

June 23, 2014

Open Water Data Initiative Proposal and Charge for Discussion

Quantifying the availability, use, and risks to our national water resources is an effort of national importance for the present and the foreseeable future. Improving access to data and enabling open exchange of water information is foundational to identifying and understanding existing water resources issues and developing sustainable future solutions particularly in the face of climate change and unprecedented drought. To address this challenge, we are proposing a new Open Water Data Initiative that will integrate currently fragmented water information into a connected, national water data framework and leverage existing systems, infrastructure and tools to underpin innovation, modeling, data sharing, and solution development.

The Open Water Data Initiative will be a collaborative and carefully scoped effort, building on the ground-breaking work of the Integrated Water Resources Science and Service (IWRSS) consortium, and engaging the Subcommittee on Spatial Water Data, which is a shared subcommittee of the Federal Geographic Data Committee (FGDC) and the Advisory Committee on Water Information (ACWI). The Subcommittee on Spatial Water Data includes representatives from multiple Federal agencies. This initiative will also utilize the capabilities of the FGDC's Geospatial Platform and develop a series of components that will provide increasing value to the government, academic and commercial water sectors.

We recognize this as a significant endeavor that will require several years to organize and implement. Therefore, we propose both a long-term and short-term approach. In the short-term, we propose a 12-month pilot activity in collaboration with the IWRSS consortium (NOAA's National Weather Service, U.S. Army Corps of Engineers, U.S. Geological Survey) that will demonstrate the feasibility and value of integrated water data through the development of a user-driven decision support capability within a specified hydrologic region or basin. To support implementation of this vision over the long-term, we are proposing that the ACWI and FGDC shared Subcommittee on Spatial Water Data pursue the development of a national water data framework and technical reference architecture for sharing water data and services using recognized standards and web service technology.

We request the FGDC Steering Committee's assistance, in collaboration with ACWI and other partners, in advancement of the Open Water Data Initiative, including:

- Revive and populate the joint Subcommittee on Spatial Water Data to scope the requirement for, and design of, a national open water data infrastructure which supports a variety of needs across the water sector;
- In partnership with the IWRSS consortium, identify a collaborative and iterative approach whereby pilot projects, implemented by the IWRSS consortium, can be scoped

to meet mission objectives and test available information technology along with technical approaches for sharing and integrating real-time water observation and operations data;

- Create an integrated water data portfolio for specific hydrologic regions or basins;
- Developing a technical reference architecture consistent with OMB guidance and the 2014-2016 NSDI Strategic Plan, that supports the sharing of comparable water data and links water observations with geospatial data;
- Identifying how existing investments in water data sharing can be integrated and leveraged (e.g. IWRSS, Western States Water Council's Water Data Exchange – WaDE, WaterML2, CUAHSI Hydrologic Information System, National Groundwater Monitoring Network, Water Quality Data Portal, etc.);
- Leveraging the Geospatial Platform to integrate existing water data sets, make water data more accessible, and support water data community collaboration;
- Identifying and prioritizing improvements to relevant framework geospatial data (National Hydrographic Dataset, Watershed Boundary Dataset, National Elevation Dataset);
- Coordinating with the international community of water data and informatics experts through standards and technology consortia including the Open Geospatial Consortium;
- Utilizing the FGDC coordination and governance structure to support related activities in the federal water sector, and as appropriate, identify means to support the pilot activities.

This proposal was developed by the following working group:

- Anne Castle, Department of Interior, Assistant Secretary for Water and Science
- Lori Caramanian, Department of the Interior, Deputy Assistant Secretary for Water and Science
- Jerry Johnston, Department of the Interior, Geospatial Information Officer, Managing Partner representative for the Geospatial Platform
- Bill Werkheiser, USGS, Associate Director for Water
- Jerad Bales, USGS Chief of Research and Science for Water and representative to IWRSS
- Nate Booth, USGS, Chief - Office of Water Information
- Don Cline, NOAA, National Weather Service, Chief-Hydrology Laboratory, NWS representative to IWRSS
- James Dalton, US Army Corps of Engineers, Chief of Engineering and Construction, USACE representative to IWRSS
- David Maidment, University of Texas, Professor of Civil Engineering
- Kevin Gallagher, USGS, Associate Director for Core Science Systems
- Ivan DeLoatch, USGS, Executive Director, FGDC Secretariat