

ICES GIS facility, data storages and products

Baltic Maritime Spatial Planning Forum

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ICES International Council for
the Exploration of the Sea
CIEM Conseil International pour
l'Exploration de la Mer

Data portals and collections

Spatial

Environment

Hydrography

Fisheries

DATASET COLLECTIONS

GEOGRAPHY

- > by ICES area
- > by HELCOM area
- > by OSPAR area

BIOLOGY

- > Biological communities
- > Biological effects
- > Environmental contaminants
- > Stock assessment
- > Catch statistics
- > Fish eggs and larvae
- > Fish stomach
- > Fish trawl survey
- > Plankton

HYDROCHEMISTRY

- > CTD and bottle
- > Surface data






ICES Datasets


ICES has a well established Data Centre, which manages a number of large dataset collections related to the marine environment.

The datasets are organised so that it is easy to find what you are after, whether you are interested in a particular geographic area, an effect on the environment or a group of species.

Overview of the main collection:

Dataset	Measurements	No of years
Biological community	692 213	34
Contaminants and biological effects	9 547 688	37
Eggs and Larvae	996 282	91
Fish predation (stomach contents)	1 149 608	12
Fish trawl survey	5 641 799	49
ICES Historical Plankton	318 319	11
Oceanographic	245 470 249	122

 Print it
  Send to
 

 Share it



MAKE A DATA REQUEST

CONTACT US

OTHER DATASETS

- > Cruise summary reports (CSR) (ROSCOPS)



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ICES Spatial Facility

A spatial data infrastructure to support the area based science and marine spatial planning initiatives at the International Council for the Exploration of the Sea

Foundations for Spatial Facility

Clients and Users

- GIS applications (eg. ArcGIS and Google Earth)
- Web map viewers (eg. EcoSystemData)
- Direct downloads (images or feature layers)
- Data discovery (XML)

Data extractions

- Based on spatial criteria (polygons)

Web GIS services

- GeoServer Services: WMS, WFS, WCS,
- Multiple outputs: GML, KML, KMZ, Shape, images, pdf,...

GIS data

- ICES reference layers (e.g. *ICES areas*)
- External reference layers (e.g. *coastline*)
- Expert Group map products (e.g. *Marine Habitat study areas*)

Data repositories

- Databases
- Shape files
- Web services

Metadata

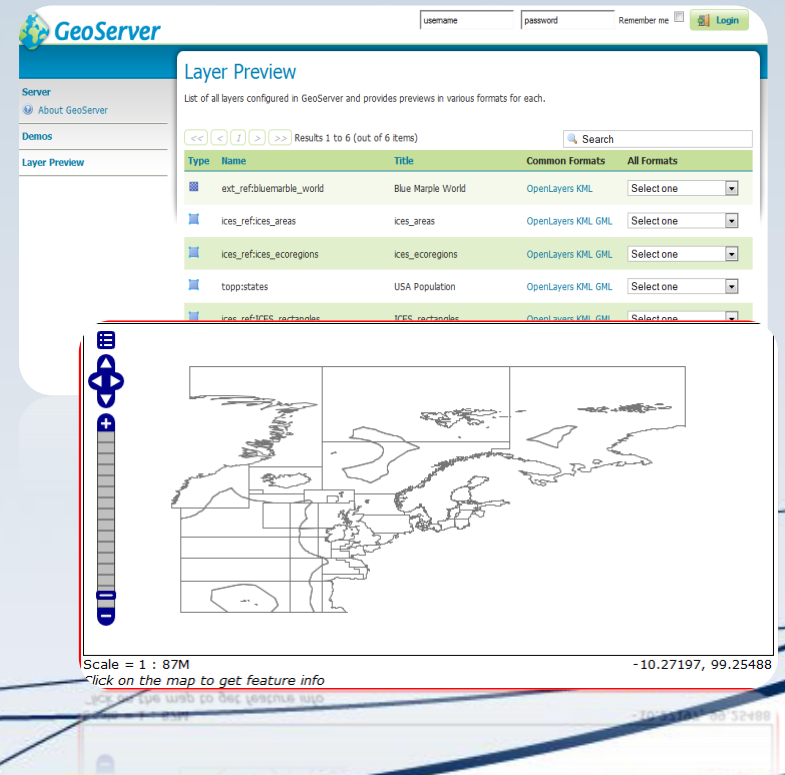
- GeoNetwork
- ISO 19115

ICES GIS portals

ICES GeoServer

<http://map.ices.dk/geoserver/web/>

Open Source software that allows users to share and edit geospatial data (rendering)



The screenshot displays the GeoServer web interface. At the top, there is a navigation bar with the GeoServer logo, a search bar, and a 'Login' button. Below the navigation bar, the 'Layer Preview' section is visible. It contains a table listing all configured layers with their names, titles, and available formats. The table has columns for 'Type', 'Name', 'Title', 'Common Formats', and 'All Formats'. The layers listed are:

Type	Name	Title	Common Formats	All Formats
ext_refbluemarble_world	ext_refbluemarble_world	Blue Marble World	OpenLayers KML	Select one
ices_refices_areas	ices_refices_areas	ices_areas	OpenLayers KML GML	Select one
ices_refices_ecoregions	ices_refices_ecoregions	ices_ecoregions	OpenLayers KML GML	Select one
toppstates	toppstates	USA Population	OpenLayers KML GML	Select one
ices_refices_rectangles	ices_refices_rectangles	ICES_rectangles	OpenLayers KML GML	Select one

Below the table, there is a map preview showing a geographical area with a grid overlay. The map includes a scale bar and a coordinate system indicator. The scale is 1 : 87M, and the coordinates are -10.27197, 99.25488. A tooltip提示 'Click on the map to get feature info' is visible over the map.

