



SeaDataCloud

SeaDataNet Metadata Catalogues:

Review on catalogues content,
progress since the beginning of the project

A. Iona (HCMR/HNODC)

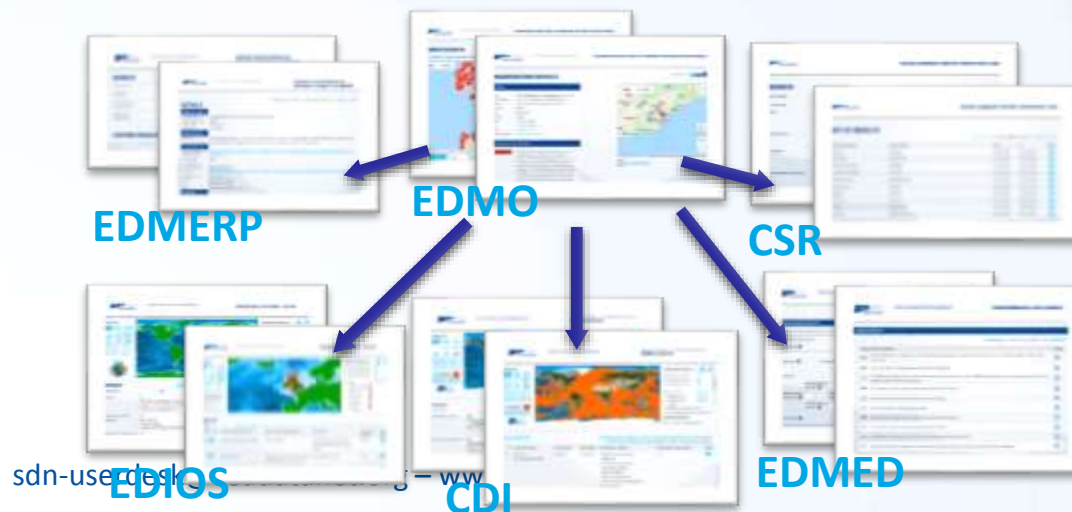
Mid-Term review, 6th December 2018, Brussels
sdn-userdesk@seadatanet.org – www.seadatanet.org

6 Pan-European catalogues maintained by NODCs

- The service provides an overview of the Marine Organizations in Europe and their involvement in scientific cruises, data collection, marine projects:
 - **EDMO**: European Directory of Marine Organisations (**4 021**)
 - **EDMED**: European Directory of Marine Environmental Datasets (**4 182**)
 - **EDMERP**: European Directory of Marine Environmental Research projects (**3 083**)
 - **EDIOS**: European Directory of Ocean Observing Systems (**16 620** series from **363** programmes)
 - **CSR**: Cruise Summary Reports (**56 436**)
 - **CDI**: Common Data Index, the data discovery and access service (**2 262 108**)

Metadata services

- All SeaDataNet catalogues have been **harmonised** and tuned in format, syntax and semantics (common vocabularies).
- They have a common editor (MIKADO) and online CMS and online query interfaces.
- The content of the directories content is compiled from national contributions, and collated in each country by the SDN partners (usually NODCs).



<https://www.seadatanet.org/Metadata>

Maintenance modalities and governance per directory

Directory + pan-European coordinator	Format info	Online CMS	XML exchange from national to pan-European level
EDMED (coordinator BODC)	Check EDMED format	No	Yes
EDMERP (coordinator MARIS)	Check EDMERP format	Online	Yes
CSR (coordinator BSH)	Check CSR format	Online*	Yes
EDIOS (coordinator BODC)	Check EDIOS format	No	Yes
EDMO (coordinator MARIS)		Online	No
CDI (coordinator MARIS)	Check CDI format	No	Yes

National nodes use on-line (like CMS forms) and off-line tools (MIKADO) that produce XML ISO 19115, 19139 compliant exchanges.

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EDIOS (coordinator BODC)	Check EDIOS format	No	Yes
EDMO (coordinator MARIS)		Online	No
CDI (coordinator MARIS)	Check CDI format	No	Yes

An additional service (harvesting) available for CDI, CSR.

Expansion with more data and metadata

- A **key activity** for the Project.
- Part of **WP5 (NA4)** entitled “Expansion and governance of metadata and data content”, with overall objectives:
 - Population of **more data/metadata** (Tasks 5.1, 5.3).
 - Deploy the **upgraded, new components** of the **catalogues** for improved discovery/access services-for applying the linked data concept and for using the Cloud (Tasks 5.2, 5.4).
 - **Deploy interoperability solutions** with other EU-international data systems for improved data exchange between them (Task 5.5).

