Water Health Open Knowledge

Co-financed by the Connecting Europe Facility of the European Union

Pattern-based design for modelling an ontology network in the water and health domains

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Global issues require open data models

The UN Sustainable Development Goals

https://sdgs.un.org/goals

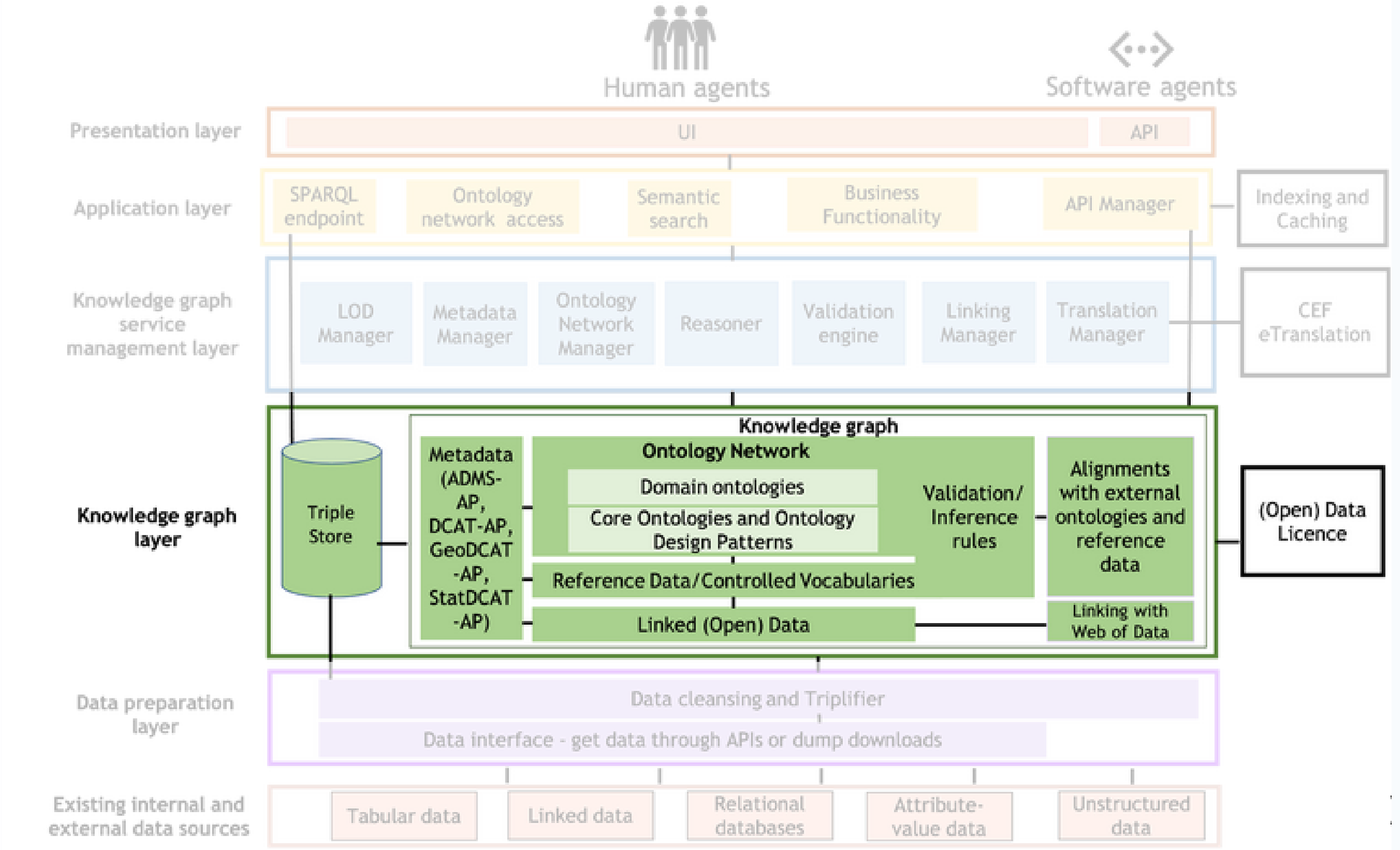
Project and objective

Create the first European open distributed knowledge graph aimed at linking, using a common semantics, data on water consumption and quality with health parameters.

