Bijdrage VLIZ aan ESFRI infrastructuren

Thursday 16 June 2016, Ostend



Vlaams Instituut voor de Zee vzw Flanders Marine Institute

ESFRI European Strategy Forum on Research Infrastructures



RESEARCH & INNOVATION







integrated carbon observation system



Bijdrage aan LifeWatch Thursday 16 June 2016, Ostend





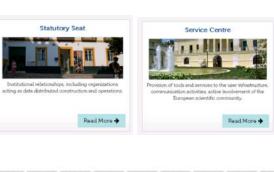
Viaams Instituut voor de Zee vzw Flanders Marine Institute

LifeWatch an e-infrastructure for **Biodiversity and Ecosystem Research**



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











LifeWatch.be

Flanders



RESEARCH INSTITUTE
NATURE AND FOREST



Taxonomic backbone
Observatory
Data bases and systems
Data services
Data archeology

Wallonia - Brussels







Habitat characterization by remote sensing Ecotopes database

Federal











AntaBIF
Antarctic observations
BopCo
LifeWatch Scientific Node



Taxonomic Backbone

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

SPECIES REGISTERS

LifeWatch Taxonomic Backbone

SPECIES OCCURENCES

LITERATURE

ECOLOGY (traits)

GENETICS

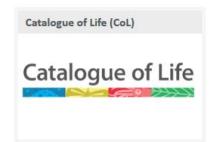


Taxonomic Backbone















Biological and ecological traits of marine species

ark John Costello', Sirnon Claus', Stefanie Dekeyser',

Journal of Marine Science and Engineering

How Aphia—The Platform behind Several Online and Taxonomically Oriented Databases—Can Serve Both the Taxonomic Community and the Field of

Less Vandspiris k_1 , Eart Vanhorms k_1 Win Decock k_2 Siefinis Debyger k_1 Aina Triat Verbesch k_2 Lorente Bookt k_1 Francisco Hermandez k_1 mid Jan Meep k_2

Finder Mette Sorten-Vanus Institute von de Zer (VIII), Windelankant 3, Generale 5400, Belginn E Mells, bet enthermogische (g. U.), windered gehin bet (g. U.), windered gehin bet (g. U.), windered delegen in der Generale des Generales des Generales (g. U.), windered des Generales (g. U.), when the bette gleiche (g. U.) is necessively and (g. M.). Generales des Generales (g. U.), which is described to the general generales (g. U.) is necessively and (g. M.). Generales (g. U.) (Generales (g. U.)) (Gen

 Galer Chinestry (Clean), Sale-selectaeraterate 25, Center woo, so gittin
 Author to where correspondence should be addressed. B Mail: Iron sendepine givlin be. Tel: +23-(7)99-349-139; Fee: +23-(7)99-349-131.

Academic Editor: Angelika Brasslr

Becalved: 14 September 2011 / Accepted: 17 November 2013 / Published: 1 December 2015

Abbest 10 Aging pilotes in main handward being of to gripe in common an instant on med information, and could not written in effective personates. The tree desires across being pilote which is explored to control of the debates given in Ordan (Agina in the conceptions that explores the Wind Expert Mexical Poster (Agina in the conception for the pilote in Wind Expert Mexical Poster (Agina in the pilote in





The importance of describing species patterns and the underlying processes explaning these patterns is essential to assess the status and full exclusion of mainte exceptions. This requires to blog of information on functional and structural operator tracts such as feeding exclusion, body converged occurs, the latery, att.

Basic trait information was already being collected within the world legister of Marine Species. Within the CHXChest Budge preject and as a component of the University basic processor, this indistries it blend one step further. Now, information on a whole range of traits is being collected and make available through that themselve traits portal.

Three main types of traits are documented:

• tological and ecological traits-specific tharacteristics of a toxon (e.g. dody size or feeding type),

• toxon cent trafts (e.g. anaphyleids groups).

How to use and cite:

Unless atherwise stated, these web pages and associated information are free to use on condition that they are uteral (CC-6/1). We do not permitte and stribution of the entire distalace unless by prior written agreement,

The distabase as a whole is to be cloud as follows:
... (2016). Marine species trafts. Available from 19to (//www.marinespecies.org/brafts at V.I.Z. Accessed.



