



Marine Data Accessibility and Use

A Review of Government and Industry Sectors in the UK



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Following recognition that there could be greater collaboration between government and industry sectors to improve access to marine data and information, a workshop was held to identify current issues and propose how such improvements could be made. Several key recommendations are being taken forward to ensure that plans to establish a national framework for the management of marine data in the UK are being met for all sectors and that the data requirements for a national marine monitoring and assessment strategy are met. This article provides information on existing marine data initiatives, describes the current issues, areas for potential improvements, and the methods by which they may be achieved.

A REVIEW COMPLETED BY THE Inter-Agency Committee on Marine Science and Technology (IACMST) in 2006 suggested that there could be greater involvement of the industry sector in UK marine data initiatives. A steering committee was formed under the auspices of the UK Marine Environmental Data Action Group (MEDAG) to examine the issue. The committee decided that a workshop would be the most productive way to take the issue forward. The workshop, held in November 2007, aimed to give background to current data initiatives, identify applications which would benefit from an improved co-ordination between industry and government sectors,



'Data access policies across different departments and administrations were confusing and in some cases inhibiting the reuse of data'

highlight current problems that are limiting the exchange of data and propose how improvements may be made within existing Marine Data and Information Partnership (MDIP) proposals for a framework to manage marine data in the UK (see Box 1).

Delegates from industry organisations from the oil and gas sector, environmental consultancies, port authorities and a number of industry associations attended, as well as government and agency representatives. The workshop was organised as a series of presentations and breakout groups that discussed specific topics and then reported to

plenary. The presentations and the workshop summary are available ([V01](#)).

Data Access Issues and Recommendations

During the workshop it became apparent that there were three main types of industry data:

1. data taken to satisfy government legislation or licence conditions
2. health and safety or environmental data taken for 'in-house' requirements, which may be released by agreement
3. exploratory information that is commercially sensitive but may become available in time.

Here, we discuss these classes of data in turn.

1. In the instances where data are taken to satisfy legislation or licence conditions, it is often difficult to discover the data as they frequently remain with secondary contractors and their existence is not publicised. It may be difficult to release these data from secondary contractors due to issues of ownership and a desire to restrict the potential end-uses of the data. However, an approach to contractors through a trade association that represents groups of organisations or activities (for example, British Marine Aggregate Producers Association; Oil & Gas UK)

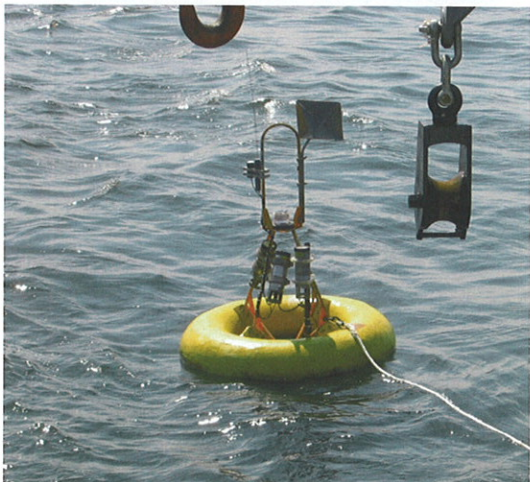


Figure 1. The SIMORC data-access model. Data sets are labelled as available or restricted according to data owner requirements.

has in the past improved the release of data from contractors.

A similar situation whereby data were not discoverable or accessible has also occurred in government organisations when work has been subcontracted out. For both of these situations it is recommended that external incentives should be set up within the licence conditions in order to foster a better understanding of the need to manage data. The longer-term vision for management of marine data in the UK is via a system of Data Archive Centres (DACs) and it is intended that any data taken under such licence conditions, or contracted from government organisations, should be submitted to a DAC for long-term management and accessi-

Users Restriction	Scientific Users	Non-Scientific Users
Data sets labelled: LI = Available under licence	Direct access	Request forwarded to owner
Data sets labelled: RS = Restricted	Request forwarded to owner	Request forwarded to owner

The MDIP Framework for Managing UK Marine Data

A framework within which marine data may be discovered, accessed and easily used is being established in the UK. The basis of the framework is setting standards to which data sets should be collected and stored. These data sets may then be discovered from a central point. At the base of the framework are Data Archive Centres (DACs), which act to archive and disseminate data within specified themes. Any data that are not being actively managed to the agreed standards are expected to be submitted to a DAC. Once in place, the framework is expected to deliver by 2013:

- the provision of priority data sets to underpin UK and EU legislative and obligatory requirements in line with Infrastructure for Spatial Information in the European Community (INSPIRE) principles
- a single point of access to all relevant marine data
- a robust network of definitive integrated DACs
- facilitation of full data flow to DACs for all government-sponsored contracts in the marine and coastal zone environment
- the necessary links with EU directives and initiatives, and advice of developments to stakeholders (for example, INSPIRE, SeaDataNet)
- measurable reductions in the proportion of project budgets spent on locating, accessing and retrieving marine data.

bility. This lodging of data within a recognised DAC could be enforced through contract conditions, such that contracts would only be signed off once the process is complete.

2. In the instances where data have been taken to satisfy in-house requirements, it may be possible to release the data under license. It is hoped that any release of data would be to a DAC. A data-access model such as that employed for the EU-funded project System of Industry Metocean data for the Offshore and Research Communities (SIMORC) may be employed (see Figure 1 and 2), which has been used to make BP, Shell and Total metocean data available.

