



Your gateway to marine data in Europe

EMODnet Chemistry: News and plans

SeaDataCloud 1st Annual Meeting, Athens

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EMODnet Chemistry 3

→ 6/3/2017 - 5/3/2019

Collects data on:

In 3 matrices:

- water column;
- biota;
- sediment.

	Group	Examples
Eutrophication	nutrients, dissolved gasses ...	N, P, Si, Oxy, Chl-a
Ocean acidification	acidity	pH, pCO ₂
Pollution	hydrocarbons, heavy metals, pesticides, ...	anthracene, fluoroanthene, Me, Cd, Pb, TBT, DDTs
Marine Litter	beach litter, seabed litter, microlitter	

Covers **all European waters**

Involves **45 institutes** from **27 countries** and 3 international organisations (ICES, Black Sea Commission, UNEP/MAP)



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Adopting and adapting SeaDataNet infrastructure and standards

- ⦿ Additional **P01** terms, **P35** for EMODNET chemistry aggregations, **P36** for EMODNET Chemistry themes
- ⦿ **ODV** software for data sub-setting, parameter aggregation with P35, quality control
- ⦿ **CDI** Data Access interface (with matrix selection, ...)
- ⦿ **Ocean Browser** (viewing maps and time series)
- ⦿ **Sextant** (including link to DOIs landing pages)



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Use of Digital Object Identifiers (DOIs)

- ⦿ DOIs from DataCite
- ⦿ All DIVA maps have a DOI
- ⦿ All scientific reports have DOI
- ⦿ We plan to give a DOI to all data collections at regional level, and introducing also versioning
- ⦿ All DOIs landing pages are linked to Sextant metadata products descriptions



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Focus extended to Marine Litter

- ⊙ EMODnet Chemistry scope has been expanded with gathering data, generating data products on a European scale, and publishing data and data products on:
 - ⊙ **Beach** litter (nets, bottles etc.)
 - ⊙ **Seafloor** litter (i.e. litter collected by fish trawl surveys)
 - ⊙ **Micro** litter (microplastics)
- ⊙ Not on litter in biota
- ⊙ It is stipulated that digital layers of plastic or litter must be available after the first year
- ⊙ Approach discussed at MSFD Technical Group Marine Litter



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Proposed approach

- ◉ Opt for developing two central EMODnet **databases**:
 - ◉ one for **beach litter**, modelled after the OSPAR-MCS approach
 - ◉ one for **seafloor litter**, modelled after the ICES-DATRAS approach
- ◉ Arrange data exchange mechanisms and cooperation with the **relevant regional systems**, their responsible managers and related networks
- ◉ Encourage **further population** of the existing systems by organisations in the relevant regions
- ◉ Set up and operate **central submission facilities** for covering submissions by organisations in regions that fall outside existing systems
- ◉ **Extra** population by EMODnet Chemistry partners and through **EMODnet Ingestion** project
- ◉ Develop **search and display services** (including maps) on the central EMODnet validated databases



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Present situation – beach litter

- Regular harvesting from **OSPAR-MCS**
- Started agreement with OSPAR about the set up of a web service
- Central submission facility covers **additional** data providers
- The reference list of beach litter categories is the **Master List** published in 'Guidance on Monitoring of Marine Litter in European Seas' (Galgani et al., 2013)
- Next steps **DeFishGear** (Adriatic-Ionian region)
- Cooperation planned with HELCOM – SPICE (under way), UNEP/MAP – INFO/RAC (planning), EEA, Black Sea Commission, JRC 'Project on ML **baselines**' (all these parties joined the kick-off)





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Present situation – **seafloor litter**

- ⦿ Regular harvesting from **ICES-DATRAS**, including **BITS**
- ⦿ Contacts with **MEDITS**
- ⦿ Central submission facility covers **additional** data providers
- ⦿ The reference list of seafloor litter categories from **ICES vocabs**
- ⦿ Taking on board DeFishGear and PERSEUS as next steps



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Micro litter - proposed approach

For **micro litter** there are not yet coordinated efforts at regional or European scale. EMODnet Chemistry proposes to **adopt** the data management approach as generally applied for marine data in Europe, adopting and adapting the **SeaDataNet infrastructure and standards**:

- ⦿ **CDIs** → include micro litter metadata information, for discovery and access
- ⦿ **ODVs** → include data, extending ODV **mandatory** fields with **additional selected fields** necessary to describe marine micro litter (category, count,... and size, color,...)



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Micro litter - proposed approach II

- ⦿ A **document** with the proposed approach for marine micro litter was submitted and presented as proposal to the **Technical Group on Marine Litter (TG ML)** with the ultimate aim to establish official support.
 - ⦿ So far positive feedback from Germany and HELCOM
- ⦿ The reviewed version was also positively discussed at JPI Oceans **BASEMAN** recently



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Impact to SeaDataNet

- ⊙ **Extend ODV “bio-ODV like” data format** with a set of additional fields to describe marine micro litter:
 - ⊙ additional mandatory: fields will be always present in ODV file and always filled
 - ⊙ additional optional: fields will be always present in ODV file but could be empty
- ⊙ Creation of **6 new vocabs** for **Type** of micro-litter particles (H01), **Shape** of micro-litter particles (H02), **Size class** of micro-litter particles (H03), **Colour class** of micro-litter particles (H04), Micro-litter **polymer types** (H05), **Douglas Sea Scale**



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Use-cases for Chemistry data

- ⊙ Collaboration with **UNEP/MAP** – case study on EO5 in the North Adriatic (Partnership agreement under evaluation)
- ⊙ Meeting with Info-RAC for synergy between information systems
- ⊙ EMODnet Chemistry validated buffer with contaminants and nutrients in the **Black sea** for the BSCS SOE (February 2017)
- ⊙ EMODnet Chemistry contaminants data requested for **EEA** thematic report
- ⊙ Possible collaboration with **CMEMS-Med-MFC**



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International dimension - interoperability

- ⦿ EMODnet Chemistry want to provide **controlled access** to regional standardized, aggregated and validated datasets on the cloud provided by SeaDataNet
- ⦿ EMODnet Chemistry adopts 3 layers of interoperability:
 - ⦿ **formats** and **vocabs** on a technical level (ODIP)
 - ⦿ **QC**, flag on a content wise layer (IOC/IODE, including NOAA and ICES)
 - ⦿ Collection and processing, using **international instruments** and lab tests



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New design

EMODnet European Marine Observation and Data Network

Chemistry

Home About Data Access Data Products Promotion Helpdesk

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

OCEAN ACIDIFICATION **EUTROPHICATION** **POLLUTION**
MARINE LITTER

Discover Data Access Discover Data Products

News

16-19 July 2017
EMODnet Chemistry 3, Steering Committee and Kick-off meeting Trieste, Italy, 16-19 May, 2017. [READ MORE](#)

10-11 July 2017
EMODnet Chemistry 3, Steering Committee and Kick-off meeting Trieste, Italy, 16-19 May, 2017. [READ MORE](#)

6-3 June 2017
EMODnet Chemistry 3, Steering Committee and Kick-off meeting Trieste, Italy, 16-19 May, 2017. [READ MORE](#)

Product visualisation

Have a look at animations of the visualisation services for:
 * browsing the spatial distribution of surface phosphate concentrations in European waters over time from 1990 to 2010
 * browsing the geo coverage of associated data observation points and retrieving graphics of these data sets as time series and profiles

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