SeaDataCloud

SeaDataNet experience and contribution

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SeaDataNet

- A pan-European infrastructure set up and operated for managing **marine** and **ocean** data in cooperation with the NODCs and data focal points of 34 countries bordering the European seas

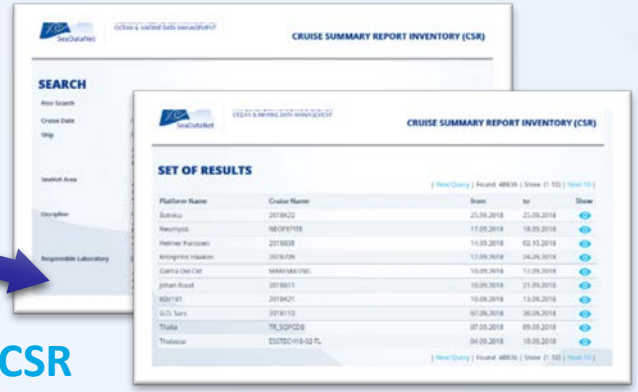
Metadata services

EDMERP

Projects (3 079)

EDMO

Organisations (4 523)

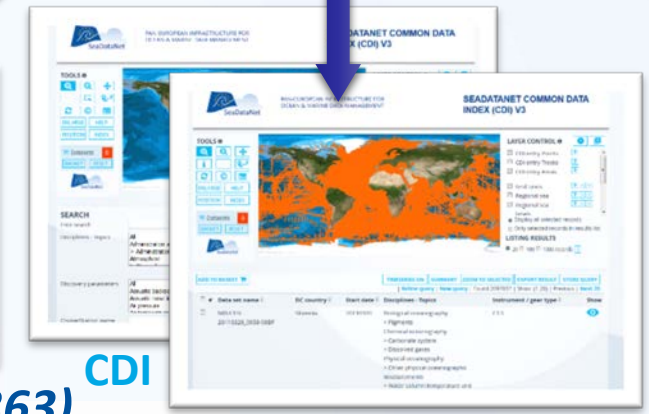


CSR

Research cruises (48 836)

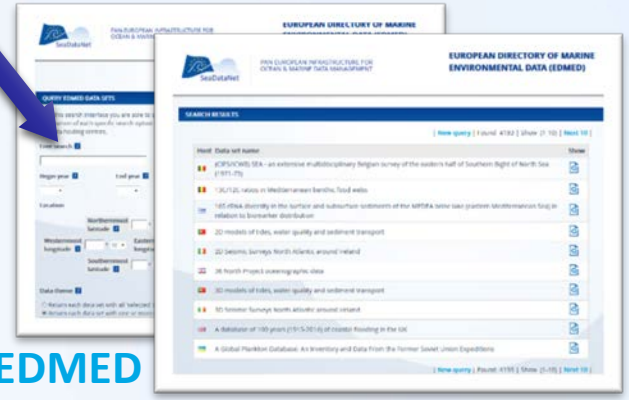
EDIOS

Observing programmes (363)



