



SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Work flow from data collection to the CDI: OGS Experience

Elena Partescano, Matteo Vinci, Alessandra Giorgetti

OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale)



SEADATANET II - THIRD PLENARY MEETING (SPLIT, 24-25 SEPTEMBER, 2014)



EDMED
EDMERP
EDIOS

CSR

CDI



EDMED / EDMERP / EDIOS

METADATA



WEB-SERVICE

Oracle
DB



Url chooser

Restful Web Service URL

<http://nodc.ogs.trieste.it/ws/CatalogElement/EDMED/>

user

password

Send

Cancel

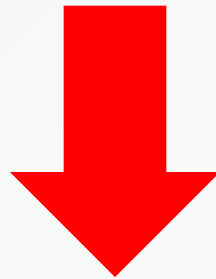
	CAT_ID	EDR_ID	XML DATA	PROVIDER
1	812	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
2	813	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
3	814	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
4	815	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
5	816	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
6	817	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
7	818	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
8	819	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
9	820	4	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="htt... 120	120
10	821	4	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="http://... 120	120
11	501	1	<?xml version="1.0" encoding="UTF-8"?><Metadata xmlns:xsi="htt... 120	120

XML - TYPE

EDMED
EDMERP
EDIOS

CSR

CDI



CSR – Cruise Summary Report

METADATA



Open Office
Forms



Oracle JDBC Driver



Oracle
DB

CSR – Cruise Summary Report

METADATA

CRUISE SUMMARY REPORT

PLT_ID: 11532 NEW PLT_ID: HAS_CSR: Y

NAME: X Campagna Antartica - LEG 1 CDI_PLT_DESCRIPTION: Ship CDI_PLT_ID: 11

DTC_CODE: 10 CITY_DESCRIPTION: ITALY CTY_CODE: 10 YEAR: 2006 ROSCOP_FORM_CODE (6 caratteri): 06058 ROSCOP

PTY_CODE: C SHP_DESCRIPTION: ROS-EXPLORA SHP_CODE: 18A2 SHIPS

START_DATE: 31/12/2005 END_DATE: 06/03/2006 CDI_AREA_TYPE: 10 CDI_ATY_CODE: P

DEP_PORT: Hobart DEP_PORT_C381: 10 DEP_PORT_C381: B31244

RET_PORT: Hobart RET_PORT_C381: 10 RET_PORT_C381: B31244

CHIEF_SCIENTIST: De Santis L. NAME: De Santis L. PER_ID: 10 PERSONS

PLATFORM_CHIEF_SCIENTIST:

PCS_ID	PLT_ID	PER_ID	INS_ID
573	11532	863	21
589	11532	870	100

Record 1 of 4



**Oracle
DB
(150 tables)**

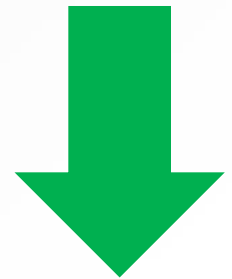


**Automatic
Mode**

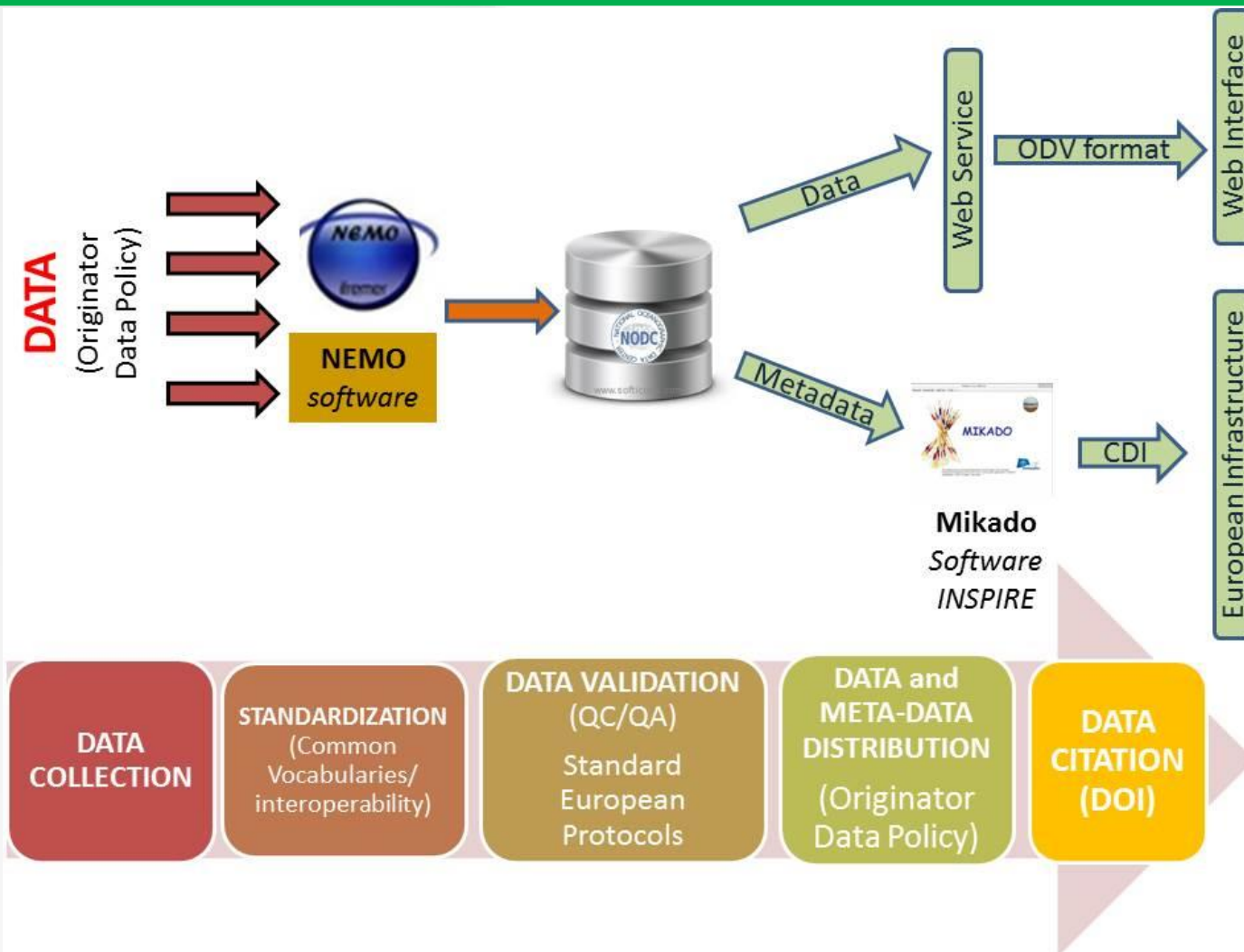
EDMED
EDMERP
EDIOS

CSR

CDI



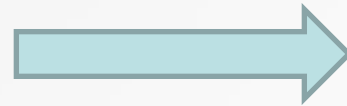
CDI – Common Data Index



Data Validation: Automatic Quality Check

- ***Good value ($Q_c=1$)***
- ***Check on climatology ($Q_c=2$)***
- ***Check of spikes ($Q_c=3$)***
- ***Check of out of range ($Q_c=4$)***
- ***Null value ($Q_c=9$)***

Data Citation (DOI)

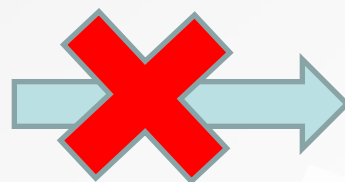


DOI

Data Citation (DOI)



DOI



Web - Interface



NODC - National Oceanographic Data Center

ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA Sperimentale



The Data Centre



Who are we?

Data Request and Submission

Data Formats

Data Quality Control

Publications

Links

Projects



ACTIVE

EU SeaDataNet II

EU EMODNET Chemistry

JERICO

ODIP

CONCLUDED

Adricosm-EXT

Adricosm-STAR

Archimede

EU EuroGOOS-EDIOS

EU MEDAR-MEDATLAS II

EU MTPII/MATER

EU SeaDataNet I

EU SeaSearch

EU Geo-Seas

Puglia

Sinapsi

Marine Information



Catalogs

CSR - Cruise Summary Reports

EDMED - Marine Data Reports

EDIOS - Operational Observing Systems

EDMERP - Marine Project Reports

Other Metadata

DOI Archive

Marine Data



Physics & Chemistry

Data Distribution

Data access

Biology

LTER C1 station

Operational Oceanography

MAMBO Buoy

E2M3A Southern Adriatic Observatory

Autonomous Systems (Drifters, Floats, Gliders)