ICES GIS portals

ICES GeoNetwork

<http://geo.ices.dk/geonetwork>

Open Source software that catalogues and organizes the map products and meta-data

The screenshot shows the ICES GeoNetwork website. At the top, there is a navigation bar with the ICES logo and the text 'ICES CIEM'. Below this, there is a search bar with the text 'What?' and 'Where?'. The main content area is divided into several sections: 'FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS', 'GEONETWORK'S PURPOSE IS:', 'Featured map', 'CATEGORIES', and 'RECENT CHANGES'. The 'Featured map' section highlights a map titled 'CARTE D'HABITATS BENTHIQUES DU SECTEUR TREGO-GODED (DEBENT, 2007)'. The 'CATEGORIES' section lists 'Habitat maps', 'Modelled habitat maps', and 'Substrates maps'. The 'RECENT CHANGES' section lists several updates, including 'Carte des peuplements macrobenthiques de la Baie de Seine et de la Manche...'. The website also features a 'GeoNetwork opensource' logo in the top right corner.

Marine Habitat map with Metadata

GIS Viewer

ICES Spatial Facility Search GIS Viewer Username: Password: Login

Legend

- ices_eg:wgmhm_substrate_maps
- ices_eg:wgmhm_surveyed_habitat_maps
- ices_eg:wgmhm_modelled_habitat_maps

Overlays

- ices_eg:wgmhm_substrate_maps
Select Style: Transparent_polygon_orange
- ices_eg:wgmhm_surveyed_habitat_maps
Select Style: Transparent_polygon_green
- ices_eg:wgmhm_modelled_habitat_maps
Select Style: Transparent_polygon_purple

Base Layer

- OpenStreetMap
- Blue Marble

Clear Map [Permanent Link](#)

Hold down the shift key and use the left button on the mouse to zoom to a rectangle.

Click on features in the map to get information about their attributes. A maximum of 50 features will be returned by each query. Currently the layer *ices_eg:wgmhm_surveyed_habitat_maps* will be queried. You can change this in the layer switcher in the top right corner of the map. Features in this layer have related metadata records, that will also be shown.

fid	ID	DATASET	TYPE
wgmhm_surveyed_habitat_maps.1	GB000681	HABITAT	SURVEYED

No preview available	Title:	Map of offshore benthic communities of the Irish Sea
	Abstract:	This map was digitised into an ESRI shapefile format by JNCC. The map was contained in an environmental review of the Irish Sea. The review was intended as a working document to provide a basis for t...
	Keywords:	Habitats; Irish Sea; oceans
Show Metadata		



ICES Popular advice web application

POPULAR ADVICE

Popular advice provides a brief overview of the official ICES advice to a wider audience. Explore the map to navigate and view the popular advice for different fish stocks in different areas. You can also choose a particular eco region to view stocks in that area. "Read more" link will direct you to the full popular advice text.

ICES

All Ecoregions

Baltic Sea

Barents Sea

Celtic Seas

Faroes










Greenland and Iceland Seas

North Sea

Norwegian Sea

Oceanic North East Atlantic

South European Atlantic Shelf

 <p>Anglerfish in the Celtic Sea and Bay of Biscay</p>	 <p>Anglerfish in the West of Scotland and North Sea</p>	 <p>Atlantic salmon in the northeast Atlantic</p>
 <p>Beaked redfish on the Icelandic slope</p>	 <p>Black scabbardfish in the north Atlantic</p>	 <p>Blonde Ray in the Irish and Celtic seas</p>
 <p>Blonde ray in the western English Channel</p>	 <p>Blue ling in Iceland and the Reykjanes ridge</p>	 <p>Blue ling in the Faroer Islands, West of Scotland and Celtic Seas</p>



