How INSPIREd is NERC?

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NERC funds world-class science in universities and our own research centres to increase knowledge and understanding of the natural world.
Our data centres are responsible for the long-term curation of data and provision of access to data holdings. They also provide support and guidance in data management to external researchers funded by NERC.
NERC Data Centres

- Antarctic Environment
NERC Data Centres

- Antarctic Environment
- British Atmospheric
NERC Data Centres

- Antarctic Environment
- British Atmospheric
- British Oceanographic
NERC Data Centres

- Antarctic Environment
- British Atmospheric
- British Oceanographic
- Earth Observation
NERC Data Centres

- Antarctic Environment
- British Atmospheric
- British Oceanographic
- Earth Observation
- Environmental Information
NERC Data Centres

- Antarctic Environment
- British Atmospheric
- British Oceanographic
- Earth Observation
- Environmental Information
- National Geoscience
The NERC Data Discovery Service allows you to find data resources held within the NERC DataGrid (NDG) catalogue. The catalogue makes data discovery easier as it connects data held in managed archives and other initiatives.

It is populated with 'discovery' metadata (information about data sets) harvested on a regular basis from the NERC Data Centres and other providers in the UK and worldwide.

Choose one or more search categories to query the catalogue and return data sets of interest. Links to further information and/or data access are provided in the responses.

**Free text search**

**Temporal coverage (YYYY MM DD)**

Start date

End date

**Source data providers**

- All
- NERC Data Centres only

**Spatial coverage**

Look for data which overlaps the search region.

- Northerly Latitude: 90.0
- Southerly Latitude: -90.0
- Longitudinal Extent: -180.0 to 180.0

(Units: degrees, north and east positive)
Data Examples

This website allows you to search, combine and display environmental data from a wide group of providers. This portal uses the NERC Data Grid discovery services to find the best match for your requirements. Once you have found your data, you can overlay many layers and view them in either Google Earth or a web-based map client.

- **Google Earth Example**
  This example movie shows you what can be achieved with this data portal using Google Earth.

- **Web Browser Map Client Example**
  This example movie shows how you can put data together and view it in a standards-compliant map client.

- **Start Searching**
  To get started with searching, either click here, or on the search tab at the top of the page.

- **Tutorial Movies**
  For more details on how to use this site, why not have a look at our tutorial videos.
Data Examples
Data Examples
How INSPIREd is NERC?

- NERC holds a wide range of environmental data.
- NERC wants to be an INSPIRE early adopter
- But how ready is NERC for INSPIRE?
- Has NERC adopted appropriate technologies?
- What Roadmap should NERC follow?
- Does NERC have the resources?
Study Brief

- Baseline state of datasets and services
- Compliance Requirements
- Technology Options
- ‘Road map’ for meeting INSPIRE
- Estimate of resources required

- RSW Geomatics & Rob Walker Consulting engaged.
INSPIRE Applicability to NERC

NERC:
- Is a ‘public authority’
- Has datasets in at least 20 of the 34 themes
- Uses all of the ‘reference themes’
- Has different business models but all are ‘allowed’
- Data Centres already provide some INSPIRE type services
- Emphasis on existing international standards – good!
### Annex I & II NERC Responsibilities

<table>
<thead>
<tr>
<th>Theme</th>
<th>Dataset responsibility in NERC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annex I</strong></td>
<td></td>
</tr>
<tr>
<td>Coordinate Reference Systems</td>
<td>Gravity &amp; Geomagnetism</td>
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<tr>
<td>Geographical Grid Systems</td>
<td>Gebco One Minute Grid</td>
</tr>
<tr>
<td>Geographical Names</td>
<td>Gebco Underwater Names</td>
</tr>
<tr>
<td>Hydrography</td>
<td>Rivers across UK</td>
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<tr>
<td><strong>Annex II</strong></td>
<td></td>
</tr>
<tr>
<td>Elevation</td>
<td>Gebco; and various commissioned datasets</td>
</tr>
<tr>
<td>Land cover</td>
<td>From CORINE onwards</td>
</tr>
<tr>
<td>Orthoimagery</td>
<td>Some archives</td>
</tr>
<tr>
<td>Geology</td>
<td>Since 1840</td>
</tr>
</tbody>
</table>

Some of these may not be obvious!
## Annex III NERC Responsibilities

Many of these ‘themes’ are the responsibility of more than one NERC data centre and may also be shared with other government departments.

<table>
<thead>
<tr>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil</td>
</tr>
<tr>
<td>Human Health &amp; Safety</td>
</tr>
<tr>
<td>Utility and government services</td>
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<tr>
<td>Environmental monitoring facilities</td>
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<tr>
<td>Production and Industrial Facilities</td>
</tr>
<tr>
<td>Natural risk zones</td>
</tr>
<tr>
<td>Atmospheric conditions</td>
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<td>Meteorological geographical features</td>
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<td>Oceanographic geographical features</td>
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<td>Bio-geographical regions</td>
</tr>
<tr>
<td>Habitats and biotopes</td>
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<tr>
<td>Species distribution</td>
</tr>
<tr>
<td>Energy resources</td>
</tr>
<tr>
<td>Mineral resources</td>
</tr>
</tbody>
</table>
NERC Roadmap - Metadata

- To be **accessed** through NERC and/or other portal(s)
- **More elements** than currently collected in NERC
- Existing metadata can be **migrated** into INSPIRE
- Need to **harmonise** metadata processes in NERC
- Need to **encourage** collection or creation of metadata
- Provide mapping schemas from internal formats to INSPIRE
- Develop any new metadata repositories to INSPIRE specification on common NERC-wide basis.

**Metadata records range from 7 to 200!**
NERC Roadmap
Monitoring & Reporting

- Continuous pro-active **liaison** with Defra
- Member States designate which datasets ‘in scope’
- Monitoring then **measures compliance** with following ‘indicators’:
  - Existence (of a dataset) Interoperability
  - Existence, accessibility & compliance of metadata
  - Existence and performance of view, download, and possibly other services
  - Use of datasets and services
- But there is no measure of ‘**sharing**’ of datasets/services.
NERC Roadmap
Discovery and View services

- Defra indicating this will be responsibility of data providers.
- NERC developed portal(s) need to meet INSPIRE specs.
- These will follow accepted international standards
- Current timetable D & V services available from Nov 2010
- Can only apply to Annex I and II themes (Annex III in 2013).
NERC Roadmap

Download Services

- Review download services and make compliant.
- Some datasets within NERC are not currently available for download for various reasons.
- Publication of metadata should trigger further actions
NERC Roadmap
Transformation services

- NERC datasets in different co-ordinate systems
- Transformations are available and need to be embedded within services (perhaps part of download service).
- Must be tuned to resolution and accuracy of datasets
- Schema translations to be developed
NERC Roadmap
Community access

- Ensure clarification of NERC licensing
- Defra will set up a ‘clearing house’ for licence issues
- Clarify issues for reference material and/or derived data
NERC Roadmap
Data Specifications

- NERC should participate in pan-European forums in NERC disciplines to ensure that INSPIRE has widest possible input from affected parties.
NERC Roadmap
Portals and Invoke services

- No specific requirement for national/thematic portals
- Defra thinking is for a ‘national portal with links to devolved administrations and INSPIRE geo-portal’
- Keep up to date with Defra thinking. Continue with current own portals but upgrade when necessary
- No action on Invoke services currently undefined
Resources

- Most requirements within ‘business as usual’
- New or extra metadata approx. 0.5 days per dataset
- No central government funds for data providers
- New compliant collection: no significant extra cost
- Greater use could lead to greater demand for server and other network resources.
- ‘Public task’ of NERC organisation is key – need to consider how to resource extra demands.
NERC involvement with INSPIRE

**Europe**
- Political – via UK (Defra) rep
- Experts – several
- Projects – many
- SDIC/LMOs – several contact points

**UK**
- Location Council >>> UK Location Programme
  - NERC will be on subsidiary committee(s)
- Membership of British Standards Committee, AGI, etc.
Conclusions

- INSPIRE applies to most NERC Data Centres
- Implementation should be encompassed by ‘best practice’
- No new data mandated; but INSPIRE affects any collected
- Discovery and ‘view’ services will be similar to existing
- Efforts towards data standardisation must continue
- Some datasets are sourced/shared with voluntary bodies which cannot necessarily meet extra requirements/costs
Recommendations

- Continue to **co-ordinate** INSPIRE across NERC
- INSPIRE compliance should be **encouraged** across ALL datasets
- Continue to **contribute** to INSPIRE development processes
- Continue to **harmonise** processes
- Continue to develop **common** discovery and view services
- **clarify the licensing** of datasets for all its users including, where necessary, its use of reference datasets and/or ‘derived’ data
Lessons learnt

- Baseline required before any recommendations
- Planning is essential for study & actions
- Participation in INSPIRE processes very useful
- Own processes must be base for INSPIRE

and

- *Its not rocket science!*
Lessons for INSPIRE

- Need for many more use cases
- Importance of core reference datasets
  - And need to access ‘derived’ data
- Applications experts should be heard
- Distinction between:
  - Definitive datasets e.g. administrative boundaries
  - Descriptive/indicative datasets e.g. ortho images
Thank you

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