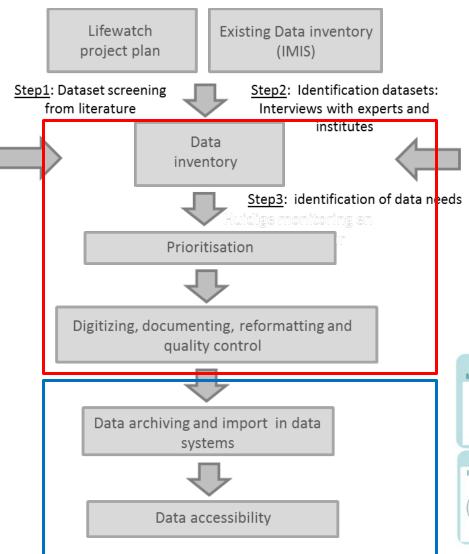






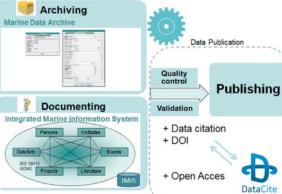


Data archeology





Expert group





Data archeology

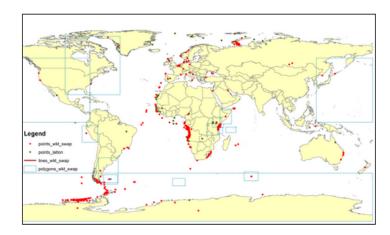
2014

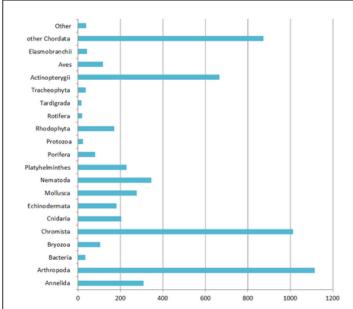
- Data series 4: Plankton data of the Belgian Part of the North Sea.
- Data series 3: Scientific catch data from shrimp fisheries in the BPNS.

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

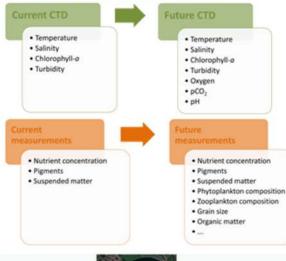
- 10 stations in the Belgian part of the North Sea
- Monthly (1-day) and seasonal (2-days) campaigns
- · CTD readings of the water column (current versus future)
- Environmental measurements on sediment and water samples: (current versus future)
- Possible future devices: flow cytometer, video plankton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

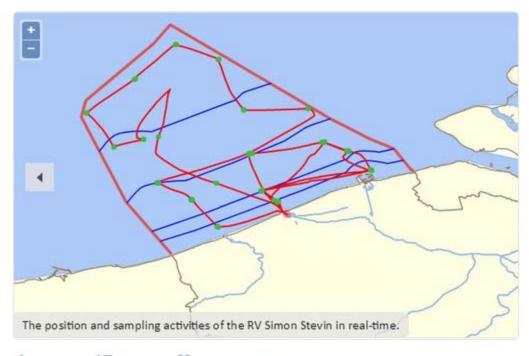
Monthly and seasonal campaigns



LifeWatch VLIZ @LifeWatchVLIZ - May 26

And yet another very successful seasonal LifeWatch sampling campaign!

#RVSimonStevin













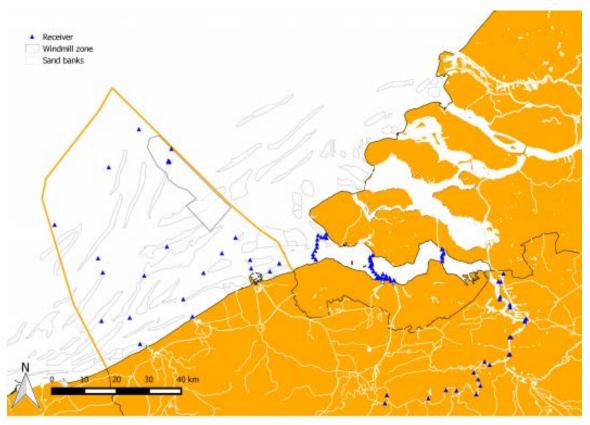






Marine observatory

Sensor networks













Data services

Lifewatch.be e-lab



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	Browse	lo file selected	d.				
	Use demo file:	Marine ▼	View demo file				
	Allowed filetypes	ed filetypes: Plain text [TXT] Plain text [CSV] excel [XLS] excel [XLSX]					
	Maximum rows in	n file:60000					

