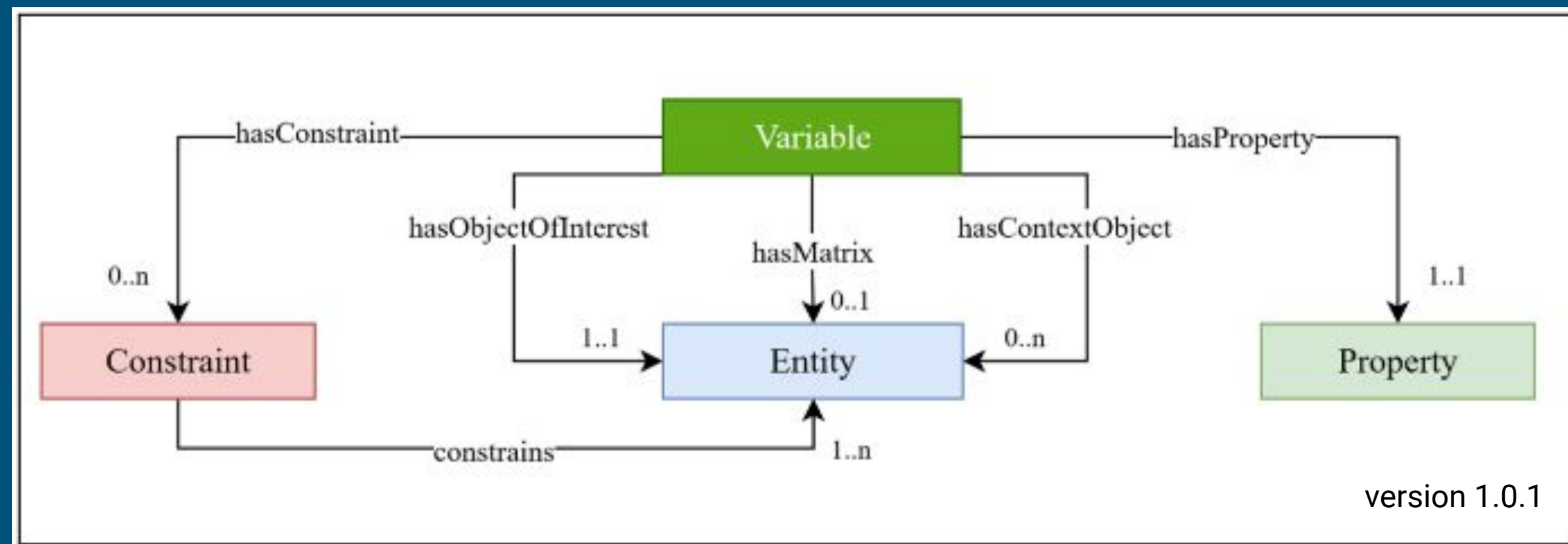


# Aligning Observable Property Terminologies using the I-ADOPT framework

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## The I-ADOPT Framework Ontology



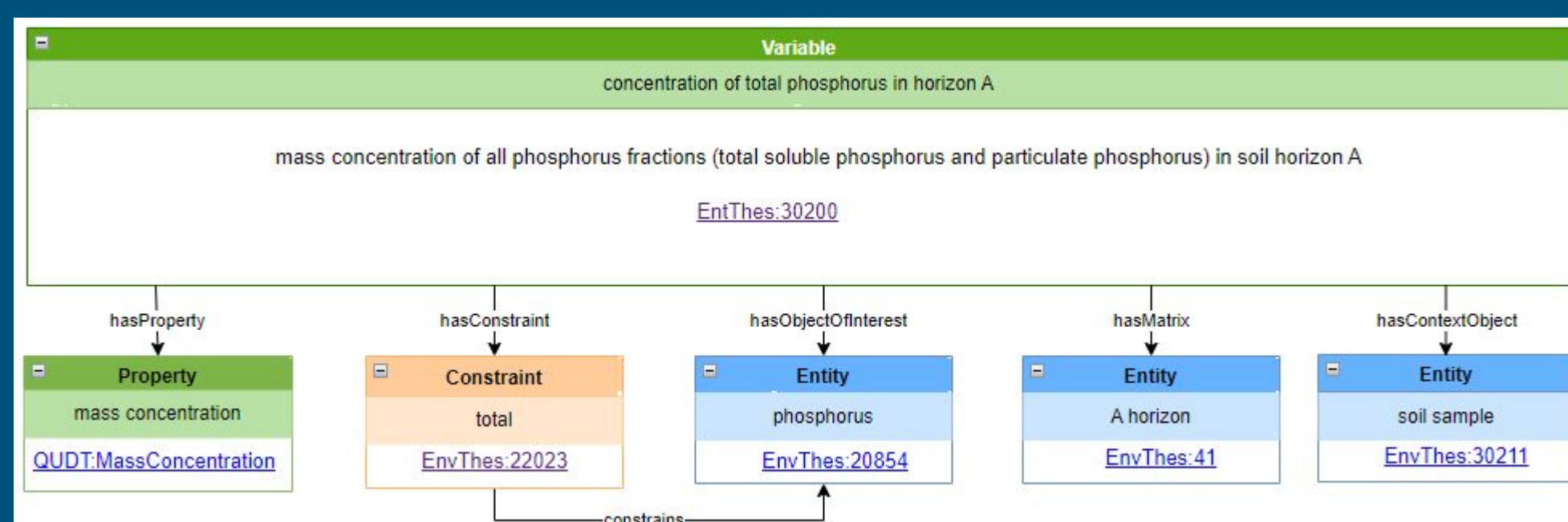
The I-ADOPT variable identifies something observed or derived, by minimally associating an ObjectOfInterest and its Property.

