

Standard Names & Vocabulary

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Why Vocabulary?

- Structured data archive more usable than «unordered» archive based on semantic search.
- Need to speak a common language. Are 2 observations / model results comparable?
- Avoid spelling ambiguities.
- Machine readable / actionable.

A Few Terms

Concept:

- Definition of which pieces of information are contained in a piece of information – and which not.

E.g.: instrument type: «The instrument type refers to physical principle of operation used in the instrument, e.g. “filter absorption photometer”, “cavity ring-down spectrometer”. If this leads to very large categories, few sub-divisions may be used, e.g. “cloud radar” / “Doppler radar”, “aerosol lidar” / “wind lidar”. May be categorized as “in situ” (which includes lab instruments) or “remote sensing”. Acronyms should be avoided unless they have become independent terms, e.g. “radar”, “lidar”.»

Vocabulary:

- Controlled list of terms to be used in a concept field. Includes PID, definition, and relations.
- Needs:
 1. term
 2. definition
 3. PID (persistent identifier)

Climate Forecast (CF) Convention Standard Names

- CF convention builds on NetCDF file format.
- Defines e.g. axis, projections, units to be used in NetCDF
- Defines vocabulary for variables!
<https://cfconventions.org/Data/cf-standard-names/74/build/cf-standard-name-table.html>
https://vocab.nerc.ac.uk/search_nvs/P07/
- Structure:
[[surface](#)] [[component](#)] standard_name [at [surface](#)] [in [medium](#)] [due to [process](#)] [assuming [condition](#)]
- Qualifiers are part of the standard name.

Attribute Convention for Data Discovery (ACDD)

- Builds on top of NetCDF and CF convention.
- Addresses metadata specification missing in CF convention, especially discovery metadata.
- Mostly compatible with ISO19115 metadata specification.
- https://wiki.esipfed.org/Attribute_Convention_for_Data_Discovery_1-3

Global Change Master Directory (GCMD) Keywords

- Hierarchical set of controlled vocabularies.
- Contact [GCMD Keyword Community Forum](#) to request new keywords.
- Structure:
Category > Topic > Term > Variable > Detailed Variable
- <https://earthdata.nasa.gov/earth-observation-data/find-data/gcmd/gcmd-keywords>
- Focus on space-borne remote sensing,

Vocabulary: Semantic Description of Content

How are vocabularies used?

➤ SIOS vocabulary:

<https://vocab.met.no/mmd/en/page/?uri=https%3A%2F%2Fvocab.met.no%2Fmmd%2FPlatform>

➤ AERIS vocabulary:

<https://skosmos.aeris-data.fr/en/>

➤ Vocabulary depends on use case!!!

