

WP5 – Progress on CDI Data Discovery and Access Service

Dick Schaap (MARIS) – Plenary Meeting – Rhodes – 19 September 2012



# Common Data Index (CDI) Data Discovery and Access Service

- It provides users a highly detailed insight and unified access to the large volumes of marine and oceanographic data sets managed by the distributed data centres
- is a fine-grained index (ISO 19115) to individual data measurements (such as a CTD cast or moored instrument record).







# **CDI Data Discovery and Access Service**

- An intelligent middle tier connection is configured between the SeaDataNet portal and the local data management systems at each of the data centres.
- A shopping basket allows users to submit a shopping request for multiple data providers in one go and to follow its processing by each of the providers *via* an online transaction register.





## **CDI User Interfaces**

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Extended Search Option to combine multiple search criteria and free text search

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Marine geology	(100700)		in black sea,	oceanography						

Quick Search Drill down search – intuitive and more easy for 1st time users



## **Example of CDI search dialogue**





## **Example of CDI search dialogue**

SEA	DATANET COMMON DATA INDEX (CDI) V2			
Too i i En Por	SUMMARY PAN-EUROPEAN FOR OCEAN & M MANAGEMENT SeaDataNet	I INFRASTRUCTURE IARINE DATA	Export	
Ba	Per CDI Partner			
	Per CDI PArtner	Country	Datasets	
	IFREMER / IDM/SISMER	France	206199	
	Aarhus University, Department of Bioscience, Marine Ecology Roskilde	Denmark	164154	
Ad	Swedish Meteorological and Hydrological Institute	Sweden	109379	
	Marine Hydrophysical Institute	Ukraine	95348	
	OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale), Department of Oceanography	Italy	89598	
	All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)	Russian Federation	57125	
	British Oceanographic Data Centre	United Kingdom	48057	
	P.P.Shirshov Institute of Oceanology, RAS	Russian Federation	38171	
	IEO/Spanish Oceanographic Institute	Spain	31415	
	Southern Scientific Research Institute of Marine Fisheries and Oceanography	Ukraine	19159	
	German Oceanographic Datacentre (NODC)	Germany	Summa	ry of results
	Rijkswaterstaat Waterdienst	Netherlands	Summa	iny of results
	Institute of Marine Research - Nonwerian Marine Data Centre	Nonway	1/702	
		> Sea level		



## **Example of CDI search dialogue**





## **Example of CDI search dialogue**



Searching for nutrients – results map zoom in and also with Blue Marble



## **CDI User Interface – Functionalities**

- Numerous options for searching and drilling down of search results
- Submitting requests for data download via shopping basket
- CDI handles points, detailed tracks and polygons as GML
- Summary function for search results with statistics and drilldown function
- Mapping has option to add external WMS layers and vice versa to serve CDI as WMS – WFS layer to other portals
- User configuration and search profile can be stored by users as favourite and forwarded to other users as a URL
- Extra attribute included for linking to (pre)viewing services

### SeaDataNet



#### OGC WMS layers added – EMODNet Hydrography





Add link to metadata for service binding (Example: Search "Coriolis")



# OGC WMS – WFS support

CDI entries from the CDI portal are available as a series of OGC WMS and WFS services, e.g. for inclusion in the EMODNet portals.



Transferring data from portal.emodnet-hydrography.eu...



# **CDI Present population**



Add to basket m

Summary Zoom to selected Export result | Store query | Refine query | New query | Found 1088322 | Show (1-20) | Previous | Next 20

<b>#</b>	Data set name ⇔	Country 🛱	Start date ⇔	Variables measured	Instrument / gear type ≑	Show
	BGSR8816	Bulgaria	19880601	Marine geology > Sonar and seismics > Field geophysics	single-channel seismic reflection systems	٢
	BGSR8815	Bulgaria	19880601	Marine geology > Sonar and seismics > Field geophysics	single-channel seismic reflection systems	٢
	BGSR8814	Bulgaria	19880601	Marine geology > Sonar and seismics > Field geophysics	single-channel seismic reflection systems	٢
	BGSR8813	Bulgaria	19880601	Marine geology > Sonar and seismics > Field geophysics	single-channel seismic reflection systems	٢
	BGSR8812	Bulgaria	19880601	Marine geology > Sonar and seismics > Field geophysics	single-channel seismic reflection systems	٢

1088322 CDI entries 68 CDI partners 400 Data originators 107 instruments 1800 - 2012



# CDI increase in 1st year SeaDataNet II

- Total at present = 1088322 records
- Increase in CDIs overall = 76690 records
- Number of contributors = 45 data centres
- Increase by SeaDataNet partners = 45297 records
- Number of contributors = 14 data centres ONLY
- IFREMER, OGS, SMHI, HCMR, IO-BAS, IBSS, MUMM, TSU, ENEA, VLIZ, IHPT, IEO, MI and SIO-RAS