WATER AND HEALTH DATA CHALLENGES

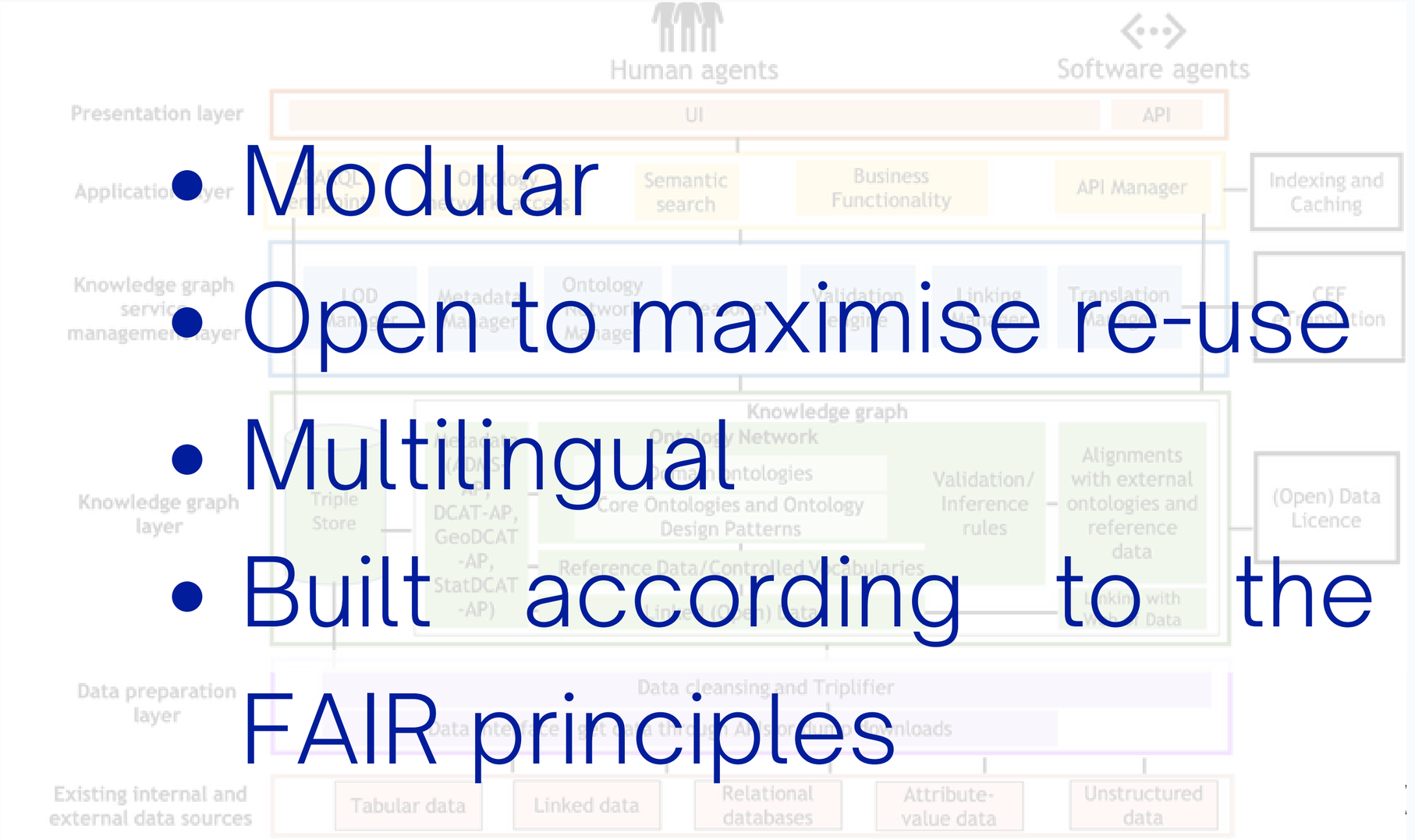
- Missing data
- Closed data
- Heterogeneous data
- Knowledge FAIRification