CDI

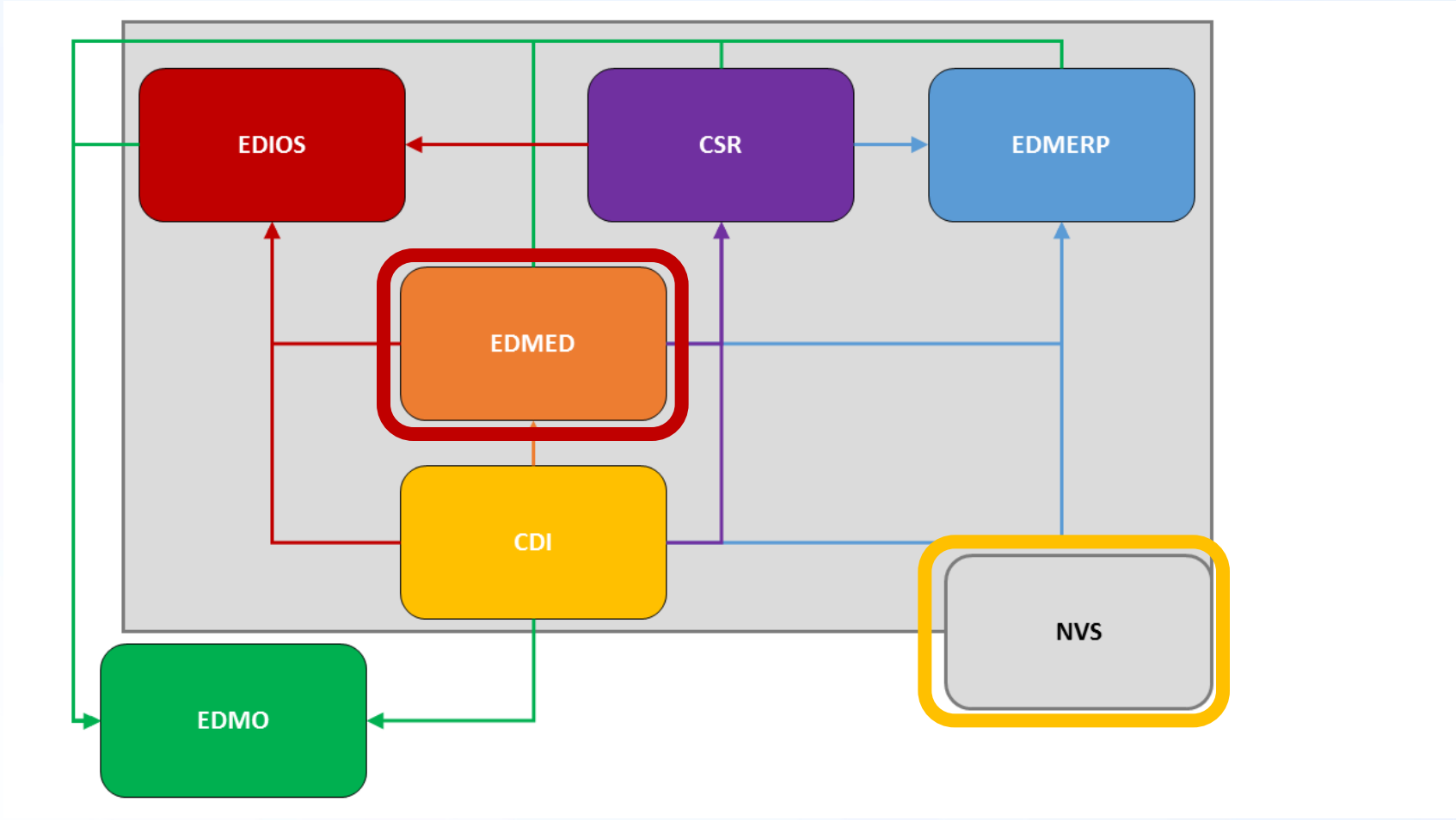
Data index (2 151 046)

