OceanDataPortal
Seamless access to ocean data

IODE Ocean Data Portal

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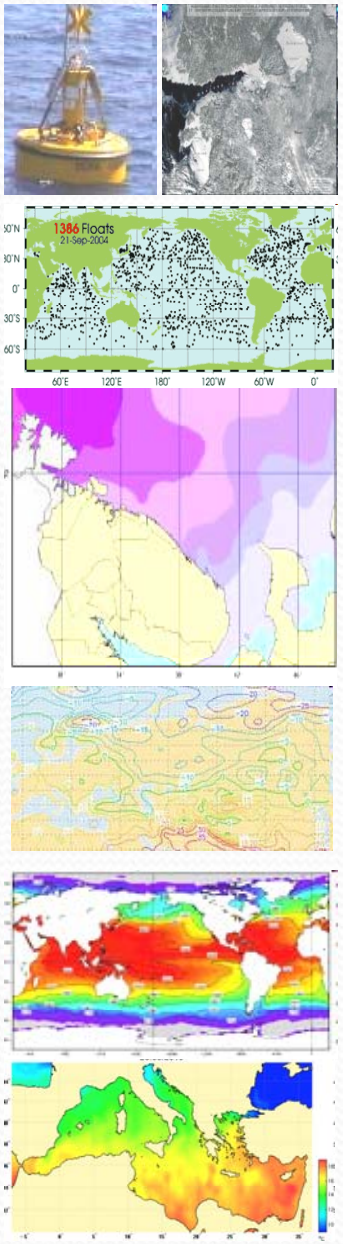
Objectives of Ocean Data Portal

- Facilitate and promote the exchange and dissemination of marine data and services
- Provide the seamless access to marine data to NODCs across the IODE network through the discovery, evaluation and access to data via web based services
- Identify and recommend standards to provide interoperability with IODE data centres to allow shared use of metadata, data and products



Interoperability

- The key principle of the Ocean Data Portal is interoperability with existing systems and resources
- Par
- Int
- internationally endorsed standards and best practice and does not require data centres to change their internal data management systems

Interoperability Definition

"the ability of two or more systems or components to exchange information and to use the information that has been exchanged"

Institute of Electrical and Electronics Engineers IEEE

Standards

- Standards are the key to interoperability
- Standards are required for
  - Data Discovery requires a common metadata standard and standard vocabularies to ensure distributed datasets are discoverable and conformable.
  - Data Visualization allows interactive presentation of data and products using web service such as WMS and WFS.
  - Data Access provides ability to download data using common file formats such as NetCDF, XML,

Interoperability with other systems

- IODE ODP is interoperability with existing systems
- IODE is working closely with the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) to ensure ODP is interoperable with the WMO Information System (WIS)
- ODP will provide access to marine meteorological and oceanographic data and information to serve a number of applications
- ODP is also collaborating with other portal developers (SDN, AODN, etc) to ensure interoperability with ODP

IODE/JCOMM standards process

- IODE and JCOMM have established a process to reach agreement and commitment to adopt standards related to ocean data management and exchange
- Standards to be addressed include:
  - Discovery metadata, vocabularies, quality control flags, date/time, country codes, etc.
- A web site has been setup to monitor progress of submissions and to disseminate adopted standards

