International networking of the VMDC

Francisco Hernandez

VLIZ Flanders Marine Institute

Vlaams instituut voor de zee

Content

- Overview
- Monitoring sealevel : GLOSS
- Species registers : WoRMS
- Biodiversity databases : OBIS
- Marine atlases : EMDONET
- Data center networks : IODE & ICSU

VLIZ
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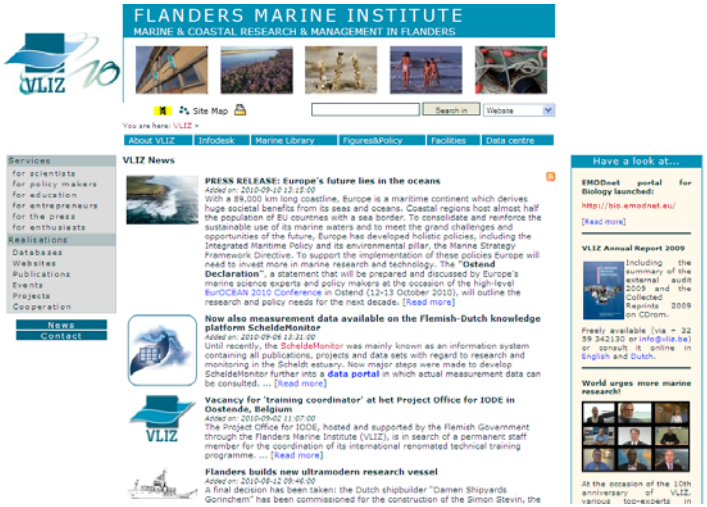
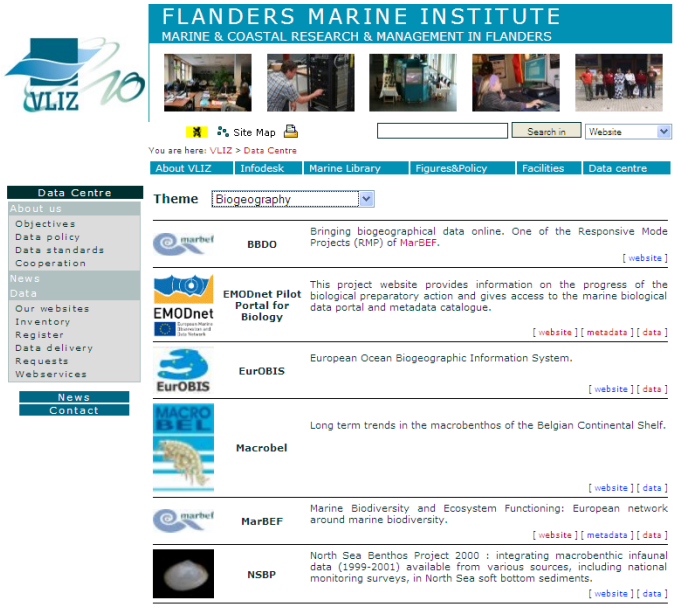


- 17 national collaboration agreements
- 9 national networks
- 27 international networks

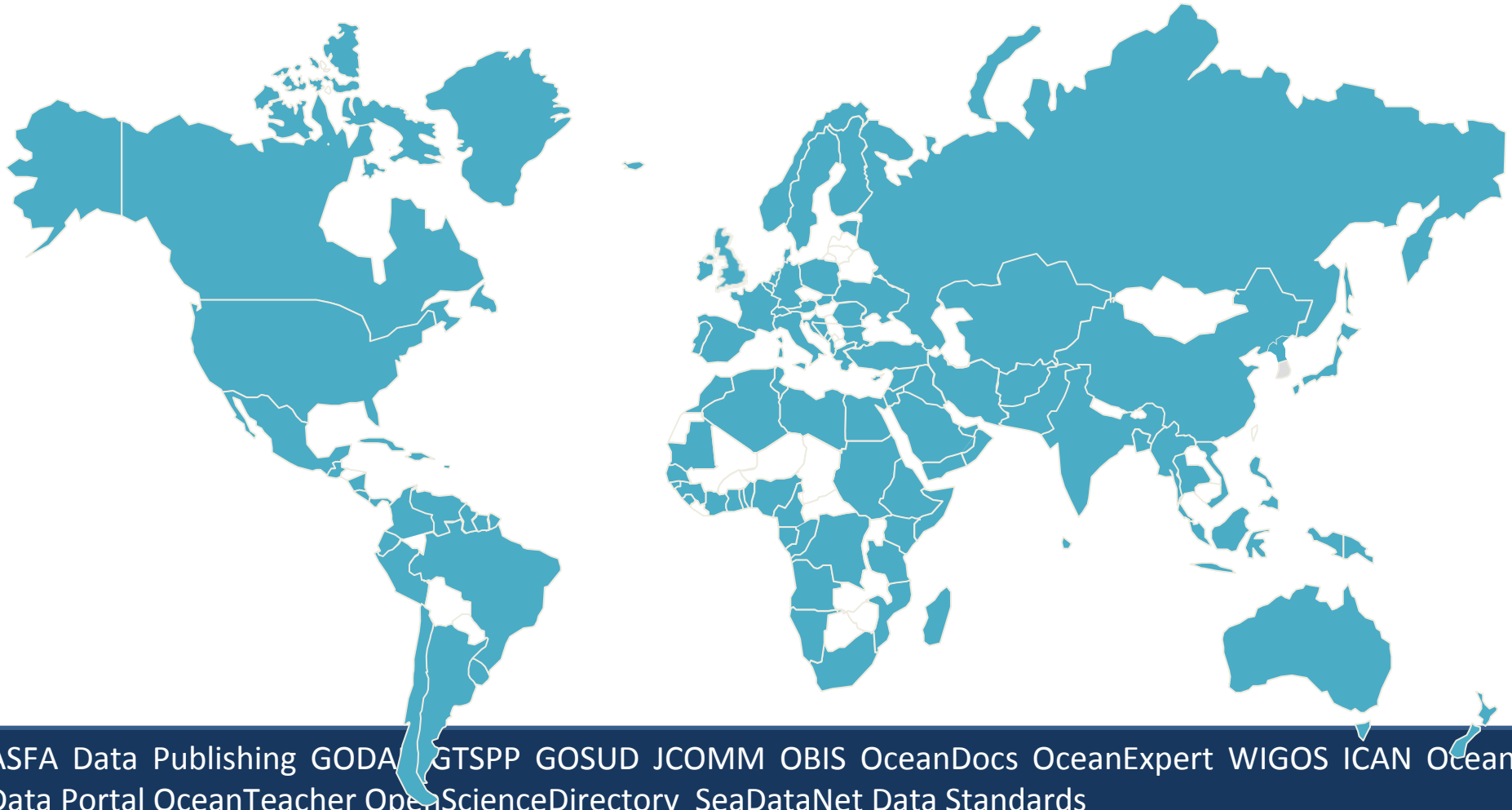
Vlaams marien datacentrum



- IODE netwerk van datacentra (UNESCO/IOC)
- gastheer voor het UNESCO/IOC Project Office for IODE
- Partnership for Observation of the Global Oceans (POGO)
- European Network of Marine Research Institutes and Stations (MARS)
- European Association of Aquatic Sciences Libraries and Information Centres (EURASLIC)
- International Association of Aquatic and Marine Science Libraries and Information Centers (IAMSLIC)
- Nationaal inputcentrum van de Aquatic Sciences and Fisheries Abstracts (ASFA) van de Wereld Voedsel Organisatie (FAO)
- European Census of Marine Life (EuroCoML)
- MarBEF+, het Europees netwerk rond Marine Biodiversity and Ecosystem Functioning
- Society for the Management of European Biodiversity Data (SMEBD)
- executive committee van de European Register of Marine Species (ERMS)
- ICES Study Group on Biodiversity Science (SGBIODIV)
- ICES Working Group on Marine Data Management (WGMDM)
- **World Register of Marine Species** (WoRMS)
- coördinator van de Europese node (EurOBIS) van het **Ocean Biogeographic Information System** OBIS van de Census of Marine Life (CoML)
- Catalogue of Life (CoL) en lid van Species 2000
- Marine Observation and Data Expert Group (MODEG) binnen the European Marine Observation and Data Network (**EMODnet**)
- Sea Data Network (SeaDataNet)
- **Global Sea Level Observing System Network (GLOSS)**
- European Strategy Forum on Research Infrastructures **Lifewatch**
- **International Council for Science** (ICSU) world data system
- **Global Ocean Observing System** (GOOS)

Intergovernmental Oceanographic Commission of UNESCO
International Oceanographic Data and Information Exchange

144 countries

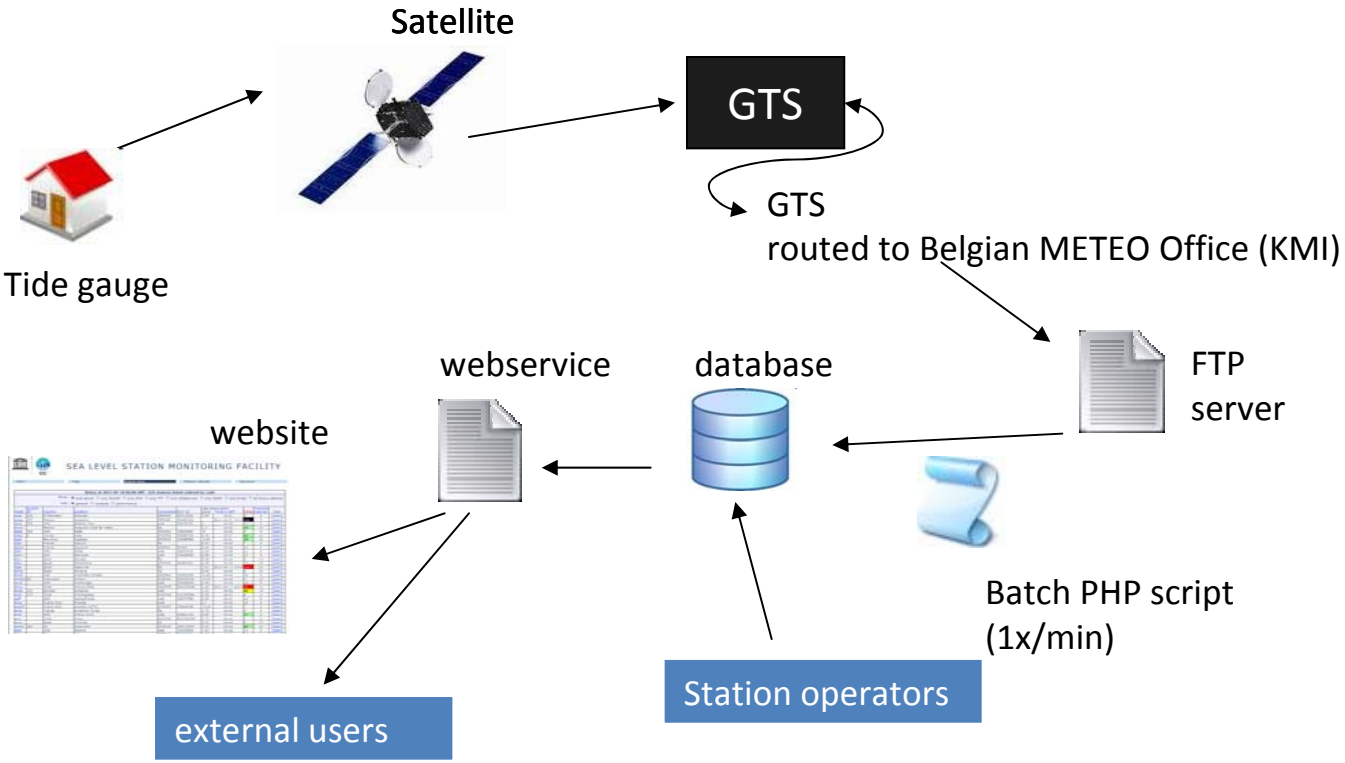


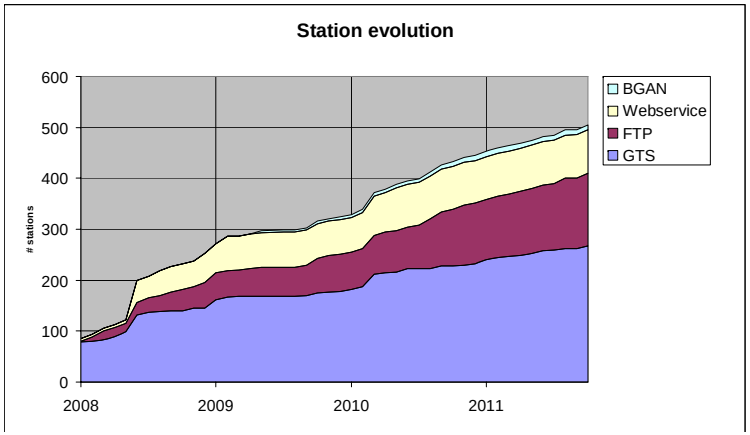
ASFA Data Publishing GODAR GTSPP GOSUD JCOMM OBIS OceanDocs OceanExpert WIGOS ICAN Ocean Data Portal OceanTeacher OpenScienceDirectory SeaDataNet Data Standards
ODINAFRICA ODINCARSA ODINCINDIO ODINECET ODINWESTPAC ODINBLACKSEA African Sea Level Data Regional Atlases ODIN-PIMRIS

IODE : network of NODC's

- Guidelines
- Share data, information, expertise
- Global and regional projects
- VLIZ Participation:
  - Hosting PO, servers, ICT support
  - Workshops, training
  - Bilateral collaborations Sebastopol, Varna
  - Odinafrica project
  - Marine world heritage project

