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

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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

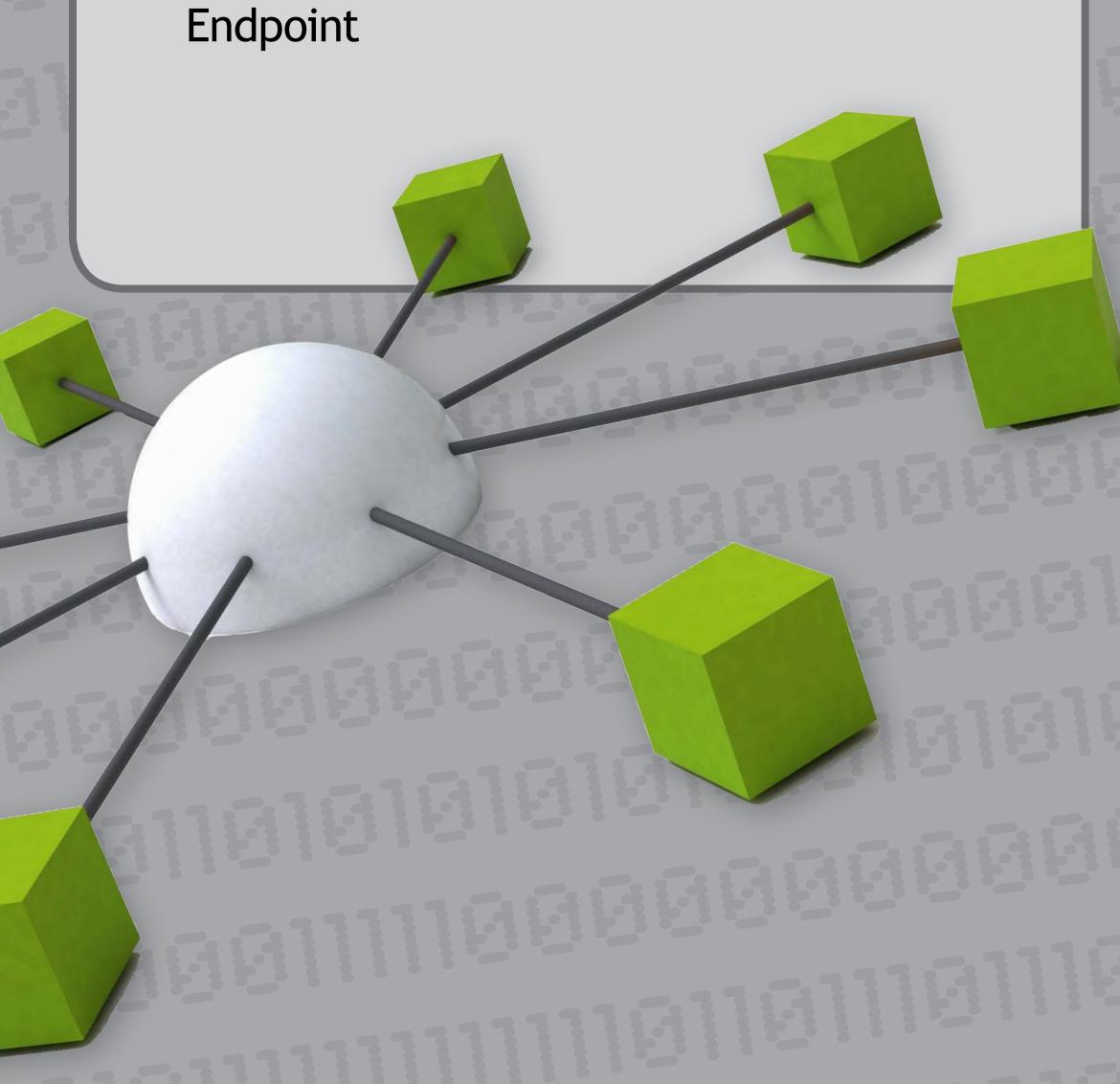
The identified Community Vocabularies (served by the NERC Vocabulary Server v2.0, http://vocab.nerc.ac.uk/) are:

- 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

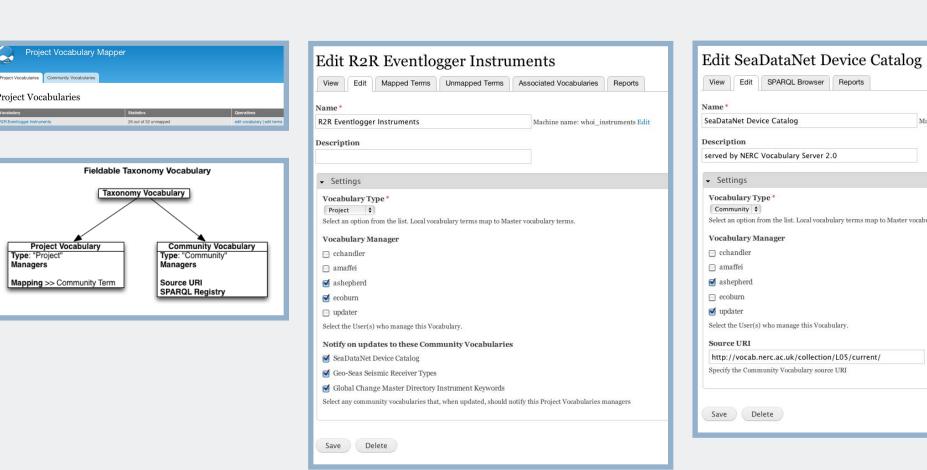
source URI: URI to the SKOS of Community

Vocabulary

SPARQL Registry: SPARQL Registry Entity Reference

modules: entity

custom: vocabulary_fields



2. Create Mapping Field

Vocabs modules: term_reference

Mapping field_mapping Term reference

Consume Community Vocabularies (SKOS)

Import/Update
 Community
 Vocabulary
 creates heirarcichal

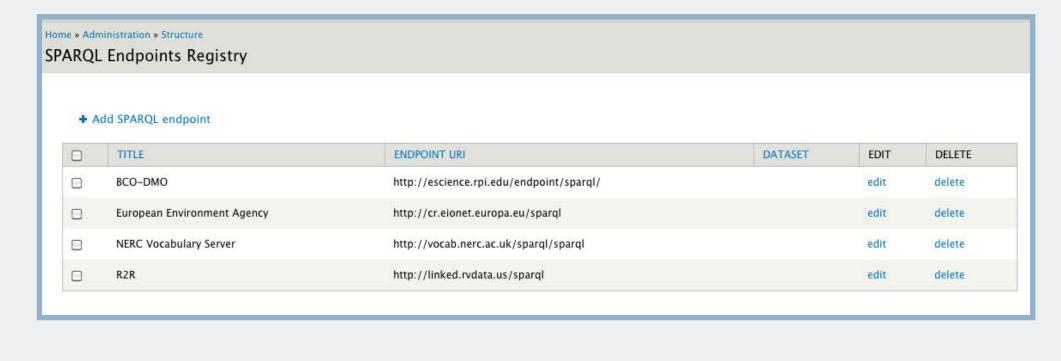
creates heirarcicha taxonomy with fields for only:
Name, Description and URI

modules: taxonomy_xml custom: taxonomy_xml_fields

Mapping Terms → Queryable with SPARQL (MAP)

