

Some GWML2 implementations in Europe

Sylvain Grellet – BRGM (& OFB)



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Deployment for the French Groundwater Information Network*

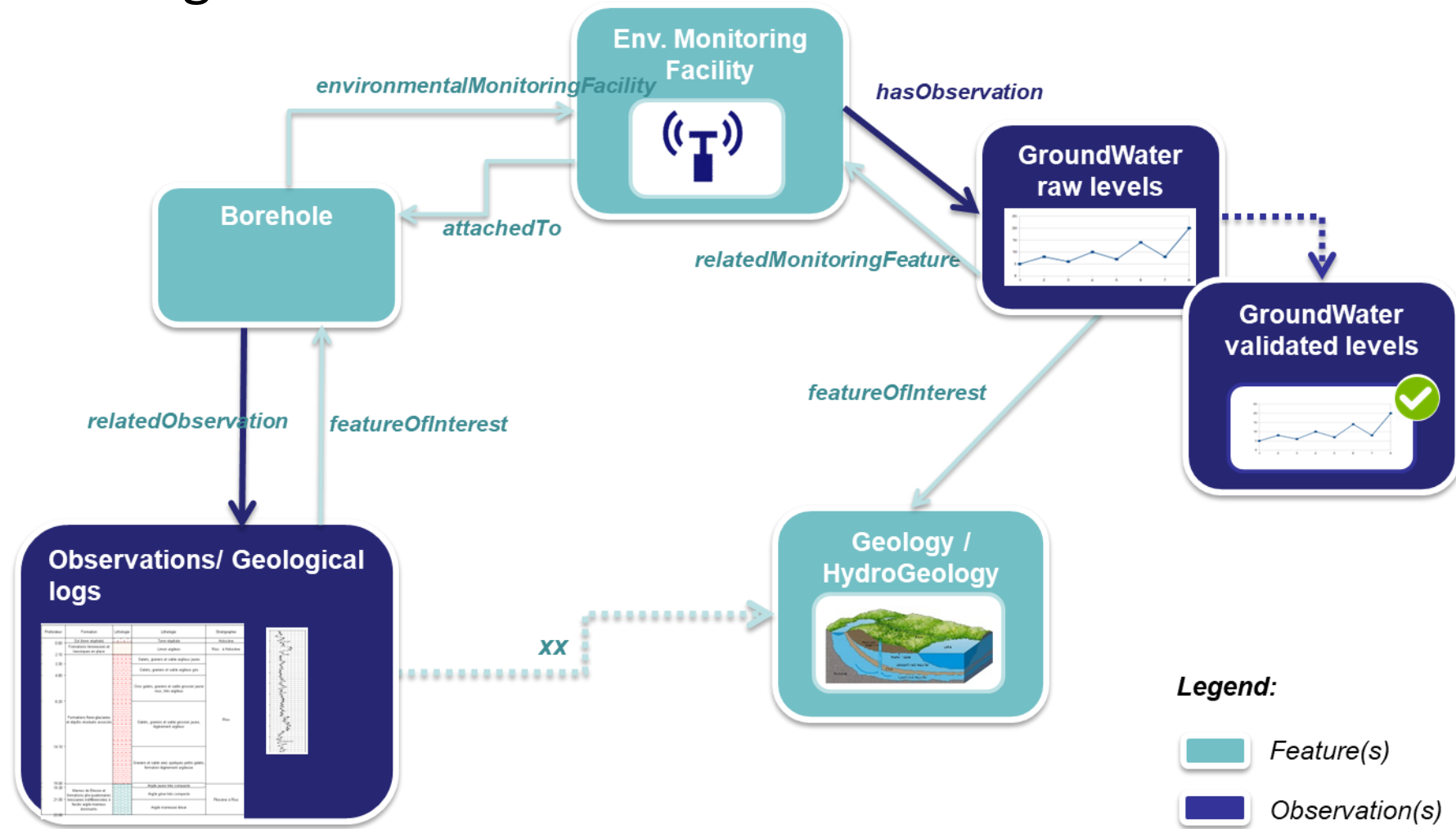
1°/ French Groundwater Information Network (GIN) data according to GWM2

Context

- 1 real world feature which “point of truth” is in one national database according to national French specifications
- Exposed according to different exchange scenarios
- Rationale: assign one URI per feature & return the representation that suits the tool (according to interoperability standards)

