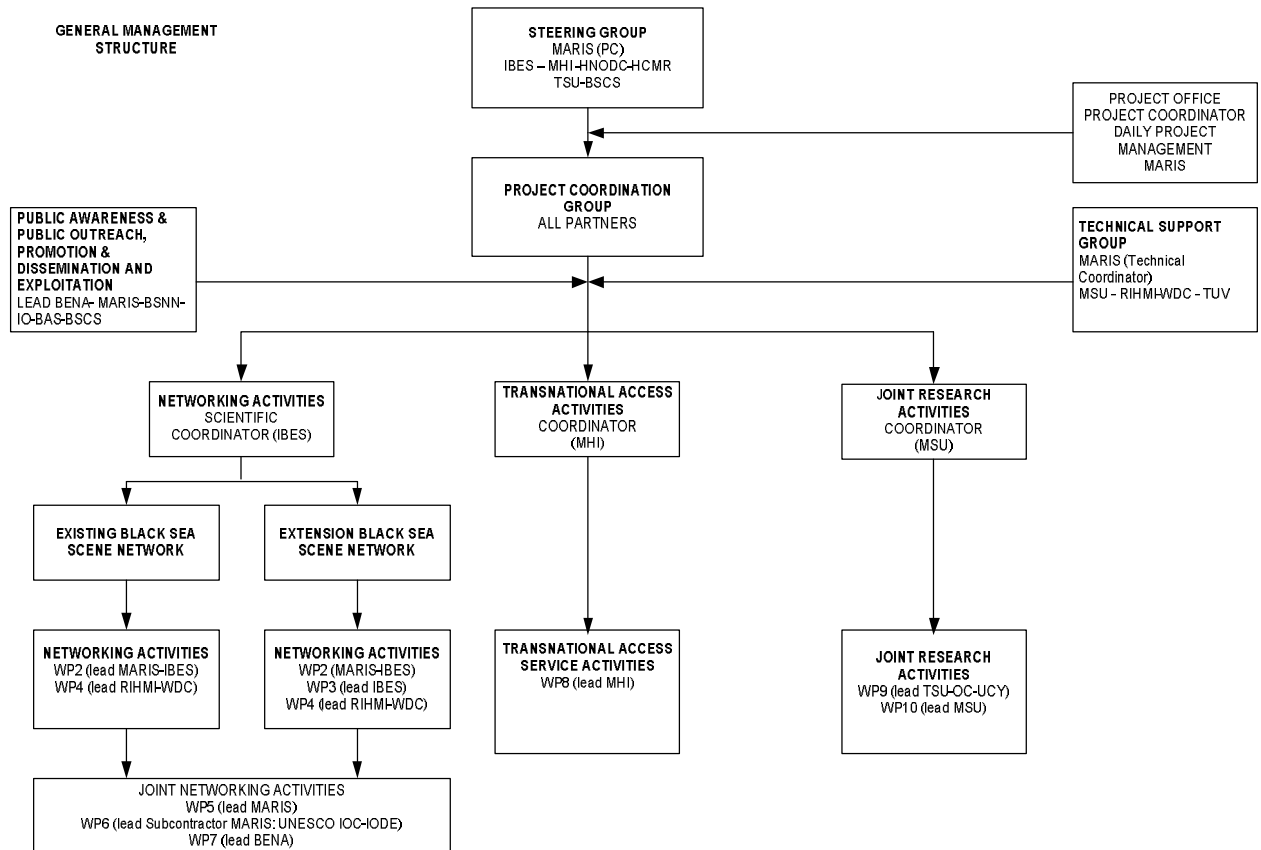


Document with illustrations and tables to the Final Report

## Section 4.1

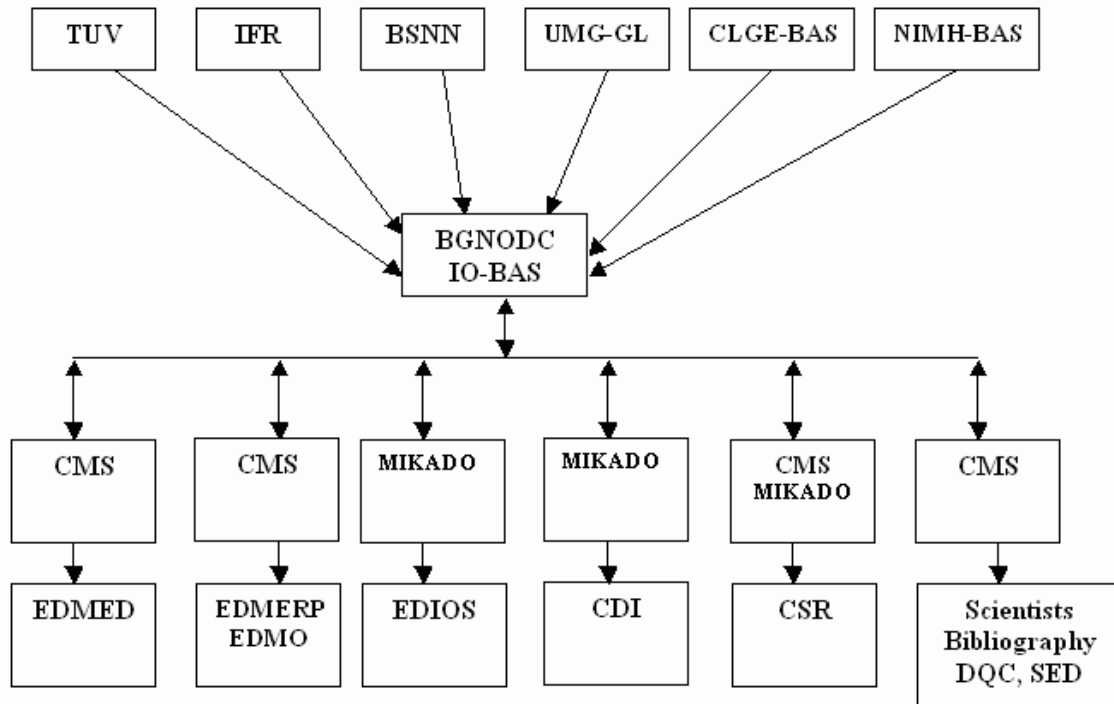
### WP1: Project Management:

Applied Management Structure:



### WP4 Population of V1 meta-databases

The role of the NODC's is schematized (example for Bulgaria):



The number of records populated for each of the directories submitted by each of the Black Sea countries during the period P1-P36 is shown in the table below.

NODC	COUNTRY	EDMED	CSR (V1)	EDMERP	EDMO	CDI	DQC*	Scientists	Publ.	SED
MHI	Ukraine	56	267	168	22	119775	37	413	1008	34
SIO-RAS/RIHMI-WDC	Russian Federation	116	82	147	128	23374	8	226	832	28
METU-IMS	Turkey	42	206	95	49	5669	11	357	1293	16
IO-BAS	Bulgaria	31	104	47	21	3168	10	144	495	34
NIMRD	Romania	66	99	43	16	4254	5	219	626	6
TSU	Georgia	197	7	142	25	1543	2	116	235	40
<b>Totals</b>		<b>508</b>	<b>765</b>	<b>642</b>	<b>261</b>	<b>158110</b>	<b>73*</b>	<b>1475</b>	<b>4489</b>	<b>158</b>

\* Extended DQC forms to describe Data Quality Control applied to databases

## WP5: Updating Black Sea virtual data & information infrastructure to V1 level

Deliverable 5-1: Upgraded Black Sea SCENE web portal

UBSS Homepage:




Welcome to the Upgrade BlackSeaScene website - Black Sea SCENE - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Welcome to the Upgrade BlackSeaScene... +

www.blackseascene.net

terradue



- Introduction
- Metadata services
- Data Access Service
- The Black Sea
- Project background
- Partners
- Newsletter

Home


**Black Sea SCENE** **SEARCH DATASETS**  
Click here to visit the Black Sea SCENE database

**Project poster**  
View the poster of the project for dissemination purposes(English language). Available for partners and other interested audience.  
» [Read more](#)

**Black Sea Outlook conference**  
View the complete programme including the downloadable presentations from the speakers!  
» [Read more](#)

**Welcome to the Upgrade BlackSeaScene website**

The UP-GRADE BS-SCENE project is an FP7 EU funded project running from 2009-2011 that is building and extending the existing research infrastructure (developed under FP6 project BlackSeaScene 1) with an additional 19 marine environmental institutes/organizations from the 6 Black Sea countries. Implementing FP6 RI SeaDataNet project standards regarding common communication standards and adapted technologies will ensure the datacenters interoperability. Main output will be on-line access to in-situ and remote sensing data, meta-data and products.



Please browse through this website for information about the services offered and background information on the project.

**News**

**BlackSeaScene article in International Innovation magazine of December 2011**  
20 December 2011  
The December 2011 issue of the International Innovation magazine is headed "We must act now on ..."  
» [Read more](#)

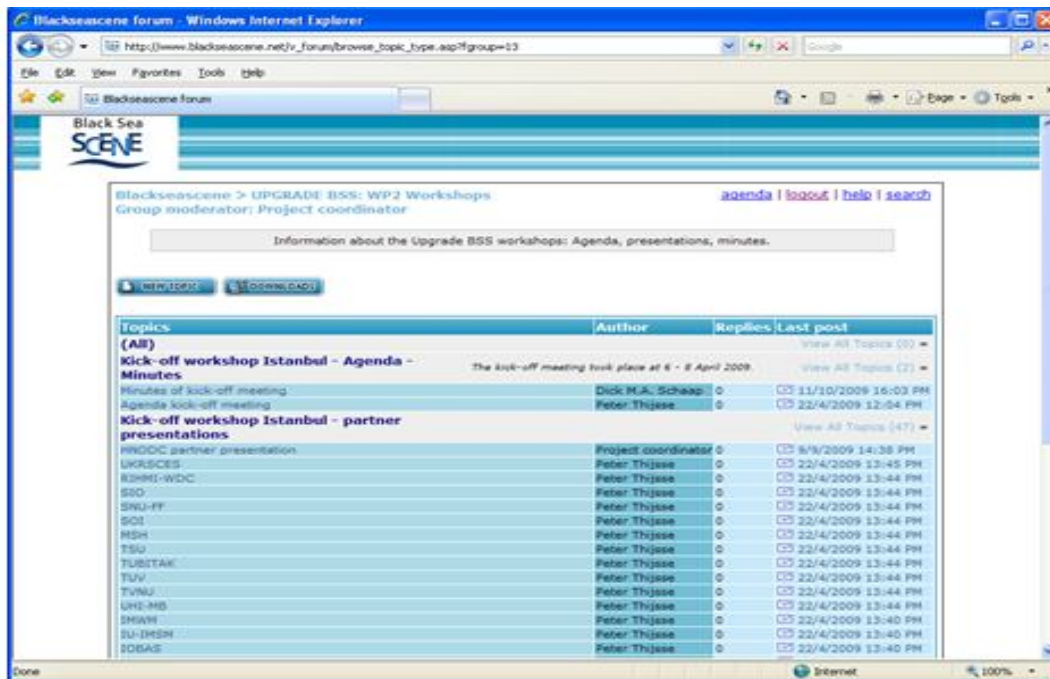
**Conference announcement: Black Sea Outlook - 31 Oct - 4 Nov 2011 \*\*\*Update\*\*\***  
10 October 2011  
The third Black Sea Commission (BSC) Scientific & Final UP-GRADE BS-SCENE EC Project Conference ...  
» [Read more](#)

**Training Workshop - 28th February - 4th March 2011**  
6 February 2011  
The coming Training Workshop will take place at the IODE programme office in Ostend - Belgium. The Workshop ...  
» [Read more](#)

» [More news](#)

mozilla Firefox

Extranet page:




Deliverable 5-2: Upgrading and provision of the online Black Sea EDMED, EDMERP, CSR and EDMO V1 meta-databases

Screenshots show examples of the interfaces.

**Marine Environmental Datasets (EDMED): Search and Results**

Marine Environmental Datasets — Black Sea SCENE Web Application - Mozilla Firefox

subsite:blackseascene.net/blackseascene/edmed.jsp



### Marine Environmental Datasets

Map Tools

Lon: 30.8 Lat: 40.8

Layer Selection

Default Base Map

Search By

Title:

Time Period, From:

Time Period, To:

Centre:

Country:

Bulgaria

Originator:

Originator Country:

Sea Area:

Parameter:

Instrument:



Title	Begin	End	Centre	Country
Multi-parametric Meteorological and Oceanographic Data Set for Bulgarian coastal zone	2006		Bulgarian National Oceanographic Data Centre (BOODC), Institute of Oceanology	Bulgaria
Cetaceans Data-set	1992	2002	Institute of Fishery Resources (IFR)	Bulgaria
Western Black Sea Phytoplankton Data Set (1997 onwards)	1997		Bulgarian National Oceanographic Data Centre (BOODC), Institute of Oceanology	Bulgaria

Prev Set Next Set Per Page: 5 10 20 50 Found: 30 Result page: 1 2 3

mozilla Firefox

## Marine Environmental Datasets (EDMED): Detail

**Marine Environmental Datasets**

Map Tools

Layer Selection

Search By

Title:

Time Period, From:

Time Period, To:

Centre:

Country: Bulgaria

Originator:

Originator Country:

Sea Area:

Parameter:

Instrument:

Project:

Clear All

Totals

Records: 665

**Marine Environmental Dataset Details**

Dataset Name: Multi-parametric Meteorological and Oceanographic Data Set for Bulgarian coastal zone

Data Centre: Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology, Bulgaria

Contact Person: Dr. Atanas Palazov, Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology, Bulgaria

Phone: +359 52 370 486

Fax: +359 52 370 483

E-mail: palazov@io-bas.bg

Dataset Originator(s): Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology, Bulgaria

Abstract: The system intends to provide both real-time information and operational forecasts of weather and sea state for the Bulgarian coastal areas. Weather and oceanographic station will be installed in crucial points along the coast. The implementation of this task has initiated with launch of the Galata station located off of the cape Galata near Varna on the wellhead development platform. In the future identical stations will be installed in the major Bulgarian ports. The in-situ data, together with satellite data and meteorological forecasts will be used to produce operational forecast for the region. Currently, the system is extended on three sites: Galata platform, Petresco shore control centre-PSCC and the Institute of Oceanology Operational Data Centre-IO-ODC. To transfer data between these three sites, a communication system is developed, which consists of radio communication between platform and PSCC and Internet connection between PSCC and IO-ODC. The raw data are stored in the IO-ODC.

## Marine Environmental Research Projects (EDMERP): Search and Results

**Marine Environmental Research Projects**

Search By

Name:

Begin:

End:

Coordinator:

Country:

Partner:

Partner Country:

Sea Area:

Data Theme:


Clear All

Result page: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

Title	Acronym	Begin	End	Coordinator	Country
<a href="#">Review of Environmental Projects of the Caspian Sea for the Planning of Future Activities</a>		1998-03-01	1999-09-30	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Development of Black Sea Integrated Coastal and Shelf Zone Monitoring and Modeling (INCOM) Program Science Plan</a>	INCOM	1999-01-01	2000-10-31	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Black Sea Ecosystem Processes And Forecasting / Operational Database Management System</a>	ODBMS Black Sea	1999-01-01	2003-03-31	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Black Sea Global Ocean Observing System</a>	Black Sea GOOS	2001-06-06	2010-12-01	Marine Hydrophysical Institute	Ukraine
<a href="#">The Influence of atmospheric Saharan dust on phytoplankton dynamics in Eastern Mediterranean</a>		2001-01-01	2003-12-01	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Determination of the sedimentological mineralogical and geochemical properties of the atmospheric dust of Northeastern Mediterranean</a>		2001-05-01	2004-05-01	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Determination of pigment markers of the phytoplankton composition in the Northeastern Mediterranean</a>		2001-06-01	2003-12-01	Institute of Marine Sciences, Middle East Technical University	Turkey
<a href="#">Evaluation of biogeochemical impact of African dust deposition to the East Mediterranean basin by combining ground based and satellite measurements</a>		2001-01-01	2002-02-01	Institute of Marine Sciences, Middle East Technical University	Turkey

## Marine Environmental Research Projects (EDMERP): Detail

Marine Environmental Research Projects — Black...



### Marine Environmental Research Projects

Search By Marine Environmental Research Project Details [Back](#)

Name:

Begin:

End:

Coordinator:

Country:

Partner:

Partner Country:

Sea Area:

Data Theme:


Clear All

**Project Name:** Black Sea Global Ocean Observing System  
**Acronym:** Black Sea GOOS  
**Associated:** EURO GOOS  
**Programme:**  
**Project Coordinator:** Marine Hydrophysical Institute, Ukraine  
**Contact Person:** VALERY N. EREMEEV, Marine Hydrophysical Institute, Ukraine  
**Phone:** 380 692 54 02 52  
**Fax:** 380 692 55 42 53  
**E-mail:** eremeev@alpha.mhi.iuf.net  
**Project Partners:** Institute of Biology of the Southern Seas, NAS of Ukraine, Ukraine; Marine branch of Ukrainian Hydrometeorological Institute, Ukraine; Experimental Branch of Marine Hydrophysical Institute, Ukraine

**Abstract:** The Black Sea GOOS is a local Association formed by the Black Sea riparian countries in order to foster Operational Oceanography in the region and set up links with other regional and global organizations (with similar objectives). The Major Aims and Objectives of the Black Sea GOOS are:  
 - To contribute to international planning and implementation of the GOOS and to promote it at national, regional and global level.  
 - To identify regional priorities for operational oceanography.  
 - To develop capacity of the regional countries and promote the level to sustain GOOS activities.  
 - To provide high quality data and time series, for a better understanding of, the Black Sea ecosystem.  
 - To assess the economic and social benefits achieved by operational oceanography. Black Sea GOOS activities will be designed to foster operational oceanography in the Black Sea basin collaborate with and maximise the benefits from existing activities of EuroGOOS and Med-GOOS, promoting

## Marine Organisations (EDMO): Search and Results

Marine Organisations — Black Sea SCENE Web A...



