



EMODNet Thematic Lot n° 4 - Chemistry

8th Bi-monthly Report

Reporting Period: September – October

Date: 21/11/2014

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1. Highlights in this reporting period

This report gives an overview of the activities undertaken during the period September-October 2014. EMODNet Chemistry activities during this period were mainly related to:

- Development of two new product types (prototype) defined as Dynamic Time Series plots and Dynamic Station maps. In first instance these products will cover nutrients only but this should be extended to other parameters in the future. The products are not yet publicly available for the moment but will be accessible through the OceanBrowser Viewing and Sextant Discovery service on the portal available here: http://www.emodnet-chemistry.eu/data_products.html
- Finalization of the methodology for Data Quality Assurance and Quality Control (QA/QC) of data underlining the DIVA products. Description of the methodology is available on the portal for download http://www.emodnet-chemistry.eu/paris_03_09_2014.html.
- Set up of the environments for the Cloud hosting, agreed with Cineca with a series of videoconferences and mail exchange.
- Inventory of data Quality Checks to harmonise the quality control procedures in place at the data centers (involving the whole partnership) – now collecting information from partnership – result will be published.
- A joint EMODNet Chemistry and SeaDataNet2 user-panel has been set up with first task to complete a Survey which was circulated end October 2014). Results are expected in December 2014.

2. Meetings held since last report

Date	Location	Topic	Short Description
3rd September	Paris, France	Data QA/QC and DIVA Products	Meeting with Regional Leaders, DIVA and developers about data quality control and interpolated maps generation.
8-9 September	Bruxelles, Belgium	How EMODNet could meet MSFD needs	Meeting with stakeholders and MSFD main actors to drive the EMODNet developments.
23 September	Split, Croatia	EMODNet Chemistry Technical Working Group	Meeting for technical development of Chemistry Lot tools and services.

3. Outreach and communication activities

Date	Media	Title	Short description and/or link to the activity
6-9 October	Rome, Italy	<i>EurOcean2014</i>	<i>EMODnet@EuroOCEAN2014 pre-event and participation to EurOcean conference.</i>

4. Updates on Progress Indicators

Indicator 1 - Volume of data made available through the portal

The total number of CDIs for chemistry data sets has decreased from: **677310 to 675765**. This decrease is due to a revision of data sets managed by one of the data providers, including an aggregation of data resulting in less CDIs.

This covers the whole globe. Specifically relevant for European waters have decreased from: **603252 to 600122**

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

Of these **501343** are unrestricted (unrestricted and SeaDataNet license), while others (**98779**) 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	401730	357766	43964
Salinity of the water column	380928	339208	41720
Temperature of the water column	375108	337935	37173
Phosphate concentration parameters in the water column	248924	209283	39641
Nitrate concentration parameters in the water column	215536	179261	36275
Silicate concentration parameters in the water column	194726	160783	33943
Ammonium concentration parameters in the water column	168099	141935	26164
Chlorophyll pigment concentrations in the water column	165763	144512	21251
Nitrite concentration parameters in the water column	137467	111548	25919
Vertical spatial coordinates	119525	76284	43241
Particulate total and organic nitrogen concentrations in the water column	90487	84368	6119
Alkalinity, acidity and pH of the water column	84205	62580	21625
Particulate total and organic phosphorus concentrations in the water column	82244	78921	3323
Density of the water column	76506	73096	3410
Dissolved total or organic phosphorus concentration in the water column	69976	60383	9593
Dissolved total and organic nitrogen concentrations in the water column	51005	48579	2426
Phaeopigment concentrations in the water column	26391	20460	5931
Concentration of suspended particulate material in the water column	23210	15191	8019
Particulate total and organic carbon concentrations in the water column	21668	19059	2609
Raw fluorometer output	20406	13836	6570
Electrical conductivity of the water column	20246	19432	814
Transmittance and attenuation of the water column	19711	18535	1176
Dissolved organic carbon concentration in the water column	18316	12978	5338
Moored instrument depth	13122	13122	0
Concentration of inorganic sulphur species in the water column	13060	11373	1687
Redox potential in sediment	10092	0	10092
Inorganic chemical composition of sediment or rocks	9956	2987	6969
Temperature variation in the water column	9935	9935	0
Secchi disk depth	8913	4867	4046
Dissolved inorganic nitrogen concentration in the water	8639	5508	3131

