

Geological maps can be seen as a type of model and can be implemented in digital systems as geological spatial databases. In this context, geological map fusion can be implemented at different levels: harmonization of the conceptual data model describing the map objects; the use of shared concepts to describe properties in the model to give semantic harmonization; and ensuring geometric consistency. GeoSciML has been developed as an interchange language for geosciences information, derived from a common conceptual data model, along with common vocabularies of concepts to populate the object properties. GeoSciML and the vocabularies were used in the OneGeology-Europe project where a 1:1 million scale geological map of Europe was delivered using disseminated web services from 20 different data providers. The lessons learnt from the OneGeology-Europe project informed the development of the INSPIRE Geology Data Specification. The INSPIRE data specification is used to define what information must be made available through web services under the INSPIRE legislation, so has to be kept simple. The INSPIRE data model can be extended with GeoSciML and will provide a basis for geological map fusion.