ICES – Web services & Data services

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FixO3 Network – Workshop
16th April 2015
Outline of the presentation

- ICES in a nutshell
- What is the our data strategy
- How can we professionalise knowledge
- ICES Data Governance
- Where is the data in ICES
- ICES Data policy
- How to access/use data from ICES
Marine Science Cooperation since 1902; 20 Member Countries; Intergovernmental Organization; Legal basis, 1964 Convention
360 Institutes; A network of 4,000 scientists; 1,600 scientists participating in activities annually; >100 Expert Groups that address the many diverse issues of marine ecosystems and ocean sustainability.
ICES strategy on data handling/databases
Professionalising knowledge and data products

Reality – it works!!
Professionalising knowledge and data products

Moving from an semi-informal arrangement where:

- Operators are not always clear or known
- Methodologies are sometimes opaque or not known
- Timetable is elastic
- Services/products are ad hoc or not clearly outlined
- Access rights are shaky
ICES plans for this advice to be operational, by which it means having a clearly defined business process that outlines:

- Roles/Responsibilities
- Operators
- Methodologies
- Timetables
- agreed deliveries services/products
- Access rights
- Etc.
I think we should build an SQL database.

Uh-oh.

Does he understand what he said or is it something he saw in a trade magazine ad?

What color do you want that database?

I think mauve has the most RAM.

Source: dilbert.com
Data governance - Vocabularies

ICES Reference Codes
http://vocab.ices.dk/

ICES Reference Codes
RECO Vocabulary v2.0

Release Date: Feb 1, 2015 3:00AM

Select a data theme

Search by keyword
Leave blank to see all.

Showing Environmental Theme

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Data Governance - Services

- Inventory
- Maps
- Charts
- Vocabulary
- Meta data services
- Download
- CSV
- XML
- Web services
Overview of the data

- 996,282 measurements | ICES Historical Plankton
- 318,319 measurements | ICES Historical Plankton
- 1,149,608 measurements | Stomach Content data
- 5,638,877 measurements | Fish trawl survey
- 245,470,249 measurements | Oceanographic
- 9,547,077 measurements | Cont. and bio. effects
- 240,210 measurements | Biological community

Bar chart with the number of years per dataset:

- ICES Historical Plankton: 91 Years (11 years)
- Stomach Content data: 49 Years (11 years)
- Fish trawl survey: 122 Years (33 years)
- Oceanographic: 30 Years

ICES Historical Plankton: 11 Years
Stomach Content data: 49 Years
Fish trawl survey: 122 Years
Oceanographic: 30 Years
Where is the data in ICES

Enviromental Data Portal (DOME)

DATA PORTALS

DOME (Marine Environment)

Data portal used by OSPAR, HELCOM, AMAP and Expert Groups in the management of chemical and biological data for regional marine assessments

About the data
A large portion of the data held are monitoring data submitted for the OSPAR CEMP and HELCOM COMBINE monitoring programmes and therefore follow specific monitoring programme guidelines. While these programmes have key components which are monitored yearly at defined stations, components which are under development are also included. The result is a broad spectrum of chemical parameters from metals, PAHs, brominated flame retardants, TBT and TBT effects in sediment and biota, to histopathology, ocean acidification and benthos and plankton data. DOME also includes methods and quality assurance data such as the reporting of uncertainty on a single component basis to

http://dome.ices.dk
Where is the data in ICES

Oceanography Data Portal (OCEAN)

http://ocean.ices.dk
**Where is the data in ICES**

**Database of Trawl surveys (DATRAS)**

**DATRAS**

If you have problems with downloading, click here

<table>
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<th>Data products</th>
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Only preliminary data for the latest year and quarter

Ship(s)

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<tbody>
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**http://datras.ices.dk**
Where is the data in ICES

Eggs and Larvae data portal

http://eggsandlarvae.ices.dk
Where is the data in ICES

Stomach content data portal

FISH STOMACH DATA

About this dataset

While ICES has made every effort to ensure that the dataset presented here is the most complete set of information, it should be noted that there are a number of versions of this dataset held by institutions and individuals which may differ from this set. To read about the provenance of this time series, please [click here]

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http://www.ices.dk/marine-data/data-portals/Pages/Fish-stomach.aspx
Where is the data in ICES

Historical Plankton dataset

ICES Data Centre
Historical Plankton Fact Sheet
February 2013

ICES Historical Plankton Dataset - Securing and making the data available
Where is the data in ICES

Stock Assessment Graphs

TOOLS

Stock assessment graphs

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.