column			
Date and time	8493	8230	263
Visible waveband radiance and irradiance measurements in the water column	7758	5826	1932
Concentration of polycyclic aromatic hydrocarbons (PAHs) in sediment samples	6647	1657	4990
Nitrogen concentrations in suspended particulate material	6249	2614	3635
Dissolved metal concentrations in the water column	6221	5199	1022
Carbon concentrations in sediment	5977	704	5273
Metal concentrations in biota	5936	981	4955
Carbon concentrations in suspended particulate material	5915	2037	3878
Raw temperature and/or salinity instrument output	5295	1803	3492
Raw oxygen sensor output	5185	1757	3428
Concentration of polychlorobiphenyls (PCBs) in sediment samples	5135	1331	3804
Concentration of other organic contaminants in the water column	5011	2871	2140
Unspecified	4601	4450	151
Concentration of polychlorobiphenyls (PCBs) in biota	4593	218	4375
Optical backscatter	4387	1818	2569
Sound velocity and travel time in the water column	3986	3953	33
Variable fluorescence parameters	3737	3531	206
Raw light meter output	3731	1096	2635
Sediment grain size parameters	3650	2638	1012
Sea level	3329	696	2633
Concentration of other hydrocarbons in the water column	3030	2302	728
Reference numbers	2908	2279	629
Pesticide concentrations in biota	2697	698	1999
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	2268	2152	116
Radioactivity in the water column	2104	886	1218
Raw suspended particulate material concentration sensor output	1812	1723	89
Concentration of polycyclic aromatic hydrocarbons (PAHs) in biota	1655	217	1438
Pesticide concentrations in water bodies	1615	987	628
Concentration of other organic contaminants in biota	1479	0	1479
Total metal concentrations in water bodies	1451	688	763
Pesticide concentrations in sediment	1382	1072	310
Light absorption in the water column	1235	1235	0

Particulate metal concentrations in the water column	1199	993	206
Lithology	1090	599	491
Dissolved concentration parameters for other gases in the water column	1059	919	140
Concentration of polycyclic aromatic hydrocarbons (PAHs) in suspended particulate material	1051	1051	0
Primary production in the water column	1018	648	370
Organometallic species concentration parameters in sediments	990	701	289
Urea concentration parameters in the water column	985	676	309
Concentration of organic matter in sediments	922	77	845
Concentration of polychlorobiphenyls (PCBs) in the water column	871	871	0
Nitrogen concentrations in sediment	798	282	516
Sea level expressed as pressure	734	734	0
Sediment water content, porosity and surface area	694	648	46
Horizontal velocity of the water column (currents)	655	655	0
Suspended particulate material grain size parameters	653	114	539
Concentration of carbohydrates, phenols, alkanols (alcohols), ethers, aldehydes and ketones in sediment	648	0	648
Concentration of other organic contaminants in suspended particulate material	648	648	0
Concentration of polycyclic aromatic hydrocarbons (PAHs) in the water column	548	541	7
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 ₂) 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
Acoustic backscatter in the water column	283	283	0
Metadata parameters	235	235	0
Dissolved trace metalloid concentrations in the water column	221	4	217
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

