

The BODC SeaDataNet Experience

ROY LOWRY
LESLEY RICKARDS
MARK HEBDEN
RAY CRAMER



**National
Oceanography Centre**
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

Benefits to BODC from SeaDataNet

Benefits fall into three categories

- SeaDataNet as an 'Agent of change'
- Infrastructure development
 - Developments supported by SeaDataNet
 - Infrastructure supplied by SeaDataNet
- Core business expansion



SeaDataNet as an Agent of Change

SeaDataNet has enhanced BODC's technical awareness

- International communication and collaboration, especially through the Technical Task Group

SeaDataNet has driven our addressing of legacy issues

- SeaDataNet develops a standard
- Systems developed subsequently conform to that standard
- Established systems inevitably contain holdings that don't conform
 - Some BODC examples:
 - » Contact details stored in a single plaintext field
 - » CSRs with no spatial information (Marsden Squares)
 - » Data issues described in documents but not flagged in the data
 - Addressing these issues has significantly strengthened BODC

Infrastructure Development

Developing infrastructure in collaboration with SeaDataNet has led to enhanced capability with a substantial cost saving for BODC

Specific examples:

- UKDMOS (EDIOS infrastructure)
- A tool that:
 - Assists the coordination of UK monitoring programmes for the UK Marine Monitoring and Assessment Strategy (UKMMAS)
 - Allows policy makers and organisations to maintain an overview of monitoring programmes for which they are responsible
 - Allows organisations to identify whether resources may be better coordinated
 - Allows analysis of whether data from UK monitoring programmes are sufficient to provide robust assessments of the marine environment for national and international legislation (e.g. MSFD and other Directives)



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

Infrastructure Development

Specific examples

- EDMED
- A catalogue that delivers
 - BODC's primary data collection discovery
 - The basis for NERC marine and MEDIN data collection discovery
 - The means to deliver BODC and MEDIN discovery metadata to INSPIRE via UK data.gov
- NVS
- Controlled vocabulary management incorporating
 - Content development and governance
 - Back office storage
 - Standards-compliant distribution (SKOS and RDF)
 - A basis for intercontinental semantic interoperability through ODIP
 - Search client tools



Infrastructure Development

SeaDataNet software tools

- Further cost savings result from using rather than writing software
- Specific examples:
 - Mikado - heavily used in both data input form and batch modes in BODC's workflows
 - ODV - Visualisation tool brought closer to BODC's needs through work funded by SeaDataNet
 - odvSDNCFPOINT - the key to BODC's moving to delivery of data in CF-compliant NetCDF



Core Business Expansion

BODC's core business is facilitating additional science by making data available for reuse

SeaDataNet exposes BODC's data holdings to a wider audience

- **Through incorporation in EMODnet products**
 - Massive increase in the impact of BODC's data
- **Through downloads from the CDI interface**
 - Up to 7 transactions per month (May-August 2015)
 - Approximately 1000 CDI granules - data that cost around £1,000,000 to collect - per month (mean January 2014 to August 2015)



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

Could SeaDataNet Have Done More?

SeaDataNet technical management communication has been based on

- Face-to-face meetings of the TTG
- TTG e-mail list server
- Communications outside the TTG
 - Technical changes resulting from conversations during meeting coffee breaks
 - Technical issues debated and decisions made in the SSC rather than the TTG
 - Could be described as opaque management



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

Could SeaDataNet Have Done More?

Problems with opaque management

- Issues can fall off the radar because progress isn't monitored
- Potentially valuable team input can be missed because the consultation base is too narrow

BODC's current internal technical management

- Introduced by Graham Allen in 2014
- Wiki-based
 - All can see what is happening
 - All can contribute
- Thought I'd hate it, but I love it

Might be worth a look for SeaDataNet III TTG

Hopes for the Future

SeaDataNet could help BODC develop further by:

Providing data publication support

- Strict versioning of data granules
- Access to previous versions

Developing usage metadata standards

- Development of a usage metadata content standard
- ISO19156 profiling for Observation Processes

Supporting automated CDI aggregation based on EDMED collections



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT

Conclusion

BODC today is a significantly stronger organisation than it would have been had it not been involved in SeaDataNet

Thanks for Your Attention



National
Oceanography Centre
NATURAL ENVIRONMENT RESEARCH COUNCIL

noc.ac.uk

NERC SCIENCE OF THE
ENVIRONMENT