

# Welcome to the XVII Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms

**UNESCO Headquarters, 18-20 March 2025**

# Opening by:

**Vidar Helgesen**

**Executive Secretary IOC and Assistant Director-  
General IOC UNESCO**

**Manuel Barange**

**Assistant Director-General and Director  
Fisheries and Aquaculture Division**

# OBJECTIVES OF THE INTERGOVERNMENTAL PANEL ON HARMFUL ALGAL BLOOMS

**Agenda item 1.1, (*Document IOC/IPHAB-IV/3*)**

***To foster the effective management of, and scientific research on, harmful algal blooms in order to understand their causes, predict their occurrences, and mitigate their effects***

# The IOC-FAO Intergovernmental Panel on Harmful Algal Blooms IPHAB

**established in 1992**

**to assess progress, decide on priorities, and identify funding or funding opportunities for implementation of the IOC HAB programme.**

**Document: IOC/IPHAB-V/3, Annex IV**

## COMPOSITION

The membership of the Panel is open to Member States of IOC which have declared to the Secretary IOC their involvement or intention to participate in the development and implementation of the Harmful Algal Bloom Programme on a global, regional, or national scale.

The Panel shall include the representatives of IOC regional and other subsidiary bodies, and of other interested international organizations, particularly SCOR.

Invitations to participate in Panel activities may be extended to scientific experts at the request of the Panel and with the approval of the Secretary of the IOC.

**Chair : Philipp HESS (France)**

**Vice-Chair: Maggie BROADWATER (USA)**

The Panel will, prior to the closure of each Session, elect from its members a Chairman who will serve in that capacity until the closure of the next Session.