2. Select webservices

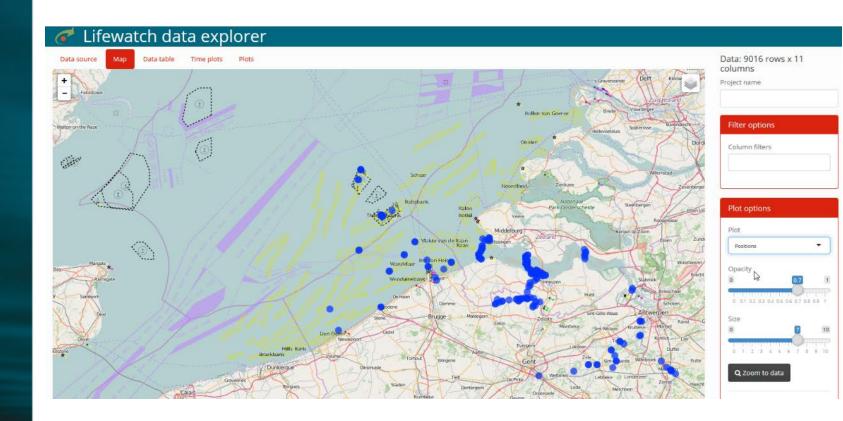
Name	Source	Description & webservice information	Environment	Status		
■ Data validation and QC s	ervices					
MarineRegions gazettee	services					
■ Taxon observations						
■ Taxon services						
■ Tidal services						
☐ Geographical services - A ☐	Administrative boundaries					
■ Geographical services - B	athymetry					
Geographical services - Biogeographical classification						
© Geographical services - Environmental data						
© Geographical services - Features						
Geographical services - Protected areas						
☐ Geographical services - T ☐	otal biological valuation					