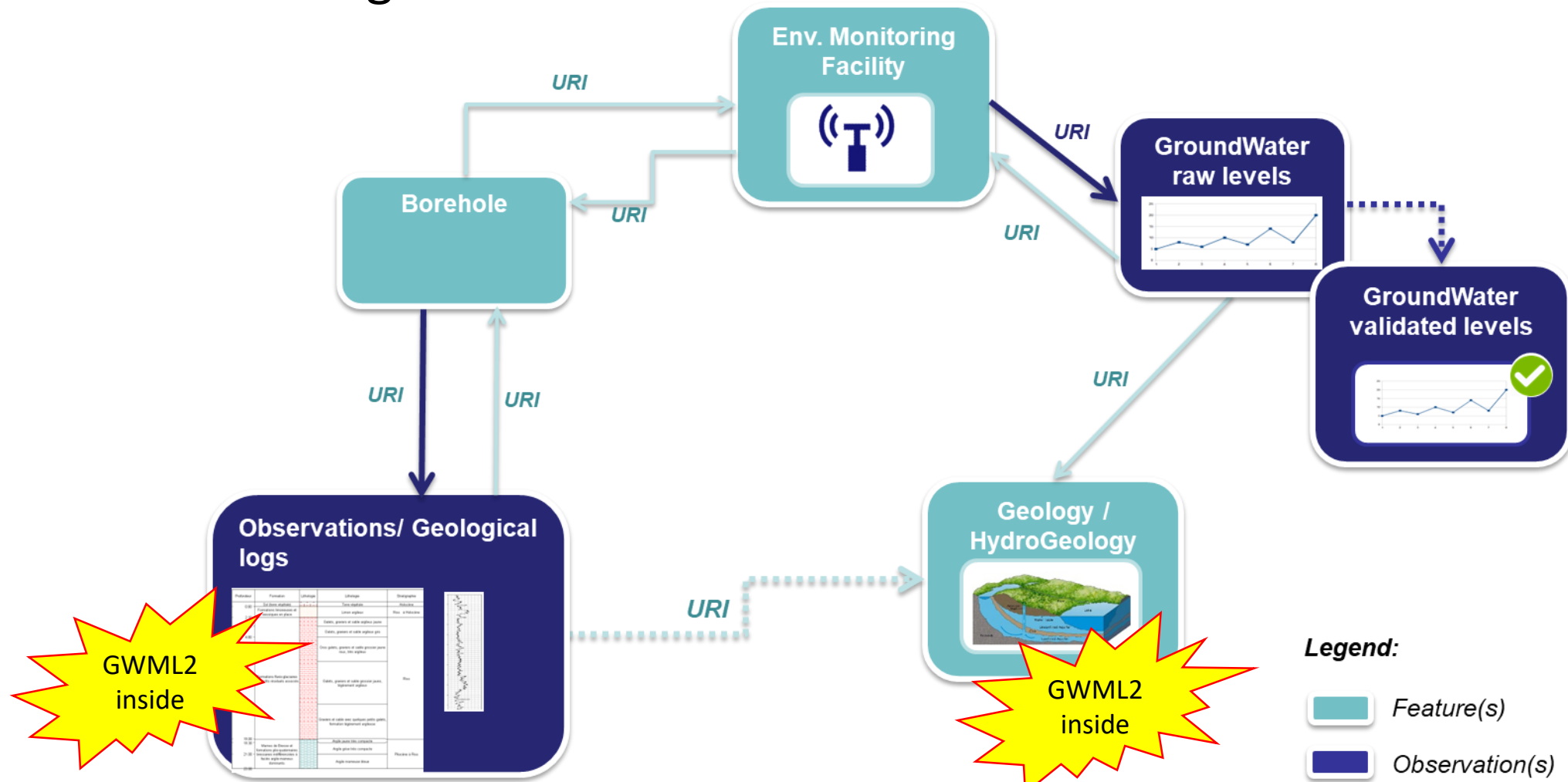
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1°/ French GIN data according to GWM2



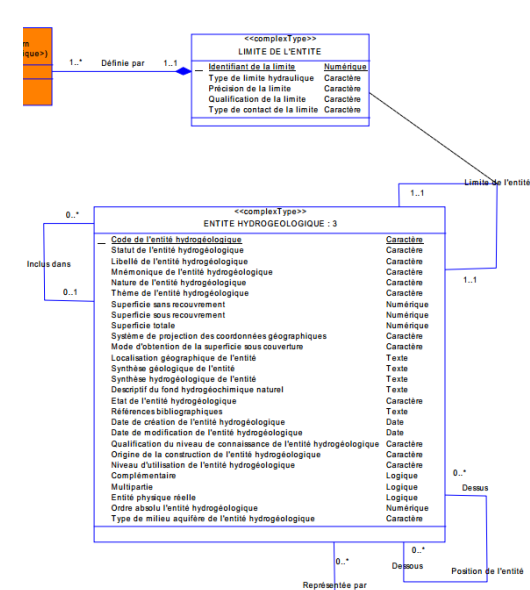
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1°/ French GIN data according to GWM2