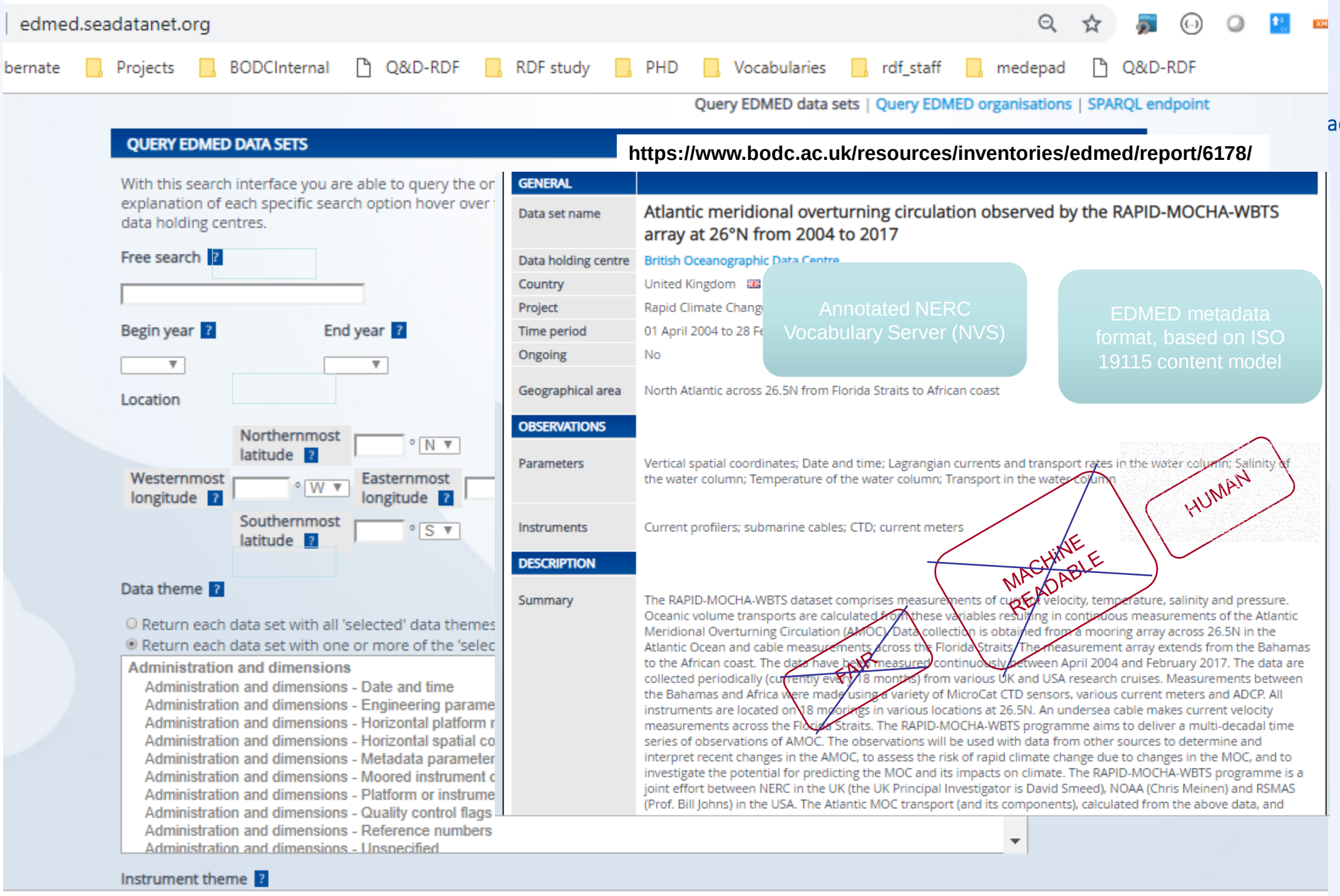


EDMED

Data sets (4 193)

SeaDataNet catalogues




edmed.seadatanet.org
bernate
Projects
BODCInternal
Q&D-RDF
RDF study
PHD
Vocabularies
rdf_staff
medepad
Q&D-RDF
Query EDMED data sets | Query EDMED organisations | SPARQL endpoint
QUERY EDMED DATA SETS
https://www.bodc.ac.uk/resources/inventories/edmed/report/6178/
With this search interface you are able to query the or
explanation of each specific search option hover over
data holding centres.
Free search
Begin year
End year
Location
Northernmost latitude
Westernmost longitude
Easternmost longitude
Southernmost latitude
Data theme
Return each data set with all 'selected' data themes
Return each data set with one or more of the 'selec
Administration and dimensions
Administration and dimensions - Date and time
Administration and dimensions - Engineering parame
Administration and dimensions - Horizontal platform
Administration and dimensions - Horizontal spatial co
Administration and dimensions - Metadata parameter
Administration and dimensions - Moored instrument
Administration and dimensions - Platform or instrume
Administration and dimensions - Quality control flags
Administration and dimensions - Reference numbers
Administration and dimensions - Unspecified
Instrument theme
GENERAL
Data set name
Atlantic meridional overturning circulation observed by the RAPID-MOCHA-WBTS array at 26°N from 2004 to 2017
Data holding centre
British Oceanographic Data Centre
Country
United Kingdom
Project
Rapid Climate Chang
Time period
01 April 2004 to 28 Fe
Ongoing
No
Geographical area
North Atlantic across 26.5N from Florida Straits to African coast
Annotated NERC Vocabulary Server (NVS)
EDMED metadata format, based on ISO 19115 content model
OBSERVATIONS
Parameters
Vertical spatial coordinates; Date and time; Lagrangian currents and transport rates in the water column; Salinity of the water column; Temperature of the water column; Transport in the water column
Instruments
Current profilers; submarine cables; CTD; current meters
HUMAN
MACHINE READABLE
FAIR
DESCRIPTION
Summary
The RAPID-MOCHA-WBTS dataset comprises measurements of current velocity, temperature, salinity and pressure. Oceanic volume transports are calculated from these variables resulting in continuous measurements of the Atlantic Meridional Overturning Circulation (AMOC). Data collection is obtained from a mooring array across 26.5N in the Atlantic Ocean and cable measurements across the Florida Straits. The measurement array extends from the Bahamas to the African coast. The data have been measured continuously between April 2004 and February 2017. The data are collected periodically (currently every 18 months) from various UK and USA research cruises. Measurements between the Bahamas and Africa were made using a variety of MicroCat CTD sensors, various current meters and ADCP. All instruments are located on 18 moorings in various locations at 26.5N. An undersea cable makes current velocity measurements across the Florida Straits. The RAPID-MOCHA-WBTS programme aims to deliver a multi-decadal time series of observations of AMOC. The observations will be used with data from other sources to determine and interpret recent changes in the AMOC, to assess the risk of rapid climate change due to changes in the MOC, and to investigate the potential for predicting the MOC and its impacts on climate. The RAPID-MOCHA-WBTS programme is a joint effort between NERC in the UK (the UK Principal Investigator is David Smeed), NOAA (Chris Meinen) and RSMAS (Prof. Bill Johns) in the USA. The Atlantic MOC transport (and its components), calculated from the above data, and

