

Subcommittee on Spatial Water Data

Meeting Details:

Date/Time: August 28, 2014, 10:00 AM - 12:00 PM

Location: Room 3B457, USGS Headquarters, 12201 Sunrise Valley Drive, Reston, VA

Conference Line: (760) 569-6000 Code 1063271#

Webex link: When it is time to attend the meeting, please visit this link:

Draft Agenda:

Introductions – 15 minutes

The Vision for OWDI – 30 minutes

Identification of Current/Planned Efforts – 30 minutes

Discussion on Membership – 30 minutes

Planning for Next Steps – 15 minutes

Meeting Notes

Attendees:

Al Rea, USGS NGP/NHD, ahrea@usgs.gov

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Al Rea reviewed the agenda and went through the list of attendees and gave everyone a chance to introduce themselves and explain how they fit into the Open Water Data Initiative.

Note: The marginal comments in this document are transcribed from the GoogleDocs version of the meeting minutes that were shared with the group online.

The Vision for OWDI - 30 minutes

Review of material presented to FGDC and ACWI by Kevin Gallagher, and review of the charge to the subcommittee.

Presentation slides are available here:

http://acwi.gov/spatial/minutes/sswd_rea_2014_08_28.pdf

The vision for OWDI includes many facets: national data sets with data services; metadata, web services; access to integrated real-time monitoring data; data assimilation for national modeling capability; derivative products such as maps that integrate geospatial data and hydrologic information; marketplace of open-source applications.

Foundational water data sets (see slide 4). Comment: in looking at this list, there is a big shift between where we've been historically and where we've been asked to go in the future -- including that temporal dimension in our discussions will help us as we move beyond looking at static GIS layers and try to move toward more integrated products.

Comment: we need to consider water in all its phases (snow, evapotranspiration, etc).

Comment: It's probably important to include NASA in future conversations, as well as NRCS, so we need to reach out to them.

Open Water Data Initiative = a government program.

Open Water Data Infrastructure = a community of all of us, including non-government entities, that are contributing to this national/international infrastructure of water data.

This subcommittee's efforts are probably best focused on the infrastructure. We can figure out what's needed and send that message back up the chain of command. If we focus on the infrastructure, we have a higher likelihood of success because that's something tangible and achievable. We need to also make sure to avoid duplicative efforts -- we don't want to duplicate data.gov and other platforms/tools that already exist.

National Geospatial Data Infrastructure -- for years people asked "how do we know when it's done?" For the past few years we've been working to come up with 16 themes that are management units for 193 core data sets identified by agencies and stakeholders; we're trying to ensure that these are mature data sets developed based on life cycle management principles, and that what we're doing is transparent to everyone and the data are easily available. This effort fits well into OWDI. We have already integrated/consolidated various data sets (WBD, NHD). This year we'll do baseline assessments to determine the maturity of all these data sets in the 16 theme areas; there will be metrics for the data sets so people can get a sense of data quality. This process is intended to identify which data assets other agencies have the greatest need for; it also leads us to think about how we leverage existing assets and how we make the case for additional resources.

Review of the charge to FGDC: "In collaboration with ACWI and other partners, advance an OWDI." This includes --

- supporting the IWRSS consortium in scoping/implementing pilot activities;
- creating an integrated water data portfolio for specific regions/basins (most discussion now centers on the Lower Colorado);
- developing a technical reference architecture that supports water data sharing and links observations to geospatial data (this is the meat of what we need to address as a group, and if we don't have the right people at the table to take on this task, we need to find the right people to help us);
- leveraging the Geospatial Platform to make data more accessible and encourage collaboration;
- identifying how existing investments can be integrated and leveraged;
- engaging the international community;
- identifying/prioritizing improvements to relevant framework geospatial data; and
- using the FGDC coordination and governance structure to support related activities in the Federal water sector.

Comment: Water Census will have assembled the water use data that isn't the type of data we typically talk about in these conversations, but we'll need to consider that data too.

Comment: As we think about use cases, it's important that we are able to show value to those pilots. This will help our case as we move toward expanding from a pilot phase to a larger effort.

Question: Can development of standards be farmed out to the Open Geospatial Consortium (OGC) instead of doing it within this group? Answer: Yes, absolutely; but it's more a matter of "pushing the process" than "farming it out." We also need to be aware of FGDC standards for geospatial water data and familiarize ourselves with it. This may be an implementation effort,

rather than a standards-setting effort; that would be good because the actual standards-setting would take a lot of time. This Subcommittee can focus our efforts on assessing what's already out there and determining where the gaps are and how those gaps can be filled.

We really need to get someone from the non-Federal side of OGC to participate on this Subcommittee, in addition to the Federal OGC members who are involved.

Comment: Why not add wetlands to the list on slide 8? Response: That's a good point, thanks!

- The National Wetlands Inventory provides over 20 million wetland and deepwater polygons in a seamless dataset for the nation. The lower 48 states alone contain over 18.7 million mapped polygons which comprise over 100 million acres of wetlands and over 66 million acres of Lacustrine and Riverine habitats.

Identification of Current/Planned Efforts - 30 minutes

Review of next steps, now that we have the charge from the ACWI Chair -- starting concepts:

- for observational data, WaterML2 standard has been developed and has been adopted by OGC, and we're in good shape for being able to represent that type of information. (The breadth of implementation of the standard has been limited up till now, however; thus, we may want to look at more user-friendly options for this standard and also make it more suitable for supporting water-quality data. We also will need to use dynamic grid instead of point time series; NASA is rolling out gridded data through data rods project.)
 - Question: Is the gridded data an established standard that we can just implement? Answer: The core of it is currently in review by OGC. Comment: Perhaps the discussion of gridded data and unstructured grids can be taken up by a smaller workgroup, instead of having the whole Subcommittee focus on it?
 - Comment: on the water-quality front, there's a lot of energy around international collaboration to understand how current best practices for encoding sample data would work with our various water-quality data and metadata standards for water-quality data. This is an area where there's a lot of interest, and we're pushing toward that, but from an international perspective, that's one of our gaps. We need to engage ACWI's National Water Quality Monitoring Council to make sure they're engaged in that discussion as well.
 - Tod Dabolt offered a motion (seconded by Dave Blodgett): The standards work needs to occur through the OGC process; we could task them to keep us informed of how the work is progressing. For implementation, OGC can be used to help facilitate pilots, especially since private sector entities can't contribute resources to Federal Advisory Committee Act efforts, and we may need to rely on private sector sources. The challenge that this group has (and ACWI has had in the past) is that when a standard is developed, there is no mandate that people must use it. When OGC develops standards, we can write the standard into contracts with States and others (so that they're required to adhere to those standards by the terms of the contract). We could encourage agencies to adopt our standards, but we can't require it. People need to understand the **benefit** of using the standards before they'll begin adhering to those standards.

Comment [wen1]:

Comment -- seems surface storage is omitted completely. No mention of lakes, reservoirs, and wetlands on this slide as geospatial units. Added issue of quantifying volume/morphometry.

Response -- The National Wetlands Inventory provides over 20 million wetland and deepwater polygons in a seamless dataset for the nation. The lower 48 states alone contain over 18.7 million mapped polygons which comprise over 100 million acres of wetlands and over 66 million acres of Lacustrine and Riverine habitats.

Response -- Thanks, I wasn't aware that these polygons also included depth (deepwater polygons?). My issue isn't the delineation of surface feature areas themselves, but the storage/volume component, which I did not think was part of the lake and reservoir features in NHD or NWI.

Response -- There is an EPA study to be published very soon (maybe already) that uses some regression techniques to get coarse estimates of volumes for the NHDPlus water bodies. We also have been considering adding a field to NHDWaterBody to store information about volume, but this has fallen off the table budget-wise for at least a year.

- The standards also need to be useful for different sectors and different applications (flood assessments, water quality, water use). The pilot studies ought to be designed to show geospatial, surface-water framework, groundwater, and other aspects of the resource; this will give us a product with greater value and greater applicability to a wider range of users.
- Surface-water geospatial framework
- Ground-water geospatial framework
- What other categories do we have?

Comment [wen2]:
 Comment -- Soil Moisture should be considered, but a geospatial framework has yet to be developed for the nation

Comment: here's a link from Rick Hooper (from Simon Cox's presentation to a recent OGC Hydro Domain Working Group Meeting) that addresses some biological and water quality data issues: <http://www.caee.utexas.edu/prof/maidment/meetings/HDWGAug14/Cox.pptx>

Discussion on Membership - 30 minutes

We have a large and diverse group participating in today's meeting; it's too large a group for actually getting things done. What size **should** the group be? What sub-groups or working groups do we need, to tackle specific tasks?

Our mandate is still very broad. We need to narrow our focus before we can determine who is the best representative from each organization.

First step -- write up requirements for what the Open Water Data Infrastructure is going to be. Create subgroups to determine requirements for use cases. At the next meeting, we should come back with some targeted use cases and ask for volunteers to populate the groups that would handle each of those use cases. For example, look at a recent contamination/spill incident (and a flood inundation incident, and other situations ranging from water use issues to dam decommissioning) and work backward to determine what resource managers needed to assess the situation.

How many use cases do we need in total? Maybe 7 or 8. Once we know the specific use cases we're going to be working with, we will be better able to determine optimal membership.

We may need a couple more meetings before we can settle on final membership. Where do we currently have gaps? NASA and USDA are current gaps in membership, along with NGOs and Tribes, ASDWA.

Question: Frequency of meetings? Answer: We need to show tangible evidence of progress within 2 years, so monthly meetings are probably needed, at least in the beginning.

Planning for Next Steps – 15 minutes

- scoping
- resource allocation
- metrics
- QC

Next steps: We need a platform where we can collaborate on documents -- DOI Google Drive does not permit that. Does CUAHSI have a collaborative space where we can work on

documents with people outside of DOI? We don't want to use a commercial one. Rick Hooper can help us with that. Ed Clark will inventory available tools and talk with Rick Hooper.

Small organizational group: Tod Dabolt, Camille Touton, Nancy, Ed Clark, Angela Adams, Al Rea will get together next week to discuss organizational issues before the next meeting.

Next meeting: approximately 1 month from now. Al Rea will send out a poll to find out when the best meeting date is.