### Marine Organisations

**Map Tools**

Lon: 41.8 Lat: 46.5

**Layer Selection**

Default Base Map

No overlay

**Spatial Search**


(Country's EMZ)

**Search By**

Name:

City:

Country:



## Cruise Summary Reports (CSR): Search

CSR - BlackSeaSCENE

Welcome to the Cruise Summary Reports

Search

Free search

Country of ship:

Project:

Cruise name/nr:

Discipline:

Ports:

Country of institute:

Date (yyyy-mm-dd) from  to

Ship(s):

Oceans/Sea area(s):

Data type(s):

Institute(s):

© Powered by SeaDataNet

## Cruise Summary Reports (CSR): Results

CSR - BlackSeaSCENE

Welcome to the Cruise Summary Reports

Search results

Refine query | New query | Found 90 | Show (1-20) | Previous | Next 20


20 50 100 records

Platform/Ship Name	Country of ship	Cruise name	From	To	Show
Steaua de Mare	Romania	PN08102009	2009-10-08	2009-10-10	
Steaua de Mare	Romania	PN15092009	2009-09-15	2009-09-16	
Steaua de Mare	Romania	POL17072009	2009-07-17	2009-07-21	
Steaua de Mare	Romania	PN06052009	2009-05-06	2009-05-09	
Steaua de Mare	Romania	PN15062009	2009-06-15	2009-06-17	
Steaua de Mare	Romania	POL230808	2008-08-23	2008-08-25	
Steaua de Mare	Romania	POL290908	2008-09-29	2008-09-30	
Steaua de Mare	Romania	POL-2605	2008-08-20	2008-08-22	
Steaua de Mare	Romania	POL230708	2008-07-23	2008-07-24	
Steaua de Mare	Romania	POL210708	2008-07-21	2008-07-22	
Steaua de Mare	Romania	POL140608	2008-06-14	2008-06-15	
Steaua de Mare	Romania	POL100508	2008-05-10	2008-05-12	

## Cruise Summary Reports (CSR): Detail



CSR - BlackSeaSCENE



## Welcome to the Cruise Summary Reports

Details

| Refine query | New query | Results | Found 90 | Show 1 | Previous | Next

**Details of PN08102009 (BSH20103102)**

General Information									
Platform/Ship	Steaua de Mare								
Cruise name	PN08102009								
Cruise begin	2009-10-08								
Cruise end	2009-10-10								
Port of departure	Navodari								
Port of return	Navodari								
Chief Scientist(s)	Aurel Cristea - National Institute for Marine Research and Development Grigore Antipa								
Responsible Laboratory	National Institute for Marine Research and Development Grigore Antipa								
Country	Romania								
Location									
General Ocean Areas	Black Sea								
Marsden squares (S,N,E,W)	178 (40.0, 50.0, 20.0, 30.0)								
	<table border="1"> <thead> <tr> <th>South</th> <th>West</th> <th>North</th> <th>East</th> </tr> </thead> <tbody> <tr> <td>40</td> <td>20</td> <td>50</td> <td>30</td> </tr> </tbody> </table>	South	West	North	East	40	20	50	30
South	West	North	East						
40	20	50	30						
Bounding Box(es)									


## DQC application TUV: Statistical filter for outliers

Data analysis - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Data analysis

ubss-tuv.com/outliers.jsp



Home > Data quality analysis > Outliers

### Data quality analysis

Annotation

As part of NAS of Black Sea SCENE, the team from TU-Varna (BG) develops program- and web-based procedures for data quality analysis.

Collected data is subjected to statistical procedures in order to study how disturbances in the measurement process influence the quality of information.

Outliers are identified that are not representative for the analyzed object/process. Statistical procedures analyze two types of data:

- 1) multiple measurements of 1-D variables that are not correlated with other variables;
- 2) measurements of correlated parameters, between which linear dependence exists.

This web page allows project partners to access to the statistical procedures and test data for outliers depending on the type of measurements.

Through the user-friendly interface, users can send data files and receive results quickly in final txt files and/or on their web-mail. They can also receive help information regarding the structure of data files, as well as for the statistical procedures executed.

In case users do not enter e-mail address, the results of the analysis shall be visualized on the screen only.

mozilla Firefox

Deliverable 5-3: Upgrading and provision of the online Black Sea Scientists, Publications and Socio-economic meta-databases:

All services are available from the UBSS website. Below some screenshots are provided to illustrate the developed interfaces.

**BSNN Legislative and Socio Economic Data (SED): Overview of documents**

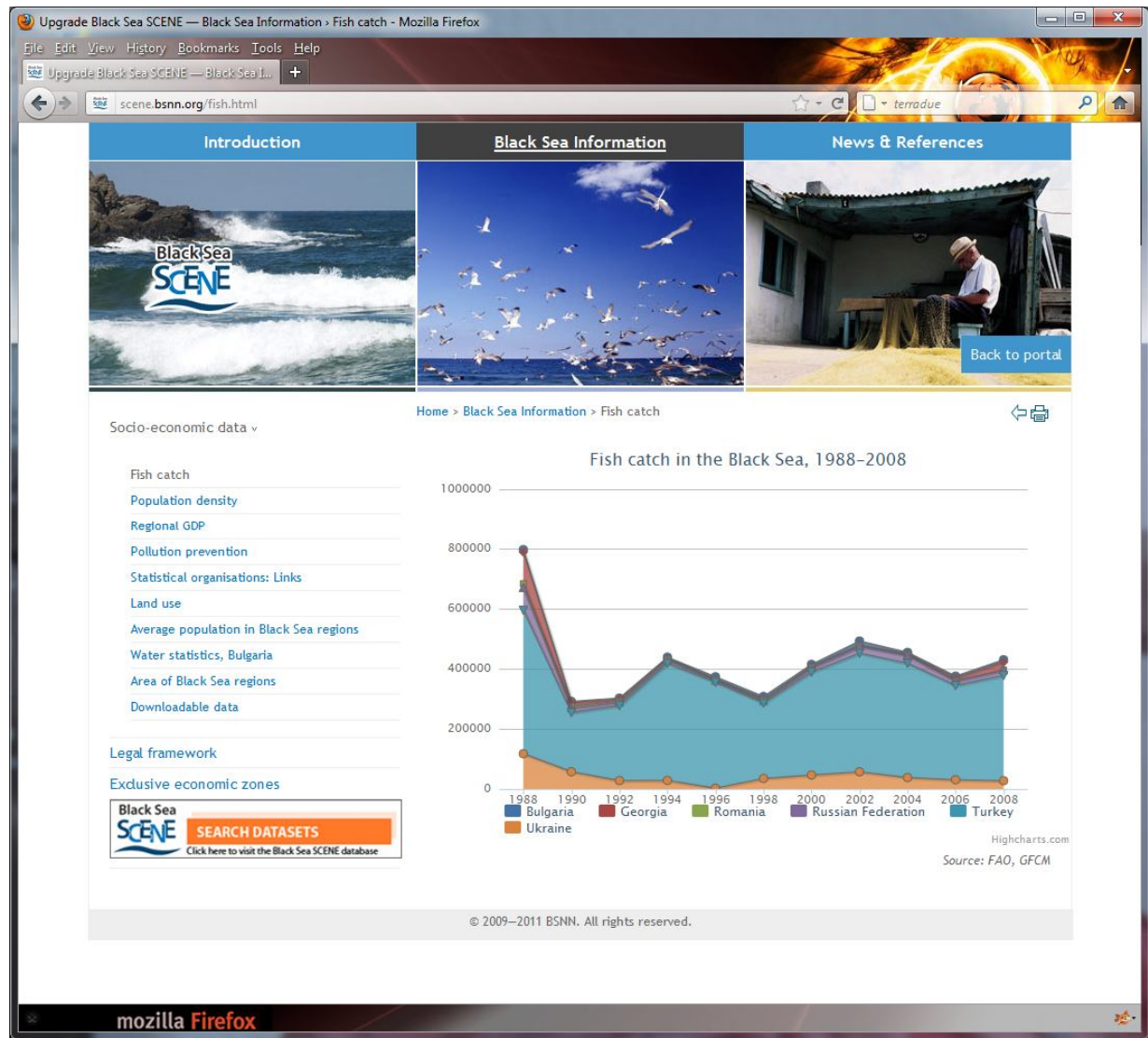
The screenshot shows a web browser window with the address bar displaying "Upgrade Black Sea SCENE — Black Sea Informati...". The website has a blue header with three navigation tabs: "Introduction", "Black Sea Information", and "News & References". Below the header are three images: a Black Sea SCENE logo over a wave, a large flock of birds in flight, and a person working with a net. A "Back to portal" button is visible in the bottom right of the image area.

The main content area shows a breadcrumb trail: "Home > Black Sea Information > Legal framework". The page is titled "European legislation" and is divided into two columns. The left column contains a "Socio-economic data" menu with items like "Fish catch", "Population density", "Regional GDP", "Pollution prevention", "Statistical organisations: Links", "Land use", "Average population in Black Sea regions", "Water statistics, Bulgaria", "Area of Black Sea regions", and "Downloadable data". The right column contains "Environmental protection" with sub-sections for "Directives" and "Regulations".

**Directives**  
Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds  
Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora  
Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive)

**Regulations**  
Council Regulation (EC) No 708/2007 of 11 June 2007 concerning use of alien and locally absent species in aquaculture  
Commission Regulation (EC) No 535/2008 of 13 June 2008 laying down detailed rules for the implementation of Council Regulation (EC) No 708/2007 concerning use of alien and locally

## BSNN Socio Economic Data (SED): View of statistics



## Black Sea Scientists: Search and Results (RIHMI-WDC)

BlackSeaScene - Mozilla Firefox

File Edit View History Bookmarks Tools Help

BlackSeaScene

bssupgrade.oceaninfo.ru/scientists/index.jsp?action=list&page=8

Manual Summary

Back to portal

Home > Scientists

### Scientists

Please, select the scientist you want to view  
Sort by clicking column heading

Found: 666 Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 ...

