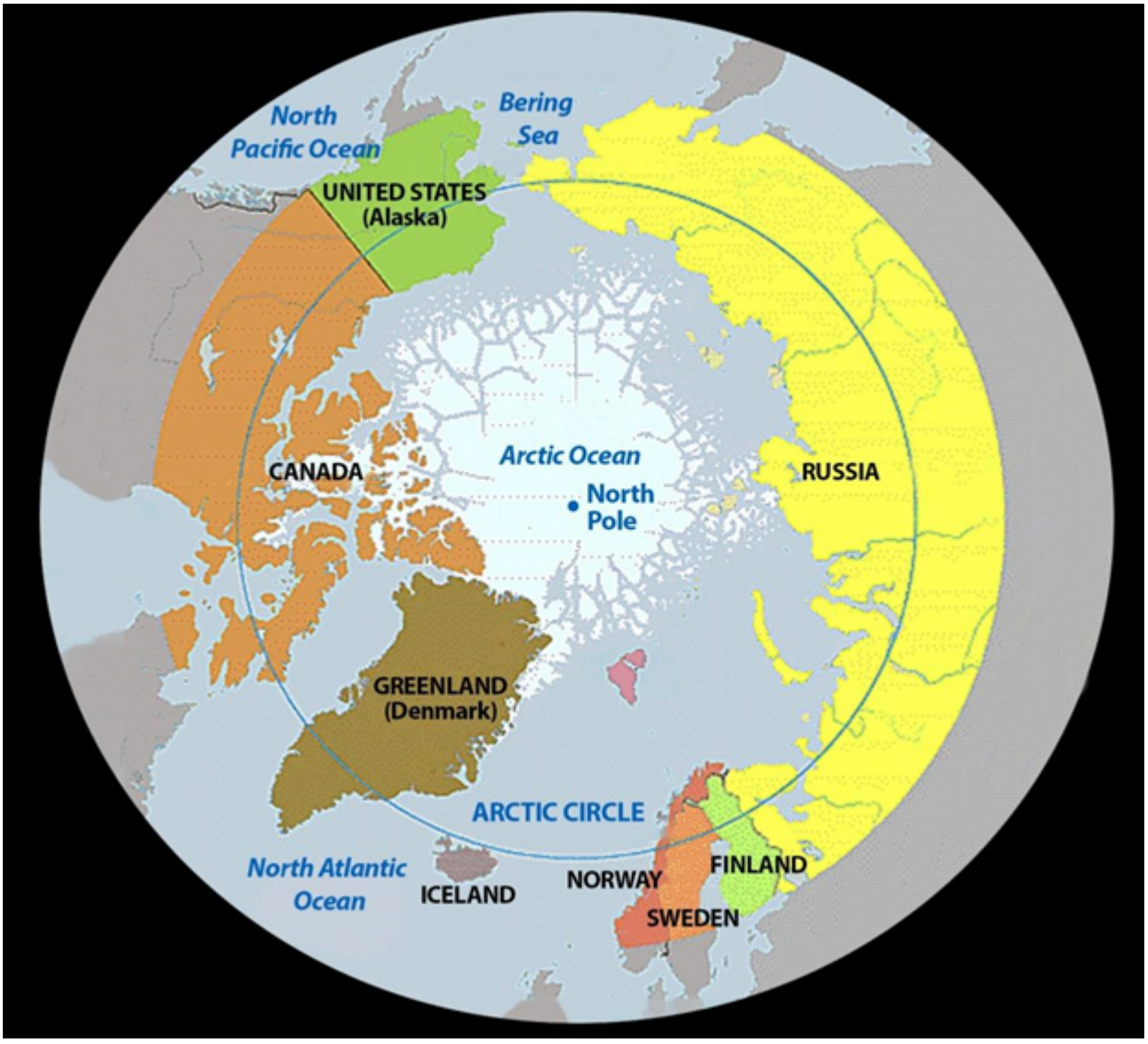
The Council is a high-level intergovernmental body, was **established by the eight Arctic States** — the countries whose territories fall in the Arctic region — through the **Ottawa Declaration of 1996**.

It aims to **promote cooperation, coordination and interaction among the Arctic States** together with the indigenous communities and other Arctic inhabitants.

The Council has the **eight circumpolar countries** as member states and is **mandated to protect the Arctic environment and promote the economies and social and cultural well-being** of the indigenous people whose organizations are permanent participants in the council.

The standing **Arctic Council Secretariat** formally became operational in 2013 in **Tromsø, Norway**.

The Council has members, ad hoc observer countries and “permanent participants“



The **eight Arctic States** — Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States — are the only members of the Arctic Council.

The **Observer status** is **open to non-Arctic states** along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations that the Council determines can contribute to its work. It is approved by the Council at the Ministerial Meetings that occur once every two years

The Council is **not a treaty-based international legal entity** like the UN bodies or trade, military or regional groupings like WTO, NATO or ASEAN.

It is **only an intergovernmental 'forum'** to promote cooperation in regulating the activities in the Arctic region. It is much more informal grouping.

The Council **does not have any member from the Global South**, though some, including India, have observer status.

The active involvement of India as a member of the Arctic Council to **voice the concerns of the Global South** could help push for an end to further exploitation.

The suspension of the Council due to the Russian invasion of Ukraine has made it more difficult to hold countries accountable and to monitor wider activity contributing to changes in the Arctic.

Impact of warming:

Temperatures in the Arctic region have **risen by about 4 degree Celsius** on average **over the last 100 years**; **2023 was the warmest year on record**.

