



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



Henrik Enevoldsen

IOC of UNESCO

Harmful Algal Bloom Programme

IOC Science and Communication Centre on Harmful Algae

University of Copenhagen, Denmark



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



HAE-DAT

The Harmful Algal Event Data-Base

IOC-ICES-PICES

IOC/HE/2004



Summary:

HAE-DAT does not share primary data

HAE-DAT shares:

- Summary of data (species, where, when, conc., effects etc)*
- Information on which data exist and where*



- HAE-DAT contains 1541 national reports from 1987 to 2003 from the North Atlantic region.
- HAE-DAT has been available since 1999 at <http://ioc.unesco.org/hab>



- It is the ambition that HAE-DAT will become the global database on harmful algal events:
- North Atlantic (ICES)
- North Pacific (PICES)
- Caribbean (IOC ANCA)
- South America (IOC FANSA)
- Mediterranean (CIESM)
- North Africa (IOC HANA)
- Missing: AU, NZ, SE Asia, Central and Southern Africa



What happened since last year?

- HAEDAT is now transferred from desktop solution (Microsoft Access) requiring download by user to web-based solution (MySQL/PHP on Linux) server
- Database 'normalised' (arranged into tables according to data types) enabling greater flexibility in the production of reports and greater potential for extending the system



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



- Web forms for online adding and update of records designed (format and layout otherwise as you know it)
- Program written to export data from new database to format used for intermediate production of maps



HAE-DAT next steps

- Ultimate aim is online generation of browsable maps using GIS-type interface, based on the open source mapserver
(<http://mapserver.gis.umn.edu/>)
software



HAE-DAT next steps

- Move away from old method of gathering information to entirely web-based system, with users able to take responsibility for the records of their country and edit them online (ICES will start)



HAE-DAT next steps

- Continued extension to information system, integrating further data related to the events described such as relevant taxonomies (IOC Ref. List), monitoring programmes (MON-DAT), HAB-MAP by ISSHA etc.



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



HAEDAT - MAPs

IOC/HE/2004



Présence de toxines PSP 1991 - 2000

Pays CIEM

ATTENTION
Ces cartes doivent être interprétées avec prudence pour ce qui concerne le risque d'intoxication par des produits de la mer en provenance des pays concernés. La COI et le CIEM ne sont pas responsables d'un éventuel usage abusif de cette information.





- **Information on maps:**

- presence of toxins
- or observations of mortalities

regardless of the level of toxicity

- blooms of potentially toxic species (with non detectable levels of toxicity) are not shown as they are not recorded in HAE-DAT



- Before: modifications were provided by each country
- only as dots on maps
- no data files

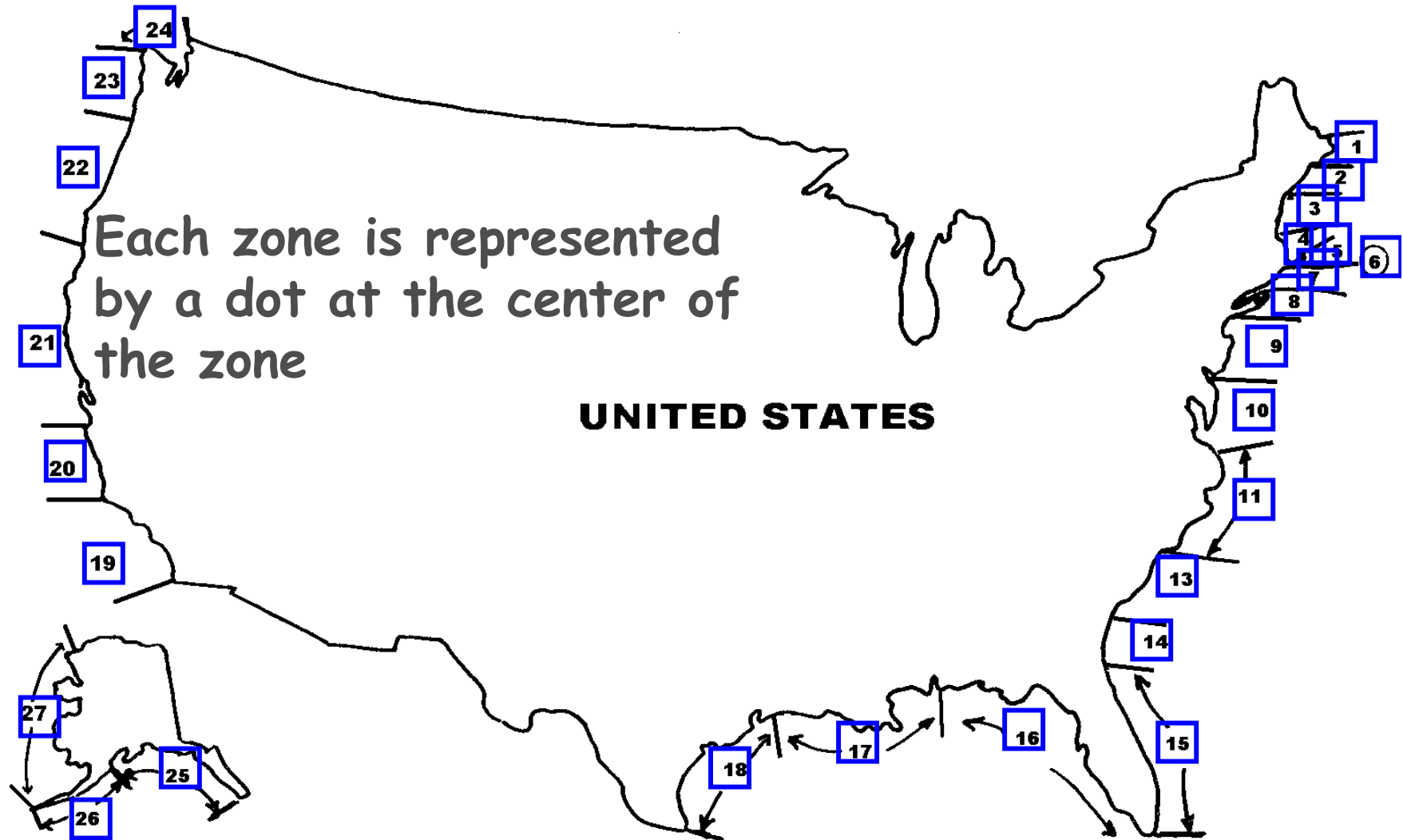


HAE-DAT maps, what has been done:

- Maps now based on data extracted from HAE-DAT
- To achieve this we have defined/redefined zones for all countries (each country to define its appropriate zones)
- This implies that HAE-DAT zone descriptions are now permanent to be able to compare one year to another etc.



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



CODE DESIGNATIONS FOR BLOOM REPORTING



Example of file for decadal and/or annual maps (extracted from HAEDAT)

