VSSIG Harmonizing Measures Meeting March 2, 2018

Attendees

- Barbara Magagna
- Melanie Buss
- Harry Lankreijer
- Friederike Klan
- Sirko Schindler
- Andre Chanzy
- Alexandra Kokkinaki
- Markus Stocker
- Gwen Moincoiffe
- Michael Diepenbroek
- Naouel Karam

Notes

- Barbara, LTER - EnvThes
  - Sampling feature (proximate feature) as the thing that is actually measured, rather than the feature of interest, which is not the thing directly measured
  - Sampling feature relates to observation via design property and to domain feature via intention property
    - Examples
  - Complex properties model: "water temperature" compound concept, includes a property (temperature) and a feature (water)
  - O&M property type is split into "object of interest" and "property" ("concentration of carbon" is also compound concept consisting of "carbon" and "concentration")
  - New introduced concept: Object of interest, things like events, processes, entities (entities are things like organisms, substances, organisational units such as biotope, matrix, etc.)
    - Needs to still be agreed
  - Object vs feature of interest: Feature is the area monitored, object of interest are the things measured, e.g. wind, pressure, temperature, etc. in the monitored area.
  - Measure: the compound concept that aggregates observed property of an object of interest (as used by the LTER scientist). Measure can be broken down into atomic concepts (object, property, matrix, unit, tool)
    - Example: concentration (property) of sulfate (object of interest) per unit volume (unit of measure) in soilwater (matrix) using lysimeter (tool)
    - Further examples in slides

- ○ While a thesaurus such as EnvThes should include the atomic terms (e.g. % as a UnitOfMeasure) it is unclear how to relate terms to a compound concept in a thesaurus
- ○ Often not always clear how to model things (see examples in slides)
- ○ Sometimes it is difficult to atomize properties (e.g. aerodynamic resistance)
- ○ Constraint as an additional concept
- ○ Discussion
    - ■ Michael: Include geocoding, e.g. for capturing the measurements at different depths in a water column. Sampling feature is not really an entire water column, which is not measured in a single step. Sampling feature is the concrete sample taken at a particular depth in the water column.
    - ■ Gwen: Lot of commonalities with what BODC uses. We need to define what we mean by properties etc, but not everything needs to be atomized further (e.g. "aerodynamic resistance", keep it as a property of X, not try to break it down further.
    - ■ Gwen: Example "wind speed" can be broken down in feature (or object) and property, but they also provide a "tag" that holds the compound concept ("wind speed") for people to recognize it.
    - ■ Barbara: Object vs. Feature: Object is something that can be retrieved from a terminology, while the organism is a concrete animal.
    - ■ Michael: Objects can be complex (e.g. diameter of a leaf) could be the object of interest. Breaking down can be very complicated.
    - ■ Andre: Presented problems very similar in ANAEE. How can we synthesize the various approaches? What is the end of this exercise? We are at the beginning, collecting information about each other's approaches (commonalities/differences). Use this to identify where the problems come from.
    - ■ Alexandra: Observable properties ontology by Simon Cox. Problem, the properties are not atomized. Feature of interest should carry the geolocation. Properties should be split as detailed as possible/reasonable.
    - ■ Alexandra: Take three or four examples and model them with the different approaches.
    - ■ Michael: Good approach to have examples that show the complexity of the problem and as an exercise try to match them with existing models.
    - ■ Andree will not be at RDA
- ● Friederike, AquaDiva
    - ○ Uses OBOE, which partly solves the issues Barbara mentioned
    - ○ Introduction to AquaDiva project
    - ○ In the background the keywords are transferred via SPARQL queries, Quest Reasoner
    - ○ oboe-core:Entity is object of interest
    - ○ A dataset is an oboe-core:ObservationCollection

- ○ Each row of a dataset is an oboe-core:Observation
- ○ Issues
  - How to model species column: various approaches, e.g. at the observation level, or at the entity level. The approaches have their pros and cons
  - Precipitation is a process not an entity: How to model this in OBOE
  - Observations that are spread over several rows of a dataset
  - Entity as value, e.g. groundwater is a value in a dataset
  - Outcome of measurement is not a single value but a more complex data structure, e.g. list of values: how to model this in OBOE

Action

- ● Michael to present PANGAEA next?
- ● Andre to present ANAEE after 22