

Polar Science and Cryosphere Research (PACER) scheme

March 25, 2022

In news– The Polar Science and Cryosphere (PACER) scheme has been approved for continuation during 2021-2026.

About the PACER scheme-

- **The PACER scheme is implemented through National Centre for Polar and Ocean Research (NCPOR), an autonomous institute under the Ministry of Earth Sciences.**
- **Objective of the scheme** is to improve our understanding of Polar Science and the cryosphere system.
- **PACER encompasses the following six components.**
 1. Construction of a polar research vessel.
 2. Construction of the third research base in Antarctica.
 3. Indian scientific endeavours in the Arctic.
 4. Polar expeditions-Antarctica.
 5. Replacement of Maitri station.
 6. Southern Ocean.
- **It is one of the five major programs of MoES, other four are:**
 1. Atmosphere and Climate Research – Modelling, Observing Systems and Services (ACROSS).
 2. Ocean Services, Technology, Observations, Resources, Modelling and Science (OSTORMS).
 3. Seismology and Geosciences (SAGE).
 4. Research, Education, Outreach and Training (REACHOUT).
- India launched the first of her Annual Scientific Expeditions to Antarctica way back in 1981.

- This was followed by the country's successful entry to the realms of Southern Ocean research in 2004 and the Arctic, three years later.
- To cater to the requirements of the Indian scientists in both the polar regions, **two stations (Maitri and Himadri)** have been established to serve as living-cum-research bases in the Antarctic and Arctic respectively.

Achievements of the scheme-

- Under this scheme, the Ministry of Earth Sciences has **deployed India's first multi-sensor moored sub-surface observatory (IndARC) at a water depth of ~180m in the Arctic.**
- **The IndARC mooring system along with the Hydrophone system was successfully retrieved** and deployed in Kongsfjorden, Svalbard.
- It also established a **high altitude research station in Himalaya called HIMANSH at a remote region in Spiti, Himachal Pradesh.**
- Differential Global Positioning System (DGPS) and Ground Penetrating Radar (GPR) surveys were conducted.
- Two **new Automatic Weather Station (AWS) systems were installed at Baralacha La,** a high elevation site in the arid Spiti region to strengthen infrastructure across the Chandra basin.