



Key achievements and outputs, collaborations and upcoming plans

14th EMODnet Steering Committee Meeting
Spring 2021
19-20 April

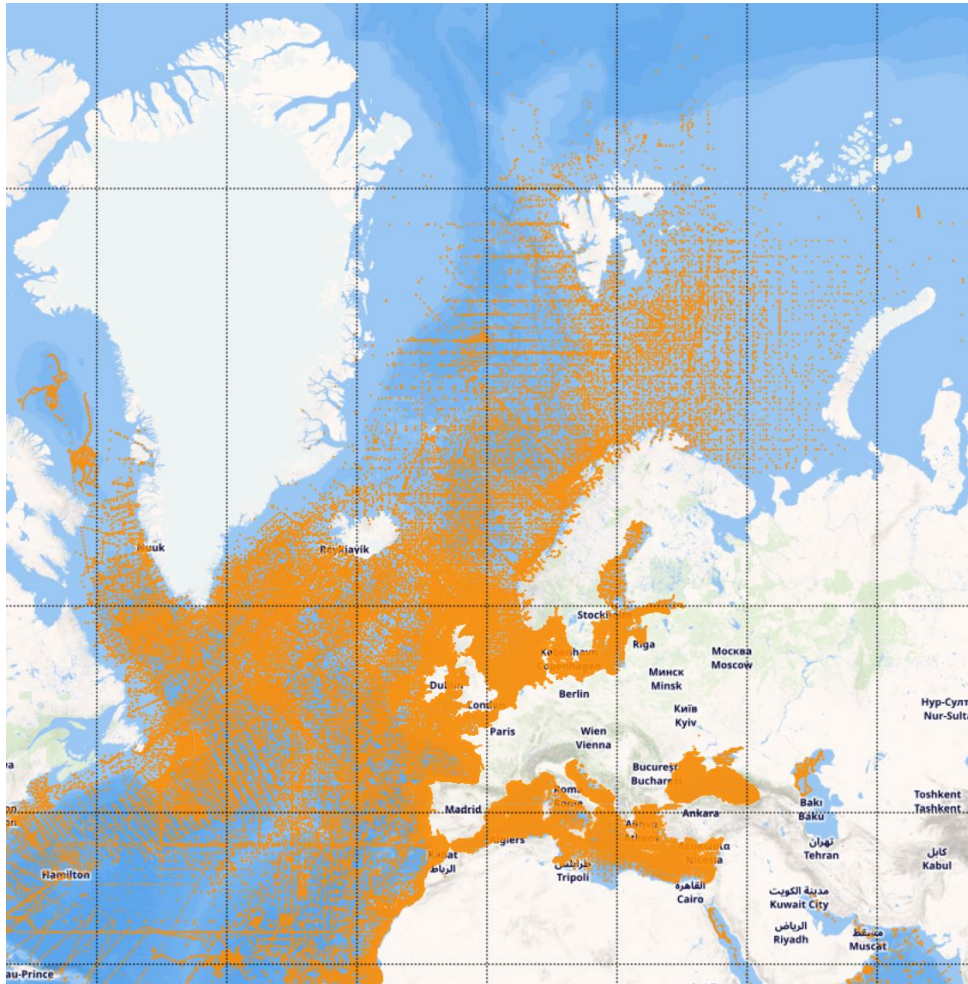
Alessandra Giorgetti
Dick Schaap

Chemistry Thematic portal
<https://www.emodnet-chemistry.eu/>

EMODnet Chemistry update: November 2020 – April 2021

➤ M12 – M18

- **Consolidation** of data access service supplied by a network of 65 data centers mobilized by EMODnet Chemistry. Completing or amending the data already available or enriching metadata.



