

Towards better data access: the development of a new data download tool for marine biological data

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IMDIS 2016, Gdansk

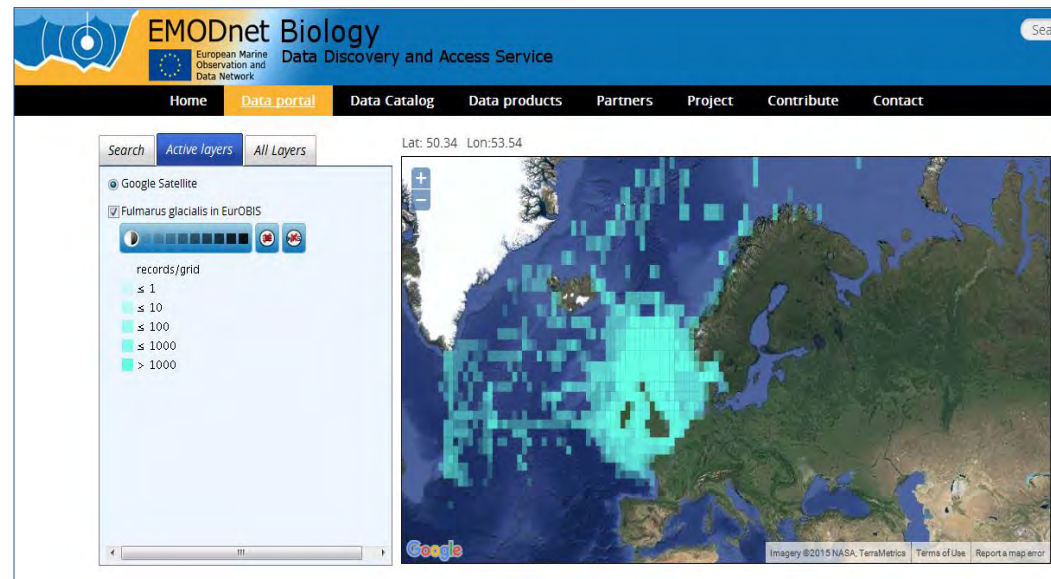


EMODnet



EMODnet Biology?

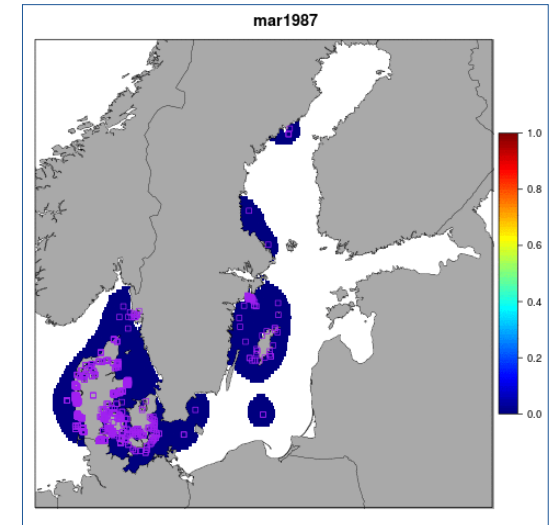
- Assemble fragmented and inaccessible marine data
- Provide access to these marine species data:
 - Temporal & spatial distribution
 - Species traits: trophic groups, importance to society
- Main components
 - WoRMS
 - EurOBIS-OBIS



