EMODnet Physics

EASME/EMFF/2016/006 - Operation, development and maintenance of a European Marine Observation and Data Network
EASME/EMFF/2016/1.3.1.2 – Lot 3/SI2.749411

Antonio
Novellino

antonio.novellino@ettsolutions.com

Outline

- Report on Tasks

- Explain the actions you have undertaken, or planning, to develop a more user oriented approach, in particular to engage with the private sector to stimulate use, to obtain feedback on the provided services, to ask their requirements and actions undertaken to develop a more fit for purpose data, products and services

- Steps undertaken and progress made to engage with Regional Sea Conventions to cater for their needs

Outline

WP #	WP Title	Corresponding Tasks
WP 1	Project management	Task 9. Project management Task 5. Ensure the involvement of regional sea conventions
WP 2	Data Collection, Metadata Compilation, Data Access and Products	Task 1. Develop a common method of access to data held in repositories Task 2. Construct products from one or more data sources that provide users with information about the distribution of parameters in time and space Task 6. Facilitate interoperability with data distributed by non-EU organisations
WP 3	Portal Technical Development and Operation	Task 3. Develop procedures for machine-to-machine connections to data and data products Task 4. Develop a web portal allowing users to find, visualise and download data
WP 4	Analysis, evaluation and feedback	Task 7. Install a process to monitor performance and deal with user feedback Task 8. Operate a help desk offering support to users

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Task 7. Install a process to monitor performance and deal with user feedback

Task 8. Operate a help desk offering support to users

WP4. Analysis, Evaluation and feedback

WP4.1. Monitor performances and deal with user feedback
   project statistics will be collected (monitoring web tools/user survey)

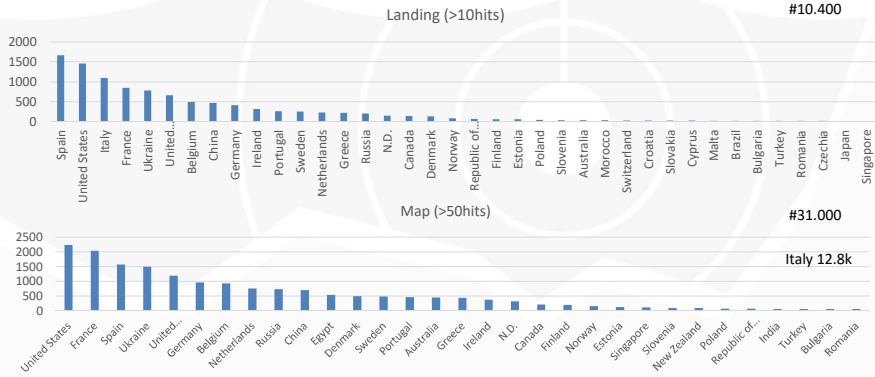**WP4.2. Operate a help desk offering support to users.**
1. help desk will operate during working hours (9.00 – 17.00 Brussels time) from Monday to Friday
2. accessible by: 1) on-line tools 2) email (and call back)
3. Help desk service level 1 -2
4. user feedback management to implement a FAQ

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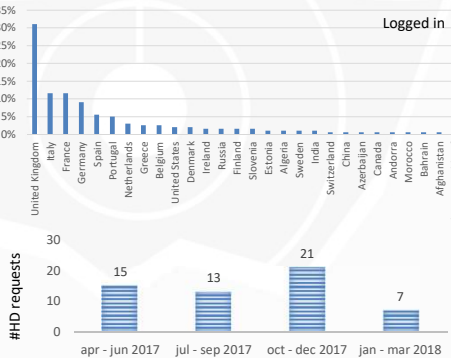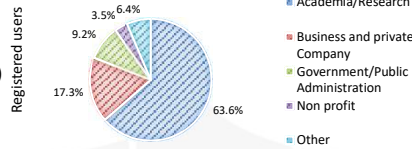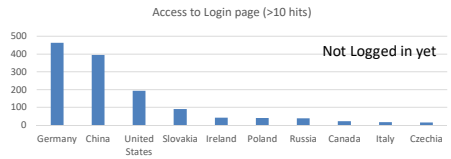Data Network