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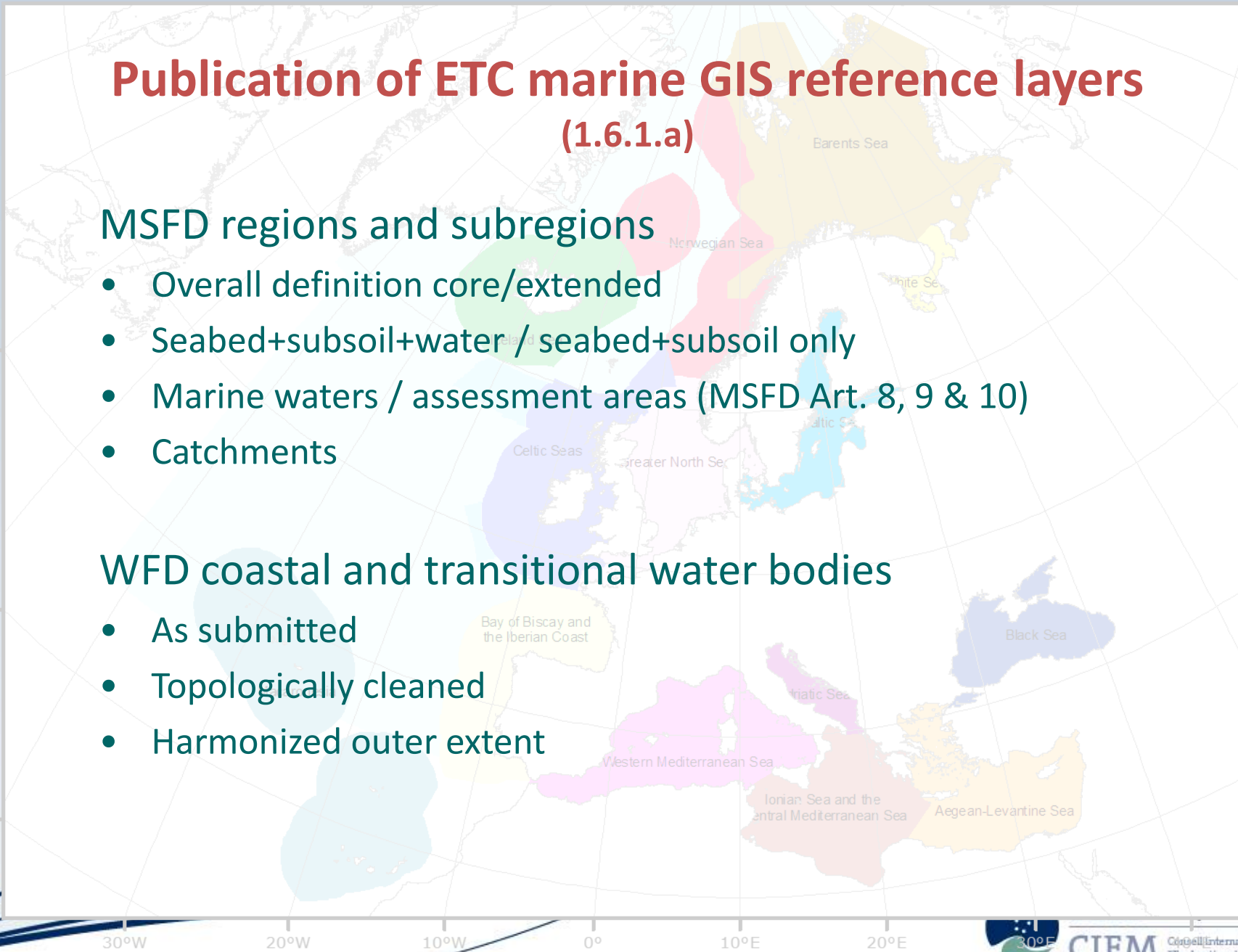
Publication of ETC marine GIS reference layers (1.6.1.a)