adird, Spain

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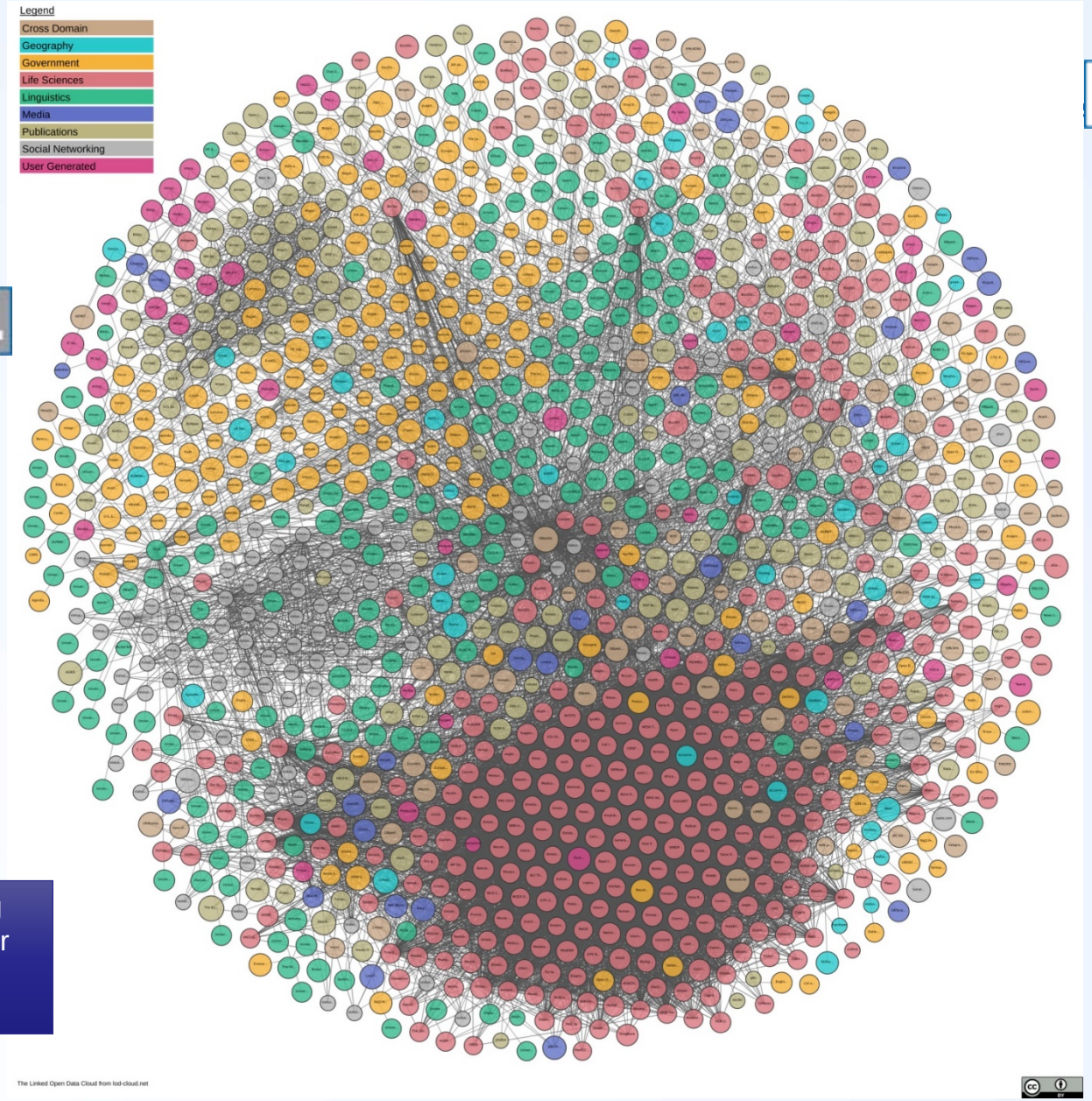

W3C RDF

W3C SPARQL

Set of best practices for publishing and interlinking **structured** data for access by both **humans** and **machines**

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Steps

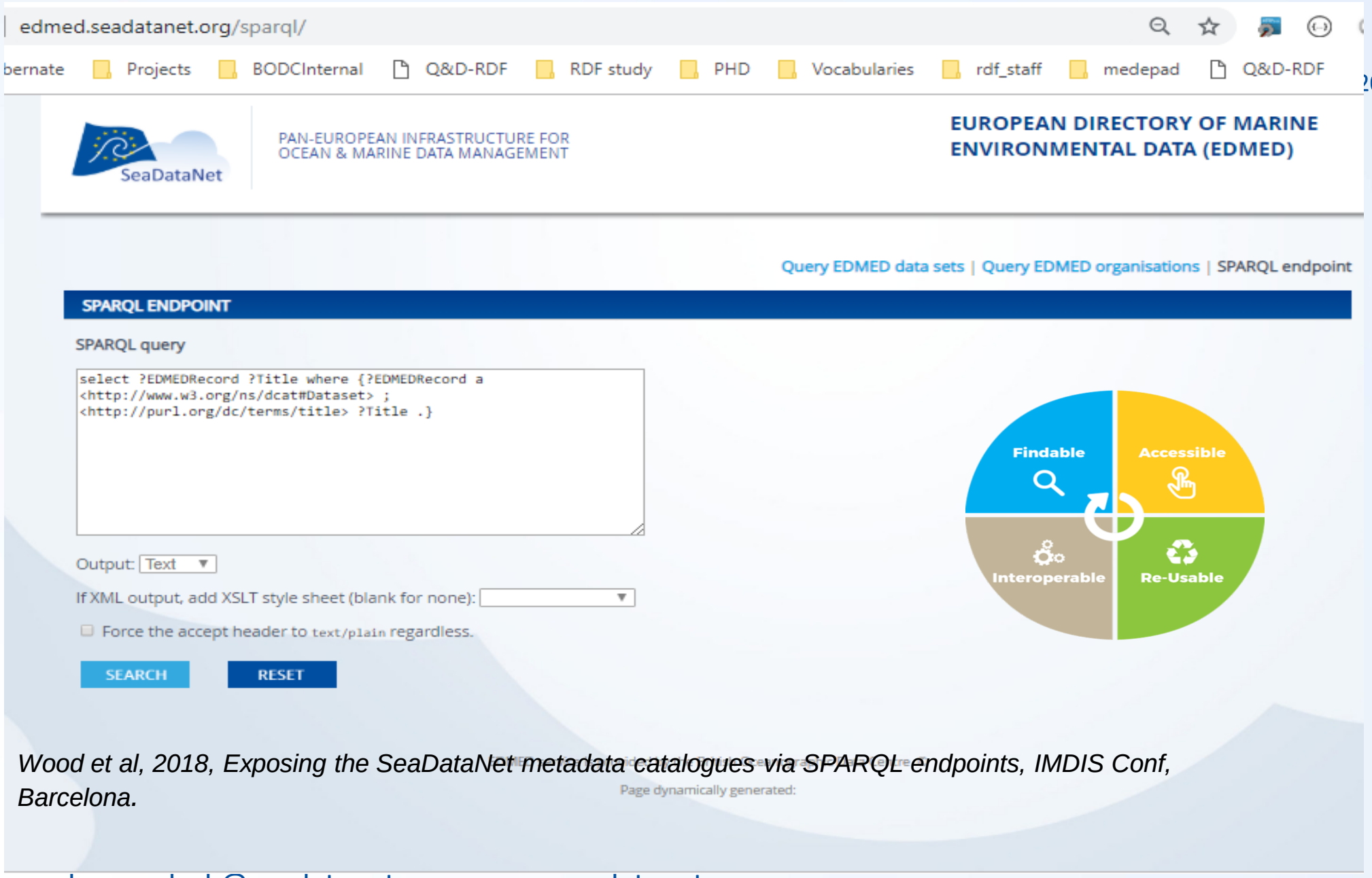
- Reusing existing patterns
  - Better understanding outside of SDN
  - Better interoperability with other organisations
  - FAIRer

