EMODnet
European Marine Observation and Data Network

Your gateway to marine data in Europe

8th EMODnet Technical Working Group meeting

Feedback from EMODnet

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EMODnet Physics

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.

(Technical) Status update

- Data flow from repositories to EMODnet Physics was re-designed and re-organized (ERDDAP is central)
- "smart connectors" to link and map data sources that are available in different formats and technologies (and check and fill metadata with common vocs)
- Better management of source catalogues/formats update (e.g. CMEMS INSTAC annual major rel.)
- Linked/included planned products: PANGAEA; ICES, WOD2013 (CMEMS INS, IFREMER CORA 5.2; SDN T&S V.2); SOOP - Surf. pCO2 (SOCAT, GLODAP); JRC TAD;
- Matomo on landing, mapviewer, products pages, ERDDAP
- Joint work with Ingestion on RT SOS SWE demonstrator
- Upgrade of backend VMs to split further the service (and improve performances)

provider	NEXOS	IRCEL - CELINE	OBSEA	PIM	CNR + ARPA ER	HZG – FerryBox	SMHI	INOGS	MONALISA prj	52N server
Sensors	12	111	2	5	669	569	2825	15	31	83
Types	Trj	Time series	Time series	Time series	Time series	Time series	Time series	Time Series	Time Series	Time Series
Datasets	14	598	17	15	4	327585	4591	64	353	212

International Sources
ARGO program data → GDAC - Coriolis
Deep Ocean Multi-Disciplinary Ocean Reference Stations (OceanSITES – GDAC Coriolis)
Tropical Moored buoys: Pacific Ocean (TAO, TRITON), Atlantic Ocean (PIRATA), Indian Ocean (RAMA) → GDAC Coriolis
GLOSS - Global Sea Level Observing System
GLOSS Fast-Delivery Center – University Hawaii SLC
SLS - IOC Sea Level Station Monitoring
PSMSL - Permanent service for mean sea level
Southern Oceans Observing System (SOOS)
Global HF Radar Network

International Sources
Data Buoy Cooperation Panel (DBCP)
Arctic Buoy Data (IAPB)
Global Ocean Ship-Based Hydrographic Investigations Program (GO-SHIP) → GDAC Coriolis
Global Ocean Surface Underway Data Pilot Project (GOSUD) → GDAC
US National Data Buoy Center (NDBC), Integrated Ocean Observing System (IOOS), National Oceanic and Atmospheric Administration (NOAA)
Australian Integrated Marine Observing System (IMOS)
Global Ocean Data Analysis Project (GLODAP)
Surface Ocean CO_2 Atlas (SOCAT)

European Sources
CMEMS INSTAC (EuroGOOS and ROOSs institutes)
SeaDataNet and National Oceanographic Data Centers Data
International Council for the Exploration of the Sea - ICES
PANGAEA - Data Publisher for Earth & Environmental Science
Système d'Observation du Niveau des Eaux Littorales (SONEL)
European HF Radar Network
Everyone's Gliding Observatories (EGO) - Coriolis
European Multidisciplinary Seafloor and water column Observatory (EMSO)

back end and dissemination services

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catalogue.emodnet-physics.eu

docker

GeoNetwork opensource

Smart Adapters

QC/QF

Metadata check

data harmonization

PostgreSQL + PostGIS

ERDDAP
Easier access to scientific data

ncWMS2

erddap.emodnet-physics.eu

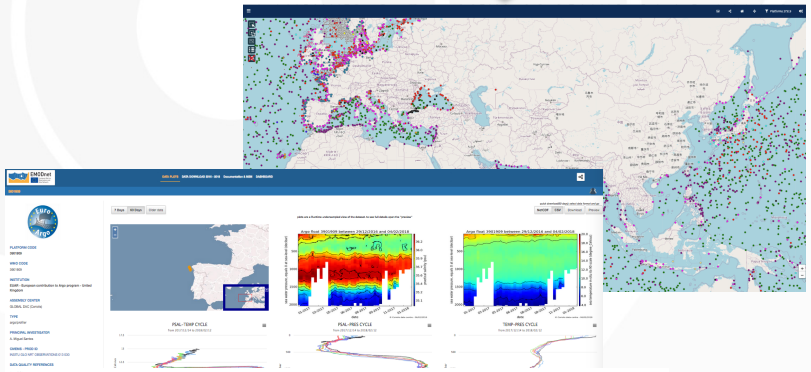
Amsx/Aspx/REST …
APIs + data formats
Widgets (plots)

