Webinar Meeting Sept05.2012

Webex Recordings

For the morning session, click here.

For the afternoon session, click here.

Question and Answer Session for Each Presentation

To review the question and answer session from each presentation, please click here.

Agenda

September 5, 2012

Goal: The purpose of the online only CDI Webinar Meeting is to engage and inform the Community and other interested individuals about the CDI Science Support Framework, FY12 projects currently underway, and plans for FY13 in lieu of a face to face meeting. Participants will learn about a variety of CDI science support activities, products, and tools through presentations and demonstrations.

8:15 – 8:30   **Welcome and Opening Remarks**
Jennifer Carlino, Core Science Analytics and Synthesis
Elizabeth Sellers, Core Science Analytics and Synthesis

8:30 – 9:00   **The National Map Save As/Open In**
Rob Dollison, National Geospatial Program
Matt Tricomi, National Geospatial Program
> *Abstract: The USGS provides many national, regional and local datasets for download, streaming interaction, and analysis. Ultimately, most datasets are presented for visualization in "viewers" with basic navigation and interaction for inspection and even lightweight WebGIS like web service functions, annotations, etc. Many viewers – different APIs, clients, purposes, and niche functions – are invested in at USGS and DOI and the whole Federal Government. The problem with this is that when someone goes to a new viewer, they don't always have the same backdrop basemaps, common list of overlays, and most viewers don't have capability to add services into the viewer, except thick clients and The National Map. Essentially there is no way for a user to jump easily between viewers. This project focuses on expanding the ability of The National Map to save user sessions that can be saved and opened in other viewers. Leveraging the work of several USGS programs including National Geospatial Technical Operations Center, National Geospatial Program, Center for Integrated Data Analytics, National Earthquake Information Center, the Land Cover Analysis Tool - Eastern Geographic Science Center, and Water Information Management, the goals are to demonstrate the capability through Geospatial - Save As Framework, Architecture, Design, Coordination, Open in OpenLayers in CIDA Portal, Save to ArcMap , Open In OpenLayers Framework (Read Px3 JSON, ESRI JSON), and Open in Flex (Convert Px3 JSON to ESRI JSON). The primary element of the CDI Science Support Framework that this CDI-funded project and its products focus on is the Applications element.*

9:00 – 9:30   **Combined ScienceBase and GeoDataPortal Tools**
Laura Smryl, Fort Collins Science Center
Tom Kunicki, Fort Collins Science Center
Dell Long, Contractor with Fort Collins Science Center
> *Abstract: This presentation will focus on the integration of the ScienceBase geospatial catalog with the climate projections available through the Geo Data Portal. This brief demonstration will show how a scientist can upload a geospatial data map to ScienceBase, use integrated buttons and links to find climate data for that boundary area and finally store those results in ScienceBase with other project information. This workflow will allow science teams to collaborate on climate science research efforts across the bureau. Several workshops will be held in September for training on this workflow. The primary elements of the CDI Science Support Framework that this CDI-funded project and its products focus on are the Data, Web Services, Applications, and Data Life Cycle elements.*

9:30 – 10:00   **Data Management Website and Training**

Heather Henkel, USGS Greater Everglades Priority Ecosystems Science, USGS St. Petersburg Coastal and Marine Science Center, FL
Viv Hutchison, Core Science Analytics and Synthesis (CSAS)

Abstract: Good data management practices are critical for meaningful data integration processes to commence. This Community on Data Integration project focuses on making data management part of the data development process in science, develop educational materials for scientists to understand the importance of the data life cycle and how to best incorporate it into workflows, develop training modules, and work towards the formal incorporation of data management in the Research Grade Evaluation (RGE) and EDGE process. Once these data management practices become incorporated into the workflows of each scientist, the USGS will realize massive cost savings solely based on the ability to reuse data and develop new science collaborations both within USGS and with other agencies. All of these materials and information will be available through the USGS Data Management Website, which will be demonstrated during this presentation. The primary elements of the CDI Science Support Framework that this CDI-funded project and its products focus on are the Knowledge Management and Data Management elements.

10:00 – 10:30   **Mobile Applications Framework**
Lorna Schmid, Administration and Enterprise Information (AEI)
Tim Kern, Fort Collins Science Center

Abstract: This presentation will discuss the outcomes and next steps from the Mobile Applications Framework Workshop held on July 17-19, 2012. The initial goal of the project is to facilitate and expedite mobile application development across USGS. The workshop brought together a small group of experts to discuss requirements for a framework that will provide one-stop-shop access to support Hardware/Device Management, Application Development Support and Policies, Guidelines and procedures, and Application Delivery. The Workshop outcomes included recommendation of a formal process for managing USGS mobile applications as products along with a formalized Mobile Community of Practice, development of detailed workflows to cover four phases of development (Ideation, Development, Review & Approval, and Publication & Monitoring), along with development of a series of checklists and processes that will help manage each phase of the product lifecycle. While the team is initially focused on application development, it is understood that there are many other stakeholders and support groups that must be coordinated with to link in support information and processes that cover all aspects of using, developing and delivering mobile technologies to support USGS science. The primary elements of the CDI Science Support Framework that this CDI-funded project and its products focus on are the Data Life Cycle and Knowledge Management elements.