	Name	Organisation	Country
71	Besiktepe Sengul	Institute of Marine Sciences, Middle East Technical University	Turkey
72	Bilanchyn Yaroslav	Odessa National I.I.Mechnikov University	Ukraine
73	Bilashvili Kakhaber	Iv.Javakhishvili Tbilisi State University, Centre of Relations with UNESCO Oceanological Research Centre and GeoDNA (UNESCO)	Georgia
74	Bilgin Sabri	Canakkale Onsekiz Mart University- Fisheries Faculty	Turkey
75	BILOGUROVA Iuliia	Institute of Biology of the Southern Seas, NAS of Ukraine	Ukraine
76	Binget Ferit	Institute of Marine Sciences, Middle East Technical University	Turkey
77	Bircan Recep	Sinop University, Fisheries Faculty	Turkey
78	Birinci Ozdemir Zekiye	Sinop University, Fisheries Faculty	Turkey
79	Blinkov Viktor A.	Marine Hydrophysical Institute	Ukraine
80	Boborykina Olga	Taurida V. I. Vernadsky National University	Ukraine

Display 10 records per page

Create date: 2007-02-21. Number of views: 96930, today: 216

Workplace developed by National Oceanographic Data Centre, RIHMI-WDC.  
© 2005-2011 RIHMI-WDC. All rights reserved.  
Technical support: vjaz@meteo.ru

mozilla Firefox

## Black Sea Scientists: Details (RIHMI-WDC)

BlackSeaScene - Mozilla Firefox

File Edit View History Bookmarks Tools Help

BlackSeaScene

bssupgrade.oceaninfo.ru/scientists/index.jsp?action=view&scientistid=5757

Manual Summary

Back to portal

Home > Scientists > View details: Bingel Ferit

### Scientists

Information on the selected scientist

Name	Ferit
Last Name	Bingel
Country	Turkey
Citizenship	Turkey
Language	German, English, Turkish
Organization	<a href="#">Institute of Marine Sciences, Middle East Technical University</a>
Position	Professor
Birth date	11 January 1946
Degree	PhD
Education	M.S. Kiel University, Germany Ph.D. Kiel University, Germany
Scientist publications number	32
Address	P.O. Box 28, Erdemli, 33731, Mersin, Turkey
Email	<a href="mailto:bingel@ims.metu.edu.tr">bingel@ims.metu.edu.tr</a>
Phone	+90 (324) 5212406
Alternative Phone	+90 (324) 5212150
Fax	+90 (324) 5212327
Keywords	Fish, fish stocks, biodiversity, fish stock assessment, fisheries acoustics
Insert date	2007-06-19 00:00:00.0
Update date	2007-06-19 00:00:00.0

[Edit](#)

Create date: 2007-02-21. Number of views: 96931, today: 217

Workplace developed by [National Oceanographic Data Centre, RIHMI-WDC](#).  
© 2005-2011 RIHMI-WDC. All rights reserved.

mozilla Firefox

## Bibliography: Search and Results (RIHMI-WDC)

The screenshot shows the BlackSeaScene website's bibliography search results page. The page has a header with navigation links for 'Manual' and 'Summary', and a 'Back to portal' button. Below the header is a search interface with fields for 'Title', 'Author (Contributor in Manual)', and 'Country', along with a 'Search' button. The search results are displayed in a table with columns for 'Title', 'Download', 'Publish Date', 'Language', and 'Country'. The results list six entries, including titles in Turkish and English, such as '50 questions about dolphins' and 'İz elementlerden bakır ve çinko'nun gökkuşuğu alabalığının (Onchorhynchus mykiss W., 1972) dokusundaki birikimi ve letal toksik değerlerinin saptanması'.

Title	Download	Publish Date	Language	Country
1 50 questions about dolphins		01/01/1975		Georgia
2 3-5 Aralık 1994 tarihleri arasında Trabzon kıyılarında görülen dalgalar ve özellikleri.		26/04/1995	Turkish	Turkey
3 İz elementlerden bakır ve çinko'nun gökkuşuğu alabalığının (Onchorhynchus mykiss W., 1972) dokusundaki birikimi ve letal toksik değerlerinin saptanması (Accumulation of the heavy metals copper and zinc in tissues of Rainbow Trout (Onchorhynchus mykiss W., 1972) and evaluation of lethal acute toxicity values)		01/01/2003	Turkish	Turkey
4 İstanbul Boğazi Karadeniz girişi Ostrakod (Crustacea) Faunası ve Zoocoğrafyası. Zoogeography and fauna of the freshwater Ostracod (Crustacea) fauna in the Black Sea inlet of the Bosphorus.		01/01/1992	Turkish	Turkey
5 İnebolu-Abana (Batı Karadeniz) kıyı şeridinde örneklenen Hippocampus guttulatus'da dalgalanan asimetri (Fa) değerleri. Fluctuating asymmetry profiles of Hippocampus guttulatus from İnebolu-Abana (West Blacksea) Shoreline.		01/01/2007	Turkish	Turkey
6 İki tekne ile çekilen orta su trölu ve gırgır avcılığının su ürünleri stoklarının korunması ve av verimi açısından karşılaştırılması olarak araştırılması		05/09/2005	Turkish	Turkey

## Black Sea article publications (BENA)

The screenshot shows the Black Sea SCENE data & information infrastructure website. The page features a header with the website's name and a navigation menu. Below the header is a list of 'Latest articles' with columns for the article title and its size. The articles include reports on the state of the Black Sea marine and coastal environment in 2010, coastal lakes of the Black Sea, and fishing vessel monitoring systems. The page also includes a 'Get involved!! FORUM' banner at the bottom.

Article Title	Size
1 report on the state of the black sea marine and coastal environment in 2010	2.23 MB
2 report on the state of the black sea marine and coastal environment in 2010	2.23 MB
3 coastal lakes of the black seay	434.33 KB
4 fishing vessel monitoring system (vms): application and challenges in bulgarian black sea coastal waters8 case	620.97 KB
5 characteristics of freshwater fish population in the danube river near braila within the period 2006&2008 case	645.15 KB

Deliverable 5-4: Upgrading of the Common Data Index (CDI) system to SeaDataNet V1 level:

Below some screenshots are given of the UBSS CDI interface.

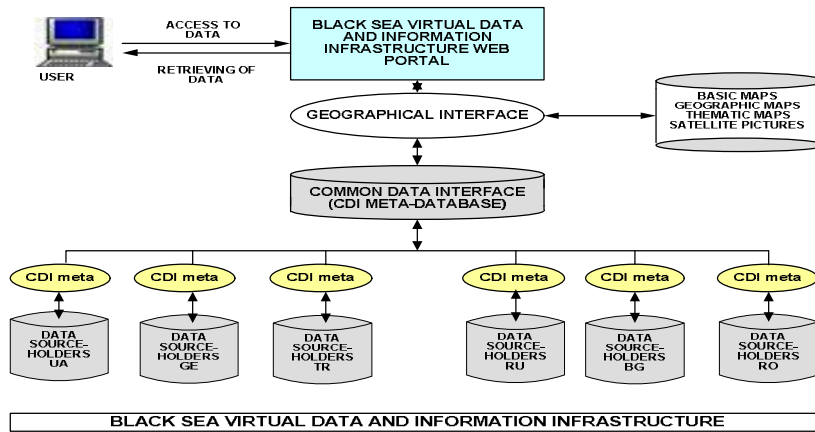


Figure 1: Search the CDI database

Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox

www.blackseascene.net/v\_cdi\_v2/browse\_Step.asp

Black Sea SCENE Common Data Index (CDI) V2

Cart: 0 Dataset(s) Proceed to checkout Reset basket Export Store query Summary Show on map ?

Reset all steps

Search by:

Geographical Box

Time period

Measuring area type

point (157242)

surface (431)

Parameter categories

Water column temperature and salinity (126969)

Dissolved gases (33659)

Nutrients (25468)

Carbon, nitrogen and phosphorus (24907)

Administration and dimensions (23676)

More

Disciplines

Physical oceanography (127518)

Chemical oceanography (50769)

Administration and dimensions (23676)

Biological oceanography (6039)

Environment (4618)

More

Instrument / gear type

thermistor chains (70574)

discrete water samplers (50930)

CTD (18023)

bathythermographs (2830)

spectrophotometers (2806)

Add to basket 20 50 100 Records Go | Found 157673 | Show (1-20) | Previous | Next 20

#	Data set name	Variables measured	Instrument / gear type	Show
	biota_68521	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	
	biota_68511	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	
	biota_68507	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	
	biota_68505	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	
	biota_68503	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity	optical microscopes	

mozilla Firefox

Figure 2: Display results on map



Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox

Blackseascene Common Data Index (CDI) V2

www.blackseascene.net/v\_cdi\_v2/browse\_step.asp

Black Sea SCENE Common Data Index (CDI) V2

Cart: 0 Dataset(s) Proceed to checkout Reset basket Export Store query Summary Hide map ?

Reset all steps

**TOOLS**

- Home
- Search
- Hand
- Info
- Measure
- Print
- Layers
- Full Screen
- Enlarge
- Position
- Index

**LAYER CONTROL** Expand Add layer

- CDI entry Points
- CDI entry Tracks
- CDI entry Areas
- Grid Lines
- Regional sea
- Regional sea labels
- Main sea
- Main sea labels
- Bathymetry
- Display all selected records
- Only selected records in results list

Zoom to selected

Search by: Add to basket 20 50 100 Records Go | Found 157673 | Show (1-20) | Previous | Next 20

**Geographical Box**

**Time period**

**Measuring area type**

- point (157242)
- surface (431)

**Parameter categories**

- Water column temperature and salinity (126969)
- Dissolved gases (33659)
- Nutrients (25468)
- Carbon, nitrogen and phosphorus (24907)

