

# The Marine Data and Information Partnership (MDIP) - Review and key issues going forward

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Coastal Futures: Marine Information  
Issues and Responses: 14/11/07



# Outline

1. A brief history - MEDAG and MDIP, why MDIP came about
2. What has MDIP achieved so far?
3. What next for MDIP? - Proposals for 2008-2013
4. Some questions to think about
5. ...and some very recent news!



# Marine Environmental Data Action Group (MEDAG)

- Operates under IACMST and sponsored by DEFRA, EA, FRS, Met Office, NERC, UKHO. Running since 1994.
- To develop, maintain and make available inventories of data
- To develop guidelines for data management
- To improve mechanisms to facilitate data exchange (including contributing data to global database)



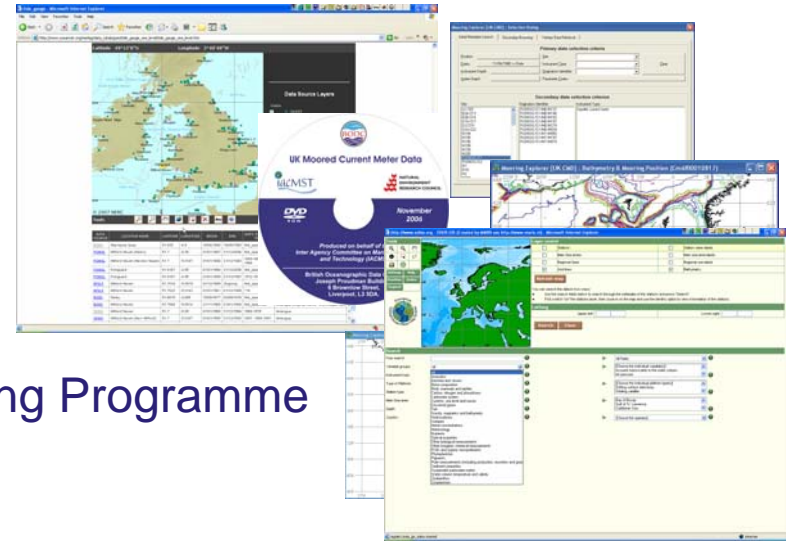
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# MEDAG Resources

- Catalogues

- Tide and Sea Level
- Wave Measurements
- Current Meter DVD
- Cruise Summary Reports
- European (EDIOS) and UK Monitoring Programme (UKDMOS) metadata bases



- Comprehensive Web Site ([www.oceannet.org/medag](http://www.oceannet.org/medag))

- Standards
- Documents
- Further catalogues
- Links to international resources

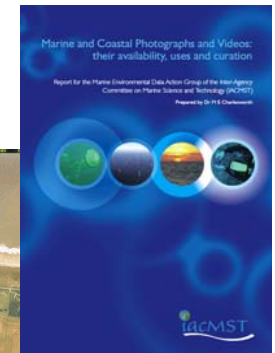


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# MEDAG Activities

- International Coordination
  - IODE, ICES, SEADATANET, INSPIRE
  - Contribution of data to global data centres
  - Test project to provide CTD data (daily) from research vessels to GTS to improve ocean forecasting
- Special Projects and Workshops
  - Marine and coastal photographs and videos
  - Maritime Heritage (with MDIP)
  - Accessibility and use of data across government and industry.



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# ..and then came MDIP

- MEDAG has long term board objectives, and an international view - aiming to make a difference in specific applications.
- But there was a realisation 3 years ago, in large part driven by difficulties experienced in compiling the evidence for “Charting Progress”, that the whole marine sector needed to develop a more coordinated and harmonised approach to managing marine data.
- So following recommendations from an IACMST working group the Marine Data and Information Partnership was established...