MSFD regions and subregions

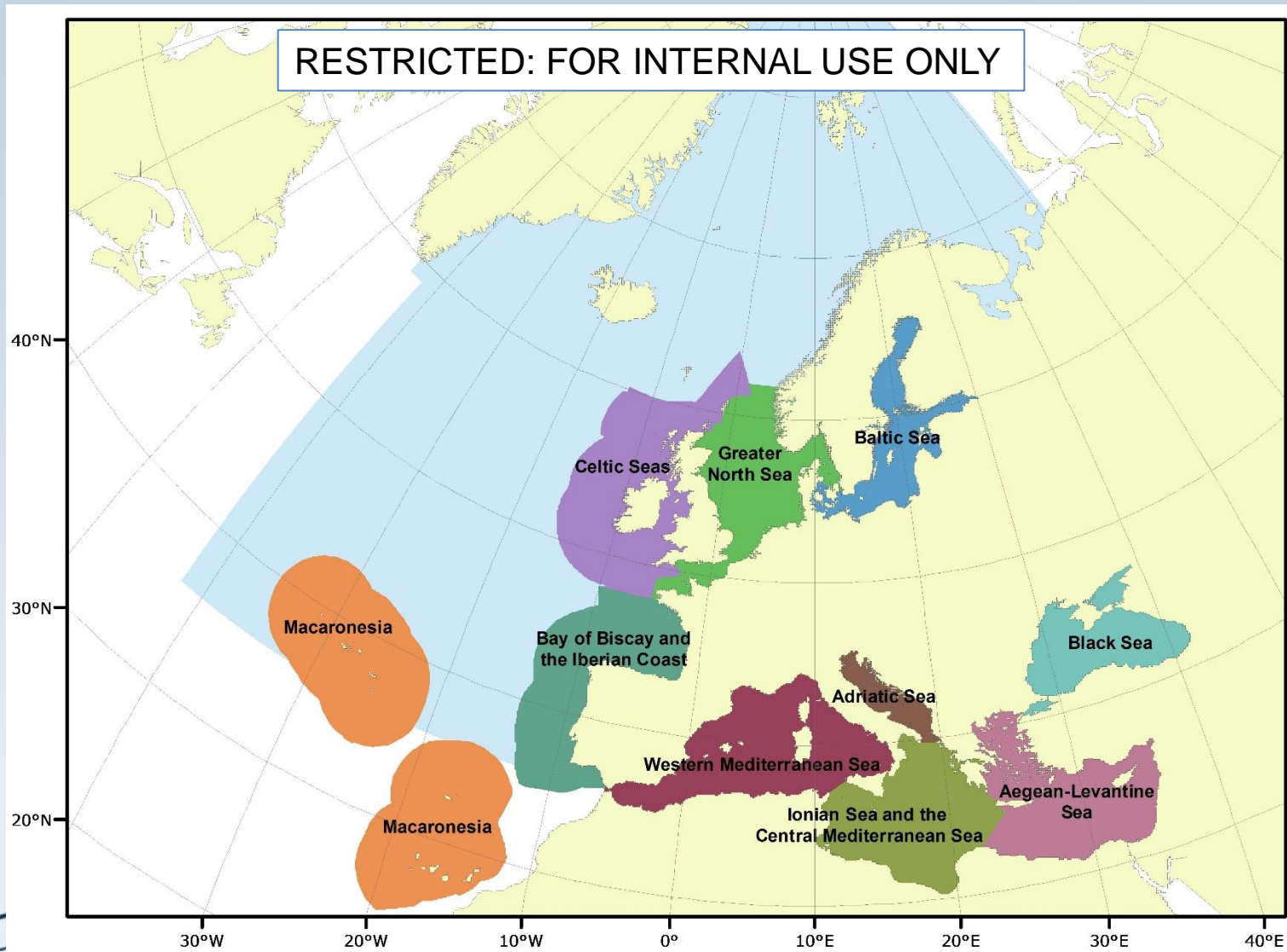
- Overall definition core/extended
- Seabed+subsoil+water / seabed+subsoil only
- Marine waters / assessment areas (MSFD Art. 8, 9 & 10)
- Catchments

WFD coastal and transitional water bodies

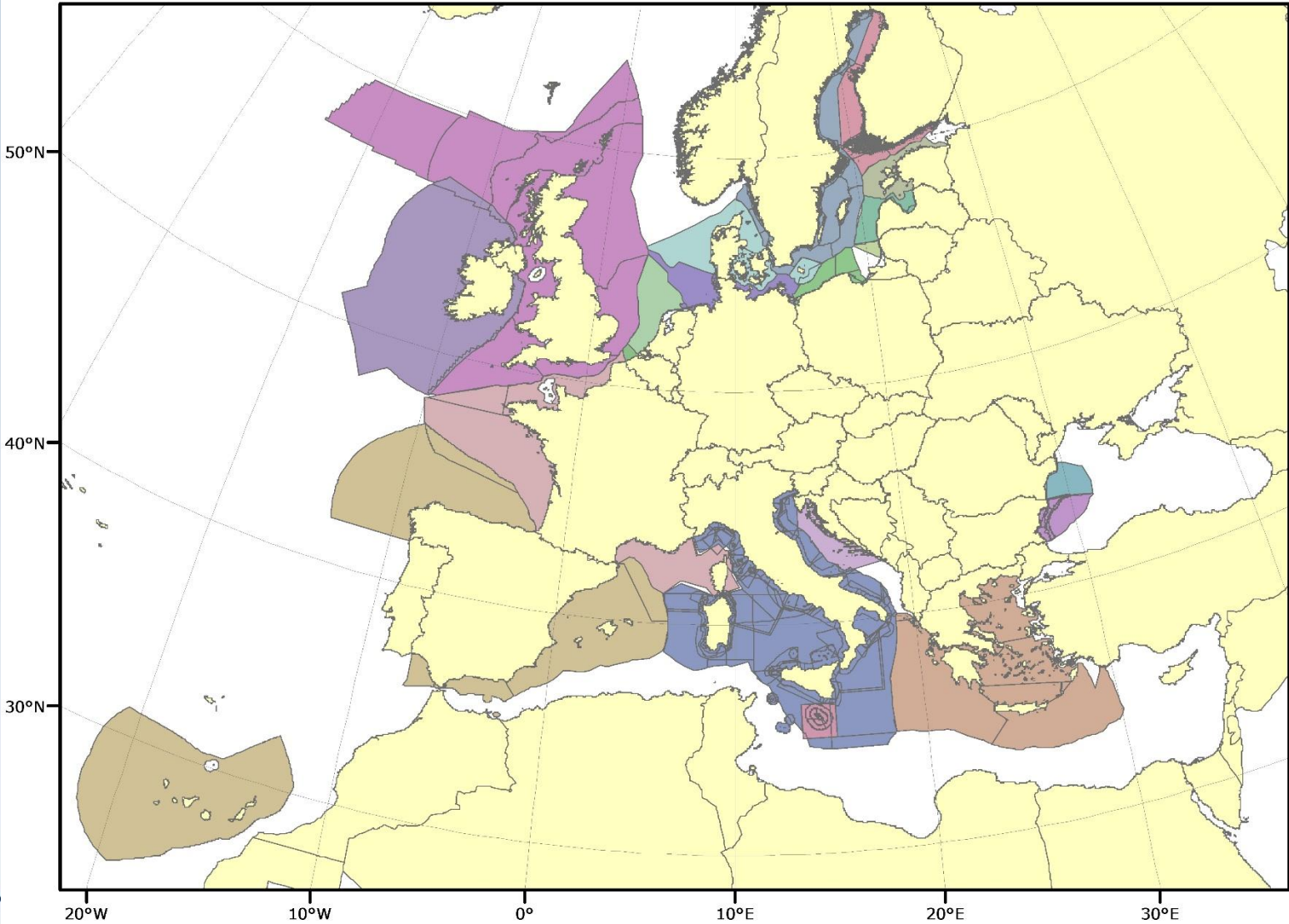
- As submitted
- Topologically cleaned
- Harmonized outer extent