#	Data set name	Variables measured	Instrument / gear type	Show
<input type="checkbox"/>	biota_68521	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	
<input type="checkbox"/>	biota_68511	Biological oceanography > Zooplankton > Biota abundance, biomass and diversity > Rock and sediment biota Marine geology > Rock and sediment biota Terrestrial > Rock and sediment biota	optical microscopes	

mozilla Firefox

**Figure 3: Add external WMS layer via “add layer” option**

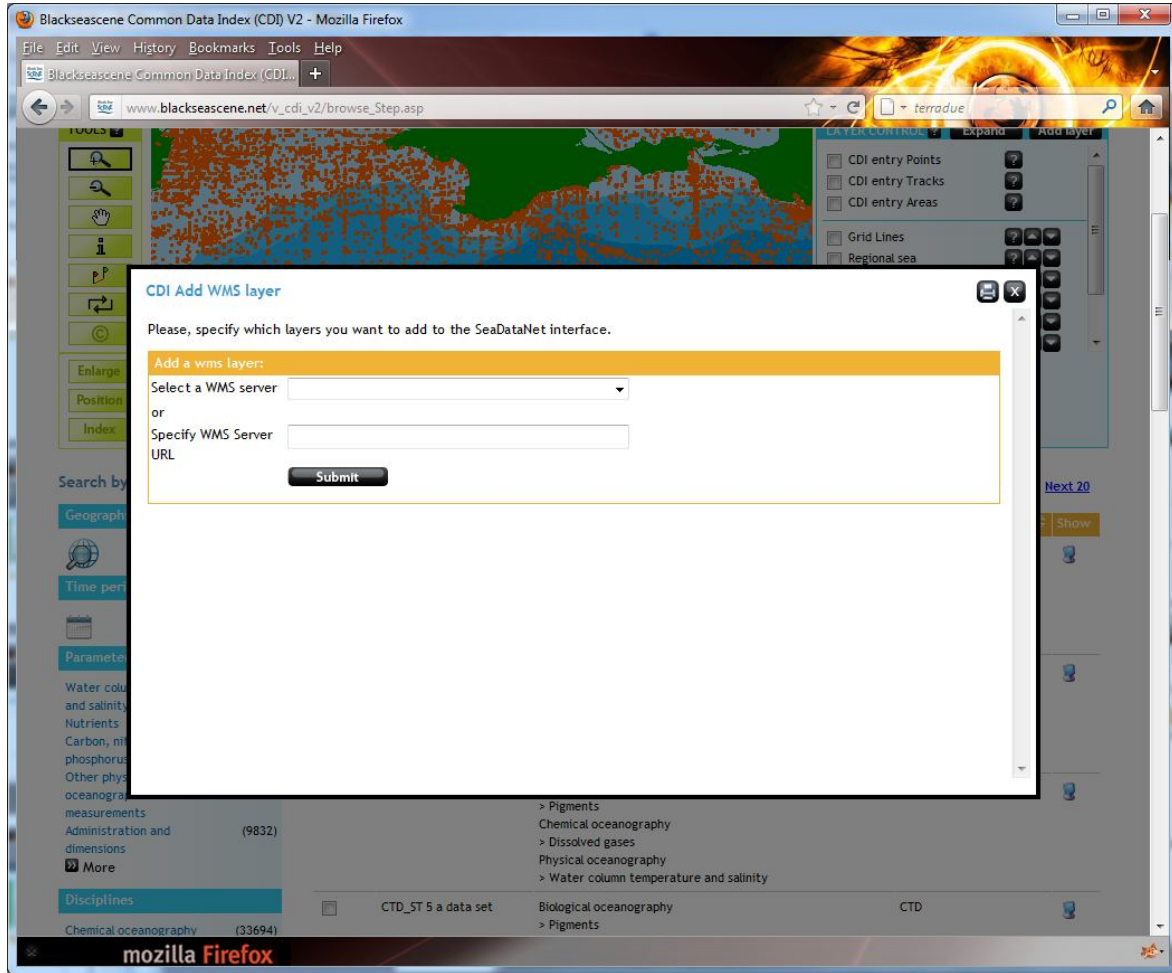


Figure 4: Display WMS layer

The screenshot displays the Black Sea SCENE Common Data Index (CDI) V2 web application. The browser window title is "Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox". The address bar shows the URL "www.blackseascene.net/v\_cdi.v2/browse\_Step.asp".

The main header features the "Black Sea SCENE" logo and the text "Blacksea SCENE Common Data Index (CDI) V2". Below the header, there is a navigation bar with buttons for "Cart: 0 Dataset(s)", "Proceed to check out", "Reset basket", "Export", "Store query", "Summary", and "Hide map".

The central area contains a map of the Black Sea region with a WMS layer overlaid in orange and blue. To the left of the map is a "TOOLS" panel with icons for search, zoom, pan, and other map functions. To the right is a "LAYER CONTROL" panel with a list of layers and checkboxes for "Bathymetry", "Blue Marble", and "World".

Below the map, there is a search bar and a "Search by:" section with filters for "Geographical Box", "Time period", and "Parameter categories". A "Add to basket" button is also present. The results section shows a table of datasets:

#	Data set name	Variables measured	Instrument / gear type	Show
<input type="checkbox"/>	CTD_NT 7 data set	Biological oceanography > Pigments Chemical oceanography > Dissolved gases Physical oceanography > Water column temperature and salinity	CTD	
<input type="checkbox"/>	CTD_CTD 2 data set	Biological oceanography	CTD	

The bottom of the browser window shows the "mozilla Firefox" logo.

**Figure 5: Show summary of search result**

The screenshot displays the BlackSea SCENE Common Data Index (CDI) V2 website. The main content is a table summarizing the data provided by various partner institutions across different countries. Below the table, there are filters for 'Environment' and 'Instrument / gear type'.

PER CDI PARTNER	COUNTRY	DATASETS
<a href="#">Marine Hydrophysical Institute</a>	Ukraine	86302
<a href="#">Southern Scientific Research Institute of Marine Fisheries and Oceanography</a>	Ukraine	19159
<a href="#">P.P.Shirshov Institute of Oceanology, RAS</a>	Russian Federation	15535
<a href="#">Ukrainian scientific center of Ecology of Sea (UkrSCES)</a>	Ukraine	7955
<a href="#">All-Russia Research Institute of Hydrometeorological Information - World Data Centre (RIHMI-WDC) National Oceanographic Data Centre (NODC)</a>	Russian Federation	7367
<a href="#">National Institute for Marine Research and Development "Grigore Antipa"</a>	Romania	4254
<a href="#">Institute of Marine Sciences, Middle East Technical University</a>	Turkey	3082
<a href="#">Odessa National I.I.Mechnikov University</a>	Ukraine	2334
<a href="#">Permanent Secretariat Commission on the Protection of the Black Sea Against Pollution</a>	Turkey	2021
<a href="#">Marine branch of Ukrainian Hydrometeorological Institute</a>	Ukraine	1976
<a href="#">Institute of Biology of the Southern Seas, NAS of Ukraine</a>	Ukraine	1865
<a href="#">Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology</a>	Bulgaria	1489
<a href="#">Scientific - Research Firm "GAMMA"</a>	Georgia	807
<a href="#">University of Mining and Geology - Saint Ivan Rilski</a>	Bulgaria	726
<a href="#">Institute of Fishery Resources (IFR)</a>	Bulgaria	667
<a href="#">Iv.Javakhisvili Tbilisi State University, Centre of Relations with UNESCO Oceanological Research Centre and GeoDNA (UNESCO)</a>	Georgia	464
<a href="#">Space Research Institute of RAS</a>	Russian Federation	387

**Environment (4618)**

- More
- biota\_68503

**Instrument / gear type**

- thermistor chains (70574)
- discrete water samplers (50930)
- CTD (18023)
- bathythermographs (2830)
- spectrophotometers (2806)
- optical microscopes

Additional filters on the right include: Biota abundance, biomass and diversity; Rock and sediment biota; Marine geology; Terrestrial; Zooplankton.

**Figure 6: Display CDI record details for observation information**

The screenshot displays the Blackseascene Common Data Index (CDI) V2 web application. The browser window title is "Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox". The address bar shows the URL "www.blackseascene.net/v\_cdi\_v2/browse\_Step.asp".

The main header features the "BlackSea SCENE" logo and the text "Blacksea SCENE Common Data Index (CDI) V2". Below the header is a navigation bar with buttons for "Cart: 0 Dataset(s)", "Proceed to check out", "Reset basket", "Export", "Store query", "Summary", and "Hide map". A "Back to portal" button is also visible.

The central area contains a map of the Black Sea region with data points overlaid. To the left of the map is a "TOOLS" panel with icons for zooming and navigation. To the right is a "LAYER CONTROL" panel with checkboxes for "CDI entry Points", "CDI entry Tracks", "CDI entry Areas", "Grid Lines", "Regional sea", "Regional sea labels", "Main sea", "Main sea labels", "Bathymetry", and "Display all selected records". A "Zoom to selected" button is located at the bottom of the layer control panel.

Below the map is a "Search by:" section with filters for "Geographical Box", "Time period", and "Parameter categories". The "Parameter categories" list includes:

- Dissolved gases (33659)
- Water column temperature and salinity (26397)
- Nutrients (25468)
- Carbon, nitrogen and phosphorus (24907)
- Administration and dimensions (18664)

The "DETAILS" section provides information for the selected record:

- WHAT?:**
- Data set name:** CTD\_Krapec1 data set
- Discipline:** Chemical oceanography, Physical oceanography
- Category:** Carbon, nitrogen and phosphorus, Dissolved gases, Nutrients, Water column temperature and salinity
- Variables measured:** Ammonium concentration parameters in the water column, Dissolved oxygen parameters in the water column, Nitrate concentration parameters in the water column, Phosphate concentration parameters in the water column, Salinity of the water column, Silicate concentration parameters in the water column
- Abstract:** CTD and BIO data from Black Sea
- Data format:** Ocean Data View ASCII input Version 0.4

The browser status bar at the bottom shows "mozilla Firefox" and a JavaScript error message: "javascript:onclick=change\_page('print',1,1227411)".

**Figure 7: Create order of selected datasets**

Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox

Blackseascene Common Data Index (CDI) V2

www.blackseascene.net/v\_cdi\_v2/browse\_Step.asp

Black Sea SCENE

Blacksea SCENE Common Data Index (CDI) V2

Back to portal

Shopping basket

Black Sea SCENE

Requesting Datasets

During this session you have selected the following data sets. You can shop for more or continue the ordering dialogue by submitting to finalize your order request and have it processed. When submitting you will have to log-in with your user registration details or register then first. Thereafter you can finalise your order request by deselect items, indicating which format type you require and whether you also want to include related publications (if available).

**IMPORTANT NOTICE**  
 Downloading of data sets is only possible for registered users.  
 Access to datasets might be restricted. In that case your request will be handled by the contact person of the SeadatanetNet Data Centre managing the specific datasets.  
 You will be able to follow the progress of all your requests via your personal account in the Request Status Manager, using your user id - password.

