



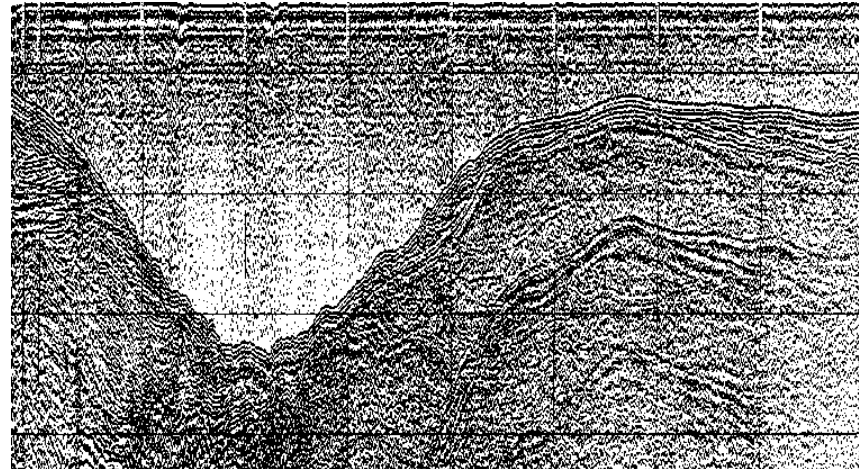
# Geo-Seas

## ***Geo-Seas –a pan-European marine geoscientific e-infrastructure***

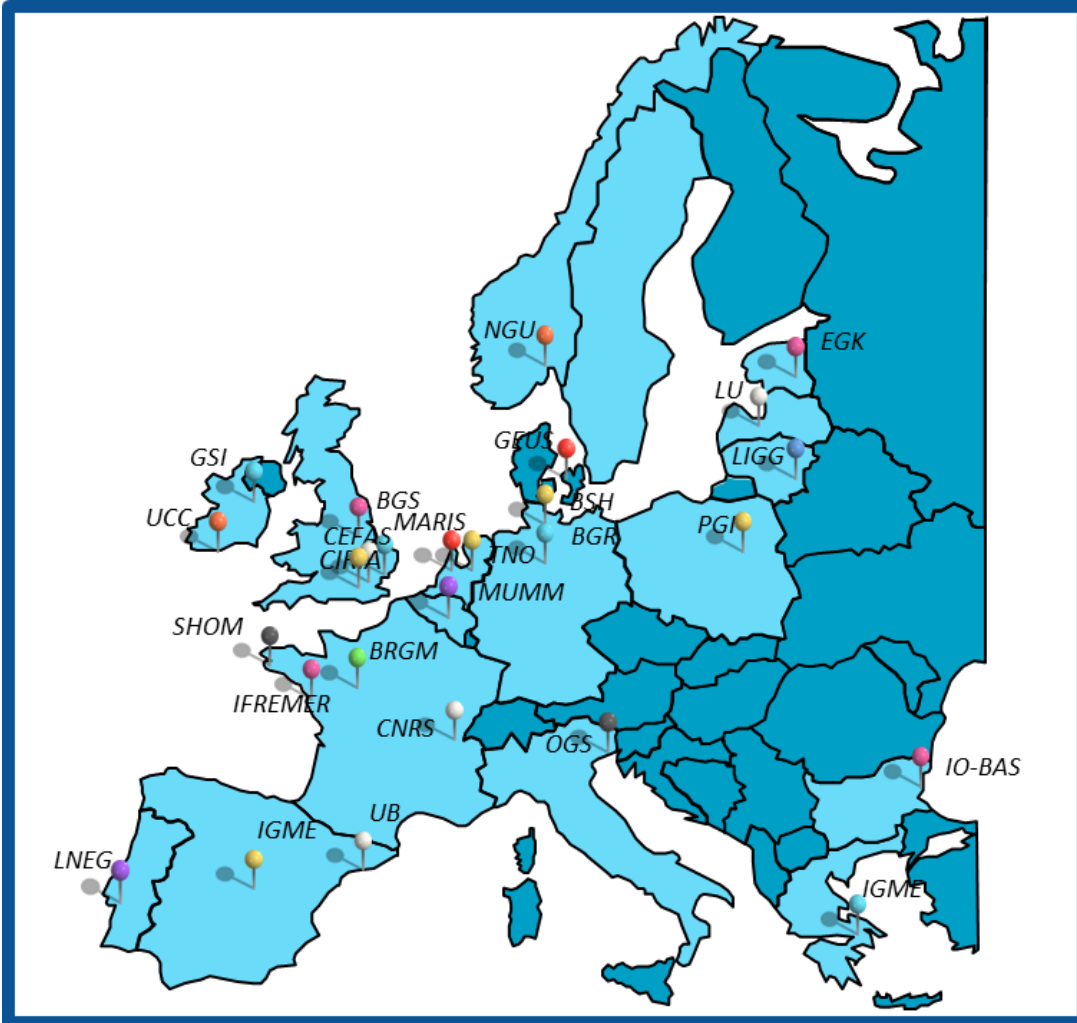
*Helen Glaves  
Project Co-ordinator*

## *What is Geo-Seas?*

- European Commission funded FP7 collaborative project creating an e-infrastructure for sharing marine geoscience data
- Integrated Infrastructure Initiative (I3)
- DG-CNECT directorate
- 1<sup>st</sup> May 2009 until 31 October 2012
- 28 partner organisations from 17 European maritime countries



## Partners



- Belgium (MUMM)
- Bulgaria (IO-BAS)
- Denmark (GEUS)
- Estonia (EGK)
- France (IFREMER, BRGM, CNRS, SHOM)
- Germany (BSH, BGR)
- Greece (IGME, NOA)
- Italy (OGS)
- Ireland (GSI, UCC)
- Lithuania (NRC-IGG)
- Latvia (LU)
- Netherlands (MARIS, TNO, EU-Consult)
- Norway (NGU)
- Poland (PGI)
- Portugal (LNEG)
- Spain (IGME, UB)
- United Kingdom (NERC, CEFAS, CIRIA)

## *Objectives*

- Creation of a unified marine geoscientific data e-infrastructure across Europe
- Improve users ability to discovery, locate, and assess and download federated marine geological and geophysical datasets
- Provide direct user-access to harmonized marine geological and geophysical **metadata and data** in common, standard formats via a single portal.
- Underpin key European Directives such as INSPIRE, MSFD etc and global framework programmes e.g. GEOSS (Global Earth Observation System of Systems) and GMES (Global Monitoring for Environment and Security)

## *Methodology*

- Adopt pre-existing methodologies and technologies developed by SeaDataNet for use with geological and geophysical data types
  - Centralised metadata base : Common Data Index (CDI)





