



EMODnet
European Marine
Observation and
Data Network
Your gateway to marine data in Europe

Updates from EMODnet Chemistry

9th EMODnet Steering Committee Meeting, Mallorca

Alessandra
Giorgetti | OGS.agiorgetti@inogs.it

 The European Marine Observation and Data Network (EMODnet) is financed by the European Union under Regulation (EU) No 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund.



Work programme (2017-2019)

EMODnet
European Marine
Observation and
Data Network

- YEAR 1
 - **Data collection** for Eutrophication + Marine litter data sets
 - Meetings of Board of MSFD experts - Eutrophication (M10)
 - First version of maps for marine litter (M12)
- YEAR 2
 - Meetings of Board of MSFD experts – Contaminants (M13)
 - Updated DIVA **maps** for eutrophication (M14)
 - Data collection for **contaminants** (M15-May 2018)
 - Dedicated maps for **contaminants** (M20-October 2018)
 - Higher resolution DIVA maps **near major river mouths** (M22)

3/27/2018 2



EMODnet
European Marine
Observation and
Data Network

One of the main achievement

- Interaction with TG DATA, developing recommendations for MS for **Accessing data and information** according to **MSFD Art. 19(3)** ...
- EMODnet Chemistry use case mapping **INSPIRE** data models for D5C1 “Nutrients concentrations in water”
- Both EMODnet and SeaDataNet **standards** feature heavily in the **‘art 19.3 recommendations on publication of datasets’**

3/27/2018

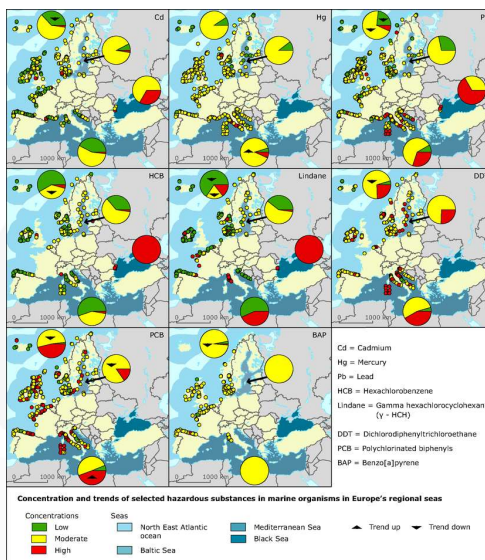
3



EMODnet
European Marine
Observation and
Data Network

Interaction with EEA

- The beginning of the end? of the EIONET dataflow and shift to EMODnet/ICES dataflow for EEA indicators



3/27/2018



EMODnet
European Marine
Observation and
Data Network

Interaction with EEA - II

Proof of concept:

- End April 2018 – deadline to release eutrophication dataset to EEA
- Followed by contaminants dataset
- Task 1 (access data) + Task 2 (products) : dialogue with EEA for tuning access methods
- Task 3 (machine-to-machine) : APIs tuned for querying regional aggregated and validated datasets are under development

3/27/2018

5



EMODnet
European Marine
Observation and
Data Network

New portal launched – Task 4

- EMODnet Chemistry web portal has been completely restyled (launched Nov 2017). New features:
 - Direct link to Data and Products
 - Latest news and events
 - Following pages with side menu on the left and a presentation page to explain the topic

3/27/2018

6

EMODnet
European Marine Observation and Data Network

EMODnet Chemistry portal
Data & products on marine water quality

Search [input] [button]

CONTACT US SUBMIT DATA

ABOUT DATA PRODUCTS DOCUMENTS NEWS & EVENTS HELP

CHEMISTRY
Data & products on marine water quality

EUTROPHICATION
OCEAN ACIDIFICATION
CONTAMINANTS
MARINE LITTER

The EMODnet Chemistry portal provides easy access to marine chemical data, standardised harmonized validated data collections and reliable data products, highly relevant to assess ecosystem status according to the Marine Strategy Framework Directive.

Discover Data Discover Data Products

Latest news and events

15 February 2018
Presentations of the First Annual Meeting in Roskilde are now available

24 January 2018
EMODnet Chemistry presented at EUDAT Conference "Putting the EOSC vision into practice"

15 January 2018
First Annual Meeting and Third Steering Committee - Available agenda and logistic information

Quick Question? Speak to us here!

EMODnet
European Marine Observation and Data Network

EMODnet Chemistry
Viewing and Downloading service

HORIZONTAL SECTION VERTICAL SECTION

CONTACT ABOUT HELP

SELECT DATA PRODUCTS

Search [input]

+ Add external layers

EMODNET CHEMISTRY - CONCENTRATION MAPS

- > Atlantic Sea
- > Baltic Sea
- > Black Sea
- > Mediterranean Sea
- > North Sea


EMODNET CHEMISTRY - COMBINED MAPS

- > Water body ammonium
- > Water body chlorophyll-a
- > Water body dissolved oxygen concentration
 - > Water body dissolved oxygen concentration masked using relative error threshold 0.5
- > Water body phosphate
- > Water body silicate

EMODNET CHEMISTRY - DYNAMIC PLOTS

- > Acidity
- > Antifoulants
- > Chlorophyll

12.75269, 55.86924



Involvement of RSCs – Task 5

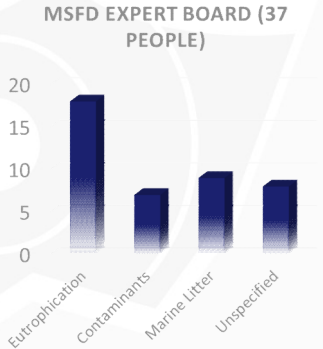
EMODnet
European Marine Observation and Data Network

- Open dialogue with OSPAR for beach litter data exchange
- Attended ICG EUT meeting to discuss the potential for EMODnet to provide specific products to their assessment
- UNEP/MAP and BSC subcontractors
- Meeting with INFO/RAC
- Set-up MSFD board of experts

Expectations:


- 'Advise' on (suitable) products
- Monitor development of services
- Continuous dialogue

MSFD EXPERT BOARD (37 PEOPLE)



Category	Number of Experts
Eutrophication	19
Contaminants	8
Marine Litter	10
Unspecified	9

3/27/2018
9



Involvement of RSCs – MSFD Experts

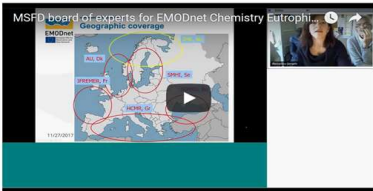
EMODnet
European Marine Observation and Data Network

- Eutrophication Online Workshop (27th November 2017)
 - Focused on assessment
 - Used pre-questions
 - Chemistry products
 - Looked for specific
 - Recorded

Events

MSFD board of experts for EMODnet Chemistry: Eutrophication online workshop, 27 November 2017, Online


The first online workshop of the MSFD board of experts for EMODnet Chemistry took place on November 27, 2017 and was aimed to consolidate the cooperation with Regional Sea Conventions in order to tune EMODnet activities in support of MSFD implementation. EMODnet Chemistry objectives and results obtained so far were presented to representatives of Regional Sea Conventions in order to collect feedbacks and suggestions needed to implement forthcoming activities according to a coordinated approach across all European Sea Basins. This first workshop was focused on MSFD Descriptor 5 Eutrophication. The presentation and the workshop summary are now available.



Quick Question? Speak to us here!

Online 10


3/27/2018
10



Involvement of RSCs – MSFD Experts

- Contaminants Online Workshop (16th March 2018)
 - Looked for specific feedback on selection of substances and planned dedicated maps
 - Major changes
 - Feedback from RSCs, JRC and Ifremer
 - Recorded
 - New edition when ready

3/27/2018 11



Interoperability with non-EU – Task 6

- EMODnet Chemistry includes several non-EU members from eastern countries and north Africa
- EMODnet Chemistry is linked to ODIP (Interoperability platform with Australia, Canada, USA)
- EMODnet Chemistry contributes to IODE ODIS
- EMODnet Chemistry potentials for UN SDG 14.3 (Ocean Acidification)... IAEG (Inter-agency Expert Group)
 - Methodology fact sheet to be submitted to the next IAEG-SDG meeting in October 2018

3/27/2018 12



User feedback and help desk – Task 7 and 8

- Dedicated WP coordinated by ICES
- Help desk active (chat, e-mail and phone)
- Focus on MSFD stakeholders
- EMODnet promoted to private sector (in synergy with Data Ingestion)
– Adriatic LNG

3/27/2018

13



Use cases for EMD Chemistry

A series of MoUs are discussed to **formalise data exchange mechanisms** and cooperation:

- With BSCS and UNEP/MAP (involved as subcontractors)
- With EEA for Data supply to Eutrophication and Contaminants thematic assessments (2017)
- With INFO-RAC for synergy between information systems
- With OSPAR/MCS and ICES for marine litter data exchange
- With the Copernicus Marine Environment Monitoring Service - IN Situ Thematic Assembling Centre

3/27/2018

14



EMODnet

European Marine
Observation and
Data Network

Cooperation with Copernicus

- **CMEMS INSTAC** started preparing **global biochemical data collections** (oxygen, chlorophyll and nutrients) as input for the CMEMS modelers and to be published for downloading at the CMEMS user portal.
- **EMODnet Chemistry** has already been working since 2009 on gathering biochemical data and metadata, and generating aggregated, validated and harmonised data collections for e.g. eutrophication.
- At present EMODnet Chemistry has brought together **more than > 0.5 million eutrophication data sets** over a large time period **from > 50 data providers**.

15




EMODnet

European Marine
Observation and
Data Network

Data exchange from EMODnet Chemistry to CMEMS

- CMEMS, SeaDataNet and EMODnet Chemistry are infrastructures aiming to become **sustainable**.
- Cooperation and exchange between the infrastructures must be **2-way oriented**, well balanced, providing a win-win situation, providing **complementarity**, and preventing mutual competition.

16




Marine Litter

EMODnet
European Marine Observation and Data Network

- Currently gathering data for generating data products on a European scale on:
 - **Beach** litter (modelled after the OSPAR-MCS, TG ML and UNEP/MAP approach)
 - **Seafloor** litter (modelled after the ICES-DATRAS, TG ML and MEDITS approach)
 - **Micro** litter (SeaDataNet infrastructure with CDI metadata and ODV data standards proposed approach)

3/27/2018 17



Marine Litter - II

EMODnet
European Marine Observation and Data Network

- **Central submission facilities** for relevant regional systems + organizations outside existing systems
- Digital layers maps of **beach and seafloor litter** are made available
- Approach discussed at TG ML
- **Cooperation with JRC** for ML Baselines (beach, macro items, regional, sub-regional, national, 2012-2016)
 - 19 different formats
 - large heterogeneity in sampling method (50m – 3km)
 - high spatial-temporal heterogeneity

3/27/2018 18



EMODnet
European Marine
Observation and
Data Network

Present situation – beach litter

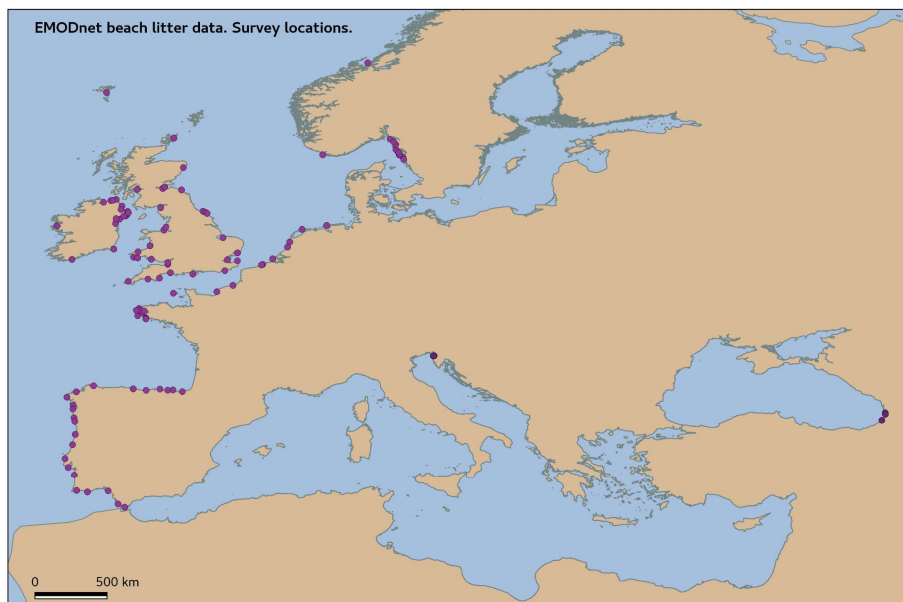
- **OSPAR-MCS** dataset includes 58 beaches from 2000 to 2010 plus 91 beaches from 2011 to 2015 (survey at 100 m)
- JRC collected data from 23 Member States
 - Permission to provide all available data for future accessibility through EMODnet by 31-03-2018
- EMODnet data received from TSU (Georgia)
- Dialogue open with EEA (Marine Litter Watch)
- Next steps: **DeFishGear** (Adriatic-Ionian region)

3/27/2018

19



EMODnet beach litter data. Survey locations.






Present situation – seafloor litter

EMODnet
European Marine Observation and Data Network

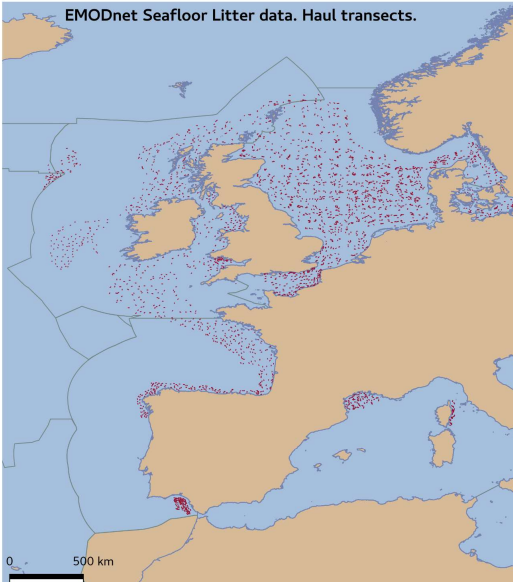
- ICES-DATRAS dataset includes 5,415 hauls
- EMODnet will be presented to **2018 MEDITS Coordination Meeting**, 18-19-04-2018
- EMODnet data received from Ifremer, NIMRD
- Next steps: **DeFishGear** (Adriatic-Ionian region)

3/27/2018
21

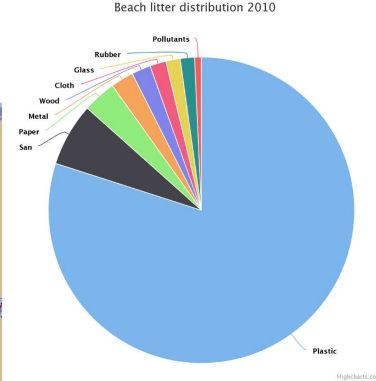


<http://europa.ogs.trieste.it/litter/>


EMODnet Seafloor Litter data. Haul transects.




Beach litter distribution 2010



Category	Relative Proportion
Plastic	~75%
San	~10%
Paper	~5%
Metal	~3%
Wood	~2%
Cloth	~2%
Glass	~1%
Rubber	~1%
Pollutants	~1%






Present situation – **micro litter**

EMODnet
European Marine
Observation and
Data Network

- The **approach** for marine micro litter data gathering, including metadata/data **formats** is under endorsement by TG ML
- **EMODnet** data received from Ifremer, METU (Turkey), TU (Estonia)

3/27/2018

23



www.emodnet.eu

Your gateway to marine data in Europe