# Offshore Windfarm Planning

**Seafloor characteristics (BGS)**

**Oceanographic climatology (BODC)**

**Bathymetry (UKHO)**

**Existing infrastructure (UKHO, BERR)**



**Tidal information**

**Archaeology (Heritage Organisations)**

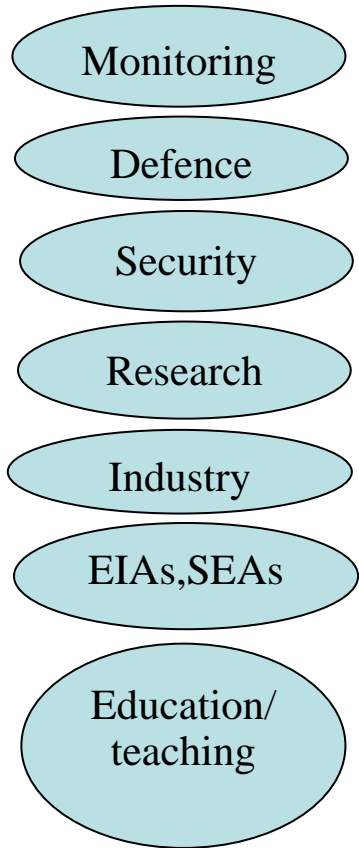
**Other local uses of marine space (local councils, BERR, DEFRA, MCA, harbours)**

**Local flora and fauna (marine biological and conservation organisations)**

**Surface Met. Climatology (UK Met Office)**

# Current UK marine data system

## A: Data Collection



## B: Quality Control

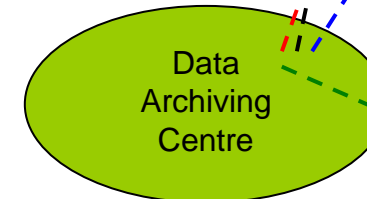
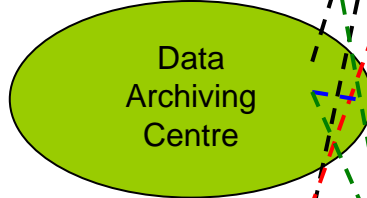
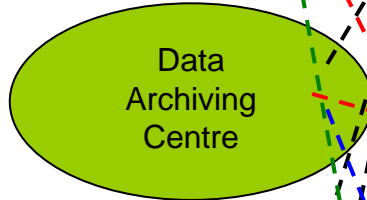
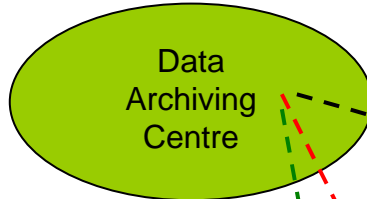
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Data  
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Metadata  
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QC /QA  
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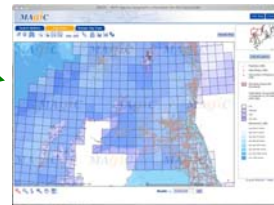
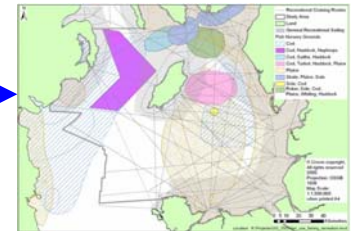
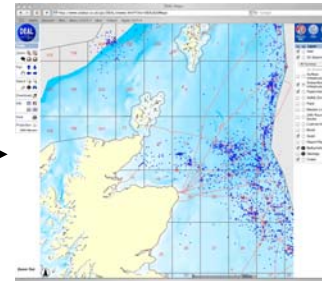
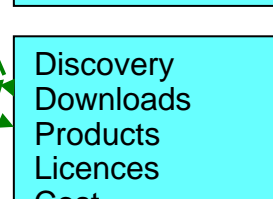
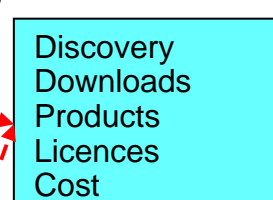
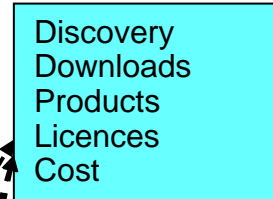
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## C: Data Storage

