

# Med HAB Net

## The Mediterranean network of harmful algae experts

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# The Mediterranean sea

- Semi-enclosed basin bordered by 23 countries across north Africa, Europe and the Middle-East.
- It hosts 46 toxin-producing microalgal species harmful to humans and 29 ichthyotoxic species,
- Non-toxic algal blooms are also responsible for mucilage formation or water discoloration,
- In the context of climate change, the emergence of some harmful species and associated toxins in the Mediterranean is particularly alarming e.g. *Gambierdiscus* and *Ostreopsis*
- Tackling these issues demands strong and effective international collaboration among researchers studying HABs within this shared basin.
- Existing networks: HANA North Africa, ICES-IOC WGHABD, CIESM, RAMOGE... None address HABs and biotoxins at the Med scale



- Initiated by **Plan Bleu** and **UniCA**
- In alignment with the **Barcelona Convention**
- Launched in June 2024 with the support of IOC-UNESCO and FAO
- contacted HANA, Plan bleu focal points, IAEA TC participants, researchers etc
- **currently 46 members (started with 25) –**
- **28 Institutions**
- **17 countries (started with 13)**

# Shared needs and priorities were identified by the Network



**Objective:** provide a dynamic platform for

- fostering scientific exchanges
- facilitating data sharing and exchange of procedures
- promoting collaboration on joint projects and publications
- Assessing existing capacity and set up monitoring network

To improve the understanding of HAB occurrences and their impacts, establish early warning systems, and promote food safety, food security, and sustainable economies in Med countries.

# The operational framework

- Communication through **mailing list**
- **Bi-monthly meetings**
- **Formation sub-groups** -thematic or geographic (recognizing the differences in challenges between northern and southern Mediterranean regions).
- Rotating **leadership**
- Development of a **website**



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# Activities initiated and planned

## Information sharing / Joint publications

- **List of existing regulatory monitoring** –to be completed
- Consolidation of biotoxin data in mediterranean seafood (literature review and existing databases such as REPHYTOX, HAEDAT, RASSF) –*Metaanalysis publication ready for submission* (Plan Bleu, France, Slovenia, USA)
  - Maps, statistics and associated metadata will be shared and accessible on the Plan Bleu's Mediterranean Observatory on Environment and Sustainable Development –through MapX cartographic component of UNEP World Environment Situation Room (WESR).
  - Relevant event data will be uploaded on HAEDAT
- Link algal blooms and biotoxin occurrence in the Mediterranean –next analysis
- Journalistic review of HAB events in the Mediterranean Sea –led by P. Katikou (Greece)

# Activities initiated and planned

## • Article in HANn°78

### Med HAB Net: A new network addressing Harmful Algal Blooms in the Mediterranean

The Mediterranean Sea is a semi-enclosed basin bordered by 23 countries across north Africa, Europe and the Middle-East. It hosts 46 toxin-producing microalgal species harmful to humans and 29 ichthyotoxic species [1], posing significant challenges to the region's aquaculture sector. Non-toxic algal blooms are also responsible for mucilage formation or water discoloration, leading to considerable impacts on tourism, the largest sector of the marine economy along the Mediterranean Sea [1]. As demand for marine resources—driven by seafood production and tourism—continues to rise, the impact of harmful algal blooms (HABs) on human activities is expected to intensify. In the context of climate change, the emergence of some harmful species in the Mediterranean is particularly alarming. These include benthic species of the genera *Gambierdiscus* and *Ostreopsis* [2].

Tackling these issues demands strong and effective international collaboration among researchers studying HABs within this shared basin. In alignment with the Barcelona Convention, Plan Bleu – Regional Activity Center of the United Nations Environmental Program (UNEP) / Mediterranean Action Plan (MAP), in partnership with the University of Côte d'Azur, and with the support of the Intergovernmental Oceanographic Commission (IOC-UNESCO) and the Food and Agriculture Organization (FAO), initiated a project to establish a network of experts across the Mediterranean region: **Med HAB Net**.

**Med HAB Net** (Fig. 1) was launched in June 2024 and currently comprises 38 members from 17 countries (Fig. 2). Being a self-sustaining network, the members have been meeting remotely to establish its operational framework and identify shared needs and priorities. This network aims to provide a dynamic platform for fostering scientific exchanges, facilitating data sharing, and



Fig. 1. Med HAB Net logo.



Fig. 2. Med HAB Net, 38 members from 17 countries as of January 2025.

promoting collaboration on joint projects and publications.

By bringing together scientists from across the Mediterranean region, Med HAB Net seeks to enhance the understanding of HAB occurrences and their impacts, while supporting food safety, food security, and sustainable economies in Mediterranean countries.

If you are interested in joining this network, please contact the corresponding author:

#### References

1. *Holligan et al.* 2021. *Commun. Earth Environ.* 2:117. doi.org/10.1038/s43247-021-00179-0
2. *Zingone A et al.* 2021. *Harmful Algae* 102:101843. doi.org/10.1016/j.hal.2020.101843

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## HAEDAT: request from Med HAB Net for

- online training on data entry
- list of focal points and possibility to designate new ones
- Options to avoid duplicated effort (communication between national database and HAEDAT)

## Mediterranean One-health workshop (Plan Bleu).

Nice, fall 2025 in the framework of the 2025 UN Ocean Conference

Interact with other groups and networks (IOC TT, HANA, ICES-IOC WGHABD, IAEA, CIESM, RAMOGE )

# Sustainability of the Network

- Opportunities to become an IOC regional group ?

