

Analysing Linked Data principle for common directories

SeaDataCloud Technical Task Group

29th November 2016



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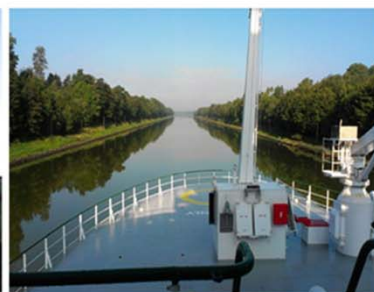
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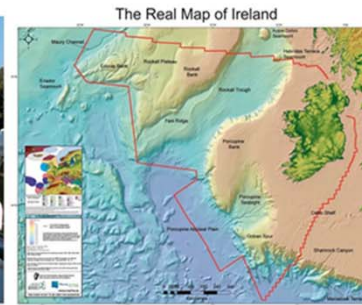
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Linked Data principles – A reminder...

- **Use URIs as names for things**



Linked Data principles – A reminder...

- **Use URIs as names for things**
 - Therefore, we need a robust naming scheme...



Linked Data principles – A reminder...

- **Use URIs as names for things**
- **Use HTTP URIs so people can look those things up**



Linked Data principles – A reminder...

- **Use URIs as names for things**
- **Use HTTP URIs so people can look those things up**
- **When someone looks up a URI, provide some useful information using standards**



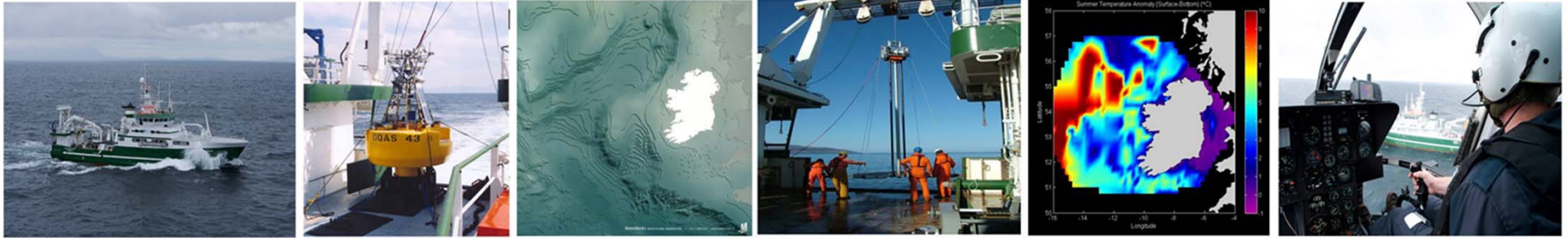
Linked Data principles – A reminder...

- **Use URIs as names for things**
- **Use HTTP URIs so people can look those things up**
- **When someone looks up a URI, provide some useful information using standards**
 - **RDF, SPARQL**



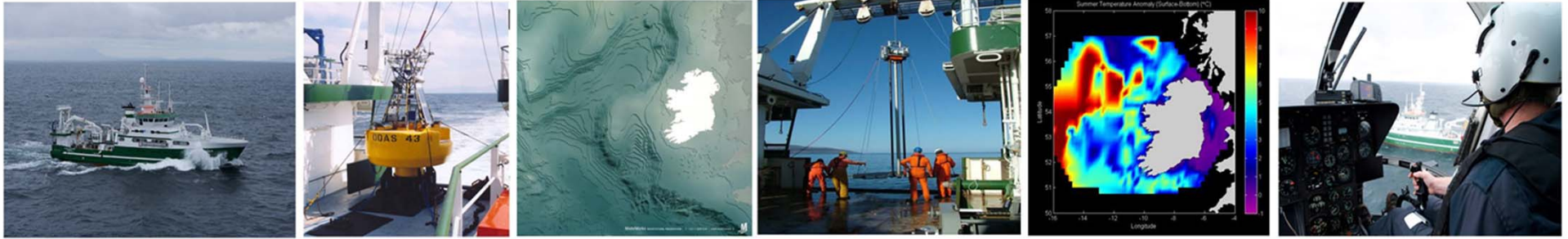
Linked Data principles – A reminder...