Data sharing principles

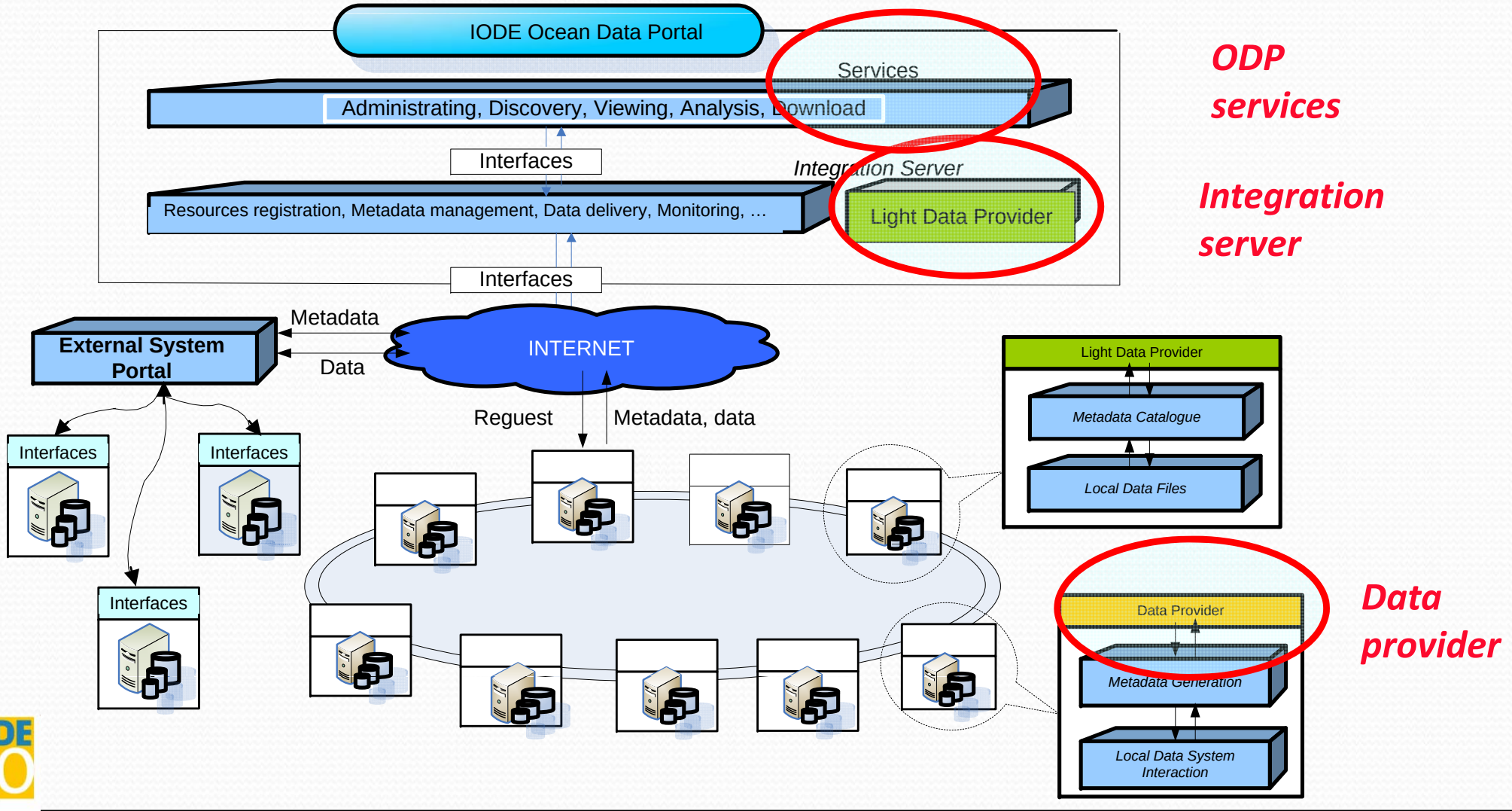
- ODP complies with the data sharing principles defined by the IOC Oceanographic Data Exchange Policy

  "Member States shall provide timely, free and unrestricted access to all data, associated metadata and products generated under the auspices of IOC programmes

- ODP provides data and services in a timely manner and utilizes user-friendly tools
- The ability of ODP to provide these data and services is highly dependent on data contributions

ODP Components

- ODP consists of three basic software components:



Data Provider

- Data Provider processes local datasets, generates discovery metadata and transport data files for Integration Server
- Services are based on the OPeNDAP data structures (point, profile and grid) and a metadata model based on ISO 19115
- Data Provider supports varying data granularity, such as i.e. single cruise or data profile, single buoy or single coastal station data
- Light Data Provider function offers remote registration of local datasets and allows deployment of the ODP system without the need to install software by the data provider

