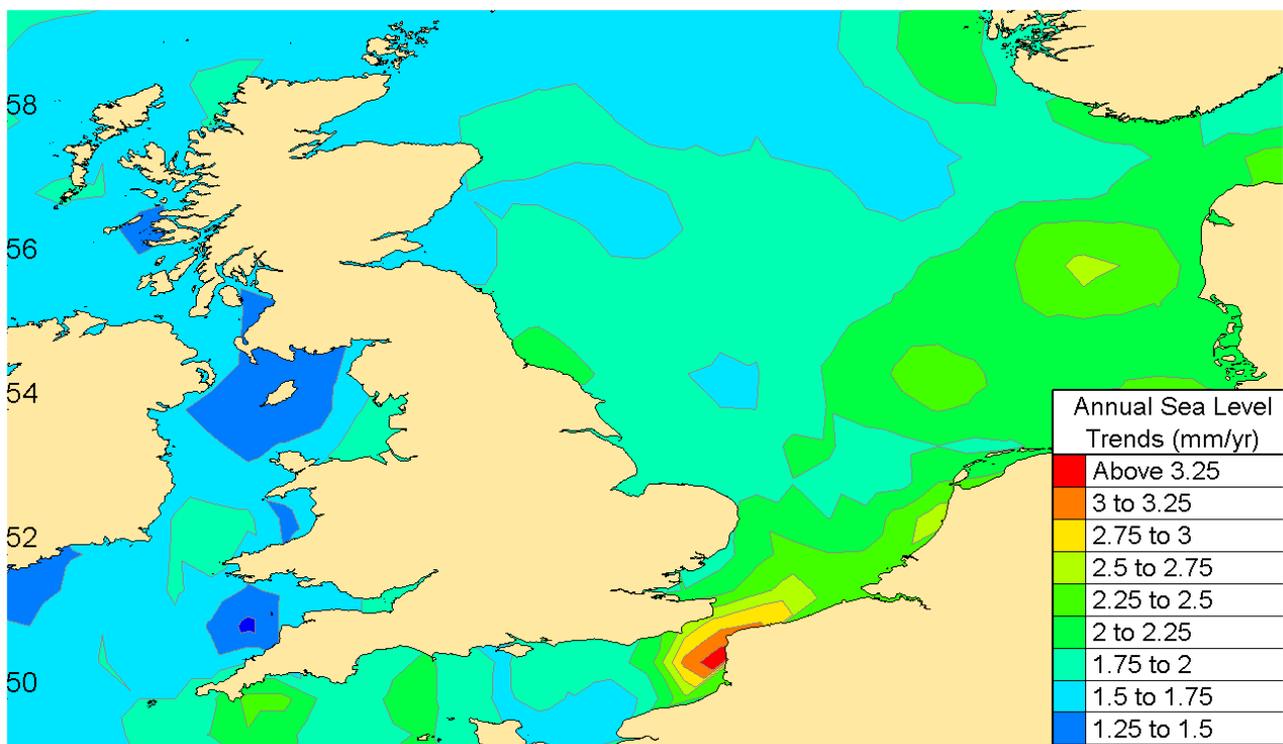




Growth and Innovation in the Ocean Economy

Data Adequacy Review Synopsis
3 and Interim Report



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Executive Summary

This document provides a report on the progress of the challenges and a synopsis of the findings to date. Three challenges have now completed fully and been reported, all other challenges are now underway, providing feedback from a user perspective which complements the lessons learnt from the literature review undertaken at the start of the project.

This report is deliverable 10 to DG Mare under the North Sea Check Point project (Growth and Innovation in the Ocean Economy – Gaps and Priorities in Sea Basin and Observation Data MARE/2012/11:North Sea) contract reference [SI2.658142]. The work was undertaken by HR Wallingford Ltd with input from the project members IMARES and McAllister-Elliot & Partners (MEP). This report provides a progress report and concise summary of key trends in data adequacy to date, with a view to producing one data adequacy report per challenge upon their completion.

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1. Introduction

This report is the tenth deliverable to DG Mare under the North Sea Check Point project (Growth and Innovation in the Ocean Economy – Gaps and Priorities in sea basin and observation data MARE/2012/11:North Sea) contract reference SI2.658142. The work was undertaken by HR Wallingford Ltd with input from the project members IMARES and McAllister-Elliot & Partners (MEP).

This document summarises progress and presents the findings to date for the first scheduled challenges. So far, all of the challenges are now underway, with three of them completed. Those which are complete are:

- Wind Farm Siting challenge;
- Marine Protected Areas (MPA) challenge; and
- Climate and Coastal Protection challenge.

The Oil Spill Challenge has completed its first rehearsal and has therefore undertaken gathering of baseline data. It awaits the call for the final emergency response scenario. No further activity has taken place on this challenge since the previous data adequacy report synopsis.

The remaining challenges have all completed the first task of identifying the data needed to undertake the work and are now engaged in finding it, assessing it for its relevance, making an initial assessment of its usefulness and gaining access to the data.

The database developed to assess data quality for each of the challenges has evolved to meet the needs of the project and is in the process of being made available online.

2. Challenges

2.1. Introduction

The literature survey undertaken at the start of the project provided a first view of the potential gaps in data to be expected when undertaking the challenges. The literature survey was designed to have a symbiotic relationship with the data challenges, providing background information for the challenges while providing a basis on which the result from each of the challenges can build. This has worked well through the use of a data adequacy assessment database.

2.2. Data Gathering

It is recognised that although each of the challenges require a result to be produced from the exercise being undertaken, it is the process of gathering, appraising and using the data to meet that outcome which is most important in informing the overall objectives of the North Sea Checkpoint project.

All data gathered has been recorded in the data adequacy assessment database, providing a searchable record of each of the datasets reviewed and the results of its evaluation where considered for one or more challenges. The database will be made available via the project website.

2.3. Wind Farm Siting challenge

The aim of the Wind Farm Siting challenge was to assess whether the data currently available across and near territorial boundaries in the North Sea is appropriate in undertaking the preliminary assessment required to identify potential new wind farm sites. The challenge was undertaken from the perspective of a wind farm operator assessing suitable locations for offshore wind sites. As such it took into consideration factors that affect generating capacity, construction and maintenance, potential environment impacts, and current sea-use.

The Wind Farm Siting challenge has now been completed. The wind farm site selection exercise was successful in identifying potential sites across the two study areas specified in the project brief. Limitations were expected for both of the study areas as the territorial boundaries between Norwegian, UK, Danish, German and Dutch waters (Area A) lie in the middle of the North Sea to the east of Dogger bank, a long way offshore in relatively deep water, while the boundaries where UK, Dutch and Belgian waters meet and UK, Belgian and French waters meet lie close together towards the eastern extent of The Channel (Area B) in an area of heavy sea-use.

The method used for wind farm siting was adapted from an approach used for site selection for much smaller license areas. Using this approach, it was possible to make an indicative assessment of potential areas for wind farm licencing using available data accessible online. A more detailed evaluation would need to be undertaken through a full environmental assessment using commercial data products combined with a regime of site specific data gathering to make a more accurate evaluation of site potential, followed by a phase of focussed field work and sampling of seabed sediments and underlying geology, wave and wind regime and ecological studies to gain a more accurate picture of site characteristics.

The final output of the challenge and lessons learnt was outlined in detail in the challenge's Data Adequacy Report (DAR), which was delivered in April 2015. The outcomes have been presented at :

- the project Expert Panel meeting (after which comments and amendments were made to the report);
- EMODnet steering committee meetings;
- at an EMODnet checkpoint meeting; and
- for a wider stakeholder audience at a conference entitled "Blue Growth An expanding role for GI and GIS in the marine and maritime sectors" held on 20th May 2015, in London, UK.

2.4. Oil Spill Challenge

IMARES are awaiting the final oil spill challenge exercise. The challenge rehearsal has been performed and after incorporating feedback from project partners and DG-MARE, IMARES are now ready and prepared for the real challenge.

2.5. Marine Protected Areas (MPA) Challenge

The aim of the MPA Challenge was to gain an understanding of whether the available data are sufficient to predict the ecological coherence of a network of MPAs and how representative they might be of the wider North Sea environment. The work for this Marine Protected Areas (MPA) Challenge was undertaken by MacAlister Elliot & Partners (MEP). The Marine Protected Areas Challenge has addressed the stages of work required for a desk-based assessment to analyse the existing European (and Norwegian) network of marine protected areas, both for national and international sites, and to determine whether the network

constitutes a representative and coherent network as described in article 13 in the Marine Strategy Framework Directive. The assessment was made using publically available data or data provided upon request to national and international authorities.

The challenge assessed the availability and quality of data from the perspective of a basic marine user wishing to obtain information on the North Sea MPA network.

The method was based on the approach suggested by OSPAR to assess ecological coherence. Full details are available from OSPAR (2006).

- Features and Representivity: calculate how represented a particular feature (species or habitat) is in the network (i.e. how many times intertidal mudflat habitat appears in the North Sea MPA network).
- Resilience: calculate the overall size of the North Sea MPA network and the proportion of each feature protected within the boundaries of each site.
- Connectivity: using proximity as a proxy for connectivity, calculate how closely connected particular features are to each other in neighbouring MPAs.
- Management: review the marine management for the study area to determine if the MPA network operates as part of a wider management structure.

