



## **GeoSciML v2: an interchange and mark-up language for geologic information**

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GeoSciML was released in 2006 as a data transfer standard for geoscience. The scope of GeoSciML is the information generally shown on geological maps along with some observations, in particular those made using boreholes. Following further testing and use-case analysis GeoSciML v2 has recently been released incorporating enhanced representation of geologic units, earth materials, structures and associated vocabularies. The model utilizes the XML-based Open Geospatial Consortium (OGC) Geography Markup Language (GML) for spatial information, and Observations and Measurements markup schema (O&M) for field and lab observations, including boreholes.

In the GeoSciML conceptual model, 'mapped features,' which represent occurrences such as a polygon or curve on a geologic map, are specified by a 'geologic feature,' which is a typed description of an entity analogous to a 'legend item' on a map. The two main types of geologic feature modelled are geologic units and geologic structures. GeoSciML also includes a structure for controlled concepts that may be defined in terms of normative geologic features, GeoSciML earth material descriptions, or an entity from some other schema. Controlled concepts can be built into geologic vocabularies, such as stratigraphic lexicons, and are used as the basis for classification.

GeoSciMLv2 has been proven in an OGC web services compliant testbed comprising services from 10 geological surveys worldwide. Testbed services and products include Web Mapping Services (WMS) and Web Feature Services (WFS) serving data in GeoSciML v2 form; catalog and vocabulary services, and metadata for such services; registers of vocabularies; and clients capable of using, querying and rendering such services.

The paper will describe the GeoSciML v2 resources available and how to obtain them. These include the schema representation in UML and W3C XSD, documentation describing the schema and how to use it, and example data files.