## Metadata generation tool: MIKADO

The image displays two overlapping windows of the MIKADO V1.3 Ostende software interface.

**Left Window: Manual / New CSR**

- General information** tab is active.
- Cruise** sub-tab is active.
- Fields include: Cruise-name (EVHOE 2006), Cruise-id (FI35200604001), Revision date (25/05/2007), Period (Start date: 15/10/2006, End date: 21/11/0006), Country of departure (France), Keyword (SDNident: SDN:C320:1:FR), Country of return, and Dataset Access Restriction.

**Right Window: Automatic / New CDI**

- Connection** tab is active.
- Database** section: Driver class name (com.mysql.jdbc.Driver), JDBC connect url (jdbc:mysql://localhost/mikado), User (mikado), and Passwd (masked).
- Preset** section: Buttons for Mysql, Oracle, Access, Excel, Ms Server, and Other.
- Test** section: A **check** button and a text area showing "JDBC driver loaded" and "Connected to database".

## *Methodology*

- Adopt pre-existing methodologies and technologies developed by SeaDataNet for use with geological and geophysical data types
  - Centralised metadatabase
  - Distributed data model

## *Methodology*

- Adopt pre-existing methodologies and technologies developed by SeaDataNet for use with geological and geophysical data types
  - Centralised metadatabase
  - Distributed data model
- Harmonisation of data formats and exchange formats



## *Agreed data types and formats*

Bathymetry (tracking)

ODV

Bathymetry (gridded & swath)

NetCDF

Borehole

ODV & GeoSciML

Borehole (images)

PNG

Seismics (digital data)

SEG-Y

Seismics (scanned images)

TIFF / PNG

Seismics (navigation)

UKOOA

Side scan sonar

XTF

Images

PNG

Maps (data products)

GeoSciML

## *Methodology*

- Adopt pre-existing methodologies and technologies developed by SeaDataNet for use with geological and geophysical data types
  - Centralised metadatabase
  - Distributed data model
- Harmonisation of data formats and exchange formats
- Use of common vocabularies and standards

# Common vocabularies

(GSA0) Geo-Seas Seismic Data Product Types - Windows Internet Explorer provided by BGS Keyworth

http://seadatanet.maris2.nl/v\_bodc\_vocab/browse.asp?order=entrykey&formname=search&screen=08&

File Edit View Favorites Tools Help

☆ Favorites ☆ Suggested Sites Web Slice Gallery

(GSA0) Geo-Seas Seismic Data Product Types

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

**SeaDataNet**

**BODC Vocab Library**

(GSA0) Geo-Seas Seismic Data Product Types

[Back to overview](#)

[Export subset of list](#) | [Export full list](#) | [New query](#) | Found 7 | Current | Previous | Next

Entrykey	Entryterm	Entrytermabbr	Entrytermdef
FLDM	Field data: multi-fold	FieldDataMultiFold	Multi-fold seismic data ready to be processed. That they should already be demultiplexed and co-processed.
FLDS	Field data: single-fold continuous profile	FieldDataSingleFold	Single-fold seismic data ready to be processed. That they should already be demultiplexed and co-processed, but should not have undergone any processing algorithm yet.
MIGR	Migrated	Migrated	Seismic data that have undergone a migration processing algorithm.
OTHR	Other	Other	Seismic data that have undergone processing algorithm but processing needs to be documented.
PRSM	Processed: multi-fold	ProcessedMultiFold	Multi-fold seismic data that have undergone processing, wavelet processing, but should not have undergone any processing algorithm yet.
PRSS	Processed: single-fold continuous profile	ProcSingleFold	Single-fold seismic data that have undergone processing, wavelet processing.
STAK	Stacked	Stacked	Processed multi-fold seismic data that have undergone processing, wavelet processing and stacking.

[Export subset of list](#)

Done

start 3 Internet Explorer Presentation1 WP1\_Project Over...

(GS30) Geo-Seas adjusted Folk sediment lithology classes - Windows Internet Explorer provided by BGS Keyworth

http://seadatanet.maris2.nl/v\_bodc\_vocab/browse.asp?order=entrykey&formname=search&screen=08&

File Edit View Favorites Tools Help

☆ Favorites ☆ Suggested Sites Web Slice Gallery

(GS30) Geo-Seas adjusted Folk sediment lithology classes

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

**SeaDataNet**

**BODC Vocab Library**

(GS30) Geo-Seas adjusted Folk sediment lithology classes

[Back to overview](#)

[Export subset of list](#) | [Export full list](#) | [New query](#) | Found 17 | Show (1-15) | Previous | Next 2

Entrykey	Entryterm	Entrytermabbr	Entrytermdef	Entrytermlastmod
(g)M	slightly gravelly mud	slGravMud	Sand:mud ratio = <1:9 and gravel percentage 1-5	2010-10-14
(g)mS	slightly gravelly muddy sand	slGravMudSand	Sand:mud ratio = 1:1 to 9:1 and gravel percentage 1-5	2010-10-14
(g)S	slightly gravelly sand	slGravSand	Sand:mud ratio = >9:1 and gravel percentage 1-5	2010-10-14
(g)sM	slightly gravelly sandy mud	slGravSandMud	Sand:mud ratio = 1:9 to 1:1 and gravel percentage 1-5	2010-10-14
(m)S	slightly muddy sand	slMudSand	Sand:mud ratio = 3:1 to 19:1 and gravel percentage <1	2010-10-14
(s)M	slightly sandy mud	slSandMud	Sand:mud ratio = 1:19 to 1:3 and gravel percentage <1	2010-10-14
G	gravel	gravel	Sand:mud ratio = all ratios and gravel percentage >80	2010-10-14
gM	gravelly mud	gravMud	Sand:mud ratio = <1:1 and gravel percentage 5-30	2010-10-14
gmS	gravelly muddy sand	gravMudSand	Sand:mud ratio = 1:1 to 9:1 and gravel percentage 5-30	2010-10-14
gS	gravelly sand	gravSand	Sand:mud ratio = >9:1 and gravel percentage 5-30	2010-10-14
M	mud	mud	Sand:mud ratio = <1:19 and gravel percentage <1	2010-10-14
mG	muddy gravel	mudGrav	Sand:mud ratio = <1:1 and gravel percentage 30-80	2010-10-14
mS	muddy sand	mudSand	Sand:mud ratio = 1:1 to 3:1 and gravel percentage <1	2010-10-14
maG	muddy sandy gravel	mudSandGrav	Sand:mud ratio = 1:1 to 9:1 and gravel percentage 30-80	2010-10-14
S	sand	sand	Sand:mud ratio = >19:1 and gravel percentage <1	2010-10-14