Catalogues vs existing patterns

- EDMO –W3C Organisation
- EDMED –W3C DCAT / W3C Prov
- EDMERP –W3C Prov/ DBPediaResearch Project
- CDI –W3C DCAT
- ODV metadata to INSPIRE / ISO O&M
- CSR -*Liaised with US-NSF Rolling Deck to Repository & with Australia (through ODIP/SDC)*
- EDIOS –INSPIRE Environmental Monitoring Facilities

URIs

- https://edmed.seadatanet.org/
  - https://edmed.seadatanet.org/search/
  - https://edmed.seadatanet.org/sparql/
  - https://edmed.seadatanet.org/report/<ID>
- https://edmo.seadatanet.org/
  - http://edmo.seadatanet.org/sparql/
- https://edios.seadatanet.org/
  - http://linked.bodc.ac.uk/sdn/edios/
- https://edmerp.seadatanet.org/
- https://cdi.seadatanet.org/



Wood et al, 2018, Exposing the SeaDataNet metadata catalogues via SPARQL endpoints, IMDIS Conf, Barcelona.

Dataset Search

toolbox.google.com/datasetsearch/search?query=edmed&docid=xL2%2BQH7DWj%2BXTTJBAAAAAA%3D%3D

Apps | Bookmarks | Hibernate | Projects | BODCInternal | Q&D-RDF | RDF study | PHD | Vocabularies | rdf_staff | medepad | Q&D-RDF | Suggested Sites | Imported From IE | Acer | BODC | Other bookmarks

Google Dataset Search

edmed

About

Feedback

100+ results found

Liverpool Bay/Irish Sea Coastal Observatory Data Set
www.bodc.ac.uk

ORCHESTRA Project Oceanographic data set (201...
www.bodc.ac.uk
edmed.seadatanet.org

World Ocean Isopycnal-Level Velocity Inverted from GDE...
www.bodc.ac.uk

Global surface warming response datasets in terms o...
www.bodc.ac.uk
edmed.seadatanet.org

EDMED Metadata profile format
fairsharing.org
Published Oct 11, 2018

UK Admiralty Sailing Directions
www.bodc.ac.uk
edmed.seadatanet.org

ATLAS - Interactive GIS map service for the NW Black Sea...
www.bodc.ac.uk
edmed.seadatanet.org

Time series dataset from the

PML Plymouth Marine Laboratory

Liverpool Bay/Irish Sea Coastal Observatory Data Set

Explore at European Directory of Marin...

Data set provided by

Met Office
Proudman Oceanographic Laboratory
Plymouth Marine Laboratory
University of Liverpool Department of Earth and Ocean Sciences
National Oceanography Centre, Southampton
University of Wales, School of Ocean Sciences
National Oceanography Centre, Liverpool
Centre for Environment, Fisheries and Aquaculture Science, Lowestoft Laboratory
Department of Agriculture and Rural Development for Northern Ireland
University of Liverpool, Port Erin Marine Laboratory
Environment Agency Head Office
Bangor University School of Ocean Sciences