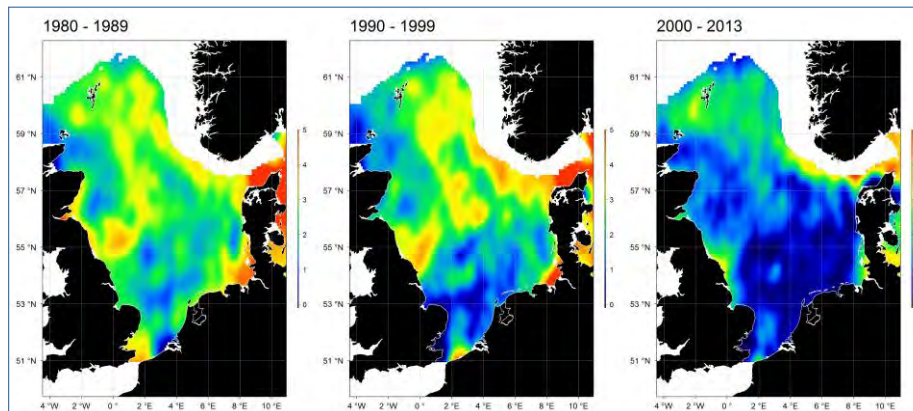


Data portal

- Raw data:
 - Taxonomic & functional data
 - Available through portal & toolbox
- Data products: spatial modelling
 - Trends in abundances over space & time
- Focus on indicator species



Marenzelleria abundance showing multiple invasions in Baltic Sea

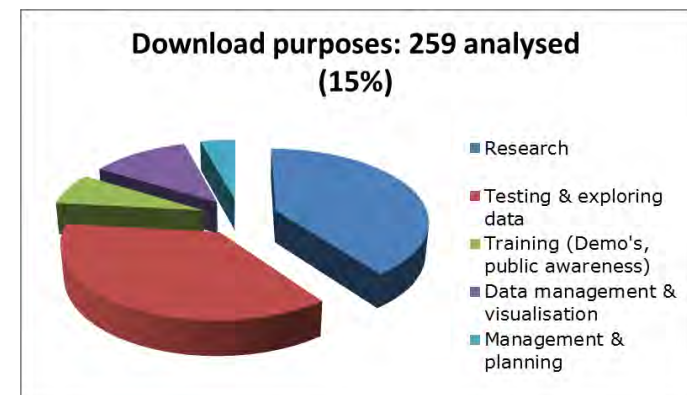
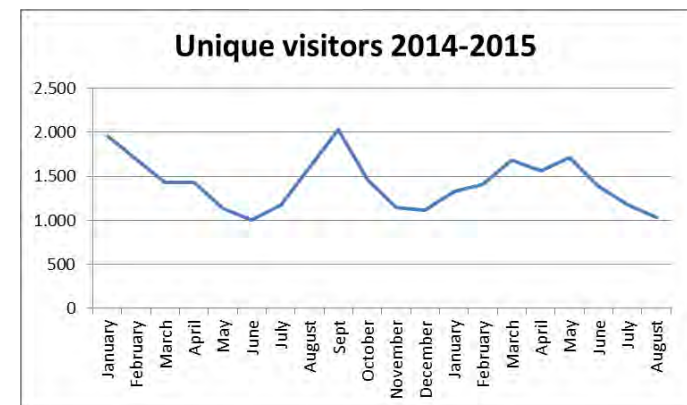
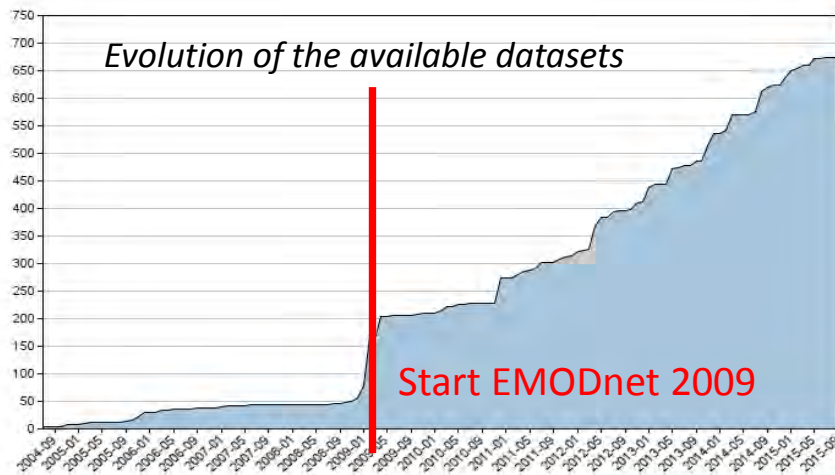