Relevant marine protected areas within the study area were identified and acquired. The OSPAR set of MPAs was used as a starting point and some components were replaced where a newer source was identified (e.g. UK SACs). Nationally designated MPAs were added and the data checked against countries' national spatial datasets where they were identified and also compared to the world database on protected areas. An ESRI layer file package was produced. This contains the MPA data and some basic background mapping (land and maritime boundaries).

The final output of the challenge and lessons learnt was outlined in detail in the challenge's Data Adequacy Report (DAR), which was delivered in May 2015. The outcomes have been presented at:

- the project Expert Panel meeting (after which comments and amendments were made to the report);
- EMODnet steering committee meetings; and
- at an EMODnet checkpoint meeting.

2.6. Climate Change Challenge

The primary aim of the Climate and Coastal Protection Challenge was to assess the possibility of producing very specific spatial data layers and time history plots for selected climate and coastal variables for the study area of the North Sea Basin. The challenge was carried out on the basis of existing data in order to assess whether the availability, consistency and resolution of the data are sufficient. The challenge was undertaken from the perspective of a data user or consultancy company requiring easy access and interpretation of sea level, sea temperature and sediment data.

This challenge was split into two sets of assessments:

- (1) to produce spatial data layers for the past 10, 50 and 100 years and;
- (2) to produce time history plots averaged over the whole Basin of selected climate and coastal process variables for different depths and geographic locations.

The spatial data layers produced were:

- Average annual sea-level rise¹ at the coast (absolute and relative to the land);
- Average annual change in temperature at surface, midwater (also referred to and interpreted as mid-depth) and sea-bottom (also referred to and interpreted as near-bed);
- Sediment mass balance at the coast.

The time history plots (at least 50 years of data) were:

- Average annual sea temperature over sea-basin at surface, midwater column (mid-depth) and bottom (near-bed);
- Average annual changes in internal energy of sea;
- Average annual sea-level rise relative to the land for each NUTS3 region along North Sea coast;
- Annual sediment balance along North Sea coast for each NUTS3 region along North Sea coast.

The final output of the challenge and lessons learnt was outlined in detail in the challenge's Data Adequacy Report (DAR), which was delivered in July 2015. The outcomes have been presented at :

- EMODnet steering committee meetings, and
- at an EMODnet checkpoint meeting.

2.7. Fisheries Management Challenge

The aim of the Fisheries Management challenge is to produce tables for the whole sea basin of:

- Mass and number of landings of commercial fish by species and year; and
- Mass and number of discards and bycatch (of fish, mammals, reptiles and seabirds) by species and year.

These will include data from before and after the Data Collection Regulation was introduced, so far as possible. Time series will be as long as possible, although the actual length will vary from species to species. Additionally, gridded data layers are to be produced, showing the extent of fisheries impact on the sea floor, including:

- Areas where bottom habitat has been disturbed by bottom trawling (numbers of disturbances per month); and
- Change in level of disturbance over the past ten years.

The data identification phase has been completed and all information is currently being pursued. Data requests for fisheries data (landings, bycatch, discards, kW hours of fishing activity) have been sent to 14 contacts. These include the countries bordering the North Sea project area, the European Commission directly, and any other countries that fish in the Basin, such as the Faroe Islands and Finland. So far, the EC (JRC) have responded and directed us to the latest fisheries data archives: These do not include VMS data which can provide us with kW hours fishing activity data.

The JRC have also informed us that they are also carrying out research activities on the mapping of fishing effort at high spatial-temporal resolution from vessel positioning data (AIS) but this data will become publicly available only in few months.

So far in terms of country response:

¹ Terminology from the project definition has been used for these variables, but it is noted that this, and other similar variables listed here, are also commonly referred to as 'annual average'.

- Sweden are processing our request without cost for the landing and discards and bycatch data, and have sent the VMS data for the last 10 years.
- Denmark responded to say they process data at a rate of around 1400 euros an hour – our request would total 20-30,000 euros.
- Germany estimate at least 500 euros for a one off fee and there will be other ‘unestimated’ expenses.
- Norway will help us with our request in a few weeks but recommend visiting the ICES database for approximations of landings.
- The MMO from the UK have responded and directed us to several data links, and have said they will help with further data requests if it is required.
- France require a formal written request, which has been sent.

2.8. Marine Environment Challenge

The aim of the Marine Environment Challenge is to produce gridded data layers showing seasonal averages of eutrophication for the past ten years and change in eutrophication over the past ten years for the complete North Sea study area. This will be carried out using existing data in order to assess whether the availability, consistency and resolution of the data are sufficient. The outcome of this challenge will be to inform the data adequacy report to provide a detailed assessment of the gaps and priorities of observation and data on eutrophication in the North Sea.