1. Register SPARQL Endpoint and Setup Resources and Views

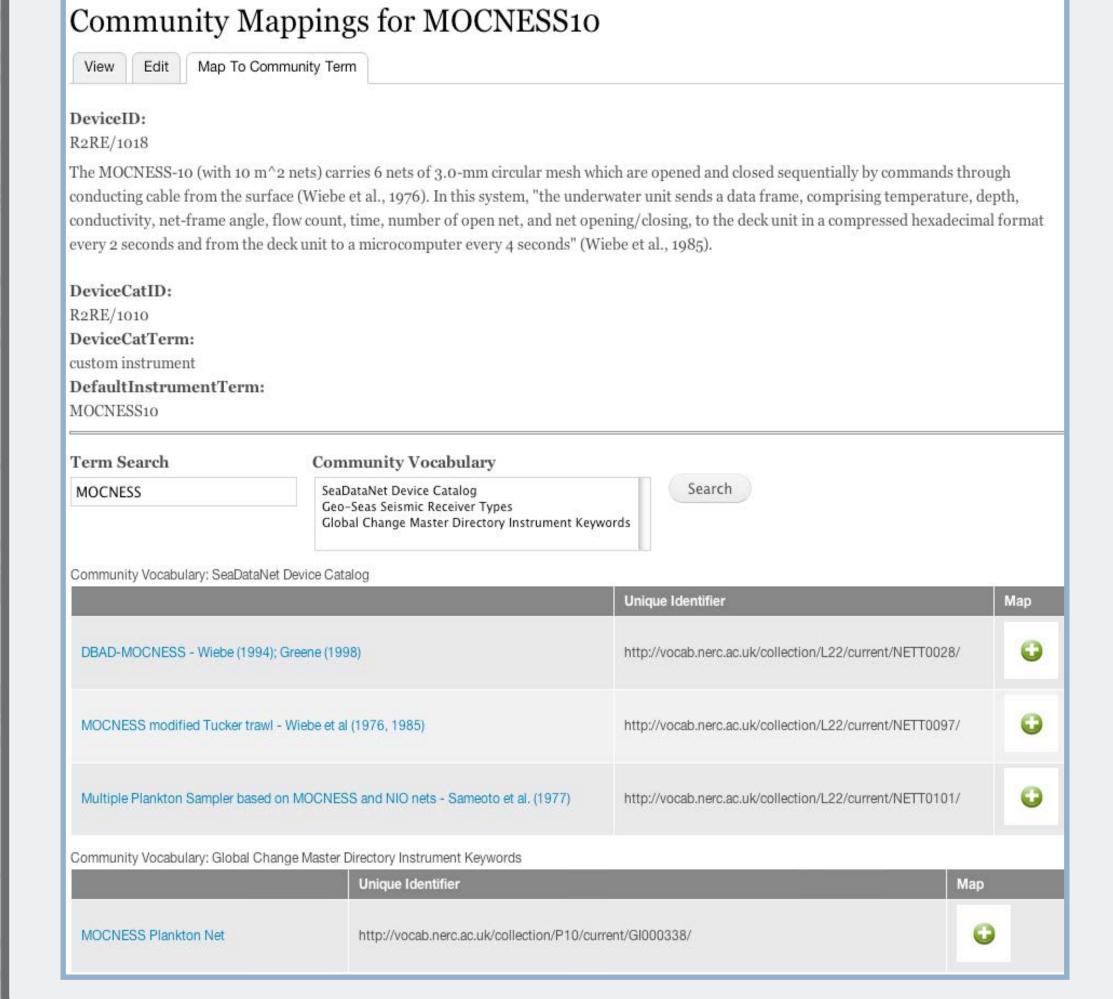
modules: rdfx, sparql, sparql_views



+ Add sparql views resource type + Import sparql vie	ws resource type						
LABEL	STATUS	OPERATIONS					
R2R Device (Machine name: r2r_device)	Custom	edit	manage fields	manage display	clone	delete	export
BCO-DMO Device (Machine name: bco_dmo_device)	Custom	edit	manage fields	manage display	clone	delete	export
R2R Vendor (Machine name: r2r_vendor)	Custom	edit	manage fields	manage display	clone	delete	export
R2R Model (Machine name: r2r_model)	Custom	edit	manage fields	manage display	clone	delete	export
SeaDataNet Device (Machine name: seadatanet_device)	Custom	edit	manage fields	manage display	clone	delete	export

laulaua.					
isplays					
EVA Field Same As Re	elated Parameters Narr	ower Broader Schemes + Add	edit view name/description		
▼EVA Field details					
Display name: EVA Field			clone eva field		
TITLE		ENTITY CONTENT SETTINGS	▼ Advanced		
Title: None		Entity type: Taxonomy term	CONTEXTUAL FILTERS add		
FORMAT Format: Unformatted list Settings Show: Fields Settings		Bundles: SeaDataNet Device Catalog	SeaDataNet Device: URI RELATIONSHIPS add SeaDataNet Device: Broader Terms		
		Arguments: id			
		Show title: No			
FIELDS	add 🕶	Access: None			
SeaDataNet Device: URI (URI)		HEADER	NO RESULTS BEHAVIOR		
SeaDataNet Device: Name (Name) SeaDataNet Device: Alternate Name (Alternate Name)		FOOTER add	EXPOSED FORM		
		PAGER	Exposed form style: Basic Settings		
SeaDataNet Device: Definition (Definition)		Use pager: Display a specified number of items	OTHER Machine Name: entity_view_1		
SeaDataNet Device: Identifier (Identifier)		1 item			
SeaDataNet Device: Date (Date)		More link: No	Comment: No comment		
SeaDataNet Device: Version Inf	ormation (Version		Use AJAX: No		
Information)			Hide attachments in summary: No		