Ontology network

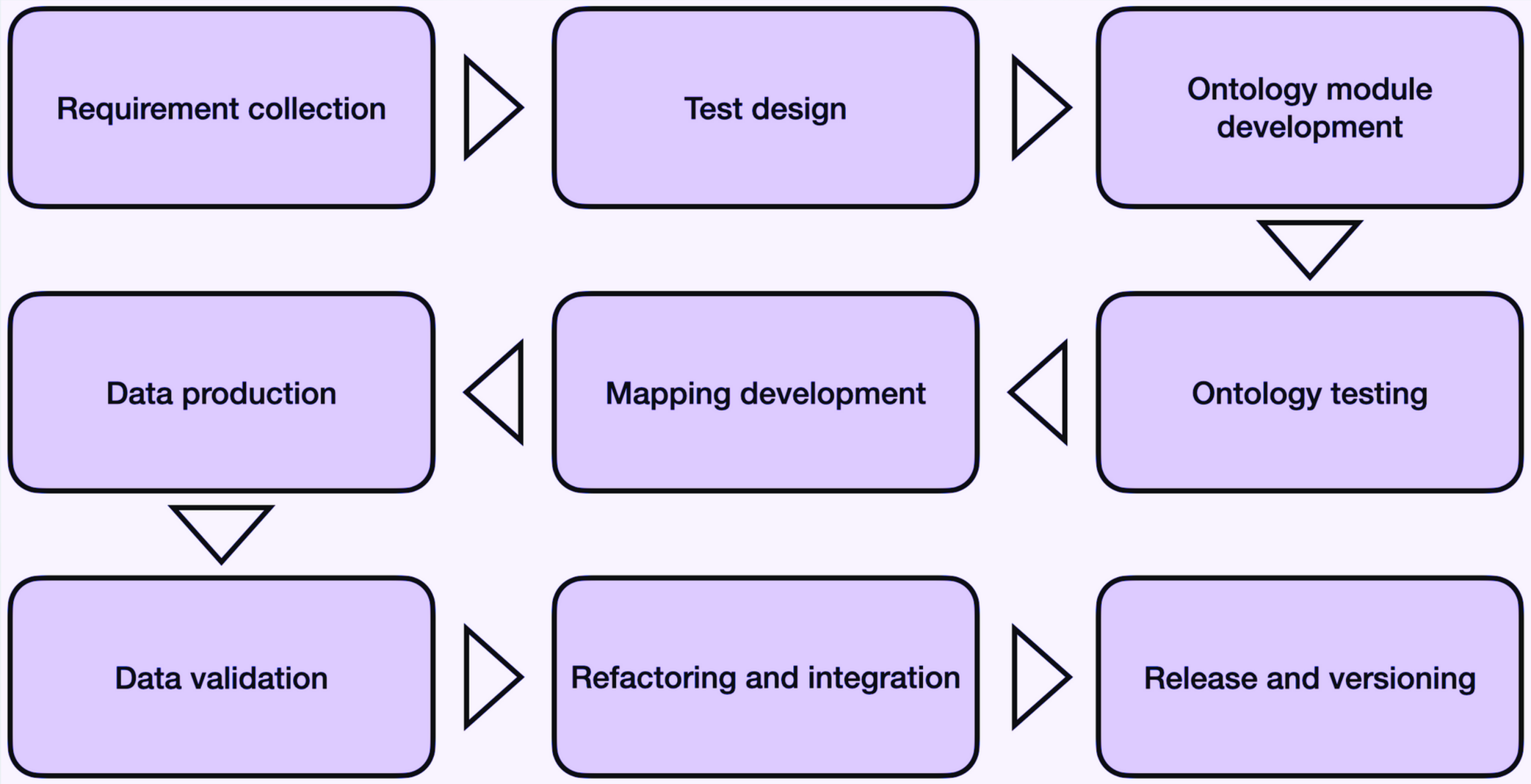


Ontology network

- Modular
- Open to maximise re-use
- Multilingual
- Built according to the FAIR principles

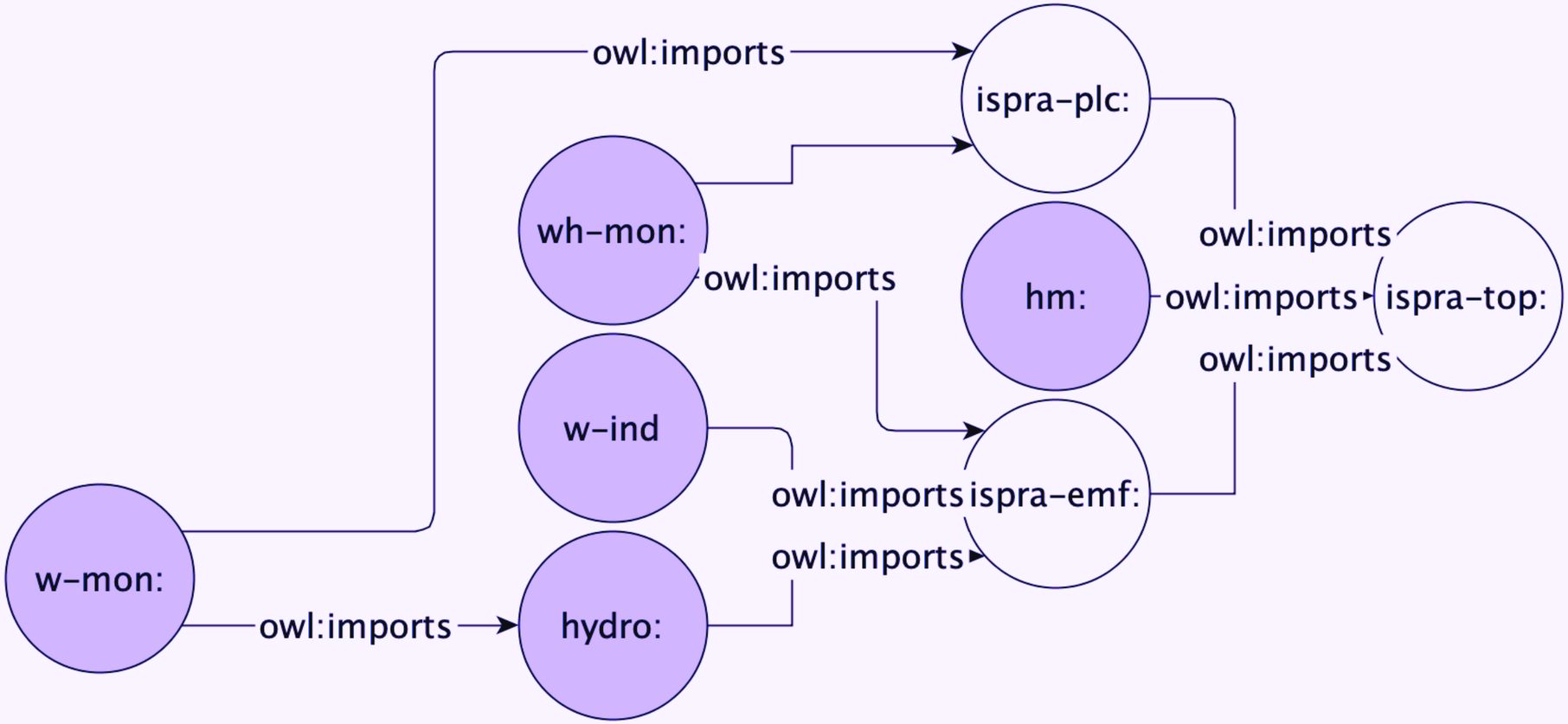


Method: eXtreme Design



Valentina Presutti, Enrico Daga, Aldo Gangemi, and Eva Blomqvist. 2009. EXtreme design with content ontology design patterns. In Proceedings of the 2009 International Conference on Ontology Patterns - Volume 516 (WOP'09). CEUR-WS.org, Aachen, DEU, 83–97.

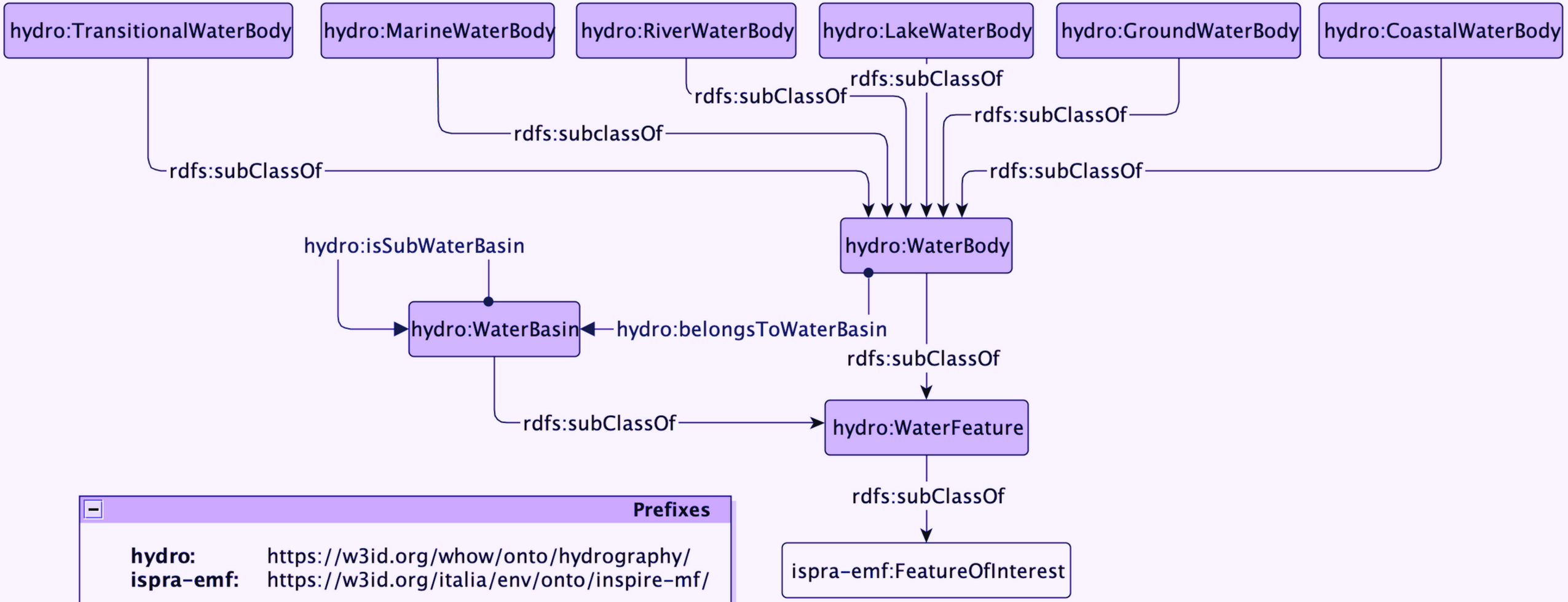
Ontology network



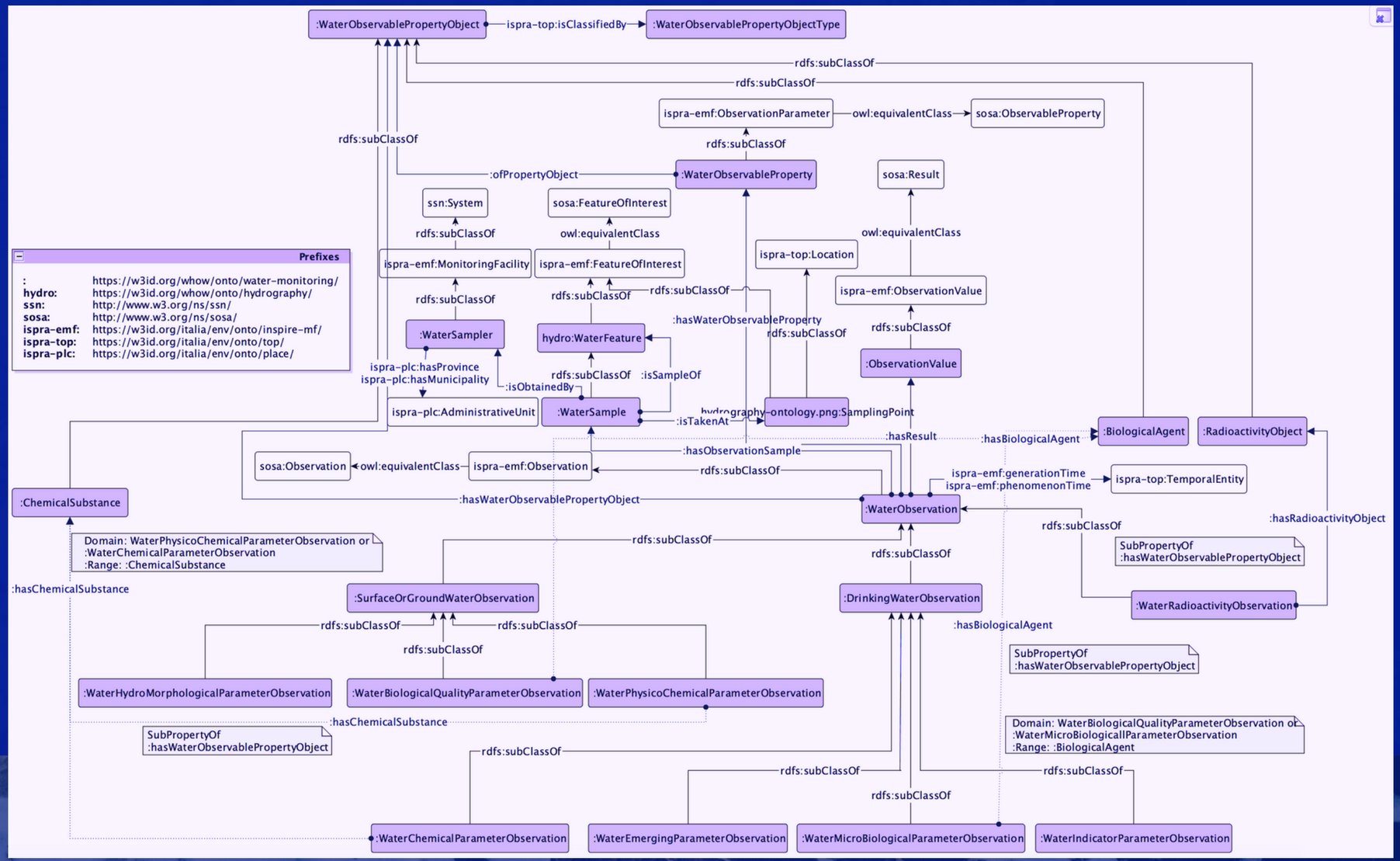
Prefixes

ispra-top:	https://w3id.org/italia/env/onto/top/
ispra-emf:	https://w3id.org/italia/env/onto/inspire-mf/
ispra-plc	https://w3id.org/italia/env/onto/place/
hm:	https://w3id.org/whow/onto/health-monitoring/
hydro:	https://w3id.org/whow/onto/hydrography/
w-ind:	https://w3id.org/whow/onto/water-indicator/
w-mon:	https://w3id.org/whow/onto/water-monitoring/
wh-mon:	https://w3id.org/whow/onto/weather-monitoring/