- **Use URIs as names for things**
- **Use HTTP URIs so people can look those things up**
- **When someone looks up a URI, provide some useful information using standards**
- **Provide links to other data / information**



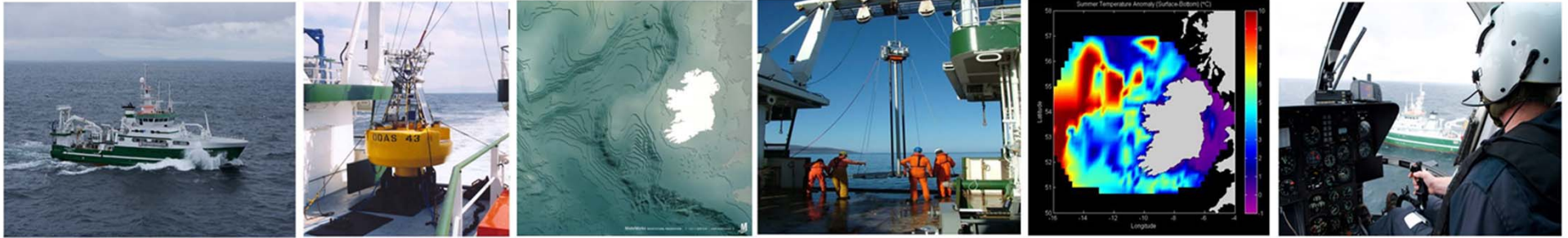
SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**



SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**
 - Analyse appropriate “ontologies” for publication of SeaDataNet metadata
 - Allows re-use of well-known patterns
 - Some initial suggestions
 - **W3C Organization ontology for EDMO**
 - **W3C DCAT / Google Science Datasets for EDMED**
 - **Oxford University ARPFO for EDMERP**
 - **O&M for CDI (Linkage with WP8.3)**
 - **INSPIRE EMF for EDIOS**
 - **Contact R2R for CSRs**
 - Map fields from SeaDataNet to well-known patterns
 - Due M8

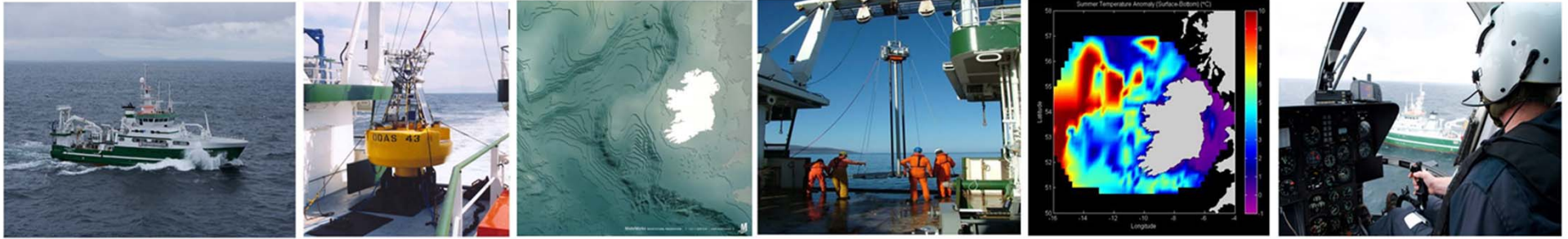


SeaDataCloud – Linked Data tasks

- 8.2.1 Updating metadata formats

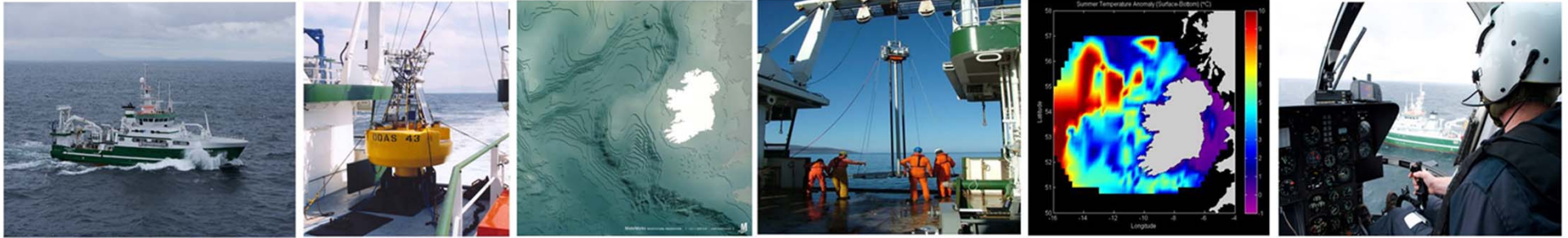
```
<http://www.seadatanet.org/edmo/396> a org:Organization;
  org:identifier "sdn::edmo::396";
  skos:prefLabel "Marine Institute"@en;
  skos:prefLabel "Foras na Mara"@ga;
  sdn:organisationProfile "The Marine Institute is a ..."@en;
  sdn:collatingCentre <http://www.seadatanet.org/edmo/396>;
  org:hasSite <_:site>.
```

```
<_:site> a org:Site;
  org:siteOf <http://www.seadatanet.org/edmo/396>;
  org:siteAddress <:_address>.
```



