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## ABSTRACT

The Ocean Biomolecular Observing Network (OBON) is a UN Ocean Decade-endorsed programme comprising multiple projects (24 currently endorsed and 3 completed) across all continents.

Within OBON, the Capacity Development Working Group focuses on strengthening global resources and networks to advance biomolecular ocean observations. The group brings together expertise from its members and their organisations to identify priorities, exchange best practices, and design targeted training initiatives.

Recent activities include a hands-on training for 13 African early career ocean professionals on environmental DNA (eDNA) during the Around Africa Expedition, and an ongoing webinar series to present progress of existing projects and introduce new additions to the network. To further support the community, a survey was launched to gather insights on existing online training programmes and the resources used for troubleshooting biomolecular techniques.

Looking ahead, the Working Group aims to consolidate training materials, best practices, and additional resources on the OBON website, creating a global hub to promote and support biomolecular observations worldwide.

## OBON is a UN Ocean Decade endorsed programme, led by POGO



2021  
2030  
United Nations Decade  
of Ocean Science  
for Sustainable Development



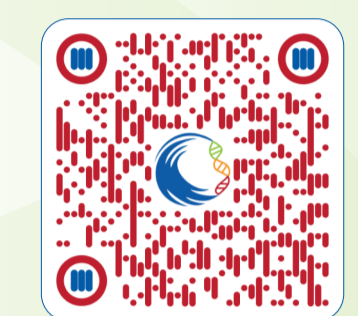
Partnership for  
Observation of the Global Ocean

## Current & Upcoming Activity

The OBON Newsletter is published quarterly, in February, May, August and November.

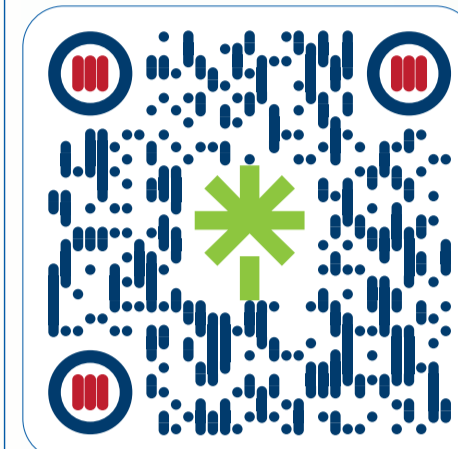


Join our mailing list to receive it directly to your in-box, or keep an eye on our social media channels (see below).



Check the Events Page on the OBON website for the most up-to-date information about upcoming activities.

## Further Information & Contact



Visit our Linktr.ee for social media accounts, web pages, newsletters and more...

<https://linktr.ee/obonocean>

## 1 Scaling Autonomous Integrated Global eDNA Observations (SAIGe) Collaboration with Minderoo Foundation

WP1 Global Fish Observatory (GFO)	WP2 Microgrants WESTPAC and OBON	WP3 eDNA Training Centre in Southeast Asia
Transformative and highly collaborative autonomous eDNA monitoring programme to inform the understanding of global fish diversity and distribution.	Microgrants of different sizes (5K - 50K) to accelerate eDNA monitoring projects, prioritising the WESTPAC region and projects endorsed by the UN Ocean Decade under OBON.  1st call - Dec 2025 2nd Call - May 2026	Capacity Development in Southeast Asia through the establishment of an eDNA training centre in Malaysia.
<b>WP4 Regional &amp; Global Networking</b>		
<b>WP5 SAIGe Project Management</b>		



The Scaling Autonomous Integrated Global eDNA Observations (SAIGe) Collaboration, supported by the Minderoo Foundation, is a three-pronged approach to accelerating innovation, capacity development, and large-scale biomolecular observations, with a strong focus on advancing biomolecular observations in the Western Pacific region.