Search for more Cancel request Submit request

If you would like to continue searching (to add more to your request list) click Search for more.  
 If you would like to cancel your requests (to empty your request list) click Cancel.  
 If you are satisfied with your request list then click on Submit order.

The number of data-requests per shopping session has a maximum of 500 datasets.

CDI-record id	Dataset Name	Status
1227392	CTD_Nesbur data set	unrestricted
1227395	CTD_Koketrys data set	unrestricted
1227397	CTD_Varna_bay data set	unrestricted

Water column temperature and salinity (26397) > Carbon, nitrogen and phosphorus  
 > Dissolved gases  
 Nutrients (25468) Physical oceanography  
 Carbon, nitrogen and phosphorus (24907) > Water column temperature and salinity  
 Administration and dimensions (18664)  CTD\_Abena data set Chemical oceanography CTD, spectrophotometers  
 > Nutrients  
 > Carbon, nitrogen and phosphorus  
 > Dissolved gases  
 More

mozilla Firefox

**Figure 8: Login to central SDN user register before sending in order of selected datasets**

Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Blackseascene Common Data Index (CDI) V2

www.blackseascene.net/v\_cdi\_v2/browse\_Step.asp

Back to portal

Black Sea SCENE

Blacksea SCENE Common Data Index (CDI) V2

Shopping basket

Enter your NetID and Password

For security reasons, please Log Out and Exit your web browser when you are done accessing services that require authentication!

NetID:

Password:

Warn me before logging me into other sites.

LOGIN CLEAR

[I want to register](#) - [I forgot my password](#) - [I want to check/change my personal information](#)

Water column temperature and salinity (26397)	> Carbon, nitrogen and phosphorus	
Nutrients (25468)	> Dissolved gases	
Carbon, nitrogen and phosphorus (24907)	Physical oceanography	
Administration and dimensions (18664)	> Water column temperature and salinity	
<input checked="" type="checkbox"/> CTD_Abena data set	Chemical oceanography	CTD, spectrophotometers
<a href="#">More</a>	> Nutrients	
	> Carbon, nitrogen and phosphorus	
	> Dissolved gases	

mozilla Firefox

**Figure 9: Confirm order of selected datasets**

Blackseascene Common Data Index (CDI) V2 - Mozilla Firefox

www.blackseascene.net/v\_cdi\_v2/browse\_Step.asp

## Blacksea SCENE Common Data Index (CDI) V2

Back to portal

### Shopping basket

Confirmation of your request list

Organisation	MARIENE INFORMATIE SERVICE MARIS B.V.
Contact name	Mr Peter THIJSE
Contact email	peter@maris.nl
Address	Koningin Julianalaan 345 A
Zipcode	2273 JJ
City	Voorburg
Country	Netherlands
Telephone	
Role IDs	SDNR07;SDNR03
Role names	partner;Academic

Please motivate why you want to have access to these data sets and for what purpose.

Text 496

Water column temperature and salinity (26397)	> Carbon, nitrogen and phosphorus	
Nutrients (25468)	> Dissolved gases	
Carbon, nitrogen and phosphorus (24907)	Physical oceanography	
Administration and dimensions (18664)	> Water column temperature and salinity	
<input checked="" type="checkbox"/> More	<input checked="" type="checkbox"/> CTD_Abena data set	Chemical oceanography
		> Nutrients
		> Carbon, nitrogen and phosphorus
		> Dissolved gases
		CTD, spectrophotometers

mozilla Firefox



**Figure 10: User tracks order status via the Request Status Manager (Orange = pending, Green = ready for download, Red = rejected/denied)**



Figure 10: User views downloadable records (green status) via the Request Status Manager

**Request Status Manager** Logout Help Home

**Pan-European infrastructure for Ocean & Marine Data Management**

**SeaDataNet** Overview of dataset requests and processing per SeaDataNet Data Centre

Download selected datasets in zip file | 25 50 100 1000 RECORDS Go | FOUND 20 | CURRENT | PREVIOUS | NEXT

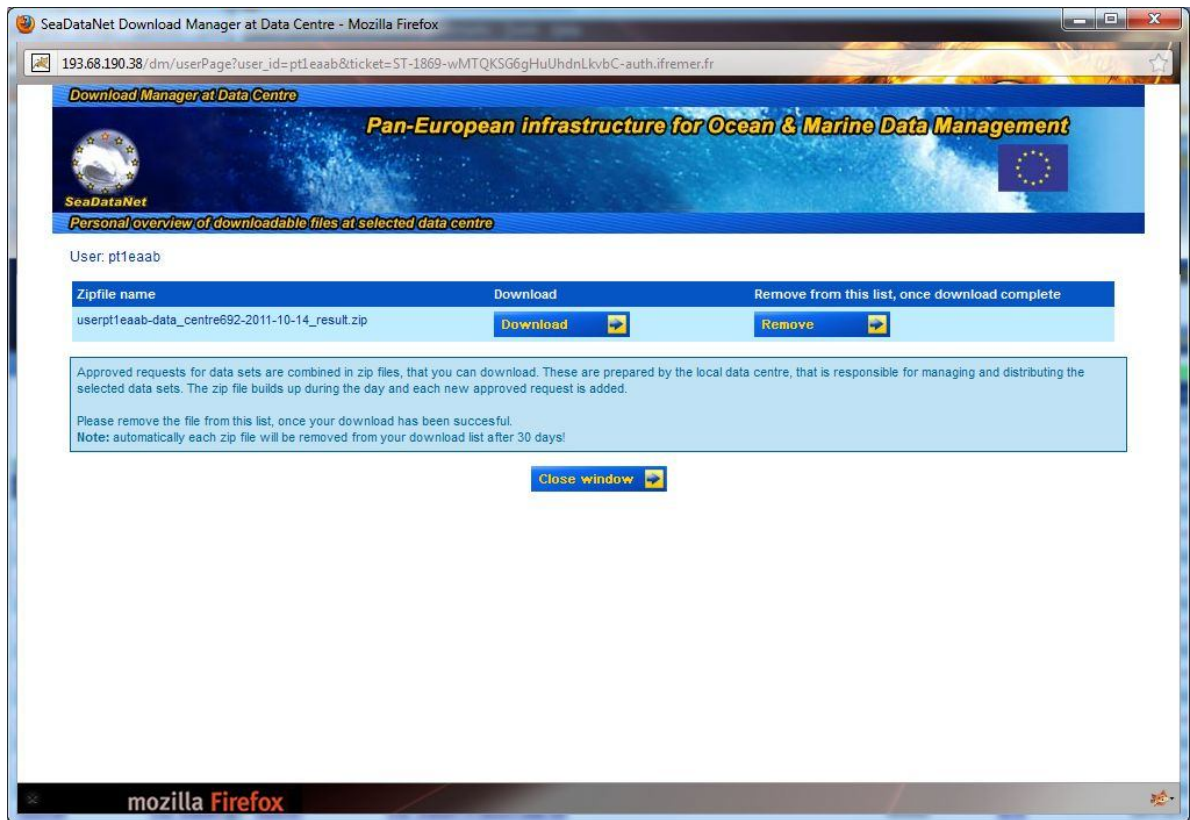
Bulgarian National Oceanographic Data Centre (BGODC), Institute of Oceanology Status: Ready for downloading

Dataset CDI-ID	Dataset name	Request-ID	Request-key	Request date	Last update	Format
1223888	CTD_S-BG01-13 Intercalibration data set	660085	4016	2011-10-12	2011-10-14	ODV
1223888	CTD_303G data set	660084	4016	2011-10-12	2011-10-14	ODV
1223874	CTD_S-BG01-04 (M204) data set	660083	4016	2011-10-12	2011-10-14	ODV
1223872	CTD_S-BG01-03 (M203) data set	660082	4016	2011-10-12	2011-10-14	ODV
1223869	CTD_301G data set	660081	4016	2011-10-12	2011-10-14	ODV
1223863	CTD_S-BG01-07 (M303) data set	660080	4016	2011-10-12	2011-10-14	ODV
1223862	CTD_S-BG01-11 (M307) data set	660079	4016	2011-10-12	2011-10-14	ODV
1223829	CTD_303G data set	660078	4016	2011-10-12	2011-10-14	ODV
1223823	CTD_S-BG01-01 (M201) data set	660077	4016	2011-10-12	2011-10-14	ODV
1223818	CTD_S-BG01-04 (M204) data set	660076	4016	2011-10-12	2011-10-14	ODV
1223813	CTD_S-BG01-13 Intercalibration data set	660075	4016	2011-10-12	2011-10-14	ODV
1223810	CTD_S-BG01-03 (M203) data set	660074	4016	2011-10-12	2011-10-14	ODV
1223803	CTD_301G data set	660073	4016	2011-10-12	2011-10-14	ODV
1223799	CTD_S-BG01-09 (M305) data set	660072	4016	2011-10-12	2011-10-14	ODV
1223798	CTD_S-BG01-13 Intercalibration data set	660071	4016	2011-10-12	2011-10-14	ODV
1223796	CTD_S-BG01-08 (M304) data set	660070	4016	2011-10-12	2011-10-14	ODV
1223793	CTD_S-BG01-09 (M305) data set	660069	4016	2011-10-12	2011-10-14	ODV
1223791	CTD_S-BG01-11 (M307) data set	660068	4016	2011-10-12	2011-10-14	ODV
1223777	CTD_S-BG01-06 (M302) data set	660067	4016	2011-10-12	2011-10-14	ODV
1223773	CTD_S-BG01-12 (M308) data set	660066	4016	2011-10-12	2011-10-14	ODV

Download selected datasets in zip file

mozilla Firefox

Figure 11: User downloads files per data center in a zipped file and uniform format (ODV)