Ontology: <https://w3id.org/iadopt/ont/>

The framework provides a FAIR representation of variables in two ways:

1. by providing richer metadata context through the decomposition of its description into atomic parts based on the I-ADOPT ontology,
2. by providing rich semantic context and enabling the reuse of concepts from FAIR terminologies for each of the components.

## Variable Example:

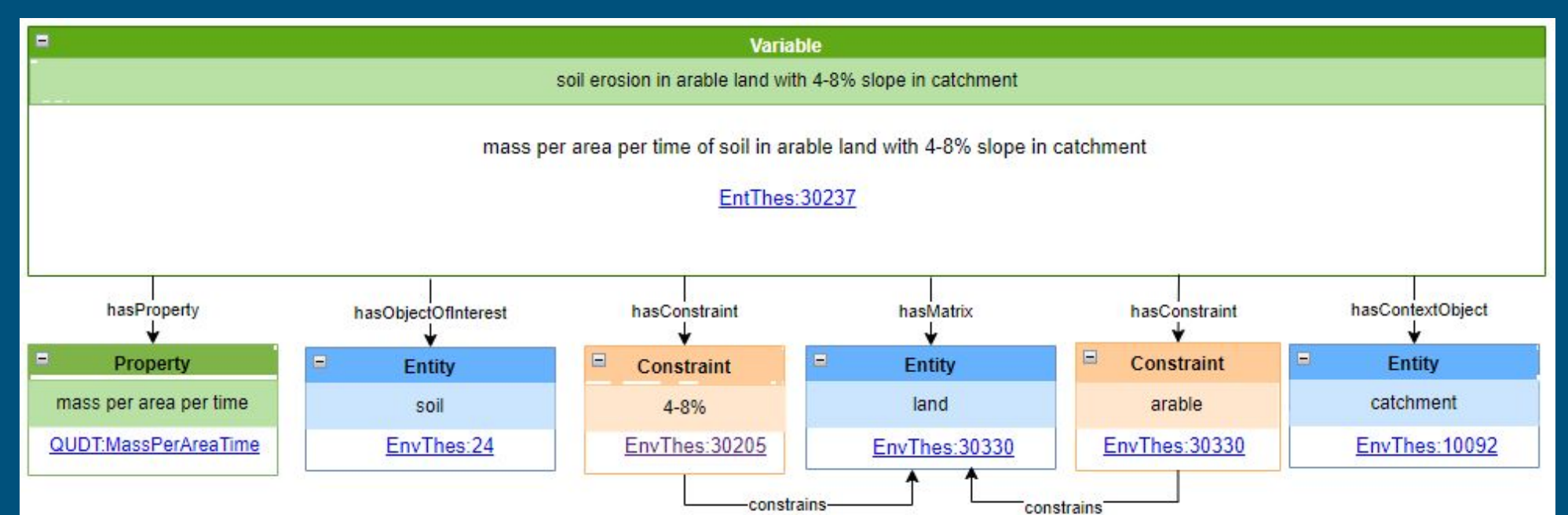
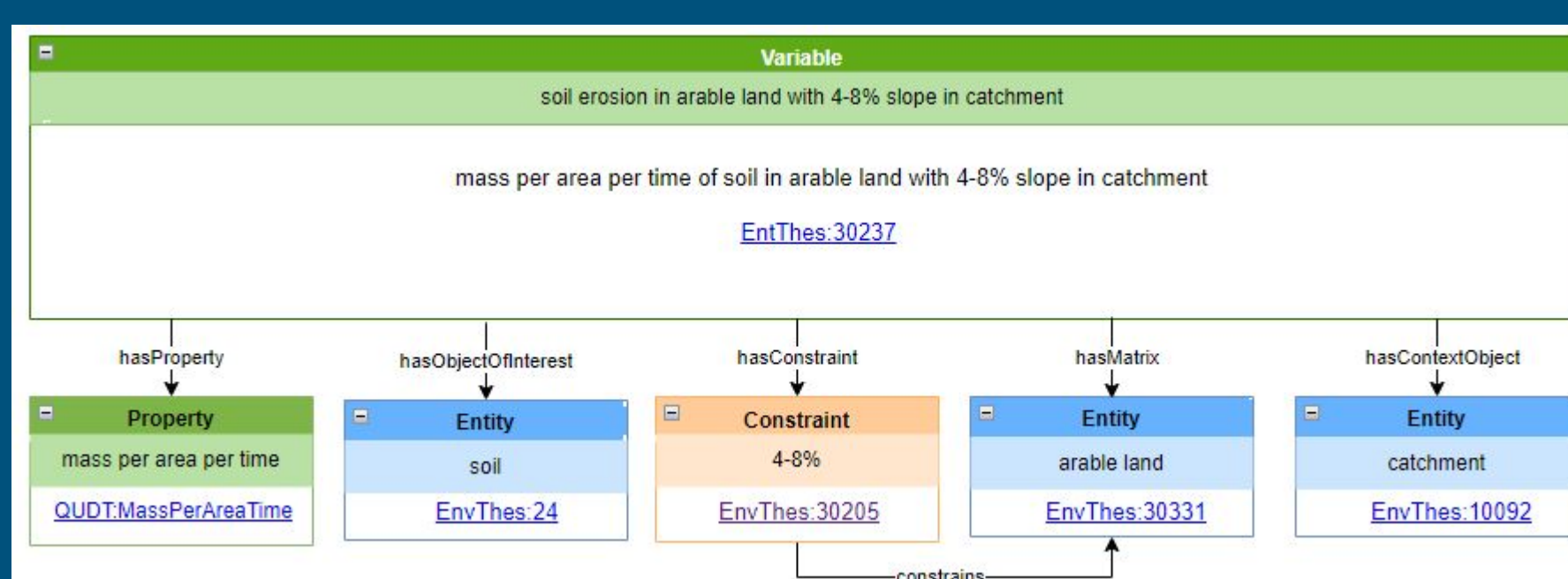