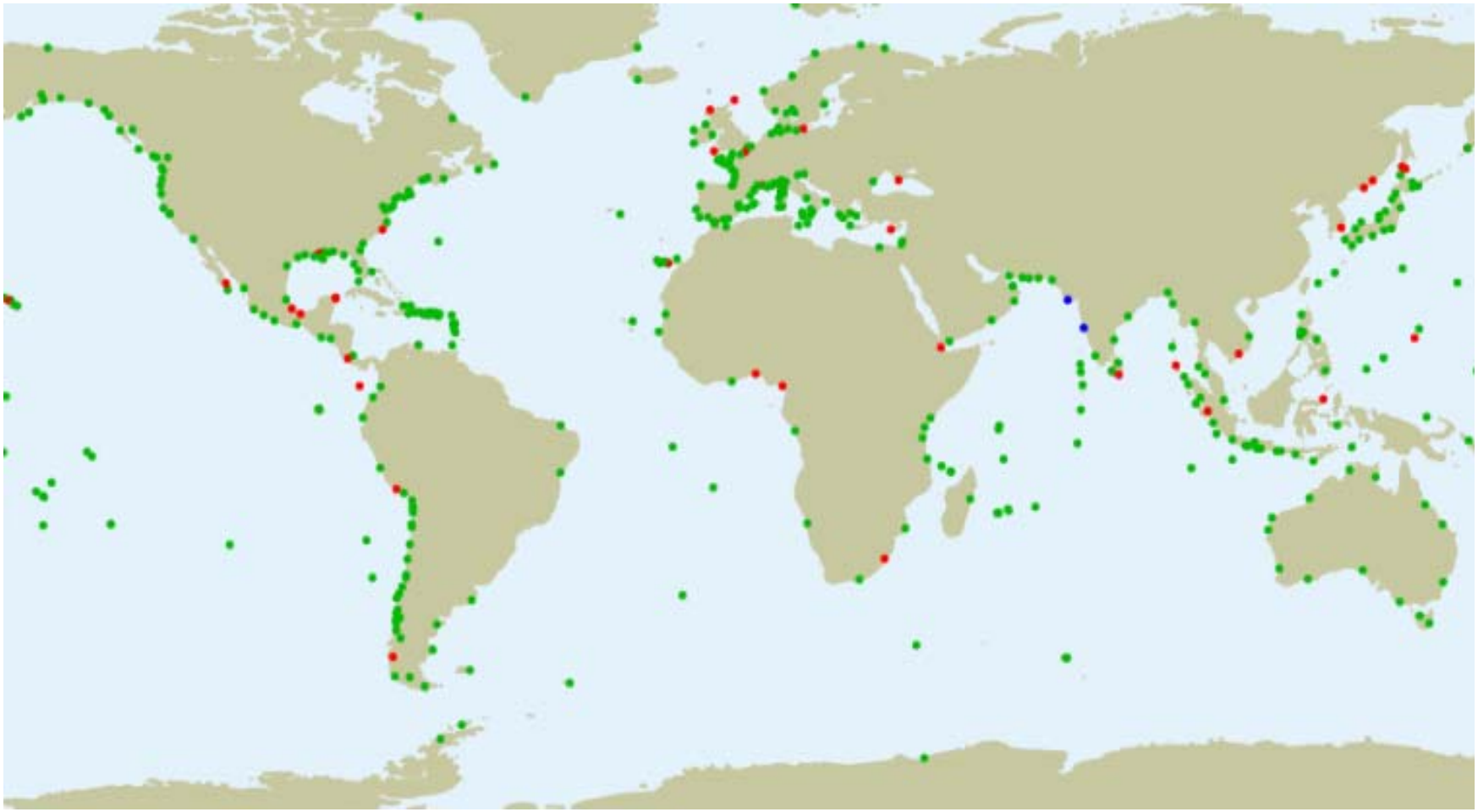
SEA LEVEL STATION MONITORING FACILITY



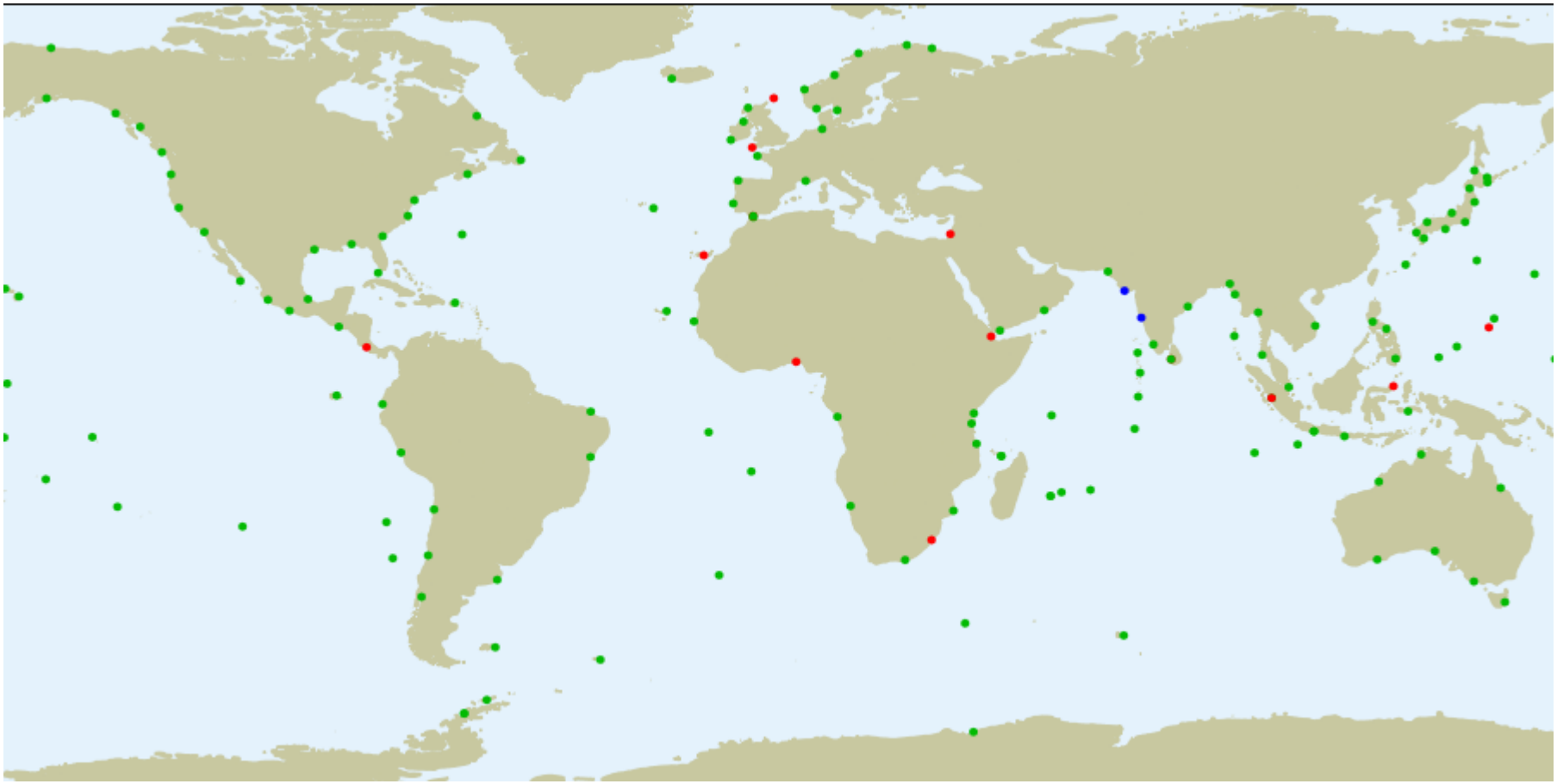


- Monitors the status of 616 sealevel stations
- Contribution to GLOSS
- With PSMSL, UHSLC, BODC, IODE
- Data provided by 108 institutes
- http://www.ioc-sealevelmonitoring.org/
- Developed and hosted by VLIZ