SeaDataCloud – Linked Data tasks

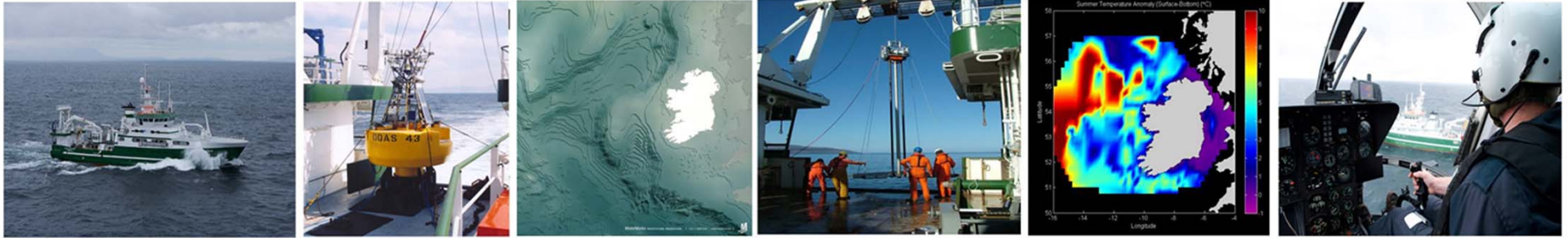
- 8.2.1 Updating metadata formats
 - `<:_address>` a `vcard:Home`.
 - `vcard:street-address` “**Rinville, Oranmore**”@en;
 - `vcard:locality` “**Co. Galway**”@en;
 - `vcard:country-name` “**Ireland**”@en.
 - Address pattern need tidying
 - More links to URLs required...



SeaDataCloud – Linked Data tasks

- 8.2.1 Updating metadata formats

```
<http://www.seadatanet.org/edmed/1996> a dcat:Dataset;
  dct:title "Celtic Explorer Underway North Atlantic"@en;
  sdn:dataHoldingCentre <http://www.seadatanet.org/edmo/396>;
  dct:spatial <http://vocab.nerc.ac.uk/collection/C19/current/I\_6/>;
  dct:spatial <http://vocab.nerc.ac.uk/collection/C19/current/I/>;
  dct:spatial <http://vocab.nerc.ac.uk/collection/C19/current/UKMDN015/>;
  dct:spatial <http://vocab.nerc.ac.uk/collection/C19/current/I\_4/>;
  dct:temporal "2003-2015";
```



SeaDataCloud – Linked Data tasks

- 8.2.1 Updating metadata formats

<http://www.seadatanet.org/edmed/1996>

`dcat:theme` <http://vocab.nerc.ac.uk/collection/P02/current/AYMD/>;

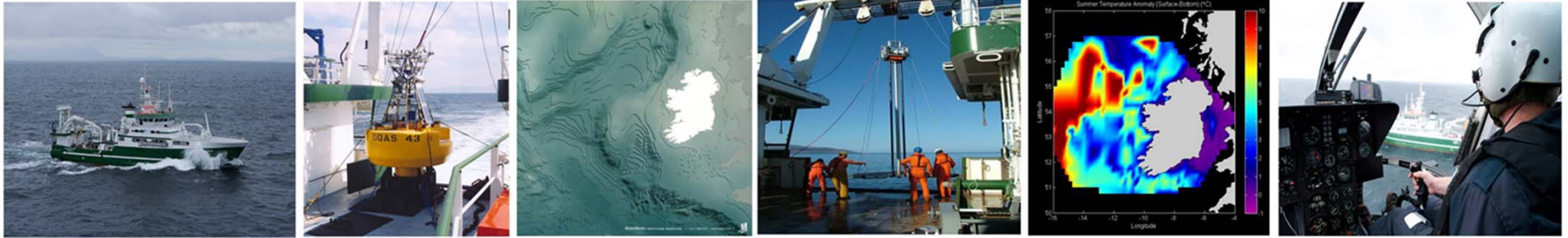
`dcat:keyword` "Date and time";

`dcat:theme` <http://vocab.nerc.ac.uk/collection/P02/current/TEMP/>;

