

Emerging standards in vocabulary server access methods

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NETMAR Overview

The objective of the European Union Framework Programme 7 project "NETMAR" is to produce a pilot European Marine Information System (EUMIS)

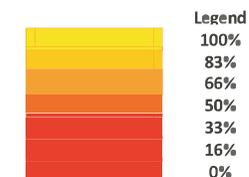
- EUMIS will search, download and integrate satellite, in situ and model data from ocean and coastal areas
- EUMIS will have a semantic framework coupled to ontologies that will identify and access diverse distributed data
- EUMIS will enable further processing of such data to generate composite products and statistics
- EUMIS will be configured to each use case application through workflows
- EUMIS will be underpinned by semantic resources developed by BODC

Vocabulary Access methods

The design of NETMAR's semantic resource relies on the extension of existing thesauri through mapping into other thesauri and ontologies. A survey of the application programming interfaces to a range of semantic resources was undertaken, and the available methods were catalogued into groups with similar functionality. This catalogue is shown in the table below, and shows the emerging trends in vocabulary server design and access methods.

	What Lists?	Get List	Get Term	Get Related Terms	Regular Expression search	SPARQL search	Keyword search	Verify Term
GEMET	Green	Green	Green	Green	Green	Green	Green	Green
NERC Vocabulary Server	Green	Green	Green	Green	Green	Green	Green	Green
Marine Metadata Interoperability ORR	Green	Green	Green	Green	Green	Green	Green	Green
USGS Thesaurus	Green	Green	Green	Green	Green	Green	Green	Green
GeoSciML Vocabularies	Green	Green	Green	Green	Green	Green	Green	Green
World Register of Marine Species (WoRMS)	Green	Green	Green	Green	Green	Green	Green	Green

The colour bar at the base of the table represents the percentage of surveyed vocabulary server APIs offering a given access method.



Conclusions

This survey shows that, while there are a range of access methods offered, only 5 from the 8 are available in 50% or more of the surveyed resources. The emerging standard method collection for vocabulary server access could therefore be said to be:

- whatLists / whatVocabularies
- getList / getVocabulary
- getTerm / getConcept
- getRelatedTerms
- keywordSearch

Resources

GEMET - <http://www.eionet.europa.eu/gemet>
 NERC Vocabulary Server - <http://vocab.ndg.nerc.ac.uk/>
 MMI ORR - <http://mmisw.org/orr/>
 USGS Thesaurus - <http://www.usgs.gov/science/about/GeoSciML/Vocabularies/>
 WoRMS - <http://www.marinespecies.org/>

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The NETMAR consortium comprises: Nansen Environmental and Remote Sensing Center, Norway; British Oceanographic Data Centre, UK; Centre de documentation de recherche et d'expérimentations sur les pollutions accidentelles des eaux, France; Coastal and Marine Resources Centre, Ireland; Plymouth Marine Laboratory, UK; Institut français de recherche pour l'exploitation de la mer, France; Norwegian Meteorological Institute, Norway.



<http://netmar.nersc.no>