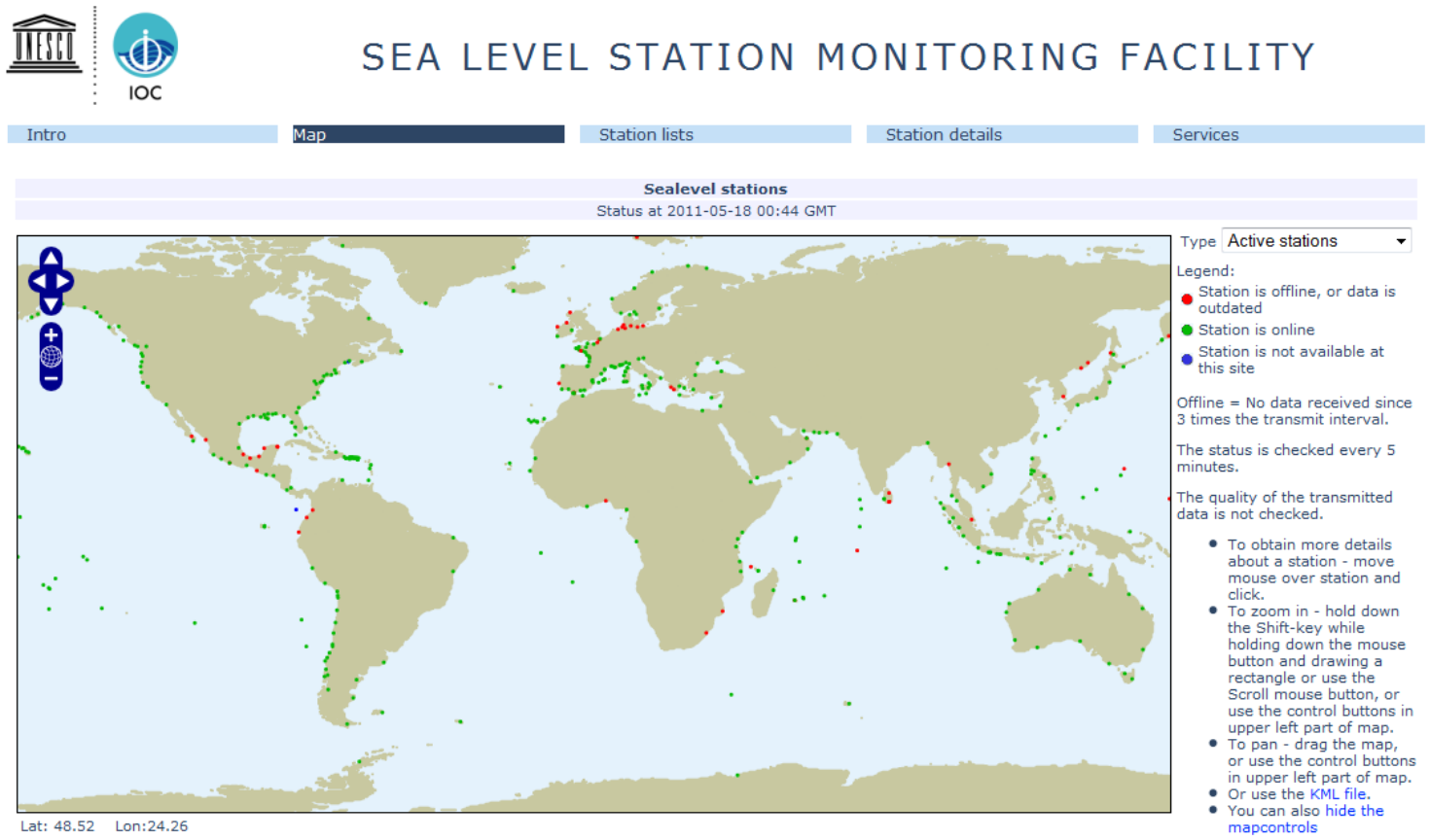
616 Sealevel stations monitored



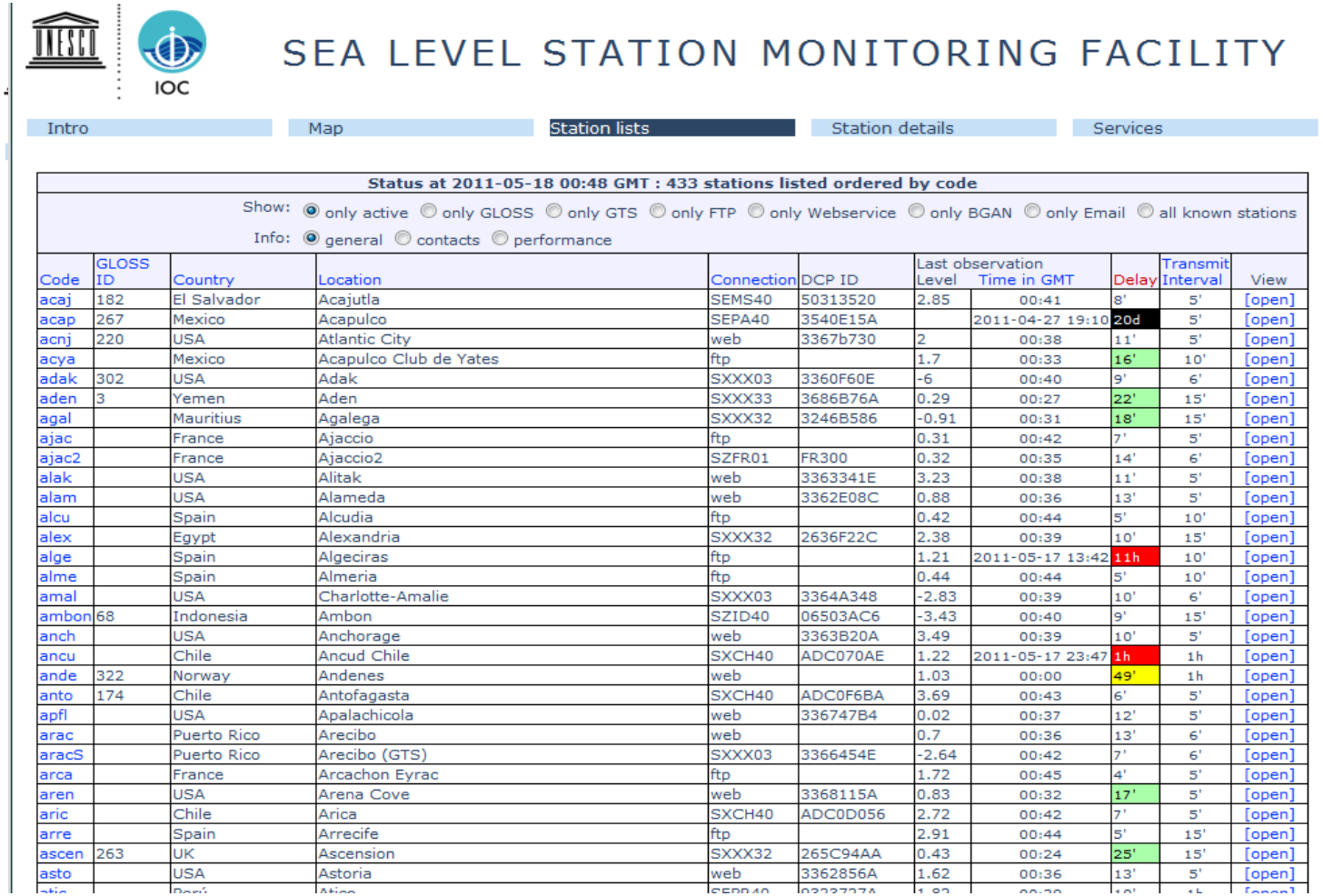
GLOSS stations



Website


SEA LEVEL STATION MONITORING FACILITY
IOC
Intro
Map
Station lists
Station details
Services
Sealevel stations
Status at 2011-05-18 00:44 GMT
Type
Active stations
Legend:
Station is offline, or data is outdated
Station is online
Station is not available at this site
Offline = No data received since 3 times the transmit interval.
The status is checked every 5 minutes.
The quality of the transmitted data is not checked.
To obtain more details about a station - move mouse over station and click.
To zoom in - hold down the Shift-key while holding down the mouse button and drawing a rectangle or use the Scroll mouse button, or use the control buttons in upper left part of map.
To pan - drag the map, or use the control buttons in upper left part of map.
Or use the KML file.
You can also hide the mapcontrols
Lat: 48.52 Lon:24.26

Website



SEA LEVEL STATION MONITORING FACILITY

Intro | Map | Station lists | Station details | Services

Status at 2011-05-18 00:48 GMT : 433 stations listed ordered by code

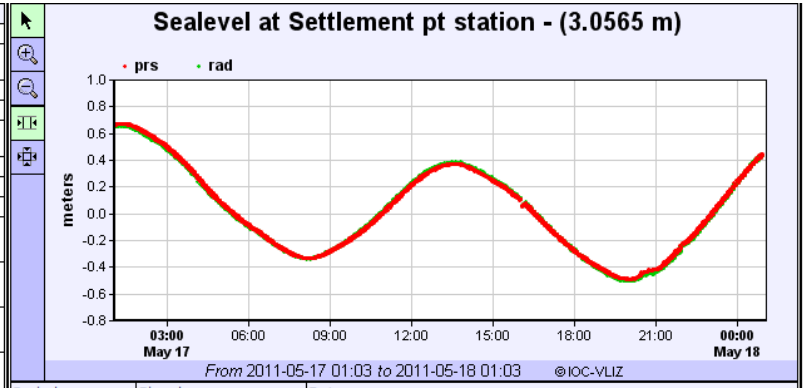
Show: (•) only active ( ) only GLOSS ( ) only GTS ( ) only FTP ( ) only Webservice ( ) only BGAN ( ) only Email ( ) all known stations

Info: (•) general ( ) contacts ( ) performance

Code	GLOSS ID	Country	Location	Connection	DCP ID	Last observation Level	Last observation Time in GMT	Delay	Transmit Interval	View
acaj	182	El Salvador	Acajutla	SEMS40	50313520	2.85	00:41	8'	5'	[open]
acap	267	Mexico	Acapulco	SEPA40	3540E15A		2011-04-27 19:10	20d	5'	[open]
acnj	220	USA	Atlantic City	web	3367b730	2	00:38	11'	5'	[open]
acya		Mexico	Acapulco Club de Yates	ftp		1.7	00:33	16'	10'	[open]
adak	302	USA	Adak	SXXX03	3360F60E	-6	00:40	9'	6'	[open]
aden	3	Yemen	Aden	SXXX33	3686B76A	0.29	00:27	22'	15'	[open]
agal		Mauritius	Agalega	SXXX32	3246B586	-0.91	00:31	18'	15'	[open]
ajac		France	Ajaccio	ftp		0.31	00:42	7'	5'	[open]
ajac2		France	Ajaccio2	SZFR01	FR300	0.32	00:35	14'	6'	[open]
alak		USA	Alitak	web	3363341E	3.23	00:38	11'	5'	[open]
alam		USA	Alameda	web	3362E08C	0.88	00:36	13'	5'	[open]
alcu		Spain	Alcudia	ftp		0.42	00:44	5'	10'	[open]
alex		Egypt	Alexandria	SXXX32	2636F22C	2.38	00:39	10'	15'	[open]
alge		Spain	Algeciras	ftp		1.21	2011-05-17 13:42	11h	10'	[open]
alme		Spain	Almeria	ftp		0.44	00:44	5'	10'	[open]
amal		USA	Charlotte-Amalie	SXXX03	3364A348	-2.83	00:39	10'	6'	[open]
ambon	68	Indonesia	Ambon	SZID40	06503AC6	-3.43	00:40	9'	15'	[open]
anch		USA	Anchorage	web	3363B20A	3.49	00:39	10'	5'	[open]
ancu		Chile	Ancud Chile	SXCH40	ADC070AE	1.22	2011-05-17 23:47	1h	1h	[open]
ande	322	Norway	Andenes	web		1.03	00:00	49'	1h	[open]
anto	174	Chile	Antofagasta	SXCH40	ADC0F6BA	3.69	00:43	6'	5'	[open]
apfl		USA	Apalachicola	web	336747B4	0.02	00:37	12'	5'	[open]
arac		Puerto Rico	Arecibo	web		0.7	00:36	13'	6'	[open]
aracS		Puerto Rico	Arecibo (GTS)	SXXX03	3366454E	-2.64	00:42	7'	6'	[open]
arca		France	Arcachon Eyrac	ftp		1.72	00:45	4'	5'	[open]
aren		USA	Arena Cove	web	3368115A	0.83	00:32	17'	5'	[open]
aric		Chile	Arica	SXCH40	ADC0D056	2.72	00:42	7'	5'	[open]
arre		Spain	Arrecife	ftp		2.91	00:44	5'	15'	[open]
ascen	263	UK	Ascension	SXXX32	265C94AA	0.43	00:24	25'	15'	[open]
asto		USA	Astoria	web	3362856A	1.62	00:36	13'	5'	[open]

Website

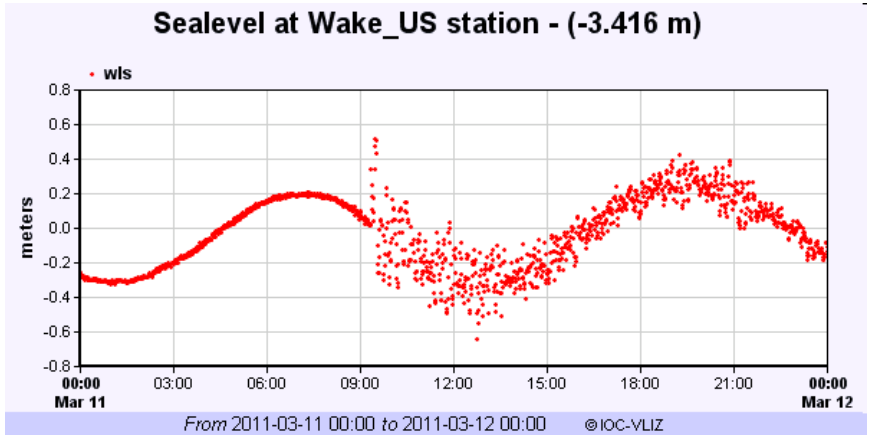
Station metadata	
Code	setp1
Country	Bahamas/Bahama Islands
Location	Settlement pt
Status	Operational
Local Contact	University of Hawaii Sea Level Center (USA)
Latitude	26.42
Longitude	-79.01
Connection	GTS message
GTS message type	SEPO40
GTS station code	3543234A
Transmit interval (min)	10
Transmit lag UTC (sec)	0
Ave. transmit delay (min)	2
Messages received (24h)	144
Messages expected (24h)	144
Sensor 1	
Type of sensor	prs
Sampling rate (min)	1
GTS format	
Units of measure	na
First value	5
Samples	10
Reversed order	no
Performance statistics	
Last data measured at	2011-05-18 00:56:00
Last data received at	2011-05-18 00:59:03
Measurements received in 24h	1440
Measurements expected	1440
Performance ratio	100%



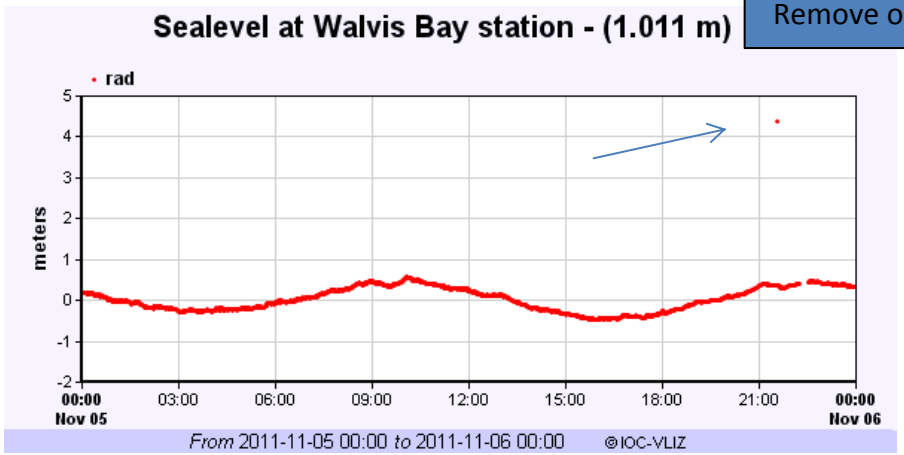
Period	Signals	Datum
12h	prs	Relative levels= signal - average over selected period
day	rad	Absolute levels= as received
7 days	Remove outliers	Offset signals= relative signals + offset
30 days	Remove spikes	