Deployment for the French Groundwater Information Network

1°/ French Aquifers according to GWM2



Mapped

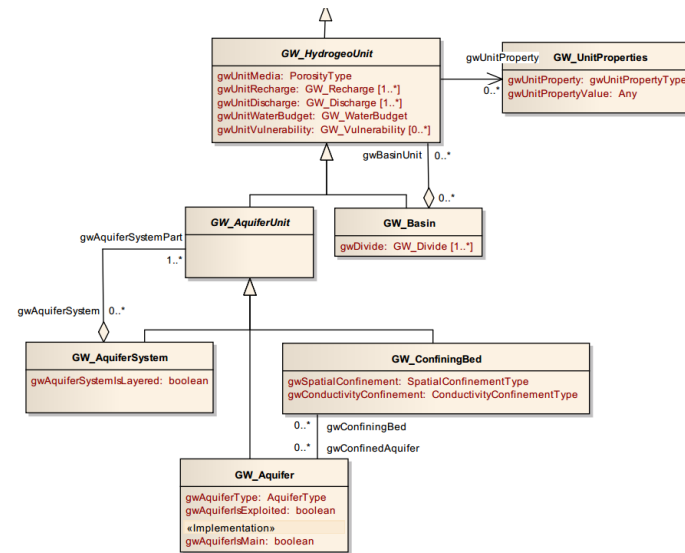
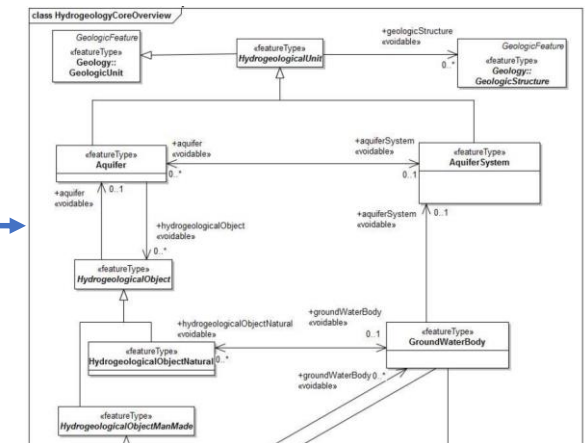


Figure 3: GWML2 CM - Hydrogeological Unit.

Aligned in
GWML2 spec
validated for
INSPIRE



French Sandre

GroundWaterML2.0

INSPIRE Hydrogeology

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2°/ « Geo data » Use Case

- Recipe applied to the data graph
 - 100% guaranteed on OGC & INSPIRE specs and API back in 2018
 - Xsd compliant GML
 - Served by WFS and SOS
 - And a touch of Linked Data to link feature instances
- Resources
 - https://plugins.qgis.org/plugins/gml_application_schema_toolbox/
 - [https://github.com/BRGM/gml_application_schema_toolbox/tree/master/docs/presentations/2018 INSPIRE conference](https://github.com/BRGM/gml_application_schema_toolbox/tree/master/docs/presentations/2018_INSPIRE_conference)
- Target
 - Having this rationale ported to new OGC APIs and the 'JSON' family for payload⁶

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2°/ « Geo data » Use Case : demo in desktop GIS QGIS with the 'QGIS GML Application Schema Toolbox'

- Video

[https://github.com/BRGM/gml_application_schema_toolbox/tree/master/docs/presentations/2018 INSPIRE conference](https://github.com/BRGM/gml_application_schema_toolbox/tree/master/docs/presentations/2018_INSPIRE_conference)

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3°/ Web of Data Use Case

- Recipe applied to the data graph
 - 100% based on Linked Data & Semantic Web best practices
 - Semantic based on OGC models but turned into lightweight ontologies
 - And a hint of OGC services to expose data
 - Mixture of static JSON-LD files and OGC WFS & API features (payload in JSON-LD)
- Resources
 - https://opengeospatial.github.io/ELFIE/demo/surface_groundwater_network_interaction
 - https://opengeospatial.github.io/ELFIE/demo/groundwater_monitoring
 - <https://github.com/opengeospatial/GeoSciML>
 - <https://docs.geoserver.org/latest/en/user/community/features-templating/index.html>
- Target : from ProofOfConcept to production