Suspended particulate material aggregates	176	176	0
Concentration of inorganic halogens in water bodies	168	168	0
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
Other physical and chemical properties of suspended particulate material	132	132	0
Concentration of alkanes in the water column	122	122	0
Fish morphology, age and physiology	117	117	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	79	0	79
Organosulphur species concentration parameters in the water column	76	76	0
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
Mineralogical composition	47	12	35
Concentration of dissolved organic matter in the water column	44	0	44
Horizontal spatial co-ordinates	41	41	0
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
Wave direction	23	23	0
Wave height and period statistics	23	23	0
Concentration of silicon species in the water column	21	6	15
Geological sample magnetic, electrical and acoustic properties	21	0	21
Stable isotope enrichment in the water column	20	20	0
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
Zoobenthos dry weight biomass	14	14	0
Zooplankton taxonomy-related abundance per unit volume of the water column	14	14	0
Organometallic species concentration parameters in water bodies	13	0	13
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
Metal concentrations in sediment pore waters	3	0	3
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 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	43309	18625	24684
German Oceanographic Datacentre (NODC)	Germany	17406	13505	3901
OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Division of Oceanography	Italy	48718	23234	25484
CNR, Institute of Marine Science U.O.S. of Pozzuolo di Lerici (SP)	Italy	484	1	483
Institute of Marine Science (ISMAR) - Ancona	Italy	1742	1	1741
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	8741	6789	1952
IEO/Spanish Oceanographic Institute	Spain	14190	6587	7603
Marine Institute	Ireland	6893	6893	0
Flanders Marine Institute	Belgium	1967	1967	0
IFREMER / IDM/SISMER	France	19549	19330	219
Swedish Meteorological and Hydrological Institute	Sweden	62593	62523	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	13968	13968	0
NIOZ Royal Netherlands Institute for Sea Research	Netherlands	3673	3659	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	19192	19192	0
P.P.Shirshov Institute of Oceanology, RAS	Russian Federation	235	235	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	404	404	0

Institute of Marine Sciences, Middle East Technical University	Turkey	7889	3257	4632
National Institute for Marine Research and Development "Grigore Antipa"	Romania	5208	3006	2202
Latvian Institute of Aquatic Ecology	Latvia	1968	1968	0
Institute of Oceanography and Fisheries	Croatia	1625	1625	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	16951	16951	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	184783	184783	0
International Council for the Exploration of the Sea (ICES)	Denmark	2297	2297	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
Ukrainian scientific center of Ecology of Sea (UkrSCES)	Ukraine	6240	6240	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 Waterdienst	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	9184	9184	0
Geological Survey of Estonia	Estonia	542	542	0
Finnish Meteorological Institute	Finland	7985	7985	0
National Laboratory of Energy and Geology Ankara University	Portugal Turkey	919 24	48 24	871 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
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	2594	2594	0

These centres are government and research institutes. No industry.

Difference between end August 2014 and end October 2014 (only the institutes with a difference are listed):

Data Centre	Country	No of CDI	No restrictions	Restrictions
British Oceanographic Data Centre	United Kingdom	884	885	-1
OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Division of Oceanography	Italy	0	453	-453
CNR, Institute of Marine Science U.O.S. of Pozzuolo di Lerici (SP)	Italy	403	-80	483
Institute of Marine Science (ISMAR) - Ancona	Italy	105	0	105
ISAC - Institute of Atmospheric Sciences and Climate (Rome)	Italy	81	81	0
IFREMER / IDM/SISMER	France	1002	1004	-2
IHPT, Hydrographic Institute	Portugal	475	278	197
All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)	Russian Federation	3091	3091	0
P.P.Shirshov Institute of Oceanology, RAS	Russian Federation	-11657	0	-11657
Institute of Marine Sciences, Middle East Technical University	Turkey	-1	-1	0
National Institute for Marine Research and Development "Grigore Antipa"	Romania	0	0	0
Latvian Institute of Aquatic Ecology	Latvia	273	273	0
Cyprus Oceanography Center	Cyprus	9	0	9
Marine Systems Institute at Tallinn University of Technology	Estonia	100	100	0
State Oceanographic Institute (SOI)	Russian Federation	2103	0	2103
Karadeniz Technical University, Faculty of Marine Sciences	Turkey	2	0	2
Sinop University, Fisheries Faculty	Turkey	0	0	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 September 2014 – 31 October 2014:

RSM => EMODNet Chemistry portal

No of CDI basket transactions: **4**

No of CDIs requested: **247**

Different users: **4**

Different data centres: **6**

Regional Data products from OceanBrowser viewing service:

Data product	Downloads
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Nitrate, period 19202011	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.	3
Mediterranean Sea->Adriatic Sea->Nitrate	3
Mediterranean Sea->Gulf of Athens->Annual distribution (1987-1994)->DIVA 4D analysis of Nitrate	3
Mediterranean Sea->North Adriatic->Nitrate	2
Mediterranean Sea->Balearic Sea->Winter->DIVA 4D analysis of Nitrite	2
Mediterranean Sea->Balearic Sea->Fall->DIVA 4D analysis of Nitrite	2
North Sea->DIVA 4D analysis of Nitrate (1970-2009)	2
Mediterranean Sea->Balearic Sea->Nitrate	2
Mediterranean Sea->Adriatic->DIVA 4D analysis of Nitrate	2
Black Sea->Annual distribution->Annual distribution of CS-134 in the Black Sea	2
Black Sea->Annual distribution->Annual distribution of Nitrates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	2
Mediterranean Sea->Adriatic->DIVA 4D analysis of Phosphate	2
Mediterranean Sea->North Adriatic->Phosphate	2

Black Sea->Monthly distribution->Monthly distribution of Nitrite concentration in the Black Sea. QC of MHI, generated by DIVA.	2
Mediterranean Sea->Levantine Basin->DIVA 4D analysis of Nitrate	1
Black Sea->Annual distribution->Annual distribution of CS-137 in the Black Sea	1
Mediterranean Sea->Gulf of Athens->Annual distribution (1987-1994)->DIVA 4D analysis of Phosphate	1
Mediterranean Sea->DIVA 4D analysis of Phosphate (1890-2008)	1
Black Sea->Annual distribution->Annual distribution of Ammonium in the Black Sea. QC of MHI, generated by DIVA.	1
Mediterranean Sea->Monthly climatological (1998-2007) sea surface chlorophyll concentration over Mediterranean sea (1/16 degree grid)	1
Mediterranean Sea->Balearic Sea->Summer->DIVA 4D analysis of Nitrite	1
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1987-1994)->DIVA 4D analysis of Nitrate	1
Mediterranean Sea->DIVA 4D analysis of Nitrite (1890-2008)	1
North Sea->DIVA 4D analysis of Phosphate (1970-2009)	1
Black Sea->Monthly distribution->Monthly distribution of Silicate concentration in the Black Sea. QC of MHI, generated by DIVA.	1
Mediterranean Sea->Gulf of Athens->Annual distribution (1995-2007)->DIVA 4D analysis of Phosphate	1
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1995-2007)->DIVA 4D analysis of Nitrate	1
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1995-2007)->DIVA 4D analysis of Phosphate	1
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.	1
Black Sea->Annual distribution->Annual distribution of Nitrites in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	1
Black Sea->Annual distribution->Annual distribution of Nickel in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	1
North Sea->DIVA 4D analysis of Nitrite (1970-2009)	1
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1987-1994)->DIVA 4D analysis of Phosphate	1
Mediterranean Sea->Gulf of Athens->Annual distribution (1995-2007)->DIVA 4D analysis of Nitrate	1
Mediterranean Sea->Balearic Sea->Spring->DIVA 4D analysis of Nitrite	1
Black Sea->Monthly distribution->Monthly distribution of Oxygen in the Black Sea. QC of MHI, generated by DIVA.	1
Total	57

DIVA data product (Web Map Service)