Gridded Cod (Gadus morhua) abundance illustrating the dramatic decrease of the cod stock in the North Sea



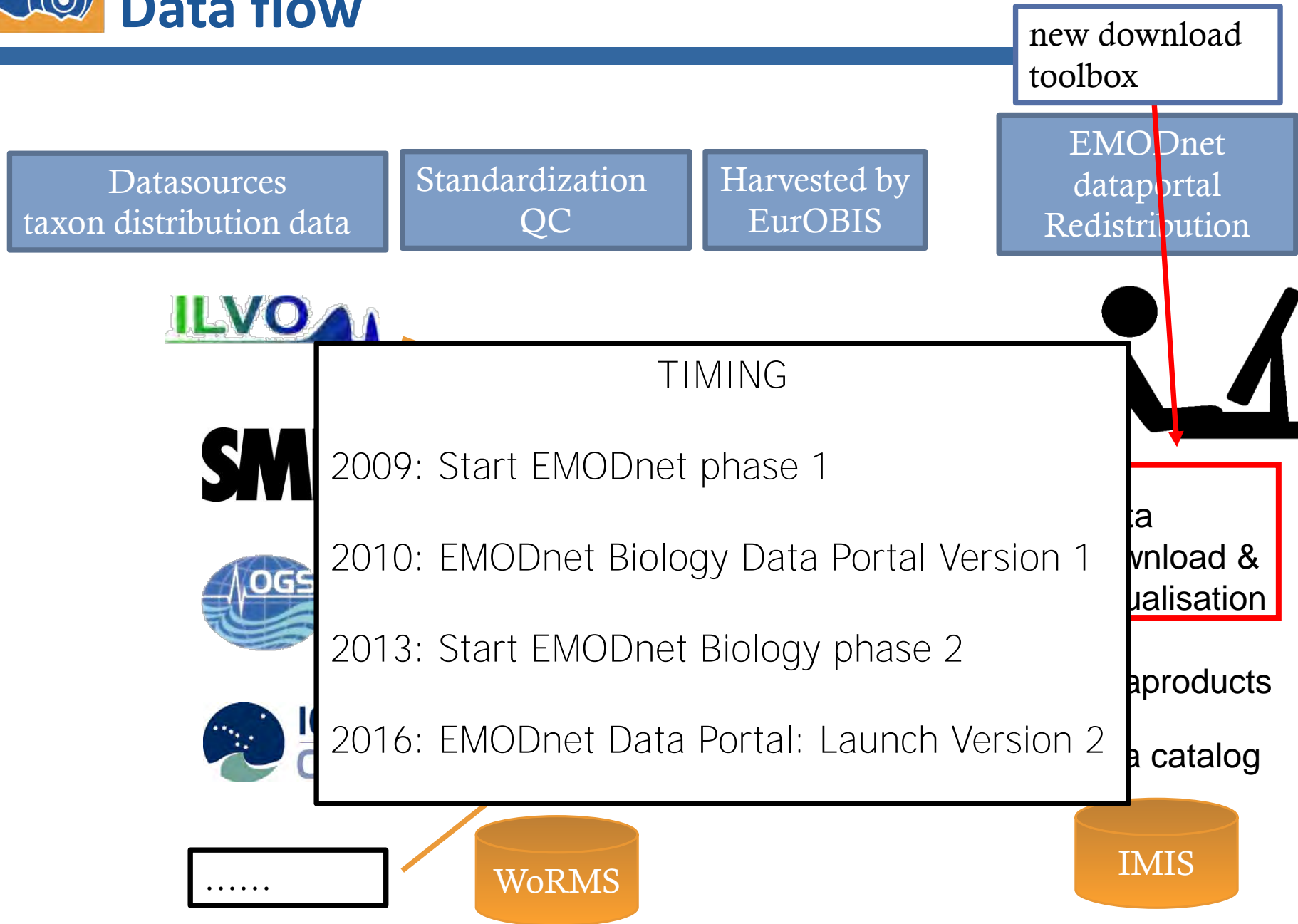
Data portal

- 159 contributing institutes
- 711 datasets (research & monitoring)
- 21,2 million distribution records
- Main contributor to OBIS
- Many users, various purposes





