Geophysical Research Abstracts
Vol. 13, EGU2011-13886, 2011
EGU General Assembly 2011


# A South African Platform for Data Systems: Practical Application of Standards

Wim Hugo
South African Environmental Observation Network

SAEON (http://www.saeon.ac.za) and the CSIR initiated a project in 2005 to create an extended spatial data infrastructure, named CoSAMP. The scope of implementation was ambitious, and a scaled-down version (CoGIS) was launched in the subsequent year for implementation in SAEON and in CSIR. This platform was subsequently extended, commencing in 2008, to align it with a multi-year platform development plan conceived by SAEON and the CSIR. This plan took due cognisance of a comprehensive user requirements survey conducted in 2008.

By mid-2009, these initial extensions, allowing the platform to accommodate a variety of popular and widely used meta-data standards, was completed and put into production. The platform is based on a shared and aggregated meta-data repository, capable of working with a range of well-established meta-data standards. These include Dublin Core, SANS 1878, the ISO 19115 family, EML, and FGDC. The list is likely to be extended from time to time to accommodate other standards in widespread use by a user community or new provider.

The shared platform currently hosts the SAEON2 Data Portal, The South African Risk and Vulnerability Atlas3, the South African Earth Observation System4 (SAEOS), the CSIR GSDI Geoportal5, and a prototype World Data Centre for Biodiversity and Human Health in Africa (WDCBHH)6. In addition, these ‘portals’ link to networks, meta-data clearinghouses, and data sharing initiatives, and are likely to result in a sizable repository of periodically harvested and dynamically linked meta-data catalogues, linked to data sources.

The platform and its hosted portals are designed to serve a stakeholder community as a resource for the referencing, discovery, management, and optional archiving of relevant data sets and information objects. It also allows the composite visualization of distributed data sets, both as maps and charts, provided that access to these sets is automated and standardized, and is increasingly making use of mediation (collation of distributed data sets and their subsequent co-application). Spatial data standards currently supported include OGC services (WMS and WFS), KML, GeoRSS, and NetCDF, and a recently approved project will extend this to include Sensor Web Services.

Processing of distributed data sets and the persistence of the attendant workflow definitions form part of the future work program for the shared portal. In addition, the platform is being prepared for GEOSS integration through the development of GEOSS-compliant meta-data services.

Platform infrastructure is open source, and has medium-term funding from a variety of stakeholders and sources, including DST, SAEON, the CSIR, and smaller contributors and partners. The platform is a freely available national resource and serves the scientific community, nationally and internationally, while pooling scarce resources and avoiding duplication. This is accomplished within a governance framework that accommodates systems engineering, risk management, and program management elements.

The presentation will discuss the platform architecture, governance structure, capabilities, and scope, and provide real-world examples of how standardization and service-oriented architecture assists with rapid and risk-free development of resources.