## 2 Around Africa Expedition (POGO Shipboard training fellowship)

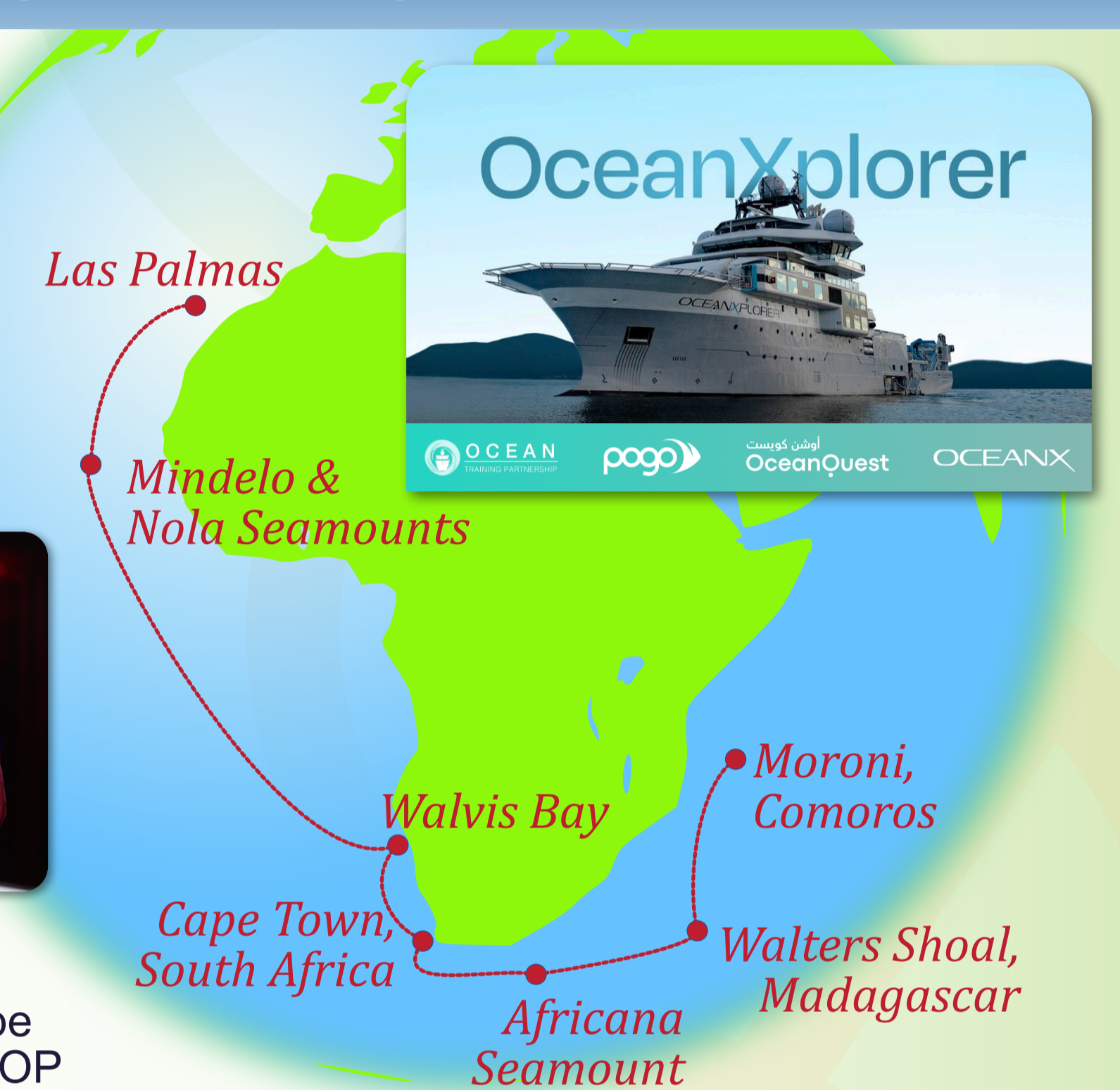
Participating in the OceanXplorer Fellowship Programme provided me with invaluable hands-on experience in deep-sea research and exploration. I was actively involved in various scientific activities including eDNA sampling, ROV operations, specimen metadata processing, and multibeam mapping.

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OBON was involved in the planning and delivery of eDNA-related shipboard training during Early Career Explorers Transit Missions on-board the OceanX research vessel OceanXplorer, in March-April 2025. The training was funded by OceanQuest and organised by POGO, OceanX, and OceanQuest. This consisted of 2 Science Legs (Comoros to Cape Town, and around Cabo Verde), a 3-week ECOP Training Leg (Namibia to Cabo Verde), and a 1-week ECOP Training Leg (Cabo Verde to Gran Canaria).

During the ECOP Training Legs, the trainees experienced science, media, and operations on board the vessel as part of an immersive curriculum. The trainees were introduced to general oceanography, laboratory skills, data analysis, eDNA, seabed mapping, ocean acidification, ocean optics, and storytelling. They then spent time working in small groups, and collected and analysed samples towards a project related to their own research. Six of these projects focused specifically on eDNA.