GeoServer

GeoWebCache

geoserver.emodnet-physics.eu

WMS,
WFS,
WMTS



Unique URL – platform page

www.emodnet-physics.eu/Map/Charts/PlotDataTimeSeries.aspx?paramcode=TEMP&platid=3427&timerange=7

Service description @
http://www.emodnet-physics.eu/map/spi.aspx

ERDDAP as Middleware

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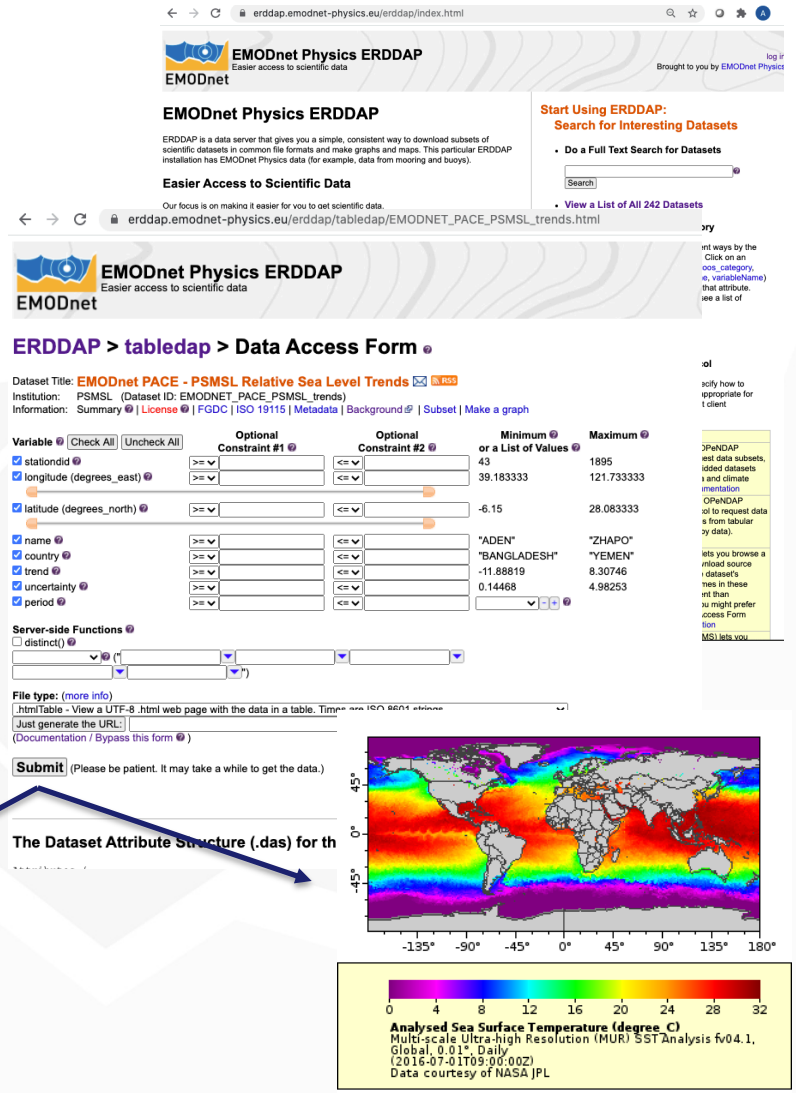
- Improve each dataset's metadata.
- Generate ISO 19115 metadata.
- Standardize the format of time data.
- Easy unified user search for datasets.
- Standard way to request data
- Both Gridded and tabular data
- Let users specify the response file format.
- ***Make life easier for data providers and for users.***

Web page with forms



time	latitude	longitude	analysed_sst
UTC	degrees_north	degrees_east	degree_C
2016-07-01T09:00:00Z	24.0	-90.0	30.288
2016-07-01T09:00:00Z	24.0	-89.99	30.342
2016-07-01T09:00:00Z	24.0	-89.98	30.401
2016-07-01T09:00:00Z	24.0	-89.97	30.451
2016-07-01T09:00:00Z	24.0	-89.96	30.487000000000002
2016-07-01T09:00:00Z	24.0	-89.95	30.511
2016-07-01T09:00:00Z	24.0	-89.94	30.526
2016-07-01T09:00:00Z	24.0	-89.93	30.539
2016-07-01T09:00:00Z	24.0	-89.92	30.549
2016-07-01T09:00:00Z	24.0	-89.91	30.5
2016-07-01T09:00:00Z	24.0	-89.9	30.539
2016-07-01T09:00:00Z	24.0	-89.89	30.522
2016-07-01T09:00:00Z	24.0	-89.88	30.503
2016-07-01T09:00:00Z	24.0	-89.87	30.489
2016-07-01T09:00:00Z	24.0	-89.86	30.484
2016-07-01T09:00:00Z	24.0	-89.85	30.486

