Interdisciplinary Approaches for Decision-making Information Across Forestry, Biodiversity and Drought

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Issues such as climate change and its impacts need to be addressed through multi-disciplinary collaboration and analyses. Ultimately, this requires the ability to integrate data and information across scientific domains. Euro-GEOSS, an EC-sponsored FP7 project, is addressing and demonstrating interdisciplinary collaboration through an initial operating capability (IOC) for a European Environment Earth Observation System in the three strategic areas of drought, forestry and biodiversity. The challenge is that many times each domain has its own language, geospatial protocols and modeling approaches. Recognizing this, EuroGEOSS has implemented a brokering service that allows finding and accessing data from a wide range of standards and domain-specific practices. This makes it possible to access and re-use not just data but also analytical models formalized in workflows, and made executable through Web Processing Services.

The paper presents some of the functionalities under development by EuroGEOSS, with the possibility to find and access data and models for drought, forestry, and biodiversity in Europe. This is addressed first through consolidation of information within domains. Then, through a case-study in Spain, the cross-domain implications will be examined where the combination of global, European, and local data sources in the three domains makes it possible to address scientific questions at the intersection of the three thematic areas in novel ways. The paper will also present the impact of advanced services through an assessment of societal benefits of the extended information availability.