



Dear Observable Property Terminology (OPT) 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](mailto: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
- terminology consumer
- 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	[REDACTED]
URL of the terminology	[REDACTED]

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

- developer
- curator
- administrator
- publisher
- Other

Other

### B3. Brief description of the terminology

### B4. Which domain is the terminology representing?

- terrestrial ecosystems



biodiversity

aquatic ecosystems

hydrology

oceanography

glaciology

atmospheric sciences

climatology and meteorology

solid earth sciences

soil science

remote sensing

Other

Other

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

Name

URL

## 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. Which 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**

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. Please name other data repositories, systems, or data products for which you use a terminology for observable properties.**

*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.

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

- data acquisition
- data curation
- data publishing
- data processing
- 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
- none (not relevant)
- 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. Please list any other terminology you reuse, which has not been mentioned yet**

*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/f-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?**

## 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.

### 11. Contact information

*Your name and/or ORCID and/or contact email*

Name

ORCID

E-mail

### 12. Which of the following describes your job best?

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

Other

### 13. If you are a researcher, what is your domain?

- 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**