Data Products

MEDAR Climatology

EMODNet Chemistry Data Products

SeaDataNet Data Products

News

Documents/datasets with Datacite DOI assigned

Web – Interface -> EDMED / EDMERP



NATIONAL OCEANOGRAPHIC DATA CENTER

Metadata access

EDMED/EDMERP - download

Parameters

Select the Parameters:

Acoustic backscatter in the water column
Air pressure
Air temperature
Alkalinity, acidity and pH of the water column
Ammonium concentration parameters in the water column
Atmospheric humidity

Period

From:

01/01/1833

To:

11/09/2014

Ocean/sea area

Select the Area:

Adriatic Sea (Mediterranean Sea)
Aegean Sea (The Archipelago) (Mediterranean Sea)
Alboran Sea (Mediterranean Sea)
Arabian Sea
Arctic Ocean
Atlantic Ocean

Host Laboratory

Select the Country: Select the Institute:

Belgium	APAT - Agency for Environmental Protection and Technical Services
France	CNR - Biophysics Institute
Italy	CNR, Consiglio Nazionale delle Ricerche
Norway	CNR, Institute for the Marine and Coastal Environment (IMC) - Oristano
United Kingdom	CNR, Istituto di Ricerca sulle Acque
United States	CNR, Istituto di Scienze Marine (Sezione di Venezia - ex IBM)

Web – Interface -> CSR



NATIONAL OCEANOGRAPHIC DATA CENTER

Metadata access

ROSCOP - Cruise Summary Reports - download

Ship

06 - GERMANY, (FEDERAL REPUBLIC)
11 - BELGIUM
26 - DENMARK
27 - EGYPT
29 - SPAIN
31 - UNITED STATES

ALGERIA - MOHAMED SEDIK BENYAHIA
BAHAMAS - MARISKA
BAHAMAS - VENEZIA
BELGIUM - MECHELEN
BELGIUM - UNKNOWN PLATFORMS OF BELG
BELGIUM - ZENOBE GRAMME

Period

From: 01/01/1889 *
To: 11/09/2014 *

Sea Area

ADRIATIC SEA
AEGEAN SEA
ALBORAN SEA
Antarctic freshwater bodies
BALEARIC SEA
BLACK SEA

Discipline

All disciplines
Biology & Fisheries
Chemical Oceanography
Contamination

B01 - Primary productivity
B06 - Dissolved organic matter (inc DOC)
B08 - Phytoplankton
B09 - Zooplankton
B71 - Particulate organic matter (inc POC, PON)
B72 - Biochemical measurements (eg lipids, amino acids)

Host Laboratory

ALBANIA
AUSTRIA
CROATIA (local Hrvatska)
GERMANY, (FEDERAL REPUBLIC)
GREECE
ISRAEL

ALBANIA - Akademia e Shkencave, Tirane
ALBANIA - Hydrometeorological Institute, Tirana
ALGERIA - ISMAL, Halieutique, Laboratoire de Plankton, Alger
ALGERIA - ISMAL, Molysmologie, Laboratoire de Oceanographie Physique
ALGERIA - ISMAL, Molysmologie, Laboratoire de Pollution Marine
AUSTRIA - Permanente Internationale Kommission fuer die Erforschung der Adria, Wien

Web – Interface -> DATA



NODC - National Oceanographic Data Center

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MEDAR Climatology

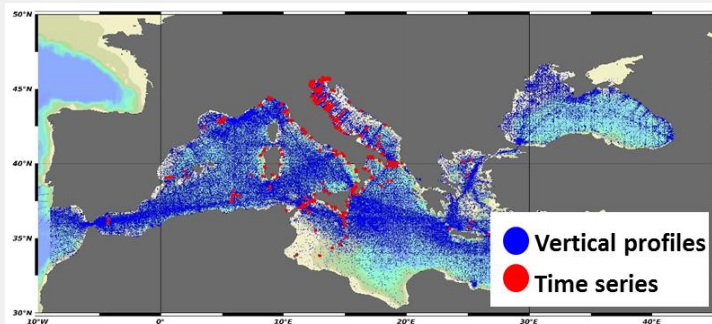
EMODNet Chemistry Data Products

SeaDataNet Data Products

News

Documents/datasets with Datacite DOI assigned

Web – Interface -> DATA



You can extract [profiles](#) or [time series](#).