The data identification phase has been completed and all information is currently being pursued. The way the data will be processed to derive an assessment of the level eutrophication in the North Sea over a period of 10 years will largely depend on the data available. Assessments made by OSPAR are generally made based on direct sampling of the sea, but such datasets will have limited spatial and temporal coverage. The dataset which is likely to have sufficient spatial coverage to produce gridded maps of eutrophication is likely be surface chlorophyll-a concentrations derived from remote sensing. In that case, the literature will be reviewed to determine the most appropriate analytical method to relate chlorophyll concentrations to eutrophication. This will be linked to more comprehensive assessments (e.g. the OSPAR Comprehensive Procedure) for areas where sufficient spatial and temporal data are available from direct measurement sources to include other parameters such as nutrients.

The processing will also take into account the relationship between observed surface chlorophyll concentrations (and hence eutrophication) and aspects of the hydrodynamics and bathymetry of the North Sea. In particular, the areas of influence of specific estuarine inputs may be deducible from the spatial chlorophyll data and turbidity data from remote sensing, and the relationship between water depth (from bathymetry) and eutrophication.

2.9. River Inputs Challenge

The aim of the River Inputs Challenge is to produce, for each major river bordering the North Sea basin, a time series of annual inputs to the basin from those rivers, and monthly averages, maxima and minima for:

- Water
- Sediment
- Total Nitrogen
- Phosphates

- Salmon, and
- Eels.

The data identification phase has been completed and all information is currently being pursued. All information available from online sources has been gathered, and relevant national agencies have been contacted for further information. The collected information has been catalogued and compiled and is awaiting analysis. The work will build on previous data reviews to provide an updated consideration of what data is available. Metadata will be stored and quality checking will be carried out to determine, as far as possible, the accuracy and consistency of the data.

3. Synopsis of Results

3.1. Introduction

Each stage of work including data gathering, data quality review, analysis and mapping provides a different perspective on the data as the problems arising from sourcing data may differ from those which become apparent when using the data.

Following the completion of the Wind Farm Siting challenge and the MPA challenge, with interim results from the Oil Spill challenge, an expert panel meeting was held in May 2015. The findings of these completed challenges were presented and the concept introduced of data brokering services that the NSCP has developed. Subsequently, the findings have also been presented to the EMODnet steering committee and at the kick off meeting for new sea basin checkpoint projects. Feedback from all of these presentations has been solicited and considered for incorporation as the project progresses.

3.2. Data Discovery

3.2.1. Wind Farm Siting challenge

In some cases it was found that national data suppliers hold more up-to-date data than can be found on the EMODnet portals (i.e. there is a time lag between data collection/collation and it being passed to EMODnet). The project team questioned whether this should be made explicit on the EMODnet portals, and the panel felt that it was dependent on the dataset: for very dynamic/variable parameters, it may more be important that the most up-to-date data for an area is obtained.

It was noted that very detailed datasets exist for some parameters (e.g. wind data) at a cost of several thousand Euros in some cases. For the purposes of this challenge, the freely available long-term wind statistics were adequate and to purchase detailed data would not be cost-effective; however, it was acknowledged that in a 'real life' commercial scenario a developer would consider this cost to be very small in the context of the overall wind farm development. This highlighted the subjectivity of the 'commercial' variable in the assessment of whether a dataset is valuable, which will depend on the end use.

3.2.2. Marine Protected Areas challenge

Through the OSPAR and Natura databases, portals and spatial GIS files, most of the basic (such as point species and habitats data and MPA boundary files) data needed for this challenge were obtained. The spatial files could be easily filtered for the study area and the OSPAR MPA boundary layer was

supplemented with layers for national MPA designations (such as the UK MCZ boundary layer) and as such, good spatial coverage was obtained.

There were however, gaps in management information. This is not readily available on a site by site basis from any country. Information is only available at a very basic level stating designation level, some conservation objectives and a statement of the relevant management authority.

The MPA challenge originally intended to assess connectivity (one test of ecological coherence) through the collection of larval data, and used in combination with physical oceanographic data to model the connectivity of certain species between protected sites. In the very first stages of data collection it became apparent that larval data for the species relevant to this study are very patchy. More importantly however, it is particularly challenging to apply the principles of connectivity in practice as hydrographic conditions are naturally highly variable and are too complex for the level of assessment in this study.

One issue raised was that of language – some data was held on national websites indexed only in the national language and as a result, it took time to navigate pages to obtain data and inevitably some important information will have been missed, for example the Norwegian information about MPAs was primarily held in Norwegian.

3.2.3. Climate and Coastal Protection challenge

The Climate and Coastal Protection Challenge has presented difficulties, not least because data availability for the past 50 and 100 years – and in some cases for most recent years - is limited.

It is noted that recent research initiatives established methods to reconstruct historical sea level maps by combining historical measurements from tide gauges and satellite altimetry data. The output of one of these recent research initiatives was made available through the NASA website. It gives a reconstructed sea level from 1950 to 2009. It is worth noting that in climate science, a typical time-step (“epoch”) is considered to be thirty years, thus highlighting the short timescales being considered within the challenge. A thirty year period is used, as it is long enough to filter out any inter-annual variation or anomalies, but also short enough to be able to show longer climatic trends.

3.3. Spatial Coverage

3.3.1. Wind Farm Siting challenge

As the study areas for the wind farm siting covered the boundaries between national waters, the data used needed either to be sourced from each country or sourced from a location where the data had already been compiled into one or more datasets covering the North Sea. The geology data available from the EMODnet OneGeology portal provided only a rough indication of the character of superficial sediments in the area. Although a higher resolution of data would have been available from The British Geological Survey (BGS) for UK waters, this would only have provided partial coverage of the study area.

Although some data exists on bird and cetacean sitings, these do not provide an adequate understanding of migration routes. Dynamics of marine species were not discovered – most species information is point occurrence data with no indication of potential movements, even when species are known to have specific seasonal changes in distributions.

In many cases, there were contrasts in the coverage of data provided from different sources. In some cases EMODnet portals had not received data from all National data providers; accordingly, the data downloaded

covered only part of the project study area, or some only provided data outside of the North Sea cases. This was mainly the case for the EMODnet Human activities portal, but this is only recently set up and as such, it is acknowledged that this will alter as the portal progresses.

3.3.2. Marine Protected Areas challenge

There were large gaps in spatial species distribution data at a basin-wide level, particularly for the Annex I and II species listed in the MPAs relevant to the challenge. Spatial species distribution data are available at this level of detail for some regions in the study area, such as CEFAS fish spawning ground data in the UK, as dedicated research projects and data collection programmes have made these datasets available. The patchiness in these types of data for the majority of the study area restrict an assessment of ecological coherence for species.

Ecological coherence test statistics used in this challenge have used EUSeaMap and OSPAR sourced spatial habitat data which, although covering the study area, are at quite low resolution and do not likely represent the full extent of those habitats, there being more detailed habitat data available.

3.3.3. Climate and Coast Protection challenge

In the specific case of tide gauges, measurements and observations give the longest data history but their spatial coverage is restricted to single points usually situated at the coast. Satellite altimetry data has near global spatial coverage but only from the 1990s.

Therefore, datasets including SSH and SST for the past 10 years with a spatial coverage from 2km to 50km are relatively accessible from satellite data. However, to construct long history records and near global spatial coverage, scientists had to calculate and extrapolate SSH and SST from measurements and satellite data with mathematical methods.

3.4. Usability

3.4.1. Wind Farm Siting challenge

As the wind farm site selection process is primarily based on spatial analysis, the challenge required data to be made available in formats which could easily be used in a Geographic Information System (GIS). This was the case for most data identified and reviewed for the challenge.

Some resources were only available as a pdf, kml or as a static image, while others are provided in a format allowing it to be put straight into a dynamic map with no pre-processing required. Much of the biological, chemical and physical datasets are provided in underived formats as they contain sampling results. Some users require the data to be maintained in its original format to enable applications such as time series modelling. This however makes the data more difficult to access for non-experts in these fields who may be looking for interpreted data such as characterisations or density maps.

There were instances where source paths to access datasets were broken. This occurred both during navigation to a data download page (for example the MPAs dataset shown in the European Atlas of the Seas portal could not be downloaded due to a broken link) and in the display of downloaded data, as was the case for the EEA hydrodynamics and sea-level rise data. An mxd was provided to facilitate the viewing of symbolised data. However the source path still led to the originator's C drive and D drive!

3.4.2. Marine Protected Areas challenge

Most of the datasets used were spatial (mostly ESRI shape files) and in order to view these files, the user has to have access to GIS software to do this. Open access, free GIS programmes like QGIS are an option for this. Opening the files is not the main issue, however. Specialist knowledge is required to correctly use and edit the GIS data to create the desired maps. Nevertheless, when the spatial datasets collected for this challenge were opened, they were generally in the correct projection for editing.

Other data formats encountered during data gathering were easily handled, such as Microsoft Excel and Access files.

3.4.3. Climate and Coast Protection challenge

Most of datasets identified were either time series delivered in ASCII format or numerical model results delivered as NetCDF files. Those two formats are standard and easy to visualise. However, the variables required by the challenge need processing of the datasets before being computed. For instance, monthly or yearly mean sea level or average temperature are available. Specific processing tailored to individual datasets is needed to obtain the annual change in temperature or the annual sea level trends, for instance. Consequently, those datasets would not be readily suitable for non-expert users.