PREFERRED TERM	concentration of total phosphorus in horizon A
TYPE	Variable
DEFINITION	concentration of all phosphorus fractions (total soluble phosphorus and particulate phosphorus) in soil horizon A
BROADER CONCEPT	total phosphorus content
CREATOR	0000-0003-2195-3997
HASCONSTRAINT	total
HASCONTEXTOBJECT	soil sample
HASMATRIX	A horizon
HASOBJECTOFINTEREST	phosphorus
HASPROPERTY	<a href="http://quod.org/vocab/MassConcentration">http://quod.org/vocab/MassConcentration</a>
URI	<a href="http://vocabs.lter-europe.net/EnvThes/30200">http://vocabs.lter-europe.net/EnvThes/30200</a>
DOWNLOAD THIS CONCEPT:	RDF/XML TURTLE JSON-LD

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Terms for the atomic parts can be defined with SKOS thesauri, but should be mapped to reference ontologies.

## Possible implementation variants:



The component 'arable' can be modelled either as a narrower concept of land (arable land) or as a constraint

## Implementation recommendations under exploration:

- How to make sure that different implementation variants are interoperable?
- How to reuse reference terminologies (like CHEBI, ENVO) for component descriptions?
- How to use design patterns for the decomposition of variable descriptions?
- Which tools are needed to support researchers to annotate their data with the I-ADOPT Interoperability Framework?
- How to describe a measurement that contains multiple (scalar) observations that need to stay connected?
- How to decompose a variable if there is more than one matrix?

We will be discussing these implementation challenges at the IDW2023:  
Oct 25, 17.45-20.00 CET  
Room 57, University of Salzburg, Universitätsplatz 1, Salzburg