CDI service – coverage April 2021

■ CDI records and data sets:

June 2014: **661095**;

June 2016: **807959**;

Feb 2018: **939400**;

June 2020: **1010933**;

Apr 2021: **1051948**

■ **65** Data Centres

■ **32** Countries

■ **490** Originators

■ **1868 – 2021** years

■ **89.5%** unrestricted

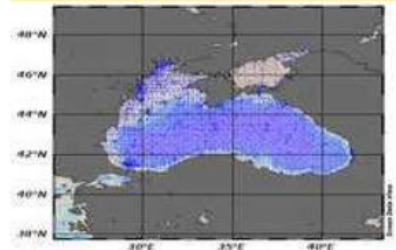
■ **10.5%** to be negotiated

EMODnet Chemistry update: November 2020 – April 2021

- **Release** of the new regional standardised, harmonized, validated data collections for all European seas for Eutrophication and Ocean Acidification, Contaminants, Beach and Seafloor Litter.
- **Finalisation** of the pan-European beach litter database for EU JRC/TG ML, updated with the collection of monitoring data by all EU Member States covering 2016 to 2020.

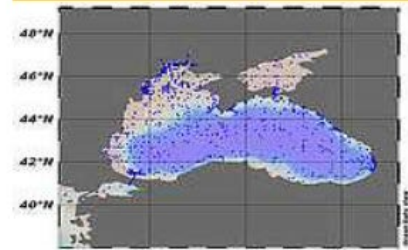
Eutrophication (nutrients, chlorophyll and oxygen) and Acidity (alkalinity and pH) in seawater

BLACK SEA

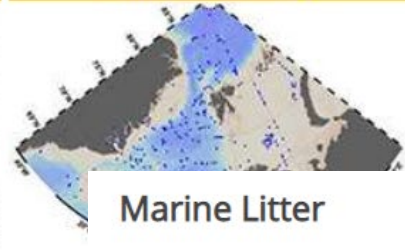


Contaminants in seawater, biota and sediment

BLACK SEA



ARCTIC OCEAN



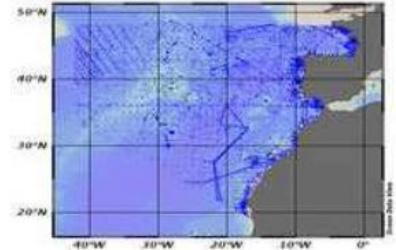
NORTH SEA



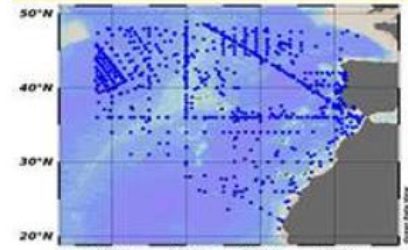
MEDITERRANEAN SEA



NORTHEAST ATLANTIC OCEAN



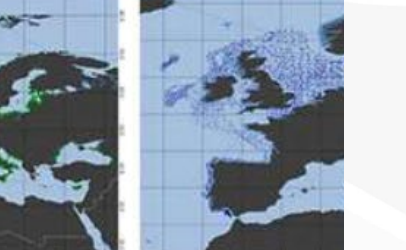
NORTHEAST ATLANTIC OCEAN



BEACH LITTER



SEAFLOOR

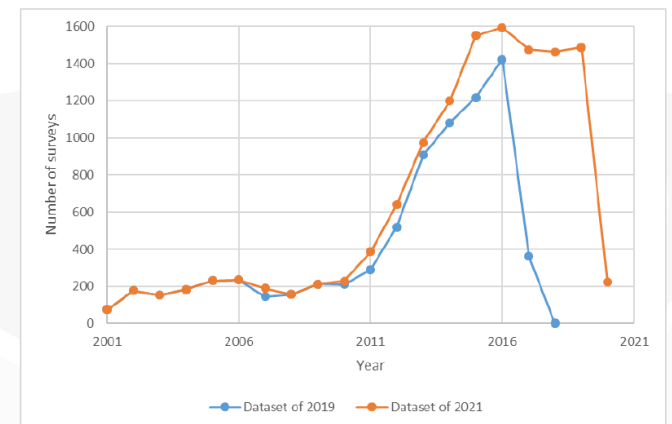


Marine Litter



Beach litter – Comparison between datasets

- Number of surveys per year:



Available to download as ODV

Available to download as ODV spread Available to download as EMODnet Beach litter

EMODnet Chemistry update: November 2020 – April 2021

- **Updating** of the online webODV service with the new harmonized, standardized, validated data collections. The tool offers MSFD users easy options for browsing, sub-setting, and exporting data sets into a number of formats. It helps scientists exploring data and preparing graphics, like ocean sections or horizontal maps.