MSFD regions and subregions



MSFD Assessment areas



Enhancing the GIS infrastructure

ArcGIS for Server

ArcGIS REST Services Directory

[Home](#) > [services](#)

[JSON](#) | [SOAP](#)

Folder: /

Current Version: 10.2

View Footprints In: [ArcGIS.com Map](#)

Folders:

- [ICES_Layers](#)
- [ReferenceLayers](#)
- [StationDictionary](#)
- [TestFolder](#)
- [Utilities](#)
- [WorkingGroups](#)

Services:

- [locator_r1](#) (GeocodeServer)
- [WGINOSE_rect](#) (MapServer)






Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

Geoportal

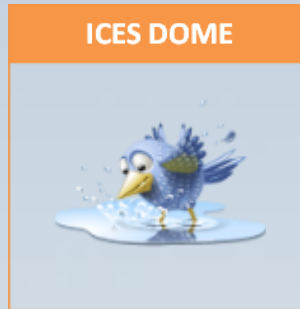
ementation of a browse tree that you can customize. The browse capability
t of classified resources in the catalog.

26 results [Filter](#) [Clear](#)

Showing 1-10 [1](#) [2](#) [3](#)

-  **ICES Oceanographic Web Service**
ICES Oceanographic Web Service provides Bottle and low resolution CTD data.
[Open](#) [Preview](#) [Details](#) [Metadata](#)
-  **ICES Platform Code Web Service**
ICES Platform Code Web Service provides platform codes from the ICES Reference Code Database.
[Open](#) [Preview](#) [Details](#) [Metadata](#)
-  **Stock assessment graphs (getLandingsGraph(key))**
The ICES ecosystem advice is based on assessment results that are presented in stock assessment standard graphs and data tables. Data and plots are available in ICES Stock Assessment Database. The ICES Stock Assessment Database data are available for the ...
[Details](#) [Metadata](#)
-  **Stock Assessment Graphs (getRecruitmentHistoricalPerformance(key))**
The ICES ecosystem advice is based on assessment results that are presented in stock assessment standard graphs and data tables. Data and plots are available in ICES Stock Assessment Database. The ICES Stock Assessment Database data are available for the ...
[Details](#) [Metadata](#)
-  **Stock assessment graphs (getFishMortality(key))**
The ICES ecosystem advice is based on assessment results that are presented in stock assessment standard graphs and data tables. Data and plots are available in ICES Stock Assessment Database.

ICES Data portal



Dataset	Measurements	No of years	Last Updated
Biological community	782 022	34	18/02/2014
Contaminants and biological effects	9 674 603	37	11/02/2014
Eggs And Larvae	1 005 122	93	20/11/2013
Fish predation (stomach contents)	1 149 608	12	16/03/2011
Fish trawl survey	5 997 390	50	11/03/2014
ICES Historical Plankton	318 319	11	21/02/2012
Oceanographic	192 870 572	122	14/05/2012

Pollution indicator


x,y,z

Stock Assessment


x,y,z

Climatology

x, y, z



9 156 392 measurements
Cont. and bio. effects



240 210 measurements
Stomach Content data



11 045 569 measurements
Fish trawl survey



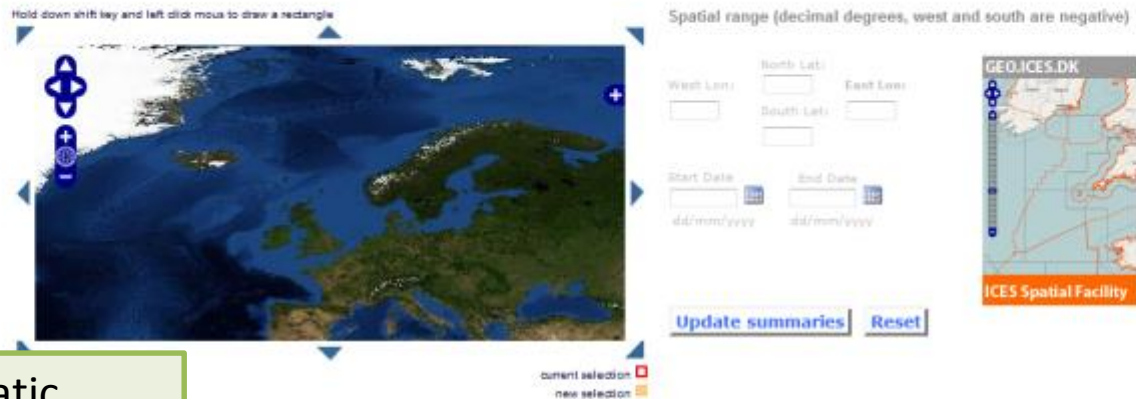
240 210 measurements
Eggs and Larvae



235 009 335 measurements
Oceanographic

ICES Data portal “EcoSystemData”

