



More Free Geological Data from beneath the waves from BGS



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

The British Geological Survey have released Marine Geophysical Data from about 18,500 scanned paper records covering approximately 800,000 line kilometres, building on the release in [2014](#) of Geological Data from around 80,000 sampling locations.

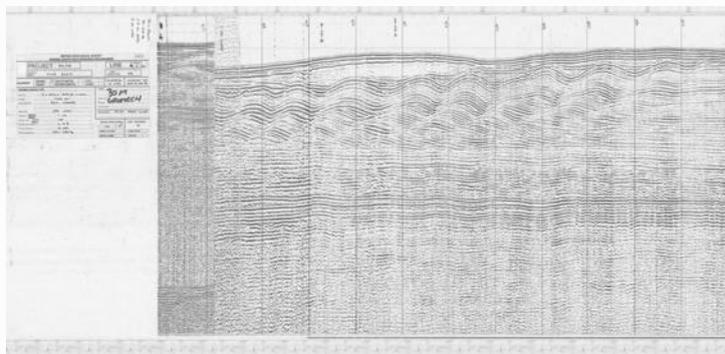


Scanning a very long geophysical record.

The data, which includes shallow seismic reflection (e.g. airgun, boomer, pinger, sparker and water gun) and sonar (e.g. echo sounder, sidescan sonar and transit sonar), can now be viewed online on the [Offshore Geindex](#), a Web Map Service (WMS), which allows you to pull sets of reference layer into your desktop GIS system to view with your data.

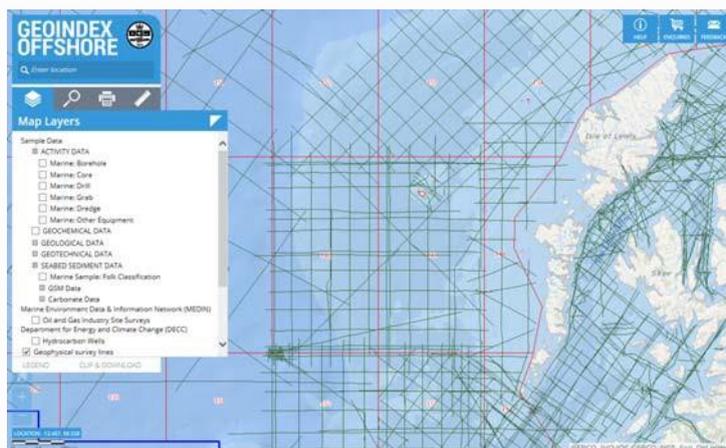
This release also includes BGS Digital Geological map products, available to view, together with new geological maps of the UK Continental Shelf area which provide the geological context for the Geindex data. These were produced in collaboration with The Crown Estate as part of a wider project to understand the interaction of engineering structures with seabed geology across the UK Continental Shelf, to support the sustainable development of this natural resource and unlock value in the long term.

Additionally, there have been interface and information enhancements to the [Offshore Geindex](#), including to the ability to select an area of interest and 'clip, zip, ship' selected data layers as an ESRI Geodatabase for local use. These downloads include the URL for the images, so allow viewing of these too



Scan of airgun seismic record.

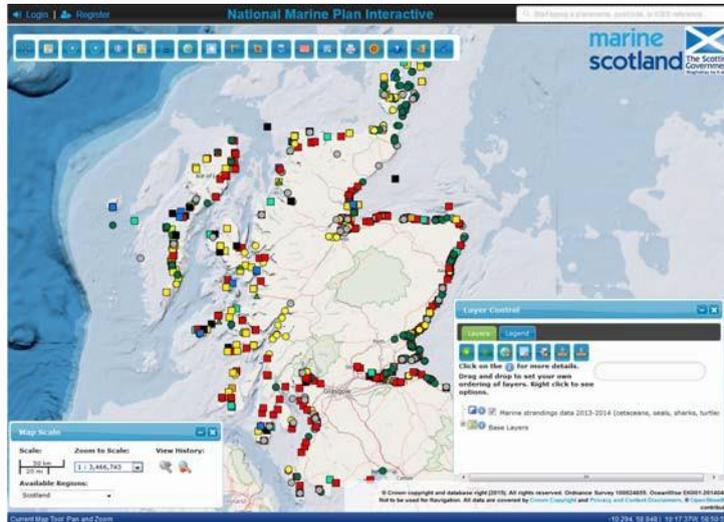
The BGS operates the [UK National Geoscience Data Centre \(NGDC\)](#) and the Marine Environment Data and Information Network (MEDIN) [Data Archive Centre \(DAC\)](#) for Geology and Geophysics. Within these roles, the BGS undertake long term archiving and delivery of publically funded marine data augmented by data provided by other organisations, agreed for release.



Screen shot of the Offshore GeIndex displaying: Marine Geophysical Survey Lines off the Hebridean coast.

Marine Scotland's on-line mapping portal (NMPi) continues to grow and evolve

'Time aware' layers added in the latest phase of the functionality development of the [NMPi's](#), Marine Scotland's on-line mapping portal, which makes spatial data and information available to all.



Marine strandings data 2013-2014 (cetaceans, seals, sharks, turtles), 'time aware' layer displayed on the NMPi

New layers are continually becoming available in the NMPi, but it is not all about increasing the layer count. The latest functionality includes 'time aware' layers which allow users to see a time series of data in one layer (rather than multiple layers), and animate the movement from one period to another (usually yearly).

Layer names will include such terms as 'since' or '2013-2014' in their title to indicate the function. Users can access it by 'right clicking' on the layer name in the Layer Control Box.

The layers including time aware data will increase over time but so far include:

- **Maritime casualties since 2005**
- **Marine strandings data 2013-2014**
(cetaceans, seals, sharks, turtles)
- **Keep Scotland Beautiful**
Blue Flag and Seaside Awards since 2012

Users have asked if the various screen control boxes can be hidden to facilitate cleaner screen shots. There are now minimising buttons for all control boxes and the ability to hide the main tool bar (by clicking on the far right icon on it).

The main tool bar now also includes:

- **Spatial query function** allowing the user to draw a polygon of interest and identify the layers available for it. These can then be added to your layer control.

- **Draw circle** based on a user input radius.
- **Zoom in and out**
- **Print map option** External WMS feeds can also now be printed but only at A4 size and the printed map legend now appears on a separate page.
- **Submit Fault Report / Comment button** External WMS feeds can also now be printed but only at A4 size and the printed map legend now appears on a separate page.

The data input tool bar (registered users only) now has the ability to add points by a lat / long (three format) input and the Help pages have been updated, as has the Gazetteer to include the MEDIN gazetteer.

Marine Scotland are also working with others to improve data flow to NMPi. Scottish Natural Heritage, one of NMPi's partners, has developed a web map service (WMS) that allows the Priority Marine Feature layers in the Healthy and Biologically Diverse Seas section to be replaced by a direct feed from SNH with new symbols, as well as add some new layers on basking shark, minke whale and Risso's dolphin for example.

Marine Scotland welcomes feedback on NMPi at any time. Please e-mail marineplanning@gov.scot

NMPi partners: [Marine Scotland](#), [SEPA](#), [SNH](#), [JNCC](#) and [MASTS](#).

MEDIN Open Meeting 'The Industry Marine Data Revolution' is well received



Charly Griffiths, DASSH presenting to the MEDIN Open Meeting delegates

The Marine Environmental Data and Information Network (MEDIN) held its annual Open Meeting, 'The Industry Marine Data Revolution', on the 9th February at the University of Liverpool campus in London.

Following the recent publication of the report "[A Review of Access to Industry Marine Data](#)", MEDIN invited the marine community to come together to share knowledge and discuss the barriers and motivation to sharing industry marine data.

Delegates from across the marine community attended the event including members of academia, governmental bodies and private organisations, bringing a wealth of experience and knowledge to the open forum.

The opening morning session allowed delegates to hear from speakers covering topics such as the practical issues of data sharing and archiving and how MEDIN Data Archive Centres (DACs) address many of the concerns that surround sharing industry data (e.g. commercial confidentiality, retaining control on how data is used). The group also heard about two compelling examples where sharing industry marine data has been extremely successful (SIMORC and the Marine Data Exchange).

A poster session over the lunch period brought further opportunity for the delegates to pick the brains of representatives from some of the MEDIN DACs, DASSH, BODC, UKHO, Cefas and BGS.



Lunch time poster session at the MEDIN Open Meeting

Fuelled by a healthy amount of cake, the delegates divided into four discussion groups for the afternoon. Each group considered the motivations for sharing marine data and whether MEDIN's current funding model would be appropriate for helping facilitate the sharing of industry data.

Outcomes from the sessions were fed back to the overall group at the end of the event and brought to light some interesting view points and ideas around both of the topics. The possibility of introducing a MEDIN seal of approval, indicating the level of data sharing achieved by an organisation was suggested as was the possibility of MEDIN engaging in knowledge exchanges between MEDIN and industry organisations. Perhaps surprisingly, all groups reported that a mandatory requirement to share data as part of the regulatory/licensing process would be a positive step, if done in consultation with the relevant industry, as it would provide a level playing field.

This event will help to provide a steer for MEDIN moving forward in its interactions with marine industry and highlight areas to build upon in future events. Clare Postlethwaite, MEDIN Coordinator, said "I am delighted with the level of discussion around sharing industry marine data and the practical suggestions that came from the MEDIN open meeting. We will continue to work with our partners to keep up the momentum to make it easier to share industry marine data, so that it becomes the norm to share all industry data that isn't commercially sensitive".

Presentations from the event will be made available via the MEDIN website. This will be announced via the website and social media.

Delegate feedback from the event:

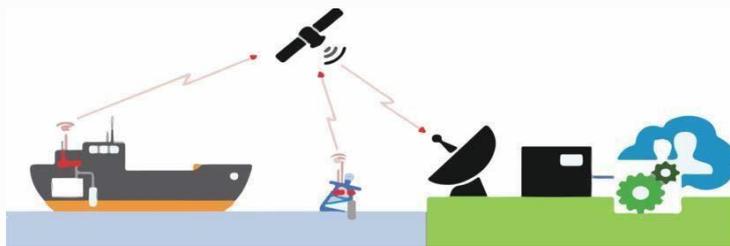
"The whole Industry Report is full of valuable information and issues which need to be addressed."

"Some talks very thought provoking."

"As a survey contractor providing data to clients, it was interesting/useful to understand potential future requirements we could get from our clients."

"Was slightly dubious about how much mileage was in a review of industry data - I am now convinced."

Marine Monitoring Data to be captured by Satellites



The European Space Agency (ESA) is funding a pilot project which will enable marine environmental monitoring data from fixed and moving platforms to be captured by satellites. The project known as 'AIS Sensor Network Service' or A-SeNS uses maritime VHF radio and the Automatic Identification System (AIS) to broadcast the data, potentially providing a low cost alternative to relatively more expensive satellite based systems, such as Iridium and VSAT.

Principally, AIS is a tracking system used by ships and vessel traffic services for identifying and locating vessels. As well as vessel location, speed and direction, AIS is capable of handling environmental data such as wind speed, direction and tide height. Marine data management specialist, [OceanWise](#), is adding AIS transmissions to the tide gauges and weather stations the company operates for The Wash Ports, while crowd source bathymetry company, [TeamSurv](#), and the [National Oceanography Centre \(NOC\)](#) will add environmental data to their existing shipboard AIS transmission systems.

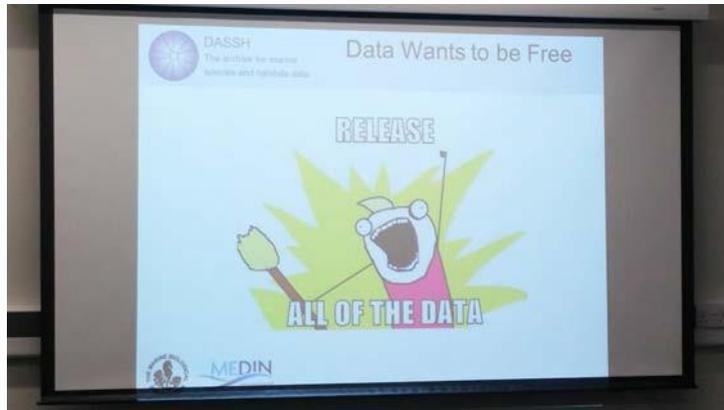
The AIS broadcasts from the OceanWise, TeamSurv and NOC installed equipment will be captured by low orbiting satellites operated by [exactEarth](#), who is leading the project. The satellite AIS monitoring ground segment will unpack the AIS messages and forward the contents to OceanWise's and TeamSurv's online databases, where the data will be stored and published. A-SeNS has the potential to provide a global network similar to the WMO's [Global Telecommunication System \(GTS\)](#), thus allowing the data to be shared more widely for navigation, survey and other maritime operations. The first transmissions are scheduled to start in May 2016.

Mini MEDIN Hackathon

In January 2016 representatives from the Marine Environmental Data and Information Network (MEDIN) Data Archive Centres (DACs) met to showcase how data from the archives that they manage can be

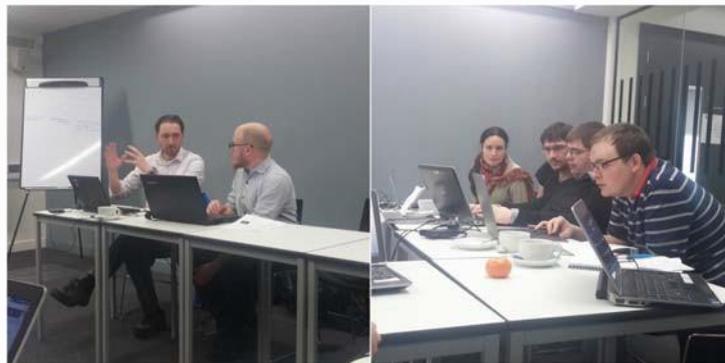
quickly and easily assembled into data products and applications.

This first ever mini "MEDIN hackathon" was a trial run for future events that will target the wider marine community, raising awareness of how real world problems can be addressed using data that are available for free from the MEDIN DACs.



The MEDIN Hackathon opening with presentations from the participants

Following a welcome from organiser Dan Lear (DASSH), the participants jumped right in, throwing out ideas for potential "products" to the group. The ideas covered a wide breadth of topics, ranging from a tool to help identify species based on the season to a point map of data locations which would highlight research hot and cold spots. Two ideas quickly emerged as most popular and 'Team Drupal' and 'Team Wreck' were formed. Sharing skills and experiences, the two groups spent an afternoon developing their ideas in very different ways, with one group focusing on an application for the general public and the second group developing a tool for data managers.



'Team Drupal' and 'Team Wreck' working hard

'Team Wreck' developed an application targeted at recreational divers. By combining sediment maps with known wreck locations and weather forecasts, the group aimed to identify optimal wrecks to dive on based on the forecast environmental conditions. Although time did not allow the group to develop algorithms to help the user to plan the best place to dive, the group did assemble the required data into a prototype application. The data used by this group came via Web Map Services from BGS, the Met Office and a pilot study commissioned by MEDIN.



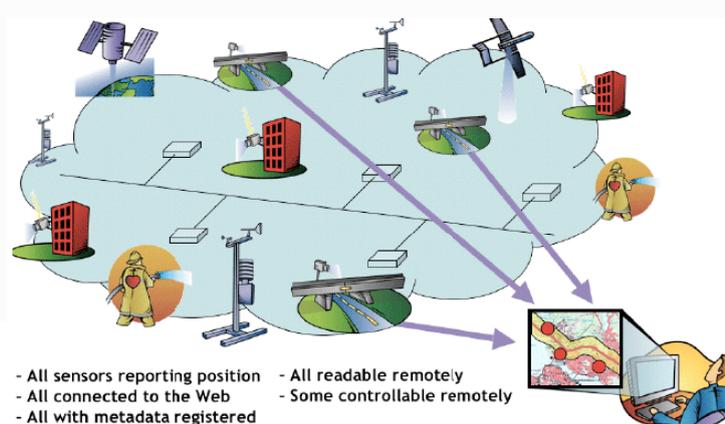
'Team Wreck' combined data on wreck location and description, sediment type and weather forecast to help recreational divers find an optimal dive site

The second team 'Team Drupal' identified the need for an easy way to import and manage the keywords that MEDIN uses to describe marine data into the widely deployed Drupal content management framework. [Drupal](#) is used to build websites and applications worldwide and consists of a core application with a series of inter-connecting modules, to modify the basic content management functionality to produce a variety of systems from personal pages and blogs to corporate websites and large, big-data infrastructures.

During the course of the afternoon, a Drupal module was prototyped which automatically imports the MEDIN keyword vocabulary (P02 SeaDataNet Parameter Discovery Vocabulary) from the Natural Environment Research Council (NERC) vocabulary server into Drupal's taxonomy system. This reusable module can be used as a building block for Drupal applications which need to interact with MEDIN metadata. For example: the MEDIN Taxonomy module could be integrated with a DKAN based Linked Data Portal to allow for easier discovery of metadata via keywords. When out of the prototyping phase the module will update vocabularies regularly from the NERC vocabulary server and ensure that the application's vocabularies are always up to date. Once completed, the module will be made available via github, the open-source code repository.

Organiser Dan Lear and MEDIN Co-ordinator Clare Postlethwaite were delighted with the progress that the teams made over such a short time period. Further details of the next MEDIN hackathon will be announced in the next few months.

MEDIN funds Sensor Web Enablement Pilot Project



The publication of marine data is a key driver for Government under the UK's Openness and Transparency Agenda and Open Data Strategy. Current efforts are focused on traditional publication of files and downloads using web portals. This MEDIN funded project, which commenced earlier this month, takes a strategic look forward to the time when environmental monitoring sensors join the 'Internet of Things', allowing data to be published consistently, with sensors being accessed as ubiquitously as web pages are today.

The underlying technology that allows this is a suite of standards published by the Open Geospatial Consortium (OGC), known collectively as [Web Enablement \(SWE\)](#). SWE not only allows sensor data to be accessed as 'web pages' but also allows data to be used directly in desktop and web based applications and to be harvested by data centres via machine to machine (M2M) transfers.

Now a relatively mature suite of standards, SWE is already the subject of numerous research projects globally. However, the majority of these projects are academic in nature. What this project will do is to demonstrate how existing private sector, as well as public, sensor networks can be 'sensor web enabled' and hence integrated, without having to replace existing equipment or purchase costly software. Ultimately, SWE will allow sensors to be 'plug and play', with sensors registering themselves on the Internet and sharing the data they produce as widely as the data owner permits. This SWE pilot study combines the public sector WaveNet and SmartBuoy networks operated by CEFAS and private sector sensors networks owned by various ports and operated by OceanWise.

Creation of MEDIN guideline for offshore geotechnical site investigations



Cathie Associates, the leading offshore Geoscience and Geotechnical Engineering Consultancy, have been appointed by the Marine Environmental Data & Information Network (MEDIN) to create a guideline for offshore geotechnical site investigations. This guideline will form part of the MEDIN framework of specifications that govern best practice in collecting metadata for re-use of UK marine information.

Cathie Associates are established independent experts in the offshore energy industries. By assisting MEDIN in the creation of this new guideline, Cathie Associates are leveraging decades of experience in offshore geotechnics to ensure that the new guideline fully encompasses the needs of the diverse range of geotechnical surveys and addresses the inconsistencies in data collection and recording prevalent in the offshore industry.

The MEDIN framework already covers a wide range of marine environmental data gathering activities. Benefits of adopting this framework include instilling good practice amongst users and ensuring consistency between contractors and contracting organisations - there is a standard template of required information that both sides can use, which makes managing expectations and delivery much simpler. Adhering to the MEDIN framework also provides the opportunity to store data and metadata in the MEDIN Data Archive Centres, which reduces infrastructure costs for contractors and ensures long-term security for the collected data.

For more information: www.cathie-associates.com

News

BGS Scotland have moved

British Geological Survey (BGS), Scotland offices are now in The Lyell Centre, custom built to host the BGS, including Marine Science and Operations, together with Heriot-Watt University staff. The new buildings are on the [Riccarton Campus](#) in the outskirts of Edinburgh.

Events

Marine Conservation: Sink or Swim - Unlocking the Creativity of Business,

21st April 2016

NSMC hosted conference

This event will unveil key recommendations and opportunities, arising from a recent study, 'One Voice for Marine Conservation'; which introduce a new collaborative approach to managing the UK's network of Marine Protected Areas (MPAs).

Set to attract key players with a vested interest in the marine economy including business leaders, senior politicians and policy-makers, alongside world class marine scientists, the event will hear from a number of distinguished speakers including MEDIN's own Clare Postlethwaite.

Tickets for the event are on sale now and numbers are limited so book early to avoid disappointment and very limited number of student tickets for the event have just released offering a saving of over £100.

To register for the event please go to the events Eventbrite page [here](#).

Further details are available from lisa.johnson@uea.ac.uk.

Introduction to Coastal and Marine GIS

May, Jul and Nov

ABPmer and GeoData organised course

ABPmer's experienced GIS consultants have teamed up with GeoData's GIS trainers to provide a 3 day course that uses real world projects to illustrate how marine and coastal datasets can be used to support decision-making. As well as introducing you to marine data and GIS, the course will also consider common problems faced when mapping the marine environment and provides the opportunity for discussion with the experts about specific issues.

For more information see <http://www.abpmer.co.uk/services/courses-and-conferences/marine-data-and-gis-course/>

Challenger Society 2016 Conference

5-8th Sept 2016

Abstract submission and registration now open

[Abstract submission](#) and [registration](#) are now open for the 17th Biennial Conference of the [Challenger Society for Marine Science](#).

Authors are invited to submit abstracts for inclusion in the conference program under session themes such as 'Marine Science for Society' and '[Science impacts through Open Data](#)' by **May 12th 2016**, whilst the deadline for registering for the event is **June 2nd 2016**.

Usually attended by hundreds of researchers from the UK and world-wide, the conference provides a showcase of marine science and technology, covering all areas of ocean research along with early career events and education & outreach opportunities.

The Challenger Conference is to be held at the [University of Liverpool](#), on the 5-8th September 2016.

[For more information...](#)

International Conference on Marine Data and Information Systems

12-14th Sept 2016

IMDIS 2016 aims to provide an overview of the existing information on marine environmental data and show progress of the development of efficient infrastructures for managing large and diverse data sets.

The focus of this years conference will be on access to data, metadata, data products, communication standards and adapted technology to ensure platform interoperability.

Being held in Gdańsk (Poland), IMDIS 2016 will promote the meeting of communities working in informatics, data management, research and environmental protection

The submission of extended abstracts (1 - 2 pages) can be done through the [IMDIS web pages](#) and deadline for submission of papers and posters is April 15, 2016.

If you are interested in supplying an article, or you wish to advertise an upcoming workshop or event in Marine Data News please contact:
[MEDIN enquires](#)