

MINUTES

ITAC Meeting – Nebraska Water Science Center Lincoln, NE June 12-14, 2012

Participants –

Katherine Lins, Pete Cinotto, Bob Swanson (Chair), Scott Gain (Director, TN WSC), Mike Lewis (Director, ID WSC), Susan Trapanese, Gary Cottrell (by phone), Bob Kimbrough, Boyce Blanks, Bob Avery, Terri Moore, Kate Flynn, Kris Lund, Gary Fisher, Kim Martz; From the Nebraska Water Science Center – Kurt Schultz, Dwain Curtis, Jim Langtry; Ryan Stevens (by phone)

Day 1 – Tuesday, June 12, 2012

Welcome and Introductions/Agenda Review, Bob Swanson

Bob Swanson welcomed ITAC and introductions were made around the table. New to ITAC are Scott Gain and Mike Lewis.

Nebraska WSC Overview (NE WSC) – Bob Swanson ([Presentation](#))

Bob provided an overview of the NE WSC to ITAC.

- Geography
 - o Flat, ¼ of the state sandhills / sand dunes – “Sahara Desert”
 - o Platte River – forest, glaciated area
 - o West – chimney rock and monuments
 - o Niobrara river - Wild & Scenic River
 - o Rainwater basin – important for migratory waterfowl
- Nebraska Facts
 - o Agricultural state
 - o 93% privately owned
 - o Elevation: 5,424 ft. in the west to 900 ft. in the east
 - o Climate: 14 inches of precipitation in the west to 34 inches in the east
 - o Drought ‘R’ Us
 - o “Silicone Prairie” – Google, PayPal, others have offices here due to power resources
 - o Sits on top of the largest aquifer in the country – High Plains Aquifer System
 - >1000 feet of saturated unconsolidated thickness
 - Third in total groundwater withdrawals
 - Separate water allocation approaches for surface (SW) and water quality(QW)
 - Concern over development in the Sandhills
 - Department of Natural Resources (DNR) controls SW – “first in time, first in right”
 - Natural Resources Districts (NRD) control groundwater – “reasonable use”
 - Lawsuits abound between individuals or adjacent states
 - o Competition with state DNR streamgaging program. DNR is behind in publishing their data.
- NE WSC Quick View – <http://ne.water.usgs.gov>
 - o Offices: Lincoln – Science Center, North Platte Field Office (4), Scottsbluff (1), Grand Island (1), Rhode Island Duty Stations (1)
 - o New facility in 2005
 - o Co-located employees
 - Brian Tangen – NPWRC
 - Jim Langtry – Geospatial Liaison
 - Linda Pickett – KS WSC
 - o Early adopter of the Web framework
 - Howard Perlman is the Web developer for NE WSC
 - o Social media – Twitter and Nebraskast (a new one to be released soon)
 - o Centennial gage project – 5 centennial gages, the oldest gage dates from 1895; DNR has 4 of the gages)
- Budget
 - o FY11 – \$5.2M, 43.5 FTE
 - o FY12 -- \$5.5M, 44 FTE

- o Funding by program type: Studies – 64%; Data – 36%
 - o Cooperative Water Program (CWP) funds are leveraged heavily – currently a 40% match for gages
 - Approximately 35 total cooperators
 - Major cooperators include Nebraska Natural Resources Districts, City of Lincoln, City of Omaha, and the US Army Corps of Engineers
- Data Section Milestones
 - o Mostly “clickless”
 - o 20 new gages for Omaha alert network
 - o 100% of wading measurements are with flow trackers
- Data Section Summary
 - o 120 streamgages
 - 6 stage only
 - 4 provided
 - o 90 continuous GW recorders
 - 42 real-time (RT) telemetry
 - o 9 RT water quality sites
 - o 3 ambient SW quality sites
 - o ~4,000 annual wells – NRD collects the data and NE WSC quality assures the data
 - o Oregon data Grapher – <http://ne.water.usgs.gov/grapher/>
 - A data graphing utility that allows the user to build graphs of data from selected USGS stations.
- Data rescue
 - o Approximately 250,000 discharge measurements in the database.
 - ~ 350-400 measurements entered per day by Kishore Rao (2 other students check the entries).
 - ~170,00 measurements have been entered
 - o Scanning discharge measurements is next
- NE WSC Science Highlights – Areas of Excellence
 - o Hydrographic surveys
 - o Groundwater monitoring
 - o Geophysical surveys
 - o Recharge
 - o Geomorphology
- High Plains water levels
 - o Monitoring mandated by Congress in 1988
 - o Report produced every other year
 - o Separate NWIS database - >3000 wells, 8 states
- Hydrographic Surveys
 - o Reson Seabat multi-beam echosounder
 - o 16 Missouri bridges (4 on Nebraska border)
 - