Bijdrage VLIZ aan ESFRI infrastructuren

Thursday 16 June 2016, Ostend

VLIZ

Vlaams Instituut voor de Zee vzw
Flanders Marine Institute


ESFRI
European Strategy Forum
on Research Infrastructures


RESEARCH & INNOVATION


Vlaamse
overheid


LifeWatch


ICOS
integrated
carbon
observation
system


EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

Bijdrage aan LifeWatch

Thursday 16 June 2016, Ostend

VLIZ

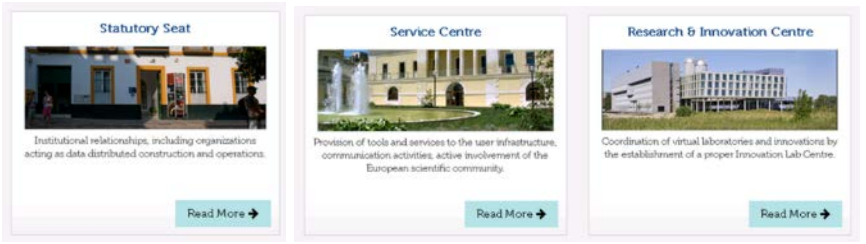
LifeWatch

Vlaams Instituut voor de Zee vzw
Flanders Marine Institute

LifeWatch
an e-infrastructure for Biodiversity and Ecosystem Research

ESFRI European Strategy Forum on Research Infrastructures

- Large-scale European research infrastructure
- Virtual laboratory for study of biodiversity
- Integrates observatories, data bases, web services and modelling tools distributed throughout Europe.



VLIZ

LifeWatch.be

Flanders

VLIZ

RESEARCH INSTITUTE NATURE AND FOREST

fwo

Taxonomic backbone
Observatory
Data bases and systems
Data services
Data archeology

Wallonia - Brussels

gembloux agro bio tech

FÉDÉRATION WALLONIE-BRUXELLES

EARTH & LIFE INSTITUTE

Habitat characterization by remote sensing
Ecotopes database

Federal

belspo

SCAR

.be Biodiversity.be

museum

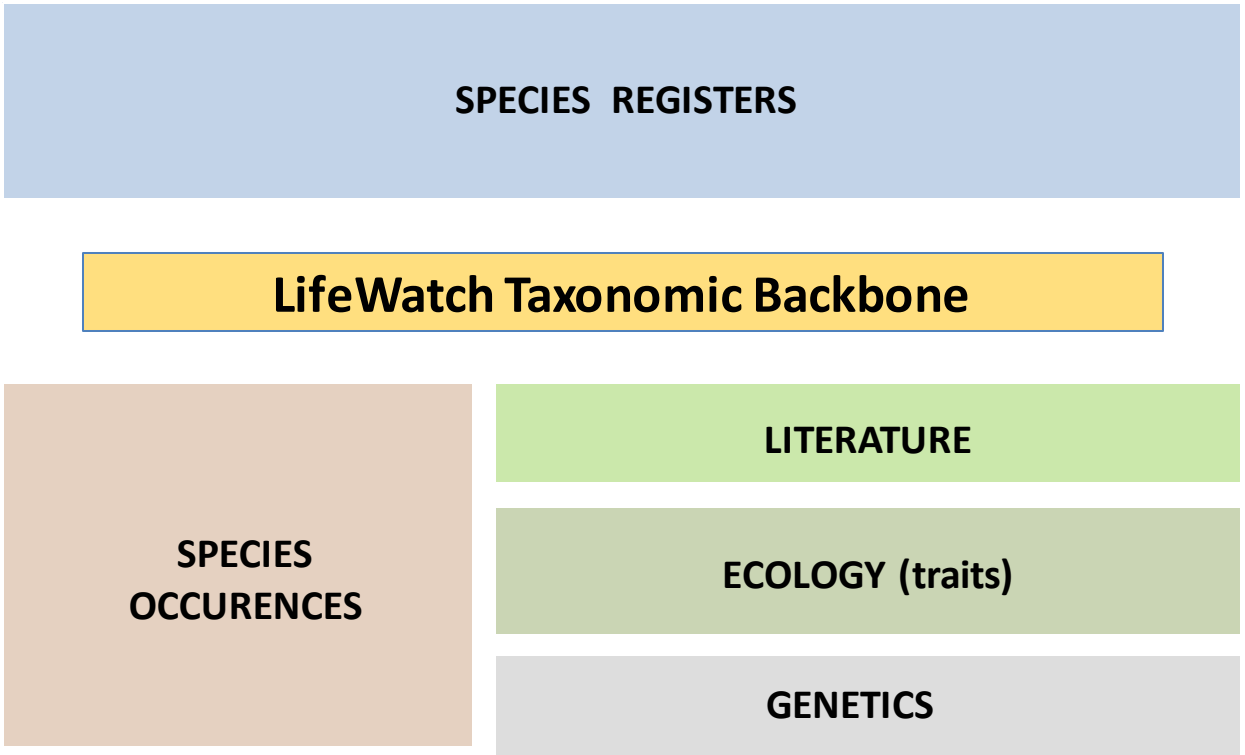
BIODIVERSITY.AQ

AntaBIF
Antarctic observations
BopCo
LifeWatch Scientific Node

VLIZ

Taxonomic Backbone

Facilitates the standardization of species data and the (virtual) integration of the many distributed biodiversity data repositories and operating facilities.



Taxonomic Backbone

World Register of Marine Species (WoRMS)

WoRMS World Register of Marine Species

Freshwater Animal Diversity Assessment (FADA)

.be FADA

Interim Register of Marine and Nonmarine Genera (IRMNG)

Interim Register of Marine and Nonmarine Genera

Catalogue of Life (CoL)

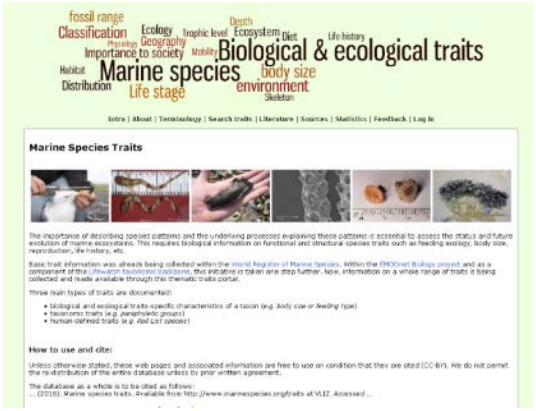
Catalogue of Life

FishBase

FishBase

AlgaeBase

algaeBASE



VLIZ

Data archeology

Lifewatch.EU

Lifewatch project plan

Existing Data inventory (IMIS)

Step1: Dataset screening from literature

Step2: Identification datasets: Interviews with experts and institutes

Expert group

Data inventory

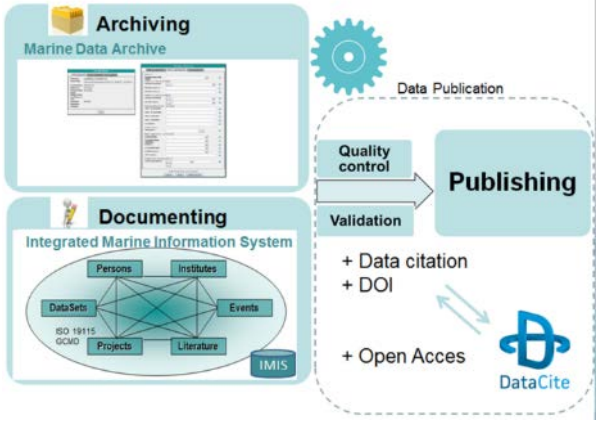
Step3: identification of data needs

Prioritisation

Digitizing, documenting, reformatting and quality control

Data archiving and import in data systems

Data accessibility



Data archeology

2014

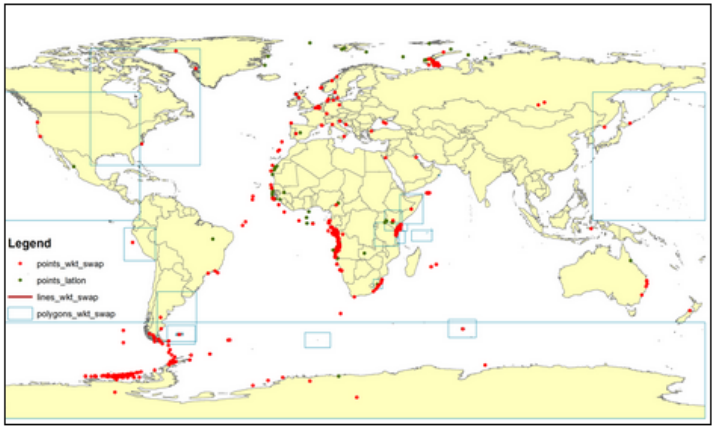
- Data series 4: Plankton data of the Belgian Part of the North Sea.
- Data series 3: Scientific catch data from shrimp fisheries in the BPNS.

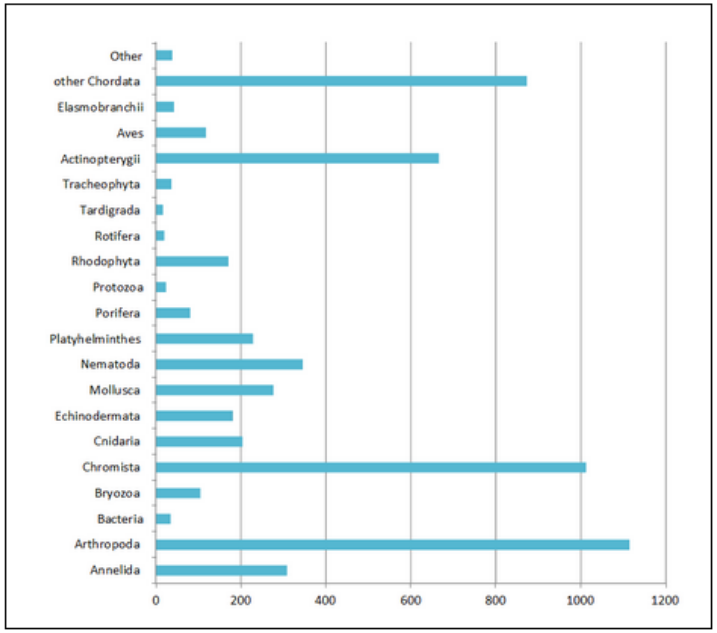
2012 - 2013

- Data series 2: Biological datasets resulting from integrated Belgian-Kenyan research activities.
- Data series 1: Historical biological datasets identified through the Belgian Marine Bibliography.

- Inventory list
- Dataset list

The datasets recovered during the 2012-2013 data archeology projects contain more than 54.000 observation records, covering more than 5.500 identified species from all main taxonomic groups (graph on the right) collected from more than 3.800 stations (map below).





Marine observatory

MARINE OBSERVATORY

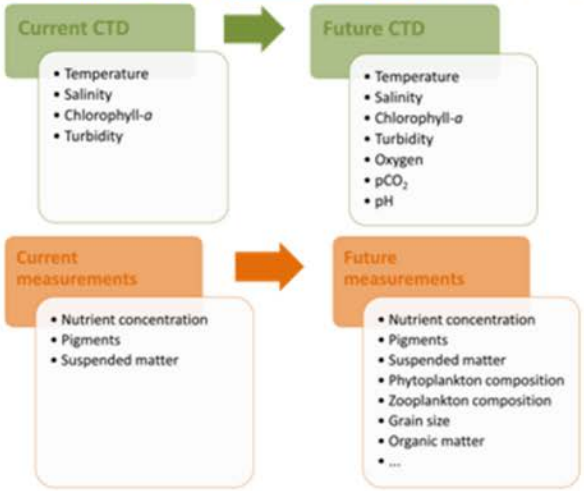
The marine observatory is constructed and managed by the Flanders Marine Institute (VLIZ). A very important player within the marine observatory will be the RV Simon Stevin, a new multi purpose research vessel, especially designed for research operations in the Southern Bight of the North Sea. The position of the RV Simon Stevin, as well as ongoing onboard research activities can be tracked in real-time on the LifeWatch.be homepage. In the future, real-time data from a sensor network will become available as well.

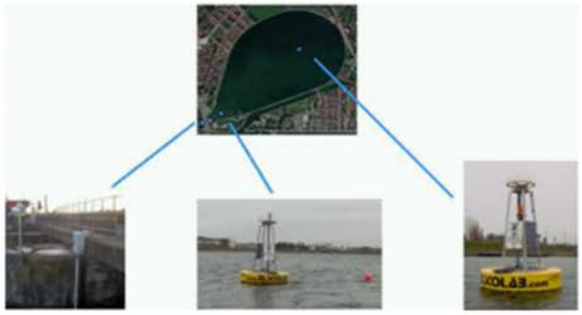
1) Monthly monitoring campaigns

- 10 stations in the Belgian part of the North Sea
- Monthly (1-day) and seasonal (2-days) campaigns
- CTD readings of the water column (current versus future)
- Environmental measurements on sediment and water samples: (current versus future)
- Possible future devices : flow cytometer, video plankton recorder, nutrient analyzer

2) Sensor network

- Currently: real-time environmental parameter readings from 3 continuously measuring buoys in the Ostend harbor (Spuikom)
- Future expansions to the Belgian Part of the North Sea:
  - → Similar environmental monitoring equipment on buoys/platforms
  - → Hydrophones (detection of marine mammals) on buoys /platforms
  - → Extra biosensors (fish sonars, microphones for seabirds, tagging-tracking systems)





Marine observatory

Monthly and seasonal campaigns

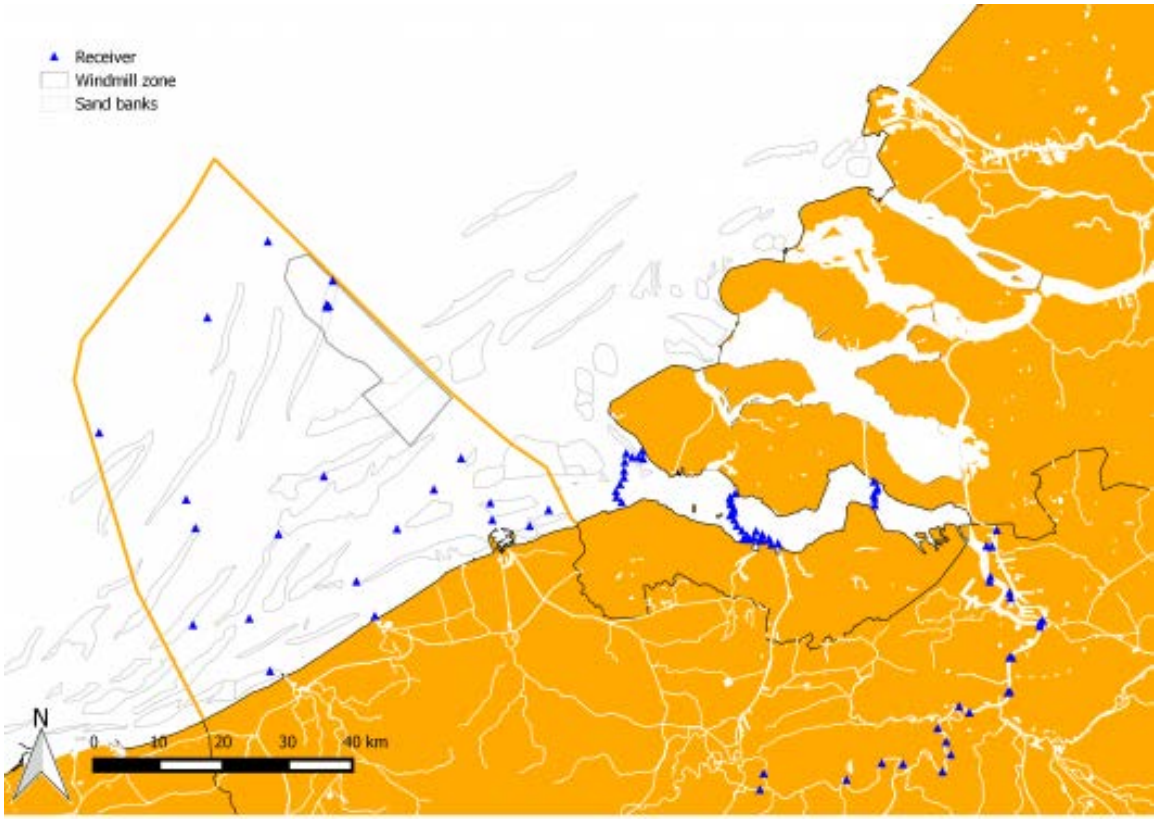
LifeWatch VLIZ @LifeWatchVLIZ · May 26

And yet another very successful seasonal LifeWatch sampling campaign!
#RVSimonStevin

The position and sampling activities of the RV Simon Stevin in real-time.

Marine observatory

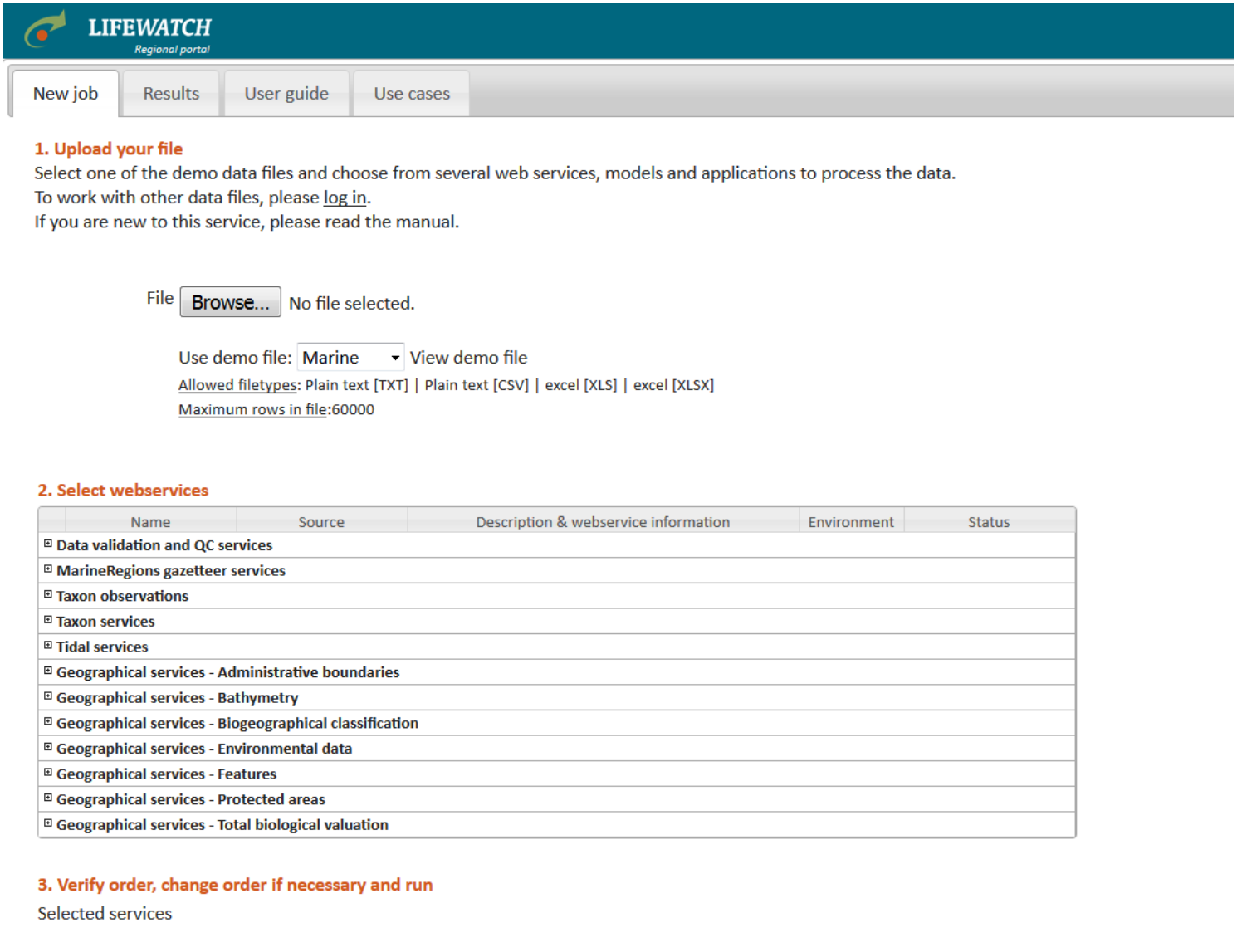
Sensor networks



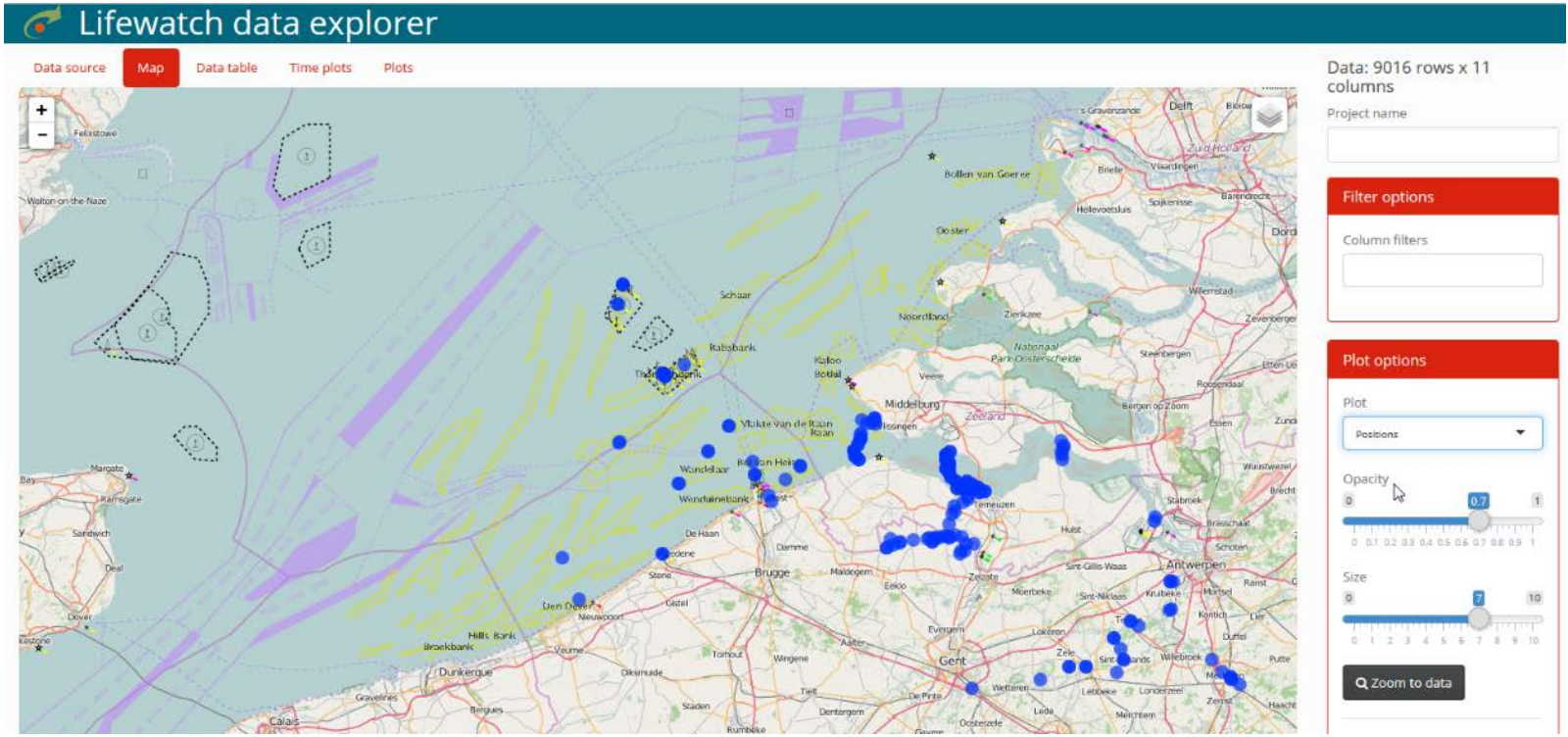
VLIZ

Data services

Lifewatch.be e-lab



Data services



User meeting

23 May 2016

Participants: Belgian LifeWatch partners, users of the Belgian LifeWatch infrastructure, PhD students

Aim of the meeting:

- Users of the infrastructure can present their research and first results
- Networking opportunity
- Capturing user questions

More info: www.lifewatch.be

Questions: info@lifewatch.be

Mailing list: users@lifewatch.be

Follow on Twitter: https://twitter.com/lifewatchvliz

VLIZ

Bijdrage aan ICOS

Thursday 16 June 2016, Ostend

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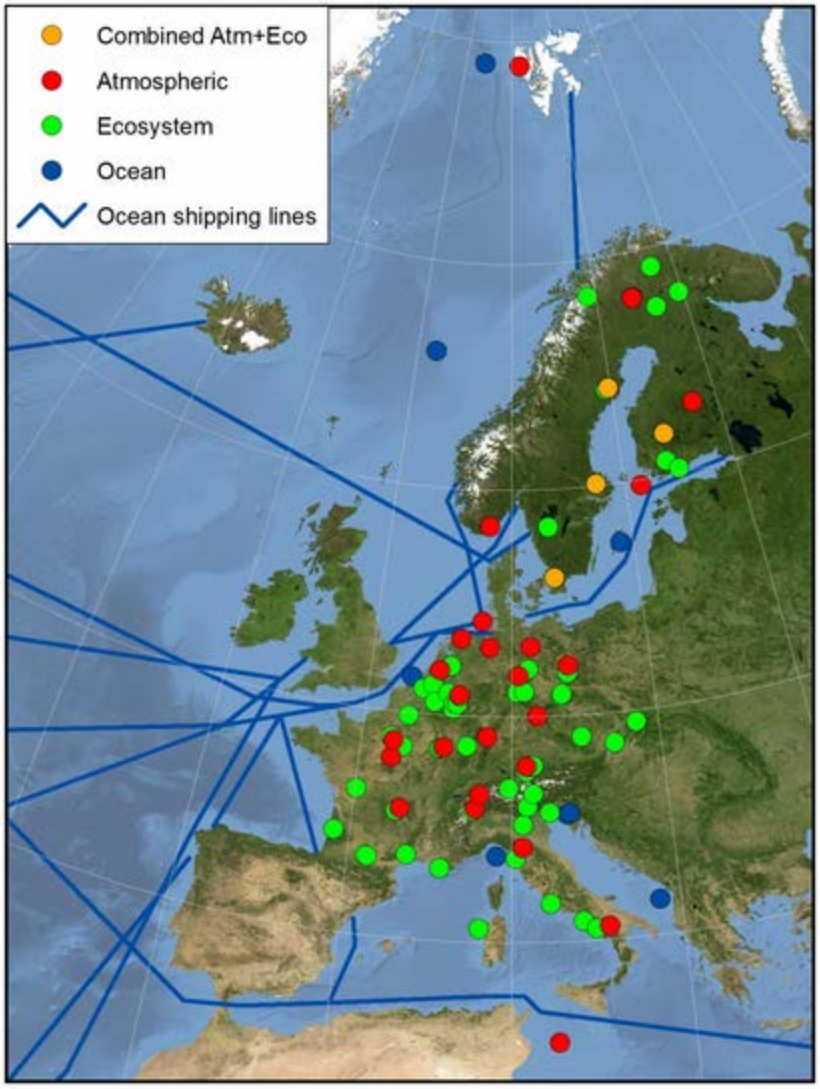
ICOS integrated carbon observation system