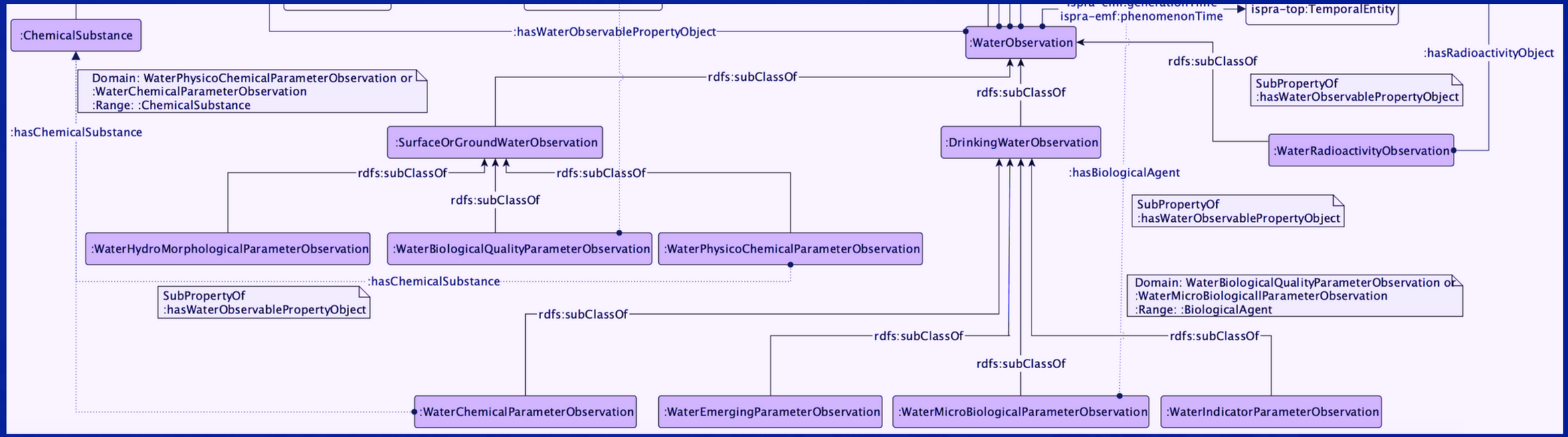
Hydrography ontology



Water Monitoring ontology

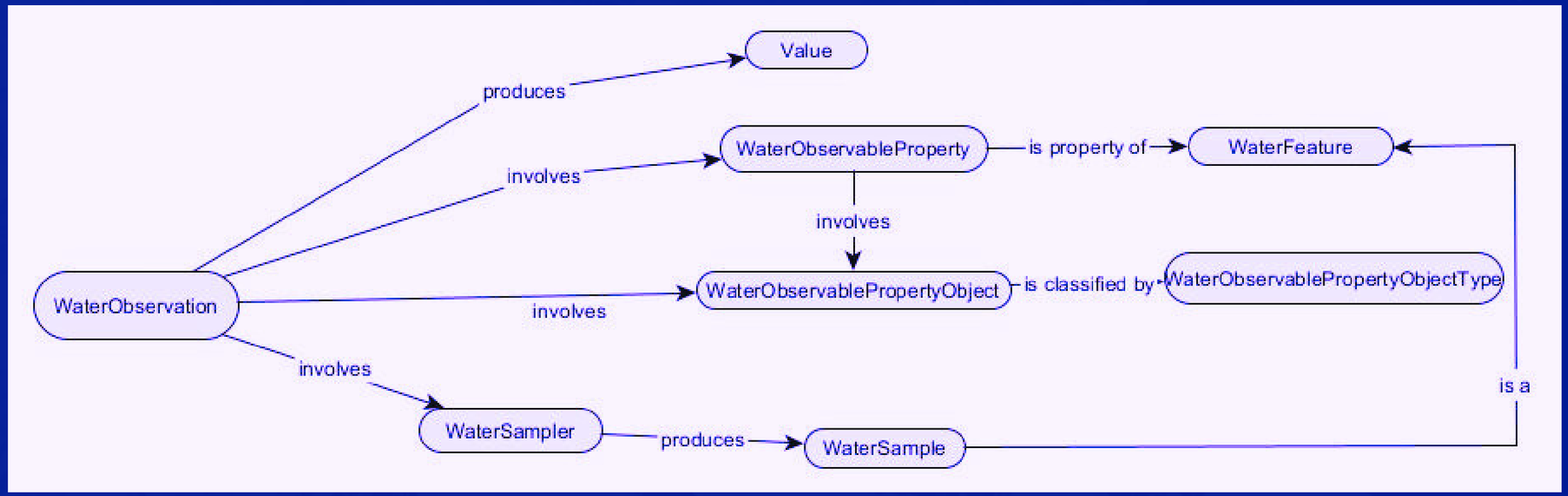


Water Monitoring ontology