Expansion with more data and metadata

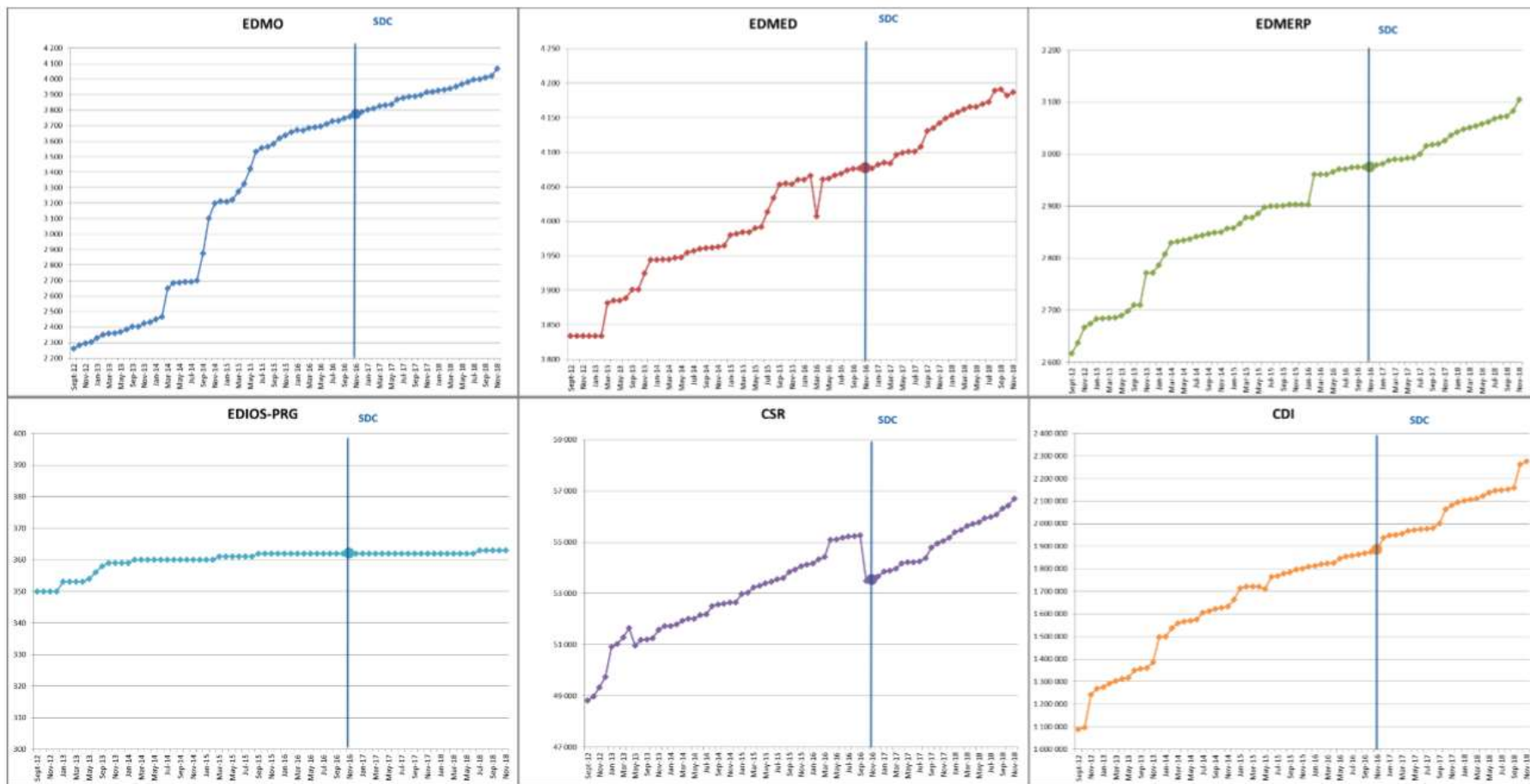
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Overall progress during the first two years

Catalogue	SDC start	Year 1	Year 2	Increase since the start
EDMO	3 758	3 899	4 021	263
EDMED	4 077	4 135	4 182	105
EDMERP	2 975	3 020	3 083	108
EDIOS-PRG	362	362	363	1
CSR	53 484	54 949	56 436	2 952
CDI	1 873 823	2 063 832	2 262 108	388 285

