Tweet Forward

Envirohack 2015

The Natural Environment Research Council (NERC) EnviroHack 2015 was organised by The British Oceanographic Data Centre (BODC) and the Centre for Ecology and Hydrology (CEH). This 2 day event brought together environmental scientists, data specialists, industry representatives and innovators in technology to hack environmental data in novel ways.

Marine Environmental Data and Information Network (MEDIN) Coordinator Clare Postlethwaite, who participated in the hackathon, found it an exciting approach to using environmental data. Three of the MEDIN data archive centres (BODC, the British Geological Survey and the Met Office) were amongst those organisations providing data to EnviroHack 2015.

News

MEDIN mega-meeting

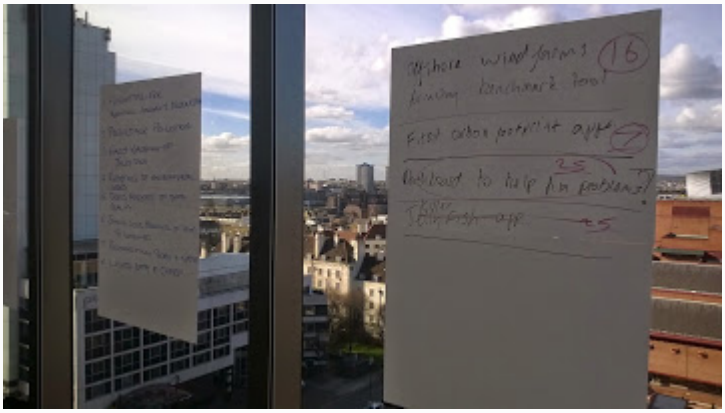
MEDIN held their first ever mega-meeting on the 26th March at the British Geological Survey in Edinburgh.

Dr Gaynor Evans presenting at the MEDIN

Dr Clare Postlethwaite, MEDIN Co-ordinator, presenting at Envirohack

The hackathon was run as a competition, with an intensive brainstorming exercise whittling down ideas to just 6 proposals to create new applications for using environmental data. The projects that made it to the hack stage included: tagging descriptions of environmental datasets with user comments and an app to link up food producers with people who could make use of any surplus. However, the winning project, 'Jelly Strike', was an application to warn if a jellyfish swarm was likely to cause problems for a range of industries (aquaculture, tourist, power generation).

Chris Wood of BODC, a member of the winning team, described Jelly Strike as a proof of concept application that was developed in a day. The team used jelly fish data discovered on the MEDIN portal as part of their proof of concept that convinced the judges to award the project 'Best Team' and 'Best Web Application'. Chris said *"The strength of this unique event is that it brought together a wide range of people, from policy, industry, academia and technology".*



Brain storming ideas at Envirohack 2015.

Mega-meeting

Sandwiched between a meeting of the MEDIN Data Achieve Centres and the MEDIN standards working group, the mega-meeting was an opportunity for individuals from all of the MEDIN working groups to get together and discuss issues that are relevant across the working groups.

High on the agenda was the opportunity to enhance the user experience of the MEDIN Data Discovery Portal, which Issue presented an article on. Watch this space.....

Quick coffee and biscuit re-fuel

"After the introductory talks on day 1 of the hackathon, participants were invited to suggest ideas that could be used as the basis of a simple application to be prototyped during the remainder of the event - 6 of these ideas were then shortlisted to be the ones that would be worked on. Having a background in oceanography, and now working as a software developer for BODC, I didn't need any convincing to work on the only idea that was marine-based: a tool for showing jellyfish observations and predicting their movement. The proposal was put forward by an aquaculture vet based in Scotland, who has seen the damage that large swarms of jellyfish can do to commercial fish-farms. The 8 of us in the group had different skills, but all had a background in marine science, and so worked well together to develop the idea over the 2 days. We quickly established that we could use the MEDIN website to source suitable data that we could then display on an online map - with the idea that a fully developed app might show observations in real time, in conjunction with a simple mobile phone app we also developed which uploaded a photo, the latitude and longitude of the sighting, and a simple description to our database. To complement the observed data, we also displayed tweets in real time from the UK which referred to Jellyfish. Finally, as a proof-of-concept idea, we had a simple model which modified the observed data on the online map, which could act as a prediction tool to show where observed jellyfish are likely to be over the next 5 days, and so act as an early warning system for the aquaculture industry, and other interested stake-holders."

Dr Chris Wood, BODC collecting prize at Envirohack

This article was prepared by Dr Clare Postlethwaite, MEDIN Co-ordinator, and Dr Chris Wood, BODC.

Marine Data News restyle

Inspired by the approaching of Easter, traditionally a time symbolising rebirth, and fuelled by chocolate eggs Marine Data News has undergone a bit of a makeover.

Tell us what you think or send suggestions for future improvements you would like to see to MEDIN enquires.

Reminisce and have a look at past issues of Marine Data News at: http://www.oceannet.org/marine_data_newsletter/

Old style Marine Data News

The case for a UK Marine Spatial Data Infrastructure (MSDI)

The case and support for Marine SDI globally is being addressed by the International Hydrographic Organisation (IHO) through its Marine SDI Working Group, the sixth meeting of which was held in London recently, hosted by the UK Hydrographic Office and OceanWise. This article describes the present status of the UK's National SDI and role that the marine sector generally and MEDIN specifically is playing in it development.

MEDIN provides a framework to improve the accessibility of marine datasets. It does this by encouraging data owners to manage and publish their data according to international best practice and to submit their data with appropriate metadata to MEDIN accredited Data Archive Centres (DACs). Tools, guidelines and other resources are made available to assist in these aims. Metadata submitted to the MEDIN portal helps users discover what data is available and is harvested by the UK Government's portal, data.gov.uk (DGU). Metadata in DGU is further harvested by the European Commission thus helping the UK meet its obligations under the INSPIRE Directive.

In Oct 2013, the UK Government published the first iteration of the UK National Information Infrastructure (NII) in response to the publication of the Shakespeare Review of public sector information and in which the processes for setting up the NII were defined. The document included a list of datasets published on DGU which, although useful, were not structured, thus severely limiting its practicality. The NII includes spatial data as a use case alongside performance and delivery, fiscal and operational data, thus effectively sweeping the UK Location Strategy into its scope. In Nov 2014, the NII prototype document was submitted to DGU for comment, its current status. As far as known, there is no process in place to solicit comments from the marine sector in general or MEDIN specifically; anyone can comment though using a simple login.

Three hundred and twenty one datasets are identified in the NII as being prioritised. Marine related datasets included Port Traffic Data (DFT), Bathing Water Archive, UK Fishing Vessel List (DEFRA), Wrecks, UK International Boundaries and UK Continental Shelf (MOD), Marine Licensing Consents and Fishing Activity Data (MMO). Thirty two location related datasets from Ordnance Survey were listed but other than those noted above, no equivalent marine reference datasets are mentioned. This is odd given that reference data is cited as being important in enabling discovery and

Workshops and Events

MEDIN Workshops

The next MEDIN workshop is on the 10th of June 2015 at the British Geological Survey in Edinburgh.

Places are limited so if you are interested please contact Sean Gaffney to register.

For more information on this and future workshops please visit the MEDIN website using the button below.

MEDIN Workshops

Marine Data Management Awareness Course

OceanWise, in conjunction with the Institute of Marine Engineering, Science and Technology are offering a Marine Data Management Awareness Course on the 18th June 2015 in London.

identification; providing points of interconnection between public data through temporal and geographical data, definitions and code lists, including vocabularies.

The MEDIN Reference Data Action Plan identifies reference datasets equivalent to those listed in the NII from Ordnance Survey but for the marine domain. The MOD datasets mentioned above are included, as is the MEDIN marine gazetteer which is not listed in the NII. MEDIN has created a list of reference data on its portal and is encouraging data holders of these datasets to publish them in INSPIRE compliant services. The Action Plan also identifies where these datasets can be improved or strengthened to make them interoperable with other marine and land based reference datasets.

The MEDIN framework and the current plan for reference data could be considered as a form of Marine SDI. However, progress on the action plan since its initial publication in 2011 has been slow and difficult. Other countries within Europe e.g. Germany and more widely e.g. Canada have taken a more formal approach, with positive outcomes, although legacy issues associated with paper charting for example still dominate.

In response to a request from MEDIN for a more formal strategy towards reference data, the MSCC proposed a "light touch". However, it is evident that this approach does not appear to be working, resulting in inertia with the marine and maritime UK communities being under-represented in the NII. A more formal approach, with all marine bodies taking part, is now needed; otherwise the marine sector will continue to be the poor relation in the NII with the UK running the risk of being left out of the development of a Marine SDI in Europe and beyond. The current situation is not sustainable and the author has proposed a step change in strategy with MEDIN taking a leading role subject to the resources and remit being put in place.

This article was prepared by Dr Mike Osborne, MD of OceanWise and member of the MEDIN Executive Team.

This course will provide an overview of marine data management throughout its life cycle.

More information is provided in the brochure below.

