# The European Ocean Biogeographic Information System (EurOBIS): online source for marine quality controlled biogeographic data

Leen Vandepitte, Filip Waumans, Daphnis De Pooter, Bart Vanhoorne, Simon Claus & Francisco Hernandez

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LIFEWATCH

EurOBIS

- What is EurOBIS?
- What to expect from EurOBIS?
- The bigger picture: links with other systems
- Data quality control & fitness for purpose of the data
- Data access
- Data publication
- Hands-on

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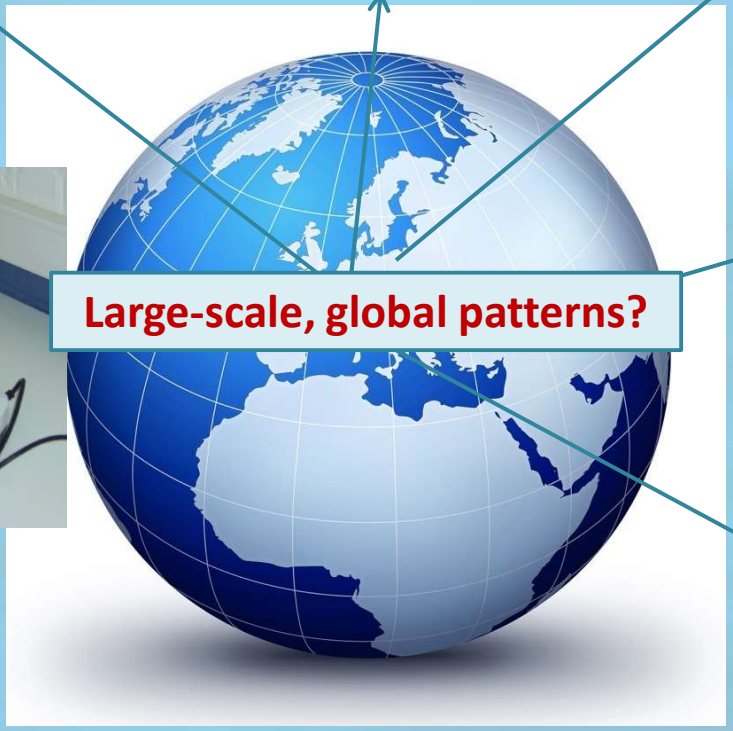
## Scattered data and information ….

- Research projects / PhD
- Temporal boundaries
- Spatial boundaries
- Financial limitations

- Data collection
- Data analysis
- Publication
- Classifying data



**Large-scale, global patterns?**

## … brought together into one system

- ***European Ocean Biogeographic Information System (EurOBIS)***:
  - MarBEF NoE (2004-2009) – EMODnet (2009-2012) – LifeWatch (2012 - …)
  - Focus: taxon distribution data in space & time
  - Aims:
    - 1 access point for marine biogeographic data
    - Easy & free data access
    - Indication of fitness for use (QC)

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- ***What to expect?***
  - Occurrence data from: literature, monitoring, research, museum collections…
  - 651 datasets
  - 18,6 million occurrence records => 16,2 million pass basic QC analysis
  - 55,831 species names, of which 24,337 are accepted & linked to WoRMS

  - (Almost) monthly additions & updates
  - Overview of latests dataset & new species additions through RSS-feeds

- **Data details**
  - OBIS Scheme: 74 data fields
    - 6 required
    - 15 highly recommended
    - 53 optional

  - Compliant/compatible with DarwinCore (IPT)
    - Simple Darwin Core => occurrence information => 161 data fields
    - Measurements Or Facts (extension) => related information => 10 data fields

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# The basic data

WHAT?

+

| | | | |
|---|---|---|---|
| Scientific Name | Required | Text | The full name of lowest level taxon the Cataloged Item can be identified as a member of; includes genus, specific epithet, and subspecific epithet (zool.) or infraspecific rank abbreviation, and infraspecific epithet (bot.) Use name of suprageneric taxon (e.g., family name) if Cataloged Item cannot be identified to genus, species, or infraspecific taxon. |
| Basis of record | Highly Recommended | Text | An abbreviation indicating whether the record represents an observation (O) (this can include a visual observation, a survey catch, a commercial landing record, etc), a collected living organism, such as a tree in a botanical garden (L), a specimen in a collection/museum (S), a collected germplasm/seed (G), a photo (P), or derived from literature, where original basis unknown (D). |

WHERE?

+

| | | | |
|---|---|---|---|
| Latitude | Required | Numeric | The latitude of the location from which the specimen was collected. This value should be expressed in decimal degrees (East & North = +; West & South = -). GPS-derived data must use the WGS 84 geodetic reference system (http://www.wgs84.com/). |
| Longitude | Required | Numeric | The longitude of the location from which the specimen was collected or in which the sample/observation/record event occurred. This value should be expressed in decimal degrees (East & North = +; West & South = -). GPS-derived data should be referenced to the WGS/84 datum. |
| Coordinate Precision | Highly Recommended | Numeric | An estimate of how tightly the locality was specified in the Latitude and Longitude fields; expressed as a distance, in meters, that corresponds to a radius around the latitude-longitude coordinates. Use NULL where precision is unknown, cannot be estimated, or is not applicable. |

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BY WHO?

| | | | |
|---|---|---|---|
| Institution Code | Required | Text | A "standard" code identifier that identifies the institution to which the collection belongs, if there is one. Use the code that is "standard" in your discipline, if there is one (no global registry exists for assigning institutional codes). If not, use a short version of the name of the institution. (e.g. "NMNH" for Smithsonian National Museum of Natural History or "Duke" for Duke University). |
| Collection Code | Required | Text | A unique alphanumeric value which identifies the collection within the institution (e.g. "FishBase"). |
| Catalog Number | Required | Text / Numeric | A unique alphanumeric value which identifies an individual record within the collection, i.e. the key. It is recommended that this value provides a key by which the actual specimen/observation can be identified. If the specimen/observation has several items such as various types of preparation, this value should identify the individual component of the specimen. |

+

WHEN?

| | | | |
|---|---|---|---|
| Year Collected | Highly Recommended | Numeric | The year (expressed as an integer) the sample/observation/record event occurred. The full year should be expressed (e.g. 1972 must be expressed as "1972" not "72"). Must always be a four digit integer. Where the event covers a range of values for year, indicates the mid-point of that range. |
| Month Collected | Highly Recommended | Numeric | The month of year the sample/observation/record event occurred in the field. Where the event covers a range of values for month, indicates the mid-point of that range. Leave blank if even spans multiple years. |
| Day Collected | Highly Recommended | Numeric | The day of the month the sample/observation/record event occurred in the field. Possible value ranges from 01..31 inclusive. Where the event covers a range of values for day, indicates the mid-point of that range. Leave blank if event spans multiple months. |

= Presence of taxon at certain place and time, observed by someone

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# The more detailed data

HOW MANY?

| | | | |
|---|---|---|---|
| Observed Individual Count | Highly Recommended | Numeric | The number of individuals (abundance) found in a collection/record event. |
| SampleSize<br>SamplingEffort | Highly Recommended | Text | Samplesize: the size of the sample from which the collection/observation was drawn. It can be a volume (e.g. for a phytoplankton sample), a linear distance (e.g. for a visual transect or net haul), a surface area (e.g. for a benthic core), etc. This field must also include the units, e.g. ?200 m? for a transect, or ?0.25 m^2? for a benthic grab (use ^ to denote a superscript). Note that when multiple collections/observations are reported from the same physical sample, a code identifying the sample can be placed in the Field_Number field to allow all collections/observations from a single sample to be connected. |

SamplingProtocol

= Abundance of taxon at certain place and time, observed by someone

OTHER ASSOCIATED DATA?

| | |
|---|---|
| MeasurementType | The nature of the measurement, fact, characteristic, or assertion. Recommended best practice is to use a controlled vocabulary. |
| MeasurementValue | The value of the measurement, fact, characteristic, or assertion. |
| MeasurementUnit | The units associated with the measurementValue. Recommended best practice is to use the International System of Units (SI). |

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# The more detailed data (bis)

DETAILS ON "WHAT"?

| | | | |
|---|---|---|---|
| Sex | Optional | Text | The sex of a specimen or collected/observed individual(s). The domain should be a controlled set of terms (codes) based on community consensus. Proposed values: M=Male; F=Female; H=Hermaphrodite; I=Indeterminate (examined but could not be determined; U=Unkown (not examined); T=Transitional (between sexes; useful for sequential hermaphrodites); B = Both Male and Female |
| Life Stage | Optional | Text | Indicates the life stage present. Will require developing a controlled vocabulary. Can include multiple stages for a lot with multiple individuals. |
| Kingdom | Highly Recommended | Text | The kingdom to which the organism belongs. |
| Phylum | Optional | Text | The phylum (or division) to which the organism belongs |
| Class | Optional | Text | The class name of the organism |
| Order | Optional | Text | The order name of the organism |
| Family | Optional | Text | The family name of the organism |
| Scientific Name Author | Optional | Text | The author of a scientific name. Author string as applied to the accepted name. Can be more than one author (concatenated string). Should be formatted according to the conventions of the applicable taxonomic discipline. Parentheses should be applied as appropriate for the relevant rules of Nomenclature (ICZN/ICBN) for the name. For example, if the name of an animal has undergone a genus revision, the authority and year should be placed in parentheses. Example: (Hastings, 1986) |

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**Scientific name: Chondracanthus, unknown species**

Kingdom Plantae (Rhodophyta)

Kingdom Animalia (Crustacea)

**Scientific name: *Alebion***

*Alebion* Krøyer, 1863

=> Animalia, Crustacea, parasitic copepods

*Alebion* Gray, 1867

=> Animalia, Porifera

=> Accepted as *Iophon* Gray, 1867

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# The more detailed data (tris)

DETAILS ON "WHERE"

| | | | |
|---|---|---|---|
| Minimum Depth | Highly Recommended | Numeric | The minimum distance in meters below the surface of the water at which the collection/record was made; all material collected was at least this deep. Positive below the surface, negative above (e.g. collecting above sea level in tidal areas). |
| Maximum Depth | Highly Recommended | Numeric | The maximum distance in meters below the surface of the water at which the collection/record was made; all material collected was at most this deep. Positive below the surface, negative above (e.g. collecting above sea level in tidal areas). |
| Continent Ocean | Optional | Text | The continent or ocean from which a specimen was collected or in which the sample/observation/record event occurred. OBIS recommends that ocean names follow the NASA Global Change Master Directory list of Bodies of Water |
| Country | Optional | Text | The country or major political unit from which the specimen was collected or in which the sample/observation/record event occurred. ISO 3166-1 values should be used. Full country names are currently in use. A future recommendation is to use ISO3166-1 two letter codes or the full name when searching |
| Locality | Optional | Text | The locality description (place name plus optionally a displacement from the place name) from which the specimen was collected or in which the sample/observation/record event occurred. Where a displacement from a location is provided, it should be in un-projected units of measurement (e.g. "7 miles north of Hawaii"). It is strongly recommended that Locality be used, to allow cross-checking of the latitude and longitude fields |
| Notes | Optional | Text | Free text notes attached to the specimen record |

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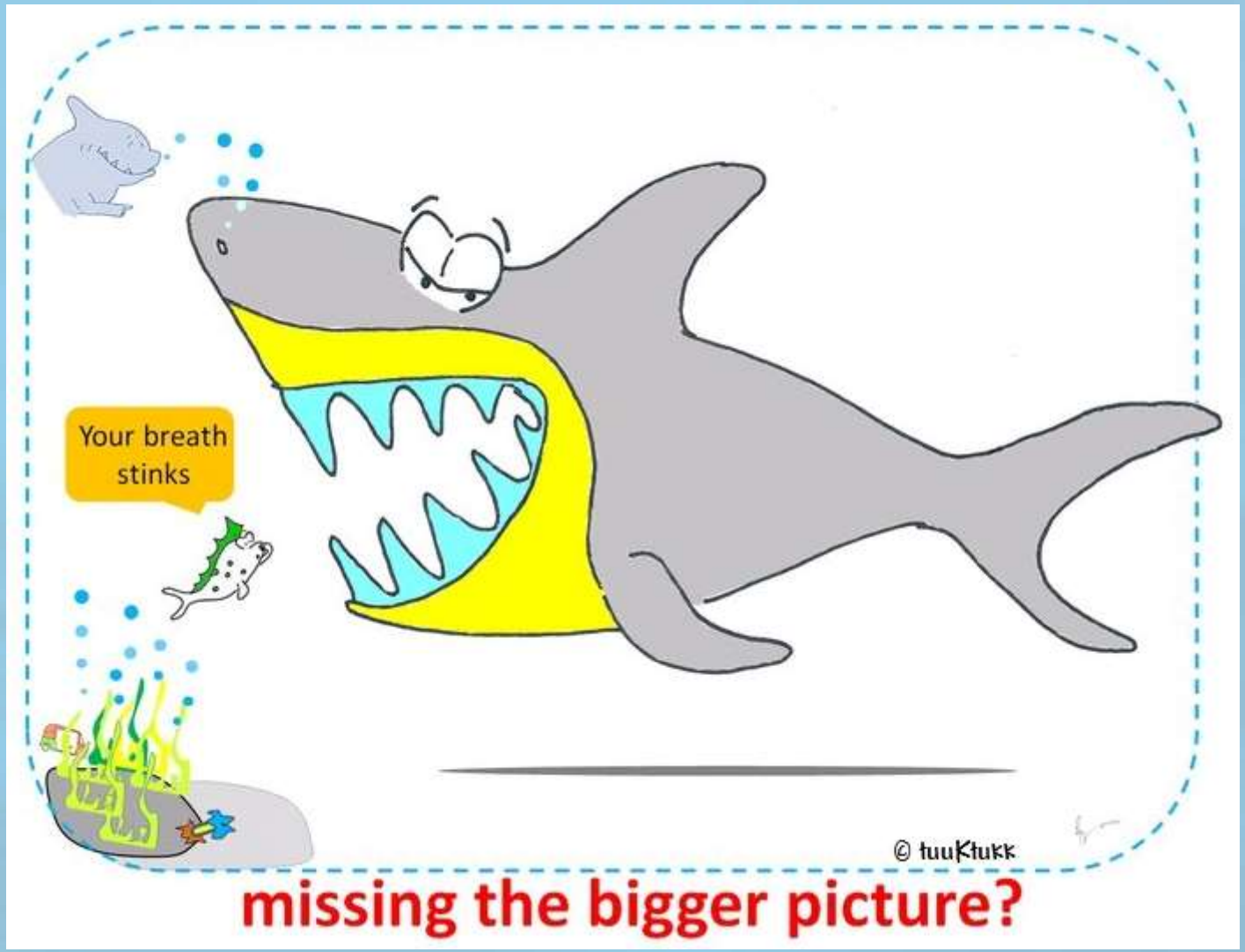


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Individual providers: institutes & researchers
National monitoring data

Continuous Plankton Recorder
PANGAEA ICES

MedOBIS
OBIS Ukrain

Marine GBIF data

EurOBIS

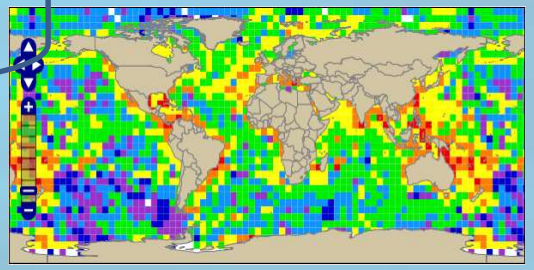
LifeWatch (*web services*)

EMODnet Biology (*portal*)

All European marine data

OBIS Nodes

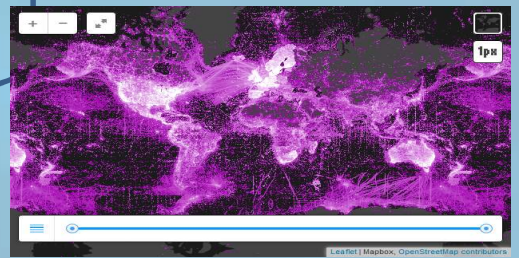
OBIS



All marine data of the world

Provider network

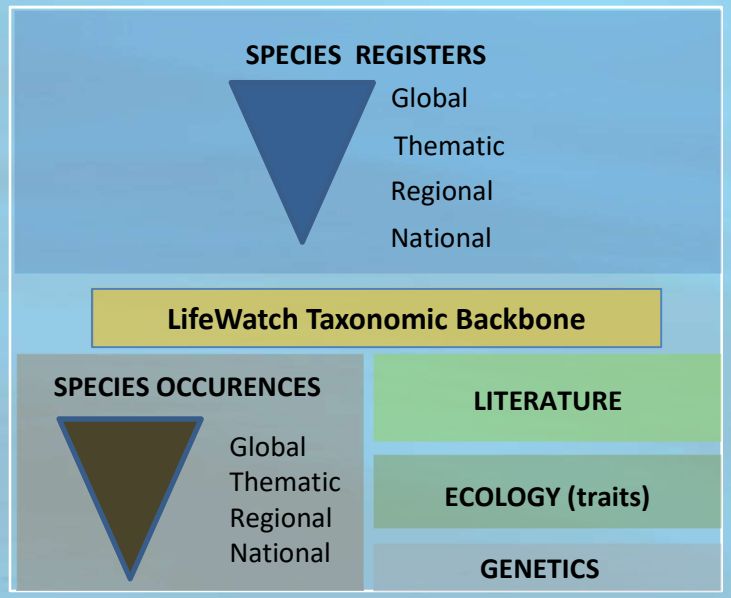
GBIF



# EurOBIS: funding through LifeWatch

- **LifeWatch = part of European Strategy Forum on Research Infrastructure (ESFRI)**
- **Virtual laboratory for biodiversity research**

- **Taxonomic (biological) backbone**
  - Facilitates the standardisation of species data
  - (Virtually) brings together different component databases & data systems
  - 5 major components




Coordination:

✓ Bring together existing databases; map their relationships; build web services

✓ Complete & update taxonomic & species-related data
  - ✓ Support by Data Management Team
  - ✓ Technical developments (QC)

✓ Organize & mobilize (taxonomic) experts
  - ✓ Organize workshops
  - ✓ Support meetings

# EurOBIS: quality control & 'fit for purpose' - background

- ***Aim:***
  1. Help data providers & data managers
     - Checking quality
     - Checking completeness
     - Detect (possible) errors
  2. Assign quality flags to each available record
     - Evaluation of fitness for purpose & use (**NOT**: good or bad)
     - Filter out records with certain quality standard

***Example***

*Abra alba* at 24,53 LAT & 67,94 LONG in 1983

⇒ Record suitable for general distribution analysis (*species occurrence*)

⇒ Record suitable for general temporal analysis (*yearly trends*)

⇒ Record not suitable for seasonal analysis

⇒ Record not suitable for abundance-related analyses (*presence only*)

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     - Checking quality
     - Checking completeness
     - Detect (possible) errors
  2. Assign quality flags to each available record
     - Evaluation of fitness for purpose & use (**NOT**: good or bad)
     - Filter out records with certain quality standard

- ***Approach***:
  1. Automated process, within the database
     - Allows creation of filters
     - Allows feedback to data providers
  2. Online web services
     - Freely available for use to everyone
     - Allows direct feedback to user (result reports)

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# EurOBIS: quality control & ‘fit for purpose’ - background

- **Data format checks + general assessment of completeness and validity**
  - Check if field names can be matched to (Eur)OBIS data scheme
  - Indicate whether data is available or not (completeness of record)

- **Taxonomic quality control**
  - Match against World Register of Marine Species (WoRMS)

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## Taxonomic quality control

- **Link taxon names with World Register of Marine Species**
- **WoRMS:**
  - ✓ Standard list of marine taxon names
  - ✓ First authoritative list of names of all marine & brackish water taxa worldwide
  - ✓ Managed by VLIZ, directed by taxonomic experts
  - ✓ Taxonomic backbone for (Eur)OBIS
  - ✓ Marine contribution to Species2000 & ITIS' Catalogue of Life
- **If no link possible:**
  - ✓ Consult with data provider(s)
  - ✓ Consult with taxonomic expert(s)
- **Originally delivered name is always saveguarded!**

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WoRMS World Register of Marine Species

www.marinespecies.org

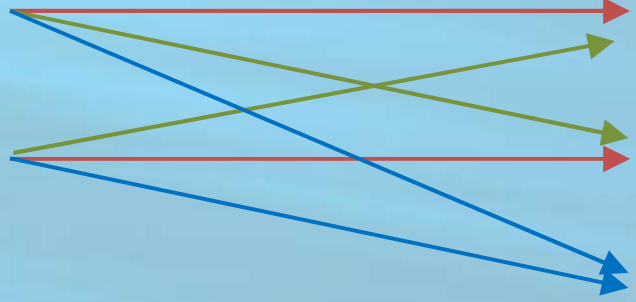
# Taxonomic quality control – some examples

| Dataset | Before tax. check |
|---|---|
| 1 | *Amphiura sunderali* |
| 2 | *Amphiura sundevali* |
| 3 | *Amphiura sundvali* |
| 4 | *Amphiura sundevalli* |

**Dataset A (Spain)**

*Acantholaimus* sp. 1

*Acantholaimus* sp. 2



**Dataset B (Greece)**

*Acantholaimus* sp. 1

*Acantholaimus* sp. 2

?

- **Which equals which?**
- **Specimen comparison!?**
- **Reduction of information till genus level (*Acantholaimus*)**

  **= loss of biodiversity, but underestimation is preferred to overestimation**

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# Taxonomic quality control – some examples

| | Species names before quality control | | | | | Species names after quality control | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # Species | # Rare species | $H'$ | $1 - D$ | ES50 | # Species | # Rare species | $H'$ | $1 - D$ | ES50 |
| Rocky shore data | | | | | | | | | | |
| ANE | 219 | 15 | | | | | | | | |
| Arctic | 646 | 69 | | | | | | | | |
| Mediteranean | 1,120 | 238 | | | | | | | | |
| North Sea | 251 | 29 | | | | | | | | |

# Species = number of distinct species; # Rare species = number of distinct species with only 1 distribution record; $H'$ = Shannon's diversity index; $1 - D$ = Simpson's diversity index; ES(50) = Hurlbert's diversity index for 50 individuals. ANE = North-East Atlantic

*"… In total, 6,172 unique taxon names were submitted …. After a thorough QC, however, this number was reduced to 4,525, mostly due to spelling variations and synonymy."*

***"… Such [taxonomic] quality control is highly needed, since a misspelled or obsolete name could be compared to the introduction of a rare species, with adverse effects on further (biodiversity) calculations…"***

***Source***: Vandepitte *et al.* (2010). Data integration for European marine biodiversity research: creating a database on benthos and plankton to study large-scale patterns and long-term changes. *Hydrobiologia 644: 1-13*

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# EurOBIS: quality control & 'fit for purpose' - background

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  - Check if field names can be matched to (Eur)OBIS data scheme
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- **Taxonomic quality control**
  - Match against World Register of Marine Species (WoRMS)

- **Geographic quality control – 3-dimensional check**
  - Latitude – longitude: <> 0 & within possible boundaries
  - Depth (comparison with GEBCO)

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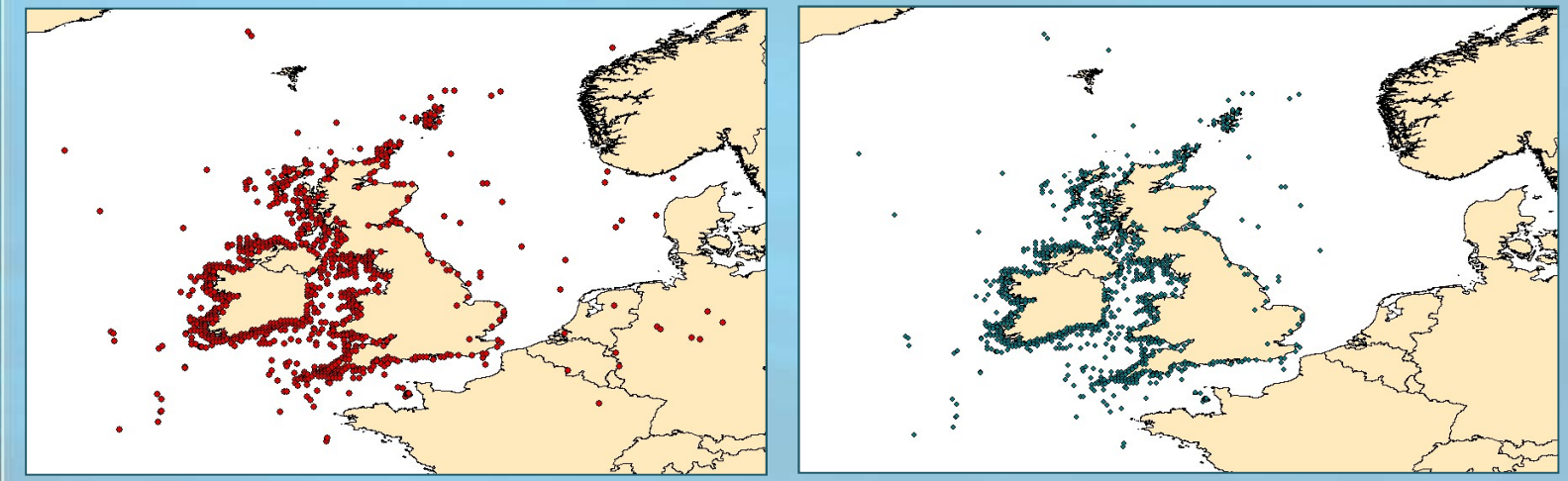
# Geographic quality control – some examples

- **3-dimensional check**
  - ✓ Latitude – longitude <> 0
  - ✓ Latitude – longitude between -90/+90 and -180/+180
  - ✓ Latitude – longitude within sea area (20 km buffer)

***Sightings and strandings of marine turtles around the coast of UK and Ireland***



Left: coordinates as received; right: corrected.
Errors were due to missing minus sign

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# Geographic quality control – some examples

- **3-dimensional check**
  - ✓ Latitude – longitude <> 0
  - ✓ Latitude – longitude between -90/+90 and -180/+180
  - ✓ Latitude – longitude within sea area (20 km buffer)

  - ✓ Depth value possible
    - ✓ Plot corresponding latitude-longitude on the General Bathymetric Chart of the Oceans (GEBCO)
    - ✓ Compare GEBCO depth with actual sampling depth
    - ✓ Take into account 100m margin

| Taxon | Given depth (m) | GEBCO depth (m) | Difference (m) |
|---|---|---|---|
| *Desmoscolex* | 2080 | 510 | + 1570 |
| *Halieutichthys aculeatus* | 110 | 1140 | - 1030 |

Negative evaluation in QC

Needs to be looked at…
Pancake batfish => usually bottom-dwelling…

# EurOBIS: quality control & 'fit for purpose' - background

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- **Geographic outliers**
  - Within dataset
  - Identify possible location outlier(s)

- **Environmental outliers**
  - Check for outliers within the available distribution records of a species
  - Geography, depth, sea surface salinity (SSS), sea surface temperature (SST)