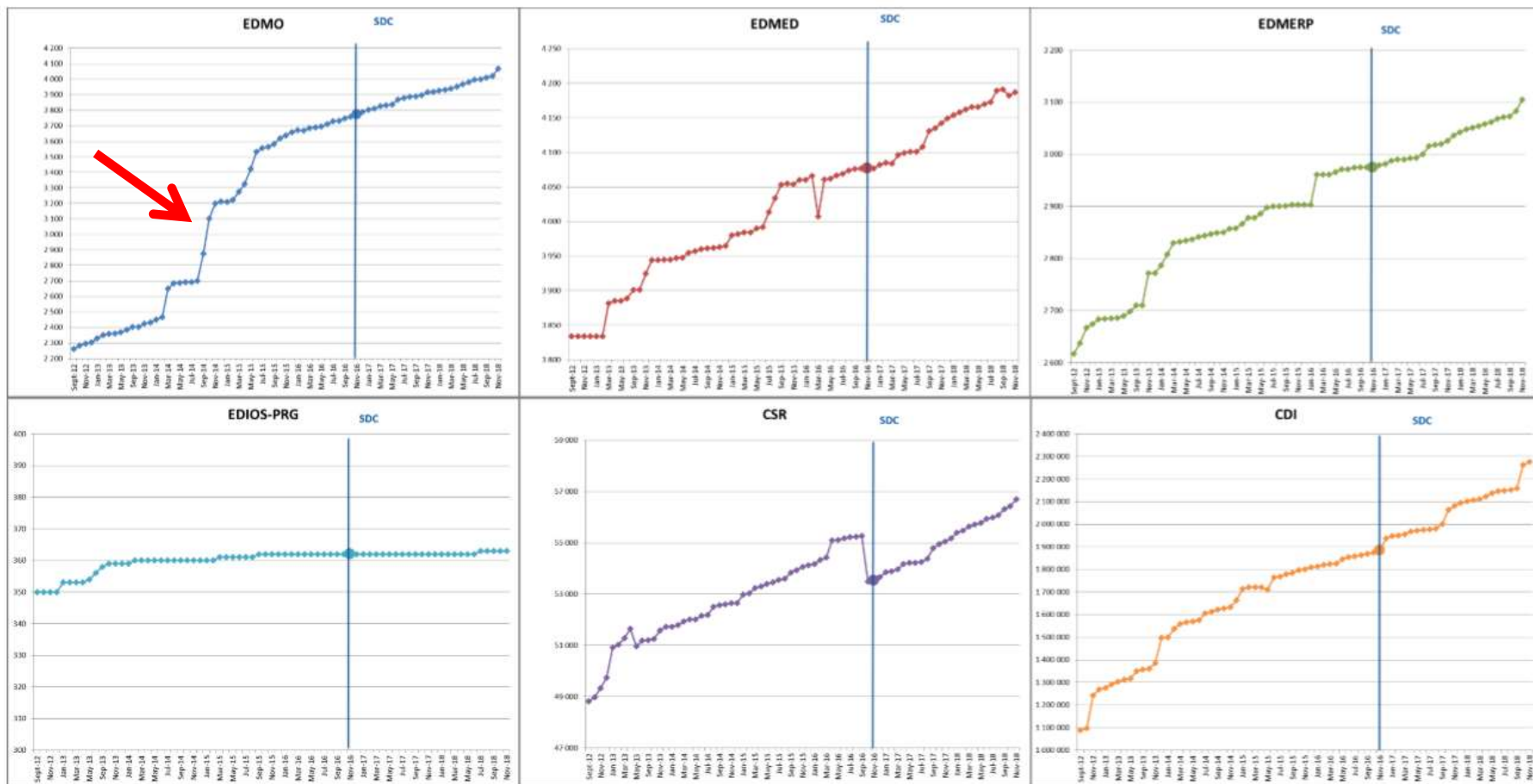
SDC partners	42
Other partners	73
Total connected	115

Increasing trends in all catalogues