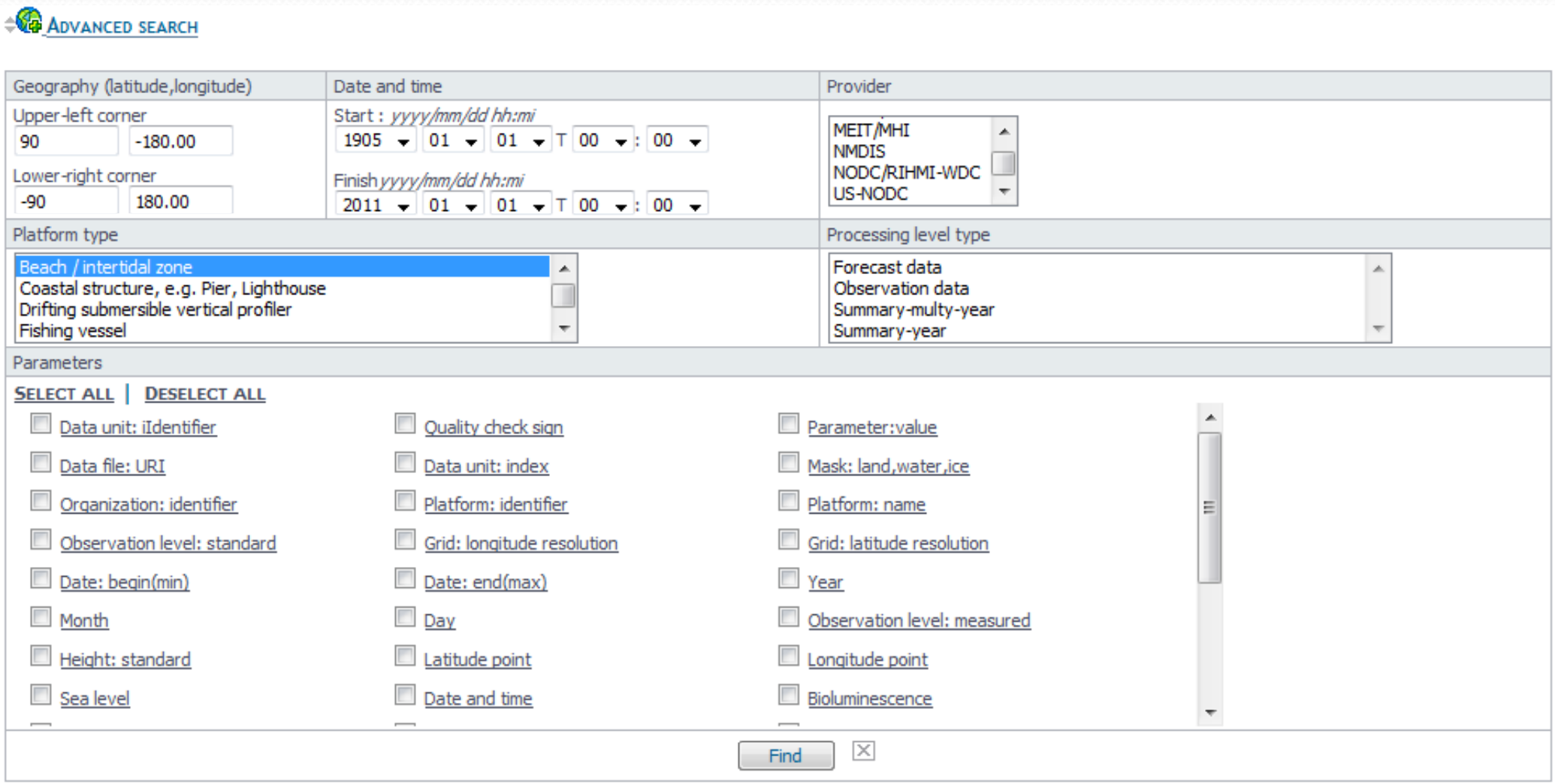
Integration Server

- Integration Server provides registration and operation status monitoring of the distributed data sources, harvesting of the discovery metadata in coordination with Data Provider, management of the common codes/dictionaries and access to distributed data sources by ODP services.
- The Integration Server also interacts with other systems (or portals) by through discovery metadata exchange.

ODP Services

- The ODP provides the following data and product dissemination services
  - Discovery services
  - Viewing services
  - Analysis services
  - Download services

Discovery services



Viewing service

Obtained data can be visualized in table-chart mode and displayed on map. Rows colored green color are displayed on chart. Columns marked with icon are used as X or Y axis on chart.