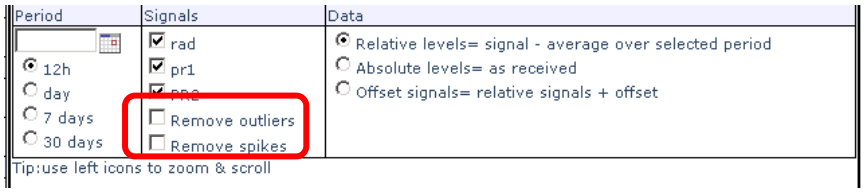
Tip:use left icons to zoom & scroll

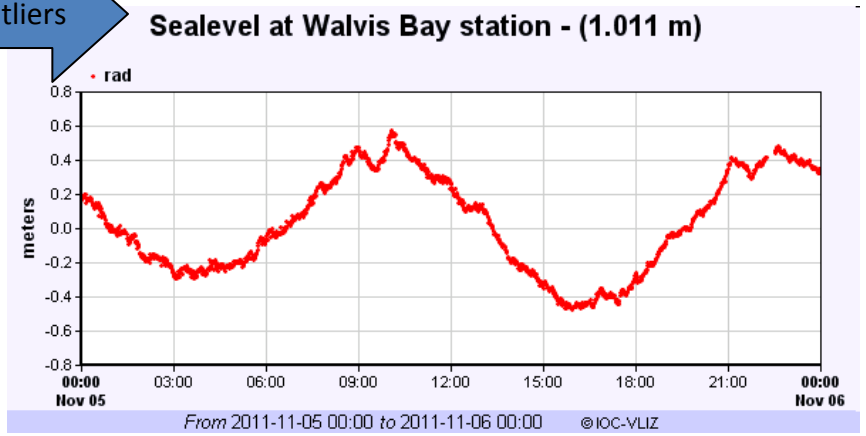
Realtime data QC



Remove outliers







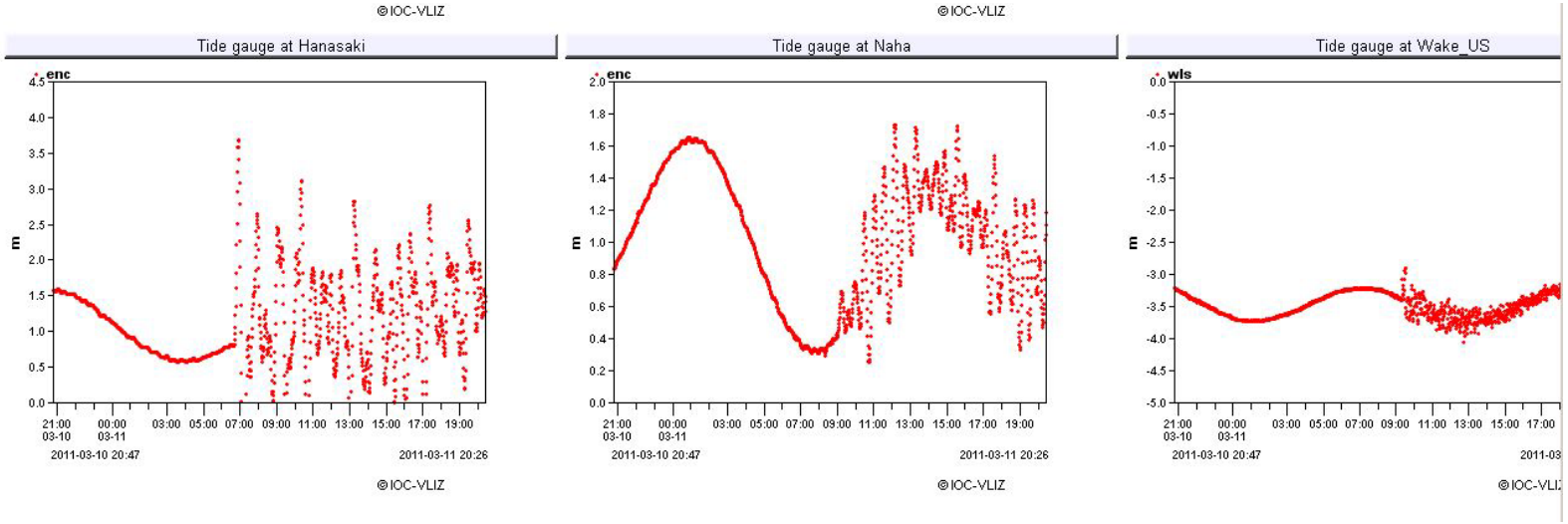
Armada Argentina Servicio de Hidrografía Naval (Argentina)
Asian Disaster Preparedness Center (Thailand)
Badan Koordinasi Survei dan Pemetaan Nasional (Indonesia)
British Antartic Survey (UK)
Centre de Recherches Océanographiques and the Service Hydrographique et de Cartographie (Senegal)
Centro de Investigación Científica y de Educación Superior de Ensenada (Mexico)
Centro de Investigaciones Oceanográficas e Hidrográficas del Pacífico (Colombia)
Commissariat à l'Energie Atomique (France)
Cyprus Oceanography Center (Cyprus)
Danish Meteorological Institute (Denmark)
Danish National Space Centre, Technical University of Denmark (Denmark)
Department of Agriculture, Fisheries and Food (Ireland)
Department of Land and Survey (Tanzania)
Department of Meteorology and Hydrology (Myanmar)
Department of Surveying and Mapping (Malaysia)
Dirección de Hidrografía y Navegación (Perú)
Dirección General Marítima (Colombia)
Direction générale de la météorologie (Madagascar)
Directorate General of Civil Aviation & Meteorology (Oman)
Federal Service of Russia for Hydrometeorology and Environmental Monitoring (Russia)
Fisheries and Oceans Canada (Canada)
General Command of Mapping (Turkey)
GeoForschungsZentrum (Germany)
German Federal Waterways and Shipping Administration (Germany)
GNS Science (New Zealand)
Goddard Earth Science and Technology Center, University of Maryland, Baltimore County (USA)
Gwadar Port Authority and Hydrographic Department (Pakistan)
Hartebeesthoek Radio Astronomy Observatory (South Africa)
Hellenic Navy Hydrographic Service (Greece)
Hydrographic Department of Bangladesh Navy (Bangladesh)
Hydrographic Department of the National Cartographic Center (Iran)
Icelandic Coast Guard, Hydrographic Department (Iceland)
Indian National Centre for Ocean Information Services (India)
Institut de Physique du Globe de Paris (France)
Instituto Brasileiro de Geografia e Estatística (Brasil)
Instituto Español de Oceanografía (Spain)
Instituto Geográfico Português (Portugal)
Instituto Hidrográfico (Portugal)
Instituto Nacional de Hidrografia e Navegação (Mozambique)
Instituto Nacional de Meteorologia e Geofisica de Cabo Verde (Cape Verde)
Instituto Oceanográfico de la Armada (Ecuador)
Israel Oceanographic and Limnological Research Ltd (Israel)
Istituto Superiore per la Protezione e la Ricerca Ambientale (Italy)
Japan Coast Guard (Japan)
Japan Meteorological Agency (Japan)
Karachi Port Trust (Pakistan)
Kenya Marine and Fisheries Research Institute (Kenya)
Kiribati Met Office (Kiribati)
Korea Environmental Science & Technology Institute (Korea)
Korea Hydrographic and Oceanographic Administration (Korea)
Laboratoire d'Etudes en Géophysique et Océanographie Spatiales (France)
Land Information New Zealand (New Zealand)
Malaysian Meteorological Department (Malaysia)
Maldives Meteorological Department (Maldives)
Marine Hydrometeorological Center (Vietnam)
Marine Hydrophysical Institute (Ukraine)
Marine Institute (Ireland)
Mauritius Meteorological Services (Mauritius)
Meteorological Department Curaçao (Curaçao)
Meteorological Services Division (Singapore)
Ministerio de Medio Ambiente y Recursos Naturales (El Salvador)
Ministry of the Environment and Forests (Romania)
Namibian Port Authority (Namibia)
National Antarctic Scientific Centre (Ukraine)
National Aquatic Resources Research and Development Agency (Sri Lanka)
National Institute for Marine Research and Development (Romania)
National Institute of Oceanography and Fisheries, Alexandria (Egypt)
National Mapping and Resource Information Authority (Philippines)
National Ocean Service-NOAA (USA)
National Oceanography Centre (UK)
National Technical University of Athens (Greece)
National Tidal Centre/Australian Bureau of Meteorology (Australia)
National Weather Service (Micronesia)
Navy Hydrography Center - Marine Meteorological Service (Brasil)
Nigerian Institute for Oceanography and Marine Research (Nigeria)
Norwegian Hydrographic Service (Norway)
Office of the Port Director (Northern Marianas, USA)
Oficina Nacional de Meteorología (Dominican Republic)
Pacific Tsunami Warning Center (USA)
Pakistan Navy Hydrographic Department (Pakistan)
Port Autonome de Nouakchott (Mauritania)
Port Autonome de Pointe Noire (Republic of Congo)
Port of Djibouti (Djibouti)
Principauté de Monaco - Direction de l'Environnement (Monaco)
Puerto Rico Seismic Network (USA)
Puertos del Estado (Spain)
Royal Navy of Oman Hydrographic Department (Oman)
Royal Thai Navy (Thailand)
Service Centre Information Technology of the BMVBS (Germany)
Service hydrographique et océanographique de la marine (France)
Service Maritime et de Navigation d´Haiti (Haïti)
Servicio Hidrográfico y Oceanográfico de la Armada (Chile)
Seychelles National Meteorological Services (Seychelles)
Societé National de Raffinage (Cameroon)
South African Hydrographic Office (South Africa)
Survey of Ghana (Ghana)
Swedish Meteorological and Hydrological Institute (Sweden)
Tanzania Ports Authority (Tanzania)
Tide Gauge Inspectorate - National Oceanography Centre (UK)
Universidad Nacional Autónoma de México (Mexico)
University of French Polynesia (France)
University of Hawaii Sea Level Center (USA)
University of Malta (Malta)
Yap Weather Service Office (Federated States of Micronesia)
Yemen Gulf of Aden Ports Corporation (Yemen)
Yildiz Technical University (Turkey)

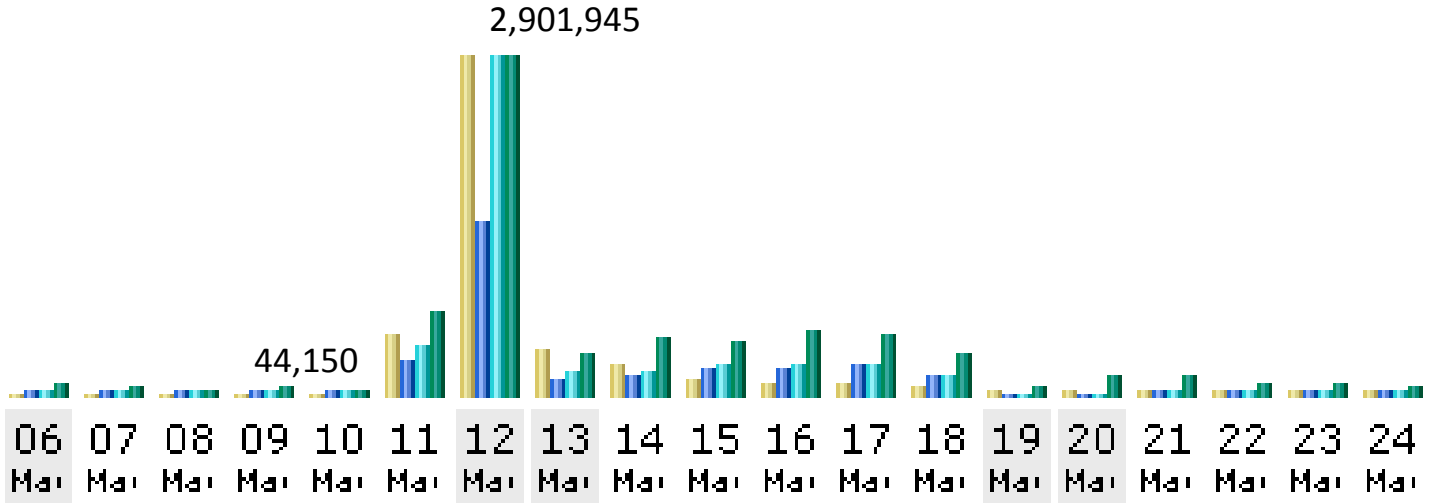
Data web service users

"Official"/registered users:

- Centre national d'alerte aux tsunamis (CENALT), France
- EU Joint Research Centre (JRC), Europe
- GEMPA, Germany
- Indian National Centre for Ocean Information Services (INCOIS), India
- Instituto de Meteorologia, Departamento de Sismologia e Geofísica, Portugal
- Marinel-Earth Science and Technology (JAMSTEC), Japan
- NOAA Center for Tsunami Research, US
- NOAA, NGDC, US
- Pacific Islands Ocean Observing System (PacIOOS)
- Permanent Service for Mean Sea Level (PSMSL), UK
- Service Hydrographique et Océanographique de la Marine (SHOM), France
- University of Tasmania
- => users@ioc-sealevelmonitoring.org

Japan Tsunami impact: web hits





=> x65 !

WoRMS

World Register of Marine Species

Global effort to register all marine species names (incl invalid synonyms)

270 taxonomic editors, 185 institutions, 38 countries

Standard for OBIS, IODE, ICES, BODC, SeaDataNet

> 40 global or regional lists

http://www.marinespecies.org

Developed and hosted by VLIZ

WoRMS

World register of marine species

- Standard list of species names (&taxa)
- > 40 global or regional lists
- Compiled, annotated and checked by taxonomic experts
- IPR: Society for the Management of Electronic Biodivirsity Data (SMEBD)
- Accepted as a ‘standard’ by OBIS, IODE, ICES, BODC, seadatanet
- Links to/from genbank, ITIS, CoL
- Participates to PESI, CoL, EOL, 4D4life
- Legacy of Marbef & ERMS

WoRMS
World Register of Marine Species

WoRMS content

- 436,500 taxa;
- 213,000 accepted marine species names;
- 139,000 synonyms (incl. common misspellings);
- 44,000 vernacular names (138 languages);
- 150,000 key literature references;
- 45,000 specimen details;
- 328,000 published distributions;
- 510,000 web links;
- 20,000 images;
- and many other species related information, e.g. biology, habitat, feeding type, parasite-host relationships.

WoRMS
World Register of Marine Species

WoRMS editors network

- WoRMS is created by an editorial board of 250 taxonomists from 176 institutions in 33 countries.
- The editors are united under the umbrella of the Society for the Management of Electronic Biodiversity data (SMEBD), which main aim is to protect editors' IPR and to represent the network internationally.
- The WoRMS Steering Committee coordinates the network.
- The Flanders Marine Institute (VLIZ) is publishing the database and provides data management support and IT tools.

WoRMS editors network

WoRMS
World Register of Marine Species

Website sub-portals

The World List of Extant Sponges

As a result of long term accumulation of literature records of extant sponges by Rob van Soest and John Hooper, we can now for the first time present a searchable preliminary world database of all Recent sponges ever described. The list is a logical follow up and addition to the Systema Porifera (editors Hooper & Van Soest, 2002).