3. UI for mapping

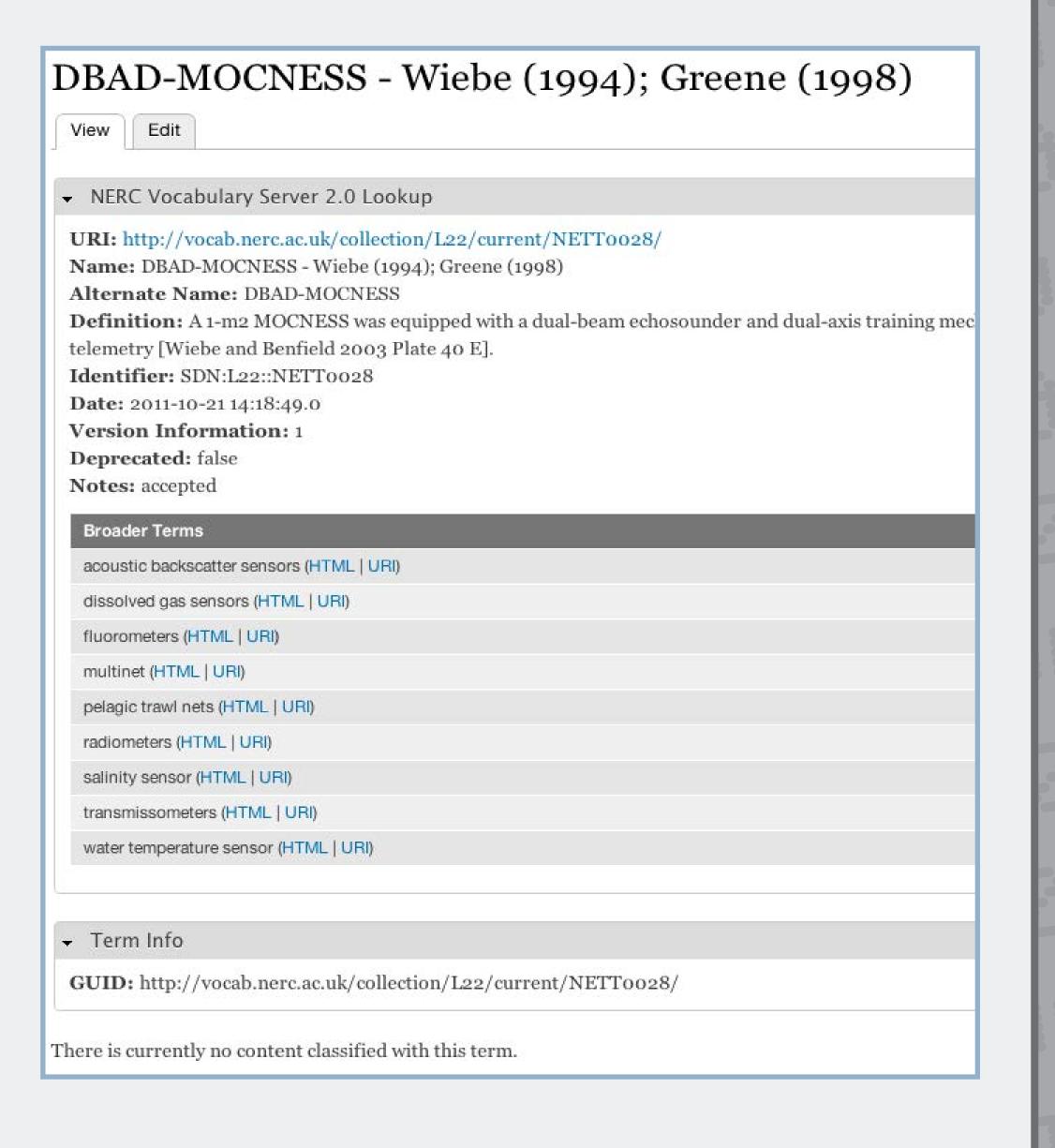


2. Manage Display of Community
Terms and Attach SPARQL View to