01/03/2017 – 01/03/2018

Country	#data requests (700.000)
Belgium	193369
Germany	181757
United States	130276
Morocco	105859
Italy	22243
Portugal	18526
France	18521
Netherlands	6941
United Kingdom	4408
Greece	4319
Denmark	3497
China	2463
Slovenia	2226
Spain	1152

Country	#manual download requests (46.000)
Portugal	8043
Netherlands	6915
Germany	6706
Greece	4316
United Kingdom	3968
Italy	3541
Denmark	3497
Belgium	2609
France	1407
Spain	1074
Philippines	1048

Landing (>10hits)   #10.400

Map (>50hits)   #31.000   Italy 12.8k

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01/03/2017 – 01/03/2018

1324 access to the login form
173 user profiles
(obviously the same user access the page many time!)

Access to Login page (>10 hits)   Not Logged in yet

Registered users

- Academia/Research
- Business and private Company
- Government/Public Administration
- Non profit
- Other

63.6%
17.3%
9.2%
3.5%
6.4%

Logged in

#HD requests

apr - jun 2017	jul - sep 2017	oct - dec 2017	jan - mar 2018
15	13	21	7

We kindly ask you to log in before downloading these data
TERMS OF USE

Copernicus
Registered user   New user

Institute
--- select the type of your organisation ---
--- Select your country ---

Area of interest
- Marine and Coastal
- Maritime Safety
- Marine Resource
- Climate, Seasonal and Weather Forecasting

- Would you like to receive our newsletter

Submit

If you encountered any problem - for any further information
feel free to contact us:
CONTACTS@EMODNET-PHYSICS.EU

Close

User, international collaborations, interoperability…

Sustainability of these collaborations

Planned actions

- Set up FAQ page
- Activate the mail service for more providers/networks of interest
- Dissemination (exhibitions)
  - EGU (10-11 April)
  - Liege Colloquium (28-30 May)
  - HyMEX (29-30 May)
  - EMODnet Italy (8 June)
  - SeaFuture (19-23 June)
  - Glider WS (17-19 Sep)
  - IMDIS (Oct)
  - EOOS Conference (Nov)
  - …
- Workshops (Data Ingestion)
  - Poland (April)
  - Spain + Portugal + Morocco

Planned actions

2016	2018	
4	4	CONFERENCE DAYS
26	30	FOREING NAVIES
120	300	EXHIBITING ENTERPRISES
900	1000	ADVANCED B2B MEETINGS
1200	2000	PROFESSIONNEL VISISTORS
5000	6500	SQM OF EHIBITING AREA INSIDE LA SPEZIA NAVY BASE

SEAFUTURE is the HUB able to create connections, synergies among national and international big players, SMEs, universities and research institutes, innovative start ups, technology clusters, marine and maritime ones, Italian Navy, Foreign Navies and institutional stakeholders.

→ EMODnet Stand + oral presentation 22 June «Our Ocean, One Future» session

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Planned actions

EMODnet
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WP3. Portal technical development and operation

WP3.1 EMODnet Physics Portal
WP3.2 EMODnet Physics machine-to-machine (M2M) and interoperability features
1. From EMODnet Physics to end-users
    JSON and REST services, (OGC) compliant WMS (v.1.0) and WFS (v.1.0) services, SWE, THREDDS Data Server, ERDDAP, web widgets
2. User to EMODnet Physics
    faster synchronization with the near-real-time data flow and historical data
    FTP, THREDDS , SWE
    coordination and support to EMODnet Data Ingestion
WP3.3 interoperability with data distributed by non-EU organizations
1. data access to- and preview for- coastal data in non-European areas
2. interoperate with the OAI-PMH that is a widely used standard by both European entities (e.g. PANGAEA) and non-EU organizations
3. providing support to non-EU organizations that want to be connected

Task 3. Develop procedures for machine-to-machine connections to data and data products

