

Subcommittee on Spatial Water Data

Meeting Details:

Date/Time: March 27, 2015 1:00 - 3:00 PM Eastern Time

Location: Teleconference only (administered from USGS Headquarters, 12201 Sunrise Valley Drive, Reston, VA 20192)

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

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Meeting number: 716 325 658

Shared document space:

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Agenda

All Times Eastern Time Zone

- 1:00 - 1:10 Introductions for new attendees
- 1:10 - 1:20 Analytics and measuring open data services
- 1:20 - 1:30 Help us build a story line
- 1:30 - 2:50 Work Group Reports
- 2:50 - 2:55 World Water Week and other conferences
- 2:55 - 3:00 Membership roster; Adjourn

Attendees:

New (did not attend 8/28/14 or later meeting)

Toby Welborn, USGS, tlwelbor@usgs.gov
Steve Nechero, NRCS steven.nechero@ftw.usda.gov
Mark Tompkins, NewFields mtompkins@newfields.com
Anthony Saracino, anthony@asaracino.com
Regan Murray, Murray.regan@Epa.gov

Returning (attended 8/28/14 or later meeting)

Alan Rea, Co-Chair, USGS, ahrea@usgs.gov
Ed Clark, Co-Chair, NOAA edward.clark@noaa.gov
Michael Tinker, USGS, mdtinker@usgs.gov
Kernell Ries, USGS, kries@usgs.gov
Tad Slawewski, LimnoTech, tad@limno.com
Bill Samuels, Leidos, samuelsw@leidos.com
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Tommy DeWald, Dewald.tommy@Epa.gov

1:10 - 1:20 Analytics and measuring geodata services

<https://analytics.usa.gov/>
<http://api.data.gov/about/>

- A critical component of the OWDI and the Lean Startup is measuring web services, which raises the question, how can this be done across multiple websites/service potentially comprising OWDInfrastructure.
- Note that tools like analytics.gov use Google Analytics and measure website visits, NOT API (application programming interface?) usage.
- Did this tool originate with the "Open Gov" group? No one is certain. Phil Ashcroft (GSA) or Jeremy Berry (OMB) may be good to talk to about this. Wendy Blake-Coleman will look into this, and so will Al Rea.
- Are there really tools that enable you to see what users DID on your website, beyond just visiting it? That's a question we're researching (see above) because tracking use of web services is different from simply recording website hits.
- Is the group interested in an approach using a dashboard like the one used to enable NRCS's end-user community to give feedback on speed/quality of the service's performance? Steve Nechero will ask about the API approach to see if it can be integrated. However, it's an SSURGO platform (refers to the NRCS soils database: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/geo/?cid=nrcs142p2_053627) and may not provide the type of info we're looking for.
- Once our immediate tasks are complete, we should survey the existing applications out there in the water data infrastructure and see what type of analytics they use, so we can figure out how to aggregate them.
- Aggregation of metrics for this and other endeavors might be a global service that Jerry Johnston could offer.

- It might be that the only way to make this work is to create a standard that requires each system within the water data infrastructure to install something that works with the API tools.

1:20 - 1:30 Help us build a story line

Let's talk about building a "story line".

"Story line" can be a theme to connect disparate datasets, to tell a story or make a point. The story line drives brainstorming on visualizations and selection of datasets to support the theme.

Also, we would like to make a slide of all the logos of organizations participating in SSWD/OWDI (official members only or all participants? Maybe both, grouped?). Please put a snapshot of your organization's logo in [this document](#). If you're unsure whether you're an official member, here's the list of people who have provided a statement saying that they want to be official members: Camille Touton, Michael Eberle, Rick Hooper, Chris Mickle, Adam Carpenter, Sara Larsen, Pat Lambert, Jeff Davis, Lauren Schapker, Emily Read, Brenna Mefford, Al Rea, Ed Clark, Thomas Dabolt, Bill Samuels, Wendy Norton. All others are participating on an informal basis but can become official members any time by sending an email to wenorton@usgs.gov, stating that they wish to participate and which organization they're representing.

1:30 - 2:50 Work Group Reports

NFIE Work Group

- CUAHSI Steering committee met at the National Water Center the week of March 16 to outline the Summer Institute projects, review application, and address other logistics.
- As of March 27, 8 River Forecast Centers are transmitting daily forecasts in SOAP format to University of Alabama FEWS (Flood Early Warning System) instance, with remaining 5 working towards that goal.
- Ongoing refinement of NWS Model topology and geospatial data sets.

Drought Work Group

- Group met on February 25 to brainstorm concepts for a visualization for drought in the Lower Colorado River basin.
- USGS Center for Integrated Data Analytics (CIDA) is partnering with the team on storyline ideas and software development.
- Mock-ups/ideas for the visualization are being developed and will be routed through the team for review and comment; also, for help identifying dataset sources.
- Presented on Use Case to WestFAST on 3/26; participation: 30 folks on WebEx + a few on the phone.

Spill Response Work Group

Met on March 24, 2015.

- Reviewed spill modeling data requirements spreadsheet created from USGS TOT (time of travel) meeting (provided by Kernell Ries) - updated version of this spreadsheet shows minimum requirements for an initial release.
- Presentation by Trent Schade (NOAA) - Ohio River Forecast Center, ORSANCO spill model improvements.

- Presentation by Chris Mickle (Cardno) - review of relevant presentations from the Gulf of Mexico Research Initiative Conference - a key discussion at this meeting was: "Preparing Data Management Systems for the Next Environmental Disaster" - Chris is reaching out to Amy Merten (NOAA) to see if he can get more involved in the Environmental Disasters Data Management (EDDM) Workgroup - possible synergies with OWDI.
- Brief review of SSWD Architecture Diagrams - need further guidance to help fill in what's needed.

Technology Work Group

Reviewed the group's purpose and what we plan on delivering.

Settled on:

- 1) Setting up a template and helping the application work groups define the general system for their data types and
- 2) Hosting a series of "show and tells" of existing systems, highlighting how they fit into the "open water data infrastructure" generically.

We will start to engage the other work groups soon to start getting the templates we have designed filled in. Dave will get in touch with application work group leads to plan a time to fill in these templates.

Water Use Data Work Group

Sara Larsen

Did not have a meeting last month, but had talked about providing a map interface/inventory of water use datasets and other information. Working on a prototype ready for workgroup review by mid-April though, and we'll get some feedback on that at our next meeting. Hopefully give it back to the SSWD group the following month. Member from DOE joined our group. Any other participation would be valuable.

Data Quality/Reporting, for next meeting, discuss Data Quality Questions:

1. Should OWDI enforce a data quality reporting structure?
2. If so, what are the requirements for data providers?
3. Are there any other metrics we could use to evaluate data quality?

One question that needs to be answered: is there an optimal threshold for data quality reporting that encourages participation and still maintains a high standard?

Is anyone on SSWD working with the Open Geospatial Consortium on this?

Is anyone here a data provider with heterogeneous data sources? National Weather Service has a similar challenge in publishing precipitation data because the data come from many diverse sources. There may be a way to flag/identify the data to indicate source, and this is definitely an important question to which SSWD needs to dedicate some time and thought.

The co-chairs will try to get appropriate people (such as Stu Hamilton [Aquatic Informatics]) on the phone with us for the next meeting, so we can discuss this topic in more detail.

We also need to discuss tracking data quality statistically. In addition to the ISO (International Organization of Standardization) models for data quality, there are also other issues like provenance and

metadata, that can help us evaluate data quality. Data maturity also needs to be considered in this discussion. When we know what the governing body for OWDI will be, perhaps we can provide them with a data quality plan that they can use in the short term; such a plan could be based on existing plans that agencies already use.

NHDPlus Framework Data Work Group (NFIE #1+2+3+4)

Tommy Dewald (lead), Al Rea, Karen Hanson, Kevin McNinch, Cindy McKay, Brad Cooper, Barb Rosenbaum, Steve Kopp

Cindy McKay and her team produced a national file geodatabase having virtually the full content of NHDPlus in a flattened data model. This dataset will serve as the base from which NFIE will extract the data they need, and will also serve many other purposes, including a base from which datasets will be extracted for specific web services. The data are available here:

<ftp://ec2-54-227-241-43.compute-1.amazonaws.com/NHDplus/OWDI>

Note the main file is 6.4 GB in size. We'd recommend you use an ftp client such as FileZilla, which permits resuming the file transfer if for some reason it fails.

There is a fairly involved process needed to extract regional datasets from this. We have laid out the process but it really needs to be scripted.

ESRI also will be offering this on their site. They are in discussion with us on how to improve the tool, which data fields to keep, etc.

There was a quick discussion of versioning of WBD (Watershed Boundary Dataset), due to timing of NHDPlus and WBD work. NHDPlus's WBD content may be a mixture of several different versions of WBD content, as a result. Users need to be aware of this, as it may cause confusion. [notes from User Guide]

FEMA NFHL (NFIE #5)

No report today from this workgroup. Their work is mostly complete.

USGS Gages, Dams, and NWS Forecast Points (NFIE #6+7+8)

Dams indexed to NHDPlus V2--On hold. (This issue will be addressed at a meeting in May [no exact date yet]. If anyone has questions related to this, contact Marie Pepler.)

NWS Forecast Points indexed to NHDPlus V2--Mike Tinker (USGS) indexed these to NHDPlus V2.1.

Gages indexed to NHDPlus V2--These have been included in the flattened GDB of the NHDPlus data mentioned above.

Kevin McNinch: Draft services are published to ScienceBase now:

Science Base Community: [National Hydrography Dataset Events Catalog \(link\)](#)

Contains 3 Esri services (DRAFT Services--the URLs are likely to change!)

