The next generation of Web-based Earth Observation System

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Abstract:

Earth Observation Systems (EOS)are going through big changes, moving from a local to a global scale.The goal of many EU projects, in agreement with the Horizon 2020 goals, is to increasethe exchange and collaborations among scientific communities sharing same goals. Within the SUPREME and TESTARE projects, one important objective is to support and improve the development of the next generation of EOS by merging model based analysis and earth observations. 2 different applications are currently being developed: SWATAPP and ODM APP.

SWATAPP exposes SWAT I/O on a web based user-friendly environment. The system connects to SWAT data collections; visualize the data, (graphs, texts, tables) and digest SWAT simulations to produce reports. ODM APP exposes services to insert, manage and analyse Observation and Measurements (O&M). Namely Update, Insert and Delete operations are possible. The data modelis a revised version of the Observation and Data Model (ODM2). The physical schema in accordance with the ODM2 standard comprises Core, Sampling Features, Provenance, Results.

In the back end,the Alto framework (www.altoframework.com), a web based innovative low code development framework is exploited for developing and maintaining Web services, REST APIs and the Applications for data querying and sharing, processing and distributing. Through Alto, web apps can be further developed and maintained.

Keywords: Earth Observation Systems (EOS), SWATAPP, ODM APP, web apps

A Modeling Infrastructure Based on SWAT for the Assessment of Water and Soil Resources: Proceedings of the 2nd International Conference of ICT for Adapting Agriculture to Climate Change (AACC'18), November 21-23, 2018, Cali, Colombia

GROUNDWATER NUMERICAL MODEL OF THE BISKRA INFÉRO-FLUX AQUIFER (NE ALGERIA)

Black Sea Catchment Observation System as a Portal for GEOSS Community

An Interoperable, GIS-oriented, Information and Support System for Water Resources Management International Journal of Computing

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Biography:

Pierluigi Cau works at CRS4 as a researcher since 2000. His research topics are focused on computational hydrology, Geographical Information Systems and development of innovative WEB ICT tools for the management of water and soil resources. He has organized international workshops/conferences and taught advanced courses on hydrological (both superficial and groundwater) modeling at various prestigious universities. He has tutored several stagers and early stage researchers.

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