BCO-DMO

The Biological and Chemical Oceanography Data Management Office

Maintaining scientific community vocabularies in Drupal through consumption of linked open data

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#IN51C-1698
6 December 2012
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GOALS

1. Respect the local project vocabulary
2. Map project vocabulary to community trusted, authoritative sources, mapping to terms that are dereferencable and unambiguous
3. To support science-driven research

TECHNOLOGY

The identified Community Vocabularies (served by the NERC Vocabulary Server v2.0, http://vocab.nerc.ac.uk/) are:

1. “available” as SKOS
2. “queryable” at a SPARQL endpoint (http://vocab.nerc.ac.uk/sparql/sparql)

TASK

Use Drupal’s semantic capabilities to assist mapping project-specific vocabulary terms to community vocabulary terms.

- Store project vocabularies as Taxonomy
- Consume community vocabulary as Taxonomy
- Associate Project terms to Community terms with a Term Reference field
- Expose Project Terms with SPARQL Endpoint

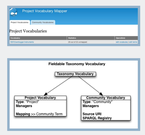
Using Taxonomy (TAX)

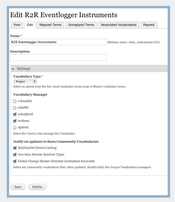
1. Make Drupal Vocabulary fieldable

To distinguish between Project & Community Vocabularies, make taxonomy vocabulary “fieldable” with fields:

type: “Project”, “Community”, N/A
managers: set of Drupal Users allowed to edit vocabulary
source URI: URI to the SKOS of Community Vocabulary
SPARQL Registry: SPARQL Registry Entity Reference

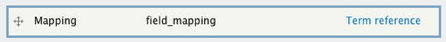
modules: entity
custom: vocabulary_fields





2. Create Mapping Field

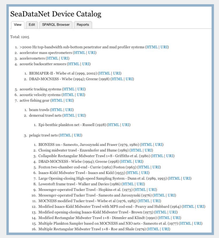
Vocabs modules: term_reference



Consume Community Vocabularies (SKOS)

1. Import/Update Community Vocabulary

creates heirarcichal taxonomy with fields for only: Name, Description and URI

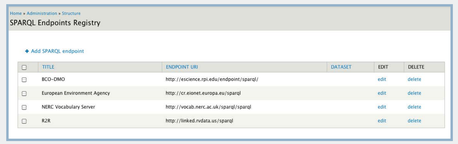


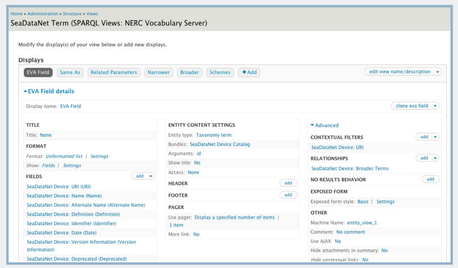
modules: taxonomy_xml
custom: taxonomy_xml_fields

Mapping Terms → Queryable with SPARQL (MAP)

1. Register SPARQL Endpoint and Setup Resources and Views

modules: rdfx, sparql, sparql_views

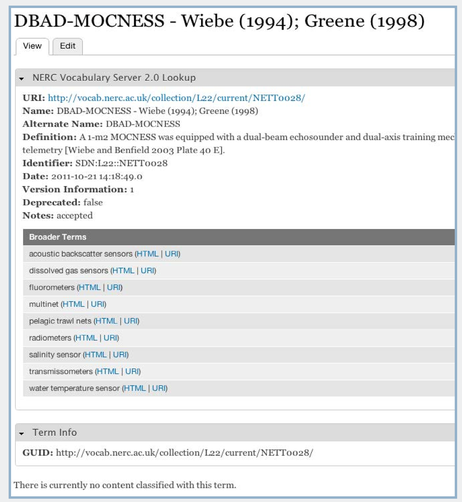




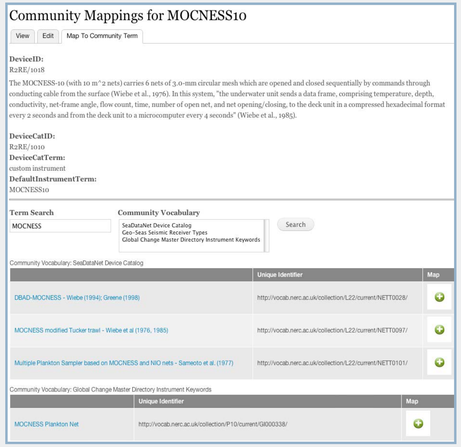
2. Manage Display of Community Terms and Attach SPARQL View to the term display

For a term, present additional information from a SPARQL endpoint.

modules: eva

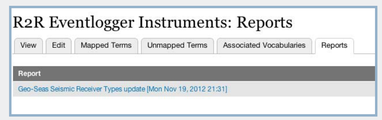


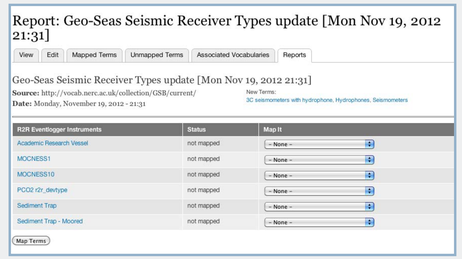
3. UI for mapping



4. Managing Community Updates

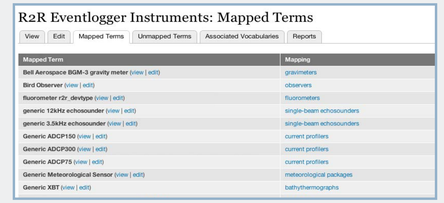
Generate reports when updates occur notifying Vocabulary Managers

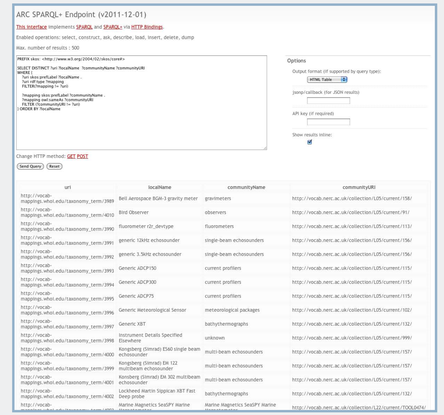




Expose the Mappings (SPARQL)

Allow other systems to consume how project terms were mapped to community terms





The BCO-DMO is funded by the NSF Biological and Chemical Oceanography Sections (OCE) and the Office of Polar Programs Antarctic Organisms & Ecosystems Program (OPP ANT). The R2R project is funded by the NSF Oceanographic Instrumentation and Technical Services (OITS) Program.