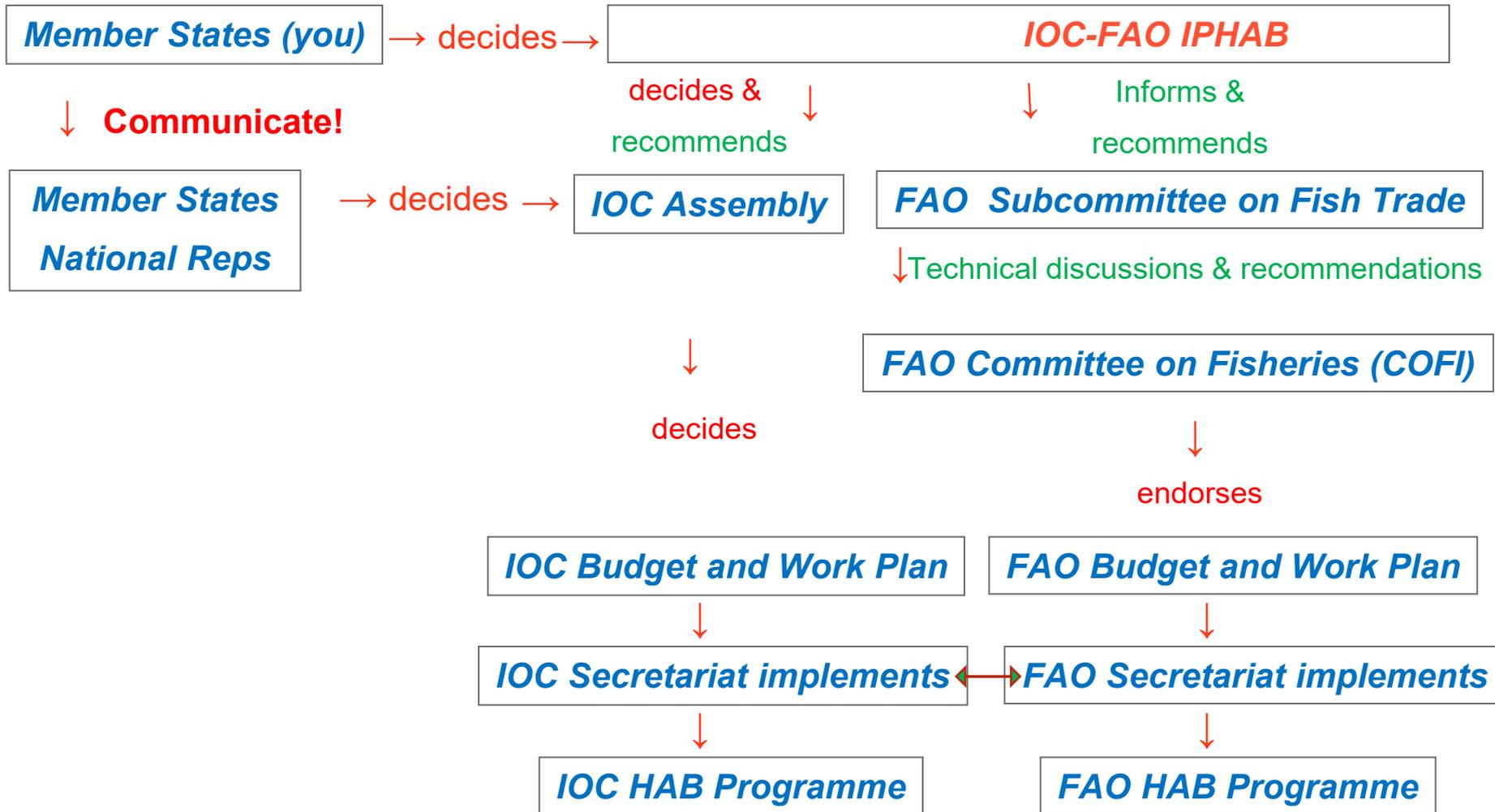
## **FUNCTIONS OF IPHAB**

The Intergovernmental Panel on Harmful Algal Blooms is established to carry out the following functions:

1. Review and identify programme requirements;
2. Promote efficient and cost-effective implementation of the HAB programme and prepare recommendations on this implementation to the IOC Assembly and Executive Council (and FAO relevant bodies).

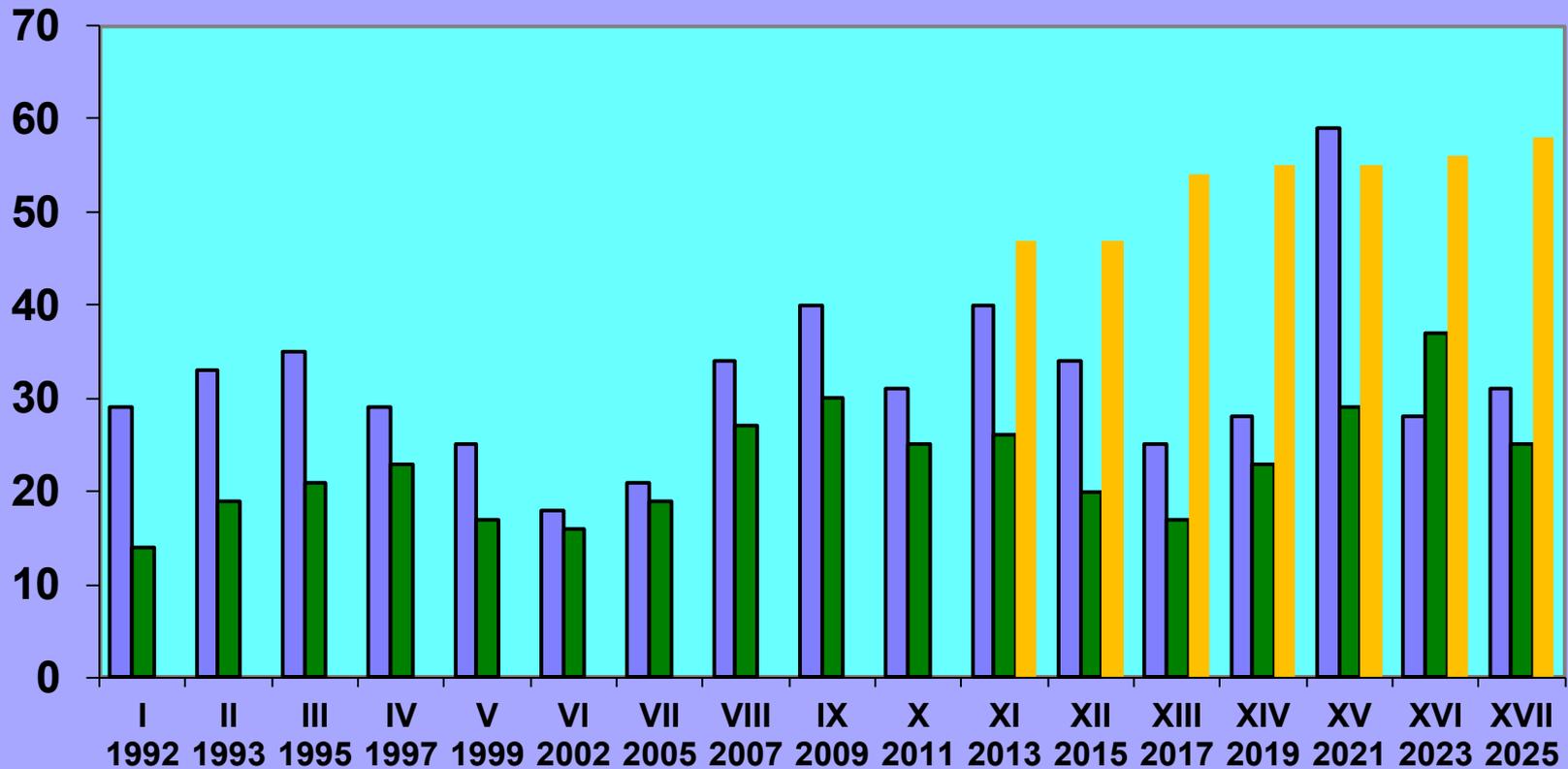
3. Identify the resources necessary to meet HAB programme needs;
4. Ensure effective interaction and communication with regional intergovernmental (e.g., ICES, PICES, etc.) as well as regional and global non-governmental (e.g., SCOR) organizations involved in research on toxic algae and harmful algal blooms; and
5. Report to the IOC Executive Council and Assembly (and the FAO relevant bodies).