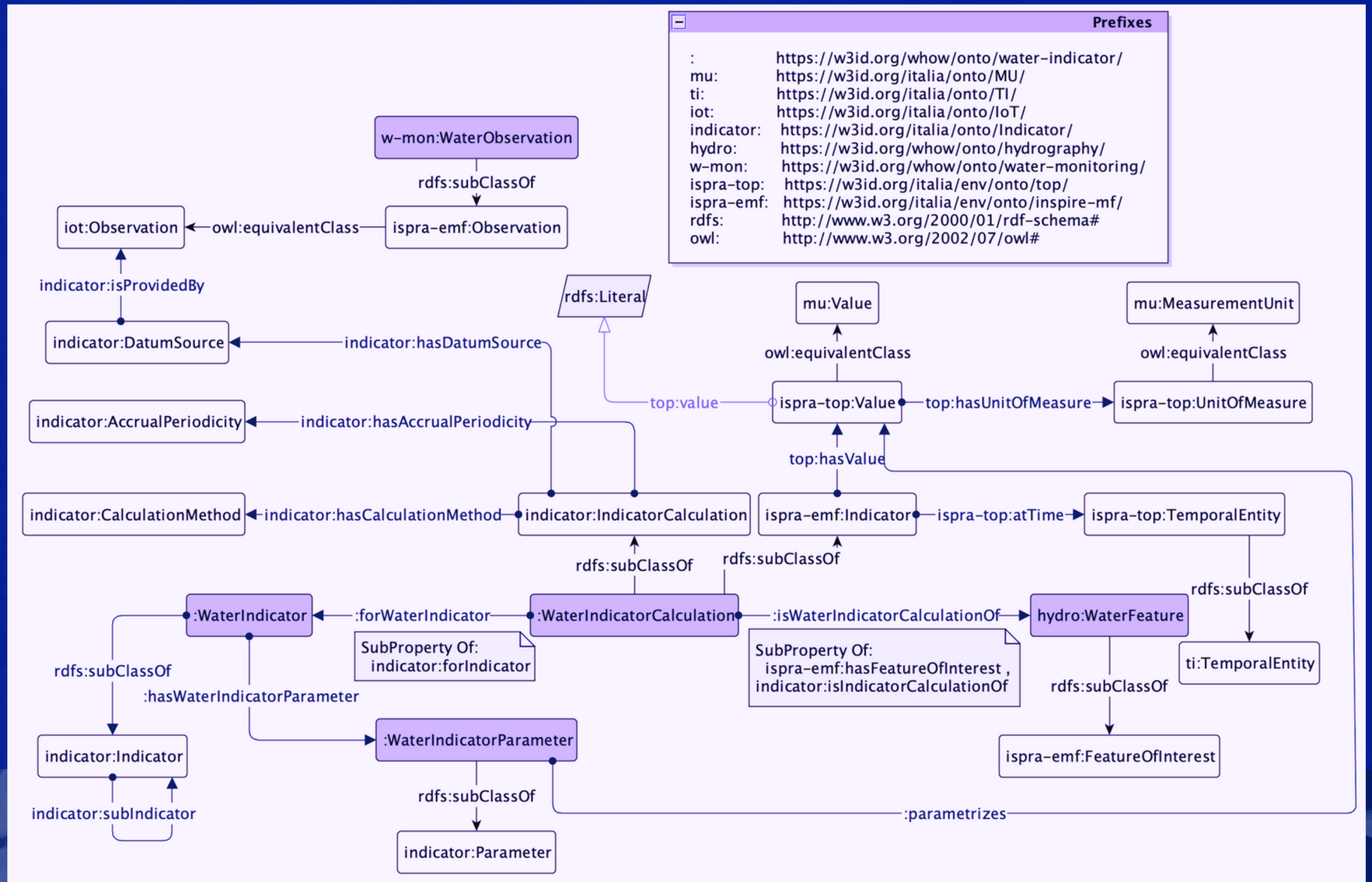
Water observations

Water Monitoring ontology

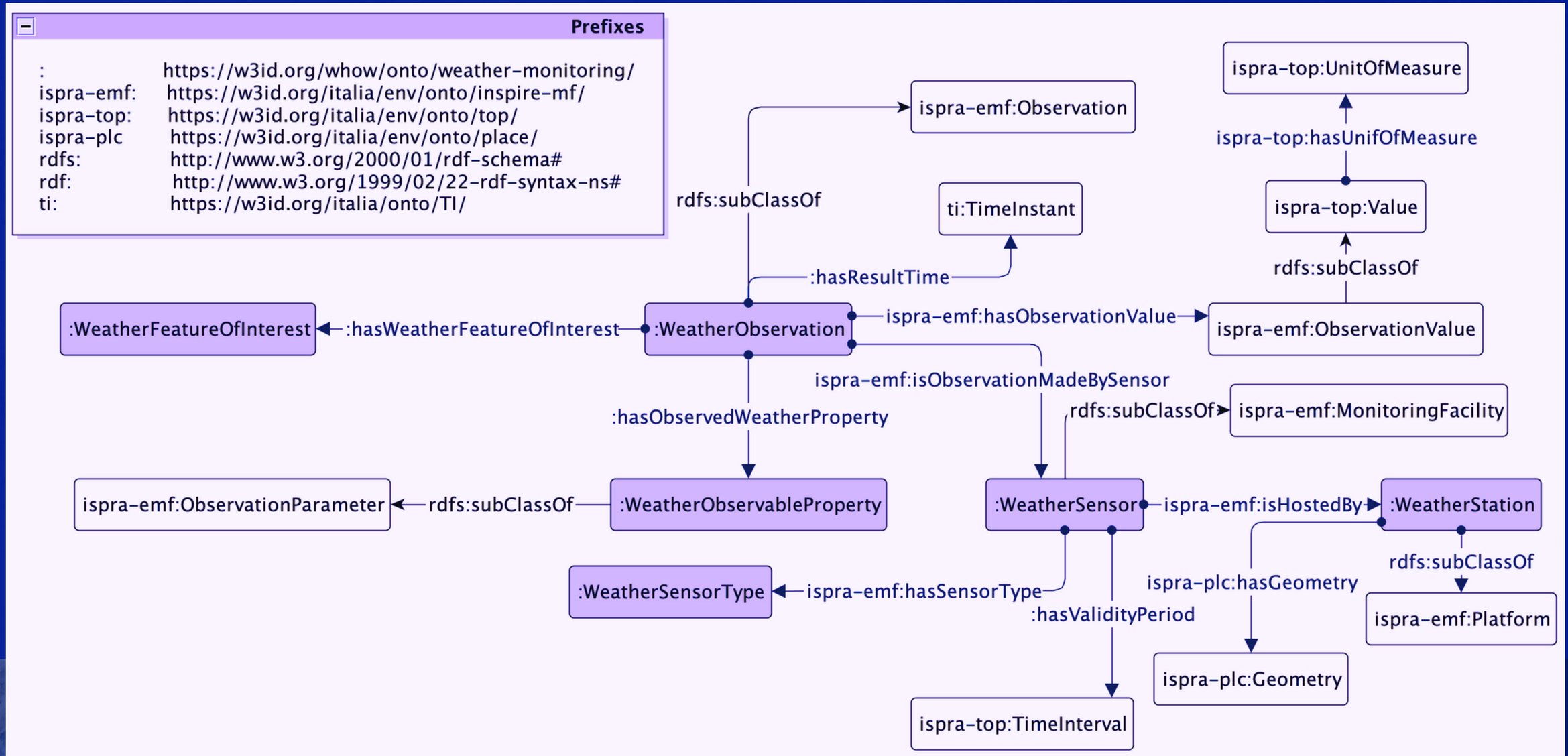


Conceptualization of observable properties and related objects

