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# Common Vocabularies for SeaDataNet

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# Why controlled vocabularies?

- A collection of concepts for populating a given metadata field

- Controlled vocabularies
  - Ensure consistent spellings
  - Ensure consistent syntax

- Well-managed controlled vocabularies
  - Prevent metadata misunderstandings
  - Maintain a static relationship between metadata fields and the real world

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# Why controlled vocabularies?

- Concepts from different controlled vocabularies may be connected using simple mapping relationships:

  Bacillariophycaea same-as diatoms
  IPTS68 temperature related ITS90 temperature
  Nutrients in rivers related nitrate in water bodies
  Salinity is-narrower-than physical oceanography
  Physical oceanography is-broader-than salinity

- The results may termed thesauri

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# Where to find the controlled vocabularies?

- NERC Vocabulary Server

  http://vocab.nerc.ac.uk/

  Vocabulary names (Collections) e.g. P011 -> P01

  Code names remain the same: e.g. PSALCU01

  Changes to be incorporated to SDN all at once

  Web service based access:

  ReSTful & SOAP

  See http://vocab.nerc.ac.uk/vocab2.wsdl

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# Where to find the controlled vocabularies?

## - Maris

- http://seadatanet.maris2.nl/v_bodc_vocab/welcome.aspx

| List key | Long name | Short name | List version | List last modified |
|---|---|---|---|---|
| C161 | International Hydrographic Bureau (1953) sea areas | IHB Sea Areas | 8 | 2010-10-05T01:00:08 |
| | Terms used for sea areas from International Hydrographic Bureau, Limits of Oceans and Seas (Special Publication No. 23), 3rd edition 1953. | | | |
| C162 | SeaDataNet sea area extensions | Sea area extensions | 8 | 2010-10-05T01:00:08 |
| | Sea area terms added to the IHB(1953) list under SeaDataNet governance until the proposed hierarchical SeaVox sea area gazetteer is available | | | |
| C16 | SeaDataNet sea areas | SeaDataNet sea areas | 8 | 2010-10-05T01:00:08 |
| | SeaDataNet sea areas | | | |
| C174 | SeaDataNet Cruise Summary Report ship metadata | SDN CSR ships | 225 | 2012-09-12T01:00:03 |
| | Ship instances (a hull operating under a given name and governance type) used in SeaDataNet CSR forms including metadata in the definition to allow reliable mapping to ship hull databases. | | | |
| C191 | SeaVoX salt and fresh water body gazetteer | SeaVoX water bodies | 12 | 2012-07-07T01:00:09 |
| | Terms specified by the SeaVoX vocabulary governance to describe coherent regions of the hydrosphere. Includes land masses enclosing freshwater bodies. | | | |
| C320 | International Standards Organisation countries | ISO countries | 6 | 2011-12-15T02:00:06 |
| | ISO country codes from ISO3166-1 list taken from www.iso.org on 16/08/2011. | | | |
| C321 | International Standards Organisation deprecated country codes | ISO deprecated countries | 6 | 2011-12-15T02:00:06 |
| | Deprecated ISO country codes from the ISO3166-3 list. | | | |
| C322 | International Standards Organisation country code nulls | ISO country nulls | 6 | 2011-12-15T02:00:06 |

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# Using the common vocabularies

| Method | ReSTful | SOAP |
|---|---|---|
| GetCollections | Y | Y |
| GetConceptCollection | Y | Y |
| GetConcept | Y | Y |
| GetSchemes | Y | Y |
| GetConceptSchemes | Y | Y |
| GetRelatedConcepts | | Y |
| GetTopConcepts | | Y |
| SearchVocab | | Y |
| VerifyConcept | Y | Y |

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# Using the common vocabularies

- Full documentation online
  - At BODC website & SDN Extranet
    http://www.bodc.ac.uk/products/web_services/vocab/
- New content may be requested
  - May require acceptance by "content governance"
    - e.g. SeaVoX or ICES
- (O)250,000 API calls from (O)500 users in 12 months