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# Access to EurOBIS data

- **EurOBIS data portal => www.eurobis.org**
  - Taxon selection
  - Dataset selection
  - Date / Season selection
  - Geographical boundary selection
  - Plotting of multiple taxa
  - Download of data
  - Only static data viewer
  - Plotting limited to 30,000 records
  - Link to EurOBIS map from your own website

- **EMODnet Biology portal => www.emodnet-biology.eu**
  - All of the above…
  - More user-friendly
  - More vizualization options

- **LifeWatch => data services => www.lifewatch.be**
  - Combining geographic, occurrence & taxonomic database systems
  - Use-case examples:
    - Marine species observations in a 1 km radius around your own observation points
    - List of geographical areas per marine species
    - Marine species list & # observations per geographical area

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# EMODnet Biology Portal

- EMODnet?
  - *European Marine Observation and Data Network*
  - *EurOBIS = data engine of EMODnet Biology*

www.emodnet-biology.eu

- Data filter, based on combination of specific QC-flags:
  - Scientific name linked to WoRMS
  - Records on genus or species level
  - Provided lat-lon are valid values (-90/+90 & -180/+180 & ≠ 0,0)

- Pre-selection of records for EMODnet Biology ('fit for purpose')
  - EurOBIS = 18,6 million records
  - EMODnet = 16,2 million records, complying with pre-defined QC level (>80%)

## Attempting a live-demo…

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European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Data portal | Data catalog | Data products | Partners | Project | Contribute

## News

Fulmarus glacialis

Ulva rigida

M. norvegica

Chelonia mydas

Bugula simplex

Tursiops truncatus

### World Register of Marine Introduced Species (WRIMS) officially launched
*Added on: 2015-03-16 08:46:20 by Vandepitte, Leen*

WRIMS – a database of introduced and invasive alien marine species – has officially been released to the public. It includes more than 1,400 marine species worldwide, compiled through the collaboration with international initiatives and study of almost 2,500 publications. ... [Read more]

### Upcoming: data product workshop
*Added on: 2015-03-06 15:21:49 by Claus, Simon*

A two day technical workshop on the the creation of EMODnet abundance gridded data products will be organised in Oostende 11 and 12 March 2015. On the agenda is also the creation of the Operational Oceanographic Products and Services to facilitate the ICES ecosystem assessments. [Read more]

### Gridded abundance data products available
*Added on: 2014-10-07 12:12:18 by Claus, Simon*

A methodology to create the gridded abundance maps, using DIVA (Data-Interpolating Variational Analysis) has been tested. Currently preliminary data products are available for over 40 species from the North Sea, Baltic Sea and North East Atlantic. The products are made for benthos, zoo- and phytoplankton, birds, fish and mammals. [Read more]

[Add] [Older news... ]

Odontella sinensis

Phoca vitulina

Molgula manhattensis

Gadus morhua

Mnemiopsis leidyi

Morus bassanus

## EMODnet Biology

This project website provides information on the biological project of the European Marine Observation and Data Network and gives access to the marine biological data portal and metadata catalogue.

Marine biodiversity data are essential to measure and study the ecosystem health of maritime basins. These data are often collected with limited spatial and temporal scope and are scattered over different organizations in small datasets for a specific species group or habitat. Therefore there is a continuous need to assemble these individual datasets, and process them into interoperable biological data products for assessing the environmental state of overall ecosystems and complete sea basins.

The Maritime Policy Blue Book, welcomed by the European Council in 2007, announced that the European Commission would take steps to set up a European Marine Observation and Data Network to improve access to high quality marine data for private bodies, public authorities and researchers.

- 2009-2012: A set of preparatory actions on biological data, hydrographic data, physical data, chemical data, geological data and broad scale habitats has been launched for a limited set of Sea Basins. It aims at gathering experience for a later permanent operational system. The main objective of the biology project was the development of an online marine biological data portal allowing the access and download of marine biological data across Europe. The biological lot focused on gathering available information and on the temporal

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European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Search | Legend | Feedback | Help

(Choose a theme)

Search | Reset map

**Metadata**

» Data catalog
» Contribute
» Statistics

Taxa | Parameters | Datasets | Layers

Search for taxa in the search box

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## Data Discovery and Access Service

Search | Legend | Feedback | Help

(Choose a theme)
Benthos
Zooplankton
Phytoplankton
Fish
Birds
Mammals
Reptiles
Algae
Pigments
Angiosperms

**Metadata**

» Data catalog
» Contribute
» Statistics

Taxa(9636) | Parameters(0) | Datasets | Layers(28)

<< < 1 2 3 4 5 6 7 8 9 10 > >>

| ScientificName | Authority | Common name | RecordCount QC | Display |
|---|---|---|---|---|
| Aaptos aaptos | (Schmidt, 1864) | | 14 | |
| Abra alba | (W. Wood, 1802) | white furrow shell; kleine Pfeffermuschel; witte dunscl | 8,878 | |
| Abra longicallus | (Scacchi, 1835) | | 402 | |
| Abra nitida | (O. F. Müller, 1776) | glanzende dunschaal; glanspebermusling; | 3,735 | |
| Abra ovata accepted as Abra segmentum | (Philippi, 1836) | | 401 | |
| Abra prismatica | (Montagu, 1808) | prismatische dunschaal; | 3,120 | |
| Abra renieri | (Bronn, 1831) | | 106 | |
| Abra tenuis | (Montagu, 1803) | tere dunschaal; | 717 | |

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# Biology
## Data Discovery and Access Service

Search | Legend | Feedback | Help

Lat: 34.77 Lon:-53.24

(Choose a theme)

amphiu

- Amphiura
- Amphiura (Acrocnida) brachiata
- Amphiura (Amphiura) abbreviata
- Amphiura (Amphiura) angularis
- Amphiura (Amphiura) bidentata
- Amphiura (Amphiura) diomedeae
- Amphiura (Amphiura) duncani
- Amphiura (Amphiura) grandisquama
- Amphiura (Amphiura) magellanica
- Amphiura (Fellaria) octacantha

**Metadata**

» Data catalog
» Contribute
» Statistics

Taxa(0) | Parameters(0) | Datasets | Layers(0)

| ScientificName | Authority | Common name | RecordCount QC | Display |
|---|---|---|---|---|
| No data found | | | | |

EMODnet
European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Search | Legend | Feedback | Help

(Choose a theme)

Amphiura filiformis

Search | Reset map

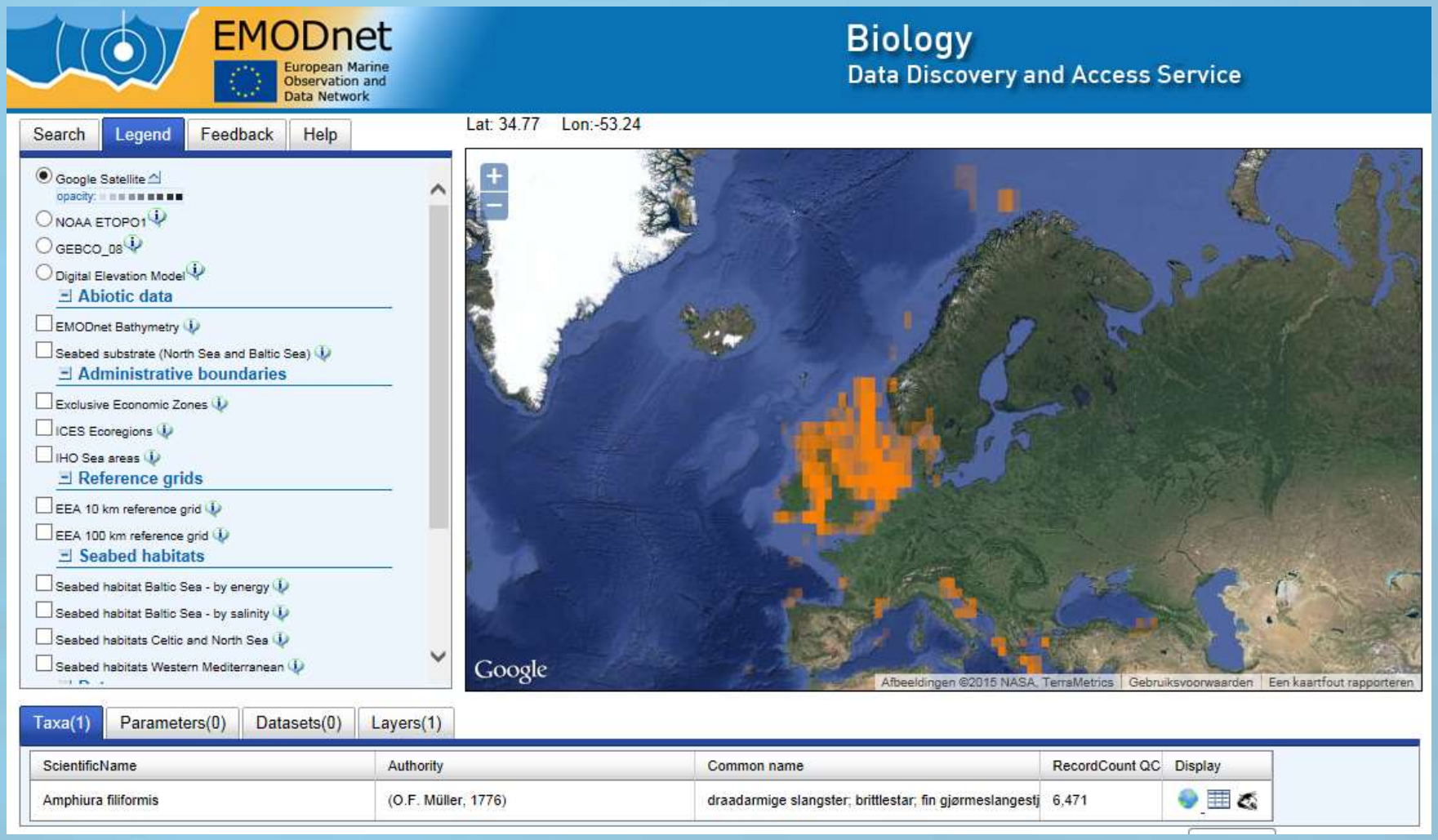
**Metadata**

» Data catalog
» Contribute
» Statistics

Lat: 34.77 Lon:-53.24

Taxa(1) | Parameters(0) | Datasets | Layers(1)

| ScientificName | Authority | Common name | RecordCount QC | Display |
|---|---|---|---|---|
| Amphiura filiformis | (O.F. Müller, 1776) | draadarmige slangster; brittlestar; fin gjørmeslangestj | 6,471 | |


EMODnet
European Marine Observation and Data Network
Biology
Data Discovery and Access Service
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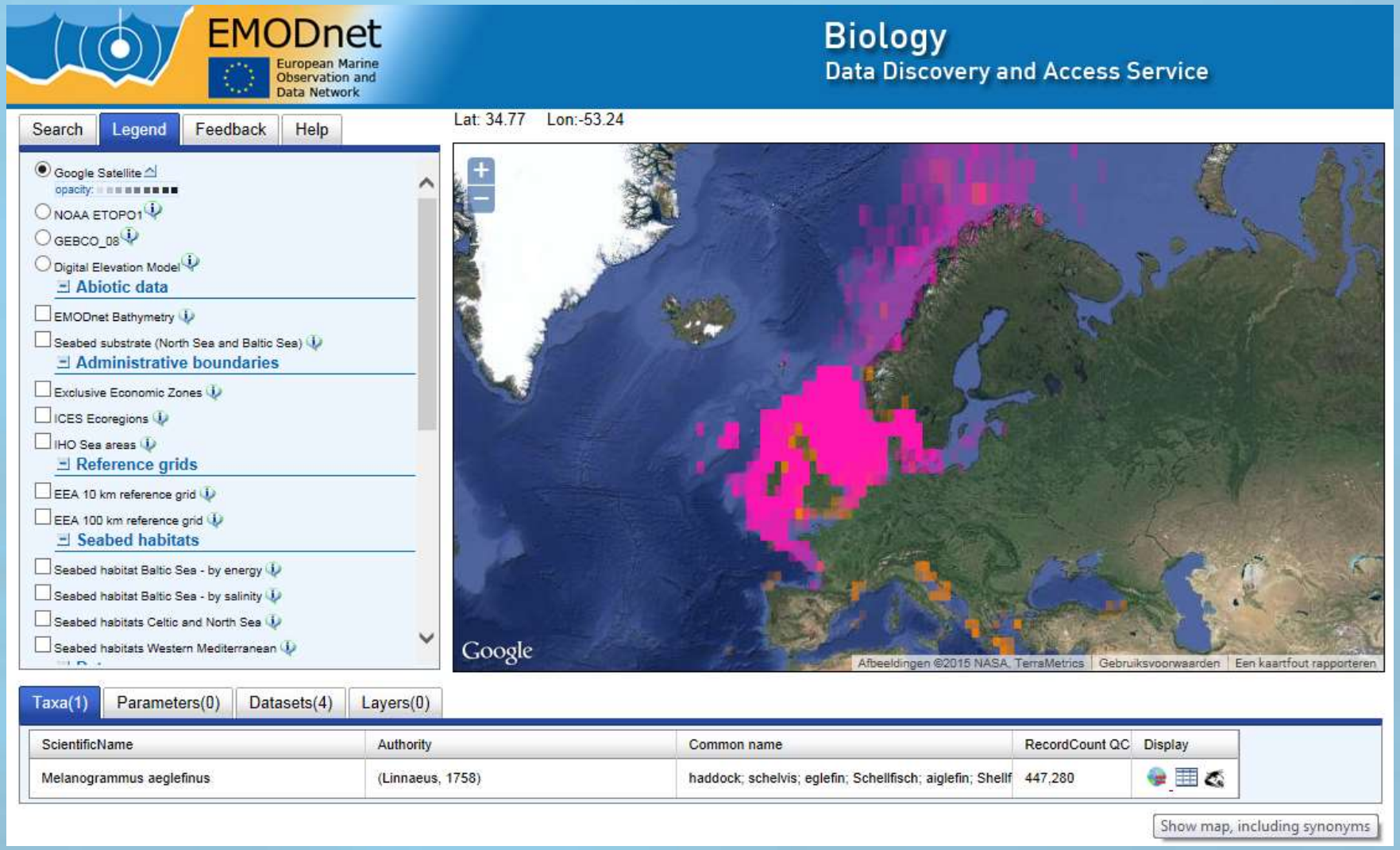
Help
Lat: 34.77 Lon:-53.24
Google Satellite
opacity:
NOAA ETOPO1
GEBCO_08
Digital Elevation Model
Abiotic data
EMODnet Bathymetry
Seabed substrate (North Sea and Baltic Sea)
Administrative boundaries
Exclusive Economic Zones
ICES Ecoregions
IHO Sea areas
Reference grids
EEA 10 km reference grid
EEA 100 km reference grid
Seabed habitats
Seabed habitat Baltic Sea - by energy
Seabed habitat Baltic Sea - by salinity
Seabed habitats Celtic and North Sea
Seabed habitats Western Mediterranean
Google
Afbeeldingen ©2015 NASA, TerraMetrics
Gebruiksvoorwaarden
Een kaartfout rapporteren
Taxa(1)
Parameters(0)
Datasets(0)
Layers(1)
ScientificName
Authority
Common name
RecordCount QC
Display
Amphiura filiformis
(O.F. Müller, 1776)
draadarmige slangster; brittlestar; fin gjørmeslangestj
6,471