10:30 – 11:00   **OpenLayers HTML5 for Canvas Raster Class**
John Aguinaldo, Eastern Geographic Science Center
Cassandra Ladino, Eastern Geographic Science Center
Tim Schaub, OpenGeo

Abstract: This project focuses on implementing client-side HTML5 compliant Canvas layer raster imagery processing that would work in any HTML5 standard compliant browser. The goals are to provide the ability to Ability to calculate basic statistics for visible map images (e.g. count per pixel color, total area per pixel color); to generate zonal statistics based on polygon features from a vector layer - user drawn or rendered from a remote source (e.g. display imagery "clipped" to a user drawn polygon and calculate statistics on the output); to generate new raster composites from existing data sources and to allow pixel-based raster algebra using raw imagery or other composites as inputs (e.g. user could view land cover data above a certain elevation and calculate statistics on the output). Candidate datasets include land cover (National Land Cover Data, Chesapeake Bay Land Cover Data Series, Chesapeake Resource Lands Assessment Data and other raster layers for restoration/preservation priority decision making. The primary element of the CDI Science Support Framework that this CDI-funded project and its products focus on is the Applications element.

11:00 – 11:30   **Semantic Technologies for Integrating USGS Data**
Janice Gordon, Core Science Analytics and Synthesis (CSAS)

Abstract: This project focuses on using Semantic Web Methodology and a Technology Development Process to integrate fish species occurrence, hydrologic, water quality, and sediment geochemistry data from several USGS data sources. As a test case, the project is exploring the goal of combining data from a variety of sources into a single dataset to support aquatic habitat research of freshwater fish species in the Susquehanna River Basin. The primary element of the CDI Science Support Framework that this CDI-funded project and its products focus on is the Semantics element. The data sources include: Aquatic Bioassessment Data for the Nation (BioData) BioData provides access to aquatic bioassessment data (biological community and physical habitat data) collected by USGS scientists from stream ecosystems across the Nation. Available online at: http://aquatic.biodata.usgs.gov. Mineral Resources Online Spatial Data (Geochemistry) Offers national-scale geochemical analysis of stream sediments and soils in the United States collected and analyzed under the National Uranium Resource Evaluation program. Available online at: http://mrdata.usgs.gov. Multistate Aquatic Resources Information System (MARIS) MARIS serves as an online resource containing over one million population estimate, total catch, total weight, and water quality records for nearly 600 fish species sampled by a growing number of state fish and wildlife agencies Available online at: http://www.marsdata.org. National Hydrography Dataset (NHD) NHD contains detailed geospatial information about the Nation's surface water including features such as lakes, ponds, streams, rivers, canals, dams, and stream gages. Available online at: http://nhd.usgs.gov

11:30 – 12:15   CDI Science Support Framework and FY13 Proposal Process
Kevin Gallagher, Associate Director Core Science Systems
Linda Gundersen, Director Office of Science Quality and Integrity
Abstract: The Community for Data Integration (CDI) is a dynamic aggregation of multiple communities of practice, focused on the advancement of scientific data and information management and integration capabilities across the U.S. Geological Survey (USGS). As part of the presentation, there will be an overview of the CDI Science Support Framework (SSF), which provides a conceptual architecture that illustrates how the CDI contributes to Bureau- level data integration efforts and defines how current and future CDI projects fit within the framework. Also, the FY2013 CDI Request for Proposals will be introduced. Starting this year, CDI projects will develop and implement data integration products and processes in the context of four main SSF categories: Management, Policy & Standards; Computational Tools and Services; Data & Information Assets; and Community Innovations.

12:15 – 12:30   BREAK

12:30 – 1:00   Citizen Science Workshop
Megan Hines, University of Wisconsin
Barbara Poore, St. Petersburg Coastal and Marine Geology Science Center
Abstract: This presentation will discuss how citizen science represents a key element for USGS Programs interested in using the results from these efforts to enhance their research. This project will bring together experts from across USGS and other organizations to help enhance and expand partnerships and will provide important opportunities for the USGS research community to: Foster cross group interactions, both internally and externally; Exchange and communicate ideas, plans, use cases, and focus among groups (e.g., with the CDI Mobile Applications Development Focus Group for Citizen Science-oriented projects); Identify new avenues and approaches for research; and Increase efficiency and effectiveness of their projects by leveraging activities and resources and minimizing overlap with partner groups. The Workshop will bring together experts and will also discuss sociological topics, data collection and management, as well as technological approaches for tools to collect, manage and secure citizen science data. The primary element of the CDI Science Support Framework that this CDI-funded project and its products focus on is the Knowledge Management element.

