



**National Centre for Polar & Ocean Research**  
(Ministry of Earth Sciences, Govt. of India)  
Headland Sada, Vasco-da-Gama, Goa - 403 804



**Invites Nominations from Scientists/Researchers for forthcoming IODP expedition**

IODP-India invites nominations in a prescribed format along with detailed bio-data and research experience, from geoscientists/researchers working in established national institutions/organizations and universities, to participate in the forthcoming International Ocean Discovery Program (IODP) **Expedition 403: Eastern Fram Strait Paleo-Archive**. NCPOR will provide the requisite financial support to the selected candidates towards their participation in the said expedition. However, it will be the responsibility of the candidates to obtain the necessary Visas / permissions from the countries of embarkation and disembarkation on their own. A scientific plan is mandatory for a successful nomination.

Further details and format can be obtained at [www.ncpor.res.in](http://www.ncpor.res.in) or by email to [iodp.india@ncpor.res.in](mailto:iodp.india@ncpor.res.in)

**Last date by which IODP- India/NCPOR receives nominations for Expedition 403: 1<sup>st</sup> March 2023**

For and on behalf of NCPOR  
Group Director (IODP-India)

Complete nominations may kindly be emailed to [iodp.india@ncpor.res.in](mailto:iodp.india@ncpor.res.in)

Information on forthcoming IODP Expedition:

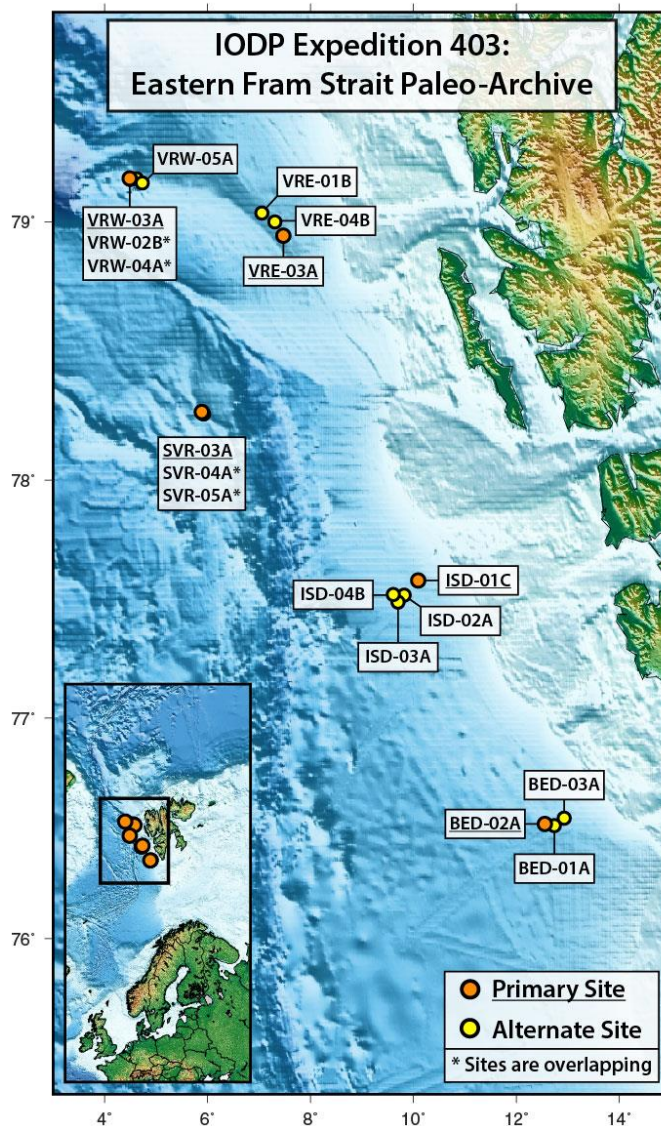
**Expedition 403: Eastern Fram Strait Paleo-Archive (4 June to 2 August 2024)**

The North Atlantic and Arctic Oceans are major players in the climatic evolution of the Northern Hemisphere and in the history of meridional overturning circulation of the Atlantic Ocean. The establishment of modern North Atlantic water has been identified as one of the main forcing mechanisms for the onset of the Northern Hemisphere glaciation. Many uncertainties remain about the establishment, evolution, and role of the northern North Atlantic-Arctic Ocean circulation in relation to the opening of the Fram Strait, and its impact on the Earth's global climate during major climatic transitions that have occurred since the Late Miocene. Understanding system interactions between ocean currents and the cryosphere under changing insulation and CO<sub>2</sub> conditions of the past is particularly important for ground truthing climate models. The reconstruction of the paleo Svalbard-Barents Sea Ice Sheet (SBSIS) is critical as it is considered the best available analogue to the West Antarctic Ice Sheet, whose loss of stability is presently the major uncertainty in projecting global sea level in response to present-day global climate warming induced by rapidly increasing atmospheric CO<sub>2</sub> content. Reconstructing the dynamic history of the western margin of Svalbard and eastern side of the Fram Strait at the gateway to the Arctic is key to understanding the linkage between atmospheric CO<sub>2</sub> concentration, ocean dynamics, and cryosphere as main drivers of climate changes.

The key scientific objectives of Expedition 403 are:

- (1) the development of a high-resolution chronostratigraphic record of the Late Miocene-Quaternary;
- (2) the generation of multi-proxy data sets to better constrain the forcing mechanisms responsible for Late Miocene to Quaternary climatic transitions;
- (3) the identification of orbital, sub-orbital, millennial scale climate variations such as Heinrich events and possible associated meltwater;
- (4) the evaluation of impacts and feedbacks involving past sediment-laden prominent meltwater events on water masses properties, ocean circulation, ice sheet instability, slope stability, and biota;
- (5) the reconstruction of paleo SBSIS dynamic history in relation to changes in the ocean current pathways and characteristics as mechanisms inducing ice sheet instability and fast retreat;
- (6) the study of glacial and tectonic stresses and their effect on near-surface deformation and Earth systems dynamics; and

(7) the linkages between large-scale environmental changes and microbial population variability. These objectives will be accomplished through coring and borehole logging multiple holes at five sediment drift sites to create a composite stratigraphy.



The full proposal and addendum describing the primary drill sites, as well as up-to-date expedition information, can be found on the Expedition 403 webpage

[https://iodp.tamu.edu/scienceops/expeditions/eastern\\_fram\\_strait\\_paleo\\_archive.html](https://iodp.tamu.edu/scienceops/expeditions/eastern_fram_strait_paleo_archive.html)

#### Important Notes:

1. For more information on IODP Expedition 403 please visit [www.iodp.org](http://www.iodp.org) and use the link [iodp.tamu.edu/scienceops/](http://iodp.tamu.edu/scienceops/).
2. Applications in prescribed format available on the website [www.ncpor.res.in](http://www.ncpor.res.in) shall be considered.
3. **Last date by which IODP- India/ NCPOR receives nomination for IODP Expedition 403: 1<sup>st</sup> March 2023**
4. A scientific plan is mandatory for a successful nomination. Once nominated candidates will have to submit a detailed science plan along with sample data request which may also form a basis for collaborative research programs between their host organization and NCPOR.