The screenshot displays the EMODnet Chemistry webODV interface, showing two data collection pages side-by-side. The left page is for 'Mediterranean_Eutrophication_Profiles_DIN_TS' (Station ID: 67009) and the right page is for 'Arctic_eutrophication_DIN_TS' (Station ID: 34278).

Left Page: Mediterranean_Eutrophication_Profiles_DIN_TS

- Header:** CHEMISTRY Data & products on marine water quality. HELPDESK DATA PROTECTION NOTICE.
- Navigation:** webODV emodnet-chemistry > eutrophication > Mediterranean > Mediterranean_Eutrophication_Profiles_DIN_TS.odv
- Station ID:** 67009
- Accession Number:** 67009
- Cruise:** MTP11
- Station:** 22300
- Position:** 11.078
- Date:** 18 Jan
- Time:** 01:21:5
- Depth Range [m]:** [2.98 -
- LOCAL_CDI_ID:** 32126
- Sample:** 696 / 841
- Isosurface Values:**
 - 1: Depth [m] 691.5
 - 2: ITS-90 water temperature [c] 13.26
 - 3: Water body salinity [per mille] 38.53
 - 4: Water body dissolved oxyge 186.9
 - 5: Water body dissolved oxyge
 - 6: Water body nitrate [umol/l]
 - 7: Water body nitrate plus nitrit
 - 8: Water body nitrite [umol/l]
 - 9: Water body phosphate [umc
 - 10: Water body silicate [umol/l]
 - 11: Water body ammonium [un
 - 12: Water body urea [umol/l]
 - 13: Water body chlorophyll-a [r
 - 14: Water body chlorophyll-b [r
 - 15: Water body chlorophyll-c [r
 - 16: Water body phaeopigment:
 - 17: Water body total alkalinity [
 - 18: Water body dissolved inorg
 - 19: Water body carbon dioxide
 - 20: Water body total nitrogen [i
 - 21: Water body total phosphon
 - 22: Water body organic nitroge

- Figure 1:** Water body dissolved oxygen concentration [umol/l] vs Depth [m].
- Figure 2:** Water body salinity [per mille] vs Depth [m].
- Figure 3:** Horizontal map of the Mediterranean region showing sampling stations.
- Metadata:** Collection: Mediterranean_Eutrophication_Profiles_DIN_TS, User: 77.3.57.153, Date: 2020-11-09T18:12:20, Software: ODV-online v4 | odvws 5.3.5 / 24.

Right Page: Arctic_eutrophication_DIN_TS

- Header:** CHEMISTRY Data & products on marine water quality. HELPDESK DATA PROTECTION NOTICE.
- Navigation:** webODV emodnet-chemistry > eutrophication > Arctic > Arctic_eutrophication_DIN_TS.odv
- Station ID:** 34278
- Accession Number:** 34278
- Cruise:** 352
- Station:** 194 (B)
- Position:** 23.8°W / 61.816°N
- Date:** 27 July 1968
- Time:** 15:59:59
- Depth Range [m]:** [0.00 - 1510.00]
- LOCAL_CDI_ID:** RNODC_Bottle_352_194
- EDMO_code:** 681
- Rst Depth [m]:** 1520
- Sample:** 1 / 17
- Isosurface Values:**
 - 1: Depth [m] 0.00
 - 2: ITS-90 water temperature [12.50
 - 3: Water body salinity [per mil] 35.19
 - 4: Water body dissolved oxyg 296.55
 - 5: Water body dissolved oxyg
 - 6: Water body nitrate [umol/l]
 - 7: Water body nitrate plus nitr
 - 8: Water body nitrite [umol/l]
 - 9: Water body phosphate [um
 - 10: Water body silicate [umol/
 - 11: Water body ammonium [u
 - 12: Water body chlorophyll-a [
 - 13: Water body phaeopigmen
 - 14: Water body total alkalinity

- Figure 1:** Water body dissolved oxygen concentration [umol/l] @ Depth [m]=500.00 vs Depth [m].
- Figure 2:** Horizontal map of the Arctic region showing sampling stations.
- Metadata:** Collection: Arctic_eutrophication_DIN_TS, User: Reiner.Schiltzer.at.awi.de_emodnet_chem, Date: 2020-11-06T15:05:03, Software: ODV-online v4 | odvws 5.3.5 / 24.

EMODnet Chemistry update: November 2020 – April 2021

- **Release** of new beach litter maps, presented and discussed with the MSFD board of experts.
- **Expanding** data management portfolio with micro-litter in sediments and floating macro-litter.

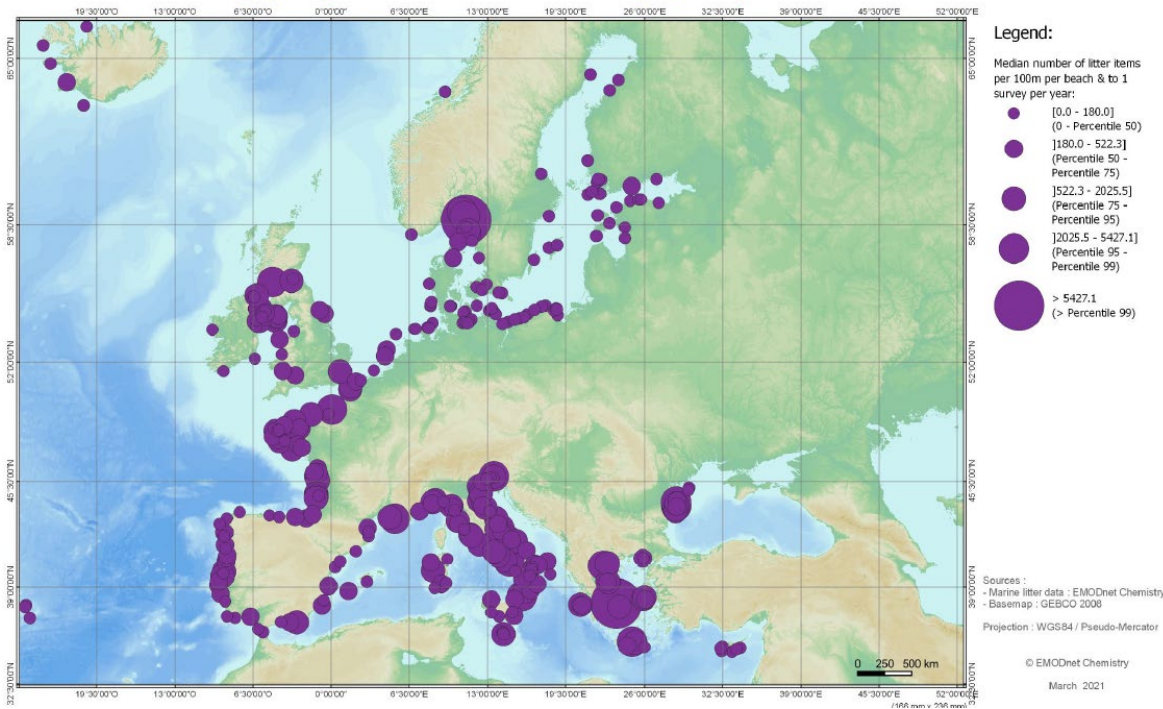
Beach litter – Data products updates



EMODNET CHEMISTRY - MARINE LITTER

Beach litter - Median number of litter items per 100m per beach & to 1 survey per year - Official monitoring (2019)

EMODnet



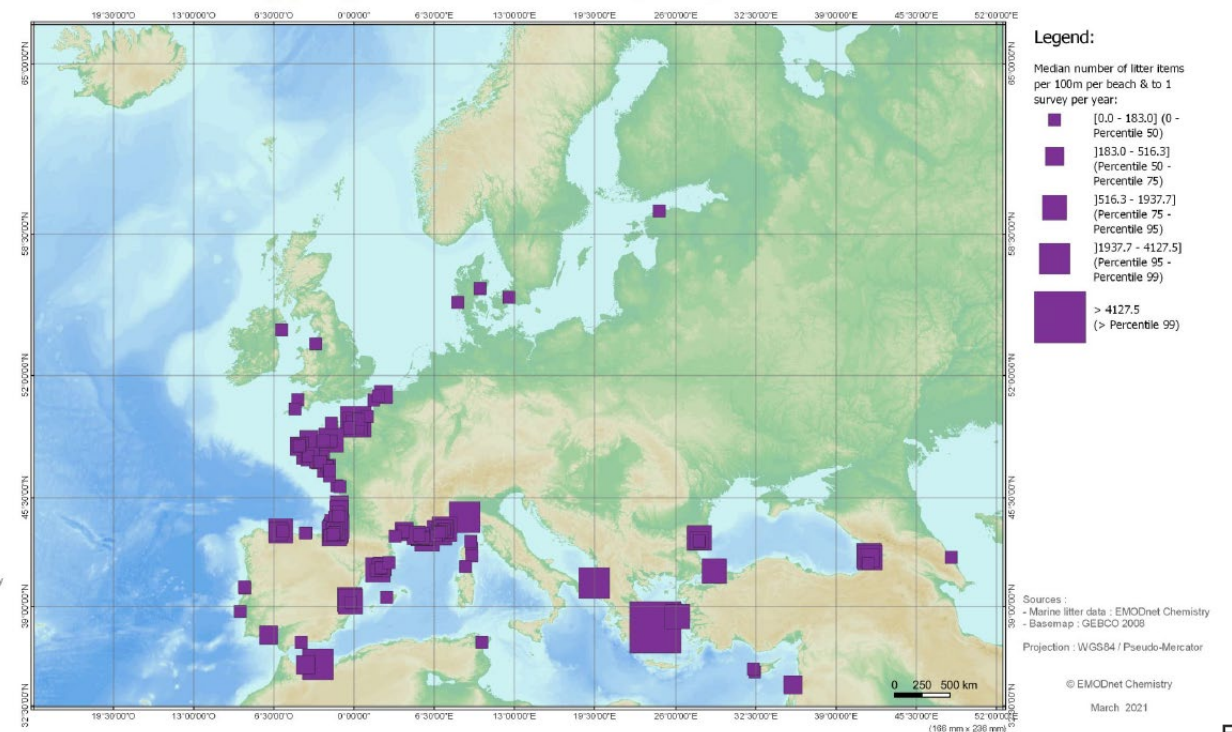
Beach litter – Data products updates



EMODNET CHEMISTRY - MARINE LITTER

Beach litter - Median number of litter items per 100m per beach & to 1 survey per year - Other sources (2019)

EMODnet



EMODnet Chemistry update: November 2020 – April 2021

- Consolidation of EMODnet Chemistry role as **European data management hub** for many kinds of marine litter data, accepted by the MSFD community, Regional Sea Conventions, and Member States.


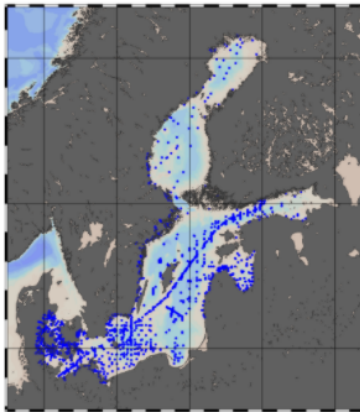
This block features a collage of documents and data management tools. At the top left is a document titled "JRC TECHNICAL REPORT Marine litter database" with authors Addamo, A.; Chaves Monteiro, M.; Hanke, G. M. Below it is a diagram of a data management system with a "17" in a box and the text "Joint Research Centre". To the right is another "JRC TECHNICAL REPORTS" document titled "EU Marine Beach Litter Baselines" with the subtitle "Analysis of a pan-European beach litter dataset" and authors Hanke, G.; Walvoort, D.; Van Loon, W.; Addamo, M.; Chaves Monteiro, M.; Molina Jack, M.E. V. Below this is a "MSFD Technical Group on Marine Litter 2019" logo. On the right side of the collage is a "JRC TECHNICAL REPORTS" document titled "A European Threshold Value and Assessment Method for Macro Litter on Coastlines" with the subtitle "Guidance developed within the Common Implementation Strategy for the Marine Strategy Framework Directive" and authors MSFD Technical Group on Marine Litter, dated 2020. The bottom right of the collage shows a photograph of a sandy beach with a small "Joint Research Centre" logo and the text "EUR 30347 E".

This block contains the EMODnet logo at the top right, which includes the text "EMODnet European Marine Observation and Data Network". Below the logo is the text "EMODnet Thematic Lot n°4 – Chemistry" and "EASME/EMFF/2018/1.3.1.8". Further down is the text "Proposal for Floating Marine Macro litter data management at European level". At the bottom of the block, there is a small European Union flag logo and the text "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."

EMODnet Cross-Thematic Interactions

- EMODnet (Chemistry) and Mercator Ocean International have jointly drafted a **shared data product portfolio** with the available marine data and data products (in situ, satellite, models), **relevant** for the implementation of the **MSFD**. In the Baltic Sea, the draft catalogue includes 246 EMODnet/CMEMS data products, covering almost all Descriptors.
- The portfolio will be promoted at the EMODnet Jamboree. An on-line version is planned.

Habitat

<p>Product name: Baltic seabed habitat predictive multi-scale map</p> <p>Type: model</p>		
<p>Service source</p> <p>Name ID: EMC Europe (EUSea)</p> <p>Variables: habi</p> <p>types (as defin</p> <p>Scale: multi-sc</p> <p>Temporal cove</p> <p>Temporal reso</p> <p>Update freque</p> <p>Product releva</p> <p>Viewer.</p>	<p>Product name: Baltic sea surface and depth reprocessed chlorophyll at measurement points</p> <p>Type: in situ</p> <p>Service source: EMODnet Chemistry</p> <p>Name ID: Eutrophication and Acidity aggregated datasets v2018, DOI: 10.6092/595D233C-3F8C-4497-8BD2-52725CEFF96B</p> <p>Variables: chlorophyll-a ($\text{mg}\cdot\text{m}^{-3}$)</p> <p>Spatial resolution: at measurement point, all water depths</p> <p>Temporal coverage: 1974 to 2017</p> <p>Temporal resolution: instantaneous</p> <p>Update frequency: yearly or biannual</p> <p>Product relevancy: at measurement points</p>	

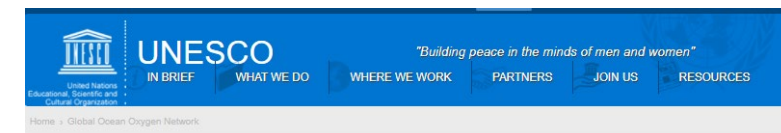
- D1 - 47 EMODnet/CMEMS data products
- D2 - 3 EMODnet/CMEMS data products
- D4 - 43 EMODnet/CMEMS data products
- D5 - 28 EMODnet/CMEMS data products
- D6 - 16 EMODnet/CMEMS data products
- D7 - 44 EMODnet/CMEMS data products
- D8 - 28 EMODnet/CMEMS data products
- D9 - 6 EMODnet/CMEMS data products
- D10 - 13 EMODnet/CMEMS data products
- D11 - 18 EMODnet/CMEMS data products



External interactions

- Contribution to the Global **Oxygen** Data Platform (white paper)
- Contribution to the SDG 14.3.1 data portal (**Ocean Acidification**)
- Dissemination of the **UN SDG 14 questionnaire** & promotional video

- EMODnet Chemistry provided valuable contributions to the completion of the **joint list of beach litter categories** and to the newly released manual



Global Ocean Oxygen Network

The Global Ocean Oxygen Network (GO2NE) is committed to providing a global and multidisciplinary view of deoxygenation, with a focus on understanding its multiple aspects and impacts.



The Network's scientific work, outreach, and capacity building efforts include facilitating communication with other established networks and working groups (e.g. IOCCP, GOOS, IGMETS, GOA-ON, GlobalHAB, WESTPAC OZNE), improving observations systems, identifying and filling knowledge gaps, as well as developing related capacity development activities. GO2NE is moreover preparing a summary on deoxygenation for policy makers.

In collaboration with SFB754, it recently initiated the news site ocean-oxygen.org to provide information on deoxygenation to scientists, stakeholders and the interested public.

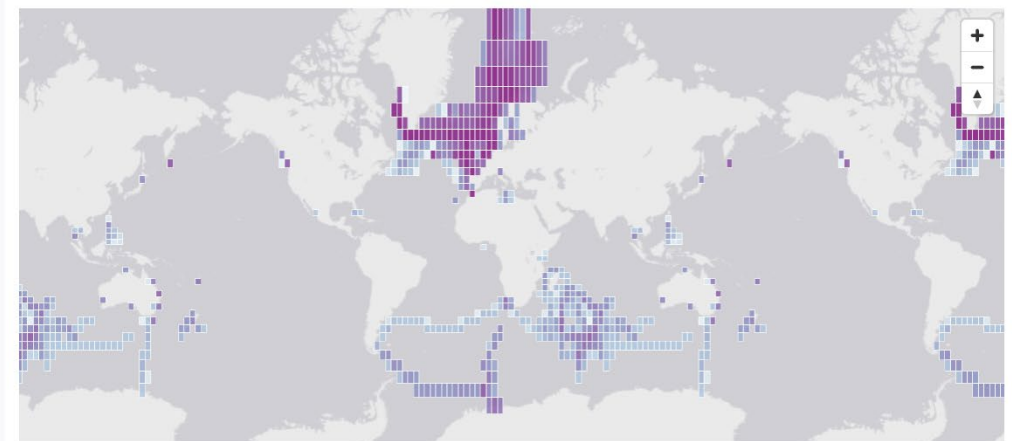
GO₂NE
Global Ocean Oxygen Network

Global Ocean Oxygen

SDG 14.3.1 data portal

Instructions FAQ My datasets Data Sign in

Welcome to the SDG 14.3.1 data portal



This SDG 14.3.1 Data Portal is a tool for the submission, collection, validation, storage and sharing of ocean acidification data and metadata submitted towards the Sustainable Development Goal 14.3.1 Indicator: Average marine acidity (pH) measured at agreed suite of representative sampling stations.

Future Outlook

- Undertake **micro-litter** data collection (water and sediment), involving EU Member States in contact with EMODnet data centers, following a request of TG ML
- Launch of marine litter, eutrophication and contaminants **maps** (after review by MSFD board of experts)
- Extension of **webODV Extractor** to contaminants
- Request to produce **infographic** for the data product workflow (showing the interaction & complementarity with CMEMS)
- Release of **promotional** video, mailing list, twitter, ...
- Consolidate input to **global** platforms (marine litter, oxygen, ocean acidification, ...)

EMODnet CHEMISTRY
Data & products on marine water quality

CONTACT US SUBMIT DATA

ABOUT DATA ACCESS DATA PRODUCTS PROMOTION HELPDESK

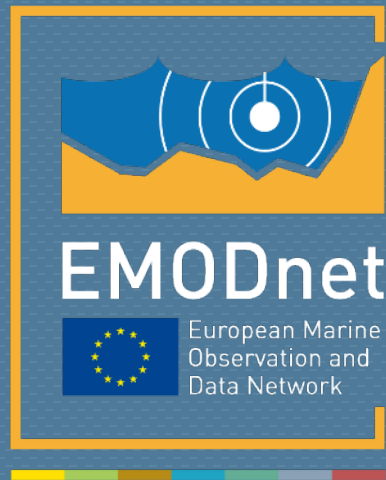
OCEAN ACIDIFICATION

EUTROPHICATION

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



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www.emodnet.eu

Your gateway to marine data in Europe