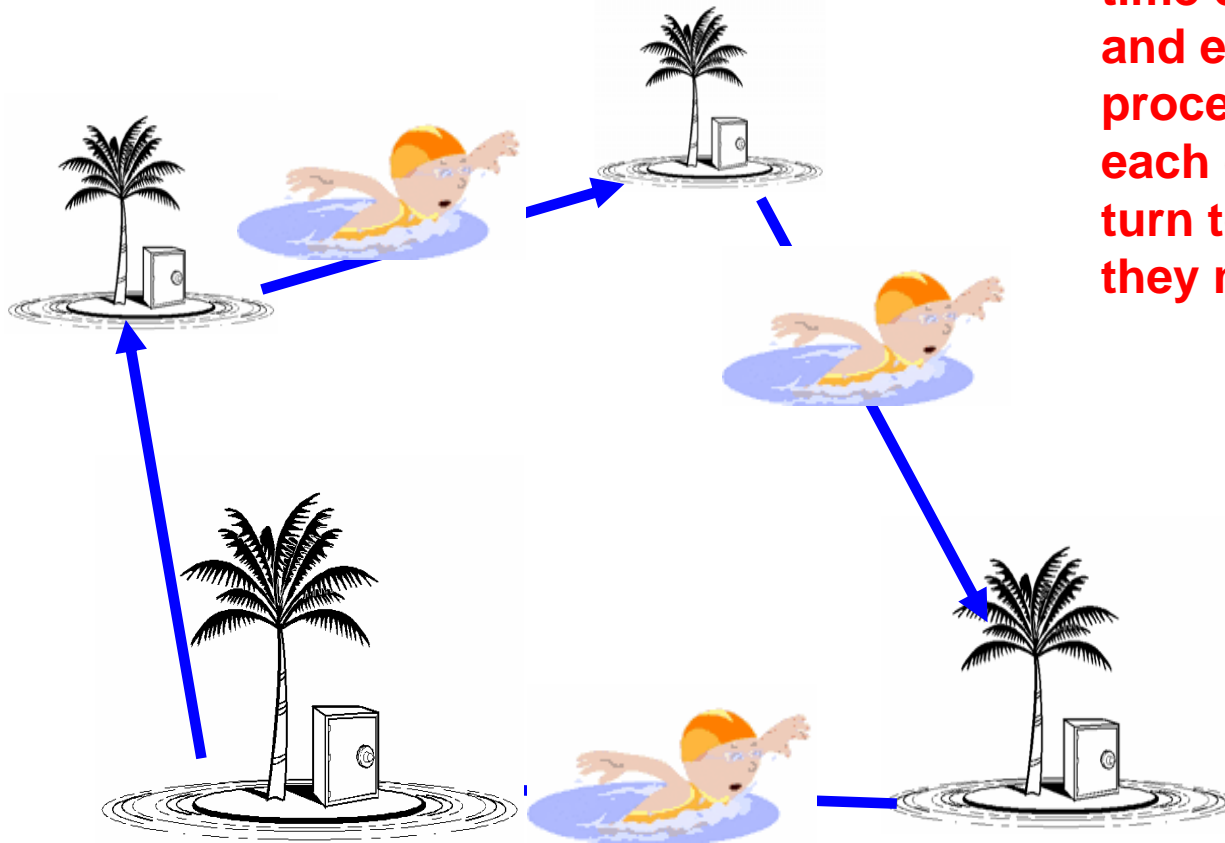


## D: Dissemination / Access



**Islands of data, gathered independently, for different purposes, of different standards and quality...**

**With a succession of initiatives repeating the same time consuming and exhausting process of visiting each data set in turn to get what they need**



# Marine Data and Information Partnership (MDIP) Vision

*To establish a national framework that enables Government departments, non-departmental public bodies, research institutes and the private sector to achieve a more coordinated approach to managing marine data and information.*

## **Key “Public Good” aims for MDIP:**

- Better management of UK marine data and information
- Better access to authoritative UK marine data and information
- Direct access to the best UK marine data management expertise
- Better support for integrated assessments, spatial planning, and other new applications.