EMODnet
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Lat: 34.77 Lon:-53.24
Google Satellite
opacity:
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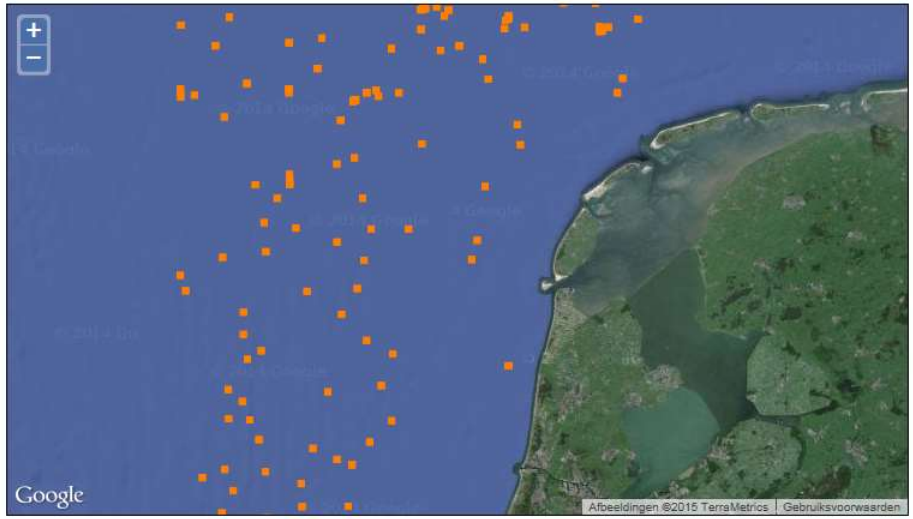
Seabed habitat Baltic Sea - by salinity
Seabed habitats Celtic and North Sea
Seabed habitats Western Mediterranean
Google
Afbeeldingen ©2015 NASA, TerraMetrics
Gebruiksvoorwaarden
Een kaartfout rapporteren
Taxa(1)
Parameters(0)
Datasets(4)
Layers(0)
ScientificName
Authority
Common name
RecordCount QC
Display
Melanogrammus aeglefinus
(Linnaeus, 1758)
haddock; schelvis; eglefin; Schellfisch; aiglefin; Shellf
447,280
Show map, including synonyms

EMODnet
European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Search | Legend | Feedback | Help

Lat: 52.82 Lon:3.84




**Abiotic data**
- EMODnet Bathymetry
- Seabed substrate (North Sea and Baltic Sea)

**Administrative boundaries**
- Exclusive Economic Zones
- ICES Ecoregions
- IHO Sea areas

**Reference grids**
- EEA 10 km reference grid
- EEA 100 km reference grid

**Seabed habitats**
- Seabed habitat Baltic Sea - by energy
- Seabed habitat Baltic Sea - by salinity
- Seabed habitats Celtic and North Sea
- Seabed habitats Western Mediterranean

**Data**
- Amphiura filiformis in EurOBIS
  opacity:
  hide legend
  disable WFS query
- Melanogrammus aeglefinus, including synonyms in EurOBIS

Taxa(1) | Parameters(0) | Datasets(4) | Layers(0) | Map features

Position: 52.82 , 3.84

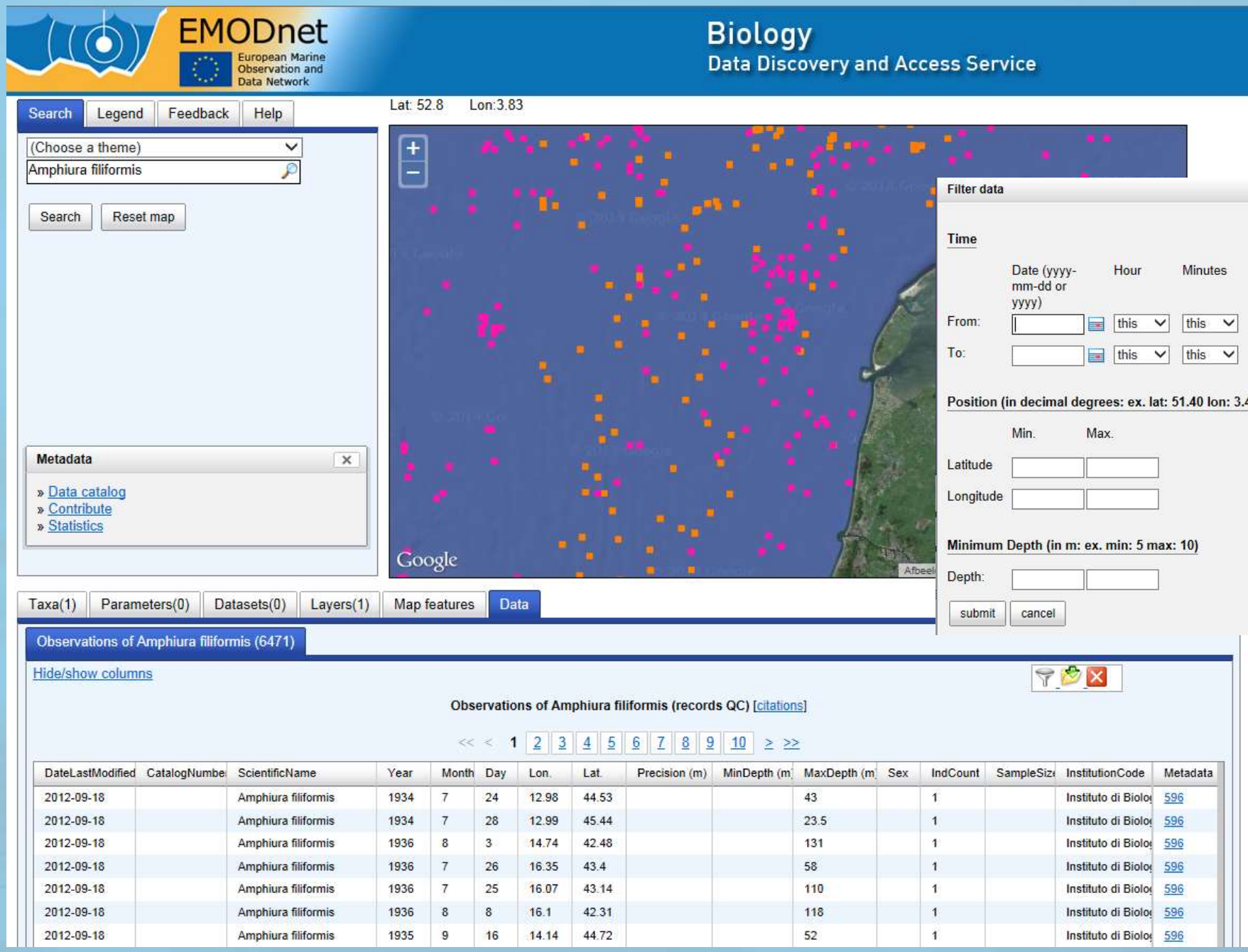
**eurobis_points**

| DateLastModified | CatalogNumber | ScientificName | Year | Month | Day | Locality | Longitude | Latitude | Precision (m) | MinDepth (m) | MaxDepth (m) | Sex | ObsIndCount | SampleSize | InstitutionCode | Taxon LSID | Metadata | abundance | abundanceunit | biomass | biomassunit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2014-04-30 | 91-33-3202 | Amphiura filiformis | | | | 33 | 3.85 | 52.82 | 0 | | | | | | ZMA | urn:lsid:marinespecies.org:taxname:125080 | 4548 | | | | |

Position: 52.75 , 4.5

**eurobis_points**

| DateLastModified | CatalogNumber | ScientificName | Year | Month | Day | Locality | Longitude | Latitude | Precision (m) | MinDepth (m) | MaxDepth (m) | Sex | ObsIndCount | SampleSize | InstitutionCode | Taxon LSID | Metadata | abundance | abundanceunit | biomass | biomassunit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2006-06-01 | 13241 | Amphiura filiformis (Müller, 1776) | 1994 | | | | 4.5 | 52.75 | | 21 | 21 | | | | ZMA | urn:lsid:marinespecies.org:taxname:125080 | 1037 | | | | |
| 2006-06-01 | 11275 | Amphiura filiformis (Müller, 1776) | 1993 | | | | 4.5 | 52.75 | | 20 | 20 | | | | ZMA | urn:lsid:marinespecies.org:taxname:125080 | 1037 | | | | |
| 2014-04-30 | 93-SM1-8023 | Amphiura filiformis | | | | SM1 | 4.5 | 52.75 | 0 | | | | | | ZMA | urn:lsid:marinespecies.org:taxname:125080 | 4548 | | | | |
| 2014-04-30 | 94-SM1-10136 | Amphiura filiformis | | | | SM1 | 4.5 | 52.75 | 0 | | | | | | ZMA | urn:lsid:marinespecies.org:taxname:125080 | 4548 | | | | |


EMODnet
European Marine Observation and Data Network
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Search
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Help
(Choose a theme)
Amphiura filiformis
Search
Reset map
Metadata
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» Statistics
Lat: 52.8
Lon:3.83
Google
Filter data
Time
Date (yyyy-mm-dd or yyyy)
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Minutes
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To:
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Position (in decimal degrees: ex. lat: 51.40 lon: 3.41)
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Minimum Depth (in m: ex. min: 5 max: 10)
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Taxa(1)
Parameters(0)
Datasets(0)
Layers(1)
Map features
Data
Observations of Amphiura filiformis (6471)
Hide/show columns
Observations of Amphiura filiformis (records QC) [citations]
<< < 1 2 3 4 5 6 7 8 9 10 > >>
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CatalogNumbe
ScientificName
Year
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Lat.
Precision (m)
MinDepth (m
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Sex
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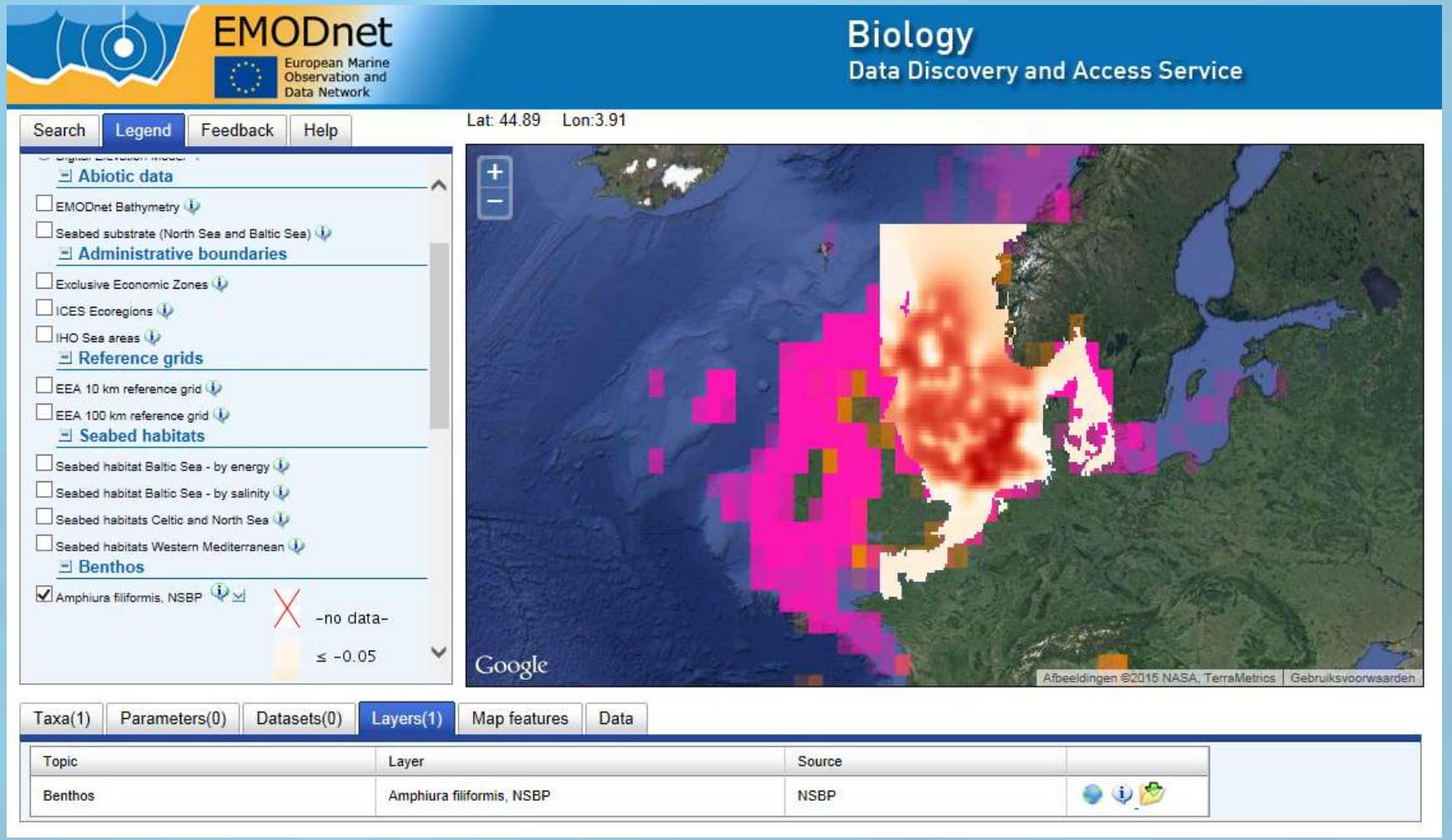
SampleSiz
InstitutionCode
Metadata
2012-09-18 Amphiura filiformis 1934 7 24 12.98 44.53 43 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1934 7 28 12.99 45.44 23.5 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1936 8 3 14.74 42.48 131 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1936 7 26 16.35 43.4 58 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1936 7 25 16.07 43.14 110 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1936 8 8 16.1 42.31 118 Instituto di Biolo 596
2012-09-18 Amphiura filiformis 1935 9 16 14.14 44.72 52 Instituto di Biolo 596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Seabed habitat Baltic Sea - by energy
Seabed habitat Baltic Sea - by salinity
Seabed habitats Celtic and North Sea
Seabed habitats Western Mediterranean
Benthos
Amphiura filiformis, NSBP
-no data-
≤ -0.05
Lat: 44.89 Lon:3.91
Google
Afbeeldingen ©2015 NASA, TerraMetrics
Gebruiksvoorwaarden
Taxa(1)
Parameters(0)
Datasets(0)
Layers(1)
Map features
Data
Topic
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Source
Benthos
Amphiura filiformis, NSBP
NSBP