# How do we operate?



## Participation to Intergovernmental Panels on Harmful Algal Blooms (IPHAB)

□ Participants   ■ Countries   ■ Members



## 2.1 ADOPTION OF THE AGENDA

## 2.2 DESIGNATION OF A RAPPORTEUR

## AGENDA ITEM 2.3

### DOCUMENTS:

[www.ioc-unesco.org/hab](http://www.ioc-unesco.org/hab) / Documents / IPHAB-XVII

<https://oceanexpert.org/doclist/233>

**SPEAKERS:** Take note of the time allocated in the  
Time Table!

Task Team Chairs be prepared to submit  
revised/updated/reconfirmed ToRs!



## Seventeenth Session of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms

IPHAB-17

Meeting

18 - 20 March 2025

Deactivate

Edit Event

### Location

Intergovernmental Oceanographic Commission of UNESCO  
7, place de Fontenoy  
75732 Paris cedex 07  
France

[Overview](#) [Agenda](#) [Documents](#)

### Background Documents

Show 50 entries

Agenda	Code	Name	Updated on
	IOC/IPHAB-IV/3 Annex IV	<a href="#">Terms of Reference of IPHAB</a>	16/03/2023
	IOC-FAO/IPHAB-XVII/1 prov	<a href="#">Draft Provisional Agenda</a>	05/03/2025
	IOC-FAO/IPHAB-XVI/3s	<a href="#">Executive Summary Report of the 16th Session of IOC-FAO Intergovernmental Panel on Harmful Algal Blooms, FAO, Rome, 27–29 March 2023</a>	10/05/2023
	IOC-FAO/IPHAB-XVI/Inf.12	<a href="#">Report of the Task Team on BIOTOXIN MONITORING, MANAGEMENT AND REGULATIONS</a>	15/03/2025
	IOC-FAO/IPHAB-XVII/Inf.9	<a href="#">Report of the Task Team on HAIS and a periodic Global Harmful Algal Bloom Status Report</a>	17/03/2025
	IOC-FAO/IPHAB-XVII/Inf.2	<a href="#">Information on HABP developments in the intersessional period</a>	17/03/2025

# DECISIONS TAKEN BY THE IOC ASSEMBLY and FAO COMMITTEES AND MATTERS ARISING FROM IOC AND FAO THAT ARE HAB RELATED

## Agenda item 3

### DECISIONS TAKEN BY THE IOC ASSEMBLY:

- Approval of IPHAB-XVI Recommendations
- IOC Budget frame biennium 2026-2027

Document IOC-FAO/IPHAB-XVII.**Inf.1**

### *IOC ASSEMBLY 2023*

#### *Intergovernmental Panel on Harmful Algal Blooms (IPHAB)*

- The representatives of seven Member States took the floor.
- The Assembly warmly welcomed FAO back as a partner in IPHAB.
- The Assembly highlighted the importance of further development predictive modelling of HAB events and recognised how changes in the ocean-climate nexus and the interaction between multiple ocean stressors, including ocean acidification, eutrophication and deoxygenation, are closely linked with changes in HAB event occurrences and their impacts on coastal ecosystems and the services of these to society.
- The Assembly welcomed the initiative by IPHAB to frame societal priority HAB challenges in the UN Decade HAB-Solutions Programme and thereby broaden partnerships and strengthen co-design for better mitigation of HAB impacts on marine ecosystem services (including aquaculture, seafood safety/public health, recreation & tourism, drinking water, biodiversity).
- The Assembly confirmed the focus of the Decade HAB-Solutions Programme on novel and transformational technologies, on demands for sharing of HAB data, and on strategies for safe seafood, drinking water and healthy coastal ecosystems.

**IOC ASSEMBLY 2023**

***Intergovernmental Panel on Harmful Algal Blooms (IPHAB)***

- The following Member States chose to provide records of their plenary intervention on this agenda item for the informational annex to the meeting report: Chile, Colombia, France, Japan, and USA.
- The Assembly adopted Decision A-32/3.4.3

**Decision IOC A-32/3.4.3.**

***Harmful Algal Blooms***

***Intergovernmental panel on Harmful Algal Blooms (IPHAB)***

The Assembly,

Having considered the Executive Summary Report of the 16th session (Rome, Italy, 27–29 March 2023) of the IOC-FAO Intergovernmental Panel on Harmful Algal Blooms (IPHAB),

Endorses the Executive Summary Report of IPHAB-XVI and the recommendations contained therein (IOC-FAO/IPHAB-XVI/3s);

Notes that the regular budget for these activities will be identified as part of the overall Resolution on Governance, Programming and Budgeting matters of the Commission.

## IOC Budget frame

- **Expected Result:** Risks and impacts of ocean related hazards reduced, climate change adaptation and mitigation measures taken, and policies for healthy ocean ecosystems developed and implemented by Member States; Early warning and services: HAB
- **Regular Budget for 2014-2015: 30.000 USD**
- **Regular Budget for 2016-2017: 43.905 USD**
- **Regular Budget for 2018-2019: 40.000 USD**
- **Regular Budget for 2020-2021: 40.000 USD**
- **Regular Budget for 2022-2023: 57.700 USD**
- **Regular Budget for 2024-2025: 171.000 USD (-30% announced).**
- **Regular Budget for 2026-2027: between 138.000-144.000 USD, depends on decisions by the UNESCO GC and politics.**

# DECISIONS TAKEN BY FAO COMMITTEES

**Agenda item 3 cont.**

## Agenda item 4

# DEVELOPMENTS DURING THE INTERSESSIONAL PERIOD

# Agenda item 4.1:

## CHAIR IPHAB AND TECHNICAL SECRETARY'S SUMMARY REPORT

**IOC PROGRAMME DEVELOPMENT 2024-2025**

*Document IOC-FAO/IPHAB-XVII/Inf.4*

*Document IOC-FAO/IPHAB-XVII/ Inf.2*

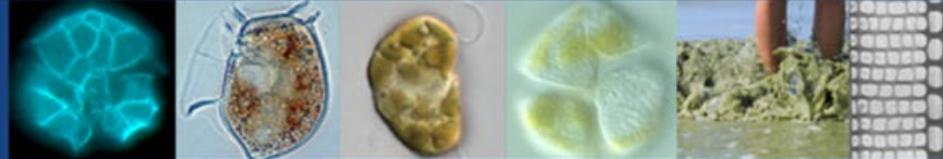
IPHAB chair report  
Philipp Hess  
18/03/2025

## Actions during inter-sessional period

- IPHAB meetings with co-chair and secretariate
- Task team Toxin detection, management and regulation (animation)
- Task team Ciguatera (co-lead)
- HAB-Solution Europe :
  - Seeking French, UK and Irish industry support
  - Topic proposal for Horizon Europe (DG Research)
  - Proposal EU Marine Board topic
  - Exploration FAO Reference Centre Marine Toxins

## Events attended during inter-sessional period

1. FR national HAB meeting May 2023, Nantes (co-organization)
2. IPHAB feedback French Ministry Environ., May 2023 (video-meeting)
3. UK national HAB meeting June 2023 (invitation natl. networking)
4. GRC Mycotoxins & Phycotoxins , June 2023 (scientific exchange)
5. IE national HAB meeting October 2023 (invitation HAB-solutions)
6. ICHA, Hiroshima, November 2023 (Task Team Biotoxins)
7. Ciguatera (Yasumoto honorary conf), Nov. 2'3 (Task Team Ciguatera)
8. PSA-ISEP-ISOP Joint meeting Jul/Aug 2024 (invited plenary, scientific exchange)
9. GlobalHAB meeting Sept., 2024, San Diego
10. Regional shellfish industry annual day (Southern Brittany, HAB-Solutions)
11. HABs on both sides of the Pacific – Qingdao, China (GlobalHAB-endorsed workshop)
12. HAB-industry dialog webinar (15 January, 2025, video)



## Taxonomic Reference List of Harmful Micro Algae

[Home](#) [Literature](#) [Log in](#)

[Diatoms](#) [Haptophytes](#) [Dinoflagellates](#) [Raphidophyceans](#) [Dictyochophyceans](#) [Pelagophyceans](#) [Cyanobacteria](#) [Greylist](#) [Harmful non-toxic](#)

# IOC-UNESCO Taxonomic Reference List of Harmful Micro Algae

- a product of the IOC Harmful Algal Bloom Programme and the World Register of Marine Species .

Scientific name

[\[Advanced search\]](#)

## [Introduction](#) | [History](#) | [Citation](#) | [Editors](#)

Problems pertaining to harmful microalgae are being worked on and discussed by many categories of researchers: ecologists, taxonomists, toxicologists, by persons involved in monitoring the environments for harmful effect of toxic algae, by politicians, journalists, etc. It is a source of confusion that the scientific ('Latin') names of the algae sometimes change when the organisms become available for more detailed studies due to improved methodology or after establishment of the organisms in pure cultures, and such changes may give rise to misunderstandings.

This site has the following aims:

- to provide a catalogue of the world's toxic microalgal species
- to promote stability in toxic microalgal nomenclature
- to act as a tool for higher taxonomic revisions and regional monographs
- to provide a base link for other online databases that use toxic microalgal nomenclature

# IOC-UNESCO Toxins database

Welcome to the IOC-UNESCO Toxins database. This database contains reference information about toxins - some of which are associated with Harmful Algal Events.

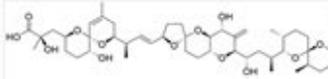
<p>Toxin</p> <input type="text" value="Toxin name, or abbreviation"/>	<p>Progenitor or vector</p> <input type="text"/>
<input type="button" value="Search"/>	<input type="button" value="More filters"/>

**Azspiracid**  
1 Toxin

**Azspiracid**

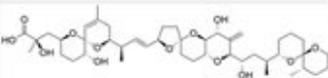
**Azspiracid 1**

**Okadaic acid**



**Dinophysistoxin-1**  
C45H70O13

**Okadaic acid**



**Dinophysistoxin-2**  
C44H68O13

**Domoic Acid**  
1 Toxin

**Domoic Acid**

**Domoic acid**

HARMFUL ALGAE INFORMATION SYSTEM

# Harmful Algae Event Database

( H A E D A T ) I O C - I C E S - P I C E S

[Home](#) | [Browse Events](#) | [Search Events](#) | [Add Event](#) | [Browse Grids](#) | [Contact](#) | [Login](#)

## Search Results

[Download these events as a CSV file]

72 results for **AZP**



**Key**

- Grid Name 5 results occurred in this area
- Grid Name Relatively high number of results
- Grid Name Relatively low number of results

Results 1-20 of 72 (ordered by year) [View larger map]