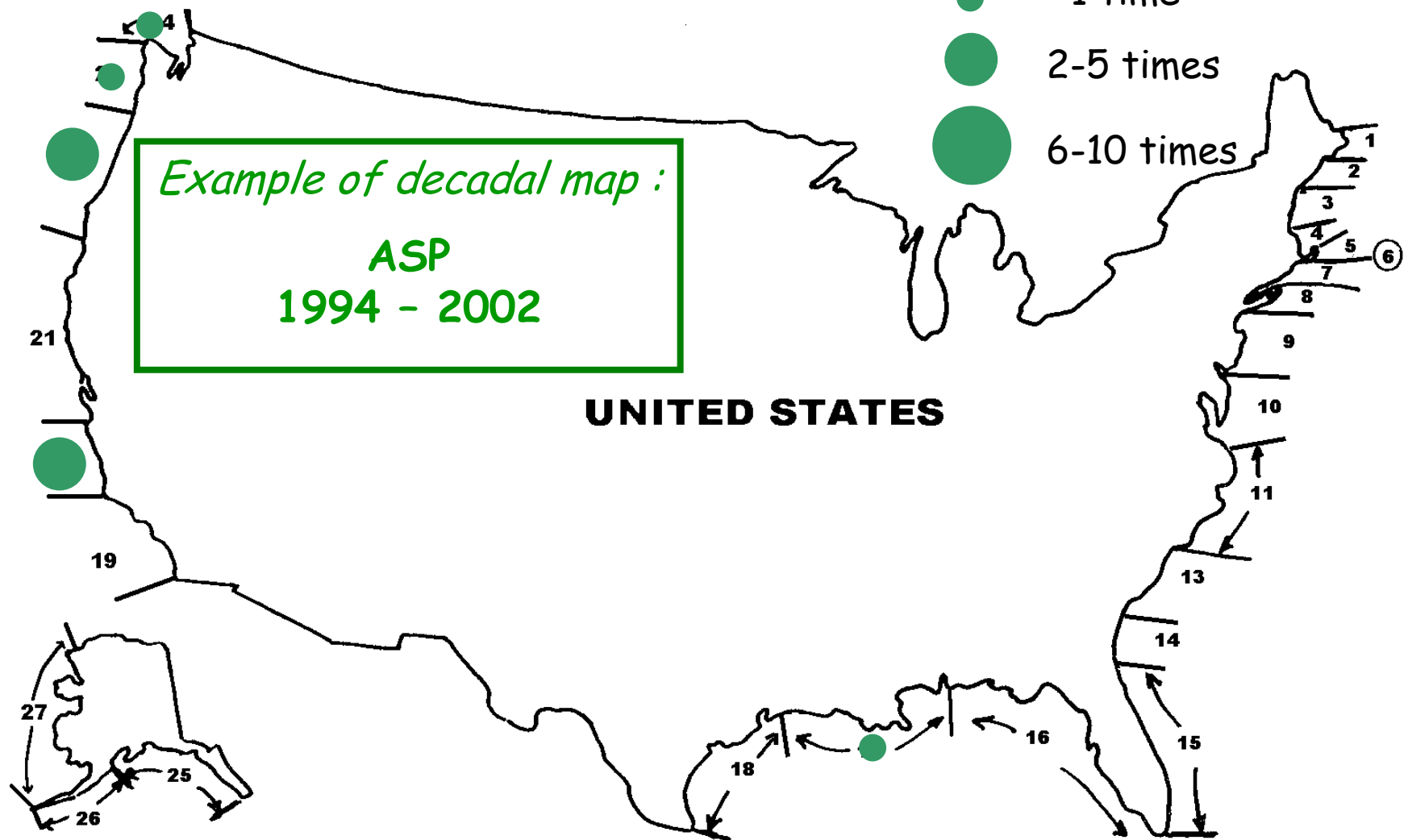
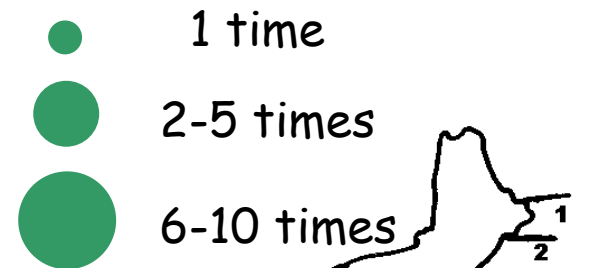
zone code	syndrome name	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1994-2002
US-20	ASP	0	0	0	0	1	0	1	0	0	0	2
US-20	AZP	0	0	0	0	0	0	0	0	0	0	0
US-20	CYANO	0	0	0	0	0	0	0	0	0	0	0
US-20	DSP	0	0	0	0	0	0	0	0	0	0	0
US-20	NSP	0	0	0	0	0	0	0	0	0	0	0
US-20	OTHER	0	0	0	0	0	0	0	0	0	0	0
US-20	PSP	1	1	0	0	1	0	1	0	0	0	4
US-21	ASP	0	0	0	0	0	0	0	0	0	0	0
US-21	AZP	0	0	0	0	0	0	0	0	0	0	0
US-21	CYANO	0	0	0	0	0	0	0	0	0	0	0
US-21	DSP	0	0	0	0	0	0	0	0	0	0	0
US-21	NSP	0	0	0	0	0	0	0	0	0	0	0
US-21	OTHER	0	0	0	0	0	0	0	0	0	0	0
US-21	PSP	1	1	1	0	0	0	0	0	0	0	3
US-22	ASP	1	1	0	0	0	0	0	0	0	1	3
US-22	AZP	0	0	0	0	0	0	0	0	0	0	0
US-22	CYANO	0	0	0	0	0	0	0	0	0	0	0
US-22	DSP	0	0	0	0	0	0	0	0	0	0	0
US-22	NSP	0	0	0	0	0	0	0	0	0	0	0
US-22	OTHER	0	0	0	0	0	0	0	0	0	0	0
US-22	PSP	1	1	0	0	0	0	1	0	0	0	3

IOC/HE/2004

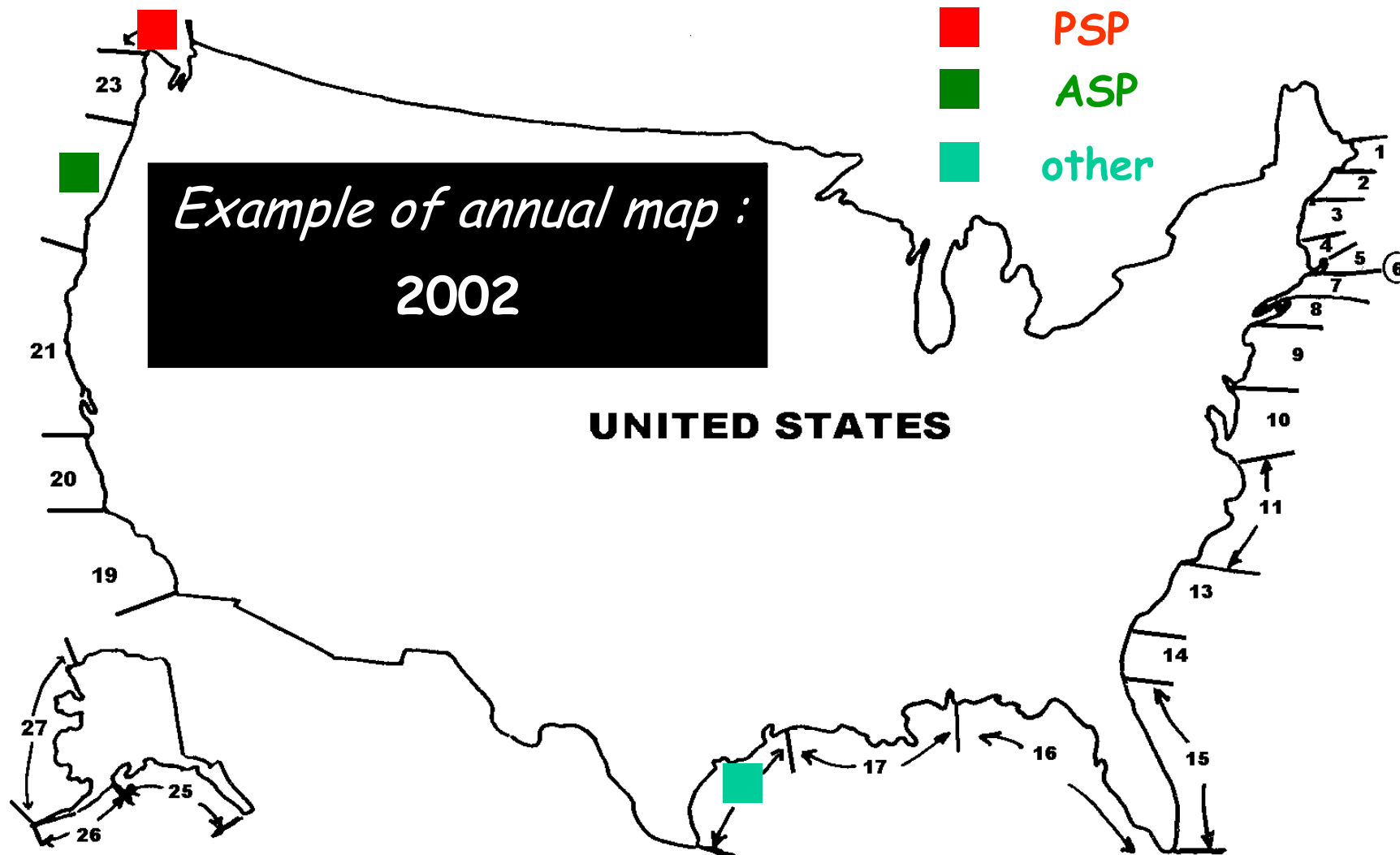


HAE-DAT maps

- The new HAE-DAT is now set to deliver the maps for the for ICES countries
- It will be extended to PICES countries when you are ready
- It will allow to generate maps automatically