the term display

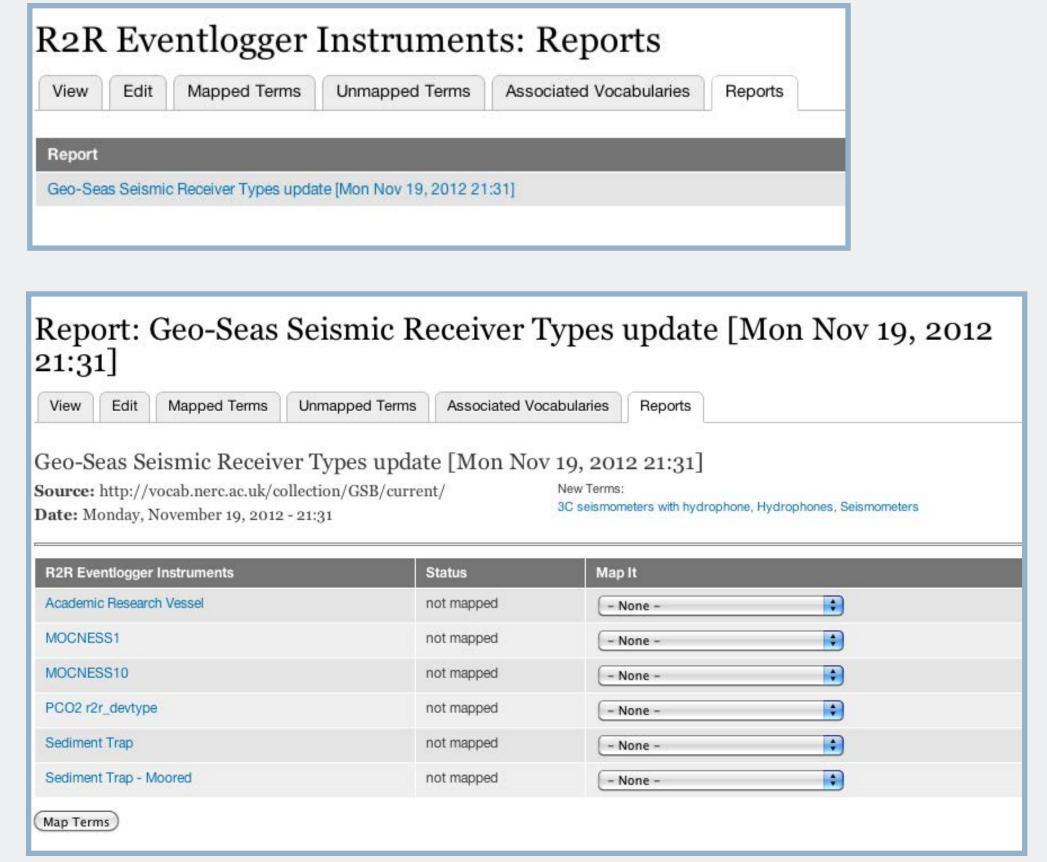
For a term, present additional information