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# Using the common vocabularies

- Included within NEMO software (not yet released)
  - Will be included within Mikado

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# Vocabulary users - Beyond Europe

- BCO-DMO, Woods Hole Oceanographic Institute
- Instituto de Investigaciones Marinas y Costeras, Colombia
- Climate and Forecast (CF) Community - Worldwide

- Links with Integrated Marine Observing System, Australia and NSF's R2R project

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# Vocabulary developments

- NERC Vocabulary Server v2.0 is ~ 1 year old

  Serves latest version of W3C standards

  Additional functionality

    Grouping of terms in hierarchies

    Multiple languages

    Mapping to external vocabularies

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# Vocabulary developments

## SeaDataNet Device Thesaurus

A thesarus comprising categorisations of devices (sensors, instrument packages and sample collectors) developed by SeaDataNet mapped to a catalogue of specific devices maintained by SeaVoX.

**Created by:** SeaDataNet

**Published by:** Natural Environment Research Council

**SeaDataNet sample collector categories(+)**
**SeaDataNet sample processor categories(+)**
**Definition:** Categories used in the SeaDataNet project to classify devices that alter the nature of a sample prior or during property determination.

**Alternative concept labels:** sample processors

**shipboard incubators(+)**
**in-situ incubators(+)**
**centrifuges(+)**
**sieves and filters(+)**
**benthic incubation chambers(+)**
**SeaDataNet sample measurer categories(+)**
**SeaDataNet in-situ sensor and instrument package categories(+)**
**SeaDataNet remote sensor categories(+)**

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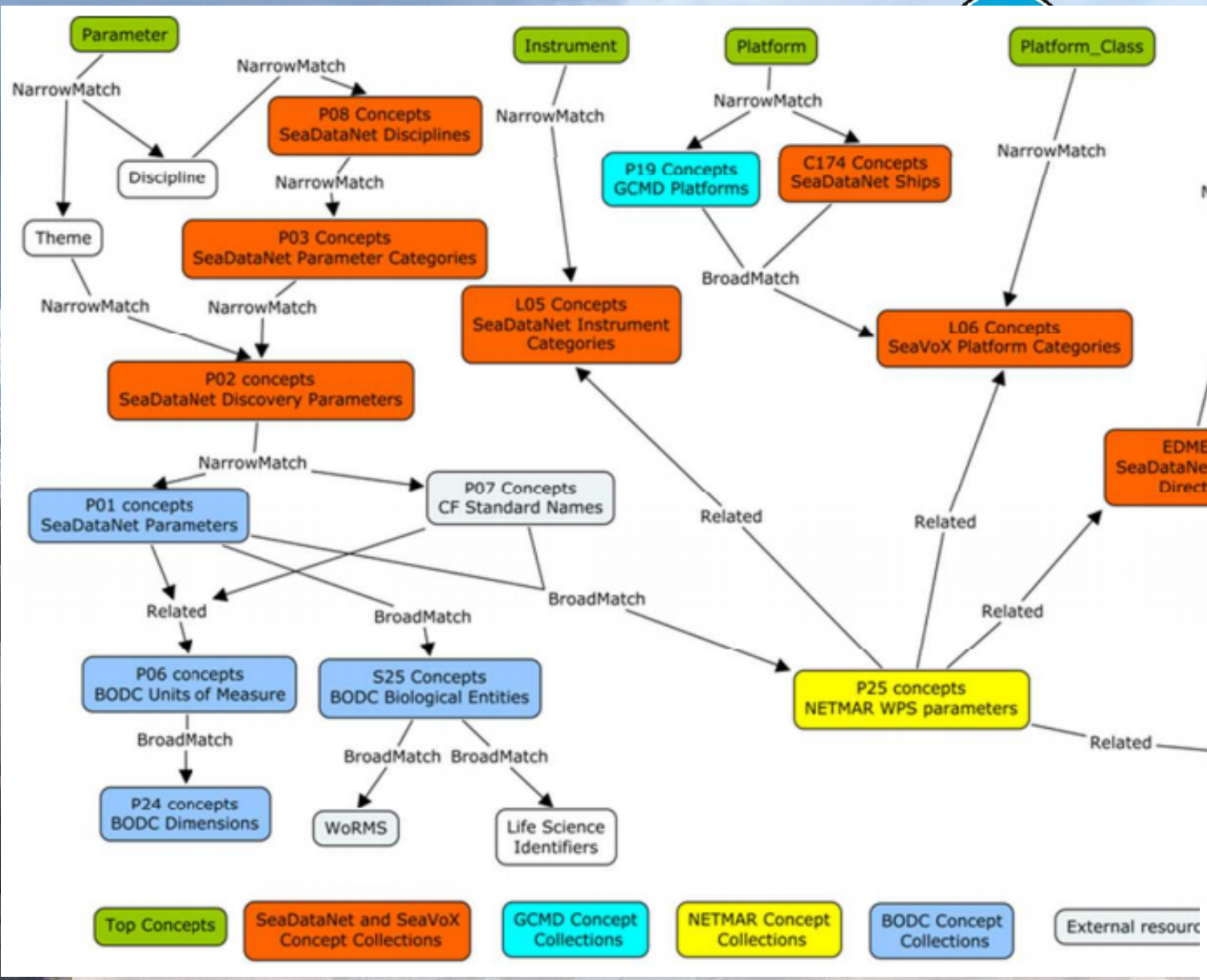