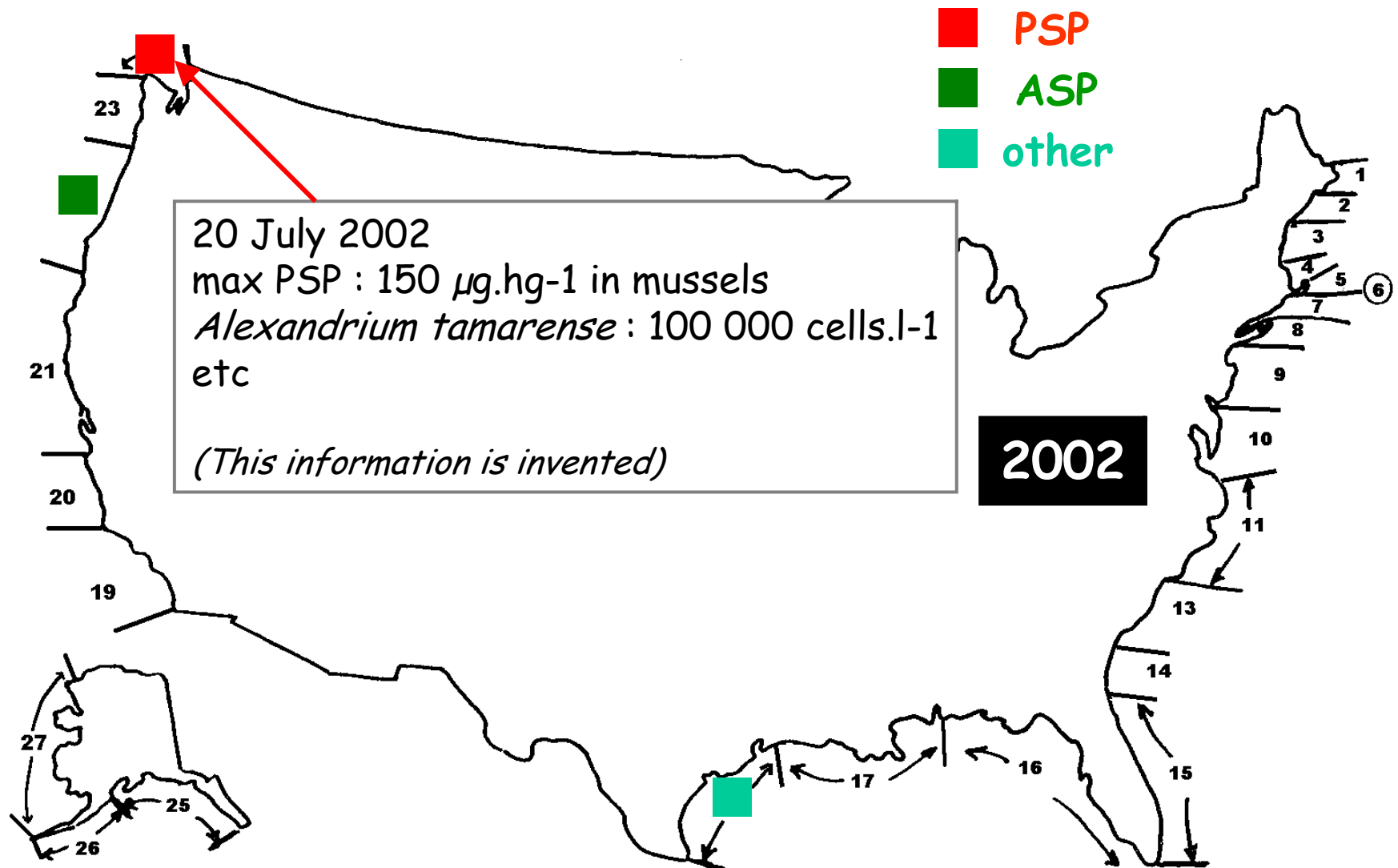


CODE DESIGNATIONS FOR BLOOM REPORTING





INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



Later... with full linkage bt HAE-DAT & maps

CODE DESIGNATIONS FOR BLOOM REPORTING



How does it work?

- Monica Lion, IOC-IEO Science and Communication Centre on Harmful Algae, Spanish Institute of Oceanography, Vigo, Spain
- Benjamin Sims, IOC Secretariat/IT
- IFREMER, Nantes, France



How may it work for PICES?

- In the short term:
- Do you want to submit to present coordinator or to have your own intermediate focal point?
- Do you want a decentralized version with PICES data?
- In the long term:
- There will be user responsibility of data - however each region may choose to have a coordinator and QC before upload.



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



Thank you for your attention



IOC/HE/2004



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



HAB-MAP

Regional Summaries on HAB Occurrences

Initiative by XHAB organizers

To be published as a CD

Editors, A.Zingone & H. Enevoldsen

IOC/HE/2004



HAB-MAP

30 year summary by region, 1970 to current, including

1. Species, toxins, effects
2. Specific times of events, duration of events, locations with coordinates if possible
3. Maximum cell counts and max chl a if possible by event; temperature, salinity, pH, D.O ranges, or whatever environmental data may be available
4. What databases exist and who or where to contact
5. References, including the grey literature and websites



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



HAB-MAP

The regions are:

Region 1, GEORGIA, USA TO GREENLAND:

Region 2, EAST COAST OF FLORIDA, CARIBBEAN AND CENTRAL AMERICA

Region 3, SOUTH AMERICA MINUS VENEZUELA:

Region 4, WEST COAST, USA, WEST COAST CANADA, AND ALASKA:

Region 5, AUSTRALIA AND NEW ZEALAND:

Region 6, SOUTHEAST ASIA, INDONESIA, PHILIPPINES

Region 7, KOREA, JAPAN, CHINA, AND RUSSIA

Region 8, INDIAN OCEAN,

Region 9, SOUTH AFRICA

Region 10, MEDITERRANEAN,.

Region 11, PORTUGAL, SPAIN, ENGLAND, FRANCE, GERMANY, SCANDINAVIA

IOC/HE/2004



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



More details at ioc.unesco.org/hab

IOC/he/2003

Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

EVENT No: SP-00-010 COUNTRY: SPAIN YEAR: 2000

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

Nature of the reported event:

☐ WATER DISCOLORATION

☐ HIGH PHYTO CONCENTRATIONS

☒ SEAFOOD TOXIN

☐ MASS MORTALITIES

☐ FOAM/MUCILAGE IN THE COAST

☐ OTHER:

Is this report the outcome of a monitoring programme? ☒ Yes ☐ No

If yes, which programme?: Monitoring Programme of the Centro de Control da Calidade do Medio Mariño.

Has this event occurred before in this location? ☒ Yes ☐ No

If yes, comments: Detected annually from 1995; generally with a periodicity of two events a year: at the beginning - middle of spring and autumn.

Approx. duration of the event (days OR months): DAYS: MONTHS:

Individual to contact: MANEIRO, Juan

Additional individuals to contact: PAZOS, Yolanda
MOROÑO, Ángeles

Current data of contact person:

Name: MANEIRO, Juan

Institution: CENTRO DE CONTROL DA CALIDADE DO MEDIO MARIÑO

Street: PEIRAO DE VILAXOÁN

Number: S/N

City: VILAGARCÍA DE AROUSA

Zip: 36611

State:

Country: SPAIN

Telephone: +34 986 512320

Fax: +34 986 512300

E-mail: jmaneiro@cccmm.cesga.es

Web page: http://www.cccmm.cesga.es

Registro: 1 de 1



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

EVENT No: SP-00-010 COUNTRY: SPAIN YEAR: 2000

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

PRECISE DAY and PRECISE LOCATION (Geographical coordinate) OF THE REPORTED EVENT:
Every event must be associated to a **PRECISE DAY** (Date of the event) and a **PRECISE GEOGRAPHICAL COORDINATE** (Latitude and Longitude). These informations are of great importance in order to favour future data analysis, especially when using information from other data bases.

PRECISE DAY:
DATE OF EVENT: 18/04/00

PRECISE LOCATION:
LATITUDE: N 00° 00' 00"
LONGITUDE: W 00° 00' 00"

LOCATION INFORMATION
REGION (state, province...): Galicia, Northwest Spain.
REGION No. (if any; consult your country representative): IX a
LOCATION (City, Bay...): Rías de Vigo.
SURFACE km2:

DATE INFORMATION
INITIAL DATE: 17/07/00 FINAL DATE: 31/07/00
ADDITIONAL DATE INFORMATION: Initial and final event dates are approximate, because before and after the event, toxic cells are present in the

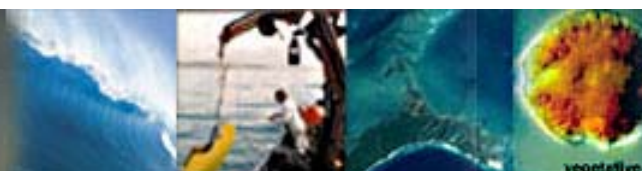
ADDITIONAL LOCATION INFORMATION:
42 10 90 - 42 14 36 N ; 08 43 16 - 08 52 20 W.
The affected area is dedicated to intensive mussel cultivation in rafts and to a high production of other molluscs in natural banks: clams, cockles, oyster and scallops are the main species exploited.

GRAPHICAL SUPPORT (map of area)

IOC/HE/2004



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?