[Export subset of list](#) | [Export full list](#) | [New query](#) | Found 17 | Show (1-15) | Previous | Next 2

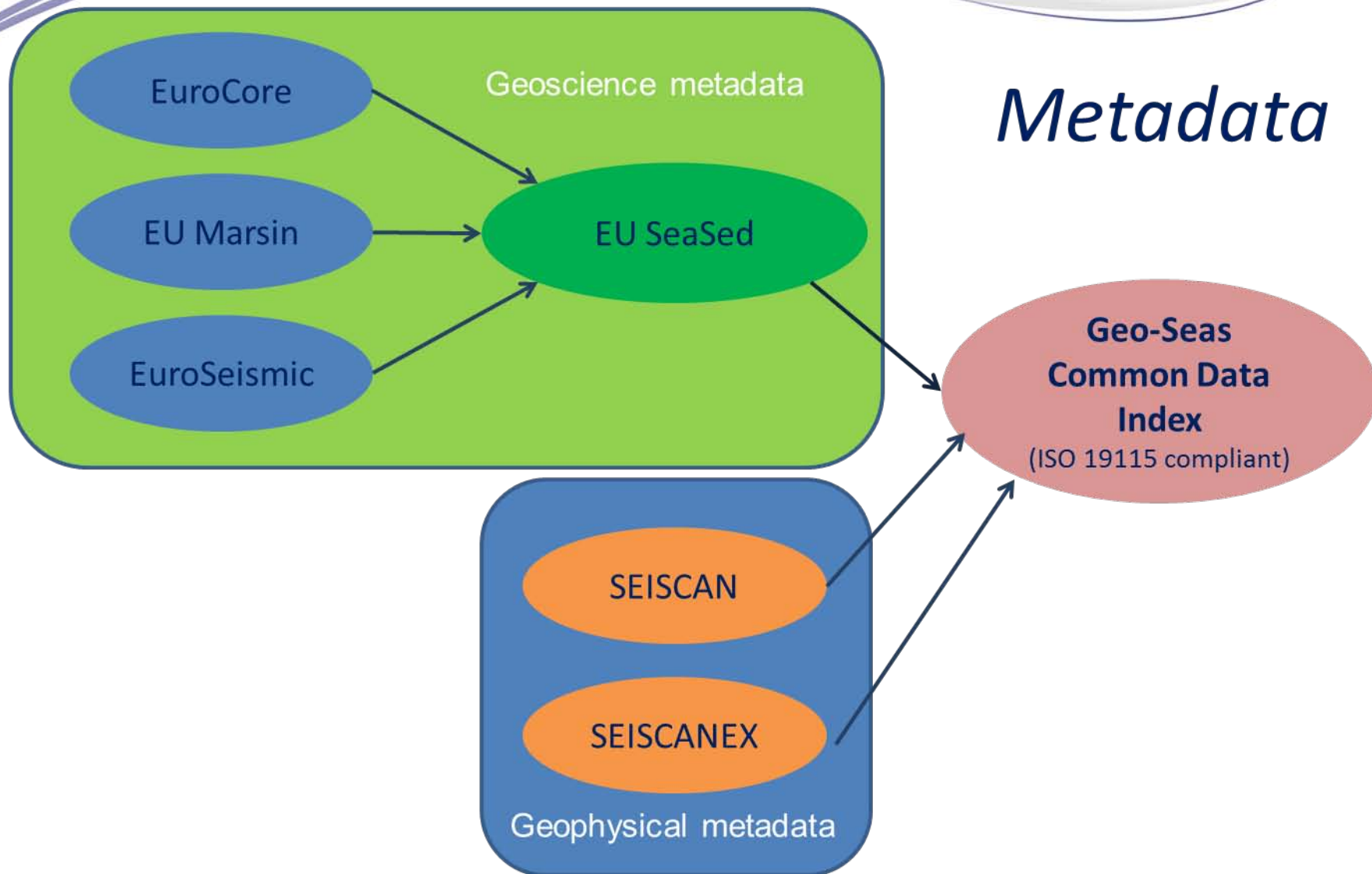
Done

Internet 100%

start 3 Internet Explorer Presentation1 WP1\_Project Over... WP1\_Dissemination... Geo-Seas - buildin... 10:18