“Gather once – use many times”

# The Marine Data and Information Partnership (MDIP)

- A collaborative and open partnership, addressing the need to harmonise and coordinate the management of marine data and information in the UK.
- Sponsors include CCW, DEFRA, BERR, EA, JNCC, HR Wallingford, Met Office, MOD, NERC, The Crown Estate, The Scottish Government, UK HO
- + additional public and private sector involvement ( ~30 organisations in all)



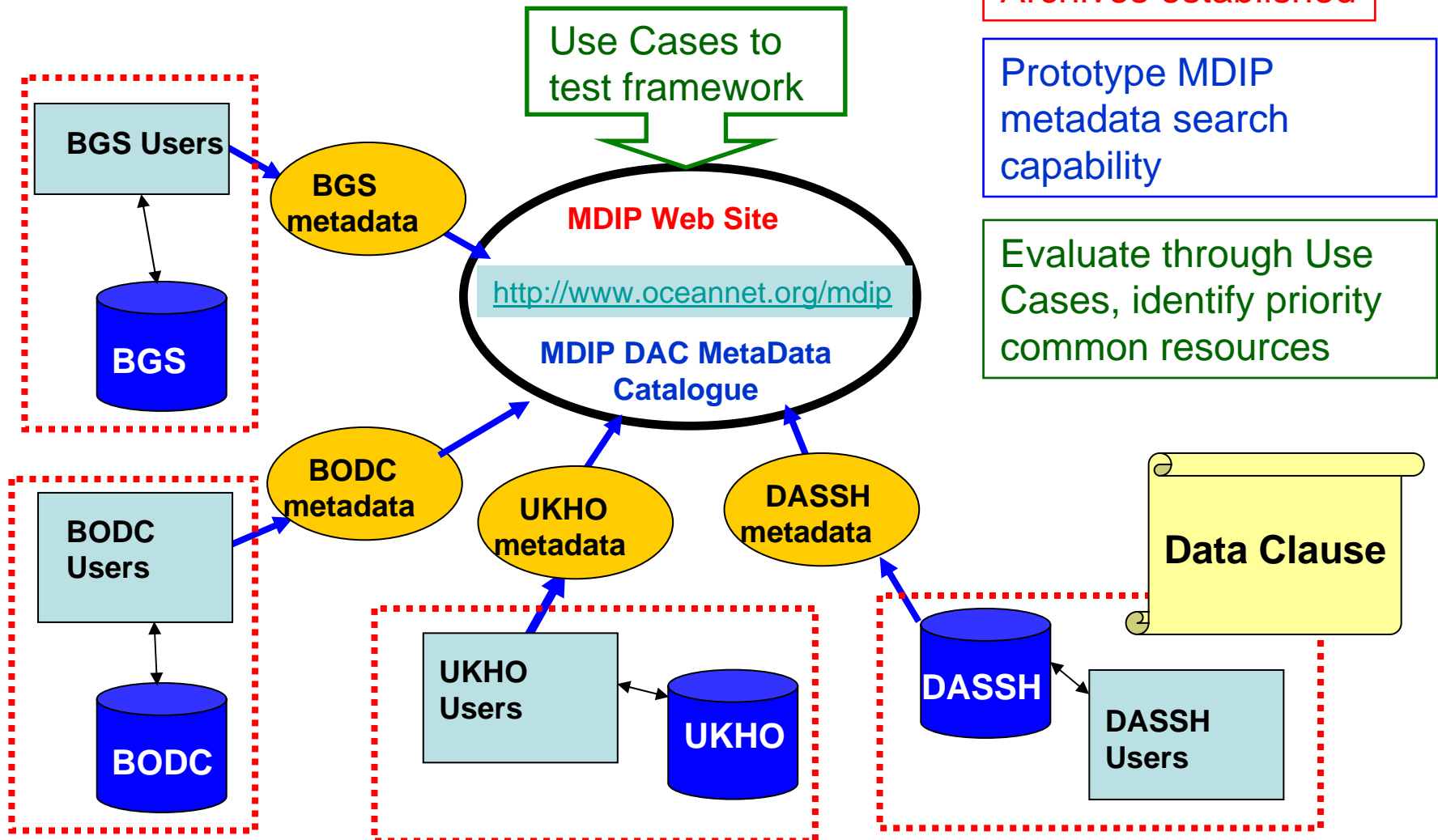
# MDIP Phase 1 (2005-2008)