EVENT No: SP-00-010

COUNTRY: SPAIN

YEAR: 2000

GENERAL INFORMATION LOCATION AND DATE **MICROALGAE** ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

Causative organism known? ☒ Yes ☐ No

The maximum cell concentration should be provided herein and should correspond to the precise day and location.

CAUSATIVE SPECIES

Event	CAUSATIVE SPECIES/GENUS	TAXONOMICAL CLASS	(Cells/L)	COMMENTS
SP-00-010	Pseudo-nitzschia australis	Bacillariophyceae	509,820	Determined by electronic microscopy. Other s
* SP-00-010				

Registro: 1 de 1

ADDITIONAL SPECIES

EVENT No	SPECIES/GENUS	TAXONOMICAL CLASS	(Cells/L)	COMMENTS
SP-00-010	Chaetoceros spp.	Bacillariophyceae	725,333	And other chain-forming diatoms.

Registro: 1 de 1

PIGMENT ANALYSIS:

2.7 µg/l Chl^a.

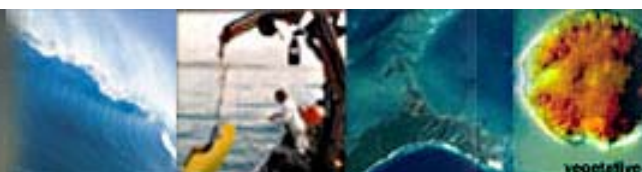
CYSTS:

PICTURE OF ORGANISM:

ADDITIONAL MICROALGAE INFO:



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

EVENT No: SP-00-010 COUNTRY: SPAIN YEAR: 2000

GENERAL INFORMATION LOCATION AND DATE MICROALGAE **ENVIRONMENT** HARMFUL EFFECTS COMPLEMENTARY INFORMATION

ENVIRONMENTAL CONDITIONS

The information herein provided should correspond to the environmental conditions recorded at the precise location and day of the event, corresponding to the maximum cell concentration recorded for the causative species. Complementary information can be if possible provided in the 'Additional Environmental Information' box.

WEATHER: Cloudy.

WATER VERTICAL STRUCTURE: Not stratified water.

TEMPERATURE (°C): 16 (0m); 13.5

TURBIDITY (Secchi disk m):

TURBIDITY (NTU):

pH:

OXYGEN CONTENT (µM/kg):

OXYGEN SATURATION %:

SALINITY (psu): 35.5 (0m); 35.

WIND DIRECTION: SSW

WIND VELOCITY: 50 m/s

CURRENT DIRECTION:

CURRENT VELOCITY:

NUTRIENT CONCENTRATION

NUTRIENT	NUTRIENT CONCENTRATION
NITRATE	0.30 µmol/L
NITRITE	0.03 µmol/L
AMONIUM	0.13 µmol/L
NITRATES	0.00 µmol/L

Registro: 1 de 5

Please, if available, indicate here maximum/minimum temperature and salinity recorded during the whole duration of the event:

MAXIMUM TEMPERATURE (°C): 16

MINIMUM TEMPERATURE (°C): 13.5

MAXIMUM SALINITY (psu): 35.7

MINIMUM SALINITY (psu): 35.5

ALGAL BLOOM

LOCATION IN WATER COLUMN: Surface bloom.

☒ BLOOM ADVECTED ☐ BLOOM IN SITU

ADVECTED/IN SITU COMMENTS:

ADDITIONAL ENVIRONMENTAL INFORMATION:
Data are the average value for the water column (0-15 m).
Stn V5. Ria de Vigo 24/7/00.

'HE/2004

Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

EVENT No: SP-02-010 COUNTRY: SPAIN YEAR: 2002

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT **HARMFUL EFFECTS** COMPLEMENTARY INFORMATION

Has the event affected?

☐ HUMANS ☐ BIRDS ☐ PLANKTONIC LIFE ☐ BENTHIC LIFE ☐ NATURAL FISH

☐ OTHER TERRESTRIAL ☐ AQUATIC MAMMALS ☐ SHELLFISH ☐ FISH ☐ AQUACULTURE FISH

Has any toxicity been detected? ☒ Yes ☐ No If yes, approximate range: MAX 25.2 µg/g

ASSOCIATED SYNDROM ASP

UNEXPLAINED TOXICITY ☐ Yes ☒ No If yes, comments:

If intoxications occurred, please indicate the species implicated in the transmission of toxins (Transvectors):

TOXIN ASSAY INFORMATION (If available, indicate in section TOXIN CONTENT-TOXICITY any quantitative or qualitative measure)

SPECIES CONTAINING THE TOXIN	TOXIN TYPE	TOXIN	TOXIN CONCENTRATION (µg/100 g)	ASSAY TYPE	USE OF A KIT?
Cockles (Cerastoderma edule)	ASP	Domoic acid	25.2 µg/g	HPLC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Clams	ASP	Domoic acid	21.1 µg/g	HPLC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Registro: 1 de 2

TOXIN ASSAY COMMENTS:

AOAC Official Method, 1998 991.26, Domoic Acid in Mussels. Liquid Chromatographic Method

EXTENT OF THE EFFECT (qualification of biological damage: animal deaths...)

ECONOMIC LOSSES (production value, direct loss, indirect loss...)

Not evaluated.

MANAGEMENT DECISION

Harveting was closed in culture areas when domoic acid concentrations was greater than ppm.

ADDITIONAL HARMFUL EFFECT INFORMATION

Irrelevant effects, because the closures caused by this event were brief (two weeks maximum). Closures due to the rpesence of toxicity in molluscs is usual in the area and resource exploitation strategies allow to face these closrues without great problems. Economic losses are important when closures have a long (several months) duration.

Registro: 1055 de 1541



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?



EVENT No: SP-00-010

COUNTRY: SPAIN

YEAR: 2000

GENERAL INFORMATION

LOCATION AND DATE

MICROALGAE

ENVIRONMENT

HARMFUL EFFECTS

COMPLEMENTARY INFORMATION

PREVIOUS OCCURRENCES IN THIS REGION

Detected annually from 1995; generally with a periodicity of two events a year: at the beginning - middle of spring and autumn.

Are there any biological samples available for further analysis? Please indicate the type of sample.

|

ADDITIONAL EVENT INFORMATION (text)

ADDITIONAL EVENT INFORMATION (file):

ADDITIONAL EVENT INFORMATION IN THE WEB (web links):

EVENT RELATED BIBLIOGRAPHY

Please write here any comments to improve this form:



Old form

- COUNTRY:
 1. Location:
 2. Date of Occurrence:
 3. Effects:
 4. Management decision:
 5. Causative Species:
 6. Environment:
 7. Advected population or *in situ* growth:
 8. Previous occurrences:
 9. Additional Comments:
 10. Individual to contact:



Modified form for National HAB report

- Available at the IOC Web page.
- Modified form, an example and some instructions.
 - Word 6.0 document.
 - Locked form, you can only write on the grey spaces and tick boxes.
 - 2 pages form, with the first page containing much of the same information that was collected in the old forms.
- National focal points will submit the national report to the IOC-IEO Science and Communication Centre on HA, in Vigo preferably by e-mail.



Modified form for the National HAB reports

INSTRUCTIONS FOR FILLING OUT THE FORMS

PLEASE only report information about harmful events (according to the following definition).

A harmful algal event is defined as:

- a water discoloration, scum or foam causing a socio-economic impact due to the presence of toxic or harmful microalgae
- biotoxin accumulation in seafood above levels considered safe for human consumption
- any event where humans, animals or other organisms are negatively affected by algae

As indicated on the form, you may not be able to fill in all the data fields. However, all information is valuable.

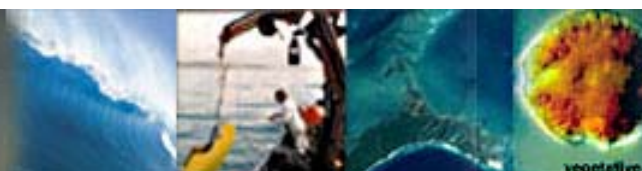
When reporting location, do so according to geographic region. For example: *Area:* Ria de Vigo; *Region:* Northwest Spain. The ICES region can be obtained from the ICES web site: http://www.ices.dk/committe/acfm/comwork/report/1999/ices_map.pdf or your country representative will enter the appropriate code.

We feel that the form is self-explanatory. IF, however, you have problems, contact your country representative.

Following completion of the forms, please return them to your national representative.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



National HAB Report IOC-ICES-PICES ?

COUNTRY :

Region :

Year :

1 - GENERAL INFORMATION

Please note: NOT all information requested on this form is required. Some respondents may choose to stop at the end of the first page, but others may wish to add detailed bloom information, as requested on page 2. Any information you provide is of value.