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

modules: eva

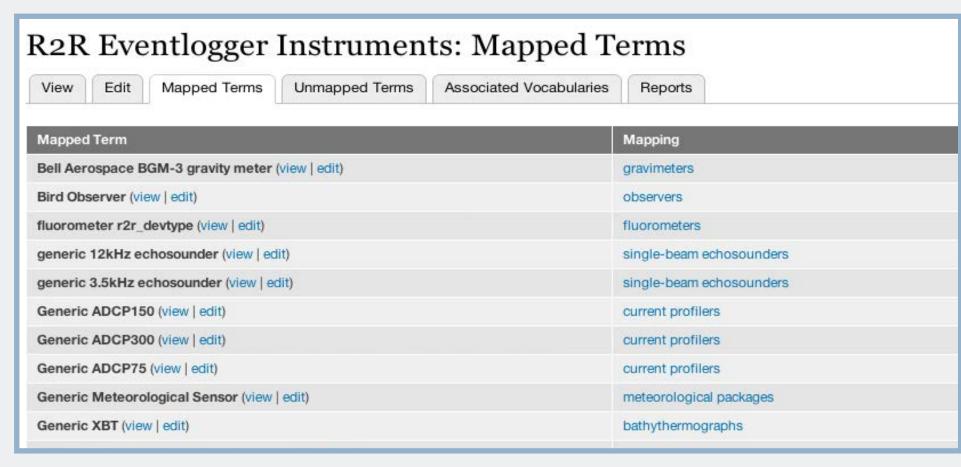


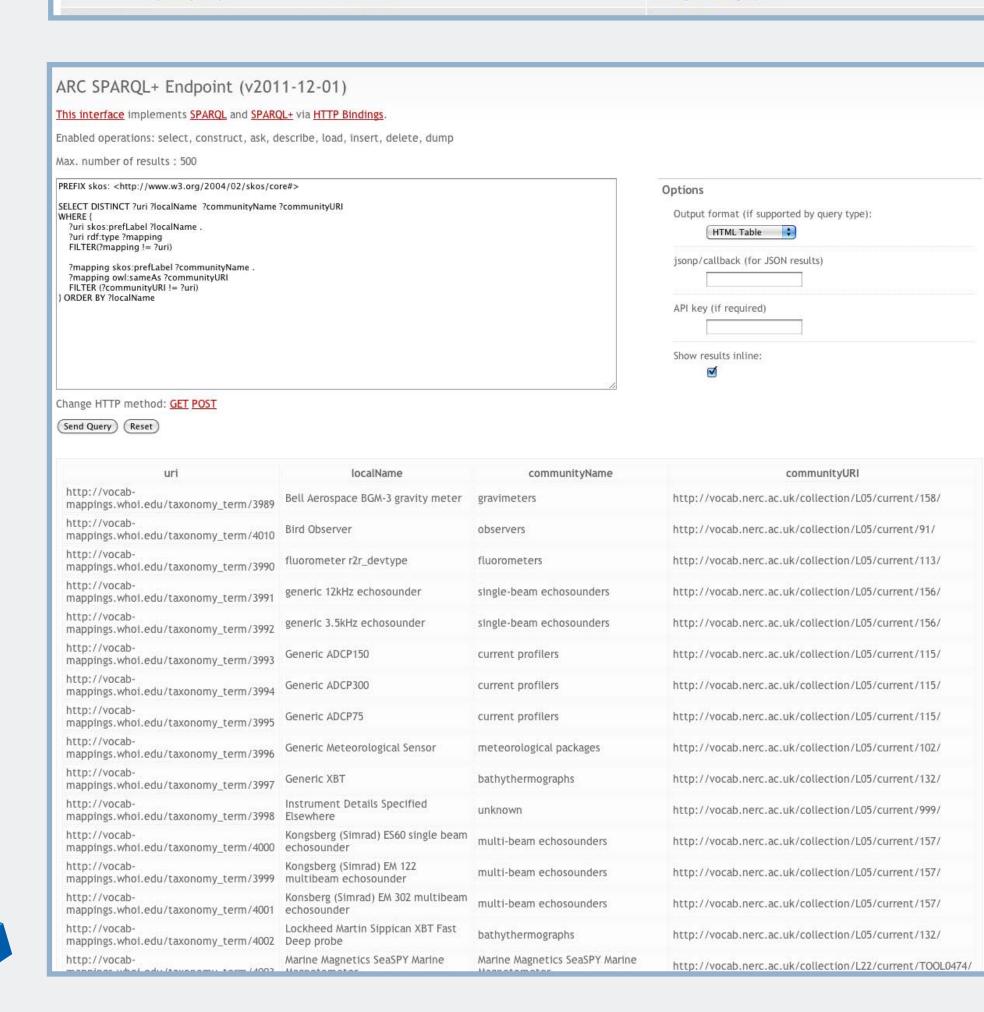
4. Managing Community Updates
Generate reports when updates occur
notifying Vocabulary Managers



Expose the Mappings (SPARQL)

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









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