Region	Downloads
Mediterranean Sea->Adriatic->Nitrate	28349
Mediterranean Sea->Gulf of Athens->Annual distribution (1987-1994)->DIVA 4D analysis of Nitrate	19114
Black Sea->Annual distribution->Annual distribution of Alkalinity in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	17667
North Sea->DIVA 4D analysis of Nitrate (1970-2009)	4054
Mediterranean Sea->DIVA 4D analysis of Ammonium (1890-2008)	1841
Mediterranean Sea->North Adriatic->Nitrate	1654
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Phosphate, period 19202011	1505
Mediterranean Sea->Adriatic->DIVA 4D analysis of Nitrate	1447
Mediterranean Sea->DIVA 4D analysis of Oxygen (1890-2008)	1381
Mediterranean Sea->DIVA 4D analysis of Nitrate (1890-2008)	1030
Black Sea->Annual distribution->Annual distribution of CS-134 in the Black Sea	961
Mediterranean Sea->DIVA 4D analysis of Phosphate (1890-2008)	901
Mediterranean Sea->Balearic Sea->Nitrate	892
North Sea->DIVA 4D analysis of Phosphate (1970-2009)	857
Mediterranean Sea->Balearic Sea->Fall->DIVA 4D analysis of Nitrite	764
North Sea->DIVA 4D analysis of Nitrite (1970-2009)	714
Mediterranean Sea->Balearic Sea->Summer->DIVA 4D analysis of Nitrite	659
Mediterranean Sea->DIVA 4D analysis of Nitrite (1890-2008)	625
Mediterranean Sea->Nitrate	560
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Alkalinity (1920-2011)	540
Mediterranean Sea->Gulf of Athens->Annual distribution (1987-1994)->DIVA 4D analysis of Phosphate	504
Mediterranean Sea->Balearic Sea->Phosphate	479
Mediterranean Sea->Levantine Basin->DIVA 4D analysis of Nitrate	415
Mediterranean Sea->Balearic Sea->Spring->DIVA 4D analysis of Nitrite	396
Mediterranean Sea->Balearic Sea->Winter->DIVA 4D analysis of Nitrite	343
Black Sea->Monthly distribution->Monthly distribution of Phosphate concentration in the Black Sea. QC of MHI, generated by DIVA.	307
Black Sea->Annual distribution->Annual distribution of CS-137 in the Black Sea	293
Mediterranean Sea->North Adriatic->Phosphate	268
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Nitrate, period 19202011	244
Mediterranean Sea->DIVA 4D analysis of Chlorophyll (1890-2008)	227
Mediterranean Sea->Adriatic->DIVA 4D analysis of Phosphate	205
Black Sea->Monthly distribution->Monthly distribution of Nitrite concentration in the Black Sea. QC of MHI, generated by DIVA.	187

Mediterranean Sea->Monthly climatological (1998-2007) sea surface chlorophyll concentration over Mediterranean sea (1/16 degree grid)	167
Mediterranean Sea->Gulf of Lions->DIVA 4D analysis of Phosphate (1971-2003)	148
Black Sea->Annual distribution->Annual distribution of Total nitrogen in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	142
Black Sea->Seasonal distribution->Seasonal distribution of Nitrate concentration in the Black Sea. QC of MHI, generated by DIVA.	126
Black Sea->Annual distribution->Annual distribution of Ammonium in the Black Sea. QC of MHI, generated by DIVA.	117
Black Sea->Annual distribution->Annual distribution of Silicates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	116
Black Sea->Annual distribution->Annual distribution of Arsenic in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	102
Black Sea->Annual distribution->Annual distribution of Oxygen in the Black Sea for the period 1957-2011. QC of MHI, generated by DIVA.	98
Black Sea->Monthly distribution->Monthly distribution of Oxygen in the Black Sea. QC of MHI, generated by DIVA.	97
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1995-2007)->DIVA 4D analysis of Nitrate	96
Black Sea->Annual distribution->Annual distribution of Alkalinity in the Black Sea. QC of MHI, generated by DIVA.	85
Mediterranean Sea->Gulf of Athens->Annual distribution (1995-2007)->DIVA 4D analysis of Nitrate	79
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1995-2007)->DIVA 4D analysis of Phosphate	53
Black Sea->Annual distribution->Annual distribution of Nitrites in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	50
Mediterranean Sea->Gulf of Athens->Mean distribution (2000-2010)->DIVA 4D analysis of Dissolved Lead	39
SEADATANET TS PROFILE SMALLTEST->Temperature	38
Black Sea->Annual distribution->Annual distribution of Wolfram in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	34
EMODNET-CHEMISTRY-QUADRIGE-POINTSRIESES->SiO4	32
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1987-1994)->DIVA 4D analysis of Nitrate	29
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of PH, period 19242011	24
Black Sea->Annual distribution->Annual distribution of Phosphates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	24
Mediterranean Sea->Gulf of Athens->Annual distribution (1995-2007)->DIVA 4D analysis of Phosphate	20
Black Sea->Monthly distribution->Monthly distribution of Alkalinity in the Black Sea. QC of MHI, generated by DIVA.	16