Indicate the nature of the reported harmful event:

- | | | |
|--|---|--|
| <input type="checkbox"/> Water discoloration | <input type="checkbox"/> High Phyto concentration | <input type="checkbox"/> Seafood toxin |
| <input type="checkbox"/> Mass mortalities | <input type="checkbox"/> Foam/mucilage in the coast | <input type="checkbox"/> Other: <input type="text"/> |

Has the event directly affected?

- | | | |
|--|---|---|
| <input type="checkbox"/> Planktonic life | <input type="checkbox"/> Natural Fish | <input type="checkbox"/> Birds |
| <input type="checkbox"/> Benthic life | <input type="checkbox"/> Aquaculture Fish | <input type="checkbox"/> Other terrestrial : <input type="text"/> |
| <input type="checkbox"/> Shellfish | <input type="checkbox"/> Aquatic mammals | <input type="checkbox"/> Humans |

Has any toxicity been detected? ☐ Yes ☐ No If yes, approximate range:

Associated syndrome ☐ PSP ☐ DSP ☐ ASP ☐ AZP ☐ NSP ☐ CFP ☐ Other:

Unexplained toxicity ☐ Yes ☐ No If yes, comments:

If intoxications occurred, please indicate the species implicated in the transmission of toxins (Transvector):

Additional comments:

Is this report the outcome of a monitoring programme? ☐ Yes ☐ No

If yes, which programme(s)?

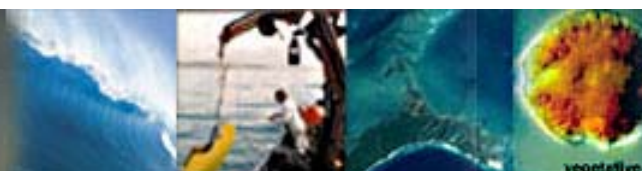
Has this event occurred before in this location? ☐ Yes ☐ No If yes, comments:

Individual(s) to contact (name, address, e-mail, web page, etc.):

IOC/HE/2004



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



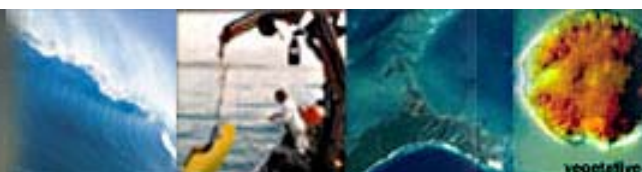
2 - LOCATION AND DATE

Location (if a single site)	Latitude:		° N		° S
	Longitude:		° E		° W
General location information	Name of the area: <input type="text"/> Region: <input type="text"/> ICES Area code: <input type="text"/>				
Additional location information (i.e., length of covered shoreline or aerial coverage of bloom, ecosystem type, etc.): <input type="text"/>					
Date of detection of quarantine levels (dd/mm/yy) :		Detection date: <input type="text"/>		Final date: <input type="text"/>	
Additional information (i.e., start and end date of the bloom): <input type="text"/>					

3 - MICROALGAE

Causative organism known? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Causative species	Causative species/genus	Taxonomical class	Cells/L (max.)	Comments
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Co-occurring dominant species	Species/genus	Taxonomical class	Cells/L (max.)	Comments
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Chlorophyll concentration, if known (µg/l): <input type="text"/>				
Additional Bloom Information : <input type="text"/>				
Event-related Bibliography: <input type="text"/>				

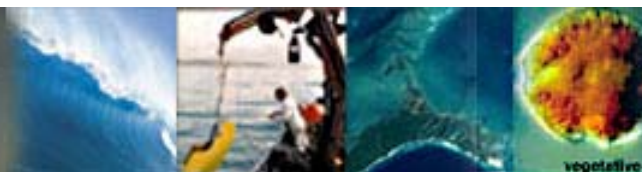
Thank you for your contribution. If you have more detailed information to offer on this HAB event, please continue to the next page. Fill in only what information is available.



4 - ENVIRONMENTAL CONDITIONS

The information herein provided should correspond to the environmental conditions at a reported location and day of an event. Complimentary information can be provided if possible in the "Additional Environmental Information" field.

Location and date: <input type="text"/>			
Weather: <input type="text"/>	Turbidity (NTU): <input type="text"/>	Wind direction: <input type="text"/>	
Stratified water: <input type="checkbox"/> Yes <input type="checkbox"/> No	Oxygen content (mL/L): <input type="text"/>	Wind velocity: <input type="text"/>	
Temperature (°C): <input type="text"/>	Oxygen saturation %: <input type="text"/>	Current direction: <input type="text"/>	
Secchi disk (m): <input type="text"/>	Salinity: <input type="text"/>	Current velocity: <input type="text"/>	
Nutrient information: <input type="text"/>			
Please, if available, indicate here maximum/minimum temperature and salinity recorded during the whole duration of the event:		Maximum Temperature (°C): <input type="text"/>	Maximum Salinity: <input type="text"/>
		Minimum Temperature (°C): <input type="text"/>	Minimum Salinity: <input type="text"/>
	Location in the water column: <input type="checkbox"/> Whole water column <input type="checkbox"/> Subsurface bloom <input type="checkbox"/> Surface bloom		
ALGAL BLOOM	Advection or <i>in situ</i> growth: <input type="checkbox"/> Advection <input type="checkbox"/> <i>In situ</i>		
	Comments: <input type="text"/>		
	Additional environmental information: <input type="text"/>		



5 - TOXIN ASSAY INFORMATION

Species containing the toxin	Toxin type	Toxin details	Max. Concentration (specify units)	Assay type	Use of a kit (if yes, what type of kit)
					<input type="checkbox"/> Yes <input type="checkbox"/> No Type:
ADDITIONAL INFORMATION (e.g. positive animal assay, chemical details, analytical methods, etc.):					
ECONOMIC LOSSES (production value, direct loss, indirect loss...):					
MANAGEMENT DECISION:					
ADDITIONAL HARMFUL EFFECT INFORMATION:					


documentation - ciem - maps - toxicity - phytoplankton - environment - Ifremer - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Adelante Detener Actualizar Inicio Búsqueda Favoritos Historial Correo Imprimir Modificar Discutir

Dirección <http://www.ifremer.fr/envlit/documentation/dossiers/ciem/aindex.htm>

Mapping of harmful events related to phytoplankton blooms in Western Europe and North America



[Maps](#)
[Description](#)

The data shown on maps are updated by the international Working Group on Harmful Algal Bloom Dynamics (WGHABD), under the joint responsibility of the International Council for the Exploration of the Sea (ICES) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO.

Data are provided by representatives of the different member countries of the WGHABD, and coordination and cartographic services are ensured by the French Institute for Marine Research and Exploitation (Ifremer).

The maps are updated annually for the preceding ten-year period.

The information available differs greatly depending on the event or country concerned. As monitoring intensity, the number of monitoring stations, and the number of samplings also differ considerably, there is no direct relation between recorded and actual harmful algal events (e.g. of toxicity) in a given region. Moreover, areas with many recorded events may benefit from an efficient monitoring and management program and have very few problems and a low risk of intoxication, whereas infrequent events in other areas may cause severe problems and represent significant health risks.

Coordination: [Catherine Belin](#).


Internet

documentation - ciem - maps - toxicity - phytoplankton - authors - environment - Ifremer - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Adelante Detener Actualizar Inicio Búsqueda Favoritos Historial Correo Imprimir Modificar Discutir

Dirección <http://www.ifremer.fr/envlit/documentation/dossiers/ciem/aauteurs.htm> Ir a Vínculos HotMail gratuito »



Authors

Coordination / contact

[Catherine Belin](#), Ifremer

Conception

[Alain le Magueresse](#), Ifremer

Realization

[Bernard Raffin](#), Ifremer

Translation

James Gray

Countries / organizations providing data

Canada	Institut Maurice-Lamontagne / Québec Fisheries and Oceans / St Andrews
Denmark	Bio/Consult / Aabyhøj
England	CEFAS / Weymouth
Estonia	Estonian Marine Institute / Tallinn
Finland	Maj and Tor Nessling Foundation / Helsinki
France	Ifremer / Nantes
Germany	Biologische Anstalt / Helgoland
Ireland	Marine Institute Fisheries Research Centre / Dublin
Latvia	Hidroekologijas Instituts / Salaspils
Norway	Institute of Marine Research / Flødevigen
Portugal	IPIMAR / Lisbonne

Internet



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Regular monitoring
1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution
regarding risk of intoxication by seafood products
from the respective areas/regions/countries.
The IOC and ICES are not liable for possible misuse
of this information.