Licence

SeaDataNet licence

Time period covered

Jan 1, 2001 - Sep 20, 2011

Area covered

Irish Sea

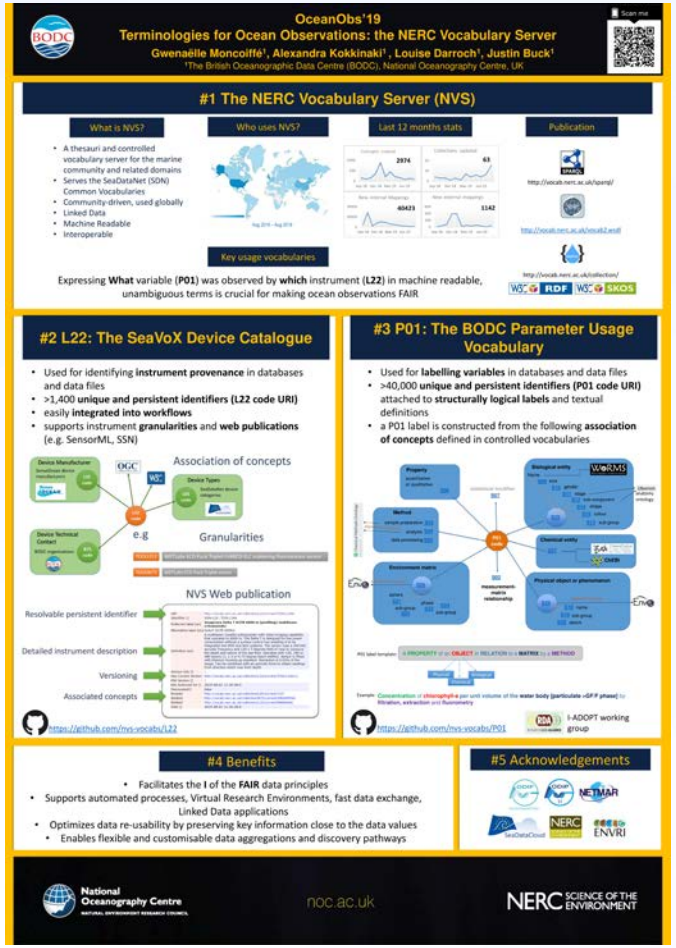
Description

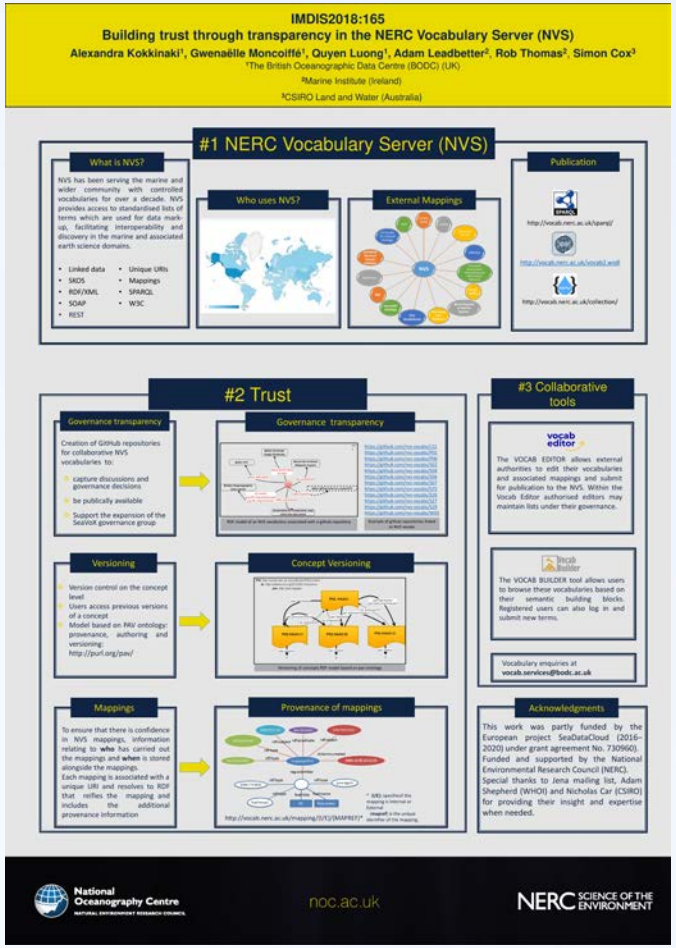
What is NVS

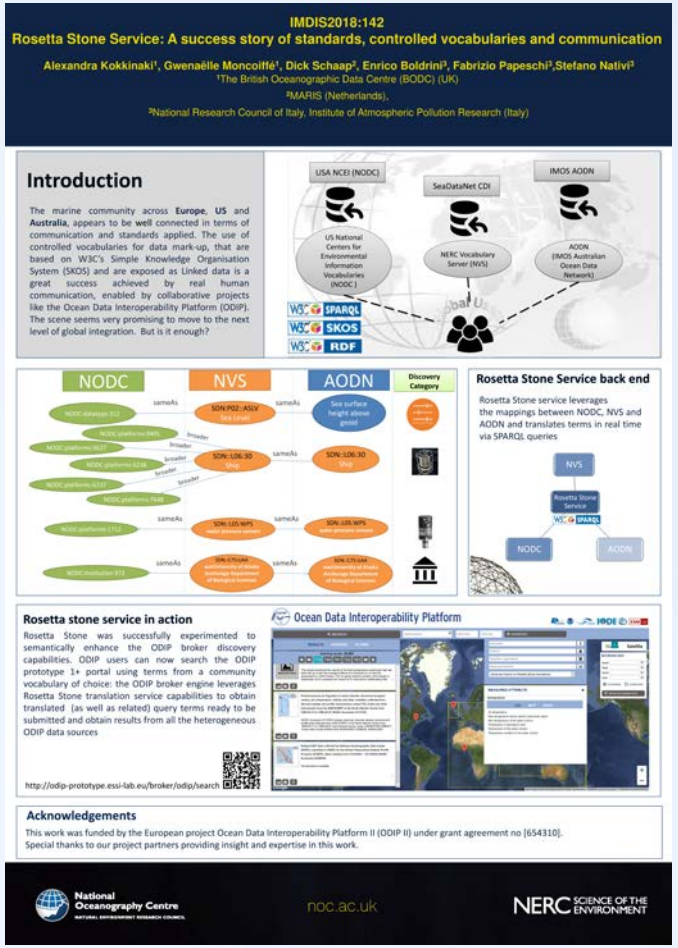
- A Vocabulary server
- Provides access to lists of standardised terms related to the oceanographic and wider community
- Term = unique URI with which people refer to it
- URI: resolves to machine/human readable standard formats (Linked Data)
- Unperpins SDN infrastructure

