



Extending netCDF and CF conventions to support enhanced Earth Observation Ontology services: the Prod-Trees project

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Access to Earth Observation products remains not at all straightforward for end users in most domains. Semantically-enabled search engines, generally accessible through Web portals, have been developed. They allow searching for products by selecting application-specific terms and specifying basic geographical and temporal filtering criteria. Although this mostly suits the needs of the general public, the scientific communities require more advanced and controlled means to find products. Ranges of validity, traceability (e.g. origin, applied algorithms), accuracy, uncertainty, are concepts that are typically taken into account in research activities.

The Prod-Trees (Enriching Earth Observation Ontology Services using Product Trees) project will enhance the CF-netCDF product format and vocabulary to allow storing metadata that better describe the products, and in particular EO products. The project will bring a standardized solution that permits annotating EO products in such a manner that official and third-party software libraries and tools will be able to search for products using advanced tags and controlled parameter names. Annotated EO products will be automatically supported by all the compatible software. Because the entire product information will come from the annotations and the standards, there will be no need for integrating extra components and data structures that have not been standardized. In the course of the project, the most important and popular open-source software libraries and tools will be extended to support the proposed extensions of CF-netCDF. The result will be provided back to the respective owners and maintainers for ensuring the best dissemination and adoption of the extended format.

The project, funded by ESA, has started in December 2012 and will end in May 2014. It is coordinated by Space Applications Services, and the Consortium includes CNR-IIA and the National and Kapodistrian University of Athens.

The first activities included the elicitation of user requirements in order to identify gaps in the current CF and netCDF specification for providing an extended support of the discovery of EO data. To this aim a Validation Group has been established including members from organizations actively using netCDF and CF standards. A questionnaire has been prepared and submitted to the Validation Group; it was aimed for being filled online, but also for guiding interviews.

The presentation will focus on the project objectives, the first achievements with particular reference to the results of the requirements analysis and future plans.