Or specify some search criteria...

Coordinates (spatial and temporal)

W * N * E * S *

From: * To: *

Parameters

AKPH - ALKALINE PHOSPHATASE ($\mu\text{mol}/(\text{L}\cdot\text{h})$)
 ALKW - ALKALINITY (micromole/kg)
 ALKY - ALKALINITY (millimole/m³)
 AMON - AMMONIUM (NH₄-N) CONTENT (millimole/m³)
 AMOW - AMMONIUM (NH₄-N) CONTENT (micromole/kg)
 ASDW - ABSORPTION STANDARD DEVIATION (milligram/m³)
 AXAP - ALLOXANTHINE (milligram/m³)

Datatypes

B01 - Primary productivity
 B06 - Dissolved organic matter (inc DOC)
 B08 - Phytoplankton
 B09 - Zooplankton
 B71 - Particulate organic matter (inc POC, PON)

Project

AAS
 ADRIA
 ADRICOSM

Institutes

ALBANIA - Akademia e Shkencave, Tirane
 ALBANIA - Hydrometeorological Institute, Tirana
 ALGERIA - ISMAL, Halieutique, Laboratoire de Plankton, Alger

Ships

ALGERIA - MOHAMED SEDIK BENYAHIA
 BAHAMAS - MARISKA
 BAHAMAS - VENEZIA

Results

No data selected

[Reset](#)

[Search](#)

Web – Interface -> DATA

Results

Summary						
Type	Availability	Country	Parameter	Cruises or Platforms	Datasets	Profiles or Series
Water Profiles	Public	ITALY	ALKY	3	3	19
Water Profiles	Public	RUSSIA	ALKY	1	1	14
Water Profiles	Public	UKRAINE	ALKY	7	7	1363
Water Profiles	Public	USSR	ALKY	3	3	339
Water Profiles	Public	ITALY	All parameters	3	3	19
Water Profiles	Public	RUSSIA	All parameters	1	1	14
Water Profiles	Public	UKRAINE	All parameters	7	7	1363
Water Profiles	Public	USSR	All parameters	3	3	339
Water Profiles	Public	All countries	All parameters	14	14	1735
Water Profiles	All availabilities	All countries	All parameters	14	14	1735
All types	All availabilities	All countries	All parameters	14	14	1735

Temporal Distribution													
Year	1	2	3	4	5	6	7	8	9	10	11	12	Total
1990	22	25	68	3	8	112	3	8	37	413	168	8	875
1991	0	0	0	0	0	0	3	3	35	56	31	8	136
1992	3	20	27	19	6	20	40	21	24	52	3	3	238
1993	3	20	40	135	3	11	15	3	3	40	21	19	313
1994	3	9	3	8	6	14	42	15	20	39	3	3	165
1995	0	0	0	6	2	0	0	0	0	0	0	0	8
Total	31	74	138	171	25	157	103	50	119	600	226	41	1735

Reset

Search

Map

Download (ODV format)

You can download only public available data. Restricted data can be requested contacting us by email (nodc@ogs.trieste.it).
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Web – Interface -> DATA

Google

Get directions My places

Displaying content from nodc.ogs.trieste.it.
The content displayed below and overlaid onto this map is provided by a third party, and Google is not responsible for it. Information you enter below may become available to the third party.

Contents

- ☐ ogs-search-stations-5102.kml
 - ☒ 53 Cruise
 - ☒ UMUR19900025300010
Data Type: H10
 - ☒ UMUR19900025300020
Data Type: H10
 - ☒ UMUR19900025300030
Data Type: H10
 - ☒ UMUR19900025300040
Data Type: H10
 - ☒ UMUR19900025300050
Data Type: H10
 - ☒ UMUR19900025300060
Data Type: H10
 - ☒ UMUR19900025300070
Data Type: H10
 - ☒ UMUR19900025300080
Data Type: H10
 - ☒ UMUR19900025300090
Data Type: H10
 - ☒ UMUR19900025300100
Data Type: H10
 - ☒ UMUR19900025300110
Data Type: H10
 - ☒ UMUR19900025300120
Data Type: H10
 - ☒ UMUR19900025300130
Data Type: H10
 - ☒ UMUR19900025300140
Data Type: H10
 - ☒ UMUR19900025300150
Data Type: H10
 - ☒ UMUR19900025300160
Data Type: H10
 - ☒ UMUR19900025300170
Data Type: H10
 - ☒ UMUR19900025300180