MDIP has made significant progress in phase 1:

- Established a wide cross-sector partnership across the marine community.
- Developed and tested a pilot marine data and information framework, based around an initial 4 Data Archive Centres.
- Established a set of requirements for Marine Data Archive Centres which define best practice, and established a process by which further DACs can be incorporated into the framework.
- Established an interim discovery metadata format, established a managed evolution process for this standard, and started generation of metadata records.
- Developed a prototype [marine discovery metadata portal](#) to test the ability of the framework to support a comprehensive data search capability.
- Compiled a [knowledge base](#) of UK capabilities in marine data
- Initiated a process to standardise data issues within data collection contracts.



# MDIP Pilot Framework - Phase 1 (2005-08)



# MDIP Phase 1

## BUT

- MDIP has not yet generated the tangible benefits it was created to achieve.
  - It has defined a proposed framework for marine data and information, and established pilot resources
  - but it has not been able to implement an operational version of this framework.
- Main difficulty has been a lack of adequate resources.
  - Sponsorship funds (£75k/year) have been sufficient to support a part-time project manager and some pilot developments.
  - Otherwise progress relied on best effort contributions from partners within working groups, and the in-kind support of the pilot DACS.
- Changes in external environment
  - UKMMAS (and, for England, MMO) requirements are becoming clear.
  - Metadata standards have developed.

# Drivers for MDIP Framework

- **Marine Monitoring and Assessment**
  - UKMMAS Implementation plan designed around a robust national marine data and information framework.
  - Charting Progress 2 in preparation
- **Licencing and Spatial Planning**
  - UK Marine Bill; MMO(s)
  - Good quality evidence essential for good management and evidence based decision making
- **Best (International) Practice**
  - WMO, IOC, OECD
- **GI Strategy**
  - INSPIRE requirements (deadlines to meet from 2009 onwards)
- **Commercial, research and education**
  - Improved efficiency in use of resources (gather once, use many times)
  - Reliable evidence base
  - Access to authoritative data

# What will MDIP Phase 2 Deliver?

## **MDIP proposals will deliver, by 2013:**

- The provision of priority data sets to underpin UK and EU legislative and obligatory requirements, for monitoring and marine planning, in line with INSPIRE principles.
- A single point of access to all relevant marine data and information.
- A robust network of definitive integrated Data Archiving Centres (DAC's).
- Facilitation of full data flow to MDIP DAC network for all government sponsored contracts in the marine and coastal zone environment.
- The necessary links with EU Directives and initiatives and advise of developments to stakeholders (e.g SeaDataNet, INSPIRE).
- Measurable reductions in the proportion of project budgets spent on locating, accessing and retrieving marine data.

# How will MDIP Deliver?

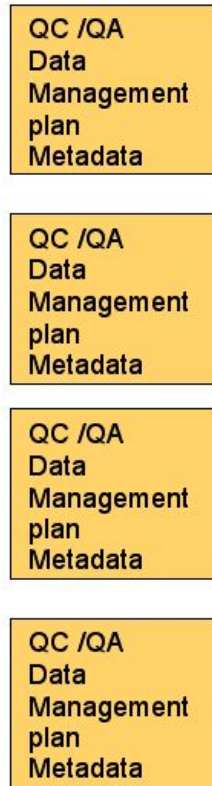
1. **Web portal**
2. **Comprehensive MDIP Data Archive Centre network**
3. **Standards, guidelines and tools for metadata and data formats and contents**
4. **Framework Evaluation and Development**
5. **Coordination, communication and outreach**

# Before

## A: Data Collection



## B: Quality Control



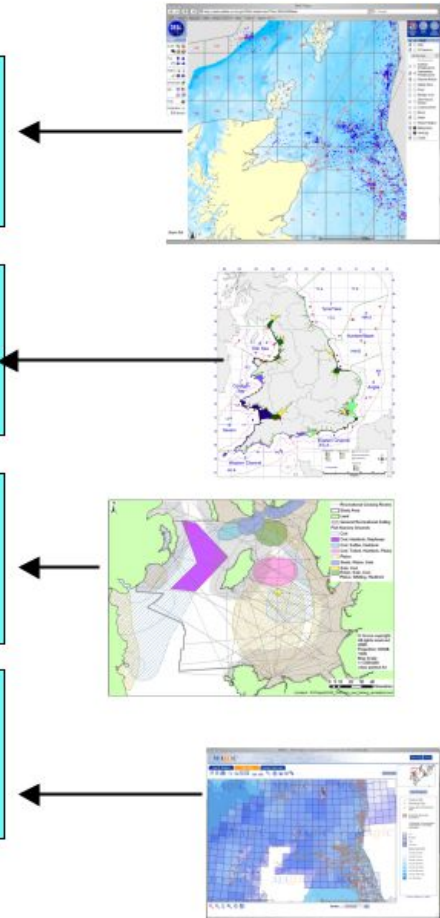
## C: Data Storage



## D: Dissemination / Access



## E: Users



# After

**A: Data Collection**

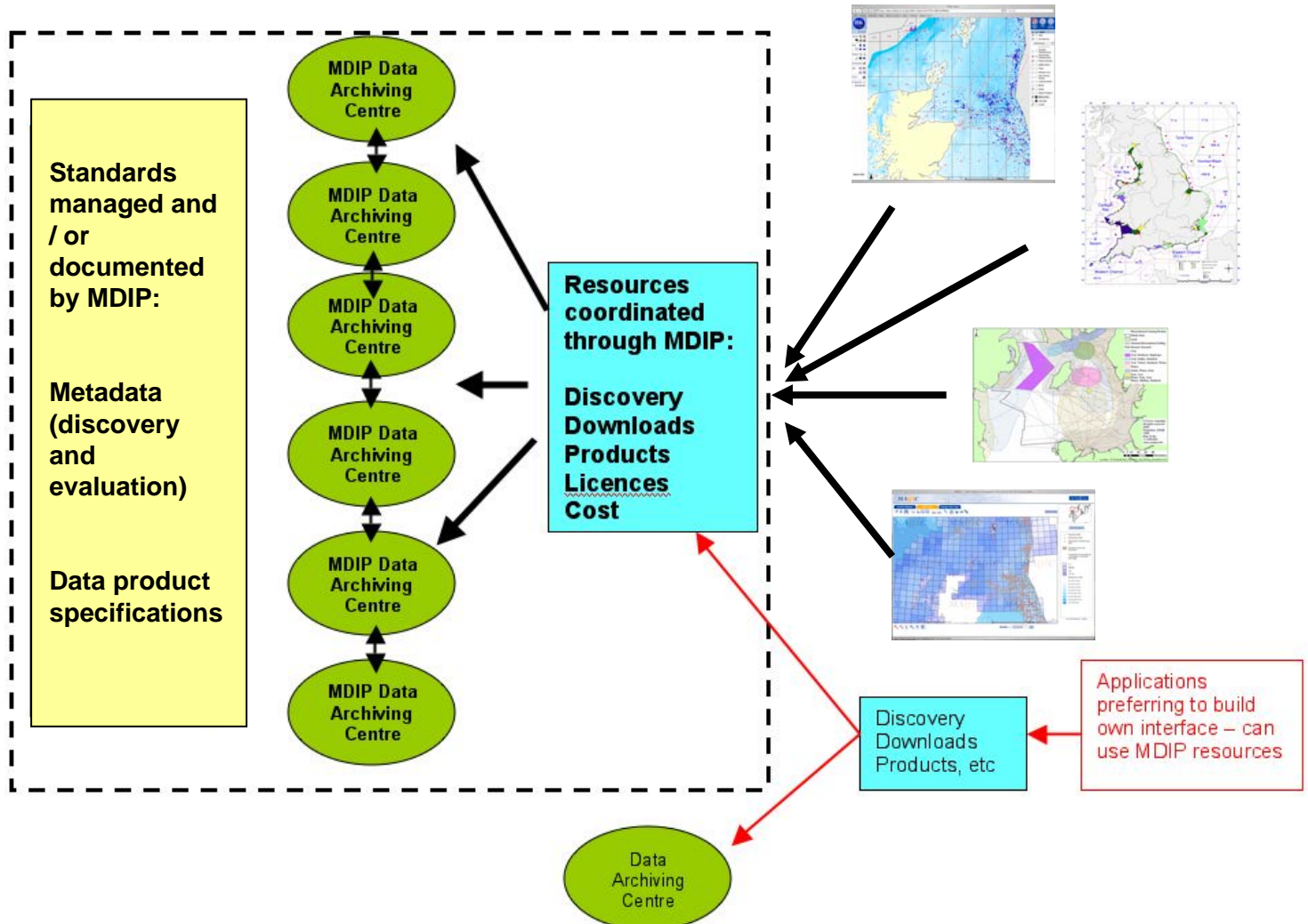
**B: Quality Control**

**C: Data Storage**

**D: Dissemination / Access**

**E: Users**

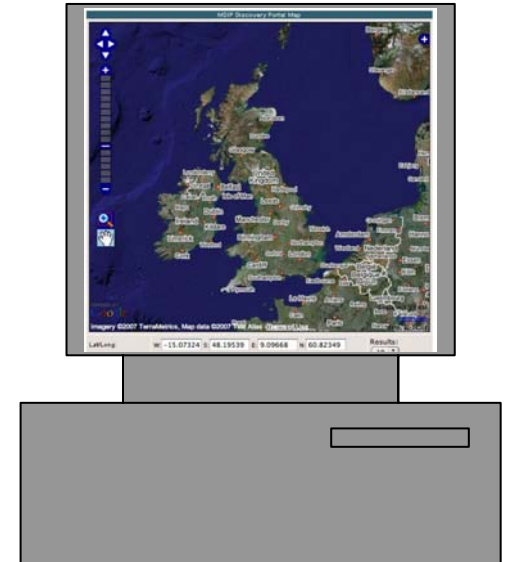
- Monitoring
- Defence
- Security
- Research
- Industry
- EIAs, SEAs
- Education/teaching



# Marine Data and Information PORTAL

*Will provide a central, single point of access to UK Marine data and information:*

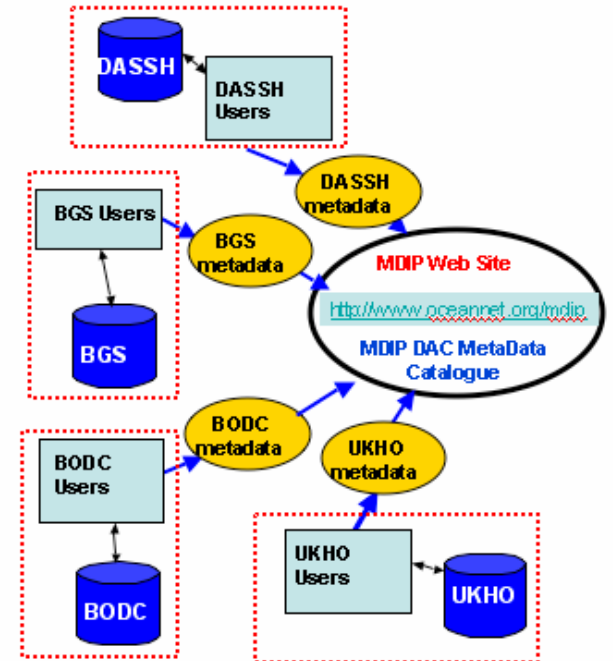
- Search capability across the data holdings of MDIP Data Archive Centres and partners.
- Access to
  - Standards for metadata and data.
  - Guidance and tools.
  - Data Product Catalogue
- Links to external resources / data sets



# Network of Data Archive Centres

*To provide secure long-term curation of all key marine data sets,  
provide searchable up to date metadata on all data holdings*

- Identify priority data categories “at risk”.
- Expand the coverage of the Data Archive Centre network so that all key sets are included.
- Incorporate additional DACs as necessary.
- Establish a transparent and rigorous accreditation process.
- Generate metadata and guidance.
- DACs established as resource centres for knowledge and expertise.