Task 4. Develop a web portal allowing users to find, visualise and download data

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EMODnet Physics Portal

EMODnet

Data
Near real-time (NRT) data at in situ observatories at sea
Reprocessed NRT data
Archived data derived from further elaboration and validation

Parameters	
Temperature	Wind
Salinity	Atmospheric param.
Waves	Biogeochemical param.
Currents	Optical properties
Sea Level	Ice data
Under water noise	River Runoff

Products
Data products
• Sea Level
• Temperature & Salinity
• Currents
• Ice coverage
• River runoff & TSM
• Impulsive Noise

Services	
Data portal	Catalogue
Products portal	Newsletter & digest
Monitoring tools	Reports (mail)
http & permaURLs	API REST/SOAP
OGC WMS, WFS, WCS	THREDDS
ERDDAP	widgets

EMODnet Physics Portal

EMODnet Physics Portal

NRT (CMEMS)

Trend/max/min
From NRT

Validated
Trends
(PSMSL)
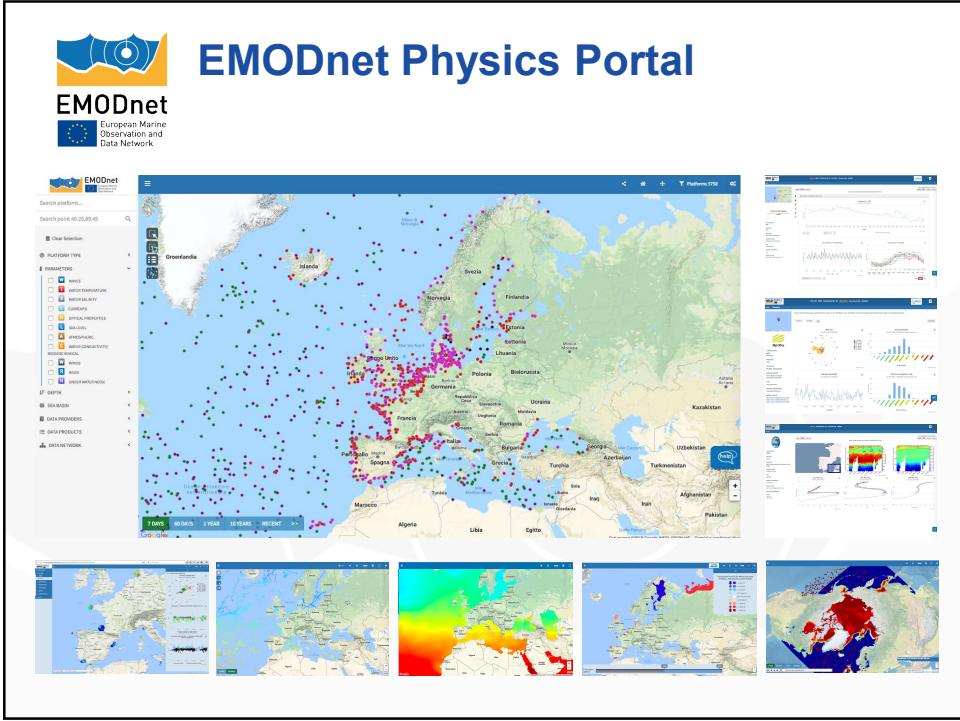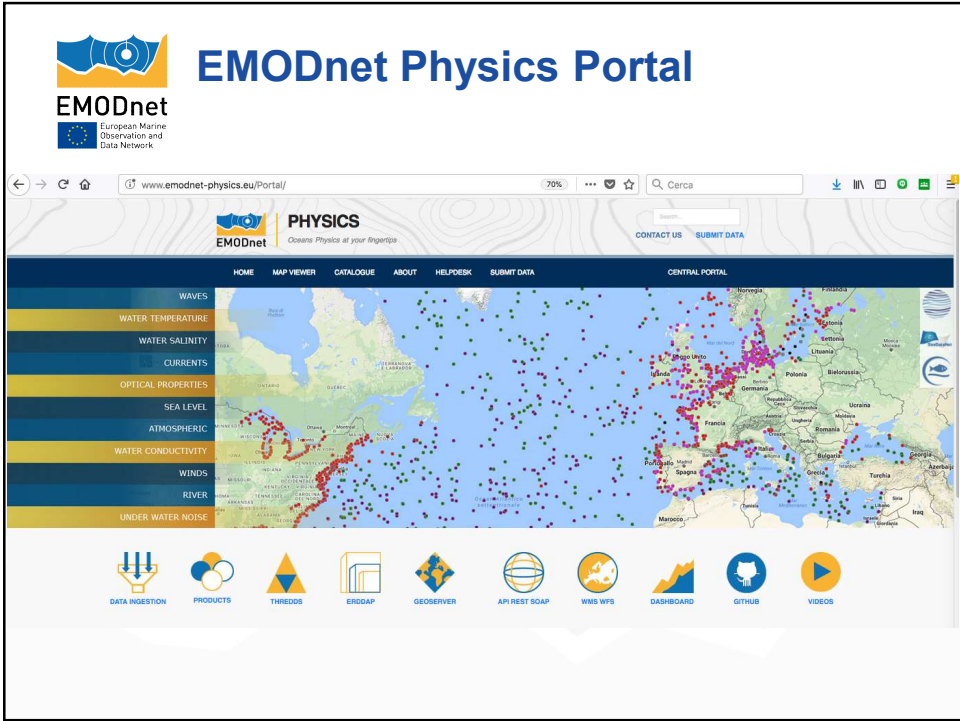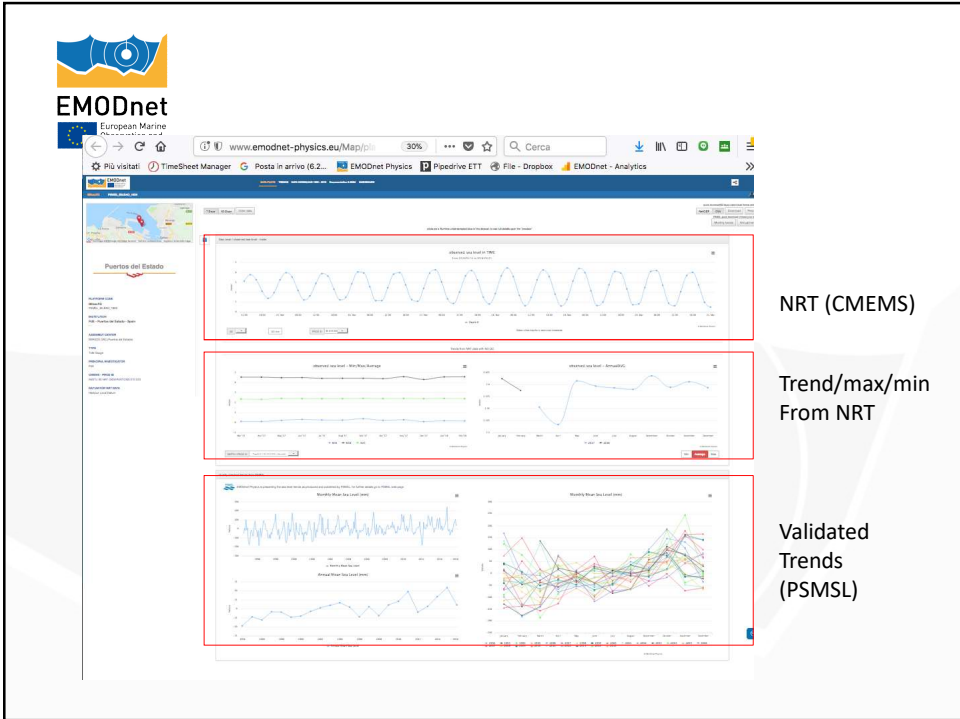
EMODnet Physics Portal