Reset Search Map Download (ODV format)

ns	Datasets	Profiles or Series
3	3	19
1	1	14
7	7	1363
3	3	339
3	3	19
1	1	14
7	7	1363
3	3	339
14	14	1735
14	14	1735
14	14	1735

1	12	Total
58	8	875
81	8	136
3	3	238
21	19	313
3	3	165
0	0	8
26	41	1735

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Web – Interface -> DOI



NODC - National Oceanographic Data Center

ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE



The Data Centre



Who are we?

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ACTIVE

EU SeaDataNet II

EU EMODNET Chemistry

JERICO

ODIP

CONCLUDED

Adricosm-EXT

Adricosm-STAR

Archimede

EU EuroGOOS-EDIOS

EU MEDAR-MEDATLAS II

EU MTPII/MATER

EU SeaDataNet I

EU SeaSearch

EU Geo-Seas

Puglia

Sinapsi

Marine Information



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Systems

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Physics & Chemistry

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Observatory

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Floats, Gliders)

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MEDAR Climatology

EMODNet Chemistry Data Products

SeaDataNet Data Products

News

Documents/datasets with Datacite DOI assigned

Web – Interface -> DOI



NODC - National Oceanographic Data Center
ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA S

The Data Centre



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ACTIVE

EU SeaDataNet II

EU EMODNET Chemistry

JERICO

ODIP

CONCLUDED

Adricosm-EXT

Adricosm-STAR

Archimede

EU EuroGOOS-EDIOS

EU MEDAR-MEDATLAS II

EU MTPII/MATER

EU SeaDataNet I

EU SeaSearch

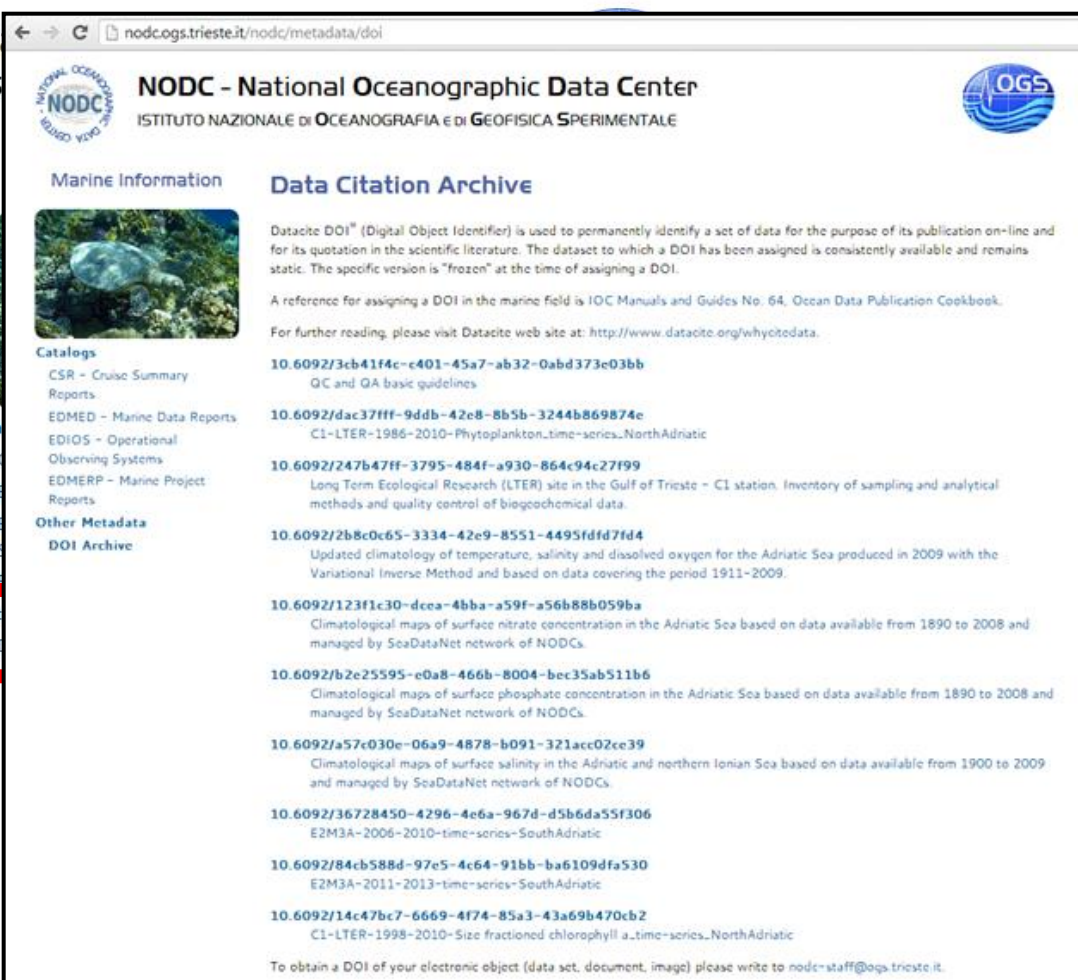
EU Geo-Seas

Puglia

Sinapsi

News

Documents/datasets with Datacite DOI assigned



The screenshot shows the NODC website interface. The header includes the NODC logo and the text "NODC - National Oceanographic Data Center" and "ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA Sperimentale". The main content area is titled "Data Citation Archive" and contains a list of data citations with their corresponding DOIs. A red box highlights the "Other Metadata" section, which includes a link to "DOI Archive".

NODC - National Oceanographic Data Center
ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA Sperimentale

Marine Information

Data Citation Archive