1:00 – 1:30   GDP Tools port to Python
Jordan Read, USGS Center for Integrated Data Analysis (CIDA)
Curtis Price, South Dakota Water Science Center
Colin Talbert, Fort Collins Science Center

Abstract: The Geo Data Portal (GDP) developed by USGS CIDA provides a powerful functionality to process climate and other large remote gridded data, returning summary statistics and areal tabulations over user specified areas. Currently the user interface is an interactive web form, returning a CSV table. This work would allow ArcGIS, Python, R and other common scientific client applications users to access this functionality directly via a GDP Python module. This presentation will demonstrate the tool. The primary element of the CDI Science Support Framework *that this CDI-funded project and its products focus on is the Web Services element.*

1:30 – 2:00   **Fish Passage Barriers**
David Maltby, Texas Water Science Center
Andrea Ostroff, Core Science Analytics and Synthesis (CSAS)
Abstract: The U.S. Geological Survey is working to develop a mobile phone application to capture and verify information about fish passage barriers. While an application that needs to fit on a smart phone will not meet the complex needs of all scientists and managers, we are striving to develop a tool that will collect the top priority data needed about fish barriers and that are largely common across the U.S. We will be seeking input from experts in each region to share their knowledge and needs as we document the functional requirements and identify the data to be collected with the mobile application. To date, an Android application that functions on all android devices, as well as an HTML5 version of the application, that works on all smartphone and tablet devices has been developed. The primary elements of the CDI Science Support Framework *that this CDI-funded project and its products focus on are the Data and Applications elements.*

2:00 – 2:30   **Protocol/Method Library Comparison**
Jacque Schei, Pacific Northwest Aquatic Monitoring Partnership (PNAMP)
Lisa Zolly, Core Science Analytics and Synthesis (CSAS)
Abstract: There are a number of monitoring method and protocol libraries in existence. Although these systems have been tailored to certain disciplines or research foci, the underlying principles, mechanisms, and processes have commonalities that could facilitate synthesizing content and information. Identifying and characterizing monitoring protocol and method libraries can provide a valuable reference resource to researchers. In particular, such an exercise would benefit USGS scientists and foster coordinated science and integration opportunities. This project explores protocol and method libraries, evaluates needs of researchers and scientists, and provides recommendations for next steps to further the goals of the CDI. Given that our target audience for this information is ultimately USGS scientists, we decided to focus on method and protocol libraries that USGS has been involved in developing, such as the Natural Resources Monitoring Partnership Monitoring Protocol Library, Pacific Northwest Aquatic Monitoring Partnership's Monitoring Methods, and the National Environmental Methods Index. The goal is to initiate actions that increase awareness of the existence of the protocol and method libraries, promote input of content into the systems, and identify commonalities that may lead to promoting interoperability, increasing efficiencies, and minimizing redundancy. We suggest that outcomes of this work would be appropriate as tools included and promoted through the Data Management website supported by the CDI. The primary element of the CDI Science Support Framework *that this CDI-funded project and its products focus on is the Data Management element.*

2:30 – 3:00   Science Center Data Management Plan Framework (DMPf): Perspectives, Findings, and Progress

Tom Burley, Texas Water Science Center
Stan Smith, Alaska Science Center
Steve Tessler, New Jersey Water Science Center, National Water Census
Abstract: USGS science centers under all mission areas have largely operated under their own purview in the arena of data management with the level of oversight and consistency among projects varying greatly. Water science centers manage a considerable number of local, regional, and national projects in cooperation with Federal and State partners that produce data that often fall outside the interests of national USGS data Programs such as the North American Water Quality Assessment (NAWQA) and the National Water Information System (NWIS). In addition, a myriad of new data types and technical considerations requires a more formalized and consistent approach to Program and Project-level data management. This study will advance the long-standing need for a more formalized approach to data management planning at the science center (program) level in USGS. The study will use two different science centers (Alaska Science Center and Texas Water Science Center) as test cases. Improved planning for data management and data integration is identified in the Bureau science strategy goals (U.S. Geological Survey, 2007; Burkett and others, 2011) with the need for consistent and unified data management to allow for accessible and high confidence data and information from the USGS science community. The primary elements of the CDI Science Support Framework *that this CDI-funded project and its products focus on are the Data Management and Information elements.*