Usable data for non-expert users is rare and mainly for informative purposes only. For example, NOAA provides maps and downloadable tables of sea level trends. Other data for non-expert users includes maps of annual change in sea surface temperature and mean sea level, produced from published research.

4. Conclusions

4.1. Challenge Issues

There are a plethora of national and international data sources provided through national and international organisations in the North Sea. Considerable time needs to be spent in identifying definitive data, comparing multiple versions of similar data to identify the most up-to-date, useful datasets. Not all datasets were up-to-date (to within a year) as organisations such as the EEA and OSPAR tend to update their databases every two years.

There have been multiple instances where compromises have to be made to manage short comings in the data such as a lack of resolution or the presence of information gaps.

4.2. EMODnet

The ease of use of EMODnet portals was found to vary with the nature of data and access requirements. The different portals know their target audiences and the data provided tends to be in a format which is aimed at its likely use. For instance, data from the physics, bathymetry and chemistry portals primarily provide raw data for modelling, while data from the human activities portal is aimed at users such as planners who require data to be easily queried in excel or viewed alongside other data in GIS.

Each of the individual challenges has provided specific points for feedback to EMODnet, with comments on individual portals communicated. More general points are listed below.

Some source paths to data were broken. Data available from EMODnet was often available from multiple sources, which took time to appraise in terms of being definitive and most up-to-date. Whilst metadata provides some information, it is rarely sufficient to appraise 'fitness for use'. Fishing data was difficult to source and not found for the challenges so far. However, the Fisheries Management challenge may throw further light on this. In some cases EMODnet portals had not received data from all national data providers, or the most up to date data, so information was only available in limited territorial waters or was behind that offered by national portals. Portals containing links to the download of zip files such as the seabed habitat portal and the human activities portal were easy to use and enabled fast access to the data, although occasional difficulties were found in opening the zip files. There are currently limited means for searching the metadata from the contents of the portals for EU funded resources before the data is downloaded. The EMODnet query tool would be a suitable platform for developing capability for users to search through discovery metadata for all EMODnet data products and potentially data from other EU portals. Finally, an observation was that consistent feedback contact information on each thematic portal would help users to immediately provide their experience with the portal.

4.3. Knowledge Gaps

Across the current challenges, some gaps in available data have been identified:

- The most prominent data gap identified during the wind farm siting challenge was found to be for commercial fishing data.
- Freely available sediment data was only available through EMODnet One Geology as a downloadable .kml file, enabling the data to be viewed in Google Earth. The data covers the whole of the North Sea Basin, however, it is unclear how the full dataset can be accessed via BGS.
- Management data relating to the development of MPAs is difficult to find. Data providers needed to be contacted directly for access to reports.
- There are large gaps in the availability of larval data. This is probably due to the limited number of larval modelling studies and as a result, there are a limited number of species for which dispersal and duration data have been published.
- Reconstructed sea water potential temperature does not exist, nor does reconstructed sea water salinity. Only Global models with reanalysis give this data for the past 10 to 30 years.
- Offshore tidal gauge data does not adequately cover offshore areas (as shown in Figure 4.1). All of the tidal gauge stations are located along the coast. The temporal coverage varies a great deal between tidal gauge stations and also remains very limited.
- Sediment mass balance data also seems to be non-existent for the North Sea basin.

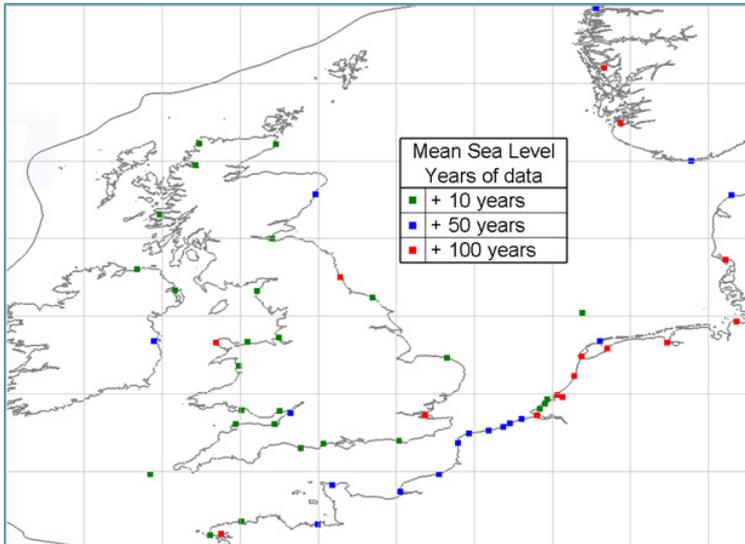


Figure 4.1: PSMSL Tide gauge data spatial and temporal coverage

Source: PSMSL

The issues identified during the sourcing of data across the current challenges have been grouped as follows:

- Finding data and accessing data
 - Some data difficult to source
 - Difficulties in accessing data from online resources
 - Broken links / source pathways
 - Some data too expensive for use in a scenario
 - Data conflicts
 - Metadata not always available
- Data gaps
 - Datasets not containing data for the search area
 - Conflicting information between data suppliers
 - Duplication between data sources
- Applicability to challenge
 - Resolution not suited to needs of challenge
 - CRS data missing
 - Data formats sometimes inappropriate

5. Reporting

Three challenge reports, inclusive of data adequacy reports, have now been delivered. Two of these were reviewed at the Expert Panel meeting in May 2015 and comments and feedback incorporated into amended

reports. A report of the Expert Panel meeting was delivered in June 2015, the amended report for the Wind Farm Siting challenge was delivered in July 2015, and the amended report for the MPA challenge was delivered in August 2015. Further to these, a progress report was supplied in June 2015.

Four more checkpoint projects have been commissioned by DG MARE, for Atlantic, Arctic, Baltic and Black Sea basins. Their external kick-off meeting was organised and held at HR Wallingford in September 2016. Both the North Sea and Mediterranean checkpoint projects presented their progress so far, to allow the new projects to share in the approaches so far taken and in their initial findings. Useful discussions were held about further progress, including providing some common definitions and vocabularies for the projects and a suggested report template.

The next deliverable is the River Inputs Challenge report and Data Adequacy Report, due in February 2016.

6. Data Advisor

Growth in marine and maritime sector is reliant on innovation, which needs a robust and accessible knowledge base. Both private industry and public sector require access to marine data, for very different reasons. Despite investment in ISO-19139 metadata catalogues and web services the key 'blue economy' actors aren't being serviced:

- Standard catalogue and portals are great, but don't convey data value;
- Current initiatives are targeted at the science community ;
- There are multiple portals and initiatives.

The blue economy uses standard web tools to search for the data they need to solve the problem they have. With this in mind, the project has identified that one of the potential 'missing links' in the data accessibility chain is a data brokerage service, which provides appraisals of fitness for use for purposes other than those for which the data was originally collected. To this end, the project considered information brokerage as performed elsewhere on the internet and considered that websites such as TripAdvisor or Yelp, which allow users to both search for information and to upload their experiences, in helpfully intuitive ways, would be ideal templates for the data world.

