



## **Linking data for geological mapping process and knowledge sharing**

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Several national geomapping projects have been developed for the creation of continuous geological maps that cover the whole national territory of several countries (e.g. CARG project in Italy, DNF in UK).

However, the lacking of an adherence to the paradigm of controlled vocabularies has limited the sharing of data and has introduced inconsistencies and ambiguities on the terminological labelling of entities (geological concepts and features).

In the recent decades, there has been an effort for the creation and encoding of controlled vocabularies, the publication of standards, and the maintenance of stable terminological sources (IUGS-CGI GeoSciML, INSPIRE Data Specification on Geology).

Here we present an approach based on computational ontologies for the deployment of a suitable database structure in the geomapping process. The presentation, based on the major tenets of an ontology for the geosciences named "OntoGeonous", will describe the process of designing the database structure through the constraints of the ontological framework and a novel method of data input for the field survey. Applications to specific case study are given through the implementation in a GIS software.