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How standard development is critical for geoscience in the global open science arena

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ABSTRACT DETAILS

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Abstract Title:**How standard development is critical for geoscience in the global open science arena**

Abstract:

Science is based on data collection, analysis and interpretation. Where standard deterministic approaches are still the core of many science domains, the big data and Artificial Intelligence tool now provide powerful tool for a richer use of data. Today open science defines the conditions of sharing science data through FAIR principles, but in order to ensure an optimal processing of data in complex workflows, data must be “machine readable”. This condition can only be achieved with a high level of exigence for proper description of data, technical and semantic interoperability, based on open standards, and implemented in research data infrastructures. Europe is implementing the EOSC (European Open Science Cloud) strategy to build upon disciplinary data infrastructures connected in an open cloud. With the support of the International Science Council (ISC/CODATA), other continents are developing similar approaches that will permit to address some of the big challenges of science (climate change, health and environment, urban ecosystems,...) which requires different disciplines to operate together. Geosciences have obviously an important role to play in those big challenges. Since more than 15 years, geoscientists have developed open standards for interoperability through IUGS/CGI and OGC in particular. To extend the use of their data in cross-disciplinary projects, it is therefore crucial that geoscientists remain at the forefront of standard development and extend their cooperation with others standardization bodies such as W3C (standards for linked open data) or BSi (BIM standards for built environment).