



AMERICAN METEOROLOGICAL SOCIETY

91st American Meteorological Society Annual Meeting

[Start](#)
[Grid View](#)
[Browse by Day](#)
[Author Index](#)

3A.3: NWS forecast grids served via a Net-Enabled Web Coverage Service

Tuesday, 25 January 2011: 9:00 AM

606 (Washington State Convention Center)

Steven R. Olson, NOAA/NWS, Silver Spring, MD; and *M. Oberfield, M. Peroutka, and D. Gilmore*

In 2004, NOAA's National Weather Service (NWS) created a Digital Services Program to meet our customers' and partners' ever increasing need for digital weather, water, and climate services. The foundation of this program is the National Digital Forecast Database (NDFD). NDFD is a set of gridded forecasts of sensible weather elements. It contains a mosaic of digital forecasts from NWS field offices working in collaboration with the National Centers for Environmental Prediction (NCEP). A companion to NDFD is the National Digital Guidance Database (NDGD) which contains guidance forecasts in gridded formats that are interoperable with NDFD.

NDFD and NDGD offer an unprecedented opportunity for the NWS to automate, modernize, and improve products and services to meet the evolving needs of our customers and partners. Currently, users can download forecast grids that are encoded in the WMO's FM-92 GRIB Edition 2 (GRIB2). Customers and partners can also access NDFD/NDGD data that have been formatted in an NWS-specific dialect of XML via a web service that supports Simple Object Access Protocol (SOAP).

The current suite of services, however, cannot support emerging standards for the machine-to-machine exchange of geospatial data. The Federal Aviation Administration's (FAA) Next Generation (NextGen) Network Enabled Weather program has developed technologies that can be used to integrate NDFD, NDGD, and a number of other weather data sources into a 4-D Weather Data Cube. The 4-D Weather Data Cube will be a net-centric, four-dimensional (three spatial dimensions plus time) virtual database of weather information. Access to gridded forecasts in the 4-D Weather Data Cube is a two-step process for data consumers. The first step will be using the Registry/Repository (RegRep) service for data discovery. The second step is using a Web Service Descriptive Language associated with a Web Coverage Service (WCS) for data access.

We describe the RegRep and WCS services hosted by the NWS's Meteorological Development Laboratory (MDL). A number of tools and mechanisms are used to implement the Reg-Rep and WCS, including XML encoding schemes, transport protocols to exchange data with clients, and binary data formats. MDL offered a limited set of official NWS gridded forecasts as well as gridded guidance products to FAA collaborators in fall of 2010. These services will be expanded to support additional weather elements and general access during 2011.

See more of: [Communication Technologies for Accessing and Distributing Climate, Weather, and Hydrologic Data, Forecasts, and Information Part I](#)

See more of: [27th Conference on Interactive Information Processing Systems \(IIPS\)](#)

[<< Previous Abstract](#) | [Next Abstract >>](#)