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3°/ Web of Data Use Case : demo in a Linked Data aware web client

- Videos

- https://opengeospatial.github.io/ELFIE/demo/surface_groundwater_network_interaction_video_1.mp4
- https://opengeospatial.github.io/ELFIE/demo/surface_groundwater_network_interaction_video_2.mp4

EU Research Infrastructure EPOS

Geological Information and Modeling community reuse of GWML2 GW_GeologyLogCoverage for Borehole Logs

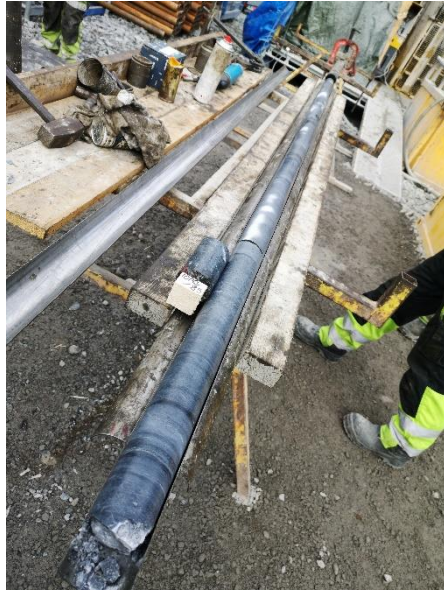
- Recipe
 - Being deployed by each partner : geological survey, GFZ and UU-SE on (International Continental Scientific Drilling Program – ICDP – & International Ocean Discovery Program – IODP – boreholes)
- Resources
 - Instances example and GeoServer configuration
<https://gitlab.brgm.fr/brgm/epos/epos-tcs-gim>
- Target
 - All partners exposing their logs accordingly
 - Generic clients set up on top



EU Research Infrastructure EPOS



+



+ many other info

-- into -->

-- into -->

-- into -->

```
<gml2:Gml GeologyLog gml:id="SD-5054_1_A-geollog">
  <com:phenomenonTime xlink:href="http://www.opengis.net/def/nil/OGC/0/missing"
    xlink:title="missing"/>
  <com:resultTime xlink:href="http://www.opengis.net/def/nil/OGC/0/inapplicable"
    xlink:title="inapplicable"/>
  <com:procedure
    xlink:href="http://dbpedia.org/describe?url=http%3A%2F%2Fdbpedia.org%2Fresource%2FGeologist&distinct=1"
    xlink:title="manual logging by geologist"/>
  <com:observedProperty
    xlink:href="http://inspire.ec.europa.eu/codelist/LithologyValue"
    xlink:title="lithology"/>
  <com:featureOfInterest xlink:href="http://igsn.org/ICDP5054EHM1001"
    xlink:title="IGSN: ICDP5054EHM1001"/>
  <com:result><swe:DataArray id="SD-5054_1_A-geollog-data">
    <swe:elementCount>
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        <swe:value>4312</swe:value>
      </swe:Count>
    </swe:elementCount>
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      <swe:DataRecord id="SD-5054_1_A-geollog-datarecord">
        <swe:field name="SectionunitID">
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            <swe:description>Expedition_Site_Hole_Core_Section_Unit according to ICDP
              terminology</swe:description>
          </swe:Category>
        </swe:field>
        <swe:field name="Drillers-from">
          <swe:Quantity
            definition="http://www.opengis.net/def/gml/2.0/observedProperty/depth"
            <swe:description>Driller s depth of the section-unit</swe:description>
            <swe:uom code="m"/>
          </swe:Quantity>
        </swe:field>
        <swe:field name="from">
          <swe:Quantity
            definition="http://www.opengis.net/def/gml/2.0/observedProperty/depth"
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            <swe:uom code="m"/>
          </swe:Quantity>
        </swe:field>
        <swe:field name="lithology">
          <swe:Category
            definition="http://dbpedia.org/describe?url=http%3A%2F%2Fdbpedia.org%2Fresource%2FLithology"
            <swe:description>Lithological type of the section-unit</swe:description>
          </swe:Category>
        </swe:field>
      </swe:DataRecord>
    </swe:DataArray>
  </com:result>
</gml2:Gml GeologyLog>
```

Describing log by reference to pre-existing binary file formats

Borehole VS Well discussion that lead to OGC 19-075r1 'Borehole Interoperability Experiment'

Thank you



Thank you!



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