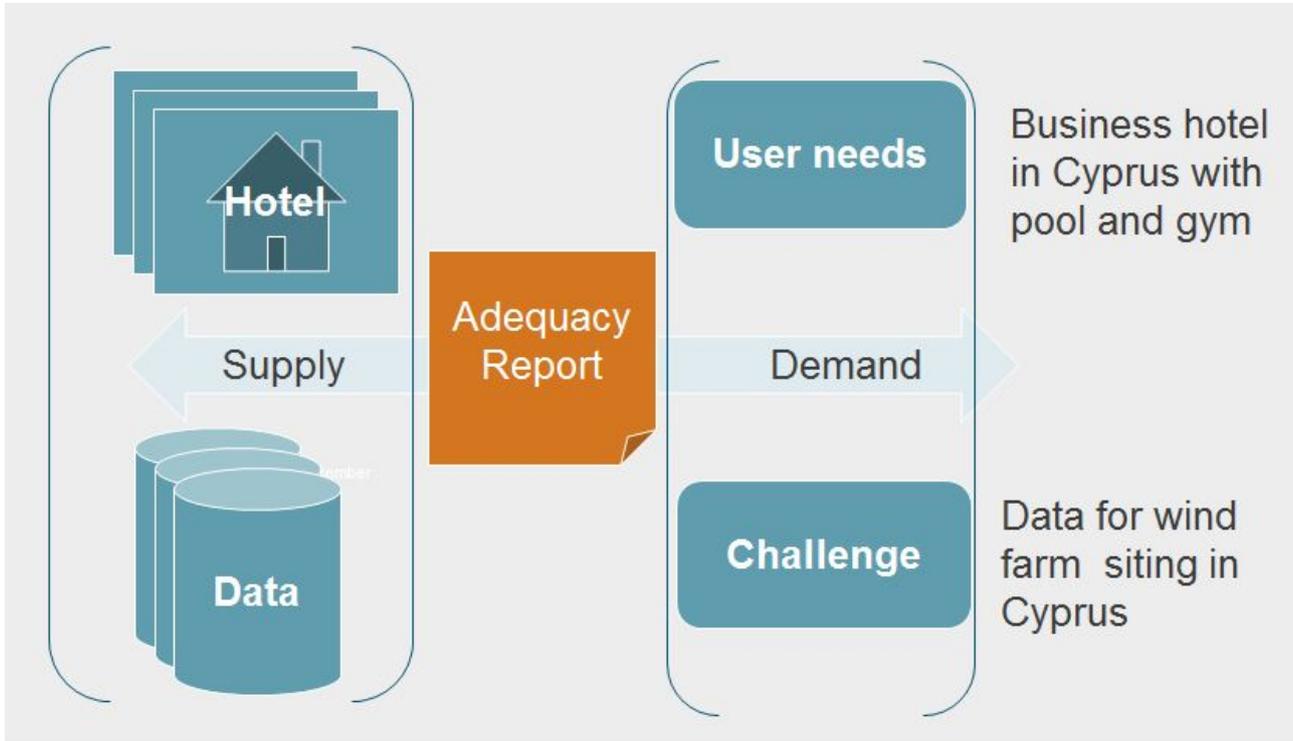


Figure 6.1: Comparison of Trip Advisor and Data Advisor

Source: HR Wallingford

The initial test iteration of the “Data Adviser” has been produced and is held at <http://54.154.107.49/nscp/nscpdataadvisor.html>. This currently holds the data appraisal information from the Wind Farm Siting challenge, the Marine Protected Areas challenge and the Climate and Coastal Protection challenge. We received comments following the expert panel review, from DG MARE, requesting:

- the inclusion of EMODnet themes as a filtering option, which was considered – however, the integration of the EMODnet themes with Inspire categories is being separately considered and we consider it prudent to work with those outcomes, so as not to differ from decisions and conclusions being made within that initiative;
- stating in a box on the main interface what the tool offers, what it can be used for and its limitations – this is to be incorporated; and
- circulation to panel members for a trial with the incorporation of feedback prior to advertising to the wider community.

An email was sent around to the EMODnet steering committee members, providing the URL above and requesting feedback. The URL was initially found to not be open to non-HR Wallingford staff, as the server had been incorrectly configured, but following reports of non-functionality, this was resolved and another email sent to again request feedback.

7. Next Steps

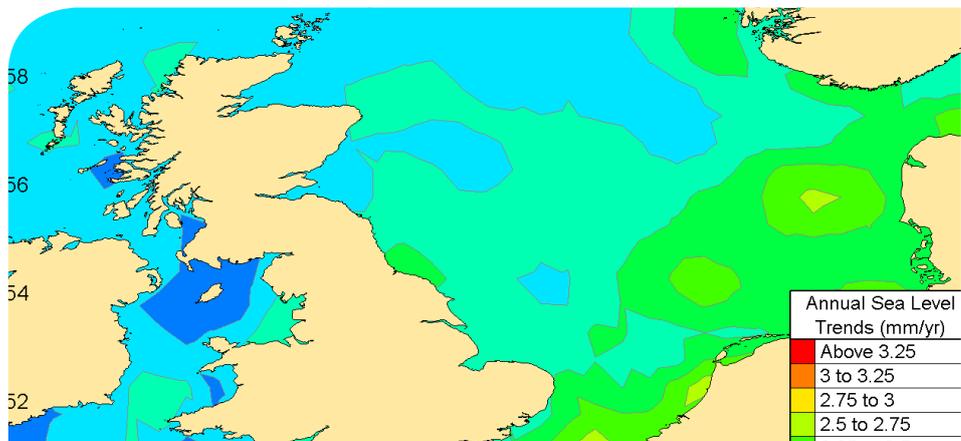
It is now a priority to ensure that the NSCP website is progressed to live. It was decided at an early stage of the project to base it on the infrastructure that the EMODnet secretariat have developed for consistency and

ongoing curation. However, despite basing it this way, there have been issues of working with this architecture, striking the right level of content and compatibility with the existing EMODnet pages. We have experienced a few issues with the Drupal Content Management System. The main issue being the lack of training and the learning curve associated with that - Drupal is an advanced CMS that requires developer expertise. The user interface is not user-friendly or particularly logical, so takes a great deal of technical know-how to work around the “quirks”. The second issue has been with editing/administration privileges. While partners have had editing privileges on certain pages, occasionally these seem to disappear for no known reason, and can only be overcome by the website owners intervening. This means that editing a page takes substantially longer than it should. We are hopefully moving toward resolving these issues in the near future, particularly as we wish to make the results of our challenges so far public, as soon as possible. The remaining challenges are all underway, although at various stages of completion.

The next deliverable will be a further progress report in March 2016.



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