NUMBER OF RECORDS : 264

	Data unit: index	Date and time	Latitude point	Longitude point	Observation level: measured	Salinity	Temperature water
1	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	1.0	18.05	17.61
2	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	2.0	18.05	17.6
3	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	3.0	18.05	17.59
4	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	4.0	18.04	17.6
5	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	5.0	18.05	17.59
6	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	6.0	18.04	17.6
7	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	7.0	18.04	17.6
8	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	8.0	18.04	17.61
9	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	9.0	18.05	17.6
10	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	10.0	18.05	17.61
11	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	11.0	18.05	17.6
12	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	12.0	18.04	17.61
13	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	13.0	18.05	17.6
14	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	14.0	18.04	17.61
15	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	15.0	18.05	17.61
16	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	16.0	18.05	17.6
17	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	17.0	18.05	17.6
18	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	18.0	18.05	17.59
19	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	19.0	18.05	17.59
20	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	20.0	18.05	17.59
21	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	21.0	18.04	17.6
22	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	22.0	18.04	17.6
23	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	23.0	18.04	17.61
24	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	24.0	18.04	17.61
25	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	25.0	18.04	17.61
26	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	26.0	18.04	17.61
27	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	27.0	18.04	17.61
28	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	28.0	18.05	17.6
29	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	29.0	18.05	17.59
30	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	30.0	18.05	17.58
31	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	31.0	18.05	17.57
							back to top
32	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	32.0	18.06	17.55
33	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	33.0	18.06	17.54
34	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	34.0	18.06	17.54
35	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	35.0	18.06	17.53
36	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	36.0	18.06	17.53
37	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	37.0	18.06	17.51
38	1	2008-10-31T10:26:00+02:00	44.755554	33.433334	38.0	18.06	17.49

Configure chart

Select key field: Data unit: index — Select key value: 2008-10-31T10:26:00+02:00

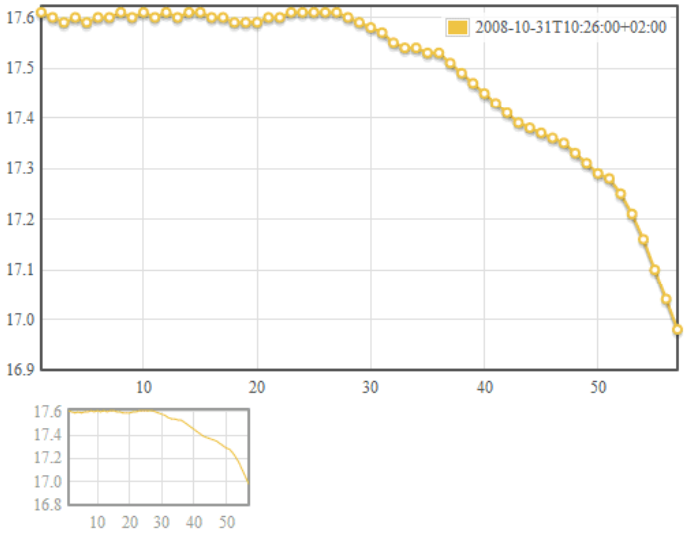
Select X axis column: Observation level: measured