Data flow





User analysis

- User analysis of the Data Portal
 - Usage of the portal
 - Identifying user needs
 - EU-requirements

EMODnet Biology
European Marine Observation and Data Network
Data Discovery and Access Service

Home Data portal Data Catalog Data Download Data products Project Contribute Contact

Search Active layers All Layers

Search for species names or datasets:
Gadus morhua

Or
Select from available species lists:
Select a species list

Reset search

A manual is available here.
For questions or feedback, please use this form.

Lat: 58.33 Lon:-18.35

Google

Taxa(1) Datasets(5) Layers(2)

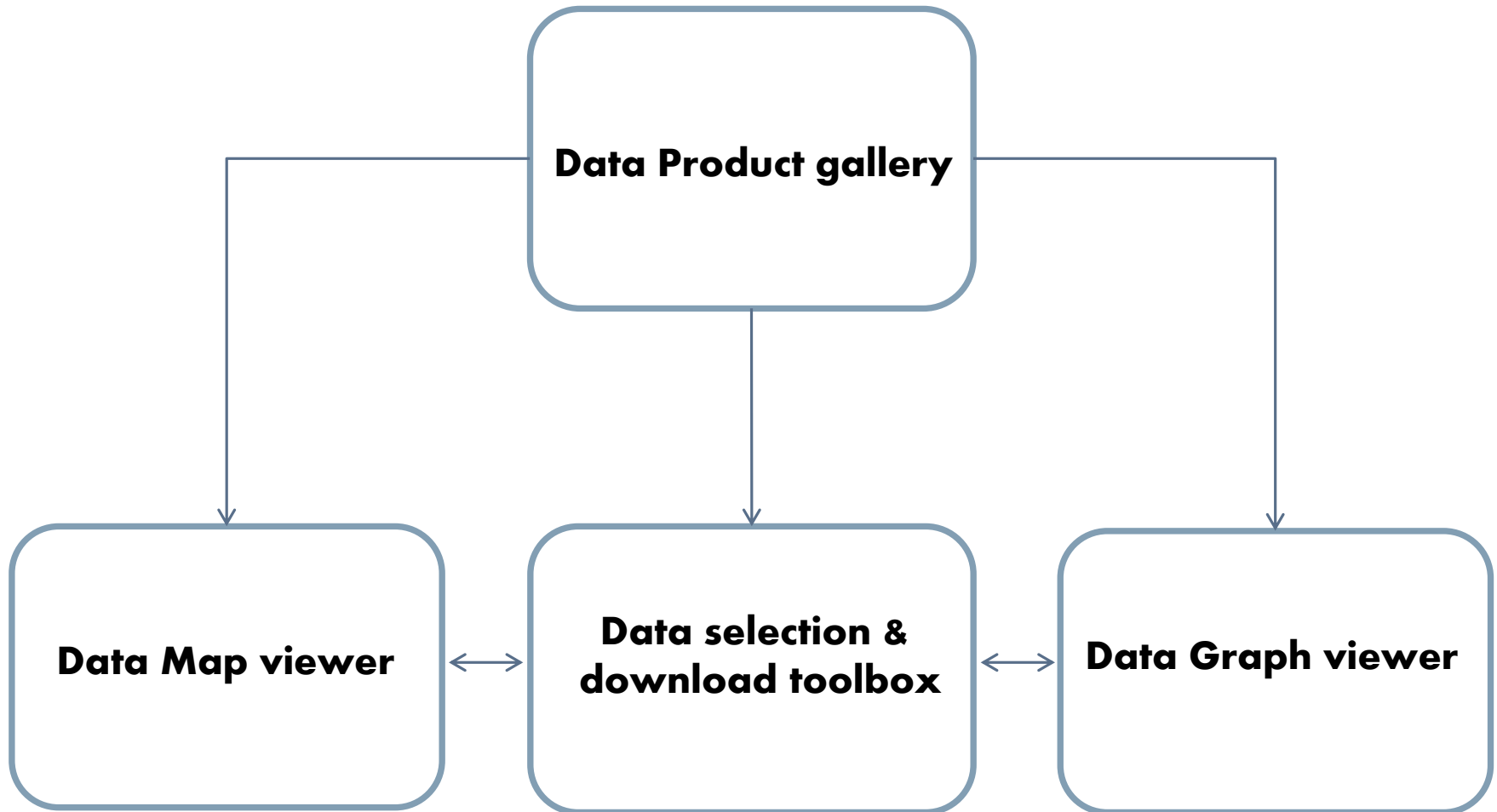
ScientificName	Authority	Common name	RecordCount	Display
Gadus morhua	Linnaeus, 1758	Atlantic cod; kabeljauw; cod; cabillaud; Kabeljau	652,979	