Vlaams Instituut voor de Zee vzw
Flanders Marine Institute

ICOS

INTEGRATED CARBON OBSERVATION SYSTEM

- Ecosystem TC
- Oceanographic TC
- Atmospheric TC
- Central Analytical Labs



VLIZ

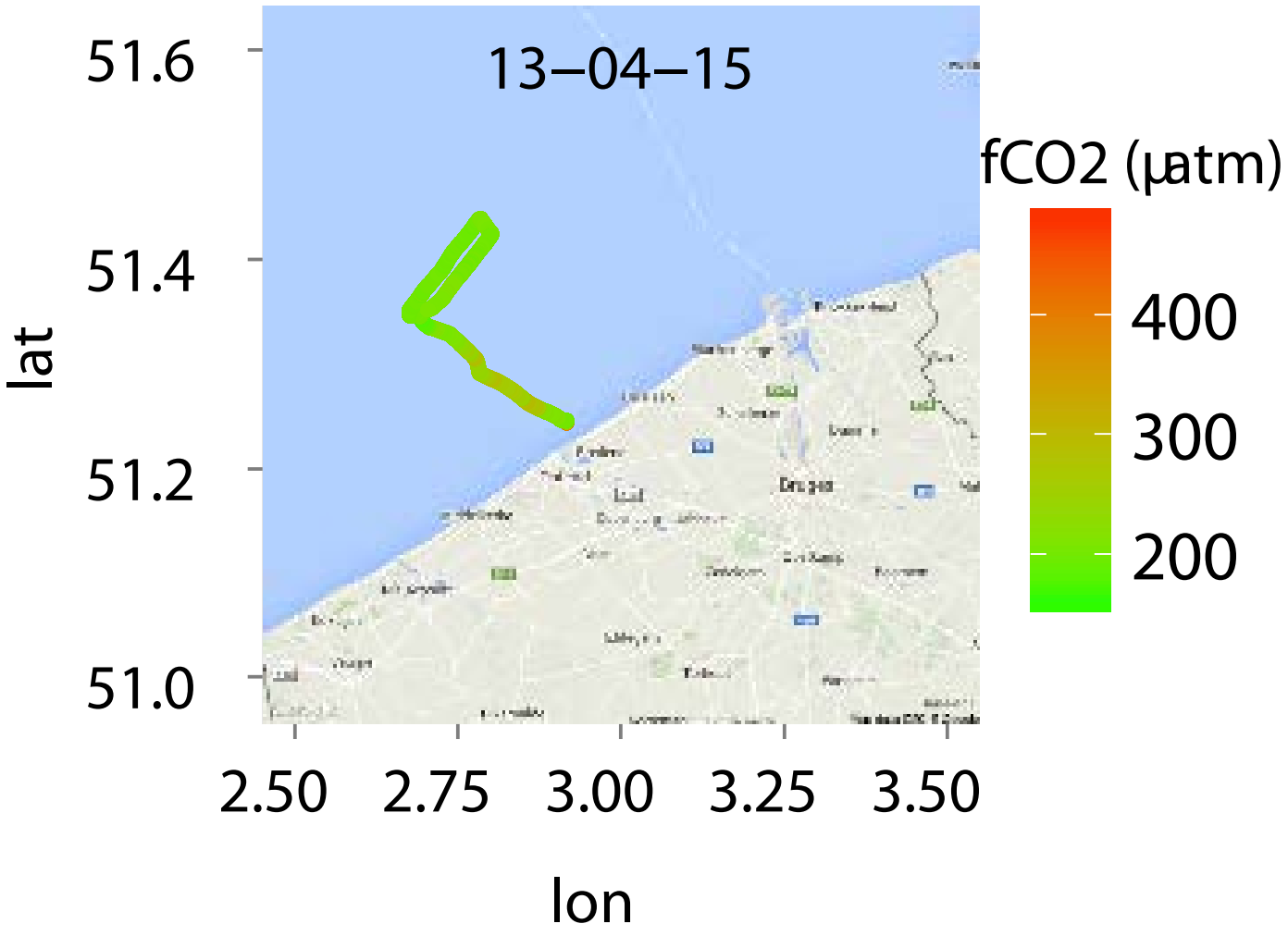
Underway System

pCO_2 (water)