Select Y axis column: Temperature water

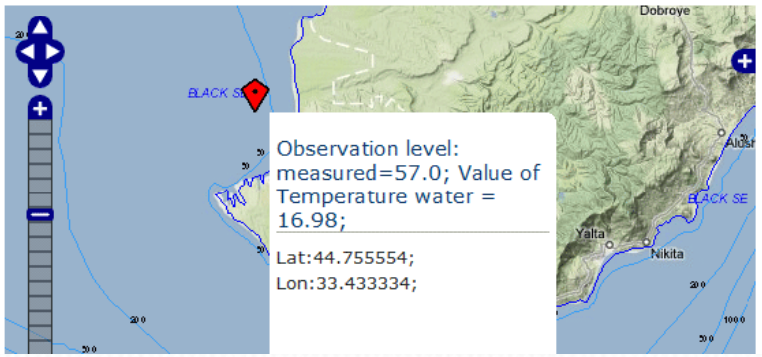
Show lines — Create chart

Enable tooltip

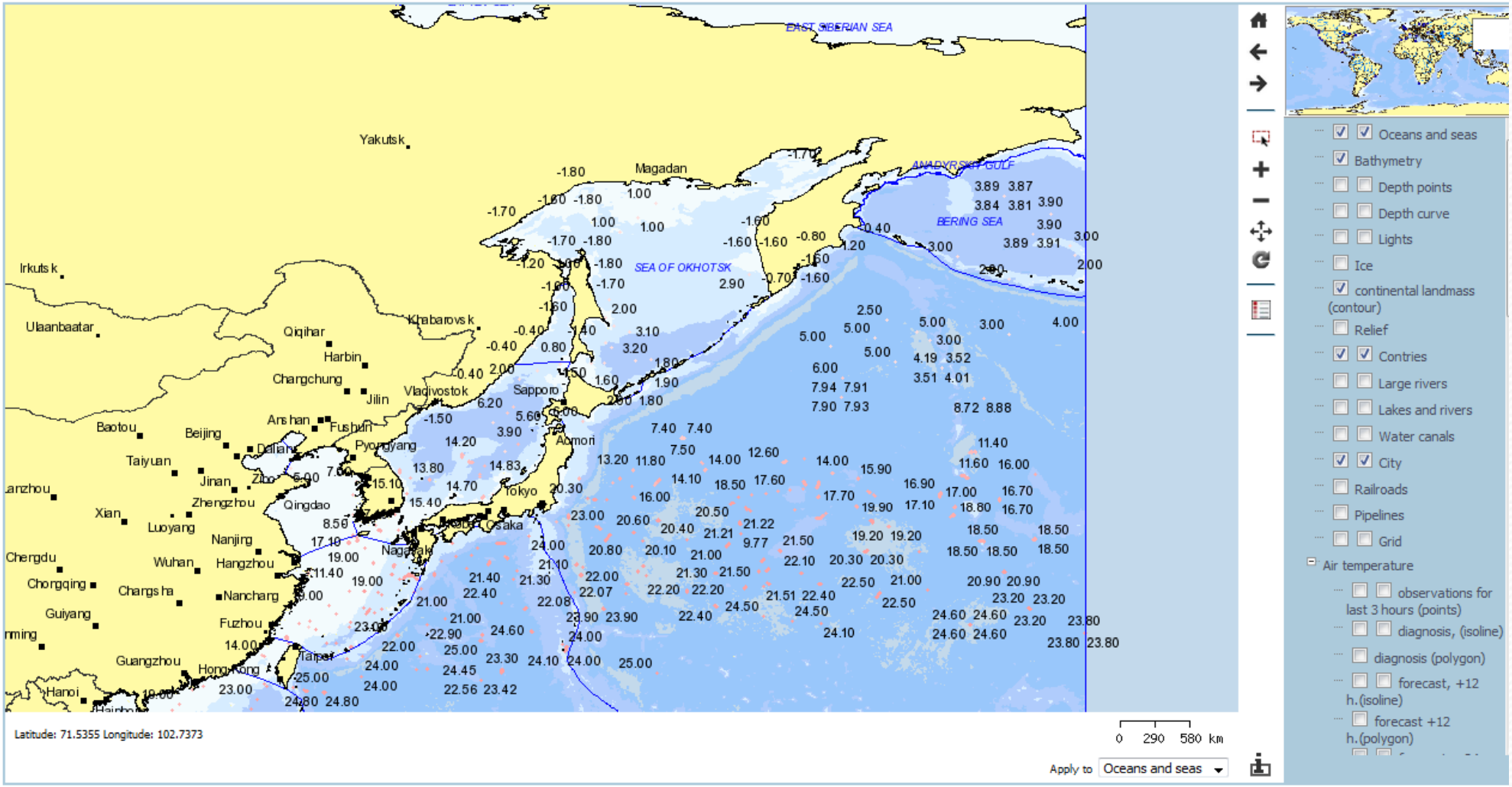
Mouse hovers at (34.65, 16.91).



Use this map for a quick view of the data location displayed on chart (if any).



Analysis service



Download service

Name	Size	Packed	Type	Modified	CRC32
..			Folder		
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BE_US-NODC_21_1-1322479987137.txt	640,008	51,778	Text Document	28/11/2011 12:34	97F20440