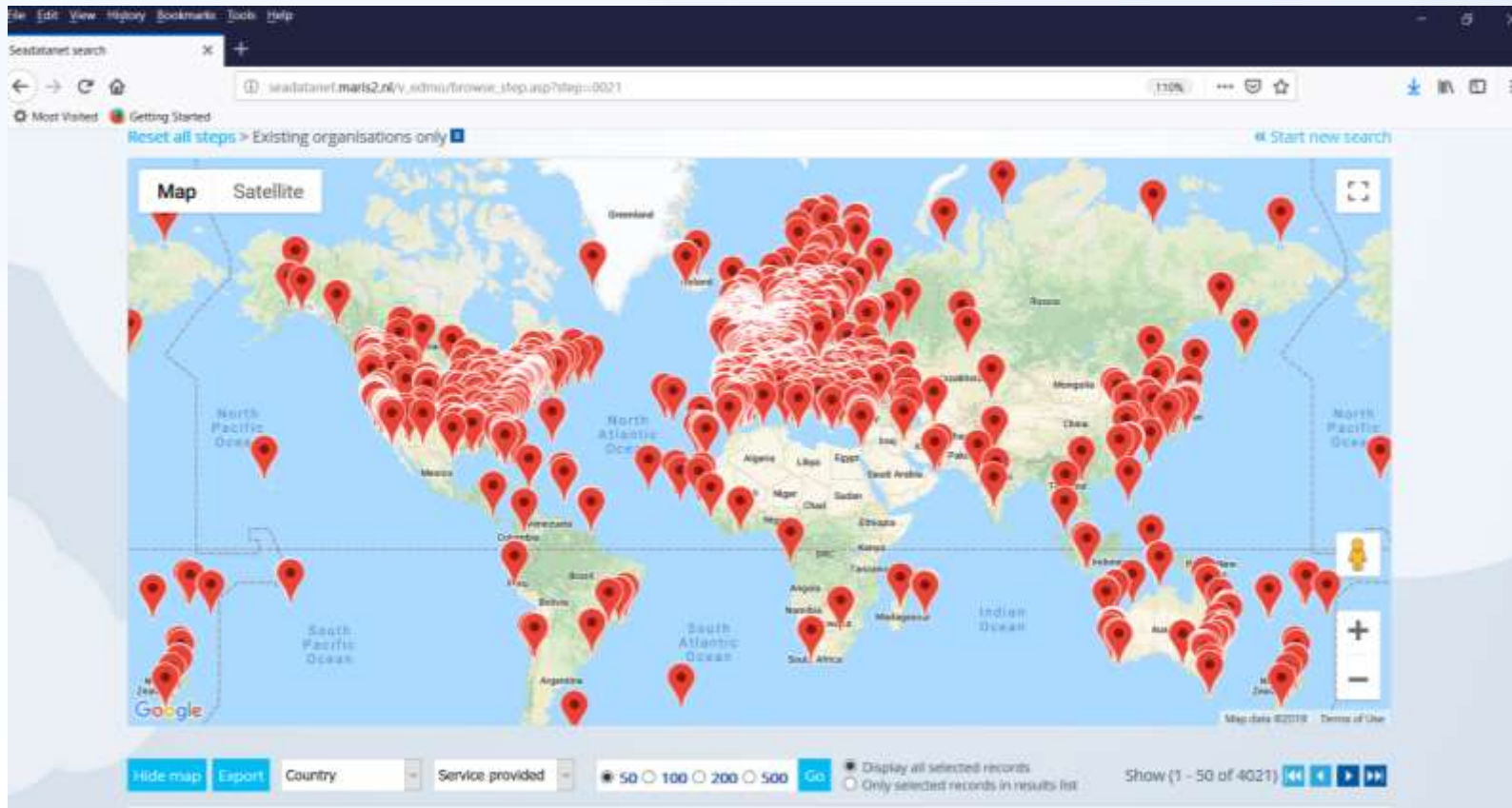
Monthly distributions per catalogue since September 2012. Blue lines denote the start of SDC Project.