## *Methodology*

- Adoption and adaption of pre-existing methodologies and technologies developed by SeaDataNet for use with geological and geophysical data types
  - Centralised metadatabase
  - Distributed data model
- Harmonisation of data formats and exchange formats
- Use of common vocabularies and standards
- Re-use of pre-existing metadata catalogues as the basis for development of Geo-Seas metadatabase






## *Where are we now?*

- fully operational data discovery and access service via the Geo-Seas portal






## Data delivery




### GEO-SEAS COMMON DATA INDEX (CDI) V2

**Cart: 0** Dataset(s) [Proceed to check out](#) [Reset basket](#) [Export](#) [Summary](#) [Show on map](#) [?](#)

**Reset all steps**

**Search by:**

**Geographical Box**

**Time period**

**Measuring area type**

point (27684)  
surface (2828)  
curve (577)

**Parameter categories**


Rock and sediment chemistry (16669)  
Administration and dimensions (10650)  
Water column temperature and salinity (10276)  
Dissolved gases (10274)  
Carbonate system (10200)  
[More](#)




**Disciplines**

Marine geology (30700)  
Terrestrial (30562)  
Chemical oceanography (16857)  
Administration and dimensions (10650)  
Physical oceanography (10276)  
[More](#)

**Instrument / gear type**


unconsolidated sediment corers (6974)

[Add to basket](#)  ☒ 20 ☐ 50 ☐ 100 Records [Go](#) | Found 31089 | [Show \(1-20\)](#) | [Previous](#) | [Next 20](#)

<input type="checkbox"/>	#	Data set name	Variables measured	Instrument / gear type	Show
<input type="checkbox"/>		20100037sed_MUDAB	Chemical oceanography > PCBs and organic micropollutants > Carbon, nitrogen and phosphorus Environment > Anthropogenic contamination Marine geology > Rock and sediment physical properties > Rock and sediment chemistry Terrestrial > Rock and sediment physical properties > Rock and sediment chemistry	sediment grabs	
<input type="checkbox"/>		20100037sed_MUDAB	Chemical oceanography > PCBs and organic micropollutants > Carbon, nitrogen and phosphorus Environment > Anthropogenic contamination Marine geology > Rock and sediment physical properties > Rock and sediment chemistry Terrestrial > Rock and sediment physical properties > Rock and sediment chemistry	sediment grabs	
<input type="checkbox"/>		20100037sed_MUDAB	Chemical oceanography > PCBs and organic micropollutants > Carbon, nitrogen and phosphorus Environment > Anthropogenic contamination Marine geology > Rock and sediment physical properties > Rock and sediment chemistry Terrestrial > Rock and sediment physical properties > Rock and sediment chemistry	sediment grabs	
<input type="checkbox"/>		20100037sed_MUDAB	Chemical oceanography > PCBs and organic micropollutants > Carbon, nitrogen and phosphorus	sediment grabs	

Done

Internet | Protected Mode: On

 100%

## *Where are we now?*

- fully operational data discovery and access service via the Geo-Seas portal
- 25 data centres now fully operational and connected to the e-infrastructure
- in excess of 78 000 datasets already available and increasing as additional data centres come on-line and those already on-line add additional datasets.

## *Key outcomes (1)*

- Improved discovery and access to federated marine geological and geophysical data and data products
- Provision of software tools allowing use of geoscientific data in combination with other data in a multidisciplinary way
- Improved interoperability of geological and geophysical data with other data and data products





# Geo-Seas

*a pan-European network for marine  
geoscientific data linking 26 marine  
geoscience data centres from  
17 coastal countries*

<http://www.geo-seas.eu>



e-infrastructure