RESTful Web Services
a single request URL specifies an entire request

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GOOS is moving/promoting ERDDAP

In order to improve the integration of data from these global networks, the OCG has embarked on the creation and implementation of a data strategy, which is framed around the **FAIR** (**Findable, Accessible, Interoperable and Reusable**) data principles.

The strategy focuses **on metadata, near-real time data, delayed mode quality-controlled data, and synthesis products.**

The aim is to **improve interoperability among the global networks** and across the broader scientific community, including improved access for users spanning all domains and technical capabilities.

To effectively improve data interoperability, it is **not enough to simply ensure that data are freely and openly available**, though of course both of those are necessary.

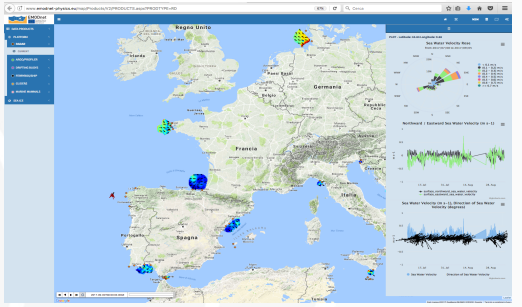
In order to reach a more diverse set of users, including domain and non-domain experts, it is also critical to provide effective **data services that are easy to use and support both human and machine interaction**.

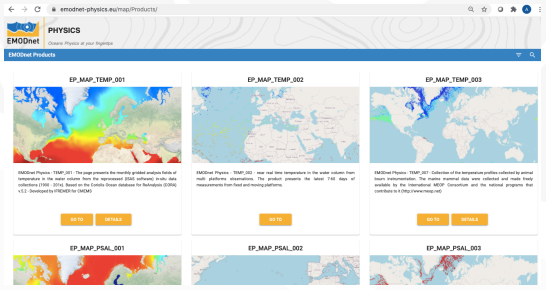
In addition, to build data management capacity, it would be useful if such services supported multiple data formats and could lower the technical barriers to participating in global data systems.

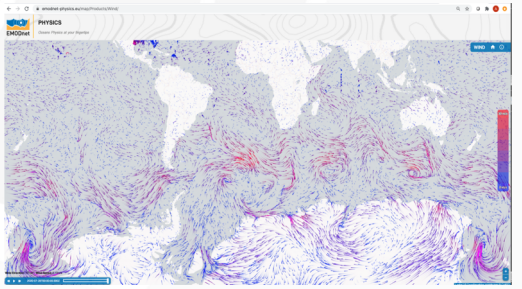
For these reasons, **the OCG data strategy has recommended ERDDAP as the data platform of choice. ERDDAP is freely available open source software that has been installed and used at many sites around the world and has an active development and support community.**

Next few months

- Complete the work on ERDDAP (datasets/products….)
- Re-design of platform pages and improve usability
- Complete update of products pages (aspx – angular)
- Add some more products pages (platforms network prods.)
- Update Temperature Salinity climatology (new SDN prod)
- Fix the INSPIRE issue







Indicator 1-

- Indicator 1A
  - EMODnet Physics is reporting in #platforms
  - The same platform may record more themes (e.g. Temp, Sal, …)
  - A platform is deployed in a given area → #platforms in the area
  - We need common shape files to be used to count the platforms in the given area.
  - Ocean physics data is multidimensional, platforms may break, go under maintenance, be used once, … → #platform for given area in 3 months is likely not to be the best option and does not catch when we fill gaps in the past.
- Indicator 1B
  - The backend updated was also done to simplify the monitoring of 1B
  - We want to report on views, downloads and M2M transactions
  - Views = Matomo, downloads = #user pressing download on web pages M2M transactions = (ERDDAP/GEOSERVER) server logs (still manual to be improved)

Indicator 2

- Indicator 2A
  - We are listing about 350 products ranging from collection of in situ data for a given parameter to gridded data to maps
  - It's difficult to define a coverage in % for themes and providing the detail for each single listed item seems not to match the concept of "indicator"
- Indicator 2B
  - Same concepts as for as 2A
  - We propose to report on the "interfaces" and maybe add in comments which was the most requested etc.
    - Mapviewer (products pages) - matomo
    - Downloads (clicks/requests)
    - M2M transactions (logs)

  (but we cannot give info on INT/EXT)

Indicator 7 → maybe is already provided by Indicator 2B

2.B) Usage of data products in this quarter

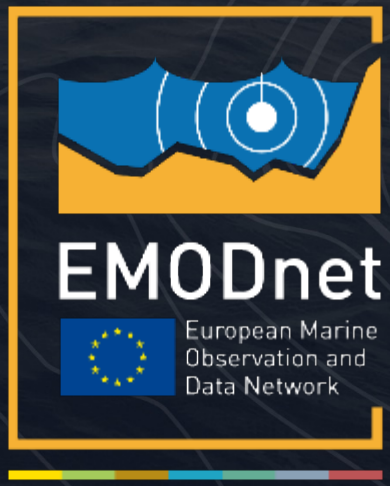
Reporting date	Portal name
07/10/20	Physics

			Trend on data products					Web service Trends [4]							
Name of sub-theme/ interface	Breakdown of sub-theme	Is it: a Data product or an External product?	Unit and Total Volume available for download [1]	Total Volume downloaded in GigaBytes [2]	Number of manual downloads (this quarter)	Number of manual downloads (previous quarter)	Trend # of manual downloads (%) [3]	Number of Map visualisations (this quarter)	Number of Map visualisations (previous quarter)	Trend # of map visualisations (%) [3]	Number of WMS requests (this quarter)	Number of WMS requests (previous quarter)	Trend # of WMS requests (%) [3]	Number of WFS requests (this quarter)	Number of WFS requests (previous quarter)	Trend # of WFS requests (%) [3]
EP_GEO_SDN_TEMP_NN_GR_FEB	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	1	-100%	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_APR	TEMP	EXT	log				#DIV/0!			#DIV/0!	11	4	175%	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_MAR	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_SEP	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_NOV	TEMP	EXT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_JUL	TEMP	EXT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_JAN	TEMP	EXT	log				#DIV/0!			#DIV/0!	2	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_AUG	TEMP	EXT	log				#DIV/0!			#DIV/0!	1	10	-90%	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_DEC	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_JUN	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_MAY	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_SDN_TEMP_NN_GR_OCT	TEMP	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_NER_OTHR_NN_NN_RAS	OTHR	EXT	log				#DIV/0!			#DIV/0!	0	1	-100%	0	0	#DIV/0!
EP_GEO_INT_SLEV_TG_TS_ABS	SLEV	INT	log				#DIV/0!			#DIV/0!	4	69	-94%	0	106	-100%
EP_GEO_INT_RVFL_RS_TS_VAR	RVFL	INT	log				#DIV/0!			#DIV/0!	6	6	0%	1	0	#DIV/0!
EP_GEO_INT_WIND_MO_TS_NRT	WIND	INT	log				#DIV/0!			#DIV/0!	28	2	1300%	6	0	#DIV/0!
EP_GEO_PSM_SLEV_TG_TS_ANO	SLEV	INT	log				#DIV/0!			#DIV/0!	9	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_SON_SLEV_GR_TS_TRE	SLEV	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_PSM_SLEV_FS_PP_NNN	SLEV	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_MED	ALLP	INT	log				#DIV/0!			#DIV/0!	21	0	#DIV/0!	2	0	#DIV/0!
EP_GEO_INT_ALLP_FB_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	17	4	325%	1	3	-67%
EP_GEO_INT_ALLP_DB_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	42	2	2000%	1	2	-50%
EP_GEO_INT_TEMP_AL_PP_GLO	TEMP	INT	log				#DIV/0!			#DIV/0!	5	3	67%	1	0	#DIV/0!
EP_GEO_INT_TEMP_AR_PP_GLO	TEMP	INT	log				#DIV/0!			#DIV/0!	30	26	15%	247	325	-24%
EP_GEO_INT_TEMP_OT_PP_GLO	TEMP	INT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_IS3	ALLP	INT	log				#DIV/0!			#DIV/0!	16	2	700%	1	2	-50%
EP_GEO_PSM_SLEV_TG_PP_GLO	SLEV	INT	log				#DIV/0!			#DIV/0!	2	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_OPTS_AL_PP_GLO	OPTS	INT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_ALLP_MO_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	22	8	175%	1	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_ATL	ALLP	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_ATL	ALLP	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_PSM_SLEV_TG_TS_TRE	SLEV	INT	log				#DIV/0!			#DIV/0!	10	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_BAL	ALLP	INT	log				#DIV/0!			#DIV/0!	0	5	-100%	0	2	-100%