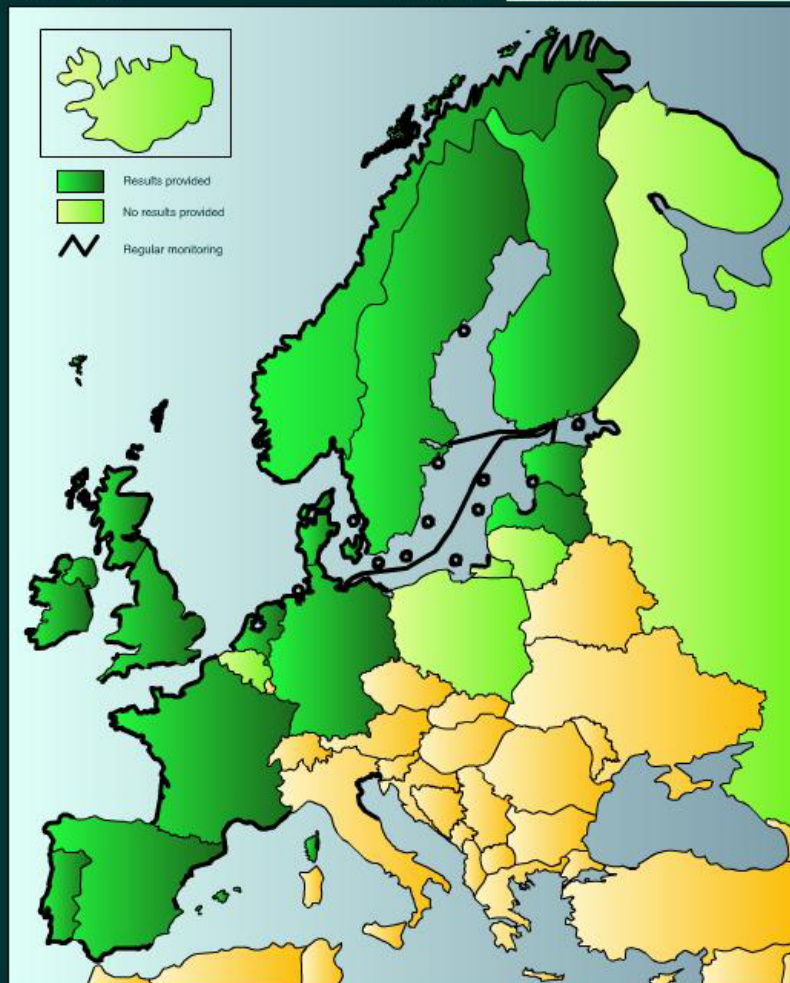
2004



Regular monitoring
1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution
regarding risk of intoxication by seafood products
from the respective areas/regions/countries.
The IOC and ICES are not liable for possible misuse
of this information.



ICES
CIEM



Ifremer

IOC/HE/2004



Presence of toxins in north America 1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution
regarding risk of intoxication by seafood products
from the respective areas/regions/countries.
The IOC and ICES are not liable for possible misuse
of this information.





Presence of DSP toxins 1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution
regarding risk of intoxication by seafood products
from the respective areas/regions/countries.
The IOC and ICES are not liable for possible misuse
of this information.

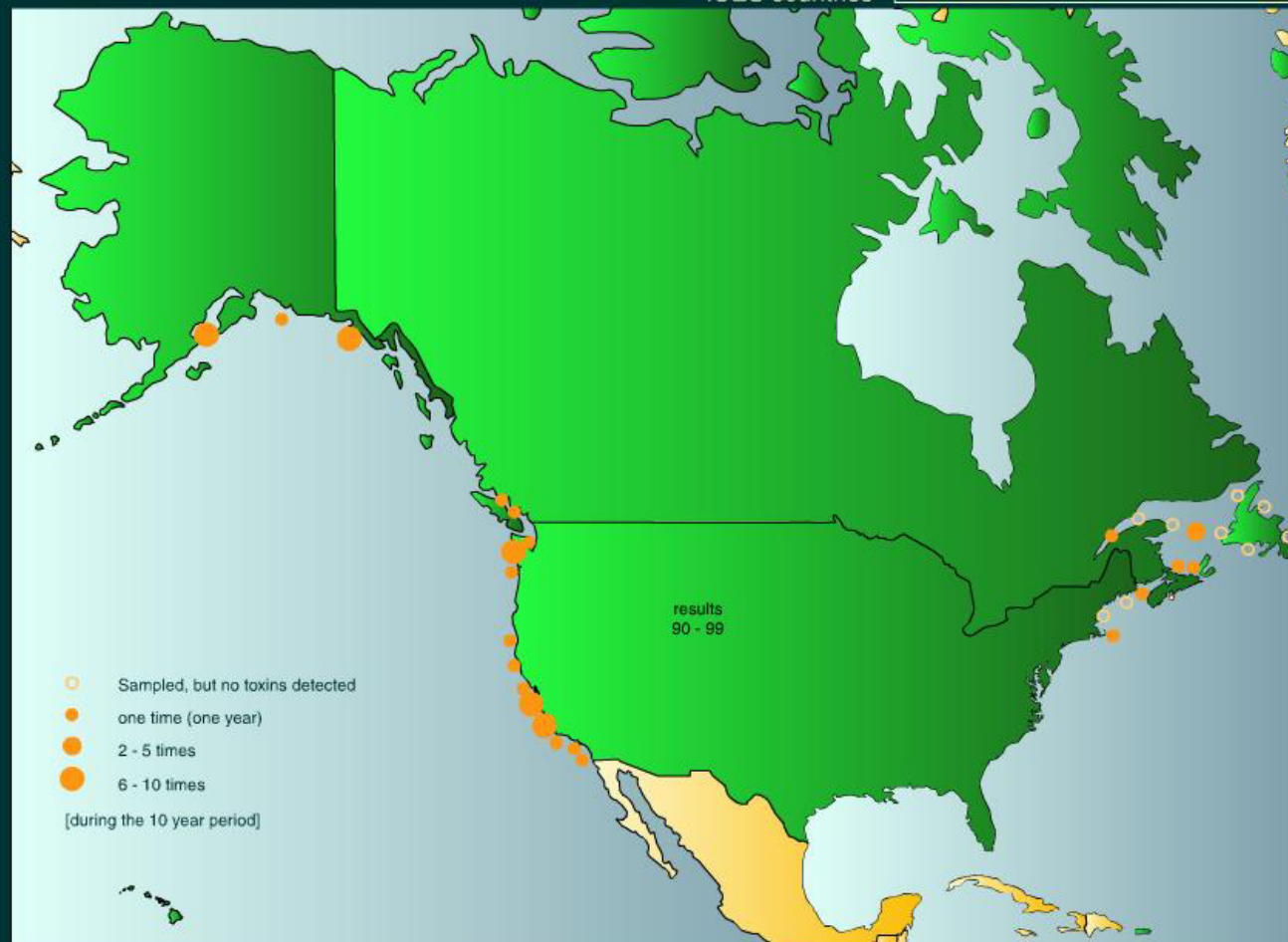




Presence of ASP toxins 1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution regarding risk of intoxication by seafood products from the respective areas/regions/countries. The IOC and ICES are not liable for possible misuse of this information.