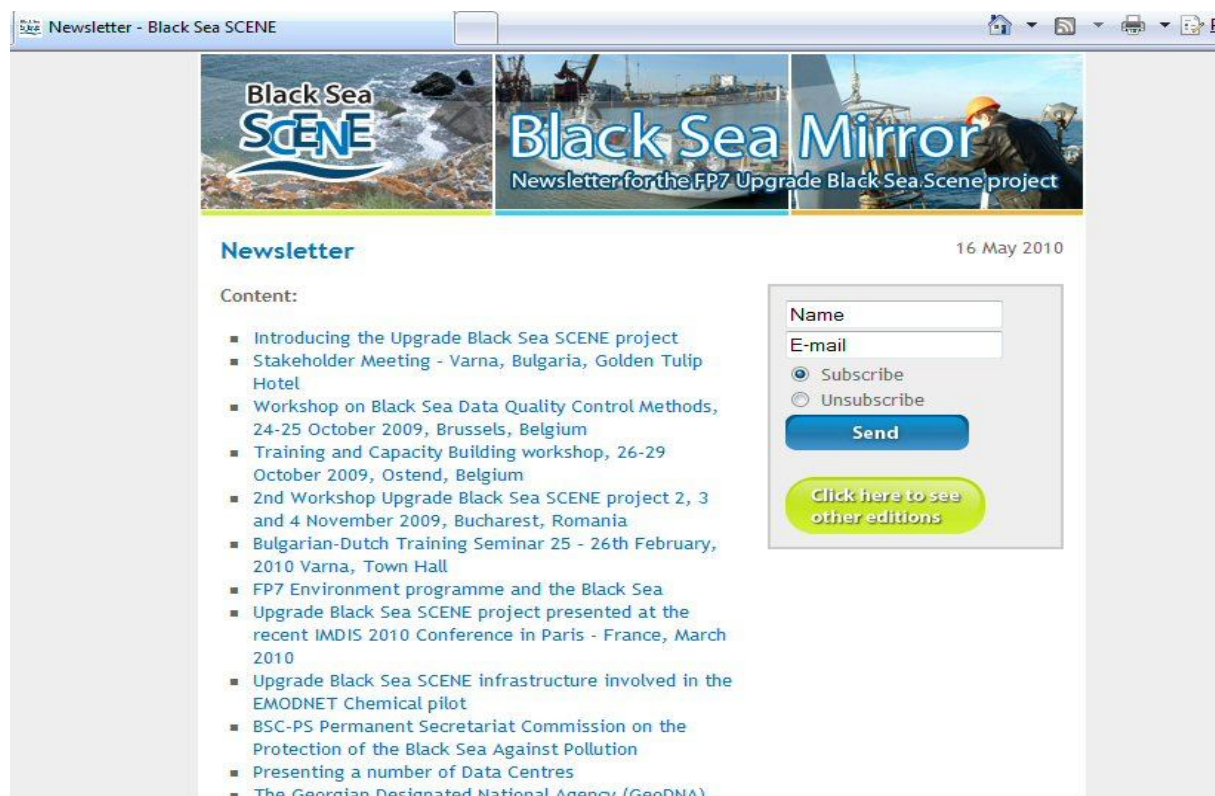


WP7: Public Awareness and Outreach, Promotion, Dissemination and Exploitation

UBSS Leaflet

The leaflet is a two-page spread with a dark blue background. At the top, there are two logos for 'Black Sea SCENE' featuring a stylized blue wave and the text 'Black Sea SCENE'. Below these are two columns of text, each starting with 'UPGRADE BLACK SEA SCENE' and followed by a list of names and affiliations. A large, stylized blue arrow graphic points from the left page towards the right page. In the center of the right page, the text 'UPGRADE BLACK SEA SCENE' is written in large, white, sans-serif font. Below this, the text 'UPGRADE BLACK SEA SCIENTIFIC NETWORK' is written in a smaller, white, sans-serif font. At the bottom of the right page, there is a small section titled 'CONTACT INFORMATION' followed by a list of names and affiliations. The overall design is clean and professional, with a focus on scientific and environmental themes.

## First issue of the UBSS electronic Newsletter:



The screenshot shows a web browser window titled "Newsletter - Black Sea SCENE". The page features a header with two images: "Black Sea SCENE" and "Black Sea Mirror Newsletter for the FP7 Upgrade Black Sea SCENE project". Below the header, the date "16 May 2010" is displayed. The main content area is titled "Newsletter" and lists various events and activities. To the right, there is a subscription form with fields for "Name" and "E-mail", radio buttons for "Subscribe" and "Unsubscribe", a "Send" button, and a link to "Click here to see other editions".

**Newsletter** 16 May 2010

Content:

- Introducing the Upgrade Black Sea SCENE project
- Stakeholder Meeting - Varna, Bulgaria, Golden Tulip Hotel
- Workshop on Black Sea Data Quality Control Methods, 24-25 October 2009, Brussels, Belgium
- Training and Capacity Building workshop, 26-29 October 2009, Ostend, Belgium
- 2nd Workshop Upgrade Black Sea SCENE project 2, 3 and 4 November 2009, Bucharest, Romania
- Bulgarian-Dutch Training Seminar 25 - 26th February, 2010 Varna, Town Hall
- FP7 Environment programme and the Black Sea
- Upgrade Black Sea SCENE project presented at the recent IMDIS 2010 Conference in Paris - France, March 2010
- Upgrade Black Sea SCENE infrastructure involved in the EMODNET Chemical pilot
- BSC-PS Permanent Secretariat Commission on the Protection of the Black Sea Against Pollution
- Presenting a number of Data Centres
- The Georgian Designated National Agency (GeoDNA).

Name:

E-mail:

Subscribe  
 Unsubscribe

**Send**

[Click here to see other editions](#)

## Poster for Black Sea Outlook Conference - November 2011



The poster features a central image of a globe with a blue and white color scheme, set against a background of a blue sky and a white sea. The text is arranged in a clear, hierarchical manner. The top left corner has the logo of the Commission for the Black Sea, and the top right corner has the "Black Sea SCENE" logo. The main title "BLACK SEA OUTLOOK" is in large, bold, blue letters. Below it, the subtitle "3rd Bi-annual Black Sea Scientific Conference and UP-GRADE BS-SCENE Project Joint Conference" is in a smaller, bold, blue font. The location and date "Odessa, Ukraine October 30, 2011" are in the bottom left, and "UPGRADE Black Sea SCENE project meeting" is in the bottom right.

Black Sea SCENE



**BLACK SEA OUTLOOK**

**3<sup>rd</sup> Bi-annual Black Sea Scientific Conference and UP-GRADE BS-SCENE Project Joint Conference**


Odessa, Ukraine  
October 30, 2011

UPGRADE Black Sea SCENE  
project meeting

## Book of Abstracts of Black Sea Outlook Conference



**3rd Bi-annual BS Scientific Conference and UP-GRADE BS-SCENE  
Project Joint Conference**  
Odessa, Ukraine, 1 - 4 November 2011






**BLACK SEA OUTLOOK**

*Drivers, pressures, state, impacts, response and recovery indications  
towards better governance of Black Sea environmental protection.*

**JOINTLY ORGANIZED BY**  
**THE COMMISSION ON THE PROTECTION OF THE BLACK SEA AGAINST POLLUTION (Black Sea Commission)**  
&  
**MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES OF UKRAINE**  
&  
**UP-GRADE BLACK SEA SCIENTIFIC NETWORK - EC FP7 PROJECT**

**With the support of**  
**EUROPEAN COMMISSION**  
**UKRAINIAN SCIENTIFIC CENTER OF ECOLOGY OF THE SEA**



**ABSTRACTS**

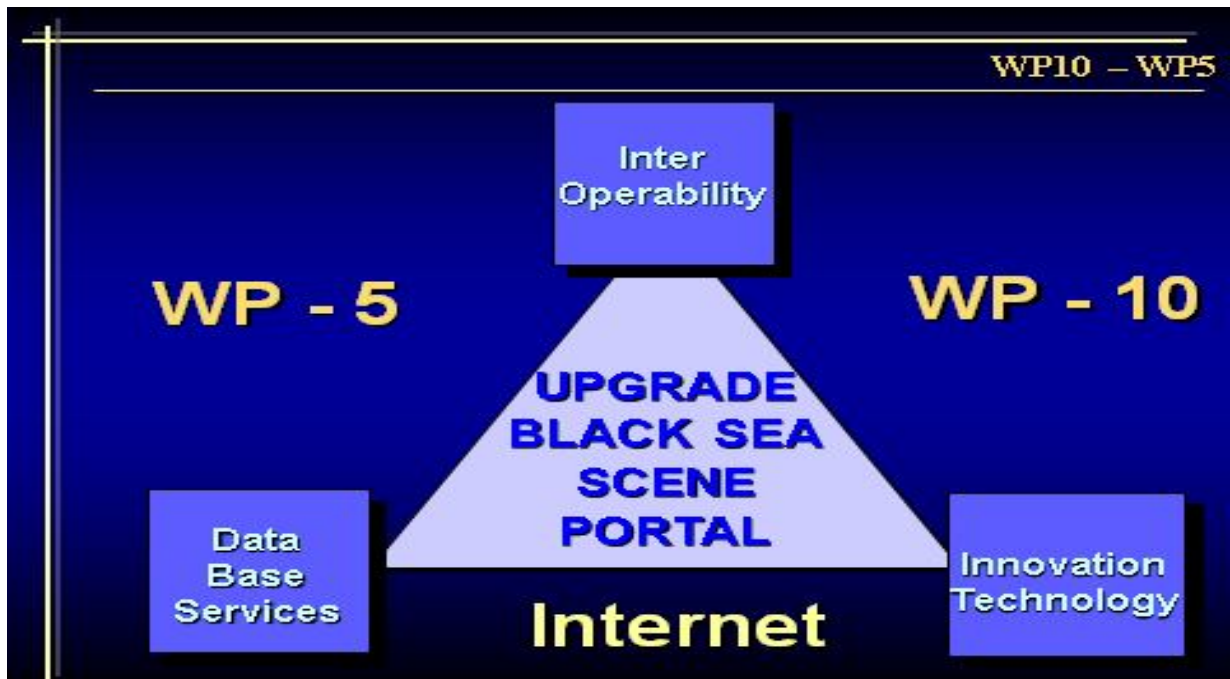
**WP8: Operation Transnational Scientific Access Services of Black Sea partner's installations**