The extent of Arctic sea-ice has been **declining at the rate of 13 per cent/ decade**, according to the Intergovernmental Panel on Climate Change. At this rate, the Arctic could become ice-free in less than 20 years.

The melting sea ice can have global impacts reaching beyond the Arctic region.

Rising sea levels can influence atmospheric circulation. An **increase in tropical sea surface temperatures** could lead to increased precipitation in the tropics, a **shift in the Inter Tropical Convergence Zone**, and high chances of an increase in extreme rainfall events.

On the other hand, **milder weather due to global warming** could make the Arctic a **more habitable and a less hostile** place.

There could be a **rush to explore and exploit the Arctic's resources**, including its minerals, and countries will seek to control trade, navigation and other strategic sectors in the region.

India in the Arctic:

India has had a **long relationship with the Arctic**, having been one of the original High Contracting Parties to the **Svalbard (previously Spitsbergen) Treaty** in February 1920.

India, along with 12 other countries, is Observers to the Arctic Council. So are 13 intergovernmental and inter-parliamentary organisations like the UN Environment Programme, and the UN Development Programme, and 12 other non-governmental organisations.

The Observer status is granted to entities that **support the objectives of the Arctic Council**, and have demonstrated capabilities in this regard, including the ability to make financial contributions.

India had been given the Observer status in 2013, along with five other countries — China, Italy, Japan, South Korea, and Singapore.

India is **one of the very few countries to set up a permanent station in the Arctic** for the purposes of scientific research. The polar regions offer some unique opportunities to carry out research related to atmospheric and climate sciences that cannot be done anywhere else.

The **Himadri research station**, located in Ny Alesund, Svalbard in Norway, about 1200 km south of the North Pole, was started **in July 2008**.

The **Goa-based National Centre for Antarctic and Ocean Research (NCOAR)** is the nodal organisation coordinating the research activities at this station.

The station has been **used to carry out a variety of biological, glaciological and atmospheric and climate sciences research projects** in the last one decade, with over 200 scientists from a number of institutions, universities and laboratories having accessed the facilities at the station.

Himadri came on the back of India's three-decade experience of carrying out scientific research in the polar regions of Antarctica which began in 1981. India's **first permanent station in Antarctica** was set up way back in 1983.

In 2010, Indian scientists **undertook a scientific expedition to the South Pole** as well. India is now **among the very few countries** which have **multiple research stations in the Antarctic**.

IndARC, India's **first moored-underwater observatory**, was deployed in the Kongsfjorden fjord, Svalbard, in 2014 to study the influence of changes in the Arctic Ocean on tropical processes such as the monsoons.

India has been **closely following the developments in the Arctic region** in the light of the new opportunities and challenges emerging for the international community due to global warming induced melting of Arctic's ice cap.

The **Arctic region is very rich in some minerals, and oil and gas**. With some parts of the Arctic melting due to global warming, the region **also opens up the possibility of new shipping routes** that can reduce existing distances.

Countries which already have ongoing activities in the Arctic hope to have a stake in the commercial exploitation of natural resources present in the region.

The Government of India published **India's Arctic Policy** titled "India's Arctic Policy: Building a Partnership for Sustainable Development" in March 2022.

India's ability to traverse historical divides and develop aligned positions among the Global North and Global South, as evidenced **at the G20 Summit**, holds the **potential to forge a united approach to safeguarding crucial global ecosystems, especially the Arctic.**

The New Delhi Leader's Declaration **demonstrated India's ability** to navigate the conflicting interests of the Global North and the Global South.

India has a **further opportunity to exercise this bridge-building capacity** at its proposed virtual G20 Summit in November, where it can raise the Arctic as part of a constructive conversation on climate governance.

This capacity to generate unanimity will be needed to reform Arctic governance and protect the climate.

As **India takes greater steps towards leading the Global South**, its post-G20 future should involve pushing for these reforms and ensuring that climate protection is at the **forefront of global Arctic policymaking**.

Benefits for India:

India's interests in the Arctic are **scientific, environmental, economic as well as strategic**.

India believes that any human activity in the fragile region should be sustainable, responsible and transparent, based on respect for international laws, including UNCLOS.

Melting Arctic ice also opens up new opportunities like energy exploration, mining, food security, and shipping.

India is the **third-largest energy-consuming** country in the world, the third-largest oil importer (83 per cent) and the fourth-largest importer of gas which caters to almost half of the total gas consumption.

India's gas mix in the energy basket amounts to only 6 per cent, which is among the lowest in the world, compared to the world average of 24 per cent. This is targeted to be scaled up to 15 per cent by 2030.

The Arctic can therefore potentially **address India's energy security needs and deficiency of strategic and rare earth minerals.**

Challenges:

The vulnerability of the Arctic to **unprecedented changes in the climate** is manifested by the loss of sea ice, ice caps, and warming of the ocean and atmosphere.

It will lead to **lowering of salinity levels**, **rising temperature** differential between land and oceans in the tropical regions, drying of subtropical areas and **increase in precipitation at higher latitudes**.

India is particularly impacted due to the likely effect of these changes on critical aspects of national development such as economic security, water security and sustainability, weather conditions and monsoon patterns, coastal erosion and glacial melting.

The Covid-19 pandemic has exposed the scale of disruption that can be caused by pathogens. The **thawing of permafrost soil** as a result of global warming could also potentially release viruses and bacteria that have been dormant for thousands of years, thereby increasing the probability of pandemics.

Other challenges: Inadequate Funding, Lack of an Articulated Policy, Awareness and Capacity