NERC Vocabulary Server

EPOS IP Final Event – September 27th 2019 | Madrid, Spain







InteroperAble Descriptions of Observable Property Terminology

- An RDA Working Group
- Within RDA Interest Group on Vocabulary and Semantic Services (VSSIG)
- RDA WG page:
  - https://www.rd-alliance.org/groups/interoperable-descriptions-observable-property-terminology-wg-i-adopt-wg
- Chairs:
  - Barbara Magagna, Michael Diepenbroek, Gwenaelle Moncoiffe, Maria Stoica

Objectives

Creating a community-agreed framework for:

- representing observable properties
- by bringing together interested and experienced members
- to encode measured, observed, derived, and computed properties

In order to:

- Improve the “I” of FAIR on property description at large scale
- Align properties specified by various bodies
- Make properties machine-processable

SeaDataCloud

WHAT?

Capturing complex and essential data information using semantic technology

HOW?

- Collaborative effort to connect existing semantic resources
- Strong network of
  - thesauri developers,
  - ontology creators
  - information managers
  - Data producers and publishers

Results

Workshop in Dublin, Ireland in March 2019 gathered technical & content experts:

Strategies for linking

- observations to authoritative thesauri
- authoritative thesauri to domain ontologies

Initiated alignment between:

- NERC Vocabulary Server
- Open Biological and Biomedical Foundry

Plan future alignments of well-adopted marine terminologies

Collective strategy for sustained interoperability

Use case featuring UNESCO-IOC Ocean Best Practices System

sdn-userdesk@seadatanet.org – www.seadatanet.org

Aligned semantics to advance data interoperability across the ocean value chain

- from raw data to societal goals

AUTHORS: Adam Shepherd, Scott Caltagirone, Alexandra Kokkinaki, Adam Leadbetter, Gwen Moncoiffe, Pauline Simpson, Rob Thomas, Pier Luigi Buttigieg

Why?

We all use different labels to describe the same thing.

Aligning terms from controlled vocabularies, thesauri & ontologies helps software agents navigate the spaghetti of our natural language.

How?

Capturing complex and essential data information using semantic technology

Collaborative effort to connect existing semantic resources

By creating a strong open network of:

- data producers & publishers,
- thesauri developers,
- ontology creators
- information managers

Results

Workshop in Dublin, Ireland in March 2019 gathered technical & content experts:

- Strategies for linking
  - observations to authoritative thesauri
  - authoritative thesauri to domain ontologies
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- Collective strategy for sustained interoperability
- Use case featuring UNESCO-IOC Ocean Best Practices System

oceanbestpractices.org

Take a picture to visit the website

Linking **authoritative thesauri**

to domain ontologies is critical

in leveraging

ocean observation data & **information**

in response to the

grand challenges of the

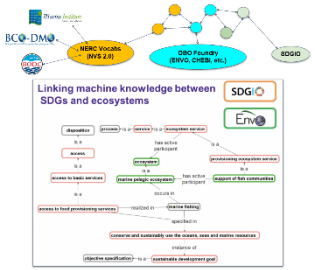
UN Decade of Ocean Science.

Efficient data publication workflows require easily extensible authoritative thesauri able to support

- Complexity & diversity of scientific observations
- Novel methodology & techniques
- Operational terminologies & concepts
- Data transformation, aggregation & re-use

Data can be of maximum benefit to society if labelled using authoritative thesauri that are then connected to domain ontologies

- Greater interoperability across sources, systems & domains
- Easier to connect to broad concepts
  - GOOS' Essential Ocean Variables
  - UN Sustainable Development Goals
- Greater scope for developing trusted automated processing in software applications & VREs
- Easier access to related information & data



BCO-DMO Biological & Chemical Oceanography Data Management Office

BODC

Marine Institute Fóras na Mara

AWI

CCMI Central Caribbean Marine Institute

Element 84

IODE International Oceanographic Data and Information Exchange

NSF Awards: 1435578, 1924618