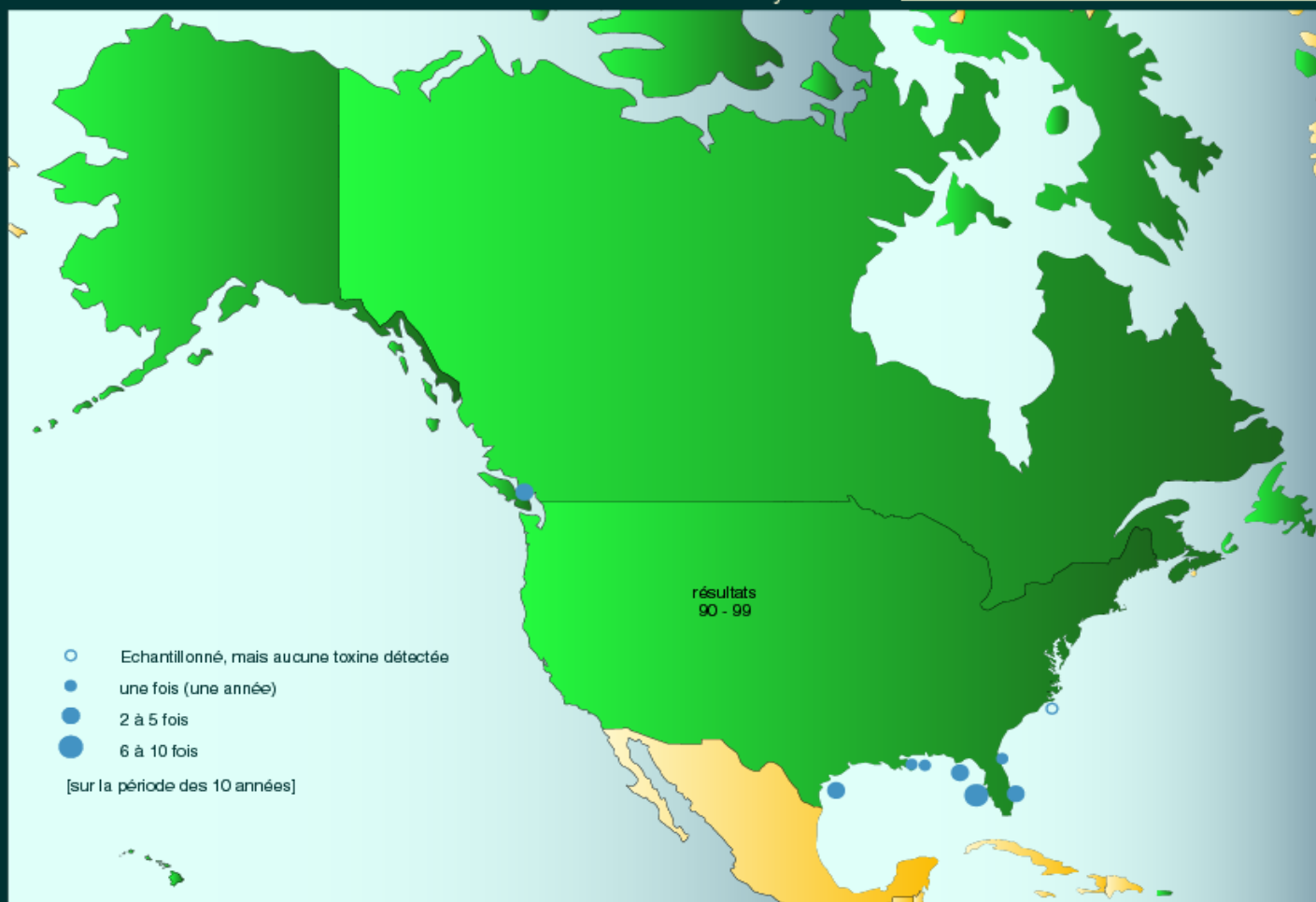
INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Présence de toxines NSP 1991 - 2000

Pays CIEM

ATTENTION
Ces cartes doivent être interprétées avec prudence pour ce qui concerne le risque d'intoxication par des produits de la mer en provenance des pays concernés. La COI et le CIEM ne sont pas responsables d'un éventuel usage abusif de cette information.



ICES
CIEM



lfrémer

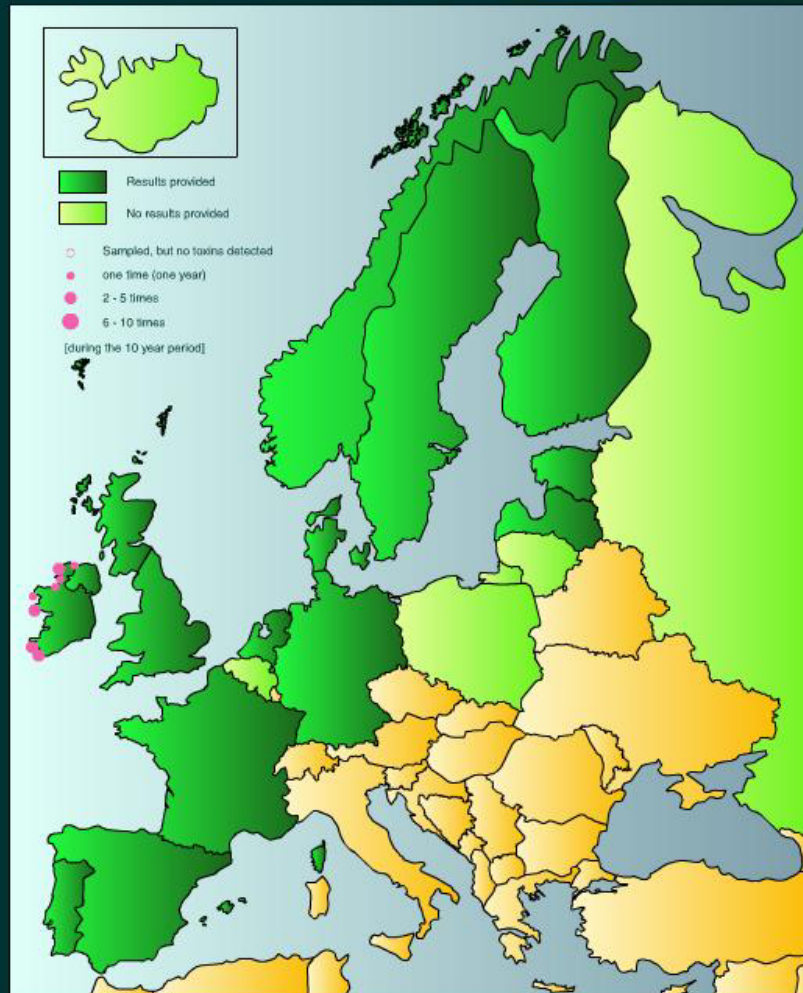
2004



Presence of Azaspiracids 1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution
regarding risk of intoxication by sea/food products
from the respective areas/regions/countries.
The IOC and ICES are not liable for possible misuse
of this information.



ICES
CIEM



lfrermer

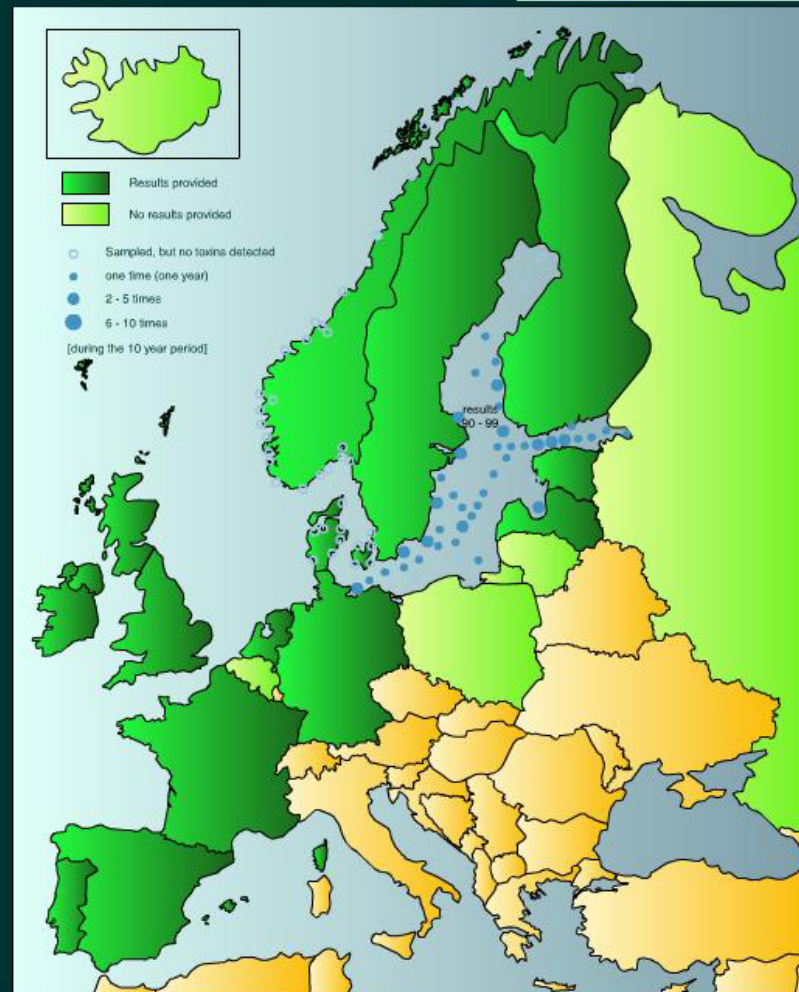
IOC/HE/2004



other toxic effects
cyanobacteria
1991 - 2000

ICES countries

DISCLAIMER - WARNING
HAEDAT maps should be interpreted with caution regarding risk of intoxication by seafood products from the respective areas/regions/countries. The IOC and ICES are not liable for possible misuse of this information.



ICES
CIEM



lfrermer

IOC/HE/2004



IOC-ICES WGHABD 02:

Discussed:

- That differences exist in location information reported on the HAEDAT forms.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



General form : Formulario

EVENT No: CA-01-001

COUNTRY: CANADA

YEAR: 2001

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

PRECISE DAY and PRECISE LOCATION (Geographical coordinate) OF THE REPORTED EVENT:

Every event must be associated to a **PRECISE DAY** (Date of the event) and a **PRECISE GEOGRAPHICAL COORDINATE** (Latitude and Longitude). These informations are of great importance in order to favour future data analysis, especially when using information from other data bases.