## 3 Online Survey on Training & Troubleshooting for Marine Biomolecular/eDNA

### Priority training needs

- Foundations of eDNA biomolecular research
- Sampling & metadata
- Contamination control
- Basic lab methods
- Standard bioinformatics pipelines

### Key Gaps identified

- Open, standardised protocols
- Central knowledge base / wiki
- Hands-on practical training (incl. at-sea experience)
- Regional capacity building (notably IOCARIIBE)
- Access to equipment & consumables
- Curated reference libraries

### Support for troubleshooting

- Peers
- Own labs
- GitHubs
- Stack Exchange
- Online Tutorials
- Informal Networks

### Recommended actions

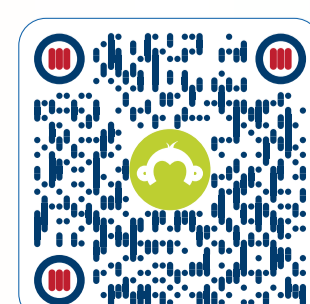
- Public wiki & protocol hub
- Cohort-based training pathway
- Online → hands-on; IOCARIIBE pilot)
- Lab exchange / visiting scheme
- Troubleshooting forum (eg Slack)
- Helpdesk
- Guidelines on data & metadata standardisation (to support cross-study comparability)

The OBON Capacity Development Working Group is committed to supporting the professional growth of researchers in the field of marine biomolecular and eDNA research.

A survey was conducted in 2025 to help better understand the training needs of the community, gathering insights on both the online training programmes currently available and the resources used for troubleshooting biomolecular techniques.

The initial feedback from 16 respondents is being used to identify gaps in existing training offerings and ensure that OBON's capacity-building initiatives are aligned with the needs and challenges faced by marine researchers.

Scan the QR code to [participate in the survey and provide your input](#) ⇨



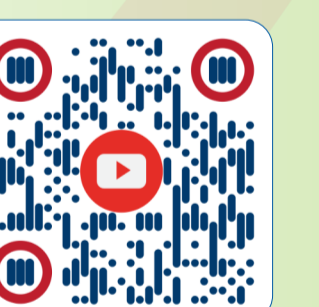
## 4 OBON Open Webinar Series: endorsed projects progress



The OBON Network Spotlight webinar series runs on a regular basis, featuring presentations from projects endorsed as Ocean Decade initiatives under the OBON Programme.

The webinars give viewers the opportunity to learn about the progress of existing projects and be introduced to newly endorsed ones.

All episodes are available on the OBON YouTube channel.



## 5 Leveraging Biomolecular Technologies for Supporting Sustainable Fisheries and Aquaculture - Workshop, FAO Rome, September 2025



### Global dialogue

39 participants  
20 countries

**Focus**  
eDNA & biomolecular tools for fisheries & aquaculture.

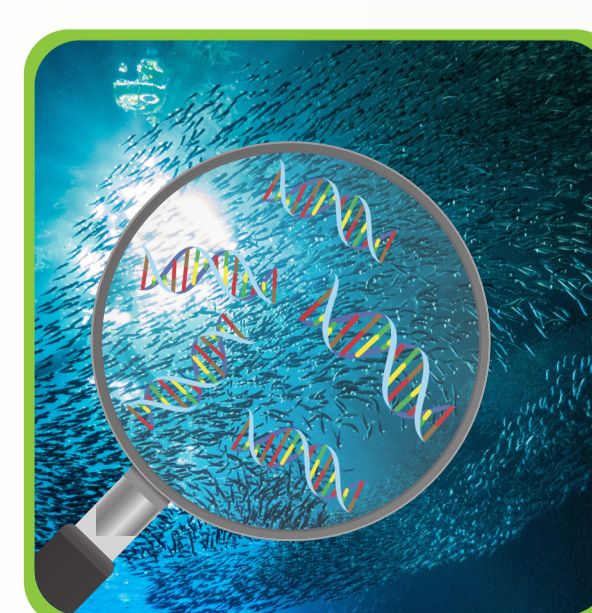
### Outcome

Strategy for bridging science and marine resources management needs and a community to implement it.



### Next steps:

Working groups establishment, case studies, capacity building and outreach.



In Sept 2025, OBON convened an international workshop at FAO Headquarters in Rome to explore how biomolecular technologies, such as eDNA, metabarcoding, and other 'omics tools, can be leveraged to support more sustainable and innovative fisheries and aquaculture management.

The event brought together 39 participants from 20 countries across Latin America, North America, Europe, Africa, Asia, and Oceania, uniting scientists and aquatic resource managers, in a shared mission to bridge biomolecular research and real-world fisheries management.



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