Flow Cytometer

FRRf

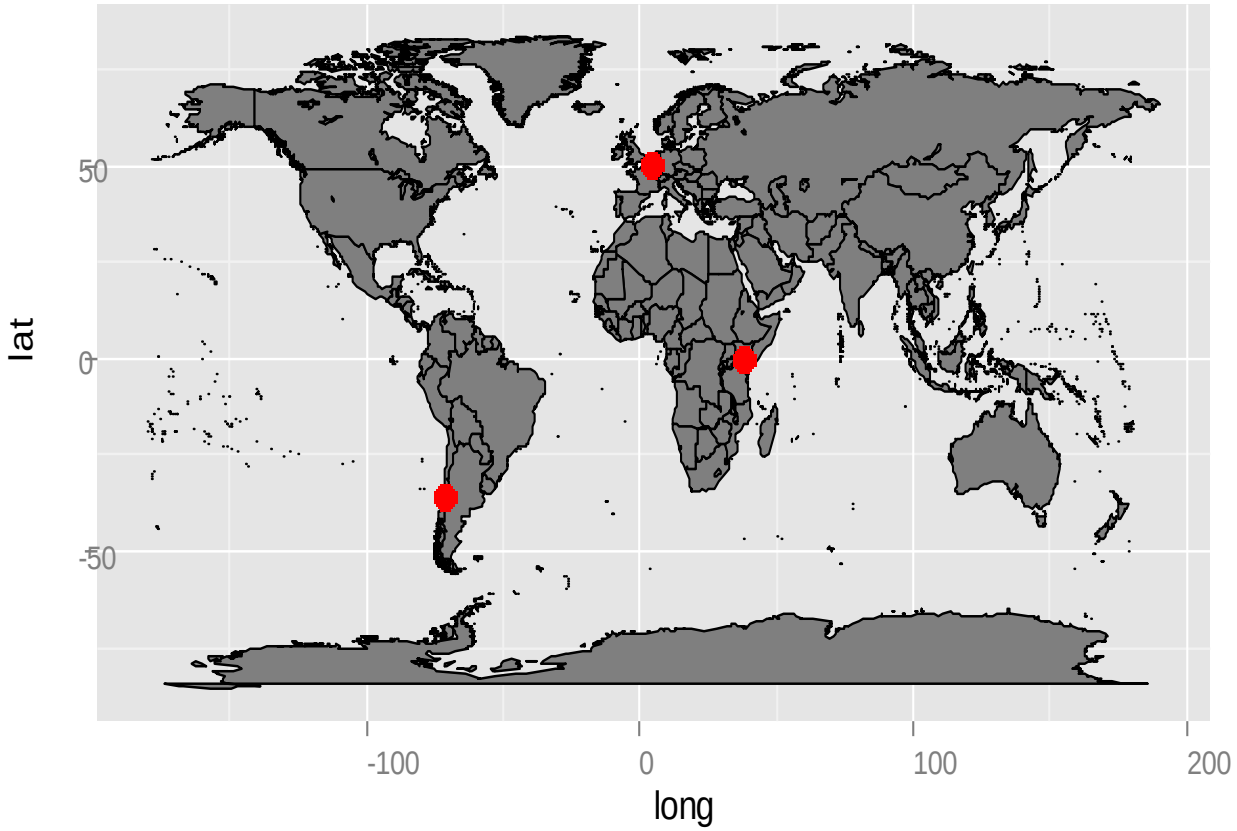
- Nutrients (SUNA, Wet Chemistry)
- Fluorometer
- Sooguard (O_2)
- Thermosalinograph


13–04–15
51.6
51.4
51.2
51.0
lat
2.50
2.75
3.00
3.25
3.50
lon
fCO2 (µatm)
400
300
200

VLIZ Thorton Bouy

- O_2, CTD, Chl-a & currents
- Systea WIZ
- ProOceanus – proCO_2 atmosphere
- Sensorlab pH sensor
- Vemco receiver & C POD passive acoustic receiver

VLIZ in ICOS (international)



- Chile
- The Netherlands
- Kenya

Chile VOS

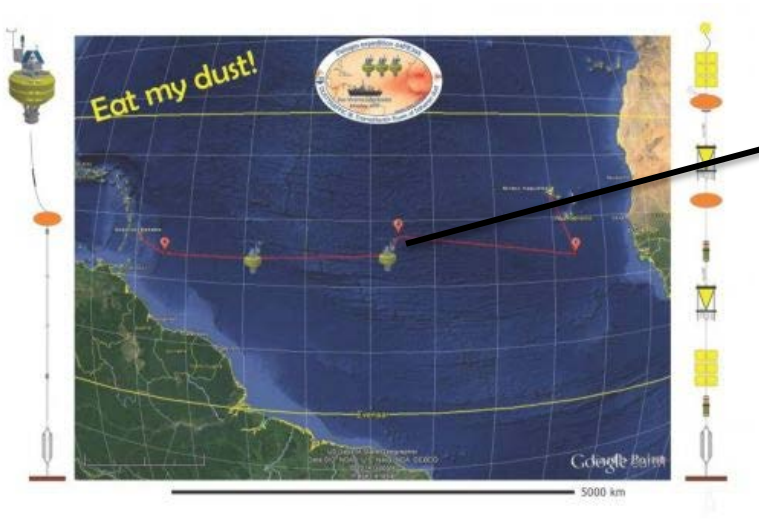
M/N Condor

Contros HydroC – CO2 FT

SUNA V2

Collaboration with Uni. Valparaiso

NIOZ Open Ocean mooring (Dust Traffic project)



Photos: Jan-Berend Stuut (NIOZ)