Mooring

ARGO profiler

tide gauge

river station

repeated CTD

Wind station

HFR

sea mammal

ferrybox

Data download

M2M

Dashboard

Impulsive Noise Registry

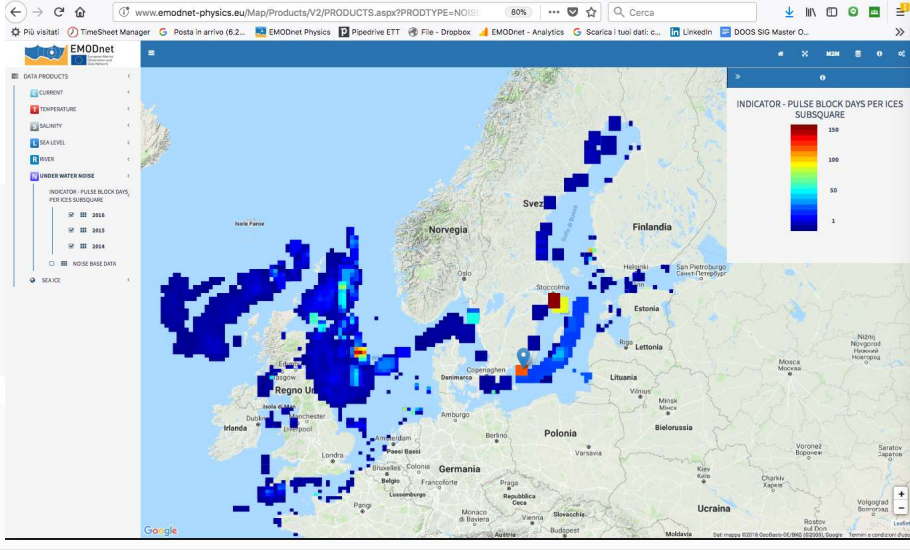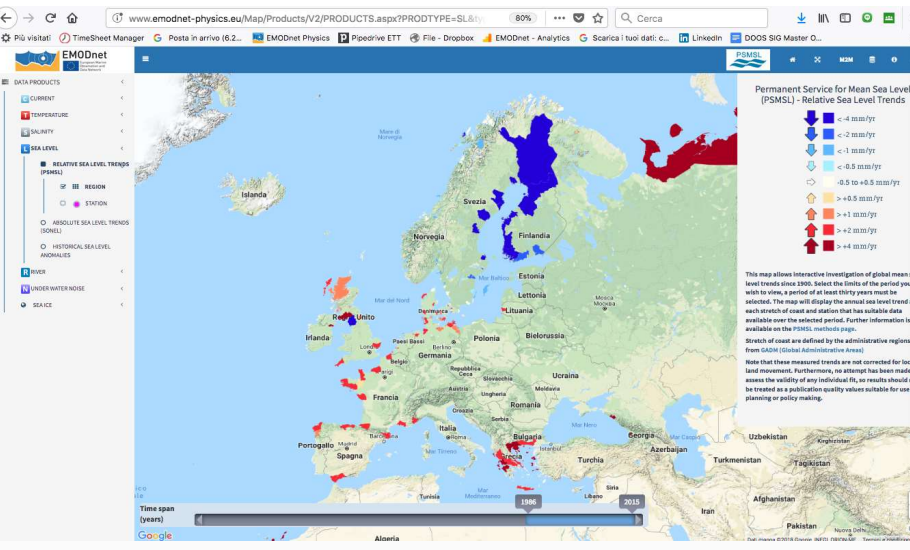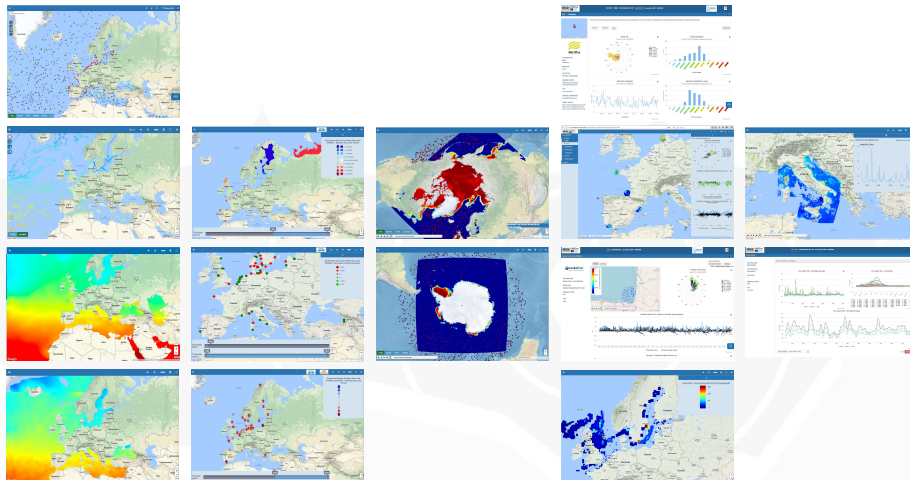Relative Sea Level trend

Total Suspended Matter
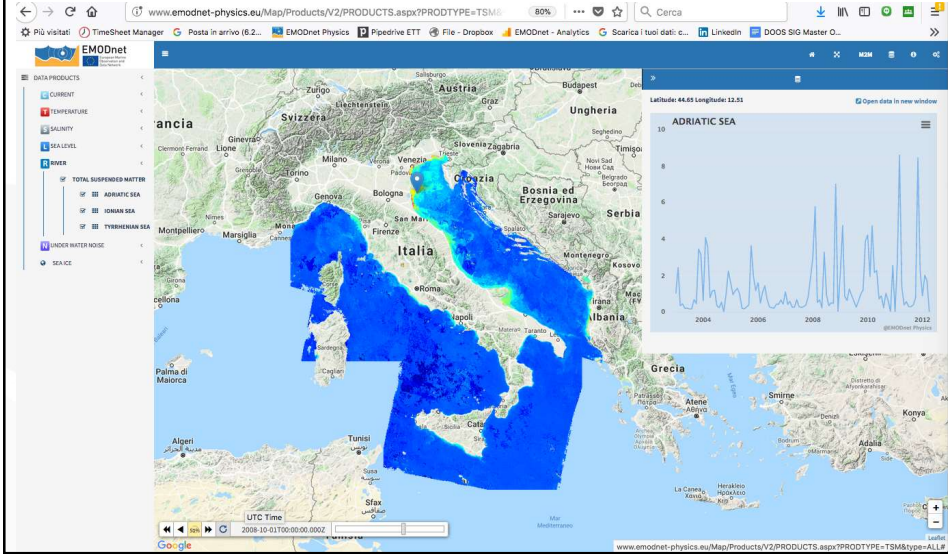
EMODnet Physics Portal

Temperature, Salinity, Sea Level and Anomalies, Sea Ice, Winds, Currents, River Runoff, Suspended Matter; Water Noise

M2M

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Service	Description	Examples
permaURL	All platforms	http://www.emodnet-physics.eu/map/platinfo/piradar.aspx?platformid=10273 http://www.emodnet-physics.eu/map/platinfo/pidashboard.aspx?platformid=10273 Service description @ http://www.emodnet-physics.eu/map/spi.aspx
API REST/SOAP	Latest 60 days of data	www.emodnet-physics.eu/map/Service/WSEmodnet2.aspx www.emodnet-physics.eu/map/service/WSEmodnet2.asmx
OGS WMS, WFS,	Postgresql + Geoserver	geoserver.emodnet-physics.eu/geoserver/web examples and service description @ www.emodnet-physics.eu/map/service/GeoServerDefaultWMS www.emodnet-physics.eu/map/service/GeoServerDefaultWFS
THREDDS (OpenDAP, WMS, WCS)	Latest 60 days + HFR data + Ice	thredds.emodnet-physics.eu/thredds/catalog.html
ERDDAP	Latest 60 days	erddap.emodnet-physics.eu
widgets	All plots	www.emodnet-physics.eu/Map/Charts/PlotDataTimeSeries.aspx?paramcode=TEMP&platid=8429&timerange=7

Planned actions

- Landing
  - First time on line guide/wizard/FAQ
  - Reorganize/redesign the catalog
- Map:
  - First time on line guide/wizard
  - Shortcuts to data packages
  - Quick download features
- Platform pages:
  - Undersampled plot full time series/data package
  - More instruction/help less buttons/options
  - Better/easier links between plots and M2M
- Products:
  - Products catalogue linked to products viewer
  - Quick download/shortcuts

Task 1. Develop a common method of access to data held in repositories

Task 2. Construct products from one or more data sources that provide users with information about the distribution of parameters in time and space

Task 6. Facilitate interoperability with data distributed by non-EU organisations

WP2. Data Collection, Metadata Compilation, Data Access and Products

WP2.1. Expand the existing measurements from fixed and moving platforms
Argo, profiling floats, gliders, radar, CTD from ships, river outflow, water noise, etc.
WP2.2. closing the gap in data flow between operational repository and validated archives
More synergies and cooperation between operational operators (ROOSs) and national data centres (NODC)
WP2.3. Include the new parameters: inflow from rivers and sound
WP2.4. Collaboration with EMODnet Data Ingestion project
WP2.5: Metadata
EuroGOOS ROOSs and SeaDataNet NODCs for EU, JCOMMOPS for international programmes
WP2.6. Data access
WP2.7. Data Products
several types of maps, in situ linear trends and aggregated data sets

EMODnet Physics

A common infrastructure to serve many users

Near Real Time data/operational data

- **Repositories:**
CMEMS INSTAC - EuroGOOS ROOS
     (5 regional assembly centres + 1)
Institutes*
GDAC/IOOS/IMOS**
- **Platforms:**
fixed mooring, ferrybox, tide gauge,
drifting buoy, ARGO, profiling mooring,
HF Radar, ships
- **Time dimension:**
Daily files, Monthly aggrg., Rep long
term
- **Metadata + Transport format:**
Netcdf (CF convention), csv

Historical validated data sets

- **Repositories**:
CDI: centralized
Datasets: NODC and SeaDataNet
nodes (100 centres)
- **Platforms**:
fixed stations (mooring, tide gauge)
- **Time dimension**:
Depending on datasets (ranging
from month to years)
- **Metadata + Transport format**:
CDI + ODV4/Netcdf (CF)

Reprocessed data/Products

- **Repositories**:
SDN, CMEMS INSTAC, PSMSL,
SONEL, GRDC, MEOP, …
- **Time dimension**:
Depending on products
- **Geo dimension**:
Depending on products
- **Metadata + Transport format**:
Netcdf (CF), OGC

Direct download   RSM mediated download   Download/M2M

Data

@20/03/2018

	EMODnet		CMEMS	IOOS	SDN	IMOS	NDBC	IAPB	GOSUD	PSMSL	GRDC	MEOP	OS . FIXO3	Redundancy
Mooring	2908		1592		838	16	950						72	X
Tide Gauge	1690		390		155					1391				X
FB/Ship	259		140		4			114						X
Glider	190		54	137										
ARGO/profiler	9244		9240											
Sea Mammal	1743		579									1145		X
River Station	177	177									370			X
HF Radar	142	30			96	16								
CTD	>54000		>54000											X
Drifting Buoy	>10100		>10100					1225						X

more than 25.000 connected platforms, more than 600.000 datasets

Planned actions

Under water noise

- Inventory of the operational systems
- Data management and real time (SPLs) data flow
- Integration HELCOM, OSPAR, ACCOBAMS registries

River runoff

- ingestion of the operational systems
- Integration of Global Runoff Database
- total suspended matter product
- Annual Runoff product

Gliders

- Data management and facilitate interoperability
- Glider Workshop Genoa (Italy) Sept 2018

Ferrybox

- facilitate interoperability and data flow
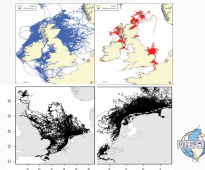- FB Workshop Genoa (Italy) Spring 2019

HFR

- Coastal current product (gap filling)
- Interoperability with international data /programs
- Historical data

Sea Level

- Absolute trends (SONEL)
- Add links to GNSS stations
- Sea level anomalies (from PSMSL and SONEL)

Marine Mammals

- with MEOP to ingest recent (European) data
- Near real time data flow

Task 9. Project management

Task 5. Ensure the involvement of regional sea conventions

WP1. Project Management

WP1.1. Project Management
WP1.2. Project Reports
WP1.3. Project handover
WP1.4. Harmonization/Coordination with the other EMODnet Portals
WP1.5. Coordination with the EMODnet ingestion project
WP1.6. Regional Sea Conventions involvement

EMODnet Physics & Data Ingestion

Near Real Time

- 30 tide gauge stations, Italian TG network, ISPRA via GLOSS
- 4 fixed stations, 2 gliders, 2 turtles, 2 FB, SOCIB
- HFR data (Brest bay: Pointe de Brézellec- Pointe de Garchine), SHOM
- 23 Ferrybox (StenaLines), SMHI

In progress
- 10 wind stations, 2014-2018, IMR
- 1 HFR, 2016-2018, IMR
- Some Repeated profiles, MI
- Ca 20 stations, Ireland
- 8 mooring, Croatia

Historical data

- >1100 sea mammals data, 2004 – 2015, MEOP DB
- 3 fixed buoys (Civitavecchia, Gaeta), 2012 -2017, Uni. Tuscia
- HFR data (Naples, Manfredonia, Trieste), CNR ISMAR, RITMARE prj.
- HFR data (MESA, VADE), 2014-2015, SMHI
- MEOP update 2016

EMODnet Physics & Data Ingestion

www.emodnet-physics.eu/realtime

RSCs involvement

- Participated to Helcom State and Conservation meeting and Ospar Working Groups on Monitoring and on Trends and Effects of Substances in the Marine Environment (MIME) meeting
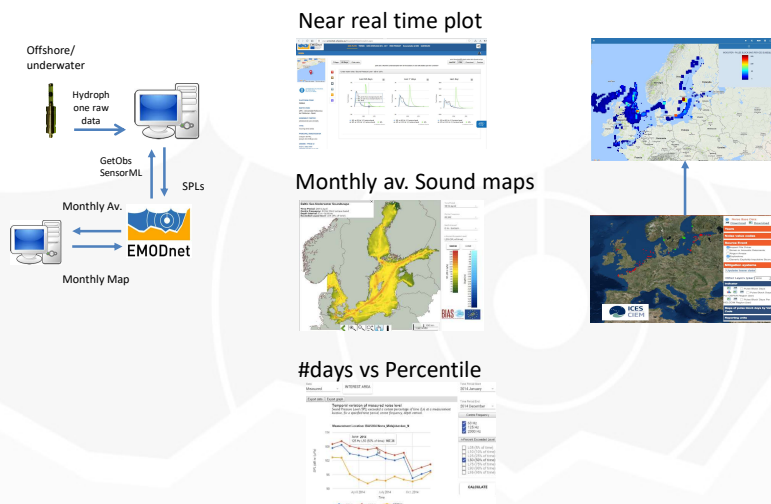- Participated to TG NOISE

Planned actions:
- Integrate and show the impulsive registries (ICES) and keep working with TG Noise
- Follow up on BIAS project
- Follow up on JOMOPANS project

Planned actions

Offshore/underwater

Hydroph one raw data

GetObs SensorML

SPLs

Monthly Av.

EMODnet

Monthly Map

Near real time plot

Monthly av. Sound maps

#days vs Percentile

Ocean physics at your fingertips

contacts@emodnet-physics.eu

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European Marine
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Data Network

www.emodnet.eu
Your gateway to marine data in Europe
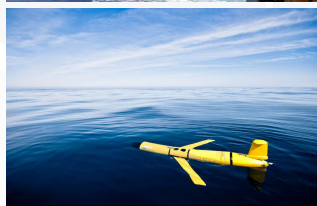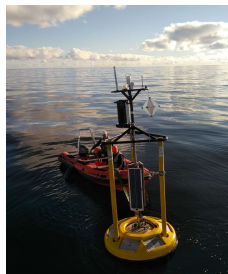
Credit: Dan Costa, SMHI, SOCIB, REDMAR