EMODnet
European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Data portal | Data catalog | Data products | Partners | Project | Contribute

## News

Fulmarus glacialis

Ulva rigida

M. norvegica

Chelonia mydas

Bugula simplex

Tursiops truncatus

### World Register of Marine Introduced Species (WRIMS) officially launched
*Added on: 2015-03-16 08:46:20 by Vandepitte, Leen*

WRIMS – a database of introduced and invasive alien marine species – has officially been released to the public. It includes more than 1,400 marine species worldwide, compiled through the collaboration with international initiatives and study of almost 2,500 publications. ... [Read more]

### Upcoming: data product workshop
*Added on: 2015-03-06 15:21:49 by Claus, Simon*

A two day technical workshop on the the creation of EMODnet abundance gridded data products will be organised in Oostende 11 and 12 March 2015. On the agenda is also the creation of the Operational Oceanographic Products and Services to facilitate the ICES ecosystem assessments. [Read more]

### Gridded abundance data products available
*Added on: 2014-10-07 12:12:18 by Claus, Simon*

A methodology to create the gridded abundance maps, using DIVA (Data-Interpolating Variational Analysis) has been tested. Currently preliminary data products are available for over 40 species from the North Sea, Baltic Sea and North East Atlantic. The products are made for benthos, zoo- and phytoplankton, birds, fish and mammals. [Read more]

[Add] [Older news... ]

Odontella sinensis

Phoca vitulina

Molgula manhattensis

Gadus morhua

Mnemiopsis leidyi

Morus bassanus

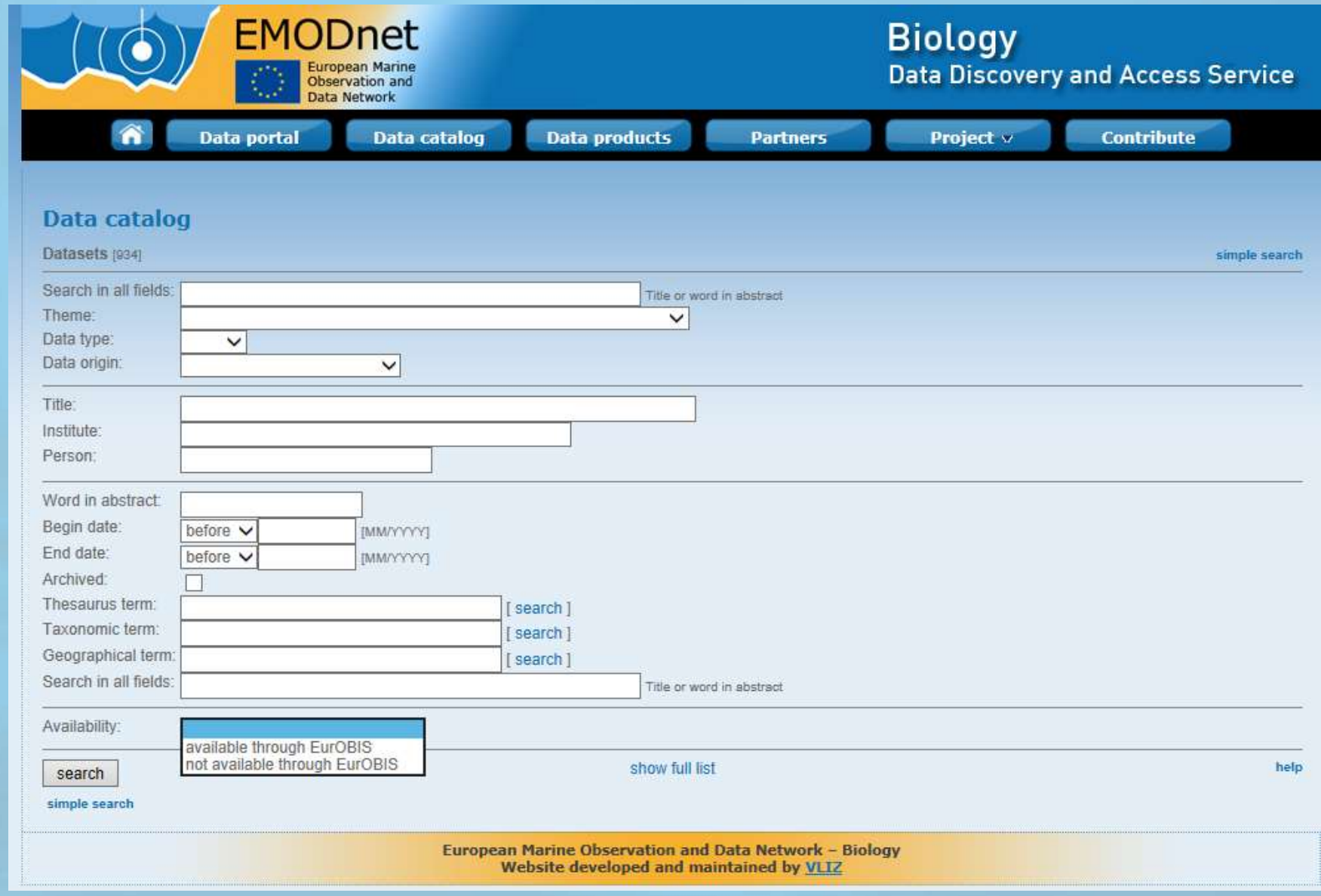
## EMODnet Biology

This project website provides information on the biological project of the European Marine Observation and Data Network and gives access to the marine biological data portal and metadata catalogue.

Marine biodiversity data are essential to measure and study the ecosystem health of maritime basins. These data are often collected with limited spatial and temporal scope and are scattered over different organizations in small datasets for a specific species group or habitat. Therefore there is a continuous need to assemble these individual datasets, and process them into interoperable biological data products for assessing the environmental state of overall ecosystems and complete sea basins.

The Maritime Policy Blue Book, welcomed by the European Council in 2007, announced that the European Commission would take steps to set up a European Marine Observation and Data Network to improve access to high quality marine data for private bodies, public authorities and researchers.

- 2009-2012: A set of preparatory actions on biological data, hydrographic data, physical data, chemical data, geological data and broad scale habitats has been launched for a limited set of Sea Basins. It aims at gathering experience for a later permanent operational system. The main objective of the biology project was the development of an online marine biological data portal allowing the access and download of marine biological data across Europe. The biological lot focused on gathering available information and on the temporal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Data portal
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Partners
Project
Contribute
Data catalog
Datasets [934]
simple search
Search in all fields:
Title or word in abstract
Theme:
Data type:
Data origin:
Title:
Institute:
Person:
Word in abstract:
Begin date:
before
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before
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Archived:
Thesaurus term:
[ search ]
Taxonomic term:
[ search ]
Geographical term:
[ search ]
Search in all fields:
Title or word in abstract
Availability:
available through EurOBIS
not available through EurOBIS
search
show full list
help
simple search
European Marine Observation and Data Network – Biology
Website developed and maintained by VLIZ

EMODnet
European Marine Observation and Data Network

# Biology
## Data Discovery and Access Service

Data portal | Data catalog | Data products | Partners | Project | Contribute

## Data catalog

335 records found with search conditions : Search in all fields = 'north' and 'sea'

Expand all  Collapse all

- (Limited) Cetacean distribution dataset from 1949 to 2011 for Cornwall and the Isles of Scilly, more
- 1995 EC Study Contract Clyde Sea Nephrops Stock Assessment Study, more
- 1999-2009 UMBSM Clyde Sea Fairlie Channel Beam Trawl Survey, more
- A comparison of benthic biodiversity in the North Sea, English Channel and Celtic Seas - Epifauna, more
- A comparison of benthic biodiversity in the North Sea, English Channel and Celtic Seas - Macroinfauna, more
- A study of the nematode fauna of three estuaries in the Netherlands, more
- AdriaWatch project, more
- Aegean Sea Bathyal Nematodes, more
- Aegean Sea Cruise Benthos, more
- Aegean macrobenthic fauna, more
- Allied Humpback Whale Catalogue, 1976 - 2003, more
- Allis Shad (Alosa alosa) distribution for Scotland, historical to present, more
- Alnitak Cetaceans and sea turtles surveys off Southern Spain, more
- Amrum Bank and inner German Bight Benthos, more
- An atlas of Southern Ocean planctonic ostracods
  - Ostracoda, more
- Arctic soft-sediment macrobenthos, more
- Atlantic salmon tagging, more
- **POPA**: Azores Fisheries Observation Programme: POPA cetacean, seabird, and sea turtle sightings in the Azores area, more
  - POPA- Fisheries Observer Program of the Azores: Marine mammal sightings in the Azores tuna fishery from 1998 to 2013: during navigation or search mode, more
  - POPA- Fisheries Observer Program of the Azores: Sea bird sightings in the Azores between 2004 and 2013 recorded by Biosphere Expedition, more
  - POPA- Fisheries Observer Program of the Azores: Sea turtle sightings in the Azores between 2004 and 2013 recorded by Biosphere Expedition, more
  - POPA- Fisheries Observer Program of the Azores: Seabird sightings in the Azores tuna fishery from 1998 to 2013: during the capture of live bait, more
  - POPA- Fisheries Observer Program of the Azores: Seabird sightings in the Azores tuna fishery from 1998 to 2013: while fishing, more
  - POPA- Fisheries Observer Program of the Azores: Seabird sightings in the Azores tuna fishery from 2000 to 2013: during navigation or search mode, more
  - POPA- Fisheries Observer Program of the Azores: Turtle sightings in the Azores tuna fishery from 2000 to 2013: during navigation or search mode, more
- BALEARES Oceanography and fisheries in the Balearic archipelago (CICYT ID-823), more
- BEWREMABI dataset: Belgian Shipwreck - hotspots for Marine Biodiversity: Macrofauna on shipwrecks, more

## Data catalog

[ report an error in this record ]

### A comparison of benthic biodiversity in the North Sea, English Channel and Celtic Seas - Epifauna

**Citation**
Rees, H.L. et al. A comparison of benthic biodiversity in the North Sea, English Channel and Celtic Seas - Epifauna. Centre for Environment, Fisheries and Aquaculture Science; Burnham Laboratory, 12 Apr 2005, Essex, UK.