PRECISE DAY:

DATE OF EVENT:

PRECISE LOCATION:

LATITUDE N-S/E-W 00° 00' 00"
LONGITUDE

LOCATION INFORMATION

REGION (state, province...) Bay of Fundy.

REGION No. (if any; consult your country representative)

LOCATION (City, Bay...): South-west New Brunswick.

SURFACE km2:

ADDITIONAL LOCATION INFORMATION:

DATE INFORMATION

INITIAL DATE: **FINAL DATE:**

**ADDITIONAL
DATE
INFORMATION:**

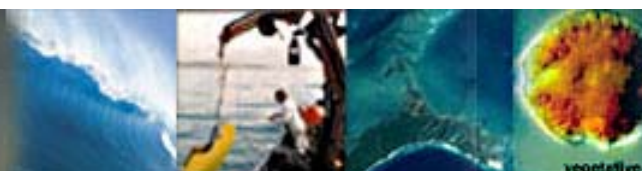
Detection of quarantine levels: June 01 - Aug 01.
Start and end of the bloom: May-July

GRAPHICAL SUPPORT (map of area)

IOC/HE/2004



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

EVENT No: SP-01-009 COUNTRY: SPAIN YEAR: 2001

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

PRECISE DAY and PRECISE LOCATION (Geographical coordinate) OF THE REPORTED EVENT:
Every event must be associated to a **PRECISE DAY** (Date of the event) and a **PRECISE GEOGRAPHICAL COORDINATE** (Latitude and Longitude). These informations are of great importance in order to favour future data analysis, especially when using information from other data bases.

PRECISE DAY:
DATE OF EVENT: 25/06/01

PRECISE LOCATION:

	N-S/E-W	00°	00'	00"
LATITUDE	N	42	14	36
LONGITUDE	W	08	49	50

LOCATION INFORMATION

REGION (state, province...) Galicia, NW Spain.

REGION No. (if any; consult your country representative) IXa & II

LOCATION (City, Bay...) Rias Baixas(Vigo, Pontevedra,Arousa and Me

SURFACE km2:

DATE INFORMATION

INITIAL DATE: 28/05/01 FINAL DATE: 25/08/01

ADDITIONAL DATE INFORMATION: Detection of quarantine levels: 12/06/01 to 27/08/01.

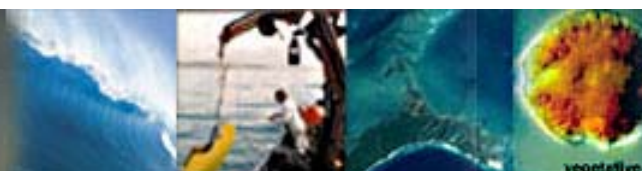
ADDITIONAL LOCATION INFORMATION: Latitude: 42 10 90 - 43 24 55 N. Longitude: 8 41 11 - 9 03 00 W.
The affected area is dedicated to intensive mussel cultivation in rafts and to a high production of other molluscs in natural banks: clams, cockles, oyster and scallops are the main species exploited.

GRAPHICAL SUPPORT (map of area)

106/ME/2004



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



Microsoft Access - [General form : Formulario]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?



EVENT No: US-01-003

COUNTRY: USA

YEAR: 2001

GENERAL INFORMATION LOCATION AND DATE MICROALGAE ENVIRONMENT HARMFUL EFFECTS COMPLEMENTARY INFORMATION

PRECISE DAY and PRECISE LOCATION (Geographical coordinate) OF THE REPORTED EVENT:

Every event must be associated to a **PRECISE DAY** (Date of the event) and a **PRECISE GEOGRAPHICAL COORDINATE** (Latitude and Longitude). These informations are of great importance in order to favour future data analysis, especially when using information from other data bases.

PRECISE DAY:

DATE OF EVENT: 19/11/01

PRECISE LOCATION:

N-S/E-W 00° 00' 00"
LATITUDE
LONGITUDE

LOCATION INFORMATION

REGION (state, province...) Gulf of Mexico and Florida.

REGION No. (if any; consult your country representative) 16 & 15

LOCATION (City, Bay...) Offshore and inshore Gulf of Mexico.

SURFACE km2:

ADDITIONAL LOCATION INFORMATION:

This red tide of 2001 was first detected off SW Florida offshore of Johns Pass (27.7267 and -82.9767) and Sarasota (27.1335 and -82.9812) in January and then periodically offshore of Sarasota until June. It reappeared inshore in August off Sarasota and has been offshore and inshore (from 25.9075, -81.7076 to 27.9775, -82.8319 to -83.3916), even down to the Florida Keys. It continues today into 2002. The SW bloom evidently was transported to the north and was first detected 20 miles off Cayahallo, Florida (-84.6067) on October 15, 2001. It then moved

DATE INFORMATION

INITIAL DATE:

FINAL DATE:

ADDITIONAL
DATE
INFORMATION:

Date of detection of quarantine levels:
21/08/01 for SW ; 17/10/01 for N, East Bay, Apalachicola.
Final date of quarantine levels: still closed for SW, open on 14/12/01 for N, East Bay, Apalachicola.

GRAPHICAL SUPPORT (map of area)



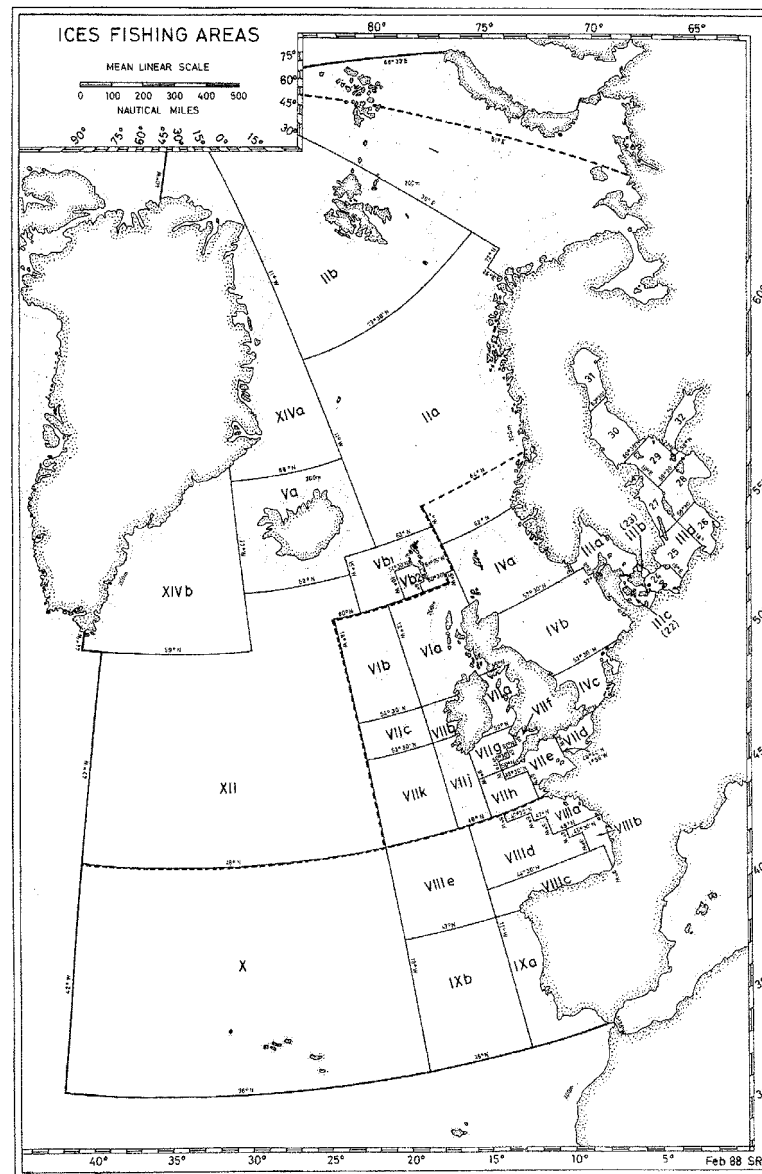
IOC-ICES WGHABD 2002:

Discussed:

- The differences in how location information is reported on the HAEDAT forms.
- **Decided to:**
- Redefine regions used on HAEDAT maps.
- Use same HAE regions on the HAEDAT form.



INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION



IOC/HE/2004



INTERGOVERNMENTAL
OCEANOGRAPHIC
COMMISSION



CODE DESIGNATIONS FOR BLOOM REPORTING

In WGHABD report 1992 and in HAEDAT 1991.

IOC/HE/2004



IOC-ICES WGHABD 2002:

It was agreed:

- Delegates will divide their countries into HAE regions.
- Delegates will amend the old HAEDAT forms using the new HAE code and homogenizing the location information (Degrees and minutes).



- Automatically create maps from the data base.
- HAEDAT will provide the detailed information behind the decadal maps.