

Distributed Watershed Portals

A long-standing partnership between Kentucky Division of Geographic Information (DGI, <http://gis.ky.gov>) and the Open Geospatial Consortium (OGC) is resulting in benefits to users of geographic information in the Commonwealth of Kentucky, USA. The Kentucky Watershed Modelling Information Portal (KWMIP, <http://kwmip2.ky.gov/portal>), now in its final implementation phase, draws spatial data layers and services from DGI's geospatial clearinghouse, the Kentucky Geography Network (<http://kygeonet.ky.gov>), and retrieves water-quality information from many databases. These include the Kentucky Division of Water COMPASS system, the US Environmental Protection Agency (USEPA) Environmental Information Exchange Network (EIEN) and the US Geological Survey (USGS) Streamstats and Climate Data Generator services. KWMIP envisages providing a one-stop digital geospatial data portal for all entities and individuals performing watershed modelling over the geography of Kentucky, using datasets from their local area and in native format.

OGC standards have been crucial in knitting together access to the various federal and state databases essential to watershed modellers. Much of the mapping on the portal is done using the OGC WMS interface, while data is retrieved using a simplified version of the WFS interface. Users may see only a web-based interface to the databases, but behind the scenes such user requests are translated into OGC Web Feature Service calls and then translated once more into the native request language of the federal or state database being accessed. The KWMIP team is also providing Kentucky personnel with training and online support in watershed modelling and the proper use of models in decision making. The portal leverages significant spatial and time-series data and tools already available for Kentucky, and enables extraction of specified layers within a user-delineated boundary. Future action is being discussed that may enable this framework to become the new clearinghouse by allowing channel selection of related geographic layers, thus allowing users to download specific datasets of interest. Project participants are the Kentucky Commonwealth Office of Technology, the Kentucky Department for Environmental Protection, the US Geological Survey, and the OGC (Wayland, MA). The portal build team is comprised of ESRI (Redlands, CA), FMSM Engineers, Inc (Louisville, KY) and Sanborn Solutions (Colorado Springs, CO).

Another collaborative project is the Kentucky Landscape Census Project (KLC) Portal (<http://klcportal.ky.gov>). A NASA-funded project, this provides local and state government agencies and individuals with remote-sensing information and derivative datasets to assist decision making and monitoring of landscape change. The KLC will be an example of interoperability between data and services hosted at both local and state government locations. Participants in this effort are the Commonwealth Office of Technology, Pulaski County Property Valuation Administrator, the US Geological Survey and the Open Geospatial Consortium. The portal build team comprises OGC and Sanborn Solutions (Ann Arbor, MI). Components and services have been built under contract to OGC by Compusult (Newfoundland, Canada), ATS Inc. (Lancaster, PA), Ionic Software (Alexandria, VA), and FMSM Engineers, Inc (Louisville, KY).