The list is intended to promote stability and act as a tool for higher taxon revisions, regional monographs, and eventually as a catalogue of the world's sponge specimen databases as these are slowly being accumulated through EurOBIS and GBIF. In order to have sufficient expert knowledge We have formed an editorial committee consisting of:

- Rob van Soest, general list editor
- Nicole Boury-Esnault, editor for Calcarea
- Dorte Janussen, editor for Hexactinellida
- John Hooper, editor for Demospongiae

We believe the list to be 95% complete. Currently, there are 8,162 valid species in the database. Reaching the final 100% is our obvious short term goal. For this we sollicit your help. Please let the editors know whenever you come across an omission or a mistake or merely a typo. If you disagree with a senior synonymy decision or a genus assignment, please let us have your - argumented - corrected assignment. We intend to do a frequent update of the list, so your corrections will be incorporated quickly. More info

Citation

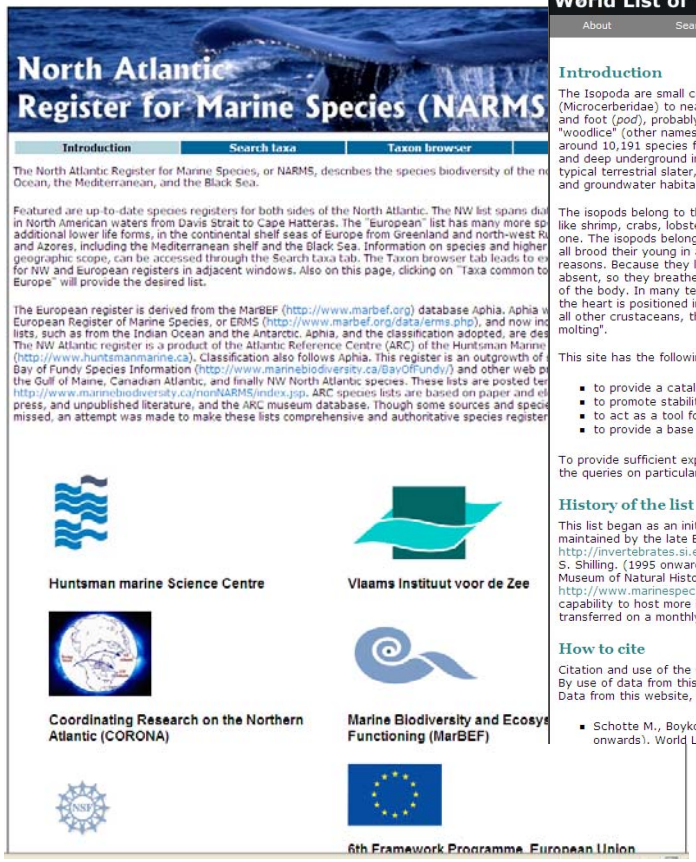
By downloading or consulting data from this website, the visitor acknowledges that he/she agrees to the following:

If data are extracted from this website for secondary analysis resulting in a publication, the website should be cited as follows:

- Rob van Soest; Nicole Boury-Esnault; Dorte Janussen; John Hooper (2005). World Porifera database. Available online at http://www.marinespecies.org/porifera. Consulted on 2008-03-20

If any data constitutes a substantial proportion of the records used in secondary analyses (*i.e.* more than 25% of the data are derived from this source, or the data are essential to arrive at the conclusion of the analysis), the authors/managers of the database should be contacted. It may be useful to contact us directly in case there are additional data that may strengthen the analysis or there are features of the data that are important to consider but may not have been apparent from the metadata.

Website and databases developed and hosted by VLIZ · Page last modified 2008-01-03 · contact: Rob van Soest



Introduction

The Isopoda are small crustaceans with seven pairs of legs that range in size from 300 micrometres (Microcerberidae) to nearly 50 centimetres (*Bathynomus*). Their name, which means "like-foot" or similar (*iso*) and foot (*pod*), probably comes from the early zoologists' familiarity with the common terrestrial "slaters" or "woodlice" (other names: *cloportes, pissebedden, pillbugs, roly-polies, sowbugs*). The isopods are diverse, with around 10,191 species found in all ecosystems from the deepest oceans to the montane terrestrial habitats and deep underground in caves or aquifers. Isopods are thought of as dorsoventrally flattened, as in the typical terrestrial slater, and indeed many species fit this morphological stereotype. Isopods from the deep sea and groundwater habitats and parasitic taxa may depart considerably from this typical body plan.

The isopods belong to the well-known crustacean group, the Malacostraca, which includes familiar crustaceans like shrimp, crabs, lobsters and krill. Unlike these malacostracans with an obvious carapace, the isopods lack one. The isopods belong to the Superorder Peracarida, which includes a diverse array of shrimp-like taxa that all brood their young in a pouch between their legs. Isopods are unique among these crustaceans for many reasons. Because they lack a carapace, the gills, which are covered by the carapace in other groups, are absent, so they breathe using specialised lamellar gill-like pleopods ("swimming limbs") on the posterior section of the body. In many terrestrial isopods, the pleopods bear respiratory structures similar to lungs. Internally, the heart is positioned in the posterior section of the thorax to provide increased circulation for the gills. Unlike all other crustaceans, the isopods shed their cuticle (a process called *ecdysis*) in two steps: "biphasic molting".

This site has the following aims:

- to provide a catalogue of the world's isopod species
- to promote stability in isopod nomenclature
- to act as a tool for higher taxonomic revisions and regional monographs
- to provide a base link for other online databases that use isopod nomenclature

To provide sufficient expert knowledge for maintaining the list, we have formed an editorial committee to whom the queries on particular taxa should be addressed.

History of the list

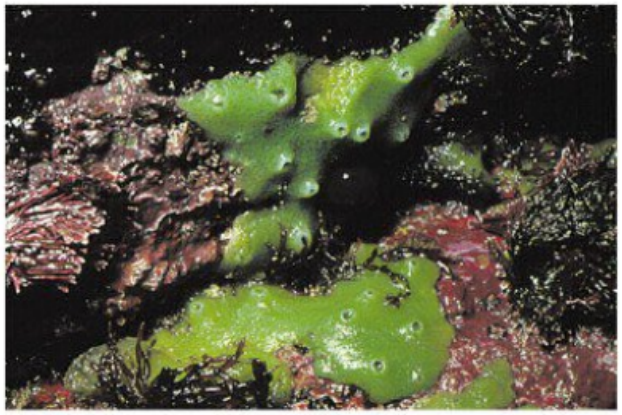
This list began as an initiative of the US National Museum of Natural History, Smithsonian Institution, maintained by the late Brian Kensley and Marilyn Schotte. It grew into a valuable resource http://invertebrates.si.edu/isopod/ for providing nomenclature on the Isopoda: Schotte, M., B.F. Kensley, and S. Shilling. (1995 onwards). World list of Marine, Freshwater and Terrestrial Crustacea Isopoda. National Museum of Natural History Smithsonian Institution: Washington D.C., USA. This list is now reconstructed at http://www.marinespecies.org, with more detailed information on synonymies and distributions, and a capability to host more information, such as images, original literature, and specimen data. This list will be transferred on a monthly basis back to the Smithsonian site.

How to cite

Citation and use of the data
By use of data from this website, the visitor agrees to the following:
Data from this website, if used in a publication, should be cited as follows:

- Schotte M., Boyko C. B, Bruce N. L., Markham J., Poore G.C.B., Taiti S., Wilson G.D.F. (Eds) (2008 onwards). World List of Marine Freshwater and Terrestrial Isopod Crustaceans. Available online at

Taxonomic synonyms



Halichondria panicea (Pallas 1776)

Alcyonium manusdiaboli sensu Esper, 1794
Alcyonium medullare Lamarck, 1815
Alcyonium paniceum (Pallas, 1766)
Amorphina appendiculata Schmidt, 1875
Amorphina grisea Fristedt, 1887
Amorphina paciscens Schmidt, 1875
Clathria (Microciona) seriata (Grant, 1826)
Clathria (Microciona) tumulosa (Bowerbank, 1882)
Clathria seriata (Grant, 1826)
Halichondria albescens Rafinesque, 1818
Halichondria ambigua Bowerbank, 1874
Halichondria brettii (Bowerbank, 1866)
Halichondria caduca Bowerbank, 1866
Halichondria coccinea Bowerbank, 1861
Halichondria coralloides Bowerbank, 1882
Halichondria edusa Bowerbank, 1874
Halichondria firmus (Bowerbank, 1874)
Halichondria glabra Bowerbank, 1866
Halichondria grisea (Fristedt, 1887)
Halichondria incerta Bowerbank, 1866
Halichondria lactea (Bowerbank, 1866)
Halichondria membrana (Bowerbank, 1866)
Halichondria paciscens (Schmidt, 1875)
Halichondria panicea (Pallas, 1766)
Halichondria pannosus Verrill, 1874
Halichondria papillaris (Linnaeus, 1791)
Halichondria reticulata Lieberkühn, 1859
Halichondria sevosa Johnston, 1842
Halichondria topsenti de Laubenfels, 1936
Halichondriella corticata Burton, 1931
Halina panicea (Pallas, 1766)
Hymeniacidon brettii Bowerbank, 1866
Hymeniacidon coccinea (Bowerbank, 1861)
Hymeniacidon fallaciosus Bowerbank, 1866
Hymeniacidon firmus Bowerbank, 1874
Hymeniacidon fragilis Bowerbank, 1866
Hymeniacidon lactea Bowerbank, 1866
Hymeniacidon membrana Bowerbank, 1866
Hymeniacidon parfitti Parfitt, 1868
Hymeniacidon reticulatus Bowerbank, 1866
Hymeniacidon solida Bowerbank, 1874
Hymeniacidon tegeticula Bowerbank, 1874
Hymeniacidon thomasii Bowerbank, 1866
Isodictya crassa Bowerbank, 1882
Isodictya perplexa Bowerbank, 1882
Menanetia minchini Topsent, 1896
Microciona tumulosa Bowerbank, 1882
Pellina bibula Schmidt, 1870
Seriatula seriata (Grant, 1826)
Spongia compacta Sowerby, 1806
Spongia cristata Ellis & Solander, 1786
Spongia panicea Pallas, 1766
Spongia seriata Grant, 1826
Spongia tomentosa Linnaeus, 1767
Spongia tubulosa Ellis & Solander, 1786
Spongia urens Ellis & Solander, 1786
Spuma borealis var. convoluta Miklucho-Maclay, 1870
Spuma borealis var. tuberosa Miklucho-Maclay, 1870
Spuma borealis var. velamentosa Miklucho-Maclay, 1870
Trachyopsilla glaberrima Burton, 1931

Halichondria panicea (Pallas 1776) sec Van Soest 2002 (WoRMS)

Some names are more hard to spell than others

Actinobacillus actimomycetemcomitans
Actinobacillus actimycetemcomitans
Actinobacillus actinmycetemcomitans
Actinobacillus actinomicetemcomitans
Actinobacillus actinomy
Actinobacillus actinomyce
Actinobacillus actinomycemcomitans
Actinobacillus actinomyceremcomitans
Actinobacillus actinomycetam
Actinobacillus actinomycetamcomitans
Actinobacillus actinomycetecomitans
Actinobacillus actinomycetemcmitans
Actinobacillus actinomycetemcomintans
Actinobacillus actinomycetemcomitance
Actinobacillus actinomycetemcomitans
Actinobacillus actinomycetemcomitants

- Difficulties with Latinized Names
- Transcription errors

Actinobacillus actinomycetemcommitans
Actinobacillus actinomycetemocimitans
Actinobacillus actinomycetencomitans
Actinobacillus actinomycetum
Actinobacillus actinomyctemcomitans
Actinobacillus actinomyectomcomitans
Actinobacillus actinomyetemcomitans
Actinobacillus actinonmycetemcomitans
Actinobacillus actionomycetemcomitans
Actinobacillus actynomicetemcomitans
Actinobacillus antinomycetemcomitans

Which one is the correct one?

Many ways to correctly spell a name

Agalinus paupercula borealis
Agalinus pauperculum borealis
Agalinis paupercula var. Borealis
Agalinus pauperculum var. borealis
Agalinus paupercula var. borealis
Agalinus paupercula var. borealis Pennell
Agalinus paupercula Britton var. borealis Pennell
Agalinus paupercula (Gray) Britt. var. borealis Pennell
Agalinis paupercula (A.Gray) Britton var. borealis Pennell
Agalinus paupercula (Gray) Britton var. borealis (Pennell) Zenkert 1934

Gerardia paupercula borealis
Gerardia paupercula var. borealis
Gerardia paupercula var. borealis (Pennell) Deam
Gerardia paupercula (Gray) Britt. var. borealis (Pennell) Deam
Gerardia paupercula (Gray) Britt. var. borealis (Pennell) Deam
Gerardia paupercula (A. Gray) Britton var. borealis (Pennell) Deam

Gerardia paupercula (A. Gray) Britton subsp. borealis (Pennell) Pennell
Gerardia paupercula (Gray) Britt. ssp. borealis (Pennell) Pennell
Gerardia paupercula Britton ssp. borealis Pennell

Should GBIF/EoL/BHL display all/one/some?