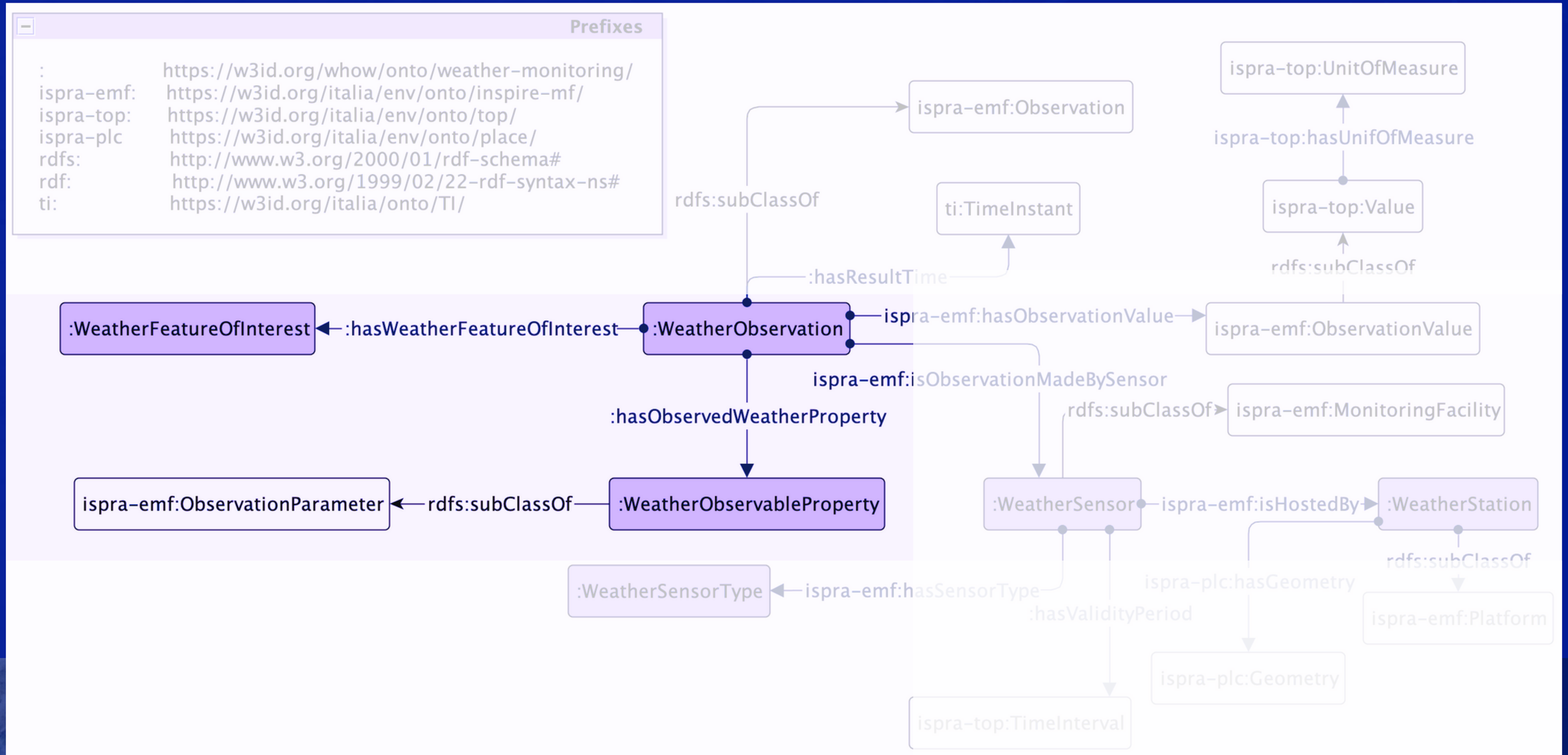
Water Indicator ontology



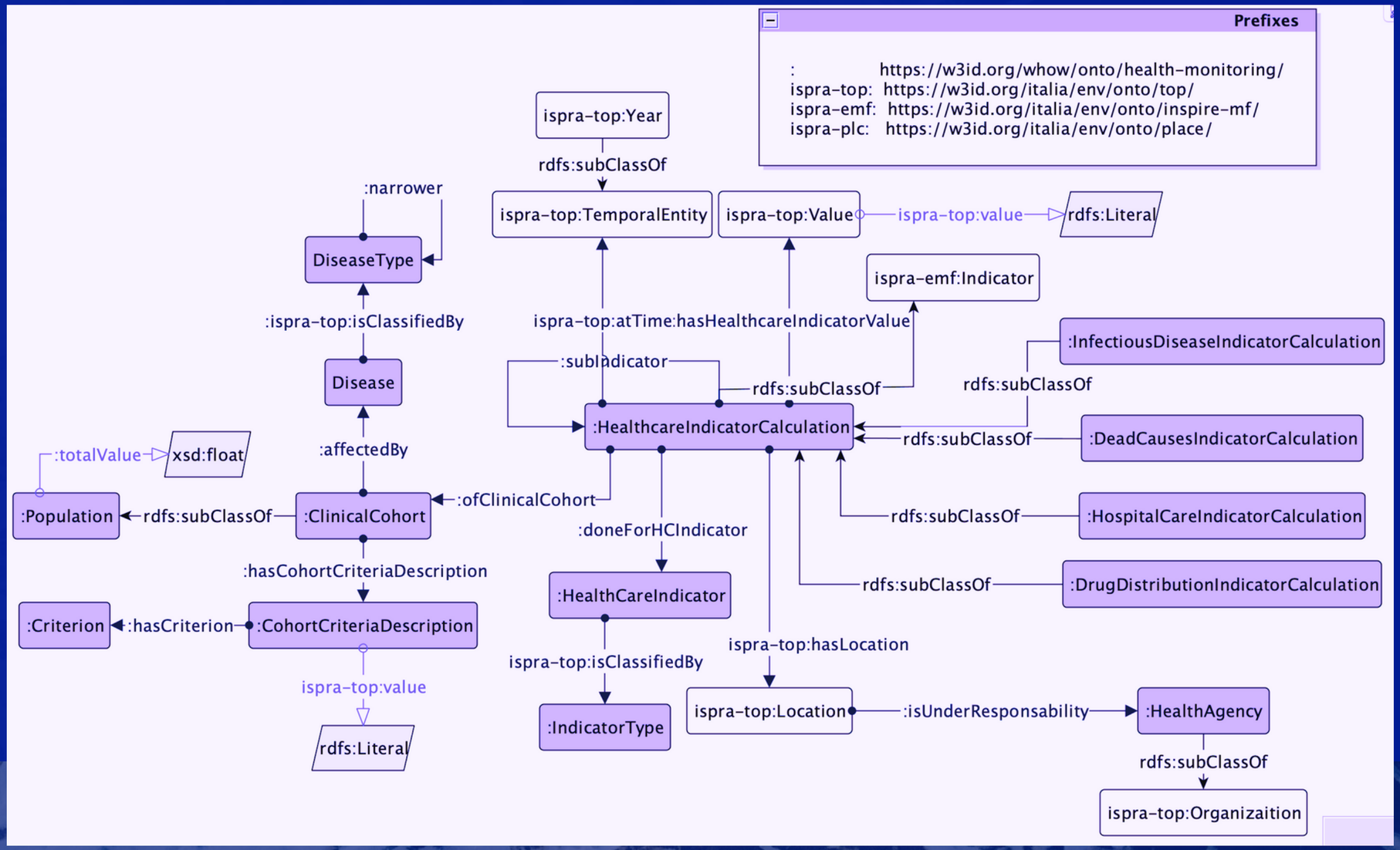
Weather Monitoring ontology



Weather Monitoring ontology



Health Monitoring ontology



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For more information

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