`dcat:keyword` "Temperature of the water column";

`dcat:theme` <http://vocab.nerc.ac.uk/collection/L05/current/302/>;

`dcat:keyword` "Water body temperature sensor";



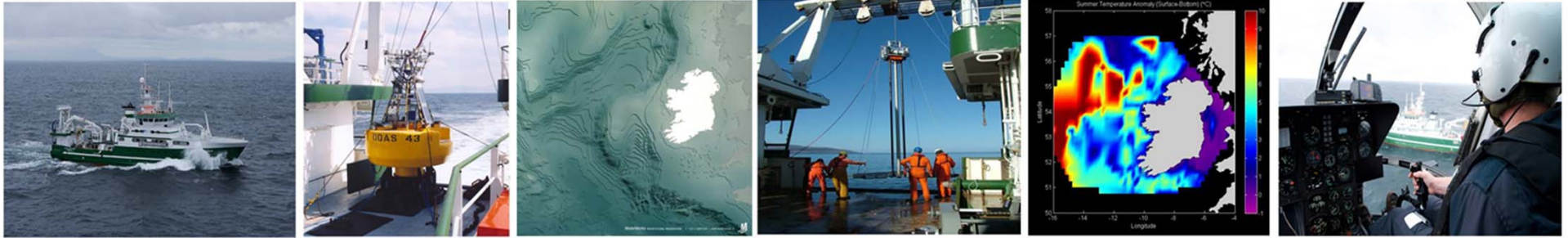
SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**

<http://www.seadatanet.org/edmed/1996>

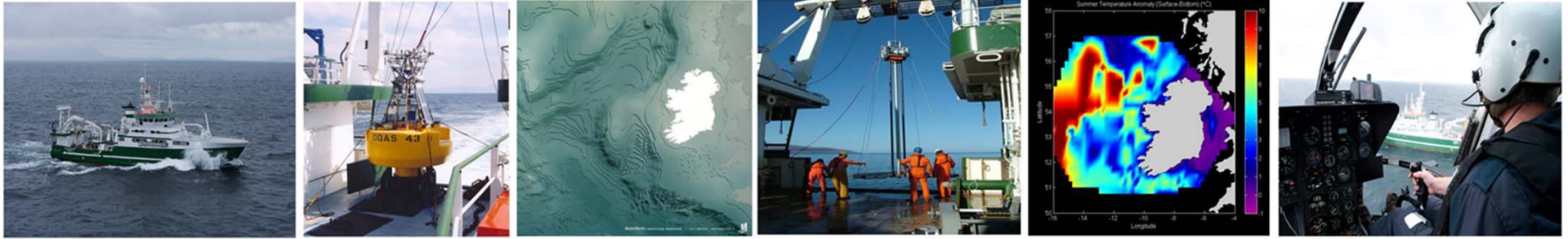
```
dct:publisher <http://www.seadatanet.org/edmo/396>;
dct:description "Sea surface temperature is collected..."@en;
rdfs:seeAlso <https://www.bodc.ac.uk/data/information\_and\_inventories/edmed/report/1966/>;
sdn:dataCollatingCentre <http://www.seadatanet.org/edmo/396>;
dct:identifier "sdn::edmed:396:f0c308a9-4c5c-11df-9879-0800200c9a66";
dct:identifier "sdn::edmed:1996";
dct:modified "2015-09-14".
```

- Identifier schemes need to be tightened (see below)
- DCAT Catalog, CatlogRecord and Distribution entries need to be considered



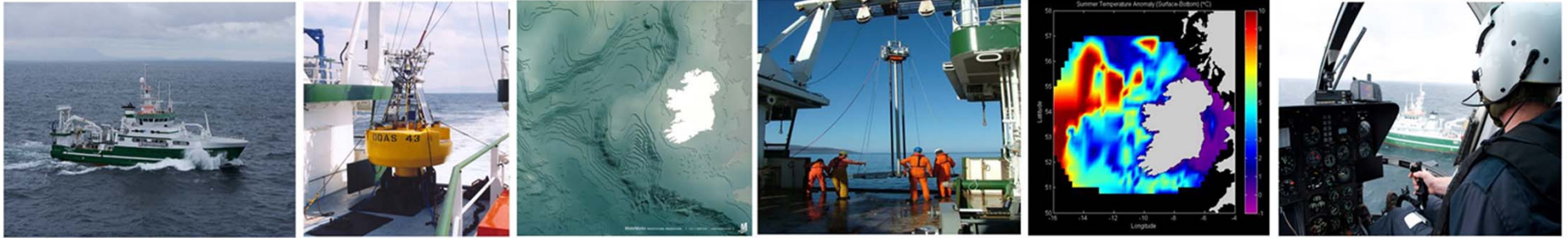
SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**
- **8.2.2 Developing pilot SPARQL endpoints for each catalogue**



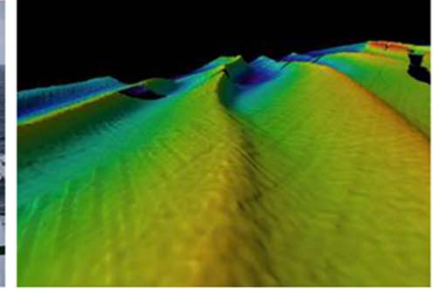
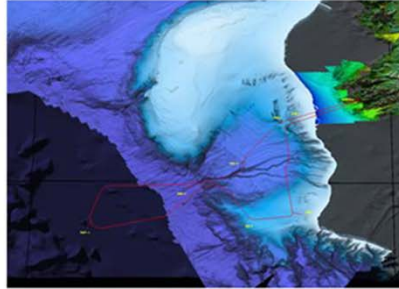
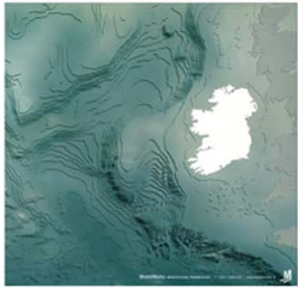
SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**
- **8.2.2 Developing pilot SPARQL endpoints for each catalogue**
 - Identify candidate datasets for the pilot
 - All catalogues to be targeted: **EDMED, EDMERP, EDMO, CSR, EDIOS, CDI**
 - Publish as **RDF**
 - Make the **RDF** accessible through a **SPARQL** query interface
 - Design a demonstrator app
 - Combining results from multiple catalogues & sources
 - Demonstrate the benefit of the approach
 - Due **M14**



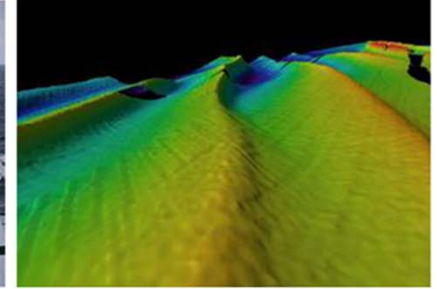
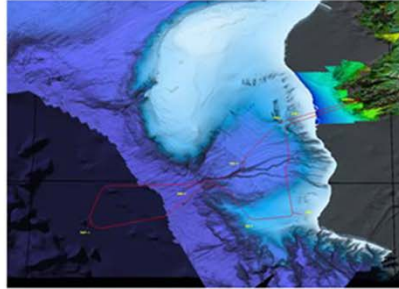
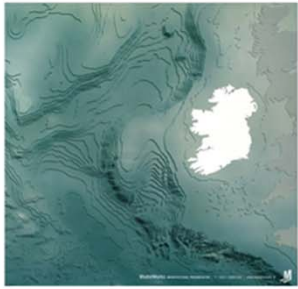
SeaDataCloud – Linked Data tasks

- **8.2.1 Updating metadata formats**
- **8.2.2 Developing pilot SPARQL endpoints for each catalogue**
- **8.2.3 Updating the REST services**
 - Content negotiation – HTML, RDF, JSON(?)
 - REST services for RDF can call the SPARQL endpoints
 - Need to consider robust naming schemes
 - Handles?
 - e.g. hdl.seadatanet.org/edmed/1234
 - Due M18



SeaDataCloud – Linked Data timeline

	M0	M3	M6	M9	M12	M15	M18
Initial Linked Data recommendations for EDMERP, CDI, EDMO							
Initial Linked Data recommendations for EDIOS, CSR and EDMED							
D8.3				M8			
Identification of example datasets							
Delivery of RDF & SPARQL							
D8.4							



SeaDataCloud – Linked Data timeline

	M0	M3	M6	M9	M12	M15	M18
Scope and implement robust identification scheme							
Scope and specify upgrades to REST services							
Implement upgrades							
D8.5 M18							



- **Next steps**
 - **First draft RDF patterns for each catalogue to be distributed by end of January**
 - **Feedback on patterns and iterations during February**
 - **Work on translations from plain-old-XML to RDF from beginning of march onwards**