The homonyms issue (e.g. at genus level)

e.g. from author's IRMNG (genera) database, *http://www.obis.org.au/irmng/:*

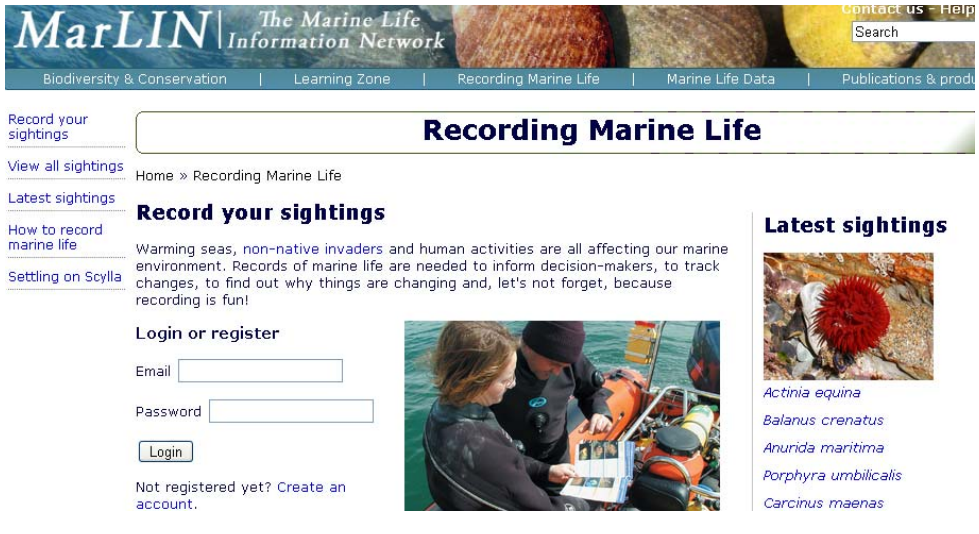
Genus name entered: *Moorea*

Genus, authority	*family*	*source*	*hierarchy*	*remarks*	*synonym?*	*synonym of*
Moorea Ahn. 2004	**Staphylinidae**	SP2000 NZ (Gordon, in press); Ahn, 2006	Animalia-Arthropoda-Insecta-Coleoptera	See Ianmoorea Ahn, 2006	S	**Ianmoorea**
Moorea Hampson, 1894	**Arctiidae**	Nomenclator Zoologicus; http://www.funet.fi/	Animalia-Arthropoda-Insecta-Lepidoptera	(n.n. pro Grotea Moore 1866) (Nomen. Zool.)	S	**Sebastia**
† **Moorea** Jones & Holl, 1869	**Podocopida (unallocated)**	Sepkoski (2002); Nomenclator Zoologicus	Animalia-Arthropoda-Ostracoda-Podocopida	Authority cited elsewhere as Jones & Kirby, 1867		
Moorea Lemaire, 1855	**Poaceae**	Index Nominum Genericorum	Plantae-Magnoliophyta-Liliopsida-Cyperales	nom. rej. vs. Cortaderia O. Stapf 1897 (nom. cons.) (Index Nominum Genericorum)	S	**Cortaderia**
Moorea Rolfe, 1890	**Orchidaceae**	Index Nominum Genericorum	Plantae-Magnoliophyta-Liliopsida-Orchidales		S	**Neomoorea**
Moorea Toxopeus, 1927	**Lycaenidae**	Nomenclator Zoologicus; http://www.nhm.ac.uk/jdsml/	Animalia-Arthropoda-Insecta-Lepidoptera		S	**Arletta**

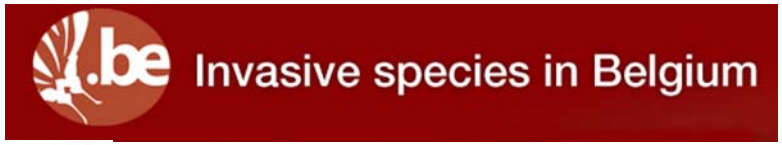
- over 70,000 (=15%) genus level homonyms in IRMNG at this time (out of ~ 446k names)

Users of taxonomic data

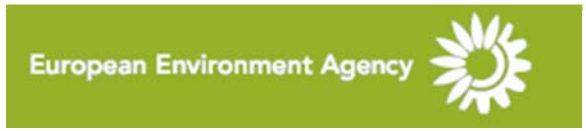
Users of taxonomic data

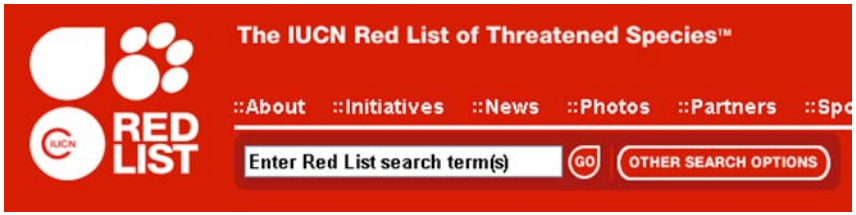


Users of taxonomic data



Users of taxonomic data





Ocean Biogeographic Information System

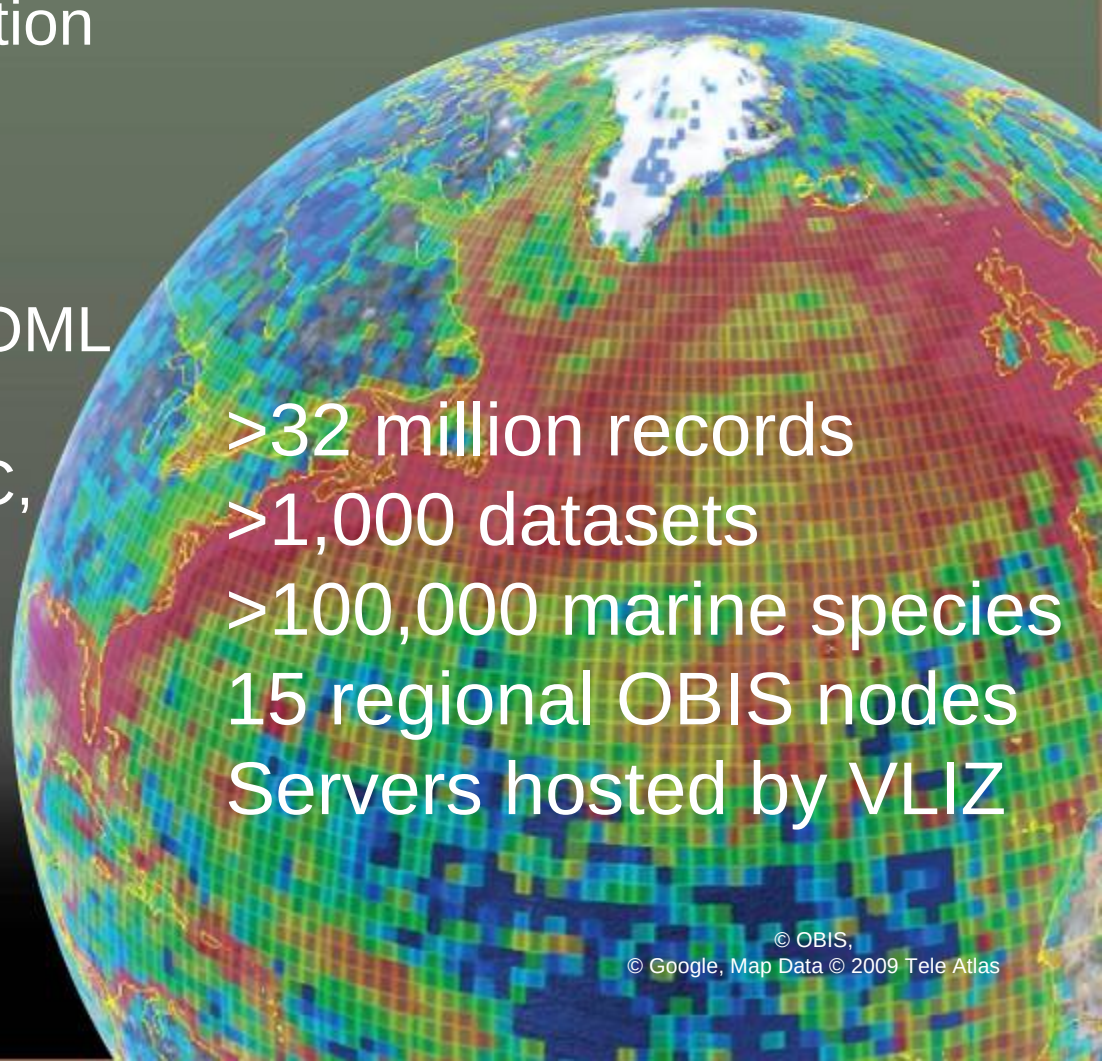
OBIS
OCEAN BIOGEOGRAPHIC INFORMATION SYSTEM

Largest source of information on marine species distributions

Data legacy of 10-year COML

Adopted by UNESCO-IOC, project of IODE

http://www.iobis.org



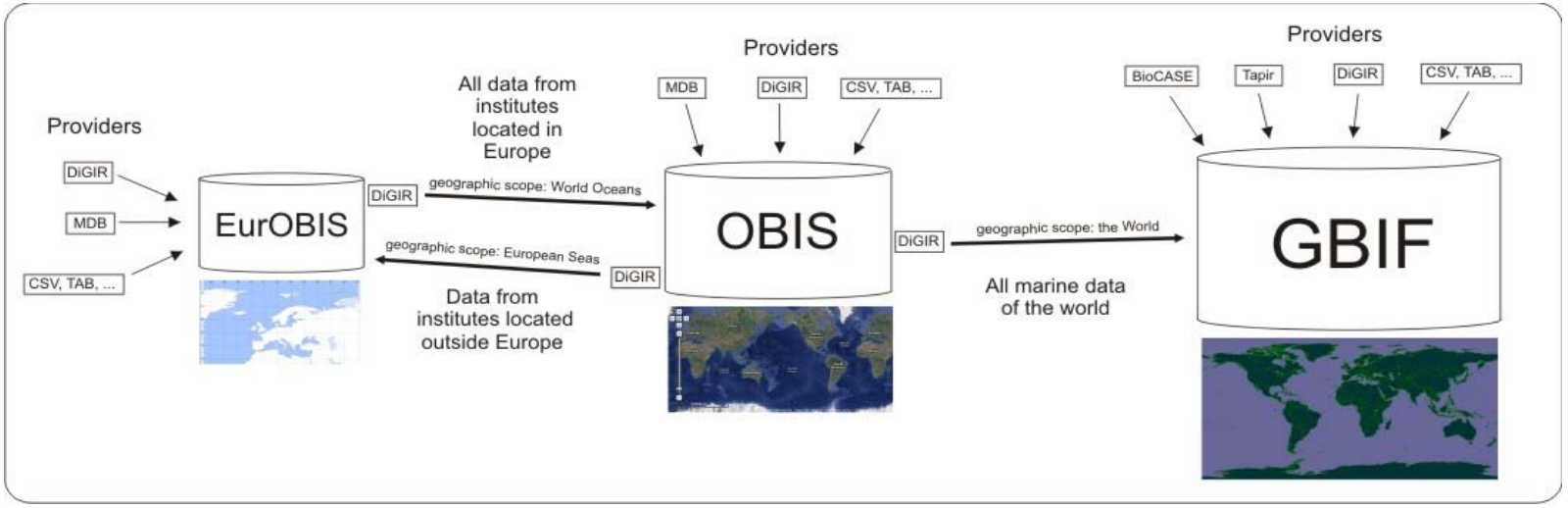
>32 million records
>1,000 datasets
>100,000 marine species
15 regional OBIS nodes
Servers hosted by VLIZ

INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
UNESCO

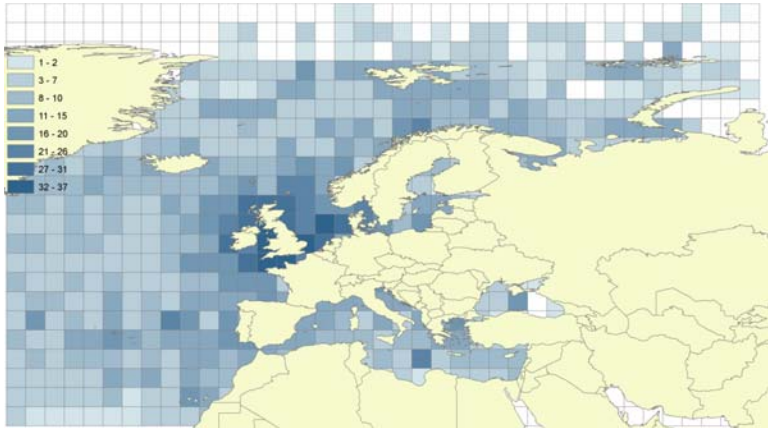
EurOBIS

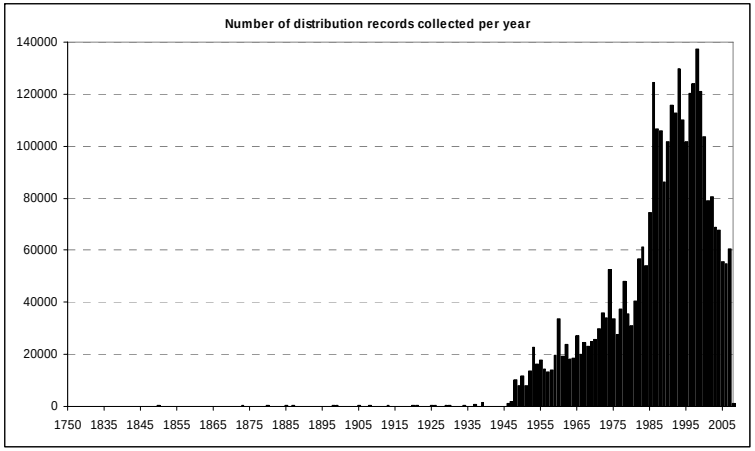
European node for OBIS

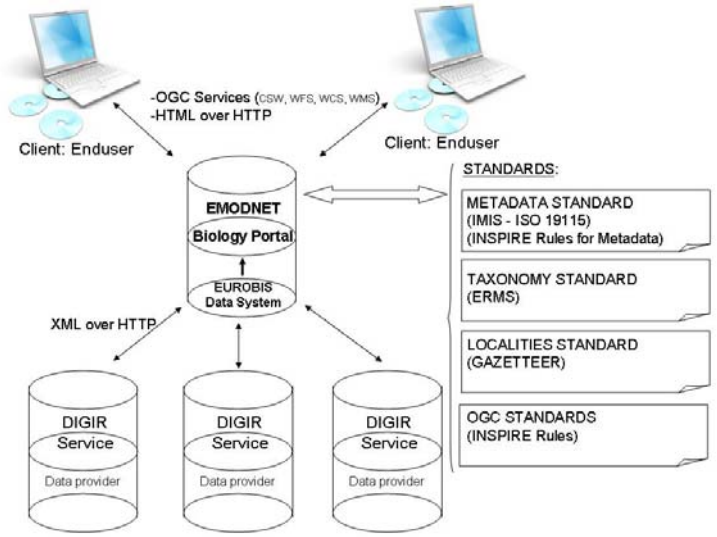
- Species observations and specimen collections
- Started under Marbef & CoML