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Q5901601;2010-08-15;-50.065;144.114;http://data.nodc.noaa.gov/gtspp/indian/2010/08/10000083.nc
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Q5903303;2010-08-14;-45.68;144.958;http://data.nodc.noaa.gov/gtspp/indian/2010/08/10000084.nc
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Q9900330;2010-08-10;-50.62;138.25;http://data.nodc.noaa.gov/gtspp/indian/2010/08/10000105.nc
```

ODP Administration

- The administrative section provides authorization, authentication and audit tools
  - Includes node maintenance, metadata, node monitoring, reporting tools and feedback

Date and time of last check : **18-03-2011 23:01**

- Check Data Providers online status
- Synchronize resources and instances
- Statistics T2
- Add new Data Provider

12 записей |

Datasource name	Access point	Resources	Number of resources available	Availability		
US-NODC	http://l-dpms.oceandataportal.net/dpms/controller/US-NODC	14	13	✓		
NODC/RIHMI-WDC	http://dpms.meteo.ru:8080/dpms-odp/controller	7	7	✓		
NMDIS	http://221.239.0.159:8080/dpms/controller	5	0	✓		
MEIT/MHI	http://212.111.204.103:8080/dpms/controller	3	3	✓		
BGODC/IO-BAS	http://193.68.190.32:8080/dpms/controller	2	2	✓		
LaMIS/IBSS	http://193.42.157.70:8080/dpms/controller	2	2	✓		
ISDM	http://l-dpms.oceandataportal.net/dpms/controller/ISDM	2	0	✓		
MIRC	http://odp.mirc.jp:8080/dpms/controller	1	19	✓		
GDNA	http://188.93.88.48:8080/dpms/controller	1	0	✗		
NODEC/NIMRD	http://86.127.36.58:8080/dpms/controller	0	0	✓		
METOFFICE	http://151.170.240.93:8080/dpms/controller	0	0	✗		
UTAS	http://iode.emii.org.au/dpms/controller	0	0	✓		

Data providers

- Current ODP data providers include:

	Australian Ocean Data Network	Australia
	Integrated Science Data Management	Canada
	Systemes d'Informations Scientifiques pour la Mer (IFREMER-SISMER)	France
	Marine Information Research Center	Japan
	Met Office	UK
	National Marine Data and Information Service	China
	National Oceanographic Data Center	USA
	Bulgarian National Oceanographic Data Centre	Bulgaria
	National Institute for Marine Research and Development "Grigore Antipa"	Romania
	National Oceanographic Data Centre of Russia	Russia
	Department of Marine Environmental and Information Technologies, Marine Hydrophysical Institute	Ukraine
	Laboratory of Marine Information Systems, Institute of Biology of the Southern Seas	Ukraine

Data types

Data types available from ODP

- Temperature and salinity profiles (GTSPP, Argo)
- Real time data from coastal stations (air temperature, water temperature, wind, wave)
- Meteorological forecasts
- Wind and wave forecasts
- Water turbidity (secchi disk)
- Ocean Data Acquisition Systems (ODAS) data from moored and drifting buoys, profile floats, offshore platforms
- Water level radiance, chlorophyll, SST satellite data from MODIS
- CTD and bottle profiles
- Sea level

- Currently over **1,000,000** oceanographic profiles and stations

Capacity Building

ODP Training for the ODINBlackSea

IOC/WESTPAC Training Course on the Establishment of National IODE ODP Nodes

ODP Training Course for Georgian and Turkish NODCs

OceanTeacher
A Training Resource for Data & Information Management Related to Oceanography & Marine Meteorology

Establish IODE Ocean Data Portal Data Provider