3:00 – 3:30   **Citizen Science Curated Twitter and Species Occurrences on Mobile Devices**
Derek Masaki, Core Science Analytics and Synthesis (CSAS)
Abstract: The project that visualizes species occurrences on a real time display on a mobile device focuses on creating ArcGIS geodatabase of species occurrence locations; Expose point locations through a webservice API; Register point service through Layar platform; and Load and view species locations in mobile viewer on Android and iPhone platforms. The goal is to register a national species occurrence layer available through a robust mobile augmented reality platform. In the citizen science arena, the project focuses on Twitter based protocol for biological observations; Resuable code modules to mine Twitter stream API; Web-based visualization modules for geospatial, and chart display of contributed information. The results will be presented at the Citizen Science Workshop tech session. *The primary element of the CDI* Science Support Framework *that this CDI-funded project and its products focus on is the* **Data** *element.*

3:30 – 4:00   **National Water Information System (NWIS) Web Services Snapshot Tool**
Sally Holl, Texas Water Science Center

Abstract: Produced to leverage USGS investment in streaming data from web services, the NWIS Web Services Snapshot represents the next generation of data retrieval and management. The newest Snapshot tool allows instant access to NWIS data from four different web services through ArcGIS, software available to all USGS scientists in all mission areas. Increased data retrieval efficiency reduces the steps required to retrieve and compile water data from multiple sites from what can be more than 30 steps to just a few clicks. As an end-user education tool, it promotes use of NWIS data from both web services and the NWIS database, which increases the production of scientific research and analysis that uses NWIS data. The Snapshot database design enables efficient data compilation and preparation which is fundamental and pre-requisite to achieving the USGS Science Strategy vision of integrated ecosystem science based on integrated data. According to one user, the Snapshot is a "wonderfully useful USGS tool": "In under ten minutes, I was able to create hydrographs of five stations that have collected flow data within the Ipswich River watershed. Personally, I think that's pretty amazing" (McDavitt, 2012). The primary elements of the CDI Science Support Framework that this CDI-funded project and its products focus on are the Applications and Web Services elements.

4:00 – 4:15 **Closing Remarks** and Adjourn

Attachments

File	Modifie
Microsoft Powerpoint Presentation FINAL - CDI Data Mgmt Website and Training Materials_Henkel_Hutchison.pptx Data Management Website and Training Presentation on September 5, 2012	Sep 05 2012 by carlino(usgs.go
Microsoft Powerpoint Presentation CDI-TSWG Save Map As (Dollison) Status_v1.pptx The National Map Save As Open In Presentation on September 5, 2012	Sep 05 2012 by carlino(usgs.go
Microsoft Powerpoint Presentation CDI slideset on SB-GDP_Smyrl.pptx Combined ScienceBase and GeoDataPortal Tools Presentation on September 5, 2012	Sep 05 2012 by carlino(usgs.go
Microsoft Powerpoint Presentation Gallagher 2012 CDI Webinar.pptx CDI Science Support Framework and FY13 Proposal Process Presentation by Kevin Gallagher and Linda Gundersen on September 5, 2012	Sep 05 2012 by carlino(usgs.go
Microsoft Powerpoint Presentation 2012-09-05CDI Library Comparison Summary_final_Schei.pptx Prtocol/Method Library Comparison Presentation on September 5, 2012	Sep 05 2012 by carlino(usgs.go
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Microsoft Powerpoint Presentation 2012 CSWG CS Workshop Summary.pptx Citizen Science Workshop Presentation on September 5, 2012	Sep 05 2012 by carlino(usgs.go
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Microsoft Powerpoint Presentation 2012 CDI Webinar Maltby-Ostroff_drm_aco.pptx
Fish Passage Barriers Presentation on September 5, 2012

Microsoft Powerpoint Presentation 2012_0905_NWIS_Snapshot_CDI_jdg_slh.pptx
National Water Information System (NWIS) Web Services Snapshot Tool Presentation on September 5, 2012

PDF File DMPf_CDI_Webinar_2012-09-05.pdf
Science Center Data Management Plan framework (DMPf): Perspectives, Findings, and Progress Presentation on September 5, 2012

Microsoft Powerpoint Presentation 2012-Sep-CDI-update_MobileApps_Schmid.pptx
Mobile Applications Framework Presentation on September 5, 2012

Microsoft Word Document CDI Webinar Question and Answer session_20120905.docx
Question and Answer Session for Each Presentation on September 5, 2012

Microsoft Powerpoint Presentation CDI-Webinar_Semantic Technologies_Gordon.pptx
Semantic Technologies for Integrating USGS Data Presentation on September 5, 2012

Microsoft Powerpoint Presentation CDI Twiitter AR Mobile Presentation - DM.pptx
Citizen Science Curated Twitter and Species Occurrences on Mobile Devices Presentation on September 5, 2012

PDF File OpenLayers HTML5 Canvas Raster Class.final.pdf
OpenLayers HTML5 Canvas Raster Class Presentation on September 5, 2012

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