EurOBIS



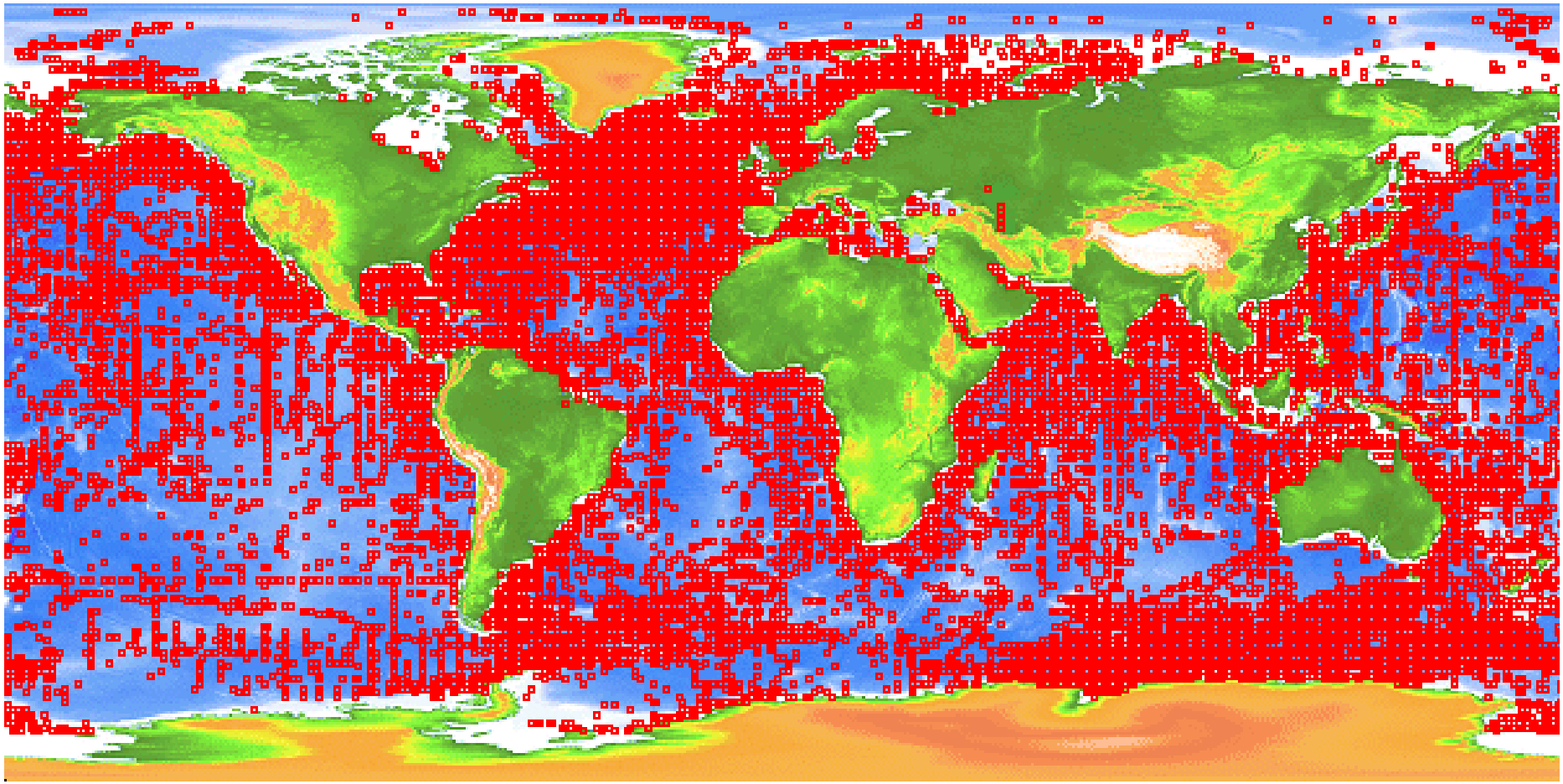




- 382 datasets
- 13 million records
- ICES, SAFHOS,PANGEA
- QC using WoRMS as standard

EurOBIS data providers network

OBIS observations



OBIS Nodes

- **Antarctica**: Bruno Danis, Belgian Biodiversity Platform, Belgium
- **Argentina**: Mirtha Lewis, Centro Nacional Patagónico (CENPAT) CONICET Argentina
- **Australia**: Tony Rees, Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- **Canada**: Tana Worcester, Centre of Marine Biodiversity, Bedford Institute of Oceanography. Tana is temporarily being replaced by Mary Kennedy
- **China**: Xiaoxia Sun, Institute of Oceanology, Qingdao
- **Europe**: Francisco (Tjess) Hernandez, Vlaams Instituut voor de Zee (VLIZ) Belgium
- **Indian Ocean**: Narayanan Saravanane, Centre for Marine Living Resources and the Environment, Ministry of the environment, India
- **Japan**: Katsuhiko Tanaka, Japan agency for Marine-Earth Science and Technology, Japan
- Korea: Sung-Dae Kim, Korea Ocean Research & Development Institute, Korea
- **South-West Pacific**: Kevin Mackay, National Institute of Water & Atmospheric Research, New Zealand
- **Sub-Saharan Africa**: Marten Grundlingh, Southern African Data Centre for Oceanography, South Africa
- **Tropical and Subtropical Eastern South Pacific**: Ruben Escribano, FONDAP COPAS,Chile
- **Tropical and Subtropical Western South Atlantic**: Fábio L. da Silveira and Rubens M. Lopes, University of São Paulo, Brazil
- **USA**: Mark Fornwall, US Geological Survey, USA
- FishBase
- Hexacorals, Kansas University
- OBIS-SEAMAP, Duke University - turtles, birds, mammals
- MicrOBIS, Marine Biology Laboratory in Woods Hole
- Seamounts Online, University of California San Diego
- Syndeep

EMODnet
European Marine Observation and Data Network

Pilot Portal For Biology
Data Discovery and Access Service

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(Choose a theme)