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# Vocabulary developments

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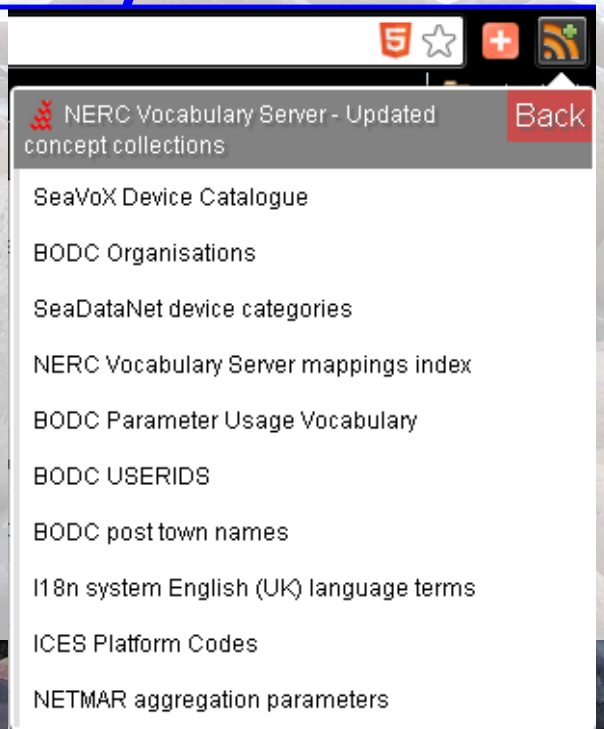
# Vocabulary developments

- Users often cache the NVS2.0 content
  - Atom feed offers subscription to changed lists
  - http://vocab.nerc.ac.uk/nvs_atom.xml

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# Vocabulary developments

- SPARQL endpoint
  - Deploying soon
  - Allowing querying of the knowledge store
  - ReSTful access to all API methods

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# Vocabulary developments

- ISO 19139
  - ISO XML records use CodeLists – not W3C
  - ISO views of SDN controlled vocabs created
    - http://vocab.nerc.ac.uk/isoCodelists/sdnCodelists/cdicsrCodeList.xml
  - GMX CodeLists imported as controlled vocabs
  - ISO views created
    - http://vocab.nerc.ac.uk/isoCodelists/sdnCodelists/gmxCodeLists.xml
  - ISO catalogue of EDMED records
    - http://vocab.nerc.ac.uk/isoCodelists/sdnCodelists/edmedCodeList.xml

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