Datacite DOI™ (Digital Object Identifier) is used to permanently identify a set of data for the purpose of its publication on-line and for its quotation in the scientific literature. The dataset to which a DOI has been assigned is consistently available and remains static. The specific version is "frozen" at the time of assigning a DOI.

A reference for assigning a DOI in the marine field is IOC Manuals and Guides No. 64, Ocean Data Publication Cookbook.

For further reading, please visit Datacite web site at: <http://www.datacite.org/whyoidata>.

Catalogs

- CSR - Cruise Summary Reports
- EDMED - Marine Data Reports
- EDIOS - Operational Observing Systems
- EDMERP - Marine Project Reports

Other Metadata

DOI Archive

- 10.6092/3cb41f4e-c401-45a7-ab32-0abd373e03bb
QC and QA basic guidelines
- 10.6092/dac37fff-9ddb-42e8-8b5b-3244b869874e
C1-LTER-1986-2010-Phytoplankton.time-series_NorthAdriatic
- 10.6092/247b47ff-3795-484f-a930-864c94c27f99
Long Term Ecological Research (LTER) site in the Gulf of Trieste - C1 station. Inventory of sampling and analytical methods and quality control of biogeochemical data.
- 10.6092/2b8c0c65-3334-42e9-8551-4495fdd7fd4
Updated climatology of temperature, salinity and dissolved oxygen for the Adriatic Sea produced in 2009 with the Variational Inverse Method and based on data covering the period 1911-2009.
- 10.6092/123f1c30-dcea-4bba-a59f-a56b88b059ba
Climatological maps of surface nitrate concentration in the Adriatic Sea based on data available from 1890 to 2008 and managed by SeaDataNet network of NODCs.
- 10.6092/b2c25595-e0a8-466b-8004-bec35ab511b6
Climatological maps of surface phosphate concentration in the Adriatic Sea based on data available from 1890 to 2008 and managed by SeaDataNet network of NODCs.
- 10.6092/a57c030e-06a9-4878-b091-321acc02ce39
Climatological maps of surface salinity in the Adriatic and northern Ionian Sea based on data available from 1900 to 2009 and managed by SeaDataNet network of NODCs.
- 10.6092/36728450-4296-4e6a-967d-d5b6da55f306
E2M3A-2006-2010-time-series-SouthAdriatic
- 10.6092/84cb588d-97e5-4c64-91bb-ba6109dfaf530
E2M3A-2011-2013-time-series-SouthAdriatic
- 10.6092/14c47bc7-6669-4f74-85a3-43a69b470cb2
C1-LTER-1998-2010-Size fractionated chlorophyll a.time-series_NorthAdriatic

To obtain a DOI of your electronic object (data set, document, image) please write to nodc-staff@ogs.trieste.it.