Search | Reset map

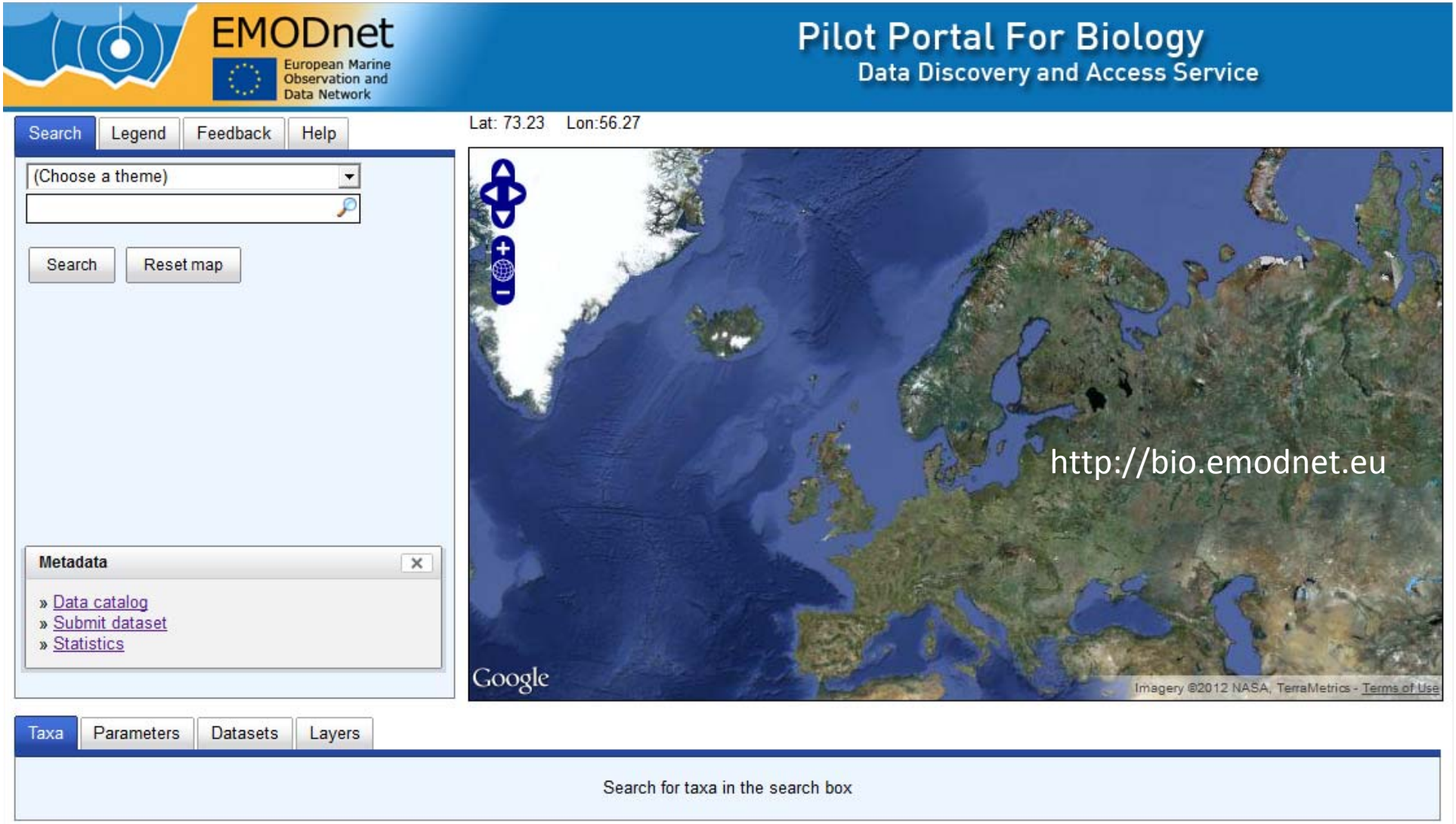
Metadata

» Data catalog
» Submit dataset
» Statistics

Lat: 73.23 Lon:56.27

Taxa | Parameters | Datasets | Layers

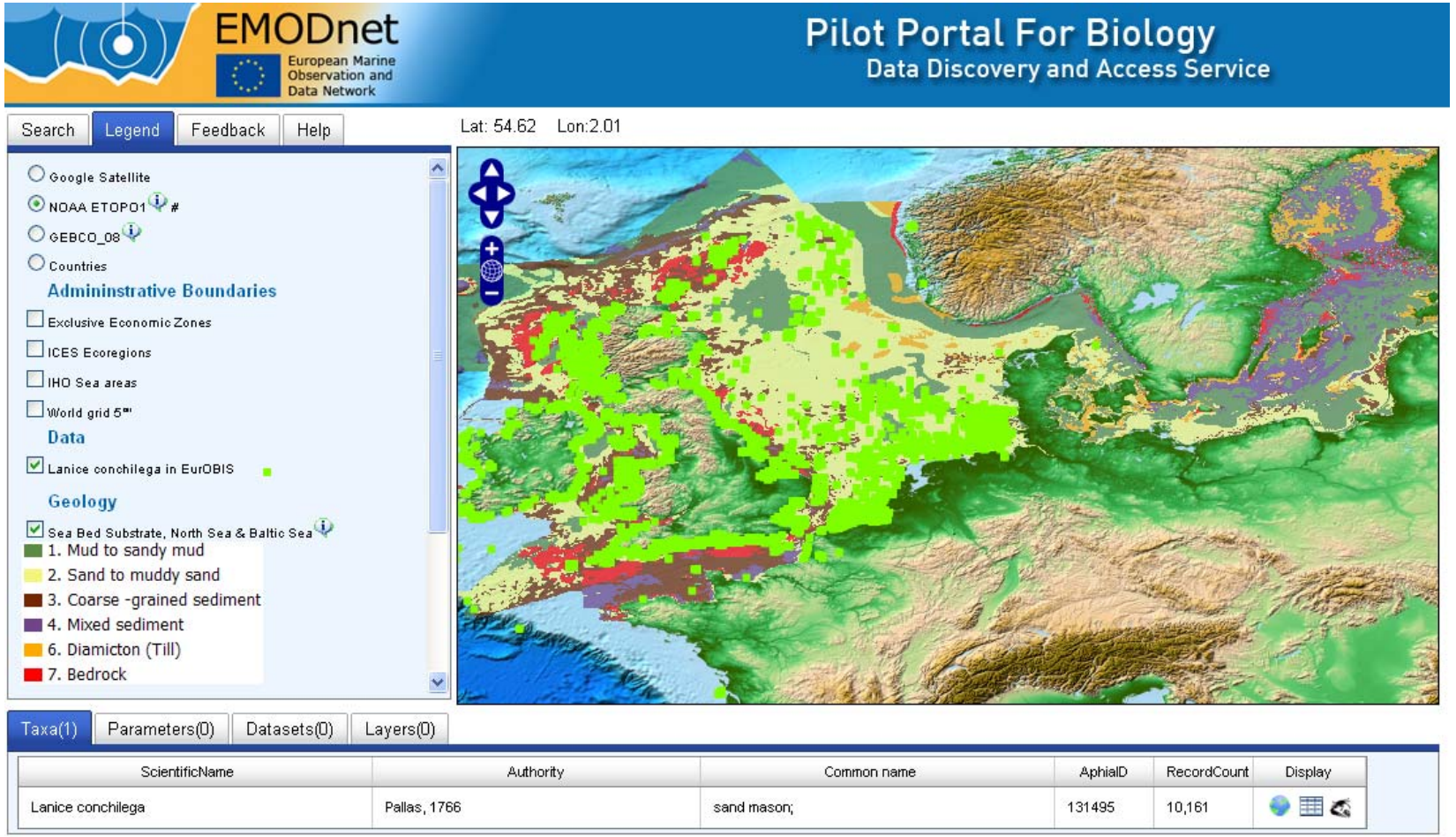
Search for taxa in the search box



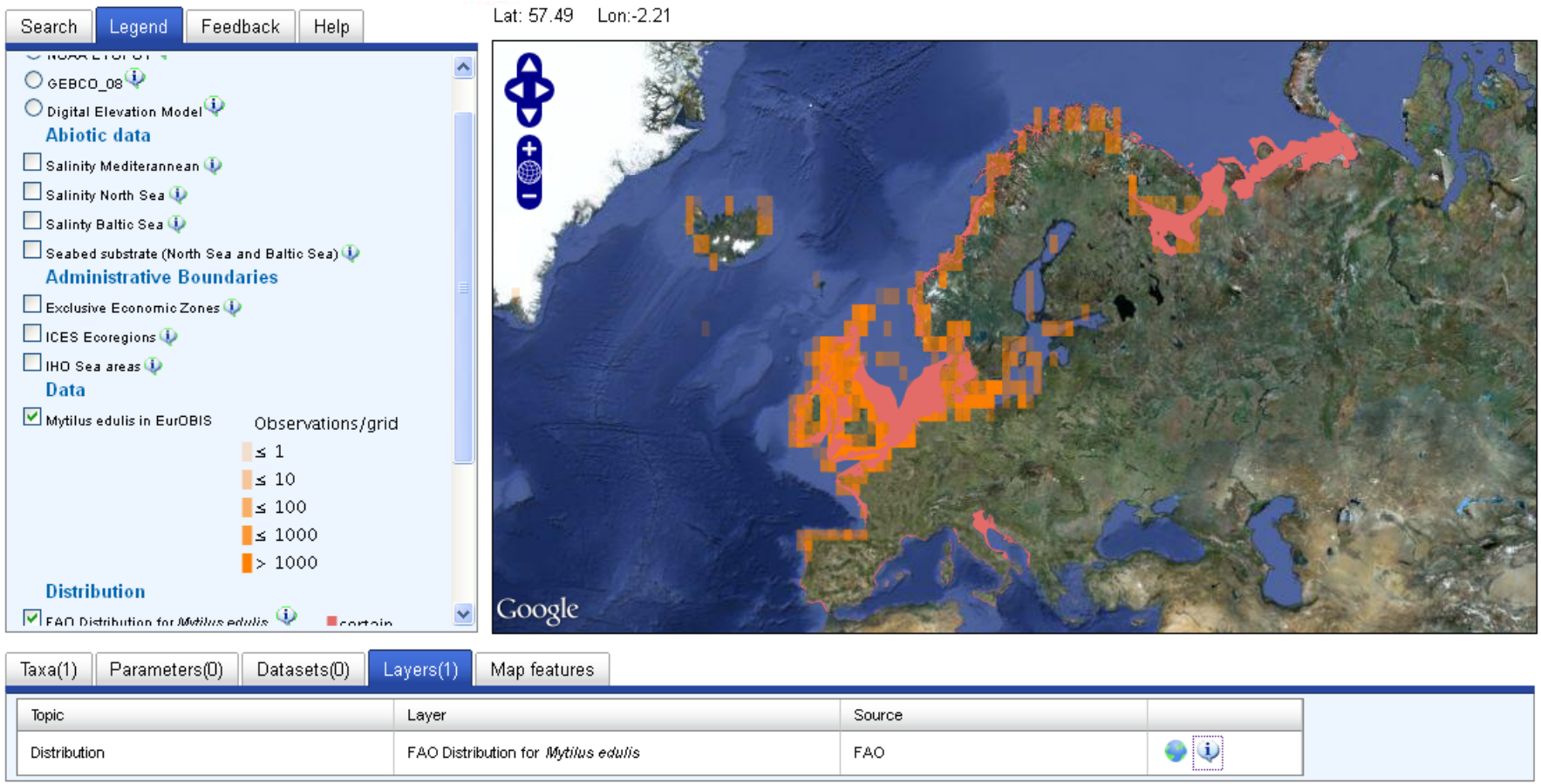
1. hydrographic data
2. geological data
3. chemical data
4. biological data
5. habitat mapping

- EurOBIS & WoRMS
- OGC, geonetwork
- Developed and hosted by VLIZ

observations & habitats

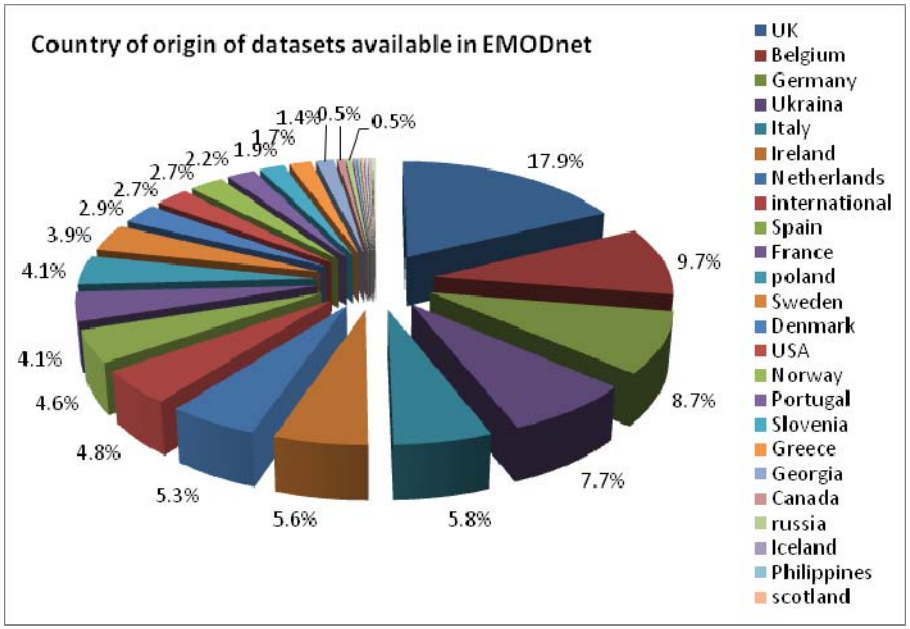


observations & models



Combine observation data with gridded distribution maps:
Data gaps / validation modelled distribution maps

EMODNET participants



ICSU – International Council for Science

-Since 1931, promote international scientific activity

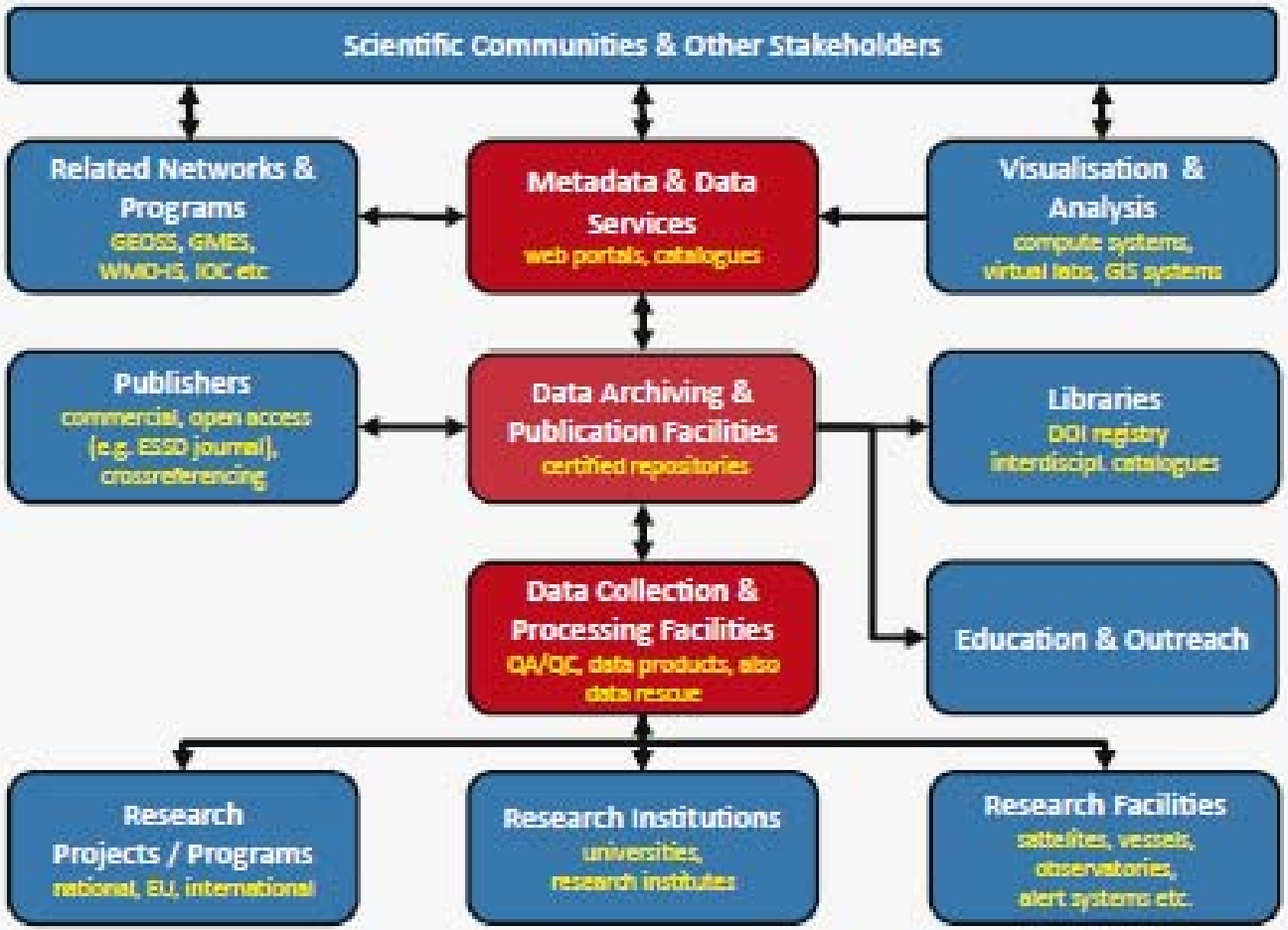
-113 multi-disciplinary National Scientific Members representing 133 countries (= scientific research councils or science academies)

- International Astronomical Union
- International Brain Research Organization
- International Geographical Union
- International Mathematical Union
- International Union for Quaternary Research
- International Society for Photogrammetry and Remote Sensing
- International Union of Anthropological and Ethnological Sciences
- International Union of Biochemistry and Molecular Biology
- International Union of Biological Sciences
- International Union of Crystallography
- International Union of Food Science and Technology
- International Union of Forest Research Organizations
- International Union of Geodesy and Geophysics
- International Union of Geological Sciences
- International Union of History and Philosophy of Science
- International Union of Immunological Societies
- International Union of Materials Research Societies
- International Union of Microbiological Societies
- International Union of Nutritional Sciences
- International Union for Pure and Applied Biophysics
- International Union of Pure and Applied Chemistry
- International Union of Pure and Applied Physics
- International Union for Physical and Engineering Sciences in Medicine
- International Union of Basic and Clinical Pharmacology
- International Union of Physiological Sciences
- International Union of Psychological Science
- International Union of Soil Sciences
- International Union of Theoretical and Applied Mechanics
- International Union of Toxicology
- Union Radio Scientifique Internationale

- # famous initiatives:
  - International Polar Year (IPY 2007-2008)
  - International Programme of Biodiversity Science (DIVERSITAS)
  - Committee on Data for Science and Technology (CODATA)
  - Scientific Committee on Antarctic Research (SCAR)

Vlaams instituut voor de zee

Initial System Architecture



WDS functional structure. "Metadata & Data Services" include WDS supplied data analysis services. Red boxes show the core functions of WDS, blue boxes contain the various relationships.

VLIZ application for membership

Criteria for WDS Certification

1.WDS general requirements and policies (Organization specific requirements)

2.Organizational framework

3.Management of data, products and services

3.Technical infrastructure

Vlaams instituut voor de zee

LIFEWATCH

e-science and technology infrastructure for biodiversity data and observatories

Home Contact About Participants Get involved News Cases Events Press Documents

Participating countries

PDF PRINT

By March 2008, nineteen countries have already designated a representative in the Policy & Science Board of the Life Watch Preparatory Phase project. Further representative participants may be added during this project. The representatives act as liaison between the project consortium as a whole, which is making the preparations for the future infrastructure, and the policy makers at the national level.

Find more information about the LifeWatch developments in each country:

- AUSTRIA
- BELGIUM
- DENMARK
- FINLAND
- FRANCE
- GREECE
- HUNGARY
- ITALY
- NETHERLANDS
- NORWAY
- POLAND
- PORTUGAL
- ROMANIA
- SLOVAK REPUBLIC
- SLOVENIA
- SPAIN
- SWEDEN
- TURKEY
- UNITED KINGDOM

Construction starts in 2012

VLIZ & INBO project

VLIZ coördinates the construction of Belgian e-infrastructure somponents the taxonomic backbone

Belgian E-Infrastructure components

- Databases, web services
- Biodiversity & habitat models
- Biodiversity observatories
  - Marine
  - Terrestrial and freshwater
  - Remotely sensed habitat monitoring
  - Tracking of transported organisms
  - Antarctic
- Taxonomic backbone
- Tools : field guides, VGI, barcoding services

- VLIZ, INBO, KBIN, UCL, BBPf
- EWI, BELSPO,SPW

Thank you

Vlaams instituut voor de zee