



Dear Observable Property Terminology providers and consumers,

Your responses to this questionnaire will contribute to our RDA I-ADOPT Working Group's task to document existing terminologies used for the naming and description of measured, observed, or modelled variables. This information should enable us to build a good understanding of the various approaches; to identify overlaps, complementarity and gaps; to assess how they meet user requirements and reach consensus on a common interoperability framework.

We encourage you to submit examples related to observable properties connected to the nitrogen case study. This is because we want to use these examples to compare the various approaches and this is easier done when applied to similar kinds of observations. However, if you do not have any nitrogen-related terms then please submit examples which are most representative of your own domain or user community.

Please contact the group by emailing gmon@bodc.ac.uk if you have any questions or by posting an issue on: <https://github.com/i-adopt/terminologies>

Looking forward to your contribution. Best regards,

The RDA I-ADOPT Working Group

(*) We use the term "terminology" as the overarching name for any set of fixed denotations that are used to describe something with the goal to reduce ambiguity and facilitate interoperability. A terminology can range from a simple controlled vocabulary (a simple list of terms) to a complex ontology (formal definitions of terms and their relations semantically expressed in a machine-readable way). This term may also include taxonomies, thesauri, or any other kinds of knowledge organization sources.

The chairs of I-ADOPT



Section A: Entry question

A1. Are you a provider or a consumer of observable property terminology?

In other words, do you need terminologies for your work or do you develop, provide terminologies relevant for I-ADOPT to be used by others?

terminology provider (you create, host or manage a terminology)

terminology consumer (you use a terminology for data annotation or other purposes)

both

Section B: General questions related to the observable property terminology you want to describe

If you want to describe more than one terminology, you are kindly asked to fill in the questionnaire for each terminology separately.

B1. What is the name and the URL of the terminology you want to describe?

The terminology must be related to the naming and/or description of observable properties

Name of the terminology

URL of the terminology

B2. In what role(s) are you involved with the terminology?

developer

curator

administrator

publisher

Other

Other

B3. Please give a brief description of the terminology

B4. Which domain(s) is/are the terminology representing?

terrestrial ecosystems



biodiversity	<input type="checkbox"/>
aquatic ecosystems	<input type="checkbox"/>
hydrology	<input type="checkbox"/>
oceanography	<input type="checkbox"/>
glaciology	<input type="checkbox"/>
atmospheric sciences	<input type="checkbox"/>
logy and meteorology	<input type="checkbox"/>
solid earth sciences	<input type="checkbox"/>
soil science	<input type="checkbox"/>
remote sensing	<input type="checkbox"/>
Other	<input type="checkbox"/>

Other

B5. Please name the main data repository, system or data product that uses the terminology for observable properties.

Name								
URL								

B6. Do you know of any other data repository, system or data product using the terminology of observable property? If so, please provide a list below.

Please provide the name and the URL (if possible) of each resource in one extra line.

Section C: Specific questions related to the terminology you want to describe

C1. Which of these observation types does your terminology support?

physical



- chemical
- genetic
- biological
- derived
- dimensional
- statistical
- Other

Other

C2. What kind of measurement does your terminology support?

- quantitative, numeric
- qualitative, nominal

C3. What was the main use case for the development of the terminology?

C4. What other use cases, if any, does the terminology address?



Section D: General questions related to the use of observable property terminology

D1. Please describe the type of data you are working with

D2. Which domain is the data you are working with representing?

terrestrial ecosystems

biodiversity

aquatic ecosystems

hydrology

oceanography

glaciology

atmospheric sciences

climatology and meteorology

solid earth sciences

soil science

remote sensing

Other



Other

D3. Please name the main data repository, system or data product for which you use a terminology for observable properties.

Name

URL



- D4.** Do you use or need observable property terminologies for other data repositories, systems, or data products? If so, please provide a list below.

Please provide the name and the URL (if possible) of each resource in one extra line

- D5.** Please name the main terminology you use for describing observable properties

Name

URL

Section E: Specific questions related to the use of terminologies

E1.

Data Life Cycle phases (ENVRI)

At which phase of data life cycle do you use terminologies for observable properties?

data acquisition

data curation

data publishing

data processing (aggregation)

data use

E2. For which purpose do you use observable property terminologies?

data values annotation

metadata record annotation

linked data

data search interface

harmonizing metadata

data (products) integration



Other

Other

E3. Which of these observation types are you interested in?physical chemical genetic biological derived dimensional statistical

Other

Other

E4. Which kind of measurement should the terminology support?quantitative, numeric qualitative, nominal **Section F: Reuse of other resources**

Common questions

F1. Which registry of biological taxonomy do you use, if any?World register of Marine Species (WoRMS) Integrated Taxonomic Information System (ITIS) Catalogue of Life (CoL) Wikidata Locally built reference list not relevant none (the biological name is free text)



Other

Other

F2. To what chemical database(s) do you refer for the chemical substance name?

Chemical Abstract Service (CAS)

Chemical Entities of Biological Interest (ChEBI)

Semantic Web for Earth and Environmental Technology Ontology (SWEET)

Locally built reference list

not relevant

none (i.e. the chemical name is free text)

Other

Other

F3. Which unit ontology do you use?

Measurements Units Ontology (MUO)

Ontology of units of Measure and related concepts (OM)

Library of Quantity Kinds and Units (QU)

Quantities, Units, Dimensions and Data Types Ontologies (QUDT)

Semantic Web for Earth and Environmental Terminology (SWEET)

Units of Measurement Ontology (UO)

none (units are stored as free text)

none (units are standardized for all measurements)



Other

Other

F4. What other external terminologies do you refer to when describing observable properties?

For each resource provide name and URL (if possible), one entry per line.

Section G: Approach description

Common questions

G1.

What semantic or conceptual model(s) if any do you use to describe your data?

- Dataset Schema (DATS)
- Experimental Factor Ontology (EFO)
- Observation & Measurement (O&M)
- Statistical Data and Metadata Exchange+Data Documentation Initiative (SDMX/DDI)
- Complex Property Model (CPM)
- Extensible Observation Ontology (OBOE)
- Scientific Variable Ontology (SVO)
- Semantic Sensor Network Ontology (SOSA/SSN)
- none
- Other

Other



G2. Please provide a diagram or any other schematic representation of the relationships linking the concepts you use when annotating your data if applicable (like image below)

G3. What kinds of nitrogen-related observable properties are of relevance for the data you are responsible for?

Please select all that apply from the list below. Add others as required. Keep the information fairly high level. You will have the option to submit a file with the more detailed terms later on in this section.

concentration in water including suspended particulate matter

concentration in ice

concentration in soil

concentration in sediments

concentration in biota

biogeochemical fluxes

biological processes rates

natural isotope distributions

none

Other

Other

G4. Please provide a few representative examples of terms and definitions of concepts you use to describe/name observable properties

Please use the spreadsheet template: <https://github.com/i-adopt/terminologies/raw/master/Template%20for%20OPT%20providers.xlsx>. For each of the datasets, please provide all terminology concepts/classes needed for the description of the observable property.

G5. Please provide any additional information, which can help us to understand better your approach.

This can be a link to a publication, or any other reference material.



Section H: Comments to the group

- H1. Are there any particular issues or challenges associated with your approach to describe observable property data?

- H2. Are there any particular challenges we, as a group, need to consider as part of the nitrogen case study?

- H3. Are there any particular challenges we, as a group, need to consider when addressing other case studies?

- H4. Do you want to add any other comment?

Section I: Background information

You nearly completed the questionnaire. In order to generate some basic statistics, we would ask you to answer some questions on your background and affiliation. Answering the questions is not mandatory but would help us. Beside this, no further personal information (e.g. IP) is collected and stored.

I1. Contact information

Your name and/or ORCID and/or contact email

Name

ORCID



E-mail

I2. Which of the following describes your job best?

- network manager
- site manager
- researcher
- field scientist
- data provider
- data manager
- data modeller
- Other

Other

I3. If you are a researcher, in which research domain(s) do you operate?

- terrestrial ecosystem
- biodiversity
- aquatic ecosystem
- hydrology
- oceanography
- glaciology
- atmospheric sciences
- climatology and meterology
- solid earth sciences
- soil sciences
- remote sensing



Other

Other

I4. Affiliation

I5. Country

I6. What is your affiliation's role?

Data Center

Research Infrastructure

Consultancy

University

Small or Medium sized Enterprise (SME)

Public sector

Other

Other



Thanks for contributing to the survey. This is an important input to the development of a community-agreed framework for representing terminologies

Please visit us at I-ADOPT.

If you are interested in more in-depth information about the system and its architecture, please refer to the Working Group's case statement

The I-ADOPT Chairs Barbara Magagna, Gwenaelle Moncoiffe, Michael Diepenbroek and Maria Stoica