Kenyan Marine Fisheries Research Institute

ICOS Belgium Consortium

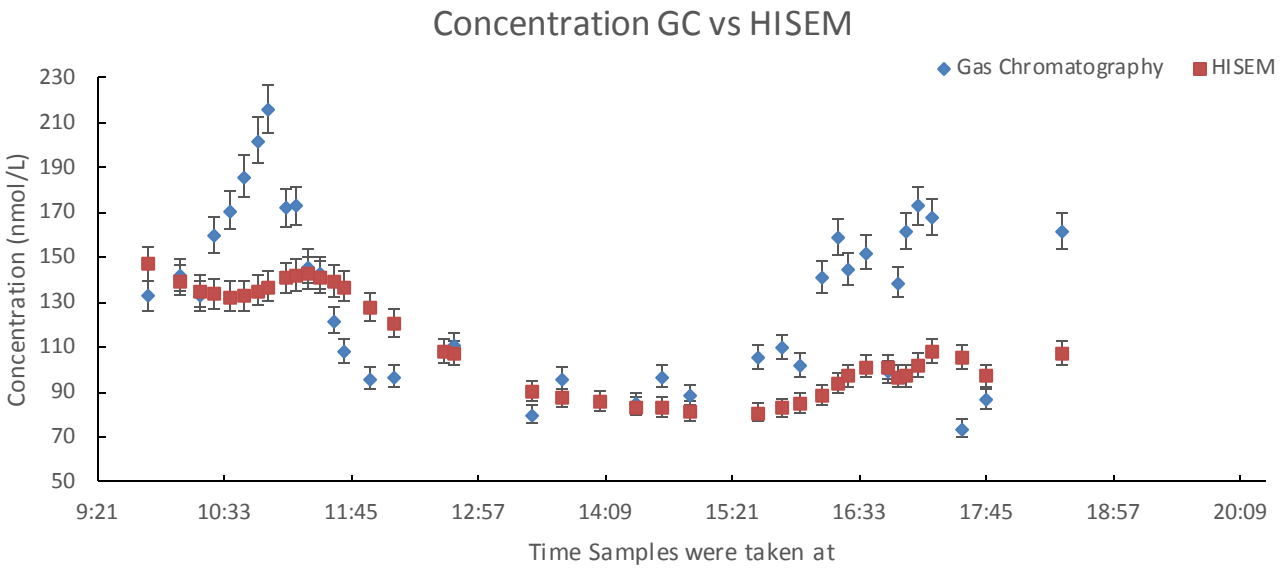
Informeel netwerk / personen

RINGO (InfraDev - H2020)

Developing ICOS RI readiness to provide information on ecosystem/river/estuary/ocean carbon transport and GHG fluxes

Novel methodologies and protocols

Contros CH4 sensor



Contros CH4 sensor

Calibrate/validate system and methodology

Data on ICOS (QC/QA protocols)

HydroC-CH4 deployment in the Antarctica on RV Palmer

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EMBRC
EUROPEAN MARINE BIOLOGICAL RESOURCE CENTRE

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Services

From mid 2016 onwards, EMBRC will offer a range of high-level services to support basic and applied marine biological research in Europe. The services will be provided at the EMBRC nodes in EMBRC member countries.

Users will be able to easily search EMBRC services and prices and make requests on the **EMBRC access portal** on the EMBRC website. The access portal will be developed during the implementation phase.

Ecosystem Access

Biological Resources

Technology Platforms

Training Platform

E-Infrastructure

Supporting Facilities

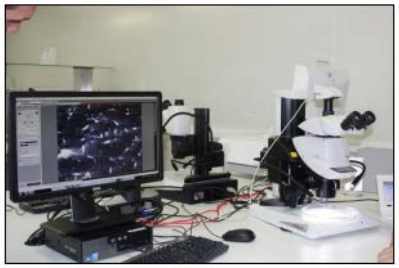
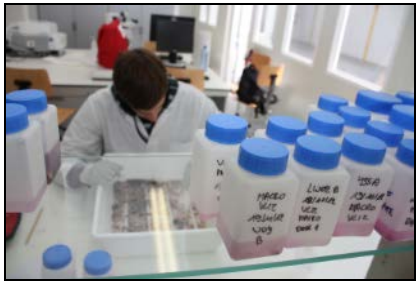
VLIZ

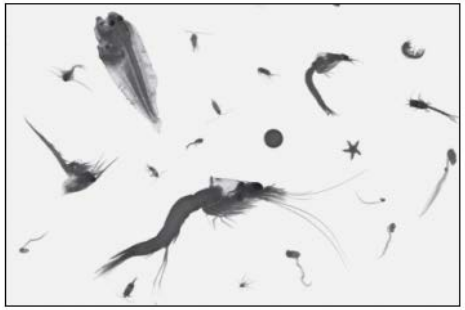
Ecosystem access

VLIZ

Technology Platforms

Biological resources




e-Infrastructures

- **EMBRC e-Infrastructure Working Group** chaired by VLIZ
- Terms of Reference - Objectives:
    - Define e-Infrastructure strategy
    - Define e-infrastructure architecture model options
    - Assess feasibility and cost implications of the e-infrastructure strategy implementation
- 9 EMBRC representatives
- Invited experts of related e-infrastructures: LifeWatch, ELIXIR, EGI, EMODnet biology, …
- First meeting Paris 4-5th July

VLIZ

pp2EMBRC

- *European Marine Biology Resource Centre* ***preparatory phase 2*** (2015 – 2016; EU H2020)

- **E-Access to Resources :**
  - **Step 1**: Inventory of resources *(Ugent task pp2 EMBRC)*
  - **Step 2**: Online system for access to resources *(VLIZ task pp2EMBRC)*
  - **Step 3**: Selection of resources to be included (EMBRC)

Assemble Plus

- *Association of European Marine Biological Laboratories Expanded*
- Submitted to EU H2020 - call INFRAIA-01-2016-2017

- VLIZ to provide **Transnational access** to the infrastructure proposed for EMBRC
- VLIZ to lead work package on **Improving virtual access** to marine biological stations data, information and knowledge
- UGENT to participate as subcontractant to VLIZ for Transnational access and for specific activities on virtual access work package.

- Estimated start: January 2017

VLIZ