Marine Science Events Calendar 2015

Visit the on-line UK Marine Science Events Calendar for information on national and international events relevant to the UK marine science community.

Underwater noise data and its management

In 2014, MEDIN published a position paper on the management of underwater sound data. This paper, presented at the last meeting of the Underwater Sound Forum (USF), discusses whether current arrangements for management of noise data in the UK are fit for purpose. The USF is a sister group to MEDIN and is a forum for anyone with an interest in underwater noise. Its membership and popularity have continued to grow since its first meeting in 2004. Forum meetings are held every six months and are hosted by member organisations around the UK. The USF requested that MEDIN prepare a paper to examine data management needs for underwater noise data.

Acoustic data are collected for diverse reasons including biological monitoring, military surveillance and assessment of the noise energy produced by offshore wind turbines. It is recognised that our seas have become increasingly noisy over the last few decades and there is a pressing need to discover the effects on marine life of the growing levels of noise energy man is putting into the marine environment. Moreover, there are legislative drivers for collecting noise data in the form of the Marine Strategy Framework Directive, where signatory parties have to come up with ways of establishing good environmental status for levels of noise in their marine waters.

Noise data are collected and stored by many organisations in the UK and the paper summarises the main collectors and archivers. But the question central to the paper was: are these data being managed for the long term? If not, should there be a specific data centre or group of centres that should be given the task of archiving noise data? In MEDIN terms the question was whether there should

Sponsors Corner

OceanWise is an independent company specialising in all aspects of marine environmental data acquisition, data and knowledge management and GIS.

OceanWise delivers training courses on Data Management and Marine SDI to Regional Hydrographic Commissions and individual Hydrographic Offices worldwide as well as providing its base mapping dataset, Marine Themes Vector and Seabed DTM datasets to the public and private sectors.

Please contact Mike Osborne for comment or more information about OceanWise.

be a Noise Data Archive Centre (DAC) to sit alongside the seven other MEDIN accredited DACs for different data types (refer to http://www.oceannet.org/data_submission/). The paper concludes that this is not the time to put in place a Noise DAC. The primary reason is that noise data sets are generally very large in size and computing solutions have not been found as yet to deal with the archiving and delivery of these substantial files on a routine basis. In the meantime, there are prudent data management actions that can be undertaken:

- Ensure funders of data collection programmes make adequate provision for data stewardship within the projects budget.
- Promote the use of MEDIN Guidelines to data collectors to allow comparability and reuse of datasets.
- Ensure all noise data sets are discoverable within the MEDIN metadata discovery portal.
- Data collectors, without access to appropriate archiving facilities, should be encouraged to discuss potential archival of their data sets with BODC.

For anyone interested in joining the USF (it's open to all) and for more information about the Underwater Sound Forum go to webpage http://www.oceannet.org/underwater_sound_forum/ or email the USF secretariat at anne.brazier@noc.ac.uk.

This article was prepared by Dr Gaynor Evans, member of the MEDIN Core Team.

Jobs

MATLAB Scientific Developer vacancy at the British Oceanographic Data Center. For Further information click here.

UK bathymetry contribution to EMODNet

Additional survey datasets supplied to EMODnet

OceanWise has successfully delivered 1,970 additional processed survey datasets to the EMODNet bathymetry project, updating and extending the coverage within UK Waters (see image). The process involved updating the EMODNet discovery metadata format specification, as well as exporting gridded data directly into the binary Digital Elevation Model (DEM) format used in the new 1/8th minute DTM by EMODNet partners.

Processing in excess of 1.8 billion survey points into accurate and useable grids presented a BIG data challenge. Overlapping surveys were 'de-conflicted' using formulae to determine survey priority and new rules were prepared for more advanced survey boundary processing. The result is a more accurate and natural looking seabed surface suitable for general situation awareness, site and route selection and environmental modelling. The new methodology is also being applied to OceanWise's high resolution (1/60th minute i.e. 25 x 25 metre) DEM, which also includes the new surveys and will be released to OceanWise's UK public sector customers and commercial sector distributors later this month.

The work and advanced processing capability needed to process individual surveys into an accurate seamless DEM shouldn't be under estimated. Although more raw survey data than ever is now available from EMDODNet and the UK Hydrographic Office Bathymetry DAC many users find it near impossible to process this data and hence a ready-made DEM is the most sensible - and more cost effective - option.

For more information on OceanWise's Marine Themes DEM, click here.

To access the EMDODNet Bathymetry Portal to request hydrographic survey data, click here.

This article was prepared by Dr Mike Osborne, MD of OceanWise and member of the MEDIN Executive Team.

Past Issues of Marine Data News

Twitter Website

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