



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

Geoscience for our changing Earth

The BGS MEDIN DAC for Geology and Geophysics: Archiving MALSF Geoscience Data

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The BGS MEDIN DAC

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NERC

SCIENCE OF THE
ENVIRONMENT



- The **National Geoscience Data Centre (NGDC)** - NERC's designated data centre for Earth Sciences
- The Data Centre manages a large collection of geoscience information - earth science datasets, physical collections, paper records, digital data and archives



BGS Marine Data webpages - www.bgs.ac.uk/services/ngdc/management/marine/home.html



MEDIN DAC webpage - www.bgs.ac.uk/services/ngdc/management/marine/MEDINDataArchiveCentre.html

MEDIN Information Portal



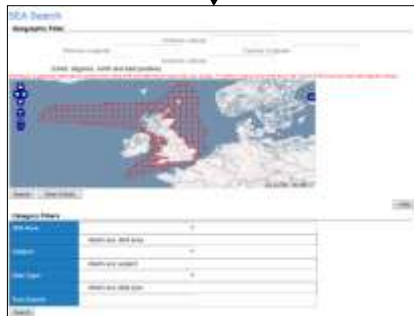
BGS have provided 683 discovery-level records which are linked to the data-level information and (in progress) the data

395 Oil and Gas Site Surveys

DECC Pon14a regulation

139 Strategic Environment Assessment

view & download

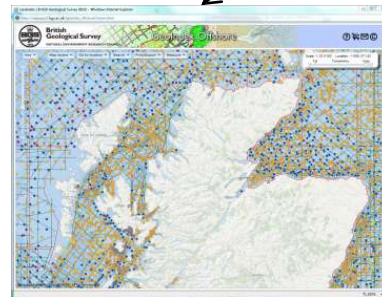


SEA portal

149 Marine Surveys

BGS Coastal and Marine Data System

view



Offshore GeolIndex –
Online viewer & WMS

UKCS-wide datasets

427 Surveys
113,947 Sample points
26,234 Geophysical lines
54 Multibeam polygons

Download:
Current
Work



BGS Data Delivery

- View service for sample points/geophysical lines - www.bgs.ac.uk/GeoIndex/offshore.htm
- Web Map Service (WMS) available – use in your own desktop GIS
- Current access to data is by email request
- Work in progress...
- Data download web service; PDF, Legacy Seismic large images as JPEG2000 etc
- OpenGeoscience – data will be made available under OGL wherever possible to encourage the re-use of data

The screenshot shows the BGS GeoIndex Offshore web application. At the top, it says 'British Geological Survey' and 'GeoIndex Offshore'. Below is a map of the North Sea area with numerous colored dots representing sample points. A red box highlights a specific area on the map, with an arrow pointing to a data table below. Another red box highlights a specific row in the table, with an arrow pointing to a detailed view of that record.

ACTIVITY_ID	ACTIVITY_NAME	ACTIVITY_SECTION_ID	ACTIVITY_SECTION_NAME	CLIENT	EQUIPMENT_TYPE	THAMES_CODE	SUCCESS_CODE	WATER_DEPTH	START_DATE	END_DATE	PROVIDER
324220	324220	324220	324220	British Geological Survey	Ship	Ships	Success	10	2010-01-01	2010-01-01	British Geological Survey
324221	324221	324221	324221	British Geological Survey	Ship	Ships	Success	10	2010-01-01	2010-01-01	British Geological Survey
324222	324222	324222	324222	British Geological Survey	Ship	Ships	Success	10	2010-01-01	2010-01-01	British Geological Survey
324223	324223	324223	324223	British Geological Survey	Ship	Ships	Success	10	2010-01-01	2010-01-01	British Geological Survey
324224	324224	324224	324224	British Geological Survey	Ship	Ships	Success	10	2010-01-01	2010-01-01	British Geological Survey

The detailed view shows a table with columns for 'ACTIVITY_ID', 'ACTIVITY_NAME', 'ACTIVITY_SECTION_ID', 'ACTIVITY_SECTION_NAME', 'CLIENT', 'EQUIPMENT_TYPE', 'THAMES_CODE', 'SUCCESS_CODE', 'WATER_DEPTH', 'START_DATE', 'END_DATE', and 'PROVIDER'. It also includes a 'VIEW' button and a 'PRINT' button.

The screenshot shows the OpenGeoscience website. The main heading is 'OpenGeoscience - Free data!'. Below this, there is a section titled 'What is OpenGeoscience?' which explains the concept of open access to geoscience data. There is also a section titled 'Forms of use' which lists various ways in which the data can be used, such as for research, education, and industry. The website has a clean, professional layout with a blue and white color scheme.



MAREMAP Partnership: Data Products / Outputs Delivery



The screenshot shows the MAREMAP website homepage. At the top left is the MAREMAP logo, which consists of a stylized 3D map of the sea floor with the text "MAREMAP Marine Environmental Mapping Programme" next to it. To the right of the logo is a large, colorful bathymetric map of a coastal area. Below the logo and map is a navigation menu with links for Home, Find Maps, About, Partners, Links, News, and Contact Us. The main content area is divided into two columns. The left column contains a welcome message, a paragraph about the program's objectives, a list of partner organizations, and a launch date. The right column features a "Latest News" section with three entries, each with a title, date, and a "more.." link. At the bottom of the page, there is a footer with copyright information, privacy and contact links, and logos for the British Geological Survey, National Oceanography Centre, SAMS, and the Natural Environment Research Council.

MAREMAP
Marine Environmental Mapping Programme

Home | Find Maps | About | Partners | Links | News | Contact Us

Welcome to MAREMAP

The Marine Environmental Mapping Programme (MAREMAP) aims to achieve common, national objectives in seafloor and shallow geological mapping addressing themes such as habitat mapping, Quaternary science, coastal and shelf sediment dynamics and the assessment of human impacts and geohazards in the marine environment. MAREMAP will work towards integration of common geoscience objectives across [NERC](#) organisations.

MAREMAP is a joint initiative led by the [British Geological Survey](#) (BGS), the [National Oceanography Centre](#) (NOC) and the [Scottish Association for Marine Science](#) (SAMS), with partners from the [University of Southampton](#), [Channel Coastal Observatory](#), the [University of Plymouth](#), the [Maritime and Coastguard Agency](#) (MCA), the [Centre for Environment, Fisheries & Aquaculture Science](#) (CEFAS) and [Marine Scotland](#).

MAREMAP was launched at the National Maritime Museum in London in June 2010.

Latest News

- [Autosub3 mapping of submarine flow processes and products](#) 23/08/2013
A team of MAREMAP researchers at NOC has recently returned from a successful expedition to the Black Sea. [more..](#)
- [MAREMAP Data Update](#) 13/08/2013
New data areas have been added to the MAREMAP service. [more..](#)
- [MAREMAP Workshop](#) 05/08/2013
4th September 2013 confirmed as the date for the MAREMAP Workshop. [more..](#)

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 **British Geological Survey**
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 **National Oceanography Centre**
NATURAL ENVIRONMENT RESEARCH COUNCIL

 **SAMS**

 **NATURAL ENVIRONMENT RESEARCH COUNCIL**

Website hosted by the British Geological Survey (BGS). Responsibility for this website's content lies with MAREMAP not with the BGS. © 2013
Website feedback: email questions, suggestions or comments to [Alan Stevenson](#)



MAREMAP Partnership: Web Portal

The screenshot displays the MAREMAP web portal interface. At the top, there is a navigation menu with links for Home, Find Maps, About, Partners, Links, Map Help, and Contact Us. The main content area is divided into a left sidebar and a central map.

Map Info Sidebar:

- MareMap Layers:**
 - MareMap Map Index
 - MareMap SeaBed Sediment (50K)
- BGS Layers:**
 - BGS SeaBed Sediment (250K)
 - BGS Hard Substrate (250K)
 - BGS Geology (variable scale)
 - BGS Scanned Map Index
 - BGS 250K Map Sheet Areas
 - BGS 50K Map Sheet Areas
- CCO Layers:**
 - CCO Wave Buoys
 - CCO Tide Gauges
 - CCO Multibeam
- Zoom to Area:** Full Extent
- Map Selection:** Maremap (selected), Other
- Map List:**
 - [Anton Dohrn](#)
 - [Approaches to the Firth of Forth - HI 1151](#)
 - [Canna to Point of Sleat \(Block 2\) - HI 1299](#)
 - [Dover Strait \(Part\) - HI 1159](#)
 - [Fair Isle](#)
 - [George Bligh](#)
 - [W Approaches to English Channel \(Part\) - HI 1059](#)
 - [Western Approaches to the Small Isles \(Block 5\) - HI 1297](#)
- Clear Selection** button
- Legend** section

Map Area:

- Shows a bathymetric map of the North Sea and English Channel.
- Overlaid with a grid of map sheets.
- Key features labeled include the Rockall Rise, Ireland, and various map sheet names (e.g., Laptev, Sando, George, Rockall, Helmsley, etc.).
- Scale bar at the bottom indicates 0, 150, and 300 km.
- Powered by Esri logo.

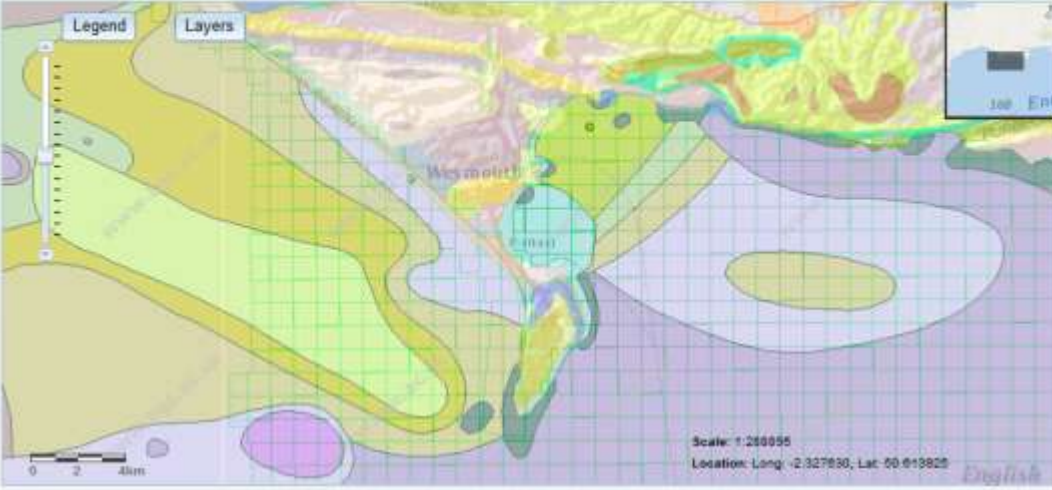
<http://www.maremap.ac.uk>



Weymouth Map Excerpt

Home Find Maps About Partners Links Map Help Contact Us

Weymouth



Legend Layers

Scale: 1:200000
Location: Long: -2.327630, Lat: 50.613925

English

Geosource [Go to full site](#)

Category: English Channel and South-West Approaches - Superficial geology

Welcome to English Channel and South-West Approaches - Superficial geology

Pages in category 'English Channel and South-West Approaches - Superficial geology'

The following 4 pages are in this category, out of 4 total.

D

- [Dune Beach Sediments](#)

E

- [Template:English Channel and South-West Approaches - Superficial geology](#)

H

- [Holocene Sand](#)

L

- [Lag Deposit - Gravel](#)

Additional Resources

- [Channel Coastal Observatory website](#)
- [Weymouth Geological Report](#)
- [Quaternary Geology \(South Sheet\) 1:1M - scanned map](#)
- [Sea Bed Sediments \(South Sheet\) 1:1M - scanned map](#)
- [Bedrock Geology \(South Sheet\) 1:1M - scanned map](#)



Weymouth Map Excerpt

Home Find Maps About Partners Links Map Help Contact Us

Weymouth

Legend Layers

BGS SeaBed Sediment (250K)

Description: MARINE SEDIMENTS, HOLOCENE (UNDIFFERENTIATED) - SANDY GRAVEL (SEA BED SEDIMENT, BASED ON FOLK)

Zoom to

Scale: 1:4514
Location: Long: -2.448064, Lat: 50.552892

Geosource [Go to ML site](#)

Category: English Channel and South-West Approaches - Superficial geology

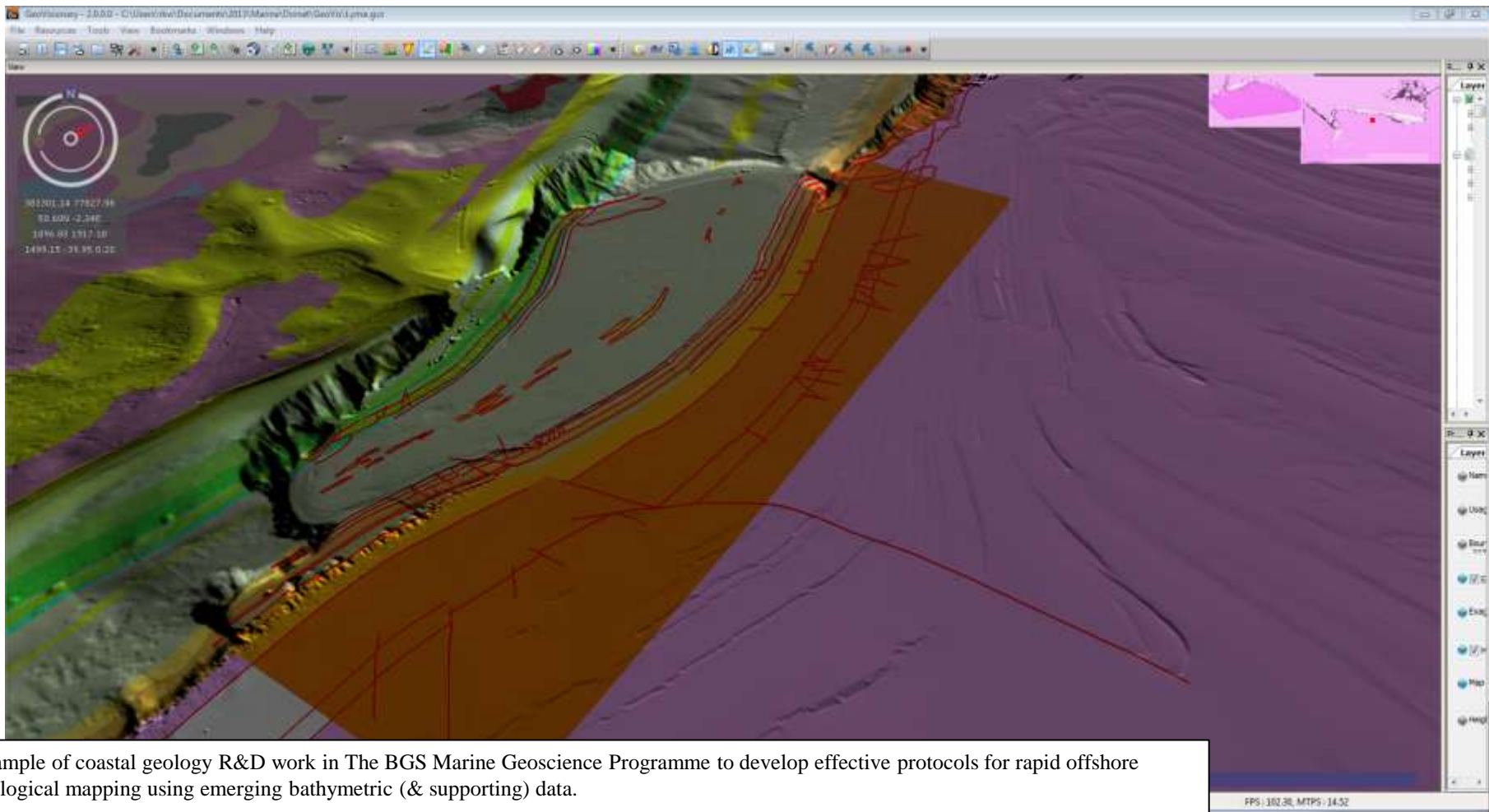
Holocene Sand

This seabed sediment overlies the immobile Lag deposit. It is mobile in the present tidal regime and is formed of largely mature sands, dominated by well-rounded quartz grains. The source of the sand is from seabed and cliff erosion during transgression and later, including the present day. These sands can form tidal ridges and banks which can be of 10's metres in scale.

Additional Resources

- [Channel Coastal Observatory website](#)
- [Weymouth Geological Report](#)
- [Quaternary Geology \(South Sheet\) 1:1M - scanned map](#)
- [Sea Bed Sediments \(South Sheet\) 1:1M - scanned map](#)
- [Bedrock Geology \(South Sheet\) 1:1M - scanned map](#)

- BGS Seabed Sediment (250k)
- BGS Onshore Bedrock Geology (50k)
- CCO Hydrographic Multibeam Data



Example of coastal geology R&D work in The BGS Marine Geoscience Programme to develop effective protocols for rapid offshore geological mapping using emerging bathymetric (& supporting) data.

Mupe and Worbarrow bays, Dorset: seamless offshore extension of Jurassic and Cretaceous bedrock strata (Kimmeridge Clay Formation, Portland & Purbeck groups, to Wealden, Greensand, Gault & Chalk formations).

Continuous coastal elevation surface created by stitching together high spatial-resolution onshore airborne Lidar with offshore multibeam swath bathymetry (sourced via CCO / DWT).

Survey work carried out in GeoVisionary and map-building using SIGMA, producing offshore extension of DiGMapGB-10.

The BGS Marine & Coastal Science Programme use a mix of data and products from, amongst others BGS, Channel Coastal Observatory (CCO) / Dorset Wildlife Trust (DWT), MCA CHP / UKHO, Nextmap, JNCC, MALSF, Wessex Archaeology, CEFAS, Marine Scotland, DECC / SEA, and more...



- **UK Govt. Levy on aggregate extraction**
 - **% of levy used for research into impacts of extraction**
- **Aggregates Levy Sustainability Fund**
- **Research Fund 2002-2011 | £25m**
- **Research fund owned by Defra, delivered by Delivery Partners**
- **Terrestrial & Marine components**
 - ***Marine ALSF worth £25m in total (Cefas & English Heritage)***

Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.



Marine
Aggregate Levy
Sustainability Fund
MALSF



Governance:

- **Cross-sector Steering Group**
- **Multi-disciplinary**
- **Consensual**
- **Active project management**
- **Independent Science advisor**

Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.



Marine ALSF driven by 5 strategic themes:

- **Seabed Mapping** (e.g. *characterisation including marine archaeology*)
- **Effects & Significance** (e.g. *noise*)
- **Management & Mitigation** (e.g. *Benthic Guidelines 1st & 2nd editions*)
- **Socio-Economics** (e.g. *ecosystem goods and services approach*)
- **Dissemination / Outreach** (*co-ordinated & overarching*)

Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.

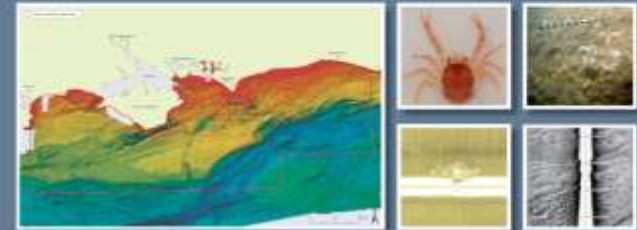


Marine ALSF Seabed Mapping Projects: *Regional Environmental Characterisation (RECs)*

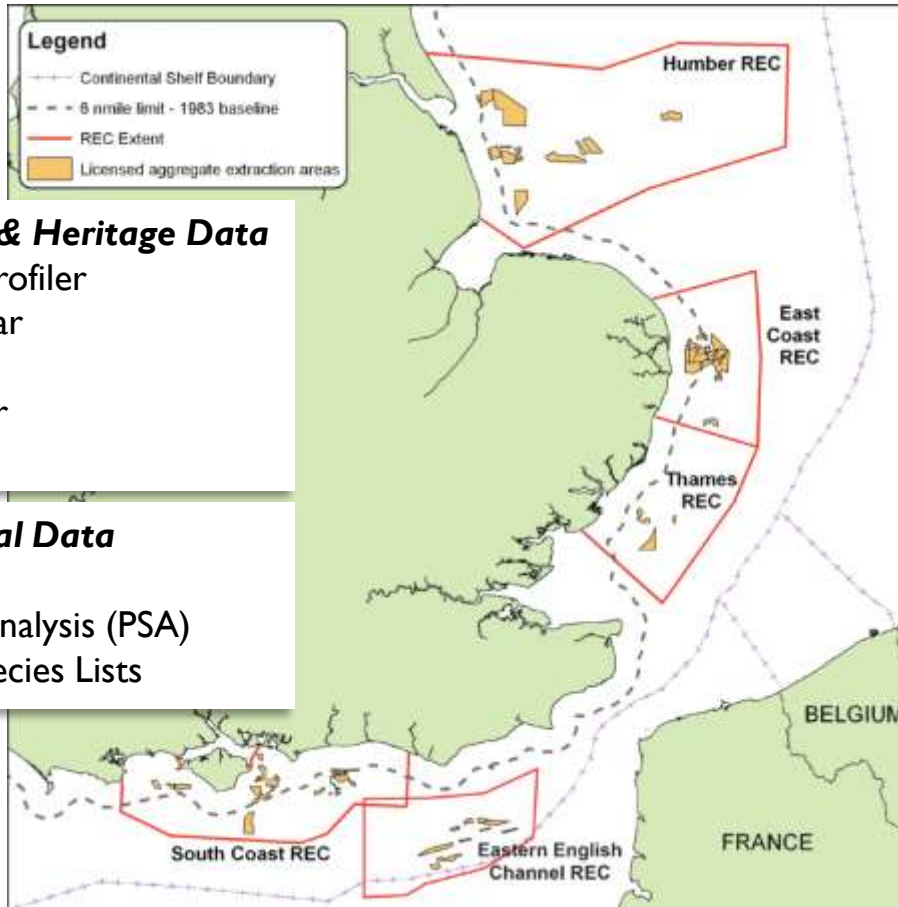
The Outer Thames Estuary Regional Environmental Characterisation



The South Coast Regional Environmental Characterisation



Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.



REC Areas & Statistics:

- Research Value: £7m
- 5 REC projects & 1 synthesis project:
East Coast, Eastern English Channel, Outer Humber, Outer Thames, South Coast
- Survey Data coverage 31,560 km² (75 x Isle of Wight)
- No regional mapping since 1980s
- RECs aligned with extraction licences

Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.



Marine ALSF Long-Term Data Legacy

- **Marine ALSF secure data store interim**
- **Intention to deposit data in MEDIN**
- **Worked closely with MEDIN throughout Marine ALSF Round 3 Programme**
- **MEDIN Compliance (E.g. Standards, Metadata)**
- **Planned for smooth integration**
- **Ensuring long-term data archive & access**

Information Provided by Patsy Falconer, Marine ALSF Programme Manager, Cefas.





CONCLUSIONS

- **Early discussions between the MALSF Programme Manager and MEDIN Core Team important**
- **The MALSF Seabed Mapping Project had a budget of £7 million, the REC Survey data component were archived for the long-term in the DACs at an agreed cost of £30k**
- **Detailed discussions on the data between the receiving DACs and the data holder throughout archiving to resolve any data discrepancies**
- **Early 'REC' Survey data from 2003 (Outer Bristol Cannel) had to be reconstituted, relying on individual knowledge from that time - more costly**
- **There were paper geophysical records which, once reviewed, proved not to have a digital equivalent – now held by the BGS DAC**
- **Current discussions between MALSF Programme Manager and DEFRA (as data owner) to allow the DACs to make the data available under an Open Government Licence (OGL)**
- **The MEDIN DACs have assumed responsibility for the long-term safekeeping and delivery of the MALSF REC Survey Data**

Questions?

Paul Henni

BGS Marine Data and Information
The BGS MEDIN DAC

BGS Marine Data Enquiries: offshoredata@bgs.ac.uk

BGS MEDIN DAC Enquiries: medin@bgs.ac.uk

For more info on Marine ALSF :

www.cefas.defra.gov.uk/alsf

Marine ALSF web-based GIS with online data and outputs launched 2007, contract runs to 2016 :

www.marinealsf.org.uk