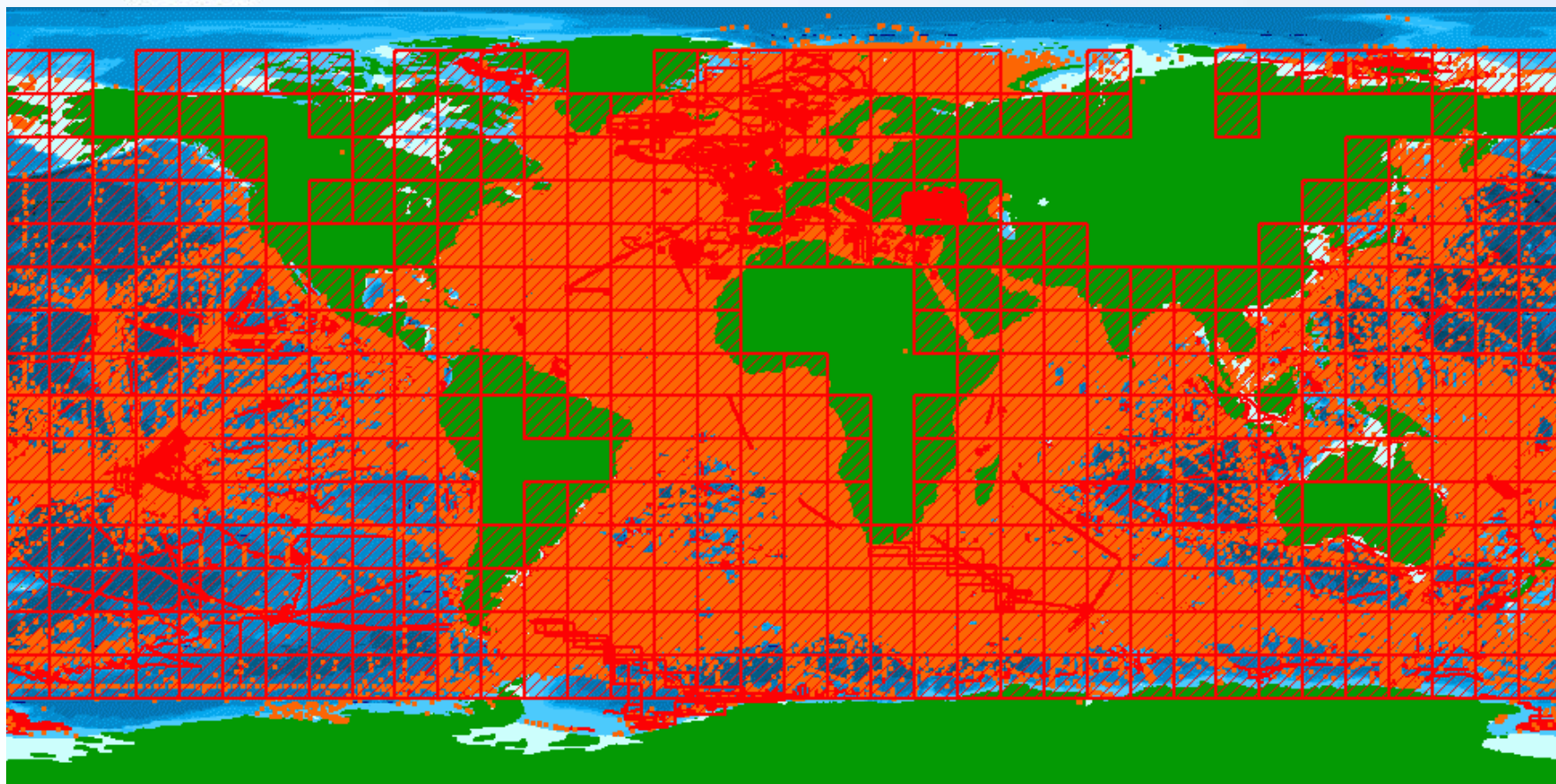
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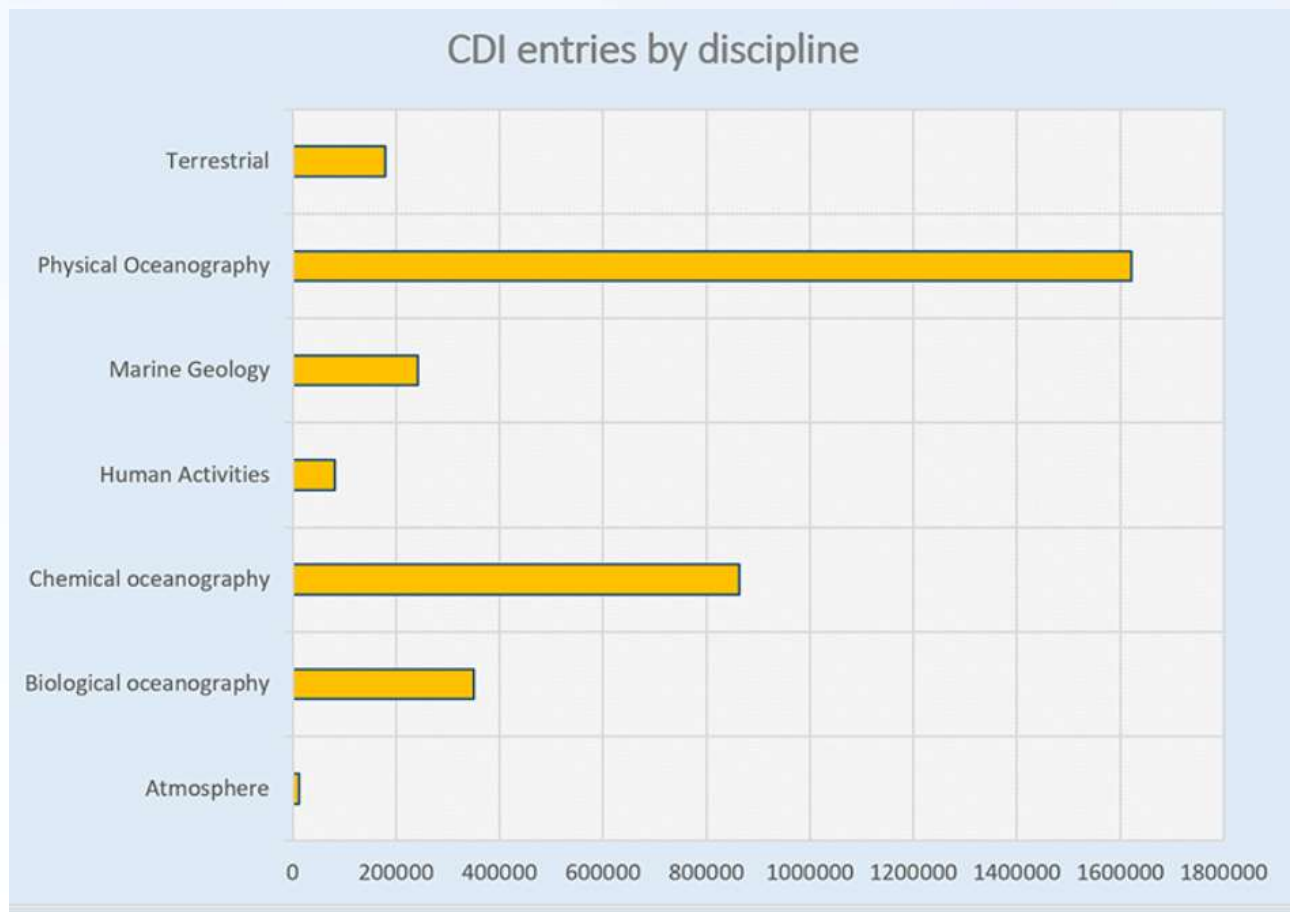
Marine Organizations (EDMO)



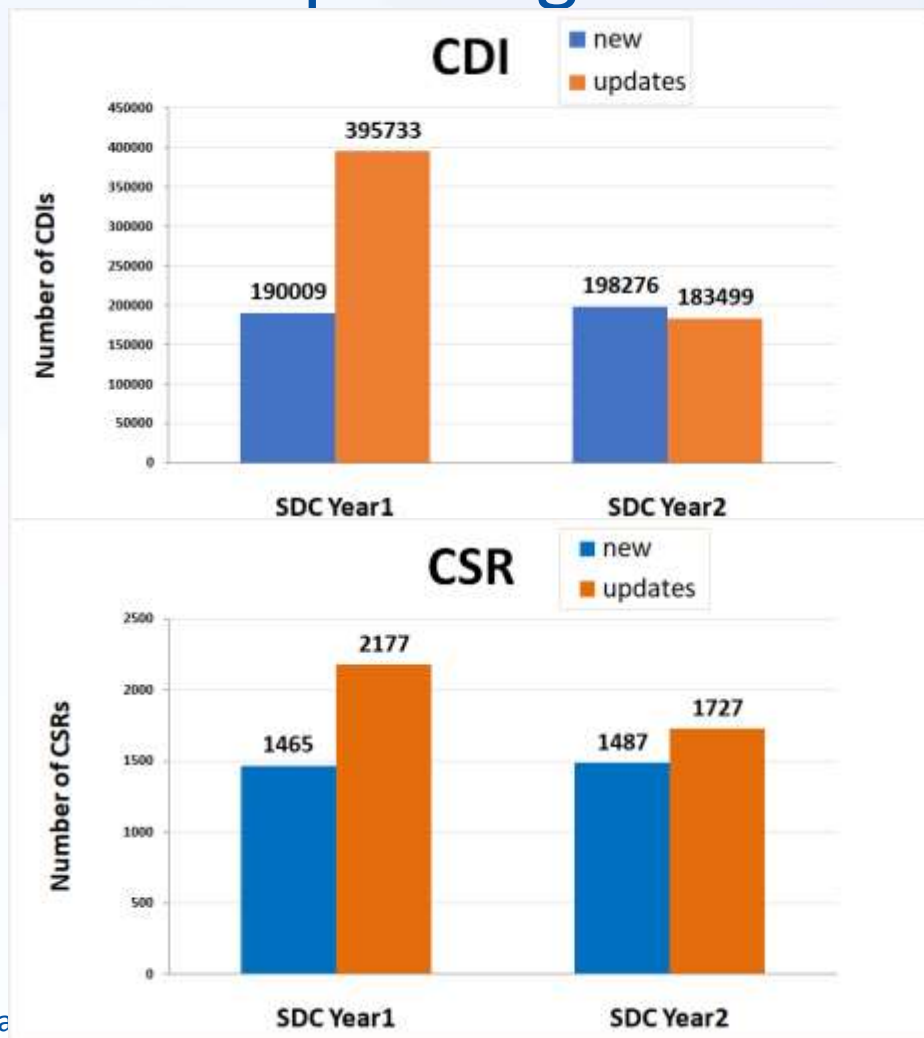


2.3 million CDI entries from **34** countries, **110+** data centres and **650** originators for physics, chemistry, geology, geophysics, bathymetry and biology; from **1800 to 2018**; **87.7%** unrestricted or under SDN License

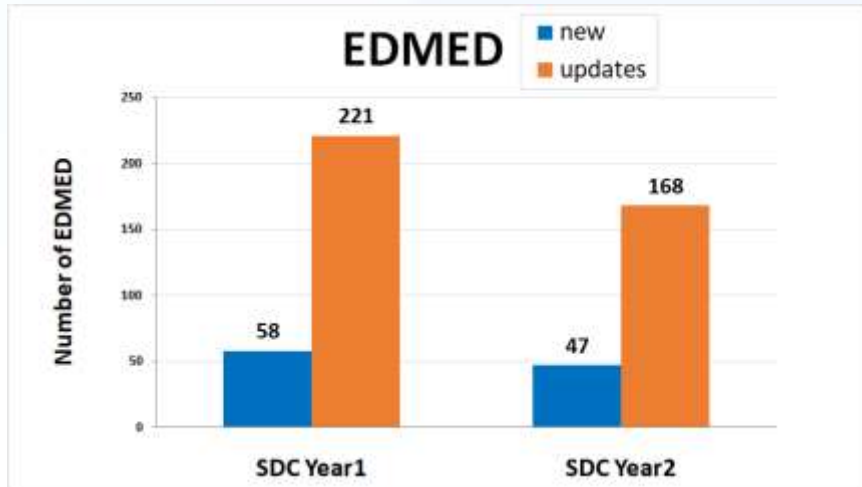
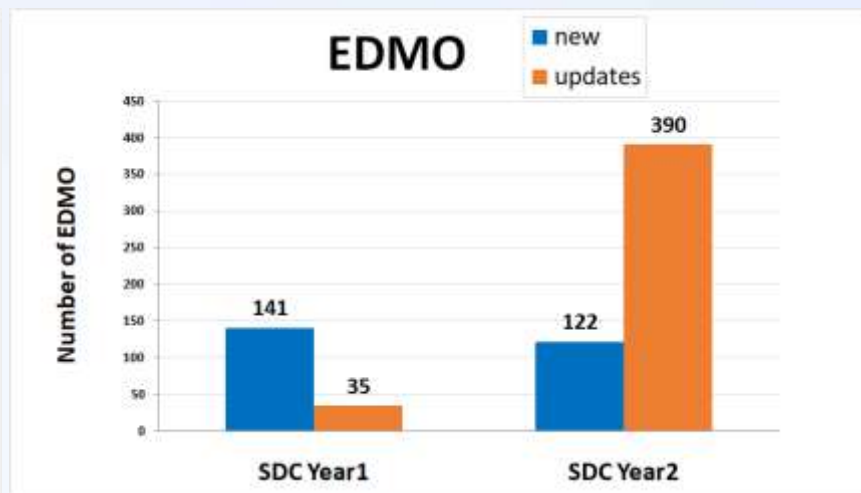
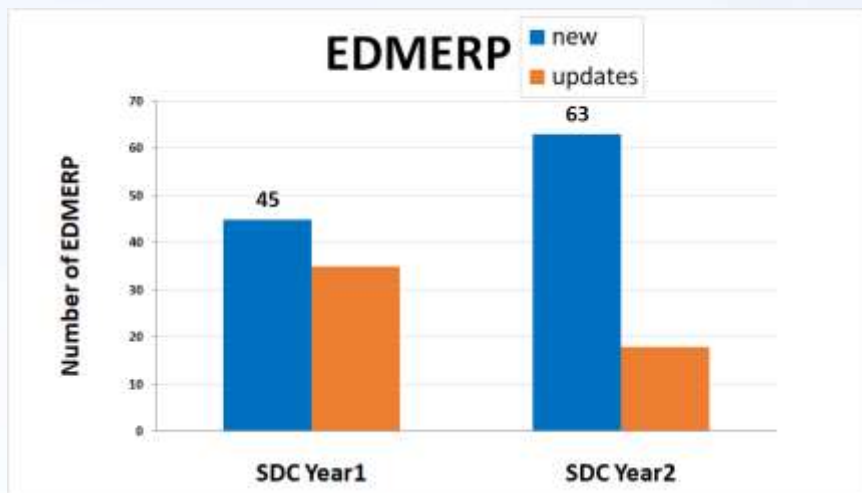
CDI entries by discipline