Limited search possibilities

Time-dependent visualisation not possible

Download, filter, plot 1 dataset or 1 taxon

- Re-thinking the EMODnet Biology Data Portal



Occurrence Data > Explore

+ Select Datasources (optional)

+ Select the geographical area (optional)

+ Select the time period (optional)

Selection overview

∞ Datasources

∞ Spatial

∞ Temporal

Approx. records: 20 000 000

Next >

Actions

⬇ Upload Selection

Home Data portal Data Catalog **Data Download** Data products Project Contribute Contact Blog

Occurrence Data > Explore

+ Select Datasources (optional)

Free text:

Datasource:

Data origin:

Country:

Dataset Name	
Continuous Plankton Recorder (Phytoplankton) ⓘ	+
Continuous Plankton Recorder (Zooplankton) ⓘ	+

1 to 2 of 2 records (663 total) **1**

+ Select the geographical area (optional)

+ Select the time period (optional)

Selection overview

- ∞ Datasources
- ∞ Spatial
- ∞ Temporal

Approx. records: 20 000 000

Actions

records selected

Home Data portal Data Catalog **Data Download** Data products Project Contribute Contact Blog

Occurrence Data > Explore

+ Select Datasources (optional)

Free text:

Datasource:

Data origin:

Country:

Dataset Name	
Continuous Plankton Recorder (Phytoplankton) <i>i</i>	<input type="button" value="+"/>
Continuous Plankton Recorder (Zooplankton) <i>i</i>	<input type="button" value="+"/>

1 to 2 of 2 records (663 total)

+ Select the geographical area (optional)

+ Select the time period (optional)

Selection overview

- 1 Datasources
 - Continuous Plankton Recorder (Z...
- ∞ Spatial
- ∞ Temporal

Approx. records: 4 000 000

Actions

Add to basket

Selecting data sources










+ Select Datasources (optional)

+ Select the geographical area (optional)

Marine Regions

Name:

Region type:

Region Type	Name	
Marine Region	Belgian part of the North Sea 	<input type="button" value="+"/>
Marine Region	Danish part of the North Sea 	<input type="button" value="+"/>
Marine Region	Dutch part of the North Sea 	<input type="button" value="+"/>
Marine Region	French part of the North Sea 	<input type="button" value="+"/>
Marine Region	German part of the North Sea 	<input type="button" value="+"/>
ICES Ecoregion	Greater North Sea 	<input type="button" value="+"/>
IHO Sea Area	North Sea 	<input type="button" value="+"/>
Marine Ecoregion of the World (MEOW)	North Sea 	<input type="button" value="+"/>
Marine Region	Norwegian part of the North Sea 	<input type="button" value="+"/>
Marine Region	United Kingdom part of the North Sea 	<input type="button" value="+"/>

1 to 10 of 10 records (308 total)

Previous **1** Next

Powered by  Marineregions.org

Manually on a map



Max. Latitude:

Min. Latitude:

Max. Longitude:

Selection overview

- 1 Datasources 
 - Continuous Plankton Recorder (Zo... 
- 1 Spatial 
 - North Sea 
- ∞ Temporal

Approx. records: 1 000 000

Actions

Add to basket

Selecting geographical area

Occurrence Data > Explore

+ Select Datasources (optional)

+ Select the geographical area (optional)

+ Select the time period (optional)

Year or Date

From: 1990-01 

To: 2000-01 

Seasons:

Winter

Spring

Summer

Autumn

Add +


Selection overview

- 1 Datasources 
Continuous Plankton Recorder (Zo... 
- 1 Spatial 
North Sea 
- 1 Temporal 
1990-01 to 2000-01 

Approx. records: 200 000

Next >

Actions

 Upload Selection

Selecting temporal scope

Occurrence Data > Explore > Select

+ Taxonomic Search (optional)

Attribute: ▾

Sub attribute: ▾

Taxon Name:



Scientific Name	Common name(s)	AphiaID	
Calanus		104152	+ ▾
Calanus finmarchicus		104464	+ Add taxon
Calanus helgolandicus		104466	+ ▾
Calanus hyperboreus		104467	+ ▾

1 to 4 of 4 records (45,315 total)

+ Occurrence's measurement type (optional)

+ Data Precision (optional)

Selection overview

- 1 Datasources
Continuous Plankton Recorder (Zo...
- 1 Spatial
North Sea
- 1 Temporal
1990-01 to 2000-01
- 1 Taxa
Calanus finmarchicus  
- 00 Measurement Type
- 00 Data Precision

Approx. records: 5 000

Selecting taxonomic scope

Occurrence Data > Explore > Select

+ Taxonomic Search (optional)

+ Occurrence's measurement type (optional)

Abundance

Biomass

+ Data Precision (optional)

Selection overview

- 1 Datasources
Continuous Plankton Recorder (Zo...
- 1 Spatial
North Sea
- 1 Temporal
1990-01 to 2000-01
- 1 Taxa
Calanus finmarchicus
- 1 Measurement Type
Abundance
- ∞ Data Precision

Approx. records: 0

< Previous

Next >

Selecting quantitative data

Data Actions

[Download Data](#)

No Measurement or Facts Data for this selection

Actions

[Upload Selection](#)

[Save Selection](#)

[Share](#)

[Get webservice url](#)

[New Selection](#)

Data download

Occurrence data

Measurements or Facts

Share Options

Save selection (JSON File)

Share selection (URL)

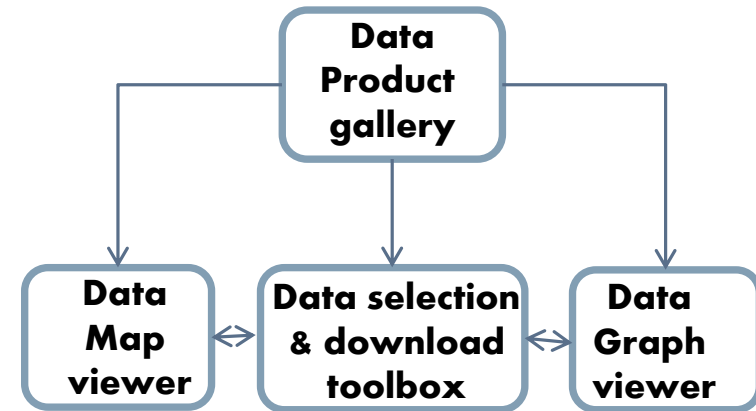
Web service to data (WFS)

Start new selection (Reset)



In conclusion

- Reduce complexity
 - Don't try to integrate everything (products vs. raw data)
 - Very user-friendly
- Remove barriers - prevent frustrations
 - "What you see is what you get"
- High performance & transparency
 - Real time overview of estimated # records
 - No endless waiting time
 - Based on web-services





Thank you

Questions?

www.emodnet-biology.eu - bio@emodnet.eu