**Contact:** Rees, Hubert

**Access data**
EMODnet | EurOBIS | WWW

**Archived data**
MDA

**Availability:** This dataset is licensed under a Creative Commons Attribution 4.0 International License.

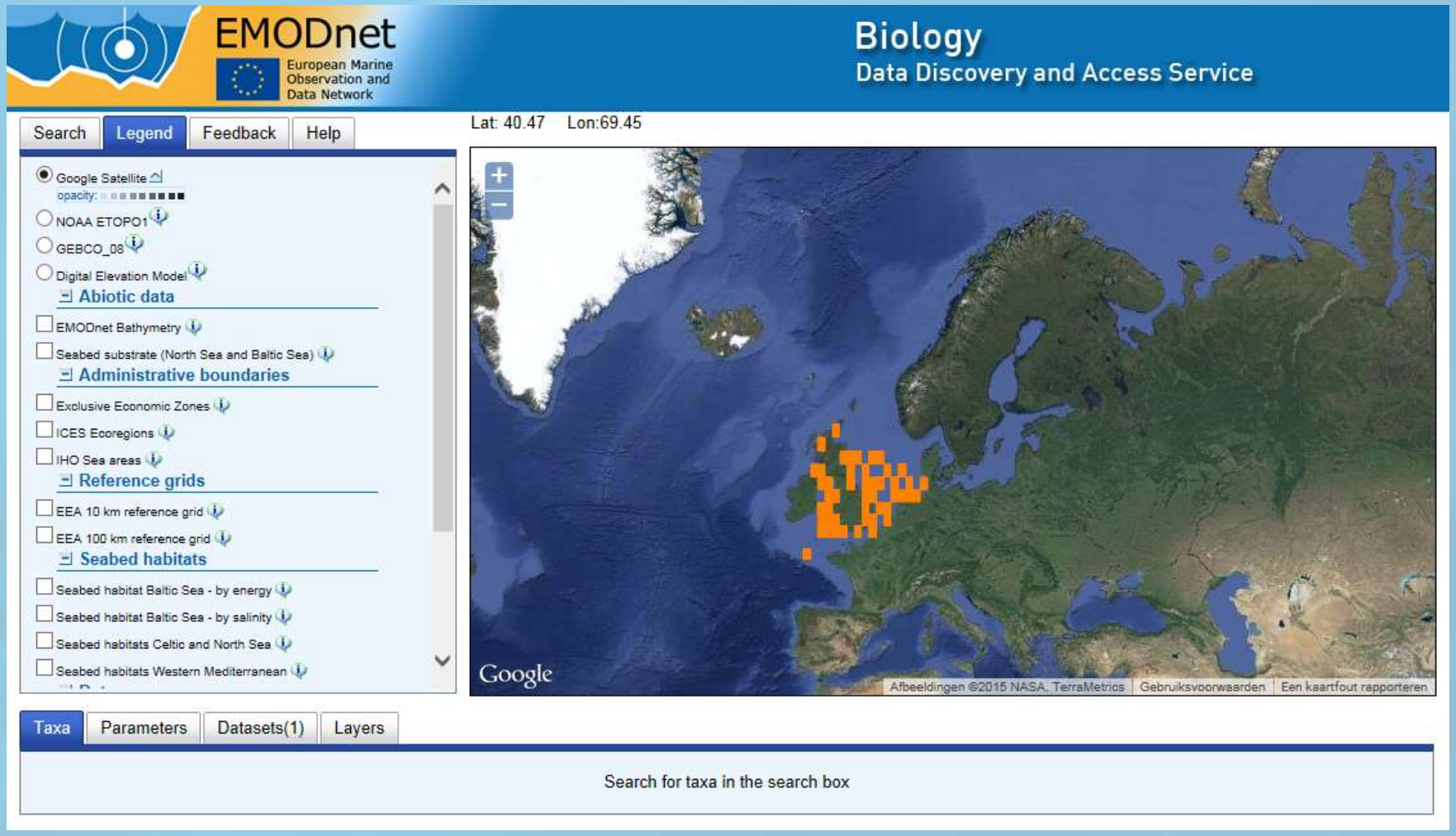
**Description**
Comparison dataset of Animalia in the North Sea, the English Channel and the Celtic Sea. more

**Scope**
**Themes:** Biology, Biology > Benthos, Biology > Ecology - biodiversity
**Keywords:** Marine, Benthic communities, Biogeography, Epibenthos, Macrobenthos, ANE, Celtic Sea, ANE, English Channel, ANE, North Sea, Animalia

**Geographical coverage**
ANE, Celtic Sea [Marine Regions]
ANE, English Channel [Marine Regions]
ANE, North Sea [Marine Regions]

**Temporal coverage**
1992 - 1996

**Taxonomic coverage**
Animalia [WoRMS]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Seabed habitats Western Mediterranean
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Een kaartfout rapporteren
Taxa
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Datasets(1)
Layers
Search for taxa in the search box

# LifeWatch – data services

- Virtual laboratory for biodiversity research
- Integrates observatories, data bases, web services and modelling tools distributed throughout Europe
- Increased data access: data systems are interconnected and accessible in one place (both local and global data systems)

EurOBIS

LIFEWATCH

VLIZ

# LifeWatch: the ultimate goal = establishing workflows

- **Workflow: allowing to query several datasystems 'in one click'**

- **Example questions:**
  - Which invasive planktonic species are known to occur in the Black Sea?
  - Where does species 'X' appear?
  - Which species from the Habitat/Bird Directive are on the IUCN Red List?
  - I'm planning to take a Van Veen benthic grab at a particular location in the North Sea. Which species can I expect to be captured?

- **Long-standing ecological questions:**
  - To what extent is biotic invasion and native species loss creating ecosystems with altered properties?
  - What determines the rate at which species distributions respond to climate change?

- **In the framework of LifeWatch:**
  - Identification of data gaps
  - Actions to fill these gaps

EurOBIS

LIFEWATCH

VLIZ

# Example of LifeWatch use-case:
# Extract a list of species for a specific region, including the number of observations for that region

- Concatenation of available data services

INPUT = place name(s)

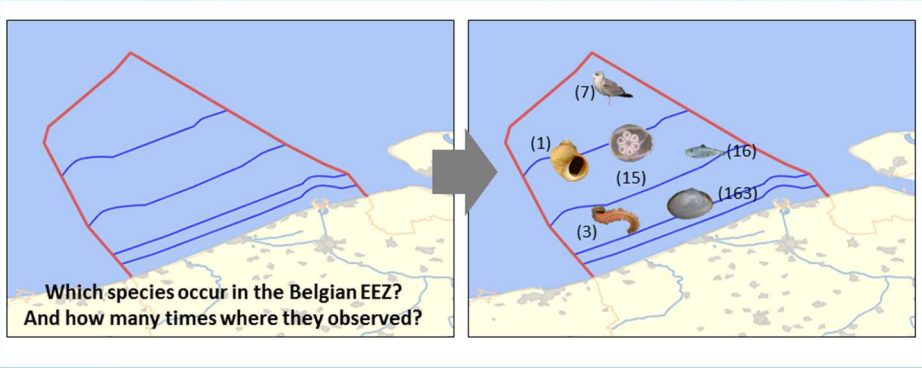
Service 1: “Translation” of place name to coordinates/bounding box

Service 2: Coordinates fed to OBIS

⇒ extract of species list for those coordinates/bounding box

⇒ Calculation of number of observations per species for those coordinates

OUTPUT = list of species with number of available observations in OBIS



# http://www.lifewatch.be/data-services

LIFEWATCH Regional portal

Homepage | Project | Data services | Downloads | Sensor network | Login

New job | Results | Manual | Use cases | Changelog

## 1. Upload your file

Select one of the demo data files and choose from several web services, models and
To work with other data files, please log in.
If you are new to this service, please read the manual.

File

Choose File | No file chosen

Use demo file: Marine | View demo file

Allowed filetypes: Marine | Terrestrial | Plain text [CSV] | excel [XLS] | excel [XLSX]

Maximum rows in

## 2. Select webservices

| Name | Source | Description |
|---|---|---|
| Data validation and QC services | | |
| MarineRegions gazetteer services | | |
| Taxon observations | | |
| Taxon services | | |
| Tidal services | | |
| Geographical services - Administrative boundaries | | |
| Geographical services - Bathymetry | | |
| Geographical services - Biogeographical classification | | |
| Geographical services - Environmental data | | |
| Geographical services - Features | | |
| Geographical services - Protected areas | | |
| Geographical services - Total biological valuation | | |

## 3. Verify order, change order if necessary and run

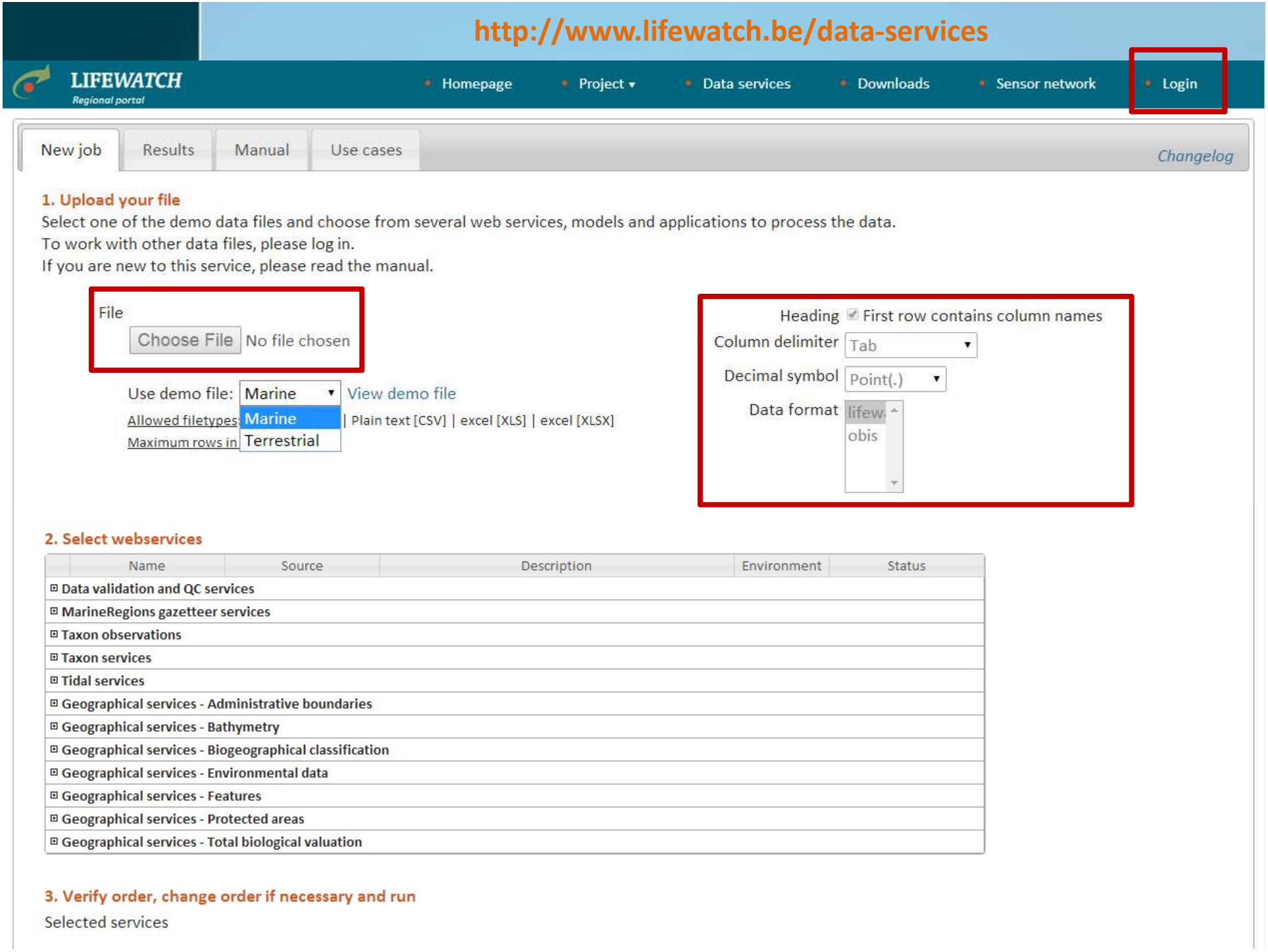
Selected services

demofile_lifewatch_marine (6) - Notepad

File Edit Format View Help

```
ScientificName  Latitude        Longitude       Eventdate
Abludomelita obtusata   51.14   2.376667        2009/03/03T10:48:00Z
Abra    51.29117        2.524167        2009/03/03T10:48:00Z
Abra alba       51.12267        2.53333 2009/03/03T10:48:00Z
Abra prismatica 51.12183        2.603333        2009/03/03T10:48:00Z
Acanthomysis longicornis        51.12183        2.603333        2009/03/03T10:48:00Z
Acari   51.09076        2.370717        2009/03/03T10:48:00Z
Acartia clausi  51.30833        2.626333        2009/03/03T10:48:00Z
Achelia 51.185  2.701167        2009/03/03T10:48:00Z
Achelia hispida 51.185  2.701167        2009/03/03T10:48:00Z
Acidostoma obesum       51.27917        2.616667        2009/03/03T10:48:00Z
Acrocnida brachiata     51.27083        2.905   2009/03/03T10:48:00Z
Actinaria       51.23617        2.8555  2009/03/03T10:48:00Z
Aeolidia papilosa       51.33333        2.7     2009/03/03T10:48:00Z
Aeolidiidae     51.325  3.05    2009/03/03T10:48:00Z
Aequipecten opercularis 51.325  3.05    2009/03/03T10:48:00Z
Agonus cataphractus     51.27783        2.913167        2009/03/03T10:48:00Z
Alcyonium digitatum     51.283  2.9213  2009/03/03T10:48:00Z
Alloteuthis subulata    51.283  2.9213  2009/03/03T10:48:00Z
Alosa alosa     51.27783        2.913167        2009/03/03T10:48:00Z
Alosa fallax    51.66033        2.85217 2009/03/03T10:48:00Z
Ammodytes       51.33333        2.683333        2009/03/03T10:48:00Z
Ammodytes lanceolatus   51.46   2.791667        2009/03/03T10:48:00Z
Ammodytes marinus       51.41667        3.4     2009/03/03T10:48:00Z
Ammodytes tobianus      51.41667        3.4     2009/03/03T10:48:00Z
Ammodytidae     51.4142 3.321256        2009/03/03T10:48:00Z
ampelisca       51.50783        2.891167        2009/03/03T10:48:00Z
Ampelisca brevicornis   51.52633        2.913833        2009/03/03T10:48:00Z
Ampharete       51.43333        2.808333        2009/03/03T10:48:00Z
Amphilochus manudens    51.5    2.976333        2009/03/03T10:48:00Z
Amphilochus neapolitanus        51.5    2.999667        2009/03/03T10:48:00Z
Amphinema dinema                        2009/03/03T10:48:00Z
Amphipholis squamata    51.52367        2.097   2009/03/03T10:48:00Z
Amphipoda       51.38467        2.7775  2009/03/03T10:48:00Z
Amphiura        51.27667        2.613333        2009/03/03T10:48:00Z
Amphiura brachiata      51.4405 2.900833        2009/03/03T10:48:00Z
Amphiura chiajei        51.24873        2.730233        2009/03/03T10:48:00Z
Amphiura filiformis     51.24873        2.730233        2009/03/03T10:48:00Z
Amphiuridae     51.2465 2.726167        2009/03/03T10:48:00Z
Ampithoe        51.2505 2.734667        2009/03/03T10:48:00Z
Anapagurus hyndmanii    51.2465 2.726167        2009/03/03T10:48:00Z
Anarhichas lupus        51.2505 2.734667        2009/03/03T10:48:00Z
Anchialina agilis                       2009/03/03T10:48:00Z
Anguilla anguilla       51.30833        2.85    2009/03/03T10:48:00Z
Angulus tenuis  51.30833        2.85    2009/03/03T10:48:00Z
Anomia  51.53333        2.765   2009/03/03T10:48:00Z
Anomura 51.51667        3.316667        2009/03/03T10:48:00Z
Anoplodactylidae        51.60133        2.83    2009/03/03T10:48:00Z
Anoplodactylus petiolatus       51.61833        2.955   2009/03/03T10:48:00Z
```