- Esri Feature Service: [StreamGages Linked to NHDPlus 2_1 \(FeatureServer\)](#)
- Esri MapService (REST): [StreamGages Linked to NHDPlus 2_1 \(MapServer\)](#)
- Esri MapService (REST): [StreamGages Linked to NHDPlus 2_1 SmallScale \(MapServer\)](#)

Question: Can people start using these services, even though it's still a draft? Answer: Yes! Please test it and give us feedback.

Question: Can you comment on the stability of the links to services from ScienceBase? Is the URL going to get changed? Answer: Yes, it probably will get changed, so you may want to wait a week or two while we make the changes. We need to decide whether to use ScienceBase or stand up our own server; we probably don't have the staff to do the server maintenance ourselves.

National Hydrography Set Events Catalog: If "the science-base item" [see URL above] gets deleted and replaced with something else, we need to note it somewhere because it's hard to find these URLs. Al Rea started a [spreadsheet](#) in our Google Drive shared documents space listing all the services we're using, and we'll point people to that spreadsheet for now. Ultimately we will want a more robust catalog, but this will work for now.

NHD HighRes Flowlines (NFIE #9)

Al Rea

Ed Clark noted during the meeting that the NFIE group is withdrawing this request, but this is already done, so a national snapshot of the HiRes NHD from earlier this month is now available in a file geodatabase. Anyone is welcome to give it a try and give us feedback. It is a large download (10 GB), and we advise using an ftp client such as [FileZilla](#), which allows you to resume a transfer in case of a failure. This file geodatabase includes just the basic NHD feature classes and tables in a slightly modified data model. It is available for download at ftp://nhdftp.usgs.gov/Custom/NHD_All_Feb_2015.zip. Note the USGS does not currently provide a national snapshot such as this on a regular basis. Please provide feedback via email to ahrea@usgs.gov on whether this type of national database would be useful to you, in addition to the current subregion (4-digit HUC), subbasin (8-digit HUC), and state downloads.

NOTE TO ALL WORKGROUPS: we want to bring the SSWD official website (<http://acwi.gov/spatial/>) up to date, so each workgroup should prepare an informal 1-page statement of what your workgroup does, who is a member, etc. Send that information to Wendy Norton (wenorton@usgs.gov) and we'll upload it onto the website. Only two of the eight groups have provided material thus far: Drought Use Case and Spill Response Use Case.

<http://acwi.gov/spatial/owdi/> provides a good overview.

2:50 - 2:55 World Water Week and other conferences

JAWRA call for papers - JAWRA is planning a thematic featured collection of papers on OWDI and NFIE. The call for papers is [here](#). The deadline for extended abstracts is March 30, with final papers due by June 1. Sandra Fox noted that shorter "notes" may be the way to go for some of the work presented, such as the Lightning Talks; if so, indicate on the submittal that it is a "note" rather than a full paper.

AWRA National meeting in Denver - <http://www.awra.org/meetings/Denver2015/> Note that Abstracts are Due on May 15th, with Early registration ending Sept 4, 2015/.

World Water Week - An abstract titled "Standards-based Data Management to Improve Water Resource Decisions" was submitted by Tad Slawewski for the workshop "Information Technologies for a smarter water future" (<http://programme.worldwaterweek.org/event/5160>). Tad can probably NOT attend this

event (Stockholm 8/23 - 8/28) and was therefore wondering if anyone in this group might be available to provide an OWDI perspective; fallback position is to get a colleague briefed and prepared to present. **Notification is expected in April, discussion (if any) can wait until next call.** The text of the submittal is copied at bottom of the notes.

Next Meeting:

April 24 at 1:00 p.m. Eastern Time -- Ed Clark will lead the April 24th Meeting

----- Supplemental material: text of World Water Week submittal

Introduction and objectives

One barrier to effective decision support using today's wide array of data is the difficulty of discovery and access. We can increase the discoverability (and transparency) of datasets by developing and publishing standards-compliant metadata that describe who, what, when, where, why, and how for datasets. Metadata in portals like the Global Earth Observation System of Systems provides the opportunity to find datasets and evaluate their utility. Interoperability – publishing the data as well for standards-compliant direct access - is another practice that makes use of data easier. Examples will be presented that define a data management vision to improve decisions.

Methodology approach

The presentation reflects experience of the presenters with a number of enterprises that have adopted standards-compliant systems to facilitate the interchange of data.

Analysis, results, conclusions and recommendation

The presentation will summarize experiences from a number of national-scale enterprises in the United States, including the Open Water Data Initiative and the Integrated Ocean Observing System. Comments will also be provided on the utility and effectiveness of existing international bodies such as the Global Earth Observing System of Systems and the Open Geospatial Consortium in developing and promulgating appropriate standards.

The presentation will also include examples of decision support tools built upon the information architecture realized through application of open standards to realize discoverability, transparency and interoperability.