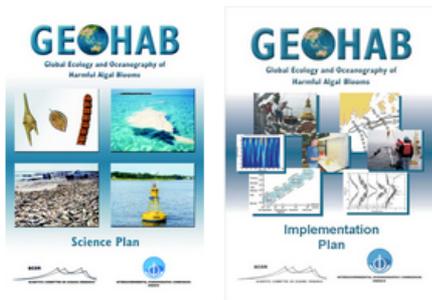
EVENT NAME	SYNDROME	YEAR	LOCATION (REGION, COUNTRY)
NO-24-039	AZP	2024	(Norway)
NO-24-042	AZP	2024	Buøyflæet, Kvitsøy (Norway)
NO-24-044	AZP	2024	Rogøysund (North sea, Norway)
NO-23-042	AZP	2023	(Norway)
IE-23-001	AZP	2023	Kilmakillogue (Kenmare, Southwest, Ireland)
IE-23-003	AZP	2023	Ballinakill (West Coast, Ireland)
IE-23-004	AZP	2023	Mountcharles (Donegal Harbour, Northeast, Ireland)
IE-22-006	AZP	2022	Ballinakill , Killary, Mannin (West Coast, Ireland)
IE-22-007	AZP	2022	Bantry, Kenmare, Castlemaine (SouthWest, Ireland)
IE-19-002	AZP	2019	Killala & Corraun (West, Ireland, Ireland)
SE-18-001	AZP	2018	Noptrhern part of Swedish Skagerrak coast (Skagerrak, Sweden)
IE-18-002	AZP	2018	Killary Harbour (West, Ireland)
IE-18-003	AZP	2018	Donegal Harbour (NorthWest, Ireland)
IE-18-004	AZP	2018	Castlemaine Harbour (SouthWest, Ireland)
IE-17-006	AZP	2017	Killary harbour (West, Ireland)
NO-16-018	AZP	2016	Rogøysund (Bamlo, Norway)
IE-16-001	AZP	2016	Killary Outer (West Coast, Ireland)
IE-16-002	AZP	2016	Ballynakill (West Coast, Ireland)
NO-15-007	AZP	2015	North Sea south (Torskavika, Haugalandet, Norway)
IE-15-002	AZP	2015	Bantry / Kenmare / Casstlemaine Hbr (South West, Ireland)

Pages: **1** | 2 | 3 | 4

## GEOHAB Report Series and Publications

[files/HAB-Summary-Policy-Makerks-2015.pdf](#) Below GEOHAB publications presented by theme. A list by title is available [here](#).

### Science Plan    Implementation Plan



### Upwelling Systems

- Core Research Plan: HABs in Upwelling Systems
- Core Research Project Implementation Plan: HABs in Upwelling Systems
- Open Science Meeting on HABs in Upwelling Systems, Programme Book and Abstracts

### Eutrophic Systems

- Eutrophication and HABs: the GEOHAB approach. P. M. GLIBERT, ZHOU Mingjiang, ZHU Mingyuan, M. A. BURFORD. Special issue on the CHINESE JOURNAL OF OCEANOLOGY AND LIMNOLOGY, 中国海洋湖沼学报 (ISSN 0254-4059), Vol. 29, No. 4, pp. 719-916, 2011
- Core Research Plan: HABs in Eutrophic Systems
- Open Science Meeting on HABs in Eutrophic Coastal and Estuarine Systems, Programme Book and Abstracts
- Advisory Bulletin of the GEOHAB SSC on Urea Fertilization (PDF)
- Special GEOHAB issue of the Elsevier Journal 'Harmful Algae' entitled 'HABs and Eutrophication'. Available at Science Direct at <http://www.sciencedirect.com/science/journal/15689883> . List of Contents also at [http://www.ioc-unesco.org/hab/index.php?option=com\\_oe&task=viewDocumentRecord&docID=088](http://www.ioc-unesco.org/hab/index.php?option=com_oe&task=viewDocumentRecord&docID=088)



## Global Harmful Algal Bloom: status report 2021

Collectivité auteur : [Commission océanographique intergouvernementale](#) [6611]

Personne auteur : [Hallegraeff, Gustaaf M. \[author\]](#) [9], [Hallegraeff, Gustaaf M. \[editor\]](#) [9], [Enevoldsen, Henrik O. \[editor\]](#) [5], [Zingone, A. \[editor\]](#) [2]

Titre de séries et volumaison : [IOC. Information document series, 1399](#) [20]

Code du document : IOC/INF-1399

Collation : 14 pages : illustrations

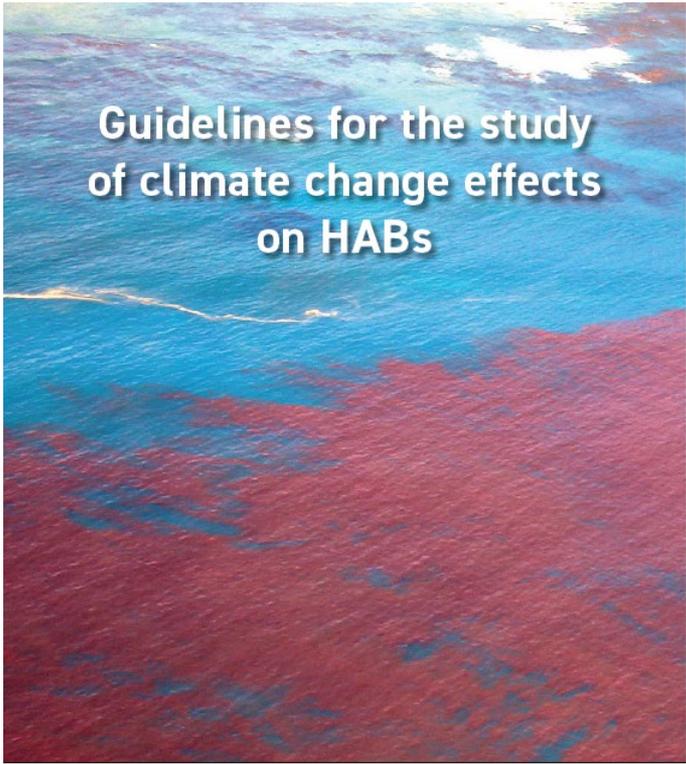
Langue : Anglais

Année de publication : 2021

Type de document : document de programme et de réunion

En ligne





# Guidelines for the study of climate change effects on HABs



livre

## Joint FAO-IOC-IAEA technical guidance for the implementation of early warning systems for harmful algal blooms



Collectivité auteur : [Organisation des Nations Unies pour l'alimentation et l'agriculture](#) [620]  
Personne auteur : [Garrido Gamarro, Esther](#) [editor] [1], [Englander, Karen](#) [editor] [1]  
Titre de séries et volumaison : [FAO Fisheries and aquaculture technical paper, 690](#) [2]  
ISBN : 978-92-5-137714-7  
Collation : 202 pages : illustrations  
Langue : Anglais  
Année de publication : 2023  
Type de licence : [CC BY-NC-SA 3.0 IGO](#) [286]  
Type de document : livre

En ligne  
Open Access

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- Partager



## **4.1. FAO & IOC UNESCO STAFFING**

### **FAO**

***Esther Garrido Gamarro, Technical Secretary IPHAB; FAO Staff, Fishery Officer, Food Safety and Quality – Aquatic Products, Fisheries and Aquaculture Division***

### **IOC UNESCO**

***Henrik Enevoldsen, Technical Secretary IPHAB, IOC-UNESCO staff, IOC HAB Programme Coordinator; IOC Ocean Science Section;***

***November 2020-2023 Ms. Yun Sun was seconded by China to the IOC HAB Programme as a Junior Professional Officer and has after that been financed by IOC UNESCO.***

***Simonetta SECCO Administrative Assistant for HAB at IOC UNESCO.***

## ***4.1 IOC SCIENCE AND COMMUNICATION CENTRE ON HARMFUL ALGAE***

***The Centre in Denmark is a decentralized IOC Programme Office for HAB.***

***Jacob Larsen, Project Staff, Associate Professor***

***The Centre in Copenhagen, Denmark, opened in May 1995 and is hosted by, and located at, the Department of Biology, University of Copenhagen***

***The IOC Secretariat is inviting for staff support through the Junior Professional Officer Programme (JPO), or loan of staff to the HAB programme.***