http://www.lifewatch.be/data-services



http://www.lifewatch.be/data-services

LIFEWATCH Regional portal

Homepage | Project | Data services | Downloads | Sensor network | Login

New job | Results | Manual | Use cases | Changelog

## 1. Upload your file

Select one of the demo data files and choose from several web services, models and applications to process the data.
To work with other data files, please log in.
If you are new to this service, please read the manual.

File

Choose File | No file chosen

Use demo file: Marine | View demo file

Allowed filetypes: | Plain text [CSV] | excel [XLS] | excel [XLSX]

Maximum rows in

Marine
Terrestrial

Heading: First row contains column names

Column delimiter: Tab

Decimal symbol: Point(.)

Data format: lifew
obis

## 2. Select webservices

| Name | Source | Description | Environment | Status |
|---|---|---|---|---|
| ⊡ Data validation and QC services | | | | |
| ⊡ MarineRegions gazetteer services | | | | |
| ⊡ Taxon observations | | | | |
| ⊡ Taxon services | | | | |
| ⊡ Tidal services | | | | |
| ⊡ Geographical services - Administrative boundaries | | | | |
| ⊡ Geographical services - Bathymetry | | | | |
| ⊡ Geographical services - Biogeographical classification | | | | |
| ⊡ Geographical services - Environmental data | | | | |
| ⊡ Geographical services - Features | | | | |
| ⊡ Geographical services - Protected areas | | | | |
| ⊡ Geographical services - Total biological valuation | | | | |

## 3. Verify order, change order if necessary and run

Selected services

# http://www.lifewatch.be/data-services

LIFEWATCH Regional portal

Homepage | Project | Data services | Downloads | Sensor network | Logged in as: Stefanie Dekeyzer [Log out]

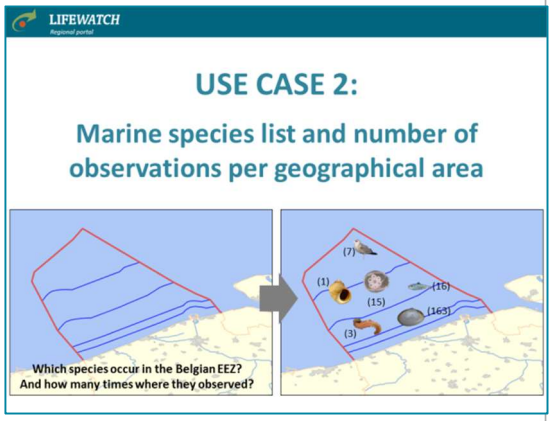
**2. Select webservices**

| | Name | Source | Description | Environment | Status |
|---|---|---|---|---|---|
| ⊡ | **Data validation and QC services** | | | | |
| ⊡ | **MarineRegions gazetteer services** | | | | |
| ☐ | Get lat-long by accepted name | MarineRegions | Returns the latitude, longitude,accepted name and the Marine Regions ID (MRGID) of a given gazetteer... Read more | Marine & terrestrial | Good |
| ☐ | Get lat-long by mrgid | MarineRegions | Returns the latitude and longitude of the centroid and the preferred gazetteer name of a Marine Regi... Read more | Marine & terrestrial | Good |
| ☑ | Get lat-long by name | MarineRegions | Returns the latitude, longitude, matched name and the Marine Regions ID (MRGID) of a given gazetteer... Read more | Marine & terrestrial | Good |
| ☐ | Get gazetteer name by Lat-long | MarineRegions | Returns the Marine Regions place name and the Marine Regions ID (MRGID) of the bounding box (radius ... Read more | Marine & terrestrial | Good |
| ⊡ | **Taxon observations** | | | | |
| ☐ | Number of observations in a 1000m radius around a point | OBIS | Gives the number of observations of a taxon in a radius of 1000 meter around a point. | marine | Good |
| ☑ | Taxon list of a certain region | OBIS | Gives a taxon list based on observations from the obis database for a certain region (mrgid as input... Read more | marine | Good |
| ☐ | Number of observations of a marine taxon | OBIS | Returns all observation points (latitude and longitude) in the Ocean Biogeographic Information Syste... Read more | marine | Good |
| ⊡ | **Taxon services** | | | | |
| ⊡ | **Tidal services** | | | | |
| ⊡ | **Geographical services - Administrative boundaries** | | | | |
| ⊡ | **Geographical services - Bathymetry** | | | | |
| ⊡ | **Geographical services - Biogeographical classification** | | | | |
| ⊡ | **Geographical services - Environmental data** | | | | |
| ⊡ | **Geographical services - Features** | | | | |
| ⊡ | **Geographical services - Protected areas** | | | | |
| ⊡ | **Geographical services - Total biological valuation** | | | | |

**3. Verify order, change order if necessary and run**

Selected services

- Get lat-long by name
- Taxon list of a certain region




1. Get lat-long by mrgid
2. Taxon list of a certain region

## 4. Preview screen

**http://www.lifewatch.be/data-services**

When you click "Next", you are redirected to the preview screen. Make sure that every column name from the uploaded file corresponds with a column name from the pick list. In this case choose 'Location'.

**Preview of the file 'test_file_use_case_2.txt'** (first 20 records)
Please select a columnname from the dataformat term that corresponds to your column and click 'Start'.

column 0

Location

**Location**

Wandelaar

Belgian Exclusive Economic Zone

North Sea

Your concatenated webservices are stated below.

1. Get lat-long by name

**Input columns**

- Location (column 0)

2. Taxon list of a certain region

Your concatenated webservices are stated below.

1. Get lat-long by name

2. Taxon list of a certain region

**Input columns**

- LocationID (Get lat-long by name)

Your concatenated webservices are stated below.

1. Get lat-long by name

2. Taxon list of a certain region

**legend :**

- Field is present in the inputfile.
- Field is present in the output of previous webservices.
- Field is missing from inputfile and from the output of previous webservices.
- There are more than one possible input fields, choose the preferred field.

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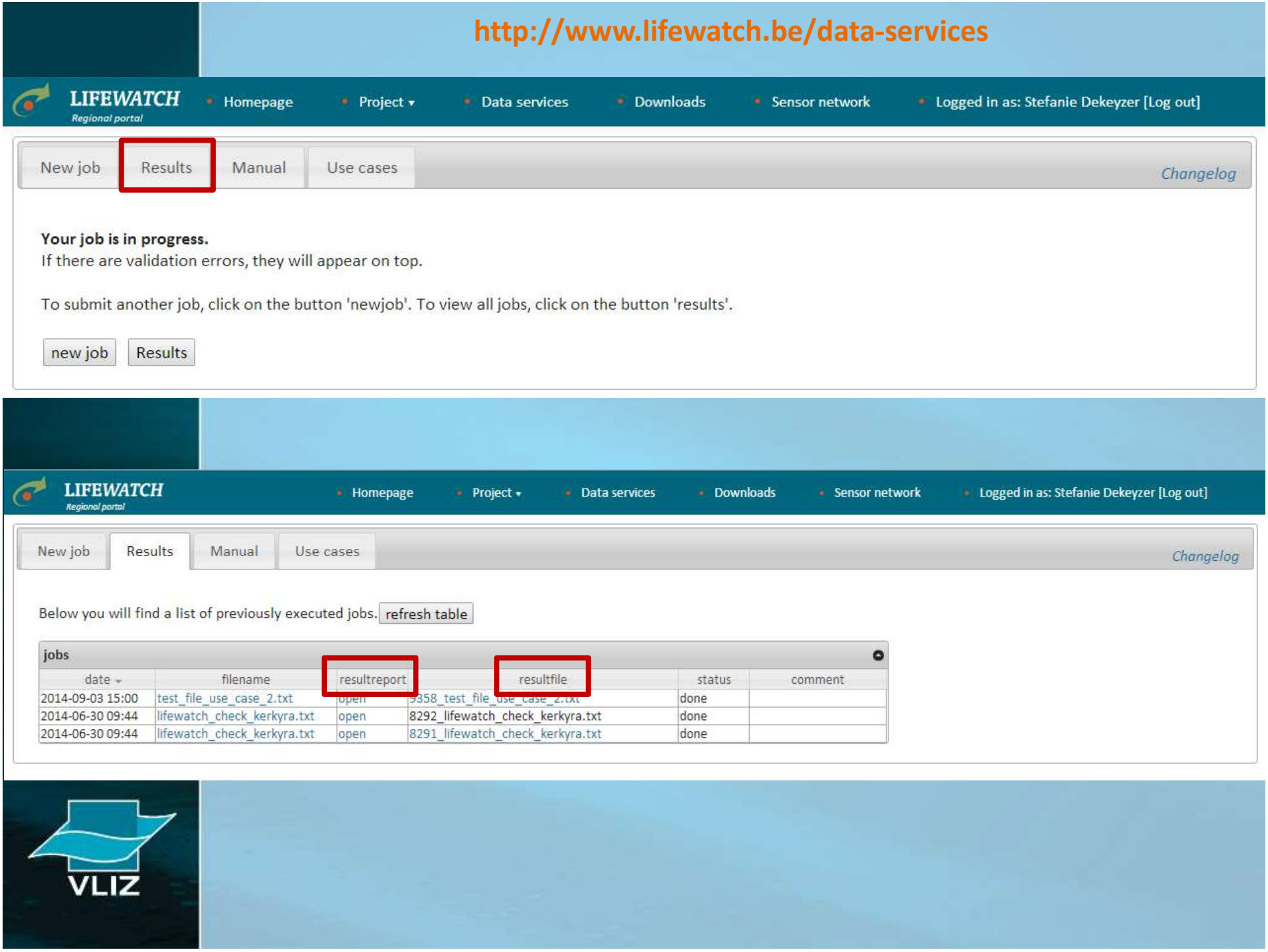
# http://www.lifewatch.be/data-services



# Report

http://www.lifewatch.be/data-services

**Job properties**
Name: Dekeyzer Stefanie
Number job: 5816
Comment:
Inputfile: test_file_use_case_2.txt
Resultfile: 5816_test_file_use_case_2.tab

**Requested Services (2)**

- Get lat-long by name
- Get a taxon list of a certain region (mrgid)

**Resultfile**

**Results - Get lat-long by name**
Number of no exact match(es) :0
Number of fuzzy match(es) :0
Number of no match(es) :0
Number of error(s) :0
Number of exact match(es) :19

**Results - Get a taxon list of a certain region (mrgid)**
Wandelaar: Number of unique species found in OBIS => 0
Belgian Exclusive Economic Zone: Number of unique species found in OBIS => 6805
North Sea: Number of unique species found in OBIS => 5147
Central North Sea: Number of unique species found in OBIS => 15930
Northern North Sea: Number of unique species found in OBIS => 15930
Southern North Sea: Number of unique species found in OBIS => 17025
German part of the North Sea: Number of unique species found in OBIS => 5147
Danish part of the North Sea: Number of unique species found in OBIS => 4487
Dutch part of the North Sea: Number of unique species found in OBIS => 7258
Norwegian part of the North Sea: Number of unique species found in OBIS => 5692
French part of the North Sea: Number of unique species found in OBIS => 2757
United Kingdom part of the North Sea: Number of unique species found in OBIS => 10224
Belgian part of the North Sea: Number of unique species found in OBIS => 6805
North Sea Bottom Current: Number of unique species found in OBIS => 6805