Continuous improving of the content



Continuous improving of the content



Metadata Catalogues content monitoring per partner

CDI partner	Name of partner	Country	Nb 03/12/2018	Increase since start SDC	Increase between SDN2 and SDC	Increase since start SDN2
LHEI	Latvian Institute of Aquatic Ecology	Latvia	4 468	984	536	4 161
IO-BAS	Bulgarian National Oceanographic Data Centre(BGODC)	Bulgaria	4 616	1 137	273	2 308
NIMRD	National Institute for Marine Research and Development Grigore Antipa	Romania	8 264	1 374	602	4 010
RBINS	Royal Belgian Institute of Natural Sciences	Belgium	13 749	1 420	0	2 216
IOLR	Israel Oceanographic and Limnological Research (IOLR)	Israel	7 366	1 634	333	2 293
MRI	Marine Research Institute (MRI)	Iceland	8 182	2 268	0	4 358
METU-IMS	Institute of Marine Sciences, Middle East Technical University	Turkey	30 478	2 461	2 222	27 396
HCMR	Hellenic Centre for Marine Research	Greece	19 535	3 546	260	7 511
SHOM	Shom	France	175 959	4 625	3 754	169 536
RIHMI-WDC	All-Russia Research Institute of Hydrometeorological Information - World Data Centre	Russian Federation	135 247	3 915	12 003	78 122
SMHI	Swedish Meteorological and Hydrological Institute	Sweden	99 691	5 405	0	-9 836
SYKE	Finnish Environment Institute	Finland	14 561	8 354	5 162	14 561
IEO	IEO/Spanish Oceanographic Institute	Spain	50 520	10 164	4 265	19 105
MI	Marine Institute	Ireland	18 350	10 101	0	13 649
UKRI-BODC	British Oceanographic Data Centre	United Kingdom	122 428	12 425	2 973	74 371
OGS	OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale)	Italy	129 530	27 983	1 922	39 932
IMR	Institute of Marine Research - Norwegian Marine Data Centre (NMD)	Norway	128 610	16 973	3 808	113 817
FMI	Finnish Meteorological Institute	Finland	31 922	18 422	0	29 711
AU-DMU	Aarhus University	Denmark	242 162	18 207	609	78 008
ICES	International Council for the Exploration of the Sea (ICES)	Denmark	89 688	65 517	369	89 688
IFREMER	IFREMER / IDM/SISMER	France	464 680	153 923	24 240	258 481
TOTAL			1 939 897	376 665	70 280	1 071 723

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Metadata Catalogues content monitoring

- Monthly follow up statistics for all catalogues
- Periodic reports for the new and updated contributions
- Annual Metrics Analysis Reports
 - Beyond the metadata catalogues, the reports include the monitoring of the usage of the system by visits and data request, operational performance of the infrastructure and the availability of the services.