Partner	Country	Status (calculated)	Date CDI production operational since
IO-BAS	BG	in production*	Begin project
BSNN	BG	no CDI; different services	20100722
CLGE-BAS (192)	BG	<b>Hosted at NIMH</b>	20100921
IFR (191)	BG	in production	20100729
NIMH-BAS (961)	BG	in production	20101206
TUV	BG	no CDI; different services	20100716
UMG-GI	BG	in production	20110127
TSU	GE	in production*	Begin project
CMP	GE	Did not succeed	
GAMMA	GE	In production and upgrading	20100913
GIH-GAS	GE	in production*	20110627
GWMI	GE	in production*	20110627
IG-GAS	GE	in production*	20110627
BENA	GR	no CDI; different services	20101224
NIMRD	RO	in production	Begin project
DDBRA	RO	<b>Hosted at NIMRD</b>	20110531
GeoEcoMar	RU	Did not succeed	
CDNZ	RU	in production*	20101230
RNODC	RU	in production*	Begin project
IORAS	RU	in production*	Begin project
IEG-RAS	RU	<b>Hosted at IORAS</b>	20110620
IKI-RAS	RU	in production	20110311
IL-RAS	RU	Did not succeed	
SOI	RU	<b>Via SIORAS</b>	20110513
IMS-METU	TR	in production*	Begin project
AU-FAF	TR	in production*	20110316
BSCS	TR	in production	20101230
BSTU	TR	in production	20110330
DEU-IMST	TR	in production	20110401
IU-IMS	TR	in production	20110325
SNU-FF	TR	in production	20101021
MHI-MIST	UA	in production	Begin project
DHMO	UA	in production	20110630
IBSS	UA	in production	20100702
IGS	UA	in production	20111027
ONU	UA	In production and upgrading	20100806
TNU (2227)	UA	in production	20110406
UHI-MB	UA	in production	20110216
UkrSCES	UA	in production	20110126
USRIEP	UA	in production	20101230
YugNIRO	UA	in production	20110704

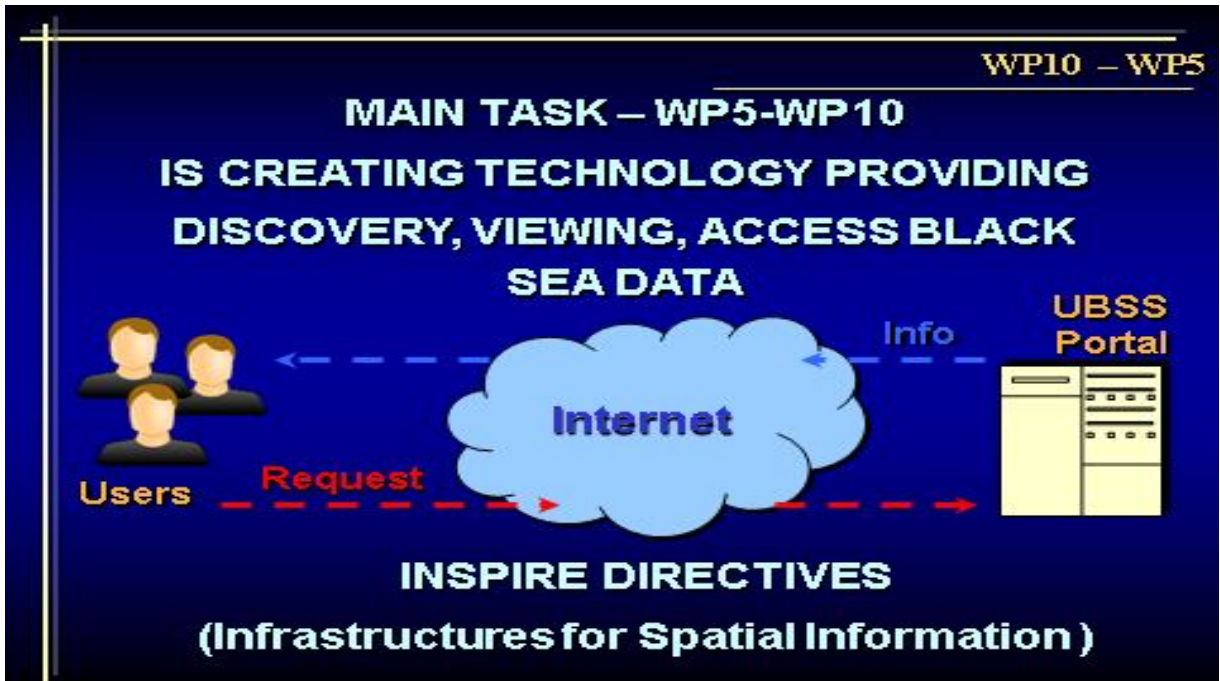
**Table with start of Transnational Access Services**

**WP10: Developing new data visualization services**

WP10 has a narrow relation with WP5:







**EDMED interface supported with WMS**

Marine Environmental Datasets — Black Sea SCENE Web Application - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Marine Environmental Datasets — Black ...

subsite.blackseascene.net/blackseascene/edmed.jsp

### Marine Environmental Datasets

**Map Tools**

Lon: 39.6 Lat: 43.4

**Layer Selection**

Default Base Map

**Search By**

Title:

Time Period, From:

Time Period, To:

Centre:

Country:

Originator:

Originator Country:

Sea Area:

Parameter:

Instrument:

Prev Sel Next Sel Per Page: 5 10 20 50 Found: 30 Result page: 1 2 3

Title	Begin	End	Centre	Country
Multi-parametric Meteorological and Oceanographic Data Set for Bulgarian coastal zone	2006		Bulgarian National Oceanographic Data Centre(BGODC), Institute of Oceanology	Bulgaria
Cetaceans Data-set	1992	2002	Institute of Fishery Resources (IFR)	Bulgaria
Western Black Sea Phytoplankton Data Set (1997 onwards)	1997		Bulgarian National Oceanographic Data Centre(BGODC), Institute	Bulgaria

mozilla Firefox

## Interface for catalogues of map services

Black Sea SCENE Web Application - Mozilla Firefox

File Edit View History Bookmarks Tools Help


Black Sea SCENE Web Application

subsite.blackseascene.net/blackseascene/atlas.html

temadue

### Map Catalogue

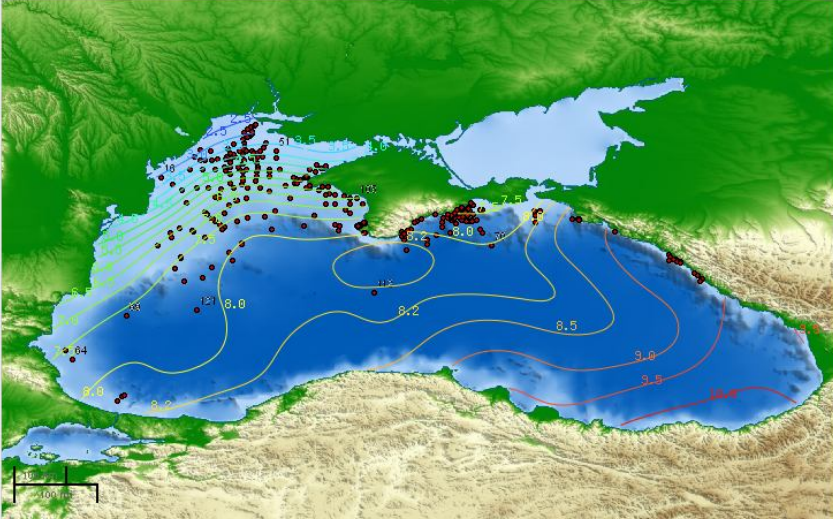
**Map Tools**



Lon: 41.6 Lat: 41.4

**Layer Selection**

- NODC of Ukraine MapServer**
- Temperature in January
- IBSS WMS**
- Akademik Kovalevskiy Cruise 117, 16/04/1990 - 07/06/1990, stations
- Akademik Kovalevskiy Cruise 118, 25/06/1990 - 09/08/1990, stations
- Akademik Kovalevskiy Cruise 119, 31/08/1990 - 20/10/1990, stations
- Akademik Kovalevskiy Cruise 120, 18/05/1991 - 25/05/1991, stations
- Phytoplankton total biomass at depth=0, February 1993
- Black Sea SCENE WMS**
- Cities
- State Boundaries
- Hydrography
- Relief



Result page: 1

Title	Description	URL
<a href="#">Black Sea SCENE WMS</a>		<a href="http://www.blackseascene.net/">http://www.blackseascene.net/</a>
<a href="#">Demis WMS</a>	Web Map Server provided by Demis presented such geographic layers as Elevation, Hydrography, Cities, Roads and etc.	<a href="http://www.demis.nl/">http://www.demis.nl/</a>
<a href="#">IBSS WMS</a>	This service is provided by Institute of Biology of the Southern Seas. Service provides some biological maps and measuring points.	<a href="http://www.ibss.iuf.net/">http://www.ibss.iuf.net/</a>
<a href="#">M.Nodia IG WMS</a>	This service is provided by M. Nodia Institute of Geophysics of Georgia. Service provides forecast fields of temperature and salinity on different depths.	<a href="http://www.ig-geophysics.ge/">http://www.ig-geophysics.ge/</a>

mozilla Firefox