**Legend - added fields**

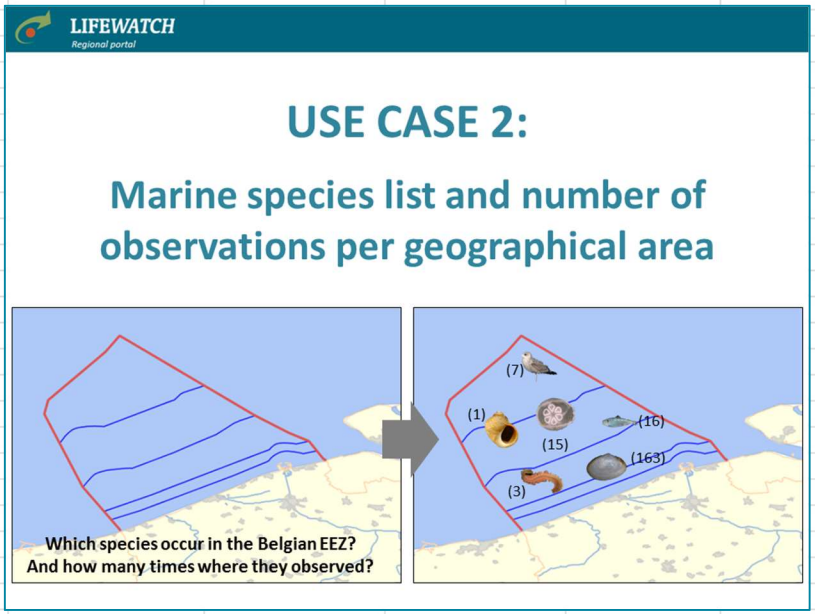
| | |
|---|---|
| added_row_ws | Indicates which service has added the row to the result file |
| aphiaid | Unique identifier within the Aphia database |
| Latitude_by_name | |
| Longitude_by_name | |
| matched_name | the name of the matching marineregions gazetteer name |
| mrgid_by_name | |
| required_fields_check | Are the required fields present and completed? (1=yes, 0=no) |
| Scientific_name | Name of taxon |
| taxonlist_mrgid_note | Note on taxonlist for mrgid |

VLIZ

List of species for the North Sea

Number of observations for that species in the North Sea

| | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | location | required_fields_check | latitude_by_name | longitude_by_name | matched_name | mrgid_by_name | scientific_name | aphiaid | tax | added_row_ws | num_observation | |
| 6812 | North Sea | 1 | 5.596.853 | 5.596.853 | North Sea | 2350 | | | | | | |
| 6813 | | | | | | | Microcystis wesenbergii | 146561 | | taxonlist_mrgid | 1 | |
| 6814 | | | | | | | Ampharetinae | 152252 | | taxonlist_mrgid | 7 | |
| 6815 | | | | | | | Culicimorpha | 150928 | | taxonlist_mrgid | 5 | |
| 6816 | | | | | | | Raniceps raninus | 126442 | | taxonlist_mrgid | 1 | |
| 6817 | | | | | | | Munnidae | 118263 | | taxonlist_mrgid | 5 | |
| 6818 | | | | | | | Protohydridae | 22788 | | taxonlist_mrgid | 1 | |
| 6819 | | | | | | | Rhodophyta | 852 | | taxonlist_mrgid | 50 | |
| 6820 | | | | | | | Rhizostoma | 135257 | | taxonlist_mrgid | 5 | |
| 6821 | | | | | | | Talorchestia | 101788 | | taxonlist_mrgid | 1 | |
| 6822 | | | | | | | Gyrodinium spirale | 109876 | | taxonlist_mrgid | 1 | |
| 6823 | | | | | | | Pyramidellinae | 224522 | | taxonlist_mrgid | 1 | |
| 6824 | | | | | | | Eulimidae | 135 | | taxonlist_mrgid | 3 | |
| 6825 | | | | | | | Hirudinea | 2041 | | taxonlist_mrgid | 1 | |
| 6826 | | | | | | | Thalassiosira nitzschioides | 149227 | | taxonlist_mrgid | 1 | |
| 6827 | | | | | | | Proclea | 129711 | | taxonlist_mrgid | 1 | |
| 6828 | | | | | | | Phaxas | 138335 | | taxonlist_mrgid | 18 | |
| 6829 | | | | | | | Clytia | 117030 | | taxonlist_mrgid | 119 | |
| 6830 | | | | | | | Cellaria salicornia | 153836 | | taxonlist_mrgid | 1 | |
| 6831 | | | | | | | Scopelocheirus hopei | 102720 | | taxonlist_mrgid | 1 | |
| 6832 | | | | | | | Pasiphaea sivado | 107677 | | taxonlist_mrgid | 2 | |
| 6833 | | | | | | | Laminariaceae | 143755 | | taxonlist_mrgid | 2 | |
| 6834 | | | | | | | Margelopsis | 117151 | | taxonlist_mrgid | 32 | |
| 6835 | | | | | | | Halaphanolaimus longisetosus | 121257 | | taxonlist_mrgid | 1 | |
| 6836 | | | | | | | Cydippida | 1251 | | taxonlist_mrgid | 458 | |
| 6837 | | | | | | | Metopa | 101764 | | taxonlist_mrgid | 1 | |
| 6838 | | | | | | | Carpelimus (Taenosoma) foveolatus | 150688 | | taxonlist_mrgid | 2 | |
| 6839 | | | | | | | Dictyosphaerium pulchellum | 178933 | | taxonlist_mrgid | 3 | |
| 6840 | | | | | | | Lagerheimia genevensis | 178610 | | taxonlist_mrgid | 3 | |
| 6841 | | | | | | | Delavalia | 347056 | | taxonlist_mrgid | 11 | |
| 6842 | | | | | | | Nassarius nitidus | 140509 | | taxonlist_mrgid | 1 | |
| 6843 | | | | | | | Choniolaimus papillatus | 120928 | | taxonlist_mrgid | 2 | |
| 6844 | | | | | | | Monhysteridae | 2188 | | taxonlist_mrgid | 137 | |
| 6845 | | | | | | | Chaetonotus (Schizochaetonotus) | 371021 | | taxonlist_mrgid | 1 | |
| 6846 | | | | | | | Microlaimus pinguis | 153418 | | taxonlist_mrgid | 3 | |
| 6847 | | | | | | | Heterocheila | 151022 | | taxonlist_mrgid | 2 | |
| 6848 | | | | | | | Ironidae | 2199 | | taxonlist_mrgid | 121 | |
| 6849 | | | | | | | Alosa fallax | 126415 | | taxonlist_mrgid | 15 | |
| 6850 | | | | | | | Jania | 144012 | | taxonlist_mrgid | 1 | |
| 6851 | | | | | | | Lymnocardiinae | 381865 | | taxonlist_mrgid | 17 | |
| 6852 | | | | | | | Strombidiidae | 1703 | | taxonlist_mrgid | 1 | |
| 6853 | | | | | | | Tomopteris krampi | 131556 | | taxonlist_mrgid | 1 | |
| 6854 | | | | | | | Antithamnionella ternifolia | 163275 | | taxonlist_mrgid | 2 | |
| 6855 | | | | | | | Pherusa flabellata | 130110 | | taxonlist_mrgid | 1 | |



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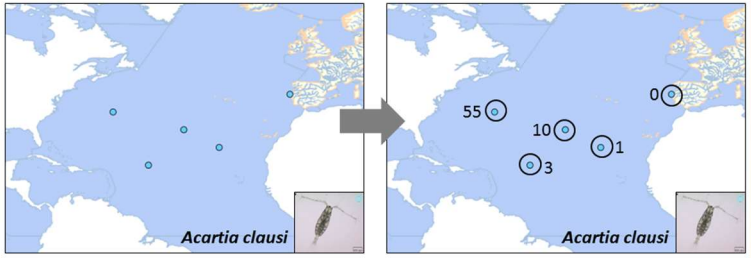
## USE CASE 1:

### Marine species observations in a 1000m radius around your own observation points

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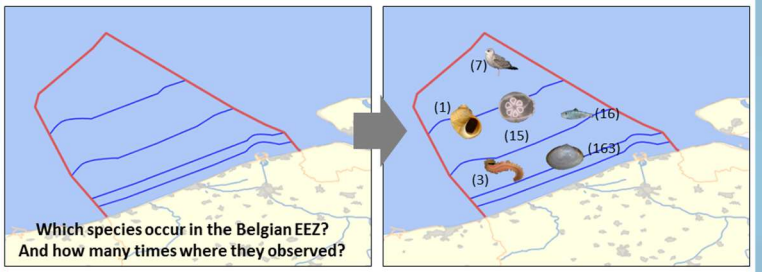
## USE CASE 2:

### Marine species list and number of observations per geographical area

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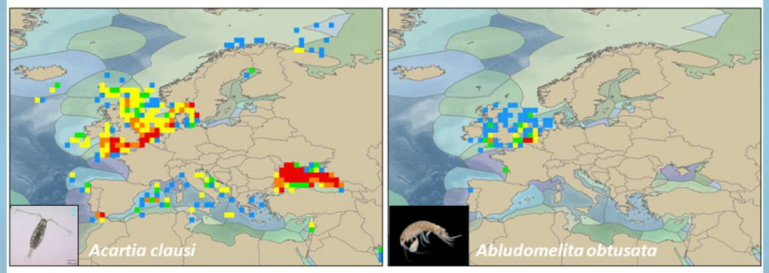
## USE CASE 3:

### List of geographical areas per marine species

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## USE CASE 4:

### Quality control of biodiversity datasets

**DATA FORMAT CHECK:**

Missing mandatory fields?
Missing information in mandatory fields?

**TAXONOMIC CHECK:**

WoRMS World Register of Marine Species

EurOBIS

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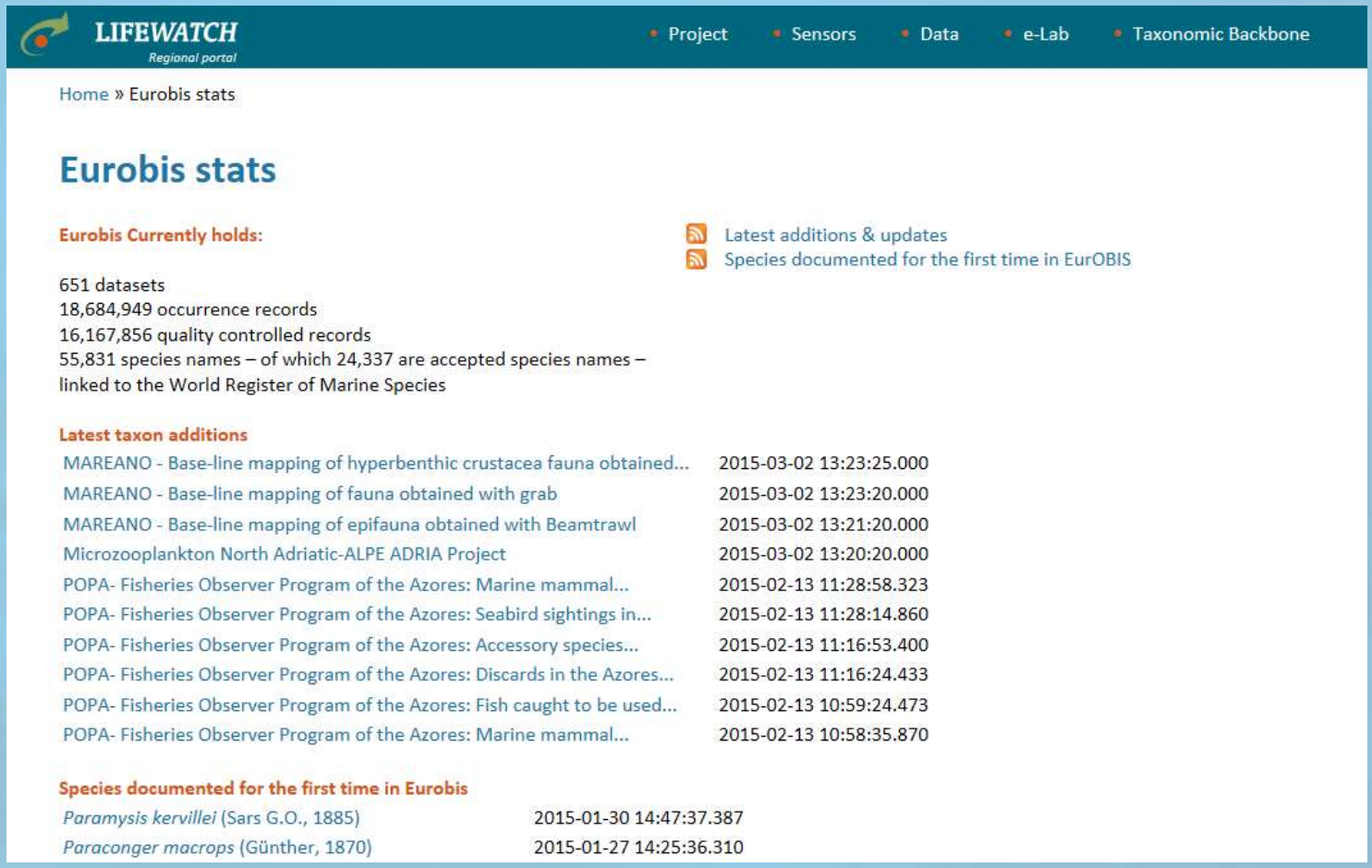
VLIZ

# Follow the EurOBIS growth

- www.eurobis.org => homepage + statistics page
- www.lifewatch.be => taxonomic backbone – biogeographic data – EurOBIS




EurOBIS

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# Publishing your own data through EurOBIS

- **Extra quality control & feedback**
- **Extra visibility for your research and institute**
- **Possibilities to worldwide collaborations**

- **Assignment of DOI to your dataset => data publication**

- **Several submission possiblities:**
  - IPT – Integrated Publishing Toolkit (e.g. IEO, OGS)
  - DiGIR
  - Email

- **REMEMBER: The system is only as good & complete as the data that go in it!**

- **Data licenses**

***You are not finished when you publish,***
***you are finished when you share the data.***

*Todd O'Brien*

EurOBIS

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**Thank you!**

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http://www.emodnet-biology.eu/
www.lifewatch.be