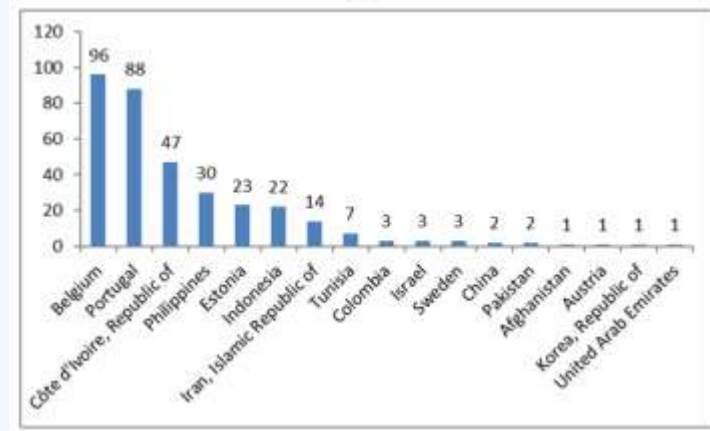
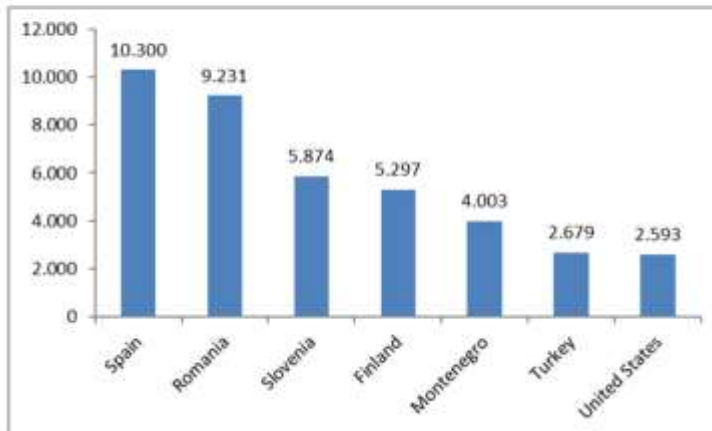
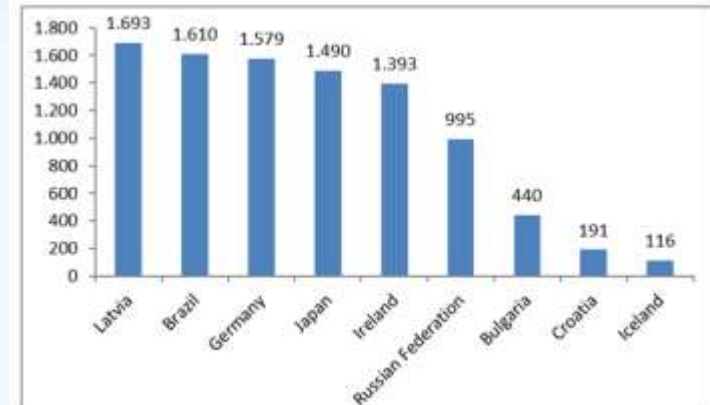
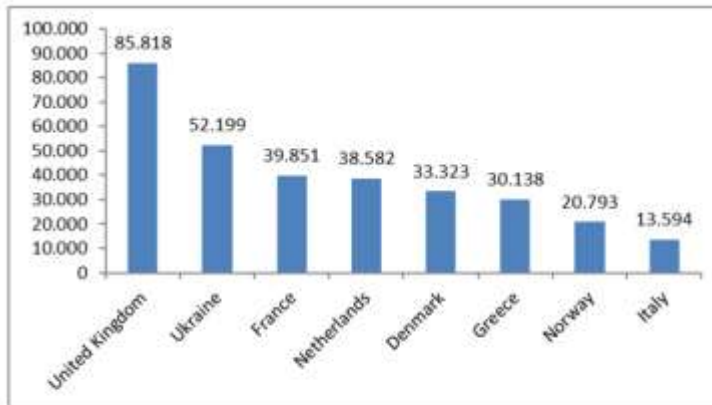
Statistics for CDI users and usage (AWStats software)

Usage of the system by data requests (1 Nov. 2016- 30 Nov. 2018)

Countries	57
Users	609
User Organisations	369
Shopping requests	2 864
Requested CDIs	1 052 858
Requested CDIs by MARIS-Robot	2 898 378

Statistics for CDI users and usage (AWStats software)

- Number of requested CDIs per country



New connections since the SDC start

CDI partner	EDMO code	Country	Date	Project
Swedish Maritime Administration	1215	Sweden	1-Nov-2017	EMODnet HRSM*
CONISMA , National Interuniversity Consortium for Marine Science	239	Italy	7-Nov-2017	EMODnet HRSM
CNR, Institute for the Marine and Coastal Environment (IAMC) – Napoli (CNR-IAMC)	252	Italy	9-Nov-2017	EMODnet HRSM
Marum - Center for Marine Environmental Sciences, University of Bremen (MARUM)	1568	Germany	30-Nov-2017	EMODnet HRSM
Maritime Administration of Latvia (MAL)	4665	Latvia	30-Nov-2017	EMODnet HRSM
Norwegian Hydrographic Service (NHS)	543	Norway	15-Dec-2017	EMODnet HRSM
Geodetic Institute of Slovenia (GIS)	4666	Slovenia	30-Jan-2018	EMODnet HRSM
Stockholm University, Department of Geological Sciences (IGV)	2210	Sweden	6-Feb-2018	EMODnet HRSM
Mediterranean Institute of Oceanography - LUMINY (MIO) - UMR 7294 / 235 / 110	3078	France	1-Mar-2018	SeaDataCloud
Roscoff Marine Station, UPMC University Paris 06 and CNRS (OSU-SBR)	521	France	18-Apr-2018	SeaDataCloud
CSIC-UTM / Marine Technology Unit	2489	Spain	1-Jul 2018	SeaDataCloud

First two years deliverables/Reached

- **D5.1:** Implementation plan and instructions for the installation and configuration of the upgraded and new software and services at the metadata directories EDMED, EDMERP, EDIOS, EDMO, CSR, and CDI.
- **D5.2:** Pilot group of data centres operational with upgraded directory services.
- *D5.3: All data centres, including new, operational with the new upgraded tools and services.*
- **D5.4 – D5.5:** New and updated contributions from all SeaDataNet national nodes in EDMED, EDMERP, CSR, EDIOS and EDMO and all SeaDataNet data centres in CDI.

Conclusions

- Continuous increasing and improving of the catalogues content.
- Expansion of the infrastructure with new and operational connections.
- Deliverables have been met, the remaining one is on its track.

Next Targets

- Maintain the increasing trends.
- Bring in new providers and more data types.