3. Exploratory information that was commercially sensitive such as oil, gas and aggregate reserve information: it is hoped that this information may become available once it had become less sensitive.

Other issues associated with the management of data were the lack of clearly defined standards, formats and guidelines to manage and

archive data. It is hoped that the current initiative to build a framework for managing UK marine data will provide standards and guidelines. It was very clear during the workshop that the industry organisations would welcome standards and guidelines and that they are willing to be, and should be, involved in defining them.

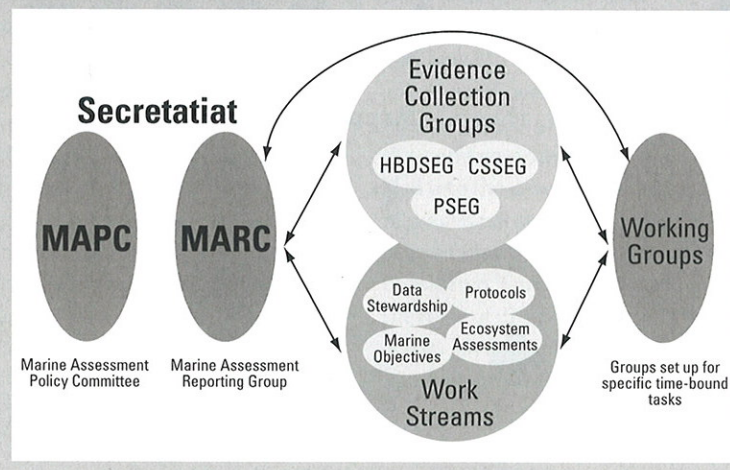
Access to Government Data by Industry

The industry sector did not generally feel that the government departments were taking a strong enough lead in areas within their control that could have a beneficial influence on data management practices. Looking at access of government data by industry, it was clear that different data access policies across different government departments and devolved administrations (England, Wales, Scotland, Northern Ireland) were also confusing and in some cases inhibiting the reuse of data. In particular, the trading fund model established in the UK, whereby some government organisations are legally bound to use their data for profit, was found to be restrictive. However,



The UK Marine Monitoring and Assessment Strategy

The UK Government, Devolved Administrations and Agencies agreed a new strategy for shaping the UK's ability to provide, and respond to, the evidence to demonstrate that the UK's vision of clean, healthy, safe, productive and biologically diverse oceans and seas is being achieved. The UKMMAS was initiated in 2006 and has required a step-change in the way the UK co-ordinates marine data collection and assessment. A new framework of committees and initiatives has been established to reach these goals, ranging from committees to discuss policies to groups that undertake assessments and co-ordinate monitoring.



there was acknowledgment that some funding must be secured to manage and update information. There were a few instances where industry had to pay to renew licenses to use data sets or products at a higher frequency than that at which the data sets were updated.

The Value of Data – Industry View

There are a number of factors considered by industry when data are being evaluated with regard to

the potential value of their contribution to a specific project. These factors were discussed and the relative priority of these factors was considered. It was established that the impact that the data would have on solving the problem and also the geographical scope of the data were of key importance. The ability to discover and immediately access data was also an important factor. The usability of the data (i.e. how much reformatting was required for

use) was in fact considered to be a lower priority, which suggests that in some circumstances if a data set is fit for purpose then resources may be provided to reformat the data for use. Clear licence conditions, evaluation metadata, a geographic definition and an ability to have direct access (i.e. via the internet) are therefore important requirements to ensure that data are easily discoverable, evaluated and usable.

Data Collation for Calculation of Socio-economic Uses of the Sea

It was estimated in 2000 that direct marine activities contributed 4.9% of UK GDP. A recent update to this study broke down marine activities into 18 categories to calculate the contribution of each to the UK economy and also subjectively assessed the accessibility of the economic data within each category. Data on the contribution of the oil and gas sector to the UK economy were easily accessible from the Office of National Statistics every year, whereas data from other sectors such as tourism, renewable energy and transport and ports were not readily accessible and indirect estimates had to be made. The UK Marine Monitoring and Assessment Strategy's (UKMMAS; see Box 2) Productive Seas Evidence Group (PSEG) has to provide periodic



assessments that require these and other socio-economic data to satisfy the needs of the objectives of the group. However, the above suggests that some socio-economic data are not readily available at present. The Office of National Statistics' new categorisation will go some way towards improving the accessibility of some of this marine economic data in the future, although it may not satisfy all needs.

Co-ordination of Resources (Ship-time)

It was recognised that across government and industry, specific sectors or groups were co-ordinating their monitoring and research activities. Although there were 'pockets' of co-ordination, it was felt that there was not one overall organisation or initiative taking a lead role. MEDAG

already provides some information on ship cruise plans via its website (3) and has the potential to develop the existing resource further, possibly building on existing cruise planning tools that are available.

Conclusions

The outputs from the workshop are being used to ensure that the framework for marine data management in the UK is being developed to meet both industry and government needs. In particular, it is hoped that industry trade associations and government groups will feed into the development of data management standards and guidelines so that all requirements are considered. Further consideration on the issue of different data policies across government organisations and the need to make information on

ship cruise plans available are also being considered. (4)

The Authors

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1. www.oceannet.org/medag/reports/IACMST_reports/iacmst_reports.htm
2. www.simorc.com
3. www.oceannet.org/medag/data_catalogues/cruise/cruise_inventory.html

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