# ***HAB Capacity Building***

## ***Agenda Item 4.2***

## ***4.2.2 Courses and training implemented 2024-2025: Document IOC-FAO/IPHAB-XVII/Inf.2***

### ***8 training courses***

- IOC Courses with certification continued***
- IPI in cooperation with Marine Institute and with University of Las Palmas Gran Canarias***
- Regional and in-country courses***

***4.1.1 Validation and inter-calibration workshop at the National Marine Information and Research Centre (NATMIRC), Swakopmund, Namibia, 30 January - 10 February 2022***

***4.1.2 IOC Training Course and Identification Qualification in Harmful Marine Microalgae, IOC Science and Communication Centre on Harmful Algae Copenhagen, University of Copenhagen, Denmark, E-learning Sept-Nov 2023, followed by practical course.***

***4.1.3 IOC Training Course and Identification Qualification in Harmful Marine Microalgae, IOC Science and Communication Centre on Harmful Algae Copenhagen, University of Copenhagen, Denmark, E-learning Sept-Nov 2024, followed by practical course.***

***4.1.4 International Phytoplankton Intercalibration (IPI):  
University of Las Palmas Gran Canaria – IOC; sample analyses,  
taxonomic quiz on OceanTeacher, intercalibration report and  
workshop, from January to December 2023.***

***4.1.5 International Phytoplankton Intercalibration (IPI):  
University of Las Palmas Gran Canaria – IOC; sample analyses,  
taxonomic quiz on OceanTeacher, intercalibration report and  
workshop, from January to December 2024.***

***4.1.6 International Phytoplankton Intercalibration (IPI): University  
of Las Palmas Gran Canaria – IOC; sample analyses, taxonomic  
quiz on OceanTeacher, intercalibration report and workshop,  
from January to December 2025.***

***4.1.7 Advanced Phytoplankton Course 13, Stazione Zoologica Anton Dohrn, Italy, 6-26 October 2024. Jointly organized by the Stazione Zoologica Anton Dohrn, the UNESCO/IOC Science and Communication Centre on Harmful Algae and the Station Biologique de Roscoff, with the support of UNESCO/IOC Project Office for IODE/Ocean Teacher Global Academy and partners.***

***4.1.8 Validation and inter-calibration workshop at the National Marine Information and Research Centre (NATMIRC), Swakopmund, Namibia, 9-22 February 2025.***

## **4.2 *Planned courses***

***4.2.1 IOC Training Course and Identification Qualification in Harmful Marine Microalgae, IOC Science and Communication Centre on Harmful Algae Copenhagen, University of Copenhagen, Denmark, E-learning Sept-Nov 2025, followed by practical course.***

***4.2.2 IOC Training Course and Identification Qualification in Harmful Marine Microalgae, IOC Science and Communication Centre on Harmful Algae Copenhagen, University of Copenhagen, Denmark, E-learning Sept-Nov 2026, followed by practical course.***

## **4.2 Planned courses**

***4.2.3 International Phytoplankton Intercalibration (IPI): t.b.i. – IOC; sample analyses, taxonomic quiz on OceanTeacher, intercalibration report and workshop, from January to December 2026. Pending new host arrangement.***

***4.2.4 Validation and inter-calibration workshop at the National Marine Information and Research Centre (NATMIRC), Swakopmund, Namibia, January 2026***

***4.2.5 Advanced Phytoplankton Course 14, Station Biologique de Roscoff, Italy, 2026, t.b.c..***

# FAO HAB training



Food and Agriculture  
Organization of the  
United Nations

Intergovernmental Panel on Harmful Algal Blooms  
XVIIth Session 18-20 March 2025

## Strategic references:

- **IPHAB Strategy** (IPHAB-X) Document IOC/IPHAB-XV. Inf.4
- **IPHAB principles for capacity enhancement in research on and management of harmful algal events** (IPHAB-IX)
- **INTERNATIONAL COOPERATIVE HAB RESEARCH STRATEGY** (**GlobalHAB** and before that GEOHAB)
- **HARMFUL ALGAL INFORMATION STRATEGY** (HAIS -> GHSR)  
Document IOC/IPHAB-XV. Inf.12
- **STRATEGY ON CIGUATERA** with FAO, IAEA and WHO