# Partner Commitments

## Propose a specific and firm commitment from MDIP partners :

- Agreeing to the aims and objectives of MDIP.
- Apply and documenting recognised QC procedures.
- All **relevant** marine data of long-term interest will be lodged with DACs recognised by MDIP\*, (\*subject to data owner terms and conditions). In return, DACs should undertake to ensure data are always freely available to supplier.
- Generate metadata records for all marine data in MDIP format and make these metadata freely available to MDIP.
- Establish in clear terms policy with regard to data ownership, licencing and access as they adhere to individual data sets.
- Commit a number of staff days per year to participate actively in MDIP Working Groups, and to attend partner meetings.
- Conformance with various data policies as they relate to individual data sets (e.g. IOC, WMO, FOI, EIR, ).
- Apply agreed “data clause” to data gathering contracts.

**MDIP is a PARTNERSHIP: The partners work together to build a framework that works to everyone’s benefit**



# SUMMARY

- The establishment of MDIP was a recognition that “something” needed to be done to sort out marine data.
- This “something” can now be achieved by making the MDIP Framework operational.
- MDIP addresses the unglamorous, but vital, core management processes necessary to secure marine data and to make them more widely available.
- This forms the evidence base necessary to provide robust answers to complex (and increasingly political) questions.
- The UK could manage without this framework, but it will cost everybody increasingly large sums to repeatedly compile parts of a complicated jigsaw.

If you want to join us you will be very welcome!



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# STOP PRESS

## *MEDAG and MDIP Sponsors meeting on 9th November*

- MEDAG and MDIP to merge into single organisation working to improve access to and stewardship of marine data
- DEFRA are providing strong backing and have committed **£250k per year** for 3 years to support the development of a marine data and information framework.
- NERC have committed at least **£110k per year** for 3 years.
- BERR are proposing **£50k per year** for 3 years.





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# Some Questions

- **Priorities for Data Coverage**

- Any stand-out data categories particularly badly catered for?

- **Data Archive Centres (DAC)**

- Who can be a DAC?
- How should DACs be financially supported?

- **How to support Marine Data Framework in the long term?**

- **What resources should MDIP/MEDAG Develop?**

- **What should the link with government (e.g. MMO) be?**

- **How best to link to resources developed through existing, and new, initiatives (MESH, UK DEAL,**

# WITHOUT MDIP?

The consequences of failure to develop a fully coordinated approach across the UK, and for a continuation of the uncoordinated sectoral approach to the gathering and management of marine data and information are potentially severe:

- Failure to comply with new and emergent EU Legislation (e.g INSPIRE, Habitats Directive, Water Framework Directive).
- Failure to support forthcoming elements of UK Legislation (e.g Marine Spatial Planning, Marine Conservation, Licensing).
- Inability to provide a sufficient evidence base to support the understanding and effects of Climate Change and to plan and develop adaptation strategies.
- Inability to assess the state of the UK marine environment in a meaningful manner (as required for, e.g. OSPAR).
- Inability to deliver the necessary evidence to support decision making as required by the planned Marine Management Organisation (for England) and equivalent bodies for the devolved administrations.
- Reduced capability to undertake emergency response and management (such as flooding, natural disasters, accidents/ incidents at sea or in the littoral zone).
- Continued inefficiencies and duplication in data gathering and compilation, which together absorb between 20-50% of total project costs.

# How will MDIP Deliver?

## **MDIP Framework Evaluation and Development**

*Work with providers and users to identify priority uses and ensure that MDIP develops the standards and resources to meet them.*

- Document user requirements.
- Identify priority needs in terms of functionality and data categories
- Assess the developing framework through “Use Cases”
- Develop key capabilities / resources (e.g. base reference data set)

## **Coordination, communication and outreach**

*To provide programme coordination and maintain effective communications links with the marine community*

- Manage implementation of agreed work programme, report to sponsors
- Establish and implement communications strategy: “Marine Data News”, workshops, forums, presentations,...
- Continue to develop and promote data clause.
- Monitor partners adherence to agreed commitments .
- Plan continuing development of MDIP framework.
- Continue to expand partnership and raise necessary funds