

Integrative Research: The EuroGEOSS Experience

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Abstract: The implementation of the INSPIRE Directive in Europe and similar efforts around the globe to develop spatial data infrastructures and global systems of systems have been largely focusing on the adoption of agreed technologies, standards, and specifications to address the interoperability challenge. However, addressing the key scientific challenges of humanity in the 21st century requires a more comprehensive integrative research effort, which in turn may pose more complex requirements on the systems to be integrated, and increase the number of arrangements required to support them. This paper analyses the main challenges related to integrative interoperability, such as mutual understanding of requirements and methods, theoretical underpinning, and tacit knowledge. To illustrate our contribution to the integrative research, the paper proposes the flexible approach to interoperability, based on mediation and brokering, that has been implemented by the EuroGEOSS research project. It also demonstrates that this approach allows scientific and non-scientific stakeholders to overcome the increased complexity of the integration effort mentioned above and charts the trajectory for the evolution of current spatial data infrastructures.

keywords: {Europe;Geoscience and remote sensing;Global Earth Observation System of Systems;Research initiatives;Geographic information systems;geoscience and remote sensing;integrative research;research initiatives;}

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