**NEED** for other data centres to undertake action!



## **Required action**

- All data centres are urged to undertake updating on short term and regular maintenance
- New data centres are urged to undertake action for getting connected and starting CDI population for their data sets
- Existing data centres must undertake efforts for checking and cleaning out suspected duplicates

SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE FOR OCEAN & MARINE DATA MANAGEMENT

No	Partner	Country	Connected	Planned	Status	Support
	1 IFREMER	France				
	2 MARIS	Netherlands				
	3 NERC-BODC	United Kingdom				
	4 B SH-DOD	Germany				
	5 SMHI	Sweden				2 X X X X
	6 IEO	Spain				
	7 HCMR-HNODC	Greece				
	8 OG 5	Italy				
	9 RIHMEWDC	Russian Federation				4 2 A 2
	10 ENEA	Italy			8	
	12 METU-IMS	Turkey				
	16 IMR	Norway			0	
	17 NERI	Denmark			53:	
	18 ICE S	Denmark			Preparations made	
	20 MI	Ireland				
	21 IHPT	Portugal				
	22 NIOZ	Netherlands				
	23 RBIN S-MUMM	Belgium				
		Belgium				
	25 MRI	Iceland			0	
	26 FMI	Finland				
	27 IMGW	Poland	14		DM test operational	
	28 M SI	Estonia				
	29 LHEI	Latvia				
	30 EPA	Lithuania				
	31 SIO-RAS	Russian Federation				2 X X X
	32 MHI-DMIST	Ukraine				
	33 IO-BAS	Bulgaria				
	34 NIMRD	Romania				
	35 T SU-DNA	Georgia				1 2 1 2
	36 IOF	Croatia				
	37 NIB	Slovenia				
	38 IOI-MOC	Malta				
	39 OC-UCY	Cyprus				
	40 IOLR	Israel	1. I I I I I I I I I I I I I I I I I I I			
	41 CNR	Italy			No action yet	
	42 IB SS	Ukraine				
	43 UniHB	Germany			Meeting with MARIS and pre	eparations
	44 TUBITAK MAM	Turkey			No action yet	2.4
		58				
	SHOM	France			DM test operational	IFRE MER
	ENNSMAL	Algeria			Preparatory actions	IEO
	INBH	Morocco			No action vet	IEO
	INSTM	Tunesia			Preparatory actions	IEO
	UPT-UNEWI	Albania		a second and as	No action yet	OGS
	IMBK	Montenearo			No action yet	OGS
	R SHU	Russian Federation			No action yet	SIO-RAS
	SHODB	Turkey			No action yet	TUBITAK MAM
				Sector Se		

Status of connected SeaDataNet partners and subcontractors



# **Relation with EMODNet**

- EMODNet Physics is developing a portal to give access to NRT data and associated archives from fixed monitoring stations
- This is done by building upon EuroGOOS and its ROOSs network plus MyOcean In-Situ TAC for NRT data and SeaDataNet for archives
- Stations are mostly operated by EuroGOOS members and measure winds, temperature, pressure, waves, currents, and sea level





Present overview of NRT stations in EMODNet Physics portal



# **Cooperation from SeaDataNet partners needed**

- In practice it is rather difficult to match the NRT stations with the CDI records as recorded in SeaDataNet
  - especially because different names are used for the stations by EuroGOOS versus SeaDataNet NODCs
  - Lat lon positions are given with different positions
  - Large gaps in coverage: no CDI entries available

Proposed action: SeaDataNet partners should give priority in the coming months to populate SeaDataNet with CDI entries for operational oceanography stations

MARIS will give each SeaDataNet data centre a list of the NRT stations for which we need the archives, if possible



# **Relation with MyOcean**

- Joint product activity
- Strong request for T and S profiles
- Filling identified gaps
- Providing new data sets

Proposed action: SeaDataNet partners should give also priority in the coming months to populate SeaDataNet with CDI entries for more T & S data.

WP10 group coordinator will communicate identified gaps in data coverage



## Summary of activities for CDI population

- Create a testset of CDI metadata records, using MIKADO XML editor, and send to MARIS for a check
- Create a testset of ODV files, using NEMO, and test these yourself via input into ODV software and send to MARIS for a check
- Install and configure the Download Manager (version 1.2.0) and complete the coupling table with links between test CDIs and test ODV data files



## Summary of activities for CDI population

- Test the online connection from the CDI test system to your Download Manager together with MARIS
- Create a considerable volume of CDI files and related datasets in ODV format or as database queries. Send the CDI files to MARIS, put the ODV files on the server with DM or arrange the appropriate database queries and synchronise the coupling table
- After approval of CDI records and quality check of downloadable ODV files you can move to production.