Black Sea->Annual distribution->Annual distribution of Nickel in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	15
Mediterranean Sea->Gulf of Athens->Seasonal distribution (1987-1994)->DIVA 4D analysis of Phosphate	15
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Ammonium, period 19202011	12
Mediterranean Sea->Gulf of Athens->Mean distribution (2000-2010)->DIVA 4D analysis of Dissolved Cd	12
Black Sea->Annual distribution->Annual distribution of Strontium in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	12
Mediterranean Sea->DIVA 4D analysis of Silicate (1890-2008)	12
Black Sea->Annual distribution->Annual distribution of Cuprum in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	12
Black Sea->Annual distribution->Annual distribution of Plumbum in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	12
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.	12
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Oxygen, period 19202011	12
Black Sea->Monthly distribution->Monthly distribution of Silicate concentration in the Black Sea. QC of MHI, generated by DIVA.	12
Black Sea->Annual distribution->Annual distribution of Cobalt in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	12
Black Sea->Seasonal distribution->Seasonal distribution of Alkalinity in the Black Sea. QC of MHI, generated by DIVA.	12
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Silicate, period 19202011	12
Mediterranean Sea->Levantine Basin->DIVA 4D analysis of Phosphate	12
Mediterranean Sea->Gulf of Athens->Mean distribution (1990-1999)->DIVA 4D analysis of Dissolved Lead	12
Black Sea->Annual distribution->Annual distribution of Chromium in the Kerch strait at the bottom depth for period 2007-2011. QC of MHI, generated by DIVA.	12
Black Sea->Seasonal distribution->DIVA 4D seasonal analysis of Nitrite, period 19202011	12
Mediterranean Sea->DIVA 4D analysis of pH (1890-2008)	12
SEADATANET TS PROFILE ATLANTIC->Temperature	8
SEADATANET TS PROFILE ATLANTIC->Practical Salinity	8
Black Sea->Annual distribution->Annual distribution of Nitrates in the Black Sea for the period of 1957-2011. QC of MHI, generated by DIVA.	1
Total	91366

Note: The download count represents the individual WMS tiles.

Time series	
Region	Downloads
Greater North Sea	22
Black Sea	12
Adriatic	12
Western Mediterranean Sea	10
Baltic	7
Total	63

Indicator 5 - Organisations that have downloaded each data type

From CDI service:

Intertek METOC, United Kingdom
OGS, Italy
University of Waterloo, Canada
ICES, Denmark

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

Time period 1 September 2014 – 31 October 2014:

Chemistry main portal: www.EMODNet-chemistry.eu

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Sep 2014	5	18	84	350	879.17 KB
Oct 2014	11	16	22	22	7.06 MB

Chemistry Products – Ocean Browser service:

<http://gher-diva.phys.ulg.ac.be/EMODNet/>

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Sep 2014	126	231	16,164	27,695	1.74 GB
Oct 2014	105	194	72,572	82,500	481.51 MB

Chemistry CDI data discovery and access service:

http://EMODNet-chemistry.maris2.nl/v_cdi_v3/search.asp

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Sep 2014	103	274	3,581	10,044	242.58 MB
Oct 2014	198	407	3,053	13,513	129.60 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.