

National Centre for Polar and Ocean Research (NCPOR)

NCPOR is an important government institution engaged in research and development. It is important to know the functions of vital research institutions and the latest developments in science and technology for the [UPSC exam](#). In this article, you can read all about the NCPOR for the IAS exam.

NCPOR

The National Centre for Polar and Ocean Research (NCPOR) is an important R&D institution **under the Ministry of Earth Sciences**.

- It conducts research in the Polar and Antarctic Ocean (Southern or Austral Ocean) realms.
- It was previously known as the National Centre for Antarctic and Ocean Research (NCAOR).
- It was established as an autonomous R&D body in 1998. It is located in Goa.
- It is the nodal agency for coordinating and implementing India's Antarctic programme.
- It also maintains India's permanent stations in Antarctica, Maitri and Bharati, and also the research base in the Arctic, Himadri.

Get the [list of space centres and space agencies in India](#) in the linked article.

NCPOR Mandate

The Centre has a multi-dimensional mandate as mentioned below.

- To play a leadership role in research in polar and ocean sciences.
- To lead in the geoscientific surveys of India's [Exclusive Economic Zones \(EEZs\)](#) and the continental shelf, deep-sea drilling in the Arabian Sea basin, exploring the ocean for gas hydrates and multi-metal sulphides, and other non-living resources under the International Ocean Discovery Program (IODP).
- Facilitating research being undertaken by other institutions and organisations in Antarctica, the Arctic & the Indian Ocean segment of the Southern Ocean.
- Managing and implementing all scientific and logistical activities of the annual Indian expeditions to the Arctic, Antarctic and Southern Oceans.
- Managing and maintaining the research stations, Maitri, Bharati and Himadri.
- Managing the Earth Sciences Ministry's vessels including ORV Sagar Kanya.

Learn about [India's Deep Ocean Mission](#) in the linked article.

Indian Antarctic Program

The Indian Antarctic Program is a scientific research and exploration program under the NCPOR.

- It started in 1981 when the first Indian expedition to Antarctica was made.
- This program gained worldwide acceptance after India signed the Antarctic Treaty in 1983. Know more about the Antarctic Treaty in [PIB dated Jan 8, 2020](#).
- In 1983, India constructed its first Antarctic research base named **Dakshin Gangotri** (after the Dakshin Gangotri glacier).
 - It is located 2500 km from the South Pole.
 - It was abandoned after being submerged in ice in 1988 - 89 and decommissioned in 1990.
 - Currently, it is being used as a supply base and transit camp.

- Dakshin Gangotri was superseded by India's second research base in Antarctica named **Maitri**, which was built in 1989.
 - Maitri is on the Schirmacher Oasis.
 - It engages in research in the fields of earth sciences, biology, glaciology, meteorology, atmospheric sciences, communication, cold region engineering, medicine and human physiology.
 - It sources fresh water from a freshwater lake named Lake Priyadarshini nearby. The lake has been named after former PM Indira Gandhi. The lake is situated in the Schirmacher Oasis, which has more than 100 freshwater lakes.
- **Bharati** is the third research station commissioned by India. It was established in 2012.
 - Its mandate is to conduct research in the areas of oceanography and continental break-up. It also focuses on understanding the geological history of the Indian subcontinent.
 - With Bharati, India is one of the nine countries to have more than one research base in the Antarctic Circle.
 - It is located near Larsmann Hill.
 - The communication is through dedicated satellite channels providing connectivity for voice, video and data with the Indian mainland.
- Bharati and Maitri are the two active Antarctic research stations India has.
- So far, India has conducted 40 expeditions to the Antarctic region.
 - The members of the expedition are selected by the NCPOR and the Department of Ocean Development.
 - The selected people undergo intensive acclimatization training in the Himalayas after the required medical evaluation.
 - They are also given training in survival, firefighting, environmental ethics and working in a group.
 - One expedition can cost up to Rs.200 million.
 - Logistic support is provided by the Indian armed forces.
- The program is bound by the provisions of the Antarctic Treaty System.

Himadri Research Station

Himadri is India's first research station in the Arctic. It is located in Spitsbergen, Svalbard, Norway. It is situated at the International Arctic Research base, Ny-Ålesund. It is 1200 km from the North Pole. functions of the station include fjord dynamics monitoring and atmospheric research. Himadri conducts research on space weather, aerosol radiation, microbial communities, food-web dynamics, sedimentology, carbon recycling and glaciers.