EP_GEO_INT_ALLP_HF_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	21	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_WAVE_AL_PP_GLO	WAVE	INT	log				#DIV/0!			#DIV/0!	16	8	100%	1	1	0%
EP_GEO_INT_SLEV_AL_PP_GLO	SLEV	INT	log				#DIV/0!			#DIV/0!	43	1	4200%	4	0	#DIV/0!
EP_GEO_INT_ATMS_AL_PP_GLO	ATMS	INT	log				#DIV/0!			#DIV/0!	23	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_UWNO_AL_PP_GLO	UWNO	INT	log				#DIV/0!			#DIV/0!	44	22	100%	104	65	60%
EP_GEO_INT_LHAT_AL_PP_GLO	OPTS	INT	log				#DIV/0!			#DIV/0!	24	10	140%	2	3	-33%
EP_GEO_INT_BGCP_AL_PP_GLO	BGC	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	3	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_ARC	ALLP	INT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_HCXX_AL_PP_GLO	HCXX	INT	log				#DIV/0!			#DIV/0!	15	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_ALLP_AP_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	24	1	2300%	1	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_BLS	ALLP	INT	log				#DIV/0!			#DIV/0!	95	5	1800%	0	0	#DIV/0!
EP_GEO_INT_WIND_AL_PP_GLO	WIND	INT	log				#DIV/0!			#DIV/0!	7	1	600%	1	0	#DIV/0!
EP_GEO_INT_WIND_GL_PP_GLO	WIND	INT	log				#DIV/0!			#DIV/0!	2	0	#DIV/0!	1	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_NWS	ALLP	INT	log				#DIV/0!			#DIV/0!	1	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_RVFL_FS_PP_GLO	RVFL	INT	log				#DIV/0!			#DIV/0!	26	3	767%	1	0	#DIV/0!
EP_GEO_INT_ALLP_AL_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	18	0	#DIV/0!	3	0	#DIV/0!
EP_GEO_INT_SIEX_SA_GR_SHH	SIEX	INT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_GRD_RVFL_FS_PP_GLO	RVFL	EXT	log				#DIV/0!			#DIV/0!	4	1	300%	0	0	#DIV/0!
EP_GEO_INT_SICE_SA_GR_NHH	SIEX	INT	log				#DIV/0!			#DIV/0!	3	61	-95%	2	28	-93%
EP_GEO_INT_UWNO_XX_GR_INR	UWNO	INT	log				#DIV/0!			#DIV/0!	5	1	400%	1	0	#DIV/0!
EP_GEO_INT_UWNO_XX_VC_INR	UWNO	INT	log				#DIV/0!			#DIV/0!	4	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_INT_UWNO_XX_PD_INR	UWNO	INT	log				#DIV/0!			#DIV/0!	13	0	#DIV/0!	3	0	#DIV/0!
EP_GEO_WSEA_OTHR_NN_GR_GLO	OTH	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_WSEA_OTHR_NN_GR_EUR	OTH	EXT	log				#DIV/0!			#DIV/0!	0	0	#DIV/0!	0	0	#DIV/0!
EP_GEO_ICES_ALLP_AL_PP_GLO	ALLP	INT	log				#DIV/0!			#DIV/0!	25863	21199	22%	0	0	#DIV/0!

2.B) Usage of data products in this quarter

Reporting date	Portal name
07/10/20	Physics

			Trend on data products					Web service Trends [4]						
Name of sub-theme/ interface	Breakdown of sub-theme	Is it: a Data product or an External product?	Unit and Total Volume available for download [1]	Total Volume downloaded in GigaBytes [2]	Number of manual downloads (this quarter)	Number of manual downloads (previous quarter)	Trend # of manual downloads (%) [3]	Number of Map visualisations (this quarter)	Number of Map visualisations (previous quarter)	Trend # of map visualisations (%) [3]	Number of WMS requests (this quarter)	Number of WMS requests (previous quarter)	Trend # of WMS requests (%) [3]	N
GeoSERVER			log		na	na	na	na	na	ns	52430	42662	23%	
ERDDAP			log		121056	62919	92%	na	na	ns	na	na	na	
THREDDS			log		na	na	na	na	na	ns	95	46	107%	
mapviewer - platform page			log		36383	19846	83%	8655	6915	25%	7	9	-22%	



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