ICES DATA PORTAL



Thematic segmentation

ISO metadata

Region/Sub region segmentation

Taxonomic segmentation

ICES Areas (65) Parameter (707) Kingdom (7) Phylum (58) Class (114) Order (306) Family (884) Genus (1466) Species (4615)

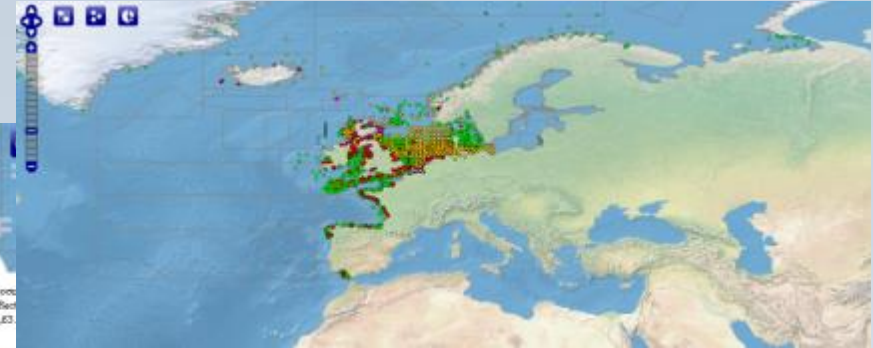
	Last Updated	Measurements	per Parameter	per Species	per Matrix
Effects	22/03/2013	692 213			
	17/04/2013	9 486 367			
	05/11/2012	996 275			
(nts)	16/03/2011	1 149 608			
	20/04/2013	5 589 224			
	21/02/2012	318 319	1965	2013	49
ICES Historical Plankton			1902	1912	11
ICES Historical Plankton	31/03/2013	318 319	1903	1913	11
ICES Historical Plankton	30/04/2013	2 280 534	1902	2013	60
ICES Historical Plankton	19/03/2011	1 748 008	1901	1901	15
ICES Historical Plankton	02/10/2012	884 312	1903	2011	65
ICES Historical Plankton	12/04/2013	8 486 367	1911	2013	20
ICES Historical Plankton	23/03/2013	983 373	1912	2013	21
ICES Historical Plankton	19/04/2013	983 373	1913	2013	21

Output formats

- CSV
- SHP
- XML (Web Services)
- KML / GML (Maps)

SHAPEFILE

MAP



XML

```
<?xml version="1.0" encoding="UTF-8" ?>
<ArrayOfDataset xmlns:xsd="http://schemas.datacontract.org/2004/07/ICES.Stat.Base.Squares" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <DatasetList>
    <key>
      <DatasetName>Oceanographic</DatasetName>
      <numMeasurements>254437325</numMeasurements>
      <numYears>122</numYears>
      <dateFirstMeasurement>22/07/1877</dateFirstMeasurement>
      <dateLastMeasurement>25/03/2010</dateLastMeasurement>
    </key>
  </DatasetList>

```

TEXT

```
Datetime;Longitude
08-12-2005 00:00;0.
data;MCP;0.04;ug/
19-12-2005 00:00;-1
data;MCP;0.025;ug/
08-11-2005 00:00;0.
data;MCP;0.04;ug/
16-11-2005 00:00;0.
data;MCP;0.08;ug/
15-12-2004 00:00;-1
data;MCP;0.025;ug/l;BF;0.5;<W;;;;;;;;;0.25;ug/l;26488_1439151335388;223C86;;
22-02-2005 00:00;-1.394;508.824;;Contaminants and biological effects;Contaminants + nutrients + biological and eutrophication effects in water
data;MCP;0.025;ug/l;BF;0.5;<W;;;;;;;;;0.25;ug/l;26488_1439261336028;223C87;;
03-03-2005 00:00;0.4598;514.984;;Contaminants and biological effects;Contaminants + nutrients + biological and eutrophication effects in water
data;MCP;0.06;ug/l;BF;0.5;<W;;;;;;;;;0.06;ug/l;26488_1438801336039;223C88;;
```


Users/Clients of data

- Regional Conventions (OSPAR, HELCOM)
- Expert groups/Advisory groups
- Member states
- Environment Agency
- World Data Centres
- Eurostat
- European Projects
- Biodiversity portals




EMODnet




Regional products

Eutrophication

ICES DATA PORTAL



Hold down shift key and left click mouse to draw a rectangle




current selection ■
new selection ■

Spatial range (decimal degrees, west and south are negative)

West Lon: East Lon:
 North Lat:
 South Lat:

Start Date: End Date:

[Update summaries](#) [Reset](#)




ICES Spatial Facility

Filter for: [Search](#) [Reset](#)

Dataset (7) Data Type (31) Matrix (51) Parameter group (35) Parameter (720) Kingdom (7) Phylum (58) Class (114) Order (304) Family (883) Genus (1465) Species (4695) OSPAR Regions (5) HELCOM Sub basins (19)

View layer	Parameter	Data Type	Measurements	First year	Last year	Years with data	per Species	per
<input checked="" type="checkbox"/>	ammonium (NH4-N)	ICE	429 524	1953	2011	50		
<input checked="" type="checkbox"/>	chlorophyll-a	ICE	180 262	1965	2011	42		
<input checked="" type="checkbox"/>	dissolved oxygen	ICE	968 302	1891	2011	111		
<input checked="" type="checkbox"/>	hydrogen ion concentration (pH)	ICE	225 633	1921	2011	82		
<input checked="" type="checkbox"/>	hydrogen sulphide (H2S-S)	ICE	17 457	1969	2011	42		
<input checked="" type="checkbox"/>	nitrate (NO3-N)	ICE	580 841	1928	2011	59		
<input checked="" type="checkbox"/>	nitrite (NO2-N)	ICE	473 430	1936	2011	58		
<input checked="" type="checkbox"/>	phosphate (PO4-P)	ICE	634 775	1928	2011	78		
<input checked="" type="checkbox"/>	salinity	ICE	2 117 494	1877	2012	118		
<input checked="" type="checkbox"/>	silicate (SiO4-Si)	ICE	509 136	1936	2011	59		
<input checked="" type="checkbox"/>	temperature	ICE	2 192 818	1877	2012	119		
<input checked="" type="checkbox"/>	total alkalinity	ICE	46 655	1921	2010	48		
<input checked="" type="checkbox"/>	total nitrogen (N)	ICE	360 115	1968	2011	42		
<input checked="" type="checkbox"/>	total phosphorus (P)	ICE	408 932	1967	2011	45		



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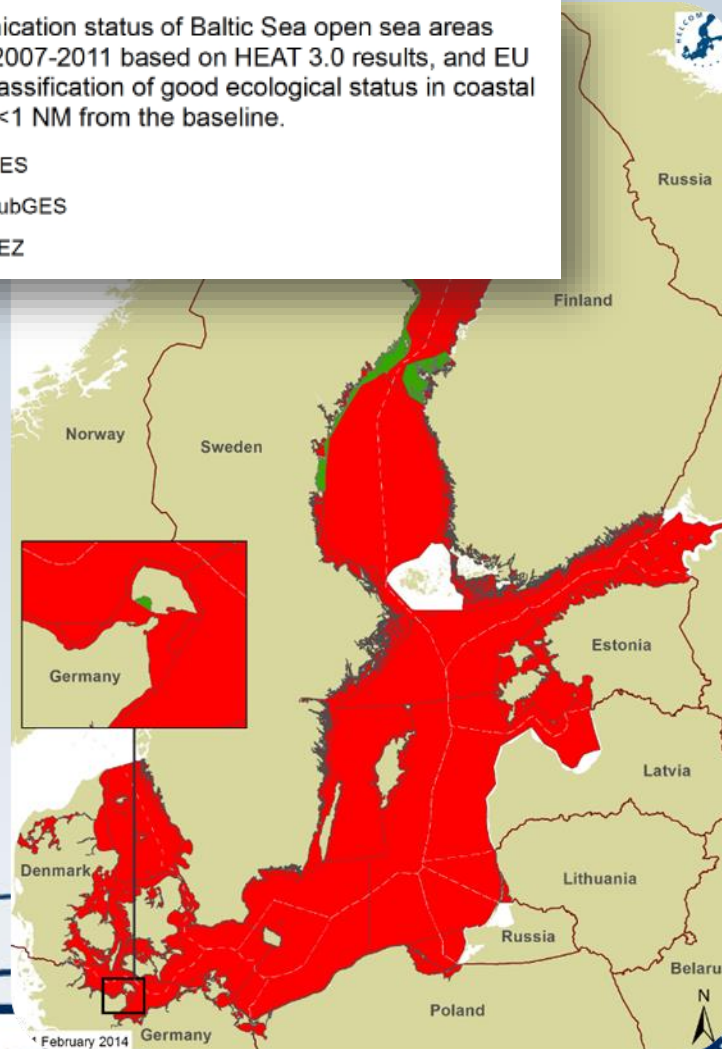
Regional products

Eutrophication



Eutrophication status of Baltic Sea open sea areas during 2007-2011 based on HEAT 3.0 results, and EU WFD classification of good ecological status in coastal waters <1 NM from the baseline.

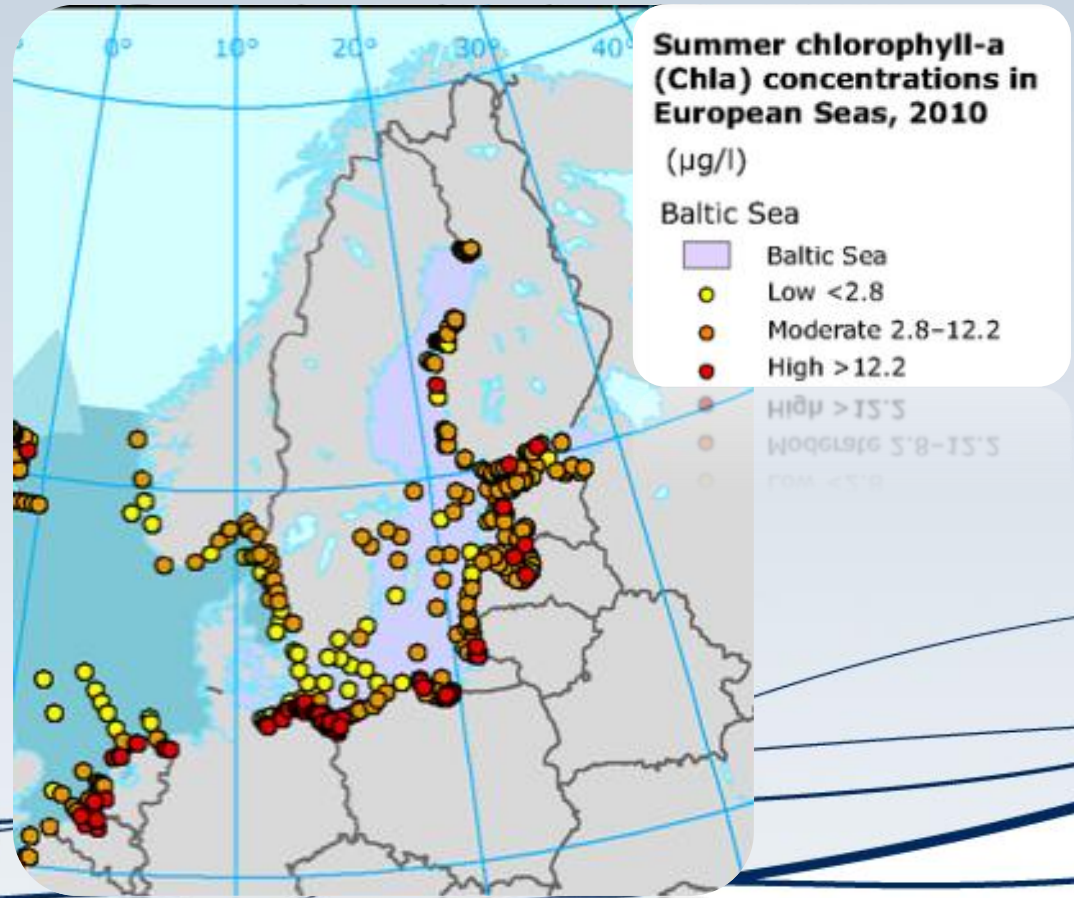
- GES
- SubGES
- EEZ



Regional products

Eutrophication

European Environment Agency



ICES

International Council for
the Exploration of the Sea

CIEM

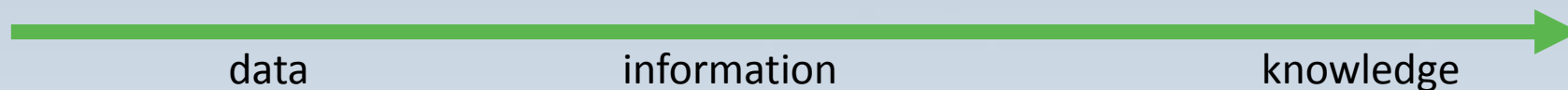
Conseil International pour
l'Exploration de la Mer

Data and Information plan

Highlights

Promote the advancement of data and information services for science and advice needs on **regionally or sub-regionally level**, such as operational products for Marine spatial planning, the Data Collection Framework/Multi-annual programme and the Marine Strategy Framework Directive;

Data → Information flow for MSFD



(coordinated)
Monitoring

Data provision

Ingestion

Data assembly
(products)

Indicator
provision

Assessment
product(s)

D3: 1.3.1 fisheries population demographics

data

information

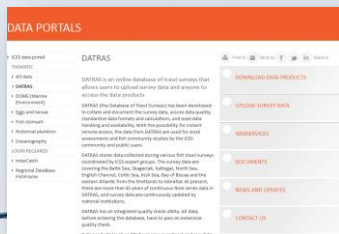
knowledge

IBTSWG/DCF



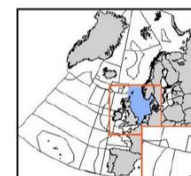
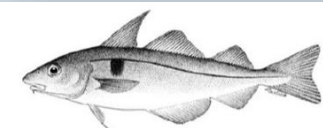
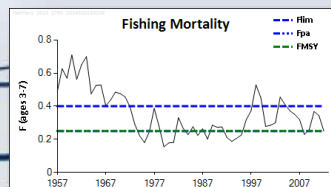
National Fisheries Institutes

DATRAS (trawl survey regional database)



CPUE age/subarea

Indicator provision



The advice applies to the blue area. Stock distribution and management areas may be different.

Assessment product(s)