Home ⟩ Courses ⟩ ODP

Topic outline

Establishment of National IODE Ocean Data Portal Nodes

Course Objectives:

- To review the current status of the IODE Ocean Data Portal
- To introduce the technology components of ODP (Integration Server, Data Provider)
- To install and configure Data Provider software
- To register participants' data resources and demonstrate data provider functionality

1 Introduction

The IODE Ocean Data Portal (ODP) will provide seamless access to collections and inventories of marine data from the NODCs in the IODE network and will allow for the discovery, evaluation and access to data via web services. The Ocean Data Portal will deliver a standards-based infrastructure that provides the integration of marine data and information from a network of distributed IODE NODCs as well as the resources from other participating systems. For the first time in IODE's history users will be able to use a "one-stop shopping" approach to oceanographic data held by our global network of 80 data centres. In addition the IODE ODP will be linked to other similar systems such as the European SeaDataNet and WMO WIS. The latter will promote integration of oceanographic and meteorological data contributing to the objectives of GEO/GEOSS.
Detailed information on the IODE Ocean Data Portal Project including technical documentation on how to establish a node of the ODP are available on http://www.oceandataportal.org.

Introduction to Ocean Data Portal
Introduction to Ocean Data Portal (video presentation 36mb)

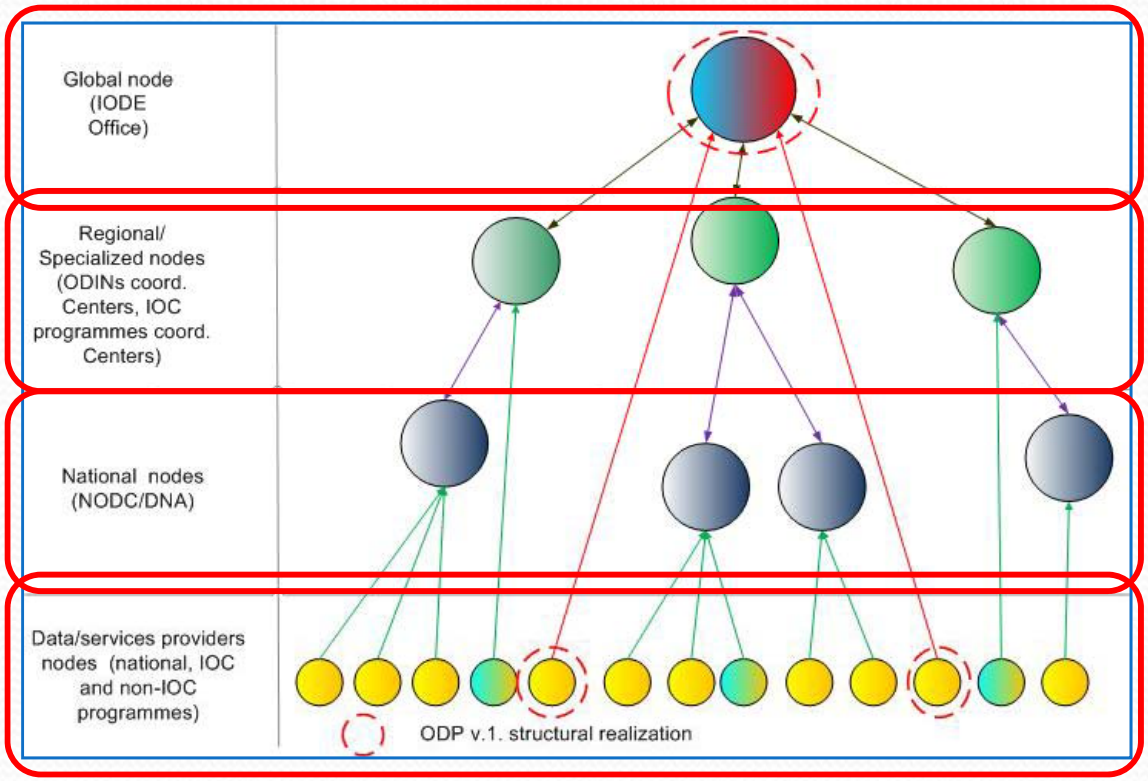
2 Current Status of the IODE Ocean Data Portal

The Ocean Data Portal provides modern data exchange and dissemination infrastructure to achieve the IODE objectives. The ODP is being developed in two stages:
Version 1 Development is based on the E2E technology. V1 activity is routed on the creation the components implementing portal functions: communication with data sources, discovery, visualization, content management and administration. Strong accent made on adjustment of the ODP V1 interaction with data providers.
Version 2 ODP V2 will be based on interoperability standards (such as ISO and OGC) and developed using "open source" tools.

Future plans

- Increase the scope of ODP
  - More data providers, new data types
- Include data and services from other IOC programmes, such as GOOS, HAB, Tsunami warning system, ICAM
- Increased interoperability with other systems
  - Provide ocean data and services to the WIS
  - Contribute to GEOSS

IODE network based on ODP



Global node

- *Coordination and management*

Regional/Specialized node

- *Responsible areas and programme specific -> related data and products*

National nodes

- *NODC data providers*

Other programmes

- *IOC and non-IOC programmes to provide data*

Summary

- IODE ODP provides seamless access to collections and inventories of marine data from the IODE network of NODCs
- IODE ODP supports researchers by providing better access to ocean data
- IODE ODP will be a major contributor of ocean data to the WIS and to GEOSS
- Encourage your institutions to become data providers to the ODP

Thank you for attention!

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www.oceandataportal.org

odp.oceandataportal.net