

Schirmacher Oasis Nippon (Japan) India Coring (SONIC)

March 17, 2021

About SONIC

- It is an Indo-Japanese project that was initiated during 2019 to reconstruct the past-climate
- In 2019 India-Japan under the aegis of National Center for Polar and Ocean Research and National Institute of Polar Research signed an MoU to share and carry out R & D in Antarctica
- The first collaboration project SONIC was launched and executed in the Antarctic summer of 2019-1
- As part of it 15 sediment cores, ranging from 1 m to 8 m, were retrieved from various lakes of Schirmacher Oasis by the team for analysis
- A SONIC team of five scientists from the National Center for Polar and Ocean Research (NCPOR), Manipal Academy of Higher Education (MAHE), National Institute of Polar Research (NIPR), Chiba University and Shimane University returned to India after a successful 45-day operation during early summer of 2019 (November-December) at Maitri, Schirmacher Oasis.

Objective of SONIC

- To understand the ice sheet variability at the Schirmacher Oasis to examine East Antarctic Ice Sheet sensitivity and its response to glacial-interglacial cycles
- To assess the variability biological community through study of pigments and DNA
- To reconstruct the paleo-extant of the EAIS through cosmogenic dating of erratics, boulders and bedrock

Similar expeditions/Research in Antarctica by India

- As it collaborated with Japan, India also collaborated with Norway in Antarctic Research
- A major Indo-Norwegian collaborative field campaign, near Indian Maitri station, was undertaken during 2016–2019 to understand the ice shelf dynamics, mass balance and reconstruct past changes in atmospheric and sea ice dynamics under the joint project “Mass balance, dynamics, and climate of the central Dronning Maud Land coast, East Antarctica (MADICE)”.
- Under this project, geophysical field measurements, ice core drilling, snow core drilling, ice-sheet modelling and satellite remote sensing-based studies were conducted to understand the future Antarctic contribution to the global sea-level rise.

National Centre for Polar and Ocean Research (NCPOR)

- It is India’s premier R&D institution responsible for the country’s research activities in the Polar and Southern Ocean realms.
- It was established as an autonomous Research and Development Institution of the Ministry of Earth Sciences (formerly Department of Ocean Development), Government of India on the 25th May
- NCPOR was formerly known as the National Centre for Antarctic and Ocean Research (NCAOR) & is situated in Vasco da Gama, Goa
- NCPOR is known for its participation in global experiments, hosting of international conferences and in the leadership of international committees concerned with Antarctic science.
- **At present, NCPOR is an agency working under the Ministry of Earth Sciences,** since 2006, by the notification of the President of India.

Mandate: Management and upkeep of the Indian Antarctic Research Bases “Maitri” and “Bharati”, and the Indian Arctic base “Himadri”