3. Verify order, change order if necessary and run

Selected services



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: <u>users@lifewatch.be</u>

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



Bijdrage aan ICOS Thursday 16 June 2016, Ostend



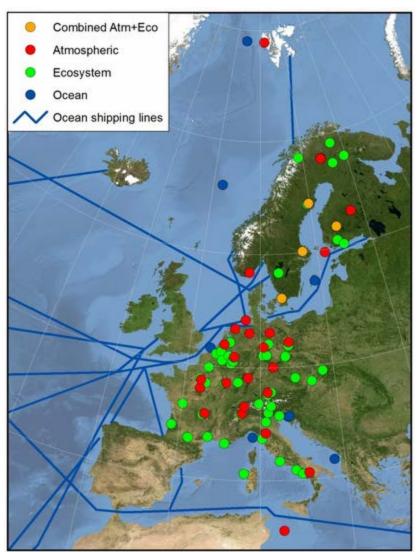


Viaams Instituut voor de Zee vzw Flanders Marine Institute

ICOS

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

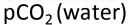






Underway System







Flow Cytometer



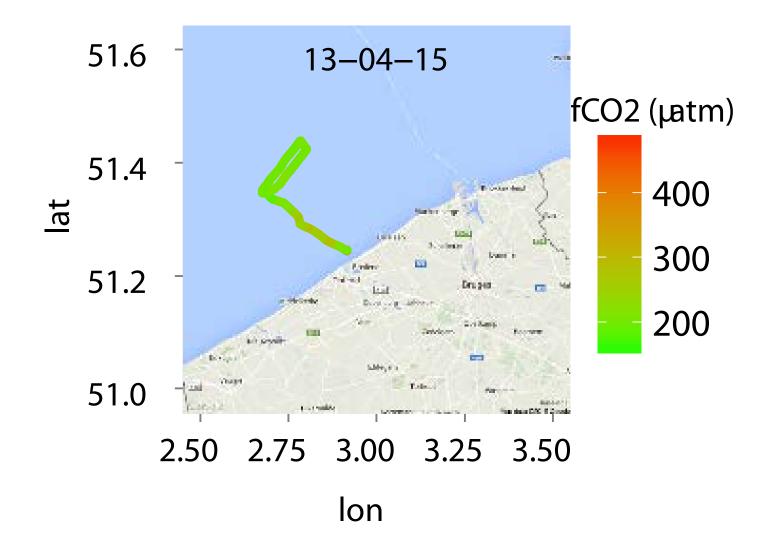
FRRf





- Fluorometer
- Sooguard (O₂)
- Thermosalinograph







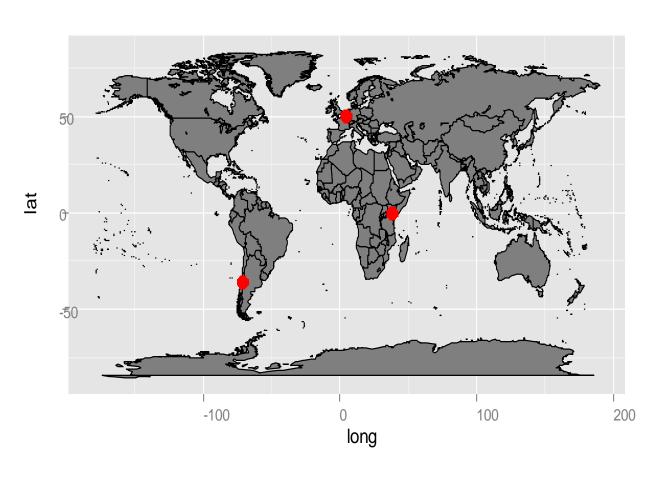
VLIZ Thorton Bouy



- O₂, CTD, Chl-a & currents
- Systea WIZ
- ProOceanus proCO₂ atmosphere
- Sensorlab pH sensor
- Vemco receiver & C POD passive acoustic receiver



VLIZ in ICOS (international)



- Chile
- The Netherlands
- Kenya



Chile VOS







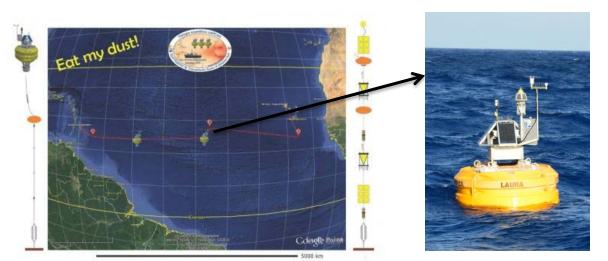
Contros HydroC – CO2 FT





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

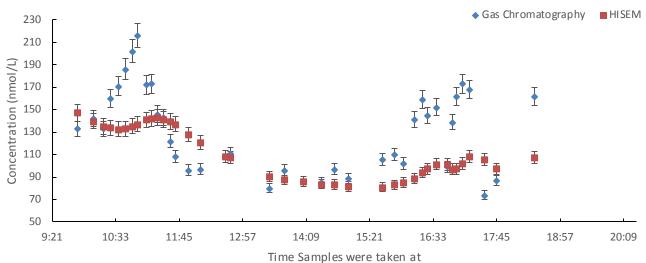
Novel methodologies and protocols



Contros CH4 sensor



Concentration GC vs HISEM





Contros CH4 sensor

Calibrate/validate system and methodology

Data on ICOS (QC/QA protocols)

HydroC-CH4 deployment in the Antarctica on RV Palmer



Bijdrage aan EMBRC Thursday 16 June 2016, Ostend





Viaams Instituut voor de Zee vzw Flanders Marine Institute



Home About Partners Services News Contact Events

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.







E-Infrastructure						
164.00						
cdn12p0003l18	165.00					
cdn07p0002m00	184.00					
0/012	226 00					
cdn02p0003p14	230 00					
cdn02p0003r22	243.00					
Sept 00300	245.00					
cdn()7p000/2p17-y	370.00					
	59000					
cdn07p00006614	22000					
cdn12p0006h23	Sommin					
cdh08p0001p23	270.00					
cdn01p0001o13 /	297.00					
cdn03p0002109	1297 00					
cdn04p0005g047	297.00					
cdn08p0002b16	297.00					
cdn13p0005q09						























Ecosystem access



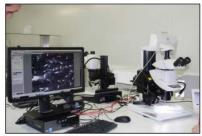
Technology Platforms

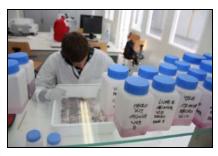




Biological resources















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 einfrastructure strategy implementation
- 9 EMBRC representatives
- Invited experts of related e-infrastructures: LifeWatch,
 ELIXIR, EGI, EMODnet biology, ...
- First meeting Paris 4-5th July



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

