



## **GALEON Phase 2: experimenting an interoperability framework between netCDF and the geospatial information communities**

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The OGC GALEON (Geo-interface for Air, Land, Environment, Ocean NetCDF) Phase 2 Interoperability Experiment has the primary objective to test the applicability and effectiveness of the revisions incorporated into WCS 1.1 for serving netCDF datasets.

To accomplish this objective, we expect a major contribution from testing crosswalks between standards adopted by the netCDF and Geo-Information communities. The netCDF community is characterized by the following data and metadata content and encoding models and related services: CF-netCDF extended data model; THREDDS catalog protocol and data model; OPeNDAP access protocol and data model; ncML encoding model. The Geospatial Information community adopts the content and encoding models and the related access and catalog services defined by ISO TC211 (i.e. 19100 standard series) and the Open Geospatial Consortium (OGC); among them: ISO 19123:coverage, 19115:metadata, OGC WCS protocol and data model; OGC CS-W.eBRIM protocol and data model; 19128: Web map server interface, 19136: Geography Markup Language (GML) encoding model, 19139: Metadata - XML schema implementation.

Indeed, there is a clear need to establish a solid interoperability framework between these two important communities. In fact, the netCDF community itself is really multidisciplinary – spanning several realms, including atmospheric sciences, oceanography, hydrology, etc. The Geospatial Information community is becoming more and more important in the present Internet era. In fact, access to real-time distributed geospatial

information is essential for enabling critical decision support systems; several important initiatives and projects have been launched to achieve distributed infrastructures for sharing spatial information (e.g. GEOSS, INSPIRE, GMES, NSDI, etc.). Therefore, netCDF community standards, ISO/OGC standards and the related crosswalks solutions establish a unique framework for supporting the Information Society, facilitating the provision of real time geosciences data to decision support systems.

GALEON is an international interoperability initiative. The OGC members that are acting as initiators of the Interoperability Experiment are: Unidata/UCAR, the Italian National Research Council and the George Mason University. In addition to the initiating organizations, many other international organizations will be participating in the interoperability experiment; they represent academia (e.g. International University Bremen, University of Florence, University of Alabama Huntsville, Texas A and M University), research (e.g. NASA Geospatial Interoperability Office, NERC, JPL, NCDC, PFEL) and industry (ITT Visualization, CadCorp, Interactive Instruments, ESRI).