About

The ICES Stock Assessment Database data are available for the analytically assessed ICES stocks from 2014 onwards. Plots and data from previous assessments will be made available when the data and settings have been quality controlled.

Usage and Citation

Data from published advice can be downloaded, please refer to the ICES Data Policy for full conditions and guidance on citation. When publishing results from the database the minimum citation should include “ICES Stock Assessment Database, YEAR/MONTH, ICES, Copenhagen”

ICES Advice Groups

ICES experts can upload data, make and edit graphs in preparation for new ICES advice (login required).

Too many websites?

ICES Data Portal has integrated all datasets

- **ICES OCEAN**: For more detailed information and data products related to the physical conditions of the marine environment, visit [OCEAN](#).
- **ICES DATRAS**: For more detailed information and data products related to Fish Trawl surveys, visit [DATRAS](#).
- **ICES DOME**: For more detailed information and data products related to biological communities or Contaminants and biological effects, visit [DOME](#).
- **ICES HISTORICAL PLANKTON**: For more detailed information and data products related to ICES Historical Plankton Dataset, click [HERE](#).
- **ICES STOMACH DATA**: For more detailed information and data products related to stomach data, visit [STOMACH DATA](#).
- **ICES EGGS AND LARVAE**: For more detailed information and data products related to Fish egg and fish larvae dataset, click [HERE](#).
ICS Data Portal

Why gathering all ICES Data in one Portal

– integrated repository of data

– international collection of different kinds of marine related data

– integration of distinct formats previously held in disjointed data structures and systems

EcoSystemData

Stomach content data

Environmental data

Fisheries data

Historical plankton

Hydrographic data

Eggs and Larvae

Synergy

Ecosystem approach

Multispecies

Multidisciplinary

Integrated assessment
ICES Data policy

From the ICES data portal all data is free, accessible and downloadable
How to have an overview of all the data?

Inventory of the data

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How to access/use ICES data?

Data is available in all portals and integrated in the ICES main data portal (http://ecosystemdata.ices.dk)

1) Download
2) Web services
3) Mapping
Datasets and maps have metadata and are organized

http://geo.ices.dk

Welcome to the ICES Spatial Facility, this facility contains a collection of metadata and spatial datasets relevant to the ICES community, featuring:

- **Free access** for search, viewing and download of spatial data, no need to login.
- For download of data you must accept the [ICES data policy](http://geo.ices.dk).
- Use the maps in map clients through [WMS](http://geo.ices.dk).
- Upload of spatial data (shape file format) and metadata (ISO 19115/19139).
- For upload of data you need to login [Contact us](http://geo.ices.dk) to get an account, specifying who you are.

The Working Group on Marine Habitat Mapping (WGMHM) maintains a collection of habitat map data.

- See a [view](http://geo.ices.dk) of the Marine Habitat Map outlines/metadata and descriptions maintained by WGMHM.
- For instructions on how to capture metadata in relation to Working Group on Marine Habitat Mapping (WGMHM).

[ICES Spatial Facility](http://geo.ices.dk)

**Popular maps...**

- ICES Statistical Areas
- ICES Statistical Rectangles
- ICES Ecoregions
- HELCOM sub-basins
- OSPAR Regions
Web map services

Get the regions from the spatial facility server using WMS

EcoRegions get from ICES Spacial facility server
ICES - Web services are organized and documented

http://gis.ices.dk/geoportal/catalog/main/home.page
Web services

Using the web services to download data from DATRAS
Thank you for your attention

More information
www.ices.dk