



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 401: Mediterranean – Atlantic Gateway Exchange**. 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 or by email to iodp.india@ncpor.res.in

Last date (EXTENDED) by which IODP- India/NCPOR receives nominations for 401: 12th December, 2022

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

Complete nominations may kindly be emailed to iodp.india@ncpor.res.in

Information on forthcoming IODP Expedition:

Expedition 401 (Mediterranean – Atlantic Gateway Exchange.): 10 December 2023 to 9 February 2024

Marine gateways play a critical role in the exchange of water, heat, salt and nutrients between oceans and seas. The advection of dense waters helps drive global thermohaline circulation and, since the ocean is the largest of the rapidly exchanging CO₂ reservoirs, this advection also affects atmospheric carbon concentration. Changes in gateway geometry can therefore significantly alter both the pattern of global ocean circulation and associated heat transport and climate, as well as having a profound local impact. Today, the volume of dense water supplied by Atlantic-Mediterranean exchange through the Gibraltar Strait is amongst the largest in the global ocean. For the past five million years this overflow has generated a saline plume at intermediate depths in the Atlantic that deposits distinctive contouritic sediments in the Gulf of Cadiz and contributes to the formation of North Atlantic Deep Water. This single gateway configuration only developed in the early Pliocene. During the Miocene, a wide, open seaway linking the Mediterranean and Atlantic evolved into two narrow corridors: one in northern Morocco; the other in southern Spain. Formation of these corridors permitted Mediterranean salinity to rise and a new, distinct, dense water mass to form and overspill into the Atlantic for the first time. Further restriction and closure of these connections resulted in extreme salinity fluctuations in the Mediterranean, leading to the formation of the Messinian Salinity Crisis salt giant.

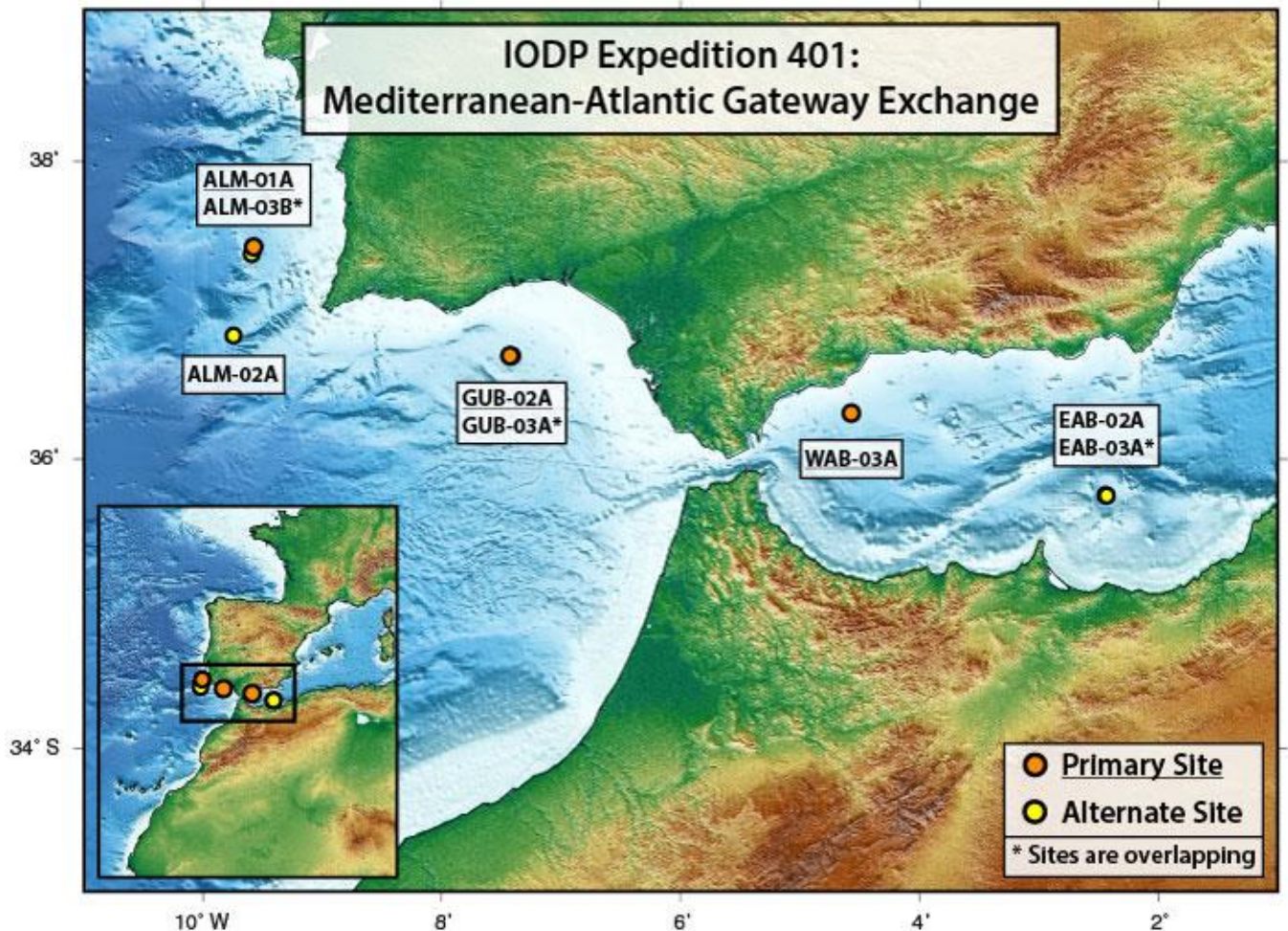
IODP Expedition 401 is one part of an amphibious drilling proposal that also includes coring on land as part of the International Continental Drilling Program (ICDP). The Investigating Miocene Mediterranean-Atlantic Gateway Exchange (IMAGE) drilling proposal is designed to recover a complete record of Atlantic-Mediterranean exchange from its Late Miocene inception to its current configuration. This will be achieved by coring Miocene offshore sediments and borehole logging at three sites on either side of the Gibraltar Strait during IODP Expedition 401 and from the two precursor connections now exposed on land in southern Spain and northern Morocco with ICDP.

IMAGE has three primary scientific objectives which will be met through drilling the three IODP holes during Expedition 401 and the two ICDP holes:

(1) To document the time at which the Atlantic first started to receive a distinct overflow from the Mediterranean and to evaluate quantitatively its role in Late Miocene global climate and regional environmental change.

(2) To recover a complete record of Atlantic-Mediterranean exchange before, during and after the Messinian Salinity Crisis and to evaluate the causes and consequences of this extreme oceanographic event, locally, regionally and globally.

(3) To test our quantitative understanding of the behavior of ocean plumes during the most extreme exchange in Earth's history.



The full proposal and addendum describing the primary drill sites, as well as up-to-date expedition information, can be found on the Expedition 401 webpage.

http://iodp.tamu.edu/scienceops/expeditions/mediterranean_atlantic_gateway_exchange.html

Important Notes:

1. For more information on IODP Expedition 401 please visit www.iodp.org and use the link iodp.tamu.edu/scienceops/
2. Applications in prescribed format available on the website www.ncpor.res.in shall be considered.
3. **Last date (EXTENDED) by which IODP- India/ NCPOR receives nomination for IODP Expedition 401: 12th December, 2022**
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.