



# EMODNet Thematic Lot n° 4 - Chemistry

10th Bi-monthly Report

Reporting Period: January – February 2015

Date: 16/03/2015

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# 1. Highlights in this reporting period

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This report gives an overview of the activities undertaken during the period January – February 2015. In this period EMODNet Chemistry 2 activities were mainly related to the following topics:

- Regional Leaders have been focused on the generation and delivery of the first set of aggregated datasets (time series, generated time series and profiles) and new products (interpolated maps with 10 years moving window).
- Deltares and ULg coordinated by MARIS have been focused on the development for the new WPS products (dynamic Station maps, dynamic Time Series plots, dynamic Profiles) and on the synchronization with Ocean Browser products viewing service.
- Implementation of the first prototype for Cloud hosting with Cineca and tuning of the viewing services.
- Videoconferences to regular check the progress for products generation and viewing services development.
- Analysis and report of responses from EMODNet Chemistry and SeaDataNet joint survey.
- First contacts with JRC (through Andrej Abramic) to discuss possible interactions and collaborations between INSPIRE Marine Pilot and EMODnet Chemistry .

## 2. Meetings held since last report

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Date	Location	Topic	Short Description
27 Februari 2015	Brussels - Belgium	2nd MSFD-EMODnet meeting	Meeting organised by EMODnet secretariate together with DG MARE, EEA, DG Env, RSC's, and EMODnet Chemistry, Biology and Human Activities. Presentation and discussion of first new products and services of EMODnet Chemistry.
19 January 2015	Web meeting	Meeting with Regional leaders	To monitor progress of regional products
2 February 2015	Web meeting	Meeting with Regional leaders	To monitor progress of regional products
13 February 2015	Web meeting	Meeting with Regional leaders	To monitor progress of regional products

### 3. Specific challenges or difficulties encountered during the reporting period

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- Efforts of the Regional Leaders to perform and complete the data validation loop (e.g. handling of the high values near rivers delta)
- Generation of aggregated datasets for the analysis and viewing services:
  - Profiles
  - “Real” Time series → from monitoring programs
  - “Generated” Time series → from repeated profiles
- Testing of the last DIVA interpolating tool versions
- Interpolated maps generation and validation
- Tuning of viewing services (e.g. WPS services working with Ocean Browser viewing services)

## 4. Outreach and communication activities

Date	Media	Title	Short description and/or link to the activity
09-10 February 2015	Oral presentation		Varna, Bulgaria. EMODnet Chemistry was presented to government and stakeholder meeting.
11-12 February 2015	Oral presentation		Sofia, Bulgaria. EMODnet Chemistry was presented to Ministries and experts of Ministry of transport and marine administration, Ministry of environment and water, Agency of Fishing and Aquaculture, Ministry of Regional Development.
18-20 February 2015	Oral presentation		Tbilisi, Georgia. EMODnet Chemistry was presented to Vice ministries and experts of Ministry of transport, Marine administration, Ministry of environment and water, Agency of Fishing and Aquaculture, Ministry of Regional Development. Stakeholders. Black sea clusters.
23-25 February 2015	Oral presentation		Bucharest, Romania. EMODnet Chemistry was presented to Vice ministries and experts of Ministry of transport, Marine administration, Ministry of environment and water, Agency of Fishing and Aquaculture, Ministry of Regional Development. Stakeholders. Black sea clusters.
26 February 2015	Oral presentation		Constanta, Romania. EMODnet Chemistry was presented to Mayor, vice mayor of Constanța and Stakeholders. Black sea companies.
27 February 2015	Oral presentation		Ankara, Turkey. EMODnet Chemistry was presented to experts of KEY Ministries, stakeholders, private companies, NGOs.
27th of February 2015	Oral presentation	2nd MSFD - EMODNet Meeting	Aim of the meeting was to consider and discuss EMODnet (Chemistry 2) product development with relevance for MSFD and marine environmental monitoring and reporting.



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## 5. Updates on Progress Indicators

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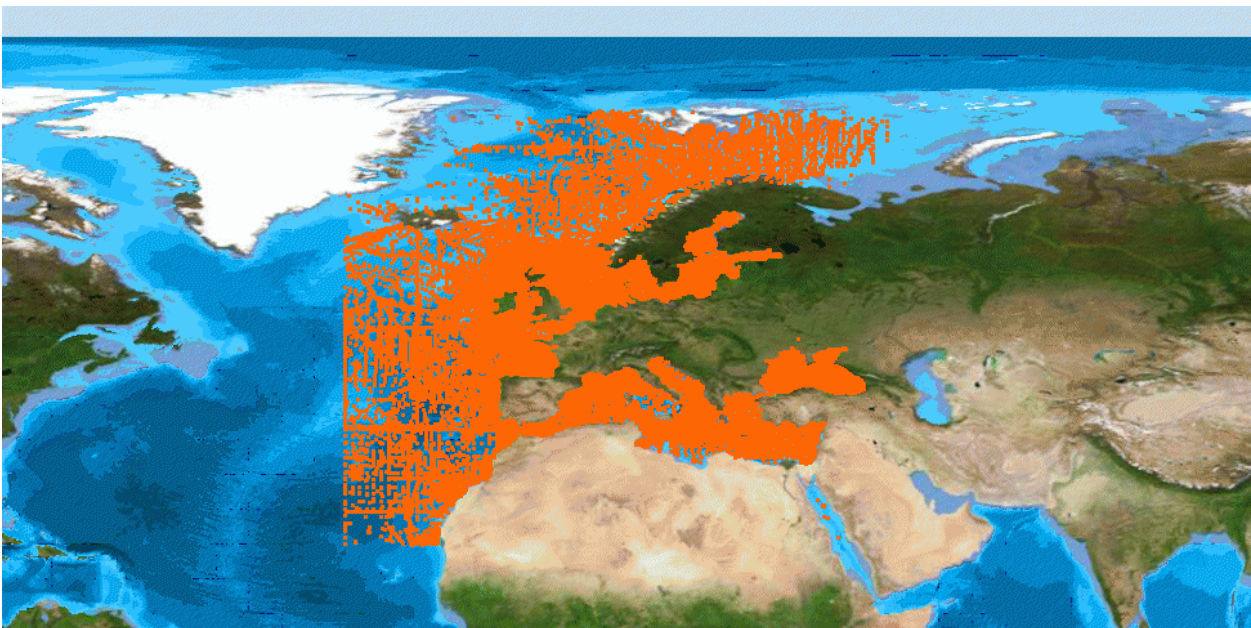
### *Indicator 1 - Volume of data made available through the portal*

The total number of CDIs for Chemistry data sets has increased from **709167** to **738577**. This increase is due to revision and new entry activities by the data providers.

This covers the whole globe. Specifically relevant for European waters has increased from **629343** to **655992**.

Lat Long box: **N80, W-30; N20, E45**

Of these, **553569** are unrestricted (unrestricted and SeaDataNet license), while others (**102423**) require (possible) negotiation due to restrictions.



Note: a division per MSFD region will be provided in future progress reports, once the boundaries of the MSFD regions have been cleared by EEA and DG Environment, and integrated into the CDI User Interface.



The division per **Discovery Parameter** is as follows:

Parameter	No of CDI	No restrictions	Restrictions
Dissolved oxygen parameters in the water column	435143	390182	44961
Salinity of the water column	416409	372930	43479
Temperature of the water column	410274	371788	38486
Phosphate concentration parameters in the water column	287169	246564	40605
Nitrate concentration parameters in the water column	239504	202207	37297
Silicate concentration parameters in the water column	224195	189255	34940
Chlorophyll pigment concentrations in the water column	178358	156684	21674
Ammonium concentration parameters in the water column	170811	143873	26938
Nitrite concentration parameters in the water column	159439	133086	26353
Vertical spatial coordinates	156162	111773	44389
Particulate total and organic nitrogen concentrations in the water column	91600	85455	6145
Alkalinity, acidity and pH of the water column	88550	66897	21653
Particulate total and organic phosphorus concentrations in the water column	84923	81600	3323
Density of the water column	80013	76574	3439
Dissolved total or organic phosphorus concentration in the water column	69783	60188	9595
Dissolved total and organic nitrogen concentrations in the water column	50457	48029	2428
Phaeopigment concentrations in the water column	33293	27228	6065
Concentration of suspended particulate material in the water column	24538	16490	8048
Electrical conductivity of the water column	23586	22638	948
Transmittance and attenuation of the water column	22586	21276	1310
Particulate total and organic carbon concentrations in the water column	21149	18380	2769
Raw fluorometer output	20725	13992	6733
Dissolved organic carbon concentration in the water column	17705	12367	5338
Concentration of inorganic sulphur species in the water column	13060	11373	1687
Moored instrument depth	12953	12924	29
Inorganic chemical composition of sediment or rocks	10404	2999	7405
Temperature variation in the water column	10336	10336	0
Redox potential in sediment	10092	0	10092
Visible waveband radiance and irradiance measurements in the water column	9495	7544	1951
Secchi disk depth	8920	4899	4021
Date and time	8762	8499	263
Dissolved inorganic nitrogen concentration in the water column	8756	5625	3131
Dissolved metal concentrations in the water column	7034	5219	1815
Concentration of polycyclic aromatic hydrocarbons (PAHs) in	6946	1678	5268

sediment samples			
Carbon concentrations in sediment	6354	727	5627
Nitrogen concentrations in suspended particulate material	6285	2624	3661
Metal concentrations in biota	6192	997	5195
Carbon concentrations in suspended particulate material	5941	2037	3904
Concentration of polychlorobiphenyls (PCBs) in sediment samples	5392	1352	4040
Raw temperature and/or salinity instrument output	5295	1803	3492
Raw oxygen sensor output	5185	1757	3428
Concentration of other organic contaminants in the water column	5033	2883	2150
Concentration of polychlorobiphenyls (PCBs) in biota	4897	224	4673
Unspecified	4719	4568	151
Optical backscatter	4399	1830	2569
Reference numbers	4178	3520	658
Sound velocity and travel time in the water column	4040	3978	62
Raw light meter output	3819	1155	2664
Variable fluorescence parameters	3737	3531	206
Sediment grain size parameters	3666	2653	1013
Sea level	3329	696	2633
Concentration of other hydrocarbons in the water column	3040	2302	738
Pesticide concentrations in biota	2831	704	2127
Carotenoid pigment concentrations in the water column	2676	449	2227
Unclassified pigment concentrations in the water column	2676	449	2227
Concentration of other organic contaminants in sediment samples	2317	2173	144
Radioactivity in the water column	2104	886	1218
Particulate metal concentrations in the water column	1982	993	989
Raw suspended particulate material concentration sensor output	1869	1723	146
Concentration of polycyclic aromatic hydrocarbons (PAHs) in biota	1797	231	1566
Concentration of other organic contaminants in biota	1676	0	1676
Pesticide concentrations in water bodies	1625	987	638
Total metal concentrations in water bodies	1537	688	849
Pesticide concentrations in sediment	1419	1072	347
Dissolved concentration parameters for other gases in the water column	1310	952	358
Light absorption in the water column	1235	1235	0
Lithology	1090	599	491
Concentration of polycyclic aromatic hydrocarbons (PAHs) in suspended particulate material	1051	1051	0
Organometallic species concentration parameters in sediments	1025	701	324
Primary production in the water column	1018	648	370
Urea concentration parameters in the water column	985	676	309
Concentration of organic matter in sediments	923	86	837
Concentration of polychlorobiphenyls (PCBs) in the water column	881	871	10
Nitrogen concentrations in sediment	871	282	589
Concentration of carbohydrates, phenols, alkanols (alcohols),	797	0	797

ethers, aldehydes and ketones in sediment			
Sea level expressed as pressure	734	734	0
Sediment water content, porosity and surface area	695	648	47
Suspended particulate material grain size parameters	669	114	555
Horizontal velocity of the water column (currents)	655	655	0
Concentration of other organic contaminants in suspended particulate material	648	648	0
Concentration of polycyclic aromatic hydrocarbons (PAHs) in the water column	570	553	17
Geological sample radioactivity	399	387	12
Phosphorus concentrations in suspended particulate material	332	60	272
Phytoplankton taxonomic abundance in water bodies	332	332	0
Total dissolved inorganic carbon (TCO <sub>2</sub> ) concentration in the water column	324	210	114
Terrestrial detritus in the water column suspended particulate material	322	322	0
Organometallic species concentration parameters in biota	318	252	66
Bacteria generic abundance in water bodies	293	257	36
Metadata parameters	287	286	1
Acoustic backscatter in the water column	283	283	0
Dissolved trace metalloid concentrations in the water column	253	4	249
Zooplankton and zoobenthos morphological parameters	220	220	0
Concentration of carbohydrates, phenols, alkanols (alcohols), aldehydes and ketones in water bodies	194	194	0
Concentration of proteins in the water column	194	194	0
Concentration of alkanes in the water column	193	193	0
Suspended particulate material aggregates	176	176	0
Concentration of inorganic halogens in water bodies	168	168	0
Mineralogical composition	166	12	154
Concentration of polychlorobiphenyls (PCBs) in suspended particulate material	163	163	0
Shellfish morphology, age and physiology	163	97	66
Other halocarbon concentrations in water bodies	156	0	156
Regenerated production in water bodies	141	141	0
New production in water bodies	139	139	0
Oxygen production and respiration in the water column	136	136	0
Quality control flags	133	133	0
Other physical and chemical properties of suspended particulate material	132	132	0
Fish morphology, age and physiology	122	122	0
Phaeopigment concentrations in sediment	108	108	0
Raw in-situ nutrient analyser output	105	105	0
Visible waveband radiance and irradiance measurements in the atmosphere	104	104	0
Geological sample density	80	0	80
Organosulphur species concentration parameters in the water	76	76	0

column			
Concentration of inorganic sulphur species in sediment	66	46	20
Bacteria non taxonomy-related biomass expressed as carbon per unit volume of the water column	63	0	63
Colloidal organic carbon concentration in the water column	60	60	0
Excretion rate parameters in the water column	55	55	0
Nitrification rate in the water column	54	54	0
Horizontal spatial co-ordinates	50	50	0
Stable isotope enrichment in the water column	46	20	26
Concentration of dissolved organic matter in the water column	44	0	44
Concentration of adenylates in the water column	38	38	0
Radioactivity in biota	38	38	0
Bacterial production in the water column	36	0	36
Phytoplankton generic abundance in water bodies	36	0	36
Phytoplankton generic biomass in water bodies	36	0	36
Trace metalloid concentrations in biota	33	0	33
Water body lipid concentrations	32	32	0
Phytoplankton taxonomic biomass in water bodies	30	30	0
Air temperature	29	27	2
Air pressure	28	28	0
Plankton biomass expressed as carbon per unit volume of the water column	27	0	27
Wind strength and direction	27	27	0
Concentration of silicon species in the water column	24	9	15
Wave direction	23	23	0
Wave height and period statistics	23	23	0
Geological sample magnetic, electrical and acoustic properties	22	0	22
Concentration of aliphatic hydrocarbons in sediment samples	20	0	20
Zoobenthos taxonomic abundance	17	17	0
Dissolved organic carbon concentrations in sediment pore waters	16	0	16
Nutrient concentrations in sediment pore waters	16	0	16
Zoobenthos taxonomy-related wet weight biomass per unit area of the bed	16	16	0
Chlorofluorocarbon concentrations in the water column	15	15	0
Organometallic species concentration parameters in water bodies	15	2	13
Zoobenthos dry weight biomass	14	14	0
Zooplankton taxonomy-related abundance per unit volume of the water column	14	14	0
Metal concentrations in sediment pore waters	7	0	7
Biota lipid concentrations	5	5	0
Atmospheric humidity	4	4	0
Platform or instrument orientation	4	4	0
Solar Radiation	4	4	0
Bathymetry and Elevation	3	3	0

Horizontal platform movement	3	3	0
Zooplankton taxonomy-related biomass expressed as carbon per unit volume of the water column	2	2	0
Dissolved oxygen concentration parameters in sediment pore waters	1	1	0
Engineering parameters	1	1	0
Sediment age	1	0	1
Sediment lipid concentrations	1	1	0
Water body released tracers	1	1	0

***Indicator 2 - Organisations supplying each type of data based on (formal) sharing agreements and broken down into country and organisation type (e.g. government, industry, science).***

Data Centre	Country	No of CDI	No restrictions	Restrictions
British Oceanographic Data Centre	United Kingdom	48986	22018	26968
German Oceanographic Datacentre (NODC)	Germany	17470	13643	3827
OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Division of Oceanography	Italy	48732	23234	25498
CNR, Institute of Marine Science U.O.S. of Pozzuolo di Lerici (SP)	Italy	484	1	483
Institute of Marine Science (ISMAR) - Ancona	Italy	2016	1	2015
ISAC - Institute of Atmospheric Sciences and Climate (Rome)	Italy	81	81	0
Institute of Fishery Resources (IFR)	Bulgaria	257	257	0
Institute of Meteorology and Water Management, Maritime Branch in Gdynia (IMWM MB)	Poland	2672	2240	432
Hellenic Centre for Marine Research, Hellenic National Oceanographic Data Centre (HCMR/HNODC)	Greece	9514	6779	2735
IEO/Spanish Oceanographic Institute	Spain	14318	6582	7736
Marine Institute	Ireland	7153	7153	0
Flanders Marine Institute	Belgium	1967	1967	0
IFREMER / IDM/SISMER	France	19560	19340	220
Swedish Meteorological and Hydrological Institute	Sweden	61766	61696	70
IHPT, Hydrographic Institute	Portugal	1862	1204	658
Polish Geological Institute - National Research Institute, Branch of Marine Geology (PGI BMG)	Poland	326	0	326
Institute of Marine Research - Norwegian Marine Data Centre (NMD)	Norway	30802	30802	0

NIOZ Royal Netherlands Institute for Sea Research	Netherlands	3829	3815	14
Netherlands Institute for Ecology, Centre for Estuarine and Marine Ecology	Netherlands	12894	2145	10749
All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)	Russian Federation	43623	43623	0
P.P.Shirshov Institute of Oceanology, RAS	Russian Federation	306	306	0
Southern Scientific Research Institute of Marine Fisheries and Oceanography	Ukraine	18228	18228	0
National Institute of Fisheries Research (INRH)	Morocco	326	0	326
Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology	Bulgaria	623	623	0
Iv.Javakhishvili Tbilisi State University, Centre of Relations with UNESCO Oceanological Research Centre and GeoDNA (UNESCO)	Georgia	445	445	0
Institute of Marine Sciences, Middle East Technical University	Turkey	8127	3257	4870
National Institute for Marine Research and Development "Grigore Antipa"	Romania	5202	3000	2202
Latvian Institute of Aquatic Ecology	Latvia	2091	2091	0
Institute of Oceanography and Fisheries	Croatia	1743	1743	0
International Ocean Institute - Malta Operational Centre (University Of Malta) / Physical Oceanography Unit	Malta	128	128	0
Cyprus Oceanography Center	Cyprus	527	499	28
Marine Systems Institute at Tallinn University of Technology	Estonia	16934	16934	0
State Oceanographic Institute (SOI)	Russian Federation	2103	0	2103
Marine Hydrophysical Institute	Ukraine	3669	2054	1615
Aarhus University, Department of Bioscience, Marine Ecology Roskilde	Denmark	184624	184624	0
International Council for the Exploration of the Sea (ICES)	Denmark	8987	8987	0
Karadeniz Technical University, Faculty of Marine Sciences	Turkey	247	29	218
Sinop University, Fisheries Faculty	Turkey	343	343	0
Dokuz Eylul University, Institute of Marine Science and Technology	Turkey	1603	0	1603
Istanbul University, Institute of Marine Science and Management	Turkey	256	88	168
Institute of Biology of the Southern Seas, NAS of Ukraine	Ukraine	998	998	0

Marine branch of Ukrainian Hydrometeorological Institute	Ukraine	11395	11395	0
Russian State Hydrometeorological University, St-Petersburg	Russian Federation	139	139	0
National Institute of Meteorology and Hydrology, Bulgarian Academy of Sciences	Bulgaria	837	600	237
Israel Oceanographic and Limnological Research (IOLR)	Israel	3623	3623	0
BRGM / Office of Geological and Mining Resources	France	1087	0	1087
Finnish Environment Institute	Finland	964	964	0
Ukrainian scientific center of Ecology of Sea (UkrSCES)	Ukraine	5912	5912	0
Scientific Research Institute of Ecological Problems (USRIEP)	Ukraine	4	4	0
Odessa National I.I.Mechnikov University	Ukraine	888	25	863
National Institute of Biology - NIBMarine Biology Station	Slovenia	7061	3412	3649
Institut National des Sciences et Technologies de la Mer – INSTM	Tunisia	783	21	762
Scientific - Research Firm "GAMMA"	Georgia	1030	1030	0
Rijkswaterstaat Water, Traffic and Environment	Netherlands	13197	13197	0
Institute of Geology and Geography of Nature Research Centre	Lithuania	118	118	0
Management Unit of North Sea and Scheldt Estuary Mathematical Models, Belgian Marine Data Centre	Belgium	9250	9250	0
Geological Survey of Estonia	Estonia	542	542	0
Finnish Meteorological Institute	Finland	7985	7985	0
Ankara University	Turkey	24	24	0
Taurida V.I. Vernadsky National University	Ukraine	55	0	55
Danube Hydro-meteorological Observatory	Ukraine	44	0	44
Faculty of Geography and Earth Sciences, University of Latvia (LU)	Latvia	721	721	0
National Environmental Agency of the Ministry of Environment Protection and Natural Resources	Georgia	10	10	0
Institute of Marine Biology (IMBK)	Montenegro	13	13	0
ISPRA-Institute for Environmental Protection and Research	Italy	711	711	0
PANGAEA - Data Publisher for Earth & Environmental Science	Germany	2858	2858	0
Portuguese Institute of Ocean and Atmosphere	Portugal	919	57	862

These centers are government and research institutes. No industry.

Difference between end December 2014 and end February 2015:

<b>Data Centre</b>	<b>Country</b>	<b>No of CDI</b>	<b>No restrictions</b>	<b>Restrictions</b>
British Oceanographic Data Centre	United Kingdom	3371	3342	29
German Oceanographic Datacentre (NODC)	Germany	62	62	0
OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Division of Oceanography	Italy	14	0	14
Institute of Marine Science (ISMAR) - Ancona	Italy	274	0	274
Hellenic Centre for Marine Research, Hellenic National Oceanographic Data Centre (HCMR/HNODC)	Greece	772	-11	783
IEO/Spanish Oceanographic Institute	Spain	134	0	134
Marine Institute	Ireland	260	260	0
IFREMER / IDM/SISMER	France	11	10	1
Swedish Meteorological and Hydrological Institute	Sweden	-827	-827	0
All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)	Russian Federation	14319	14319	0
Iv.Javakhishvili Tbilisi State University, Centre of Relations with UNESCO Oceanological Research Centre and GeoDNA (UNESCO)	Georgia	20	20	0
Institute of Marine Sciences, Middle East Technical University	Turkey	238	0	238
National Institute for Marine Research and Development "Grigore Antipa"	Romania	-6	-6	0
Latvian Institute of Aquatic Ecology	Latvia	10	10	0
Marine Systems Institute at Tallinn University of Technology	Estonia	13	13	0
International Council for the Exploration of the Sea (ICES)	Denmark	6690	6690	0



Management Unit of North Sea and Scheldt Estuary Mathematical Models, Belgian Marine Data Centre	Belgium	66	66	0
PANGAEA - Data Publisher for Earth & Environmental Science	Germany	264	264	0

***Indicator 3 - Organisations that have been approached to supply with no result, including type of data sought and reason why it has not been supplied.***

Nothing to report.

***Indicator 4 - Volume of each type of data and of each data product downloaded from the portal***

Time period 1 January 2015 – 28 February 2015:

RSM => EMODNet Chemistry portal

No of CDI basket transactions: **12**

No of CDIs requested: **19907**

Different users: **6**

Different data centres: **23**

**Regional Data products from OceanBrowser viewing service:**

**DIVA data product (direct download or OPENDAP)**

Data product	Downloads
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of water body nitrate (1920-2011)	4
Black Sea->Annual distribution->Annual distribution of Alkalinity in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	2
North Sea->DIVA 4D analysis of water body nitrate (1970-2009)	1
Mediterranean Sea->Gulf of Athens->Mean distribution (1990-1999)->DIVA 4D analysis of water body dissolved cadmium	1
Total	8

**DIVA data product (Web Map Service)**

Region	Downloads
Black Sea->Annual distribution->Annual distribution of Alkalinity in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	20778
Mediterranean Sea->Monthly climatological (1998-2007) sea surface chlorophyll concentration over Mediterranean sea (1/16 degree grid)	7855
North Sea->DIVA 4D analysis of water body nitrate (1970-2009)	3044
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of water body nitrate (1920-2011)	872
Mediterranean Sea->DIVA 4D analysis of water body ammonium (1890-2008)	845
North Sea->DIVA 4D analysis of water body phosphate (1970-2009)	721
Mediterranean Sea->DIVA 4D analysis of water body dissolved oxygen concentration (1890-2008)	478
Mediterranean Sea->DIVA 4D analysis of water body chlorophyll (1890-2008)	464
North Sea->DIVA 4D analysis of water body nitrite (1970-2009)	447
Mediterranean Sea->DIVA 4D analysis of water body nitrate (1890-2008)	393
Black Sea->Monthly distribution->Monthly distribution of Phosphate concentration in the Black Sea. QC of MHI, generated by DIVA.	288
Mediterranean Sea->DIVA 4D analysis of water body phosphate (1890-2008)	204
Black Sea->Annual distribution->Annual distribution of Nitrates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	117
Black Sea->Annual distribution->Annual distribution of Nitrites in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	115
Mediterranean Sea->Balearic Sea->Fall->DIVA 4D analysis of water body nitrite	98
Black Sea->Monthly distribution->Monthly distribution of Oxygen in the Black Sea. QC of MHI, generated by DIVA.	96
Mediterranean Sea->North Adriatic->Nitrate	79
Mediterranean Sea->Levantine Basin->DIVA 4D analysis of water body phosphate	69
Mediterranean Sea->Gulf of Athens->Mean distribution (1990-1999)->DIVA 4D analysis of water body dissolved cadmium	62
Black Sea->Annual distribution->Annual distribution of Phosphates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	44
Black Sea->Annual distribution->Annual distribution of Zinc in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	41
Mediterranean Sea->Gulf of Athens->Annual distribution (1987-1994)->DIVA 4D analysis of water body nitrate	24
Black Sea->Annual distribution->Annual distribution of Oxygen in the Black Sea for the period 1957-2011. QC of MHI, generated by DIVA.	24
Black Sea->Seasonal distribution->Seasonal distribution of Nitrite in the Black Sea. QC of MHI, generated by DIVA.	23
Black Sea->Monthly distribution->Monthly distribution of Nitrite concentration in the Black Sea. QC of MHI, generated by DIVA.	16
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of water body total alkalinity (1920-2011)	15

Mediterranean Sea->Balearic Sea->Summer->DIVA 4D analysis of water body nitrite	12
Black Sea->Annual distribution->Annual distribution of Ammonium in the Black Sea. QC of MHI, generated by DIVA.	1
Black	1
Total	37226

Note: The download count represents the individual WMS tiles.

Time series	
Region	Downloads
Greater North Sea	11
Adriatic	7
Black Sea	6
Western Mediterranean Sea	2
Total	26

### ***Indicator 5 - Organisations that have downloaded each data type***

From CDI service:

OGS, Italy  
IMR, Norway  
CNR, Italy  
CEAB-CSIC, Spain

***Indicator 6 - Using user statistics to determine the main pages utilised and to identify preferred user navigations routes***

Time period 1 January 2015 – 28 February 2015:

Chemistry main portal: [www.EMODNet-Chemistry.eu](http://www.EMODNet-Chemistry.eu)

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2015	20	30	110	110	606.92 KB
Feb 2015	12	21	24	24	1.39 MB

Chemistry Products – Ocean Browser service:

<http://oceanbrowser.net/emodnet/>

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2015	71	108	29,866	34,647	296.82 MB
Feb 2015	124	327	47,662	74,613	3.12 GB

Chemistry CDI data discovery and access service:

[http://emodnet-Chemistry.maris2.nl/v\\_cdi\\_v3/search.asp](http://emodnet-Chemistry.maris2.nl/v_cdi_v3/search.asp)

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2015	152	245	3,521	8,849	157.93 MB
Feb 2015	162	323	3,846	10,607	197.77 MB

***Indicator 7 - List of what the downloaded data has been used for (divided into categories e.g. Government planning, pollution assessment and (commercial) environmental assessment, etc.)***

Nothing to report.

***Indicator 8 - List of organisations that have downloaded data from more than one portal in a given space of time e.g. 2 weeks (assumed to be for a single project).***

Nothing to report.

***Indicator 9 - Interoperability of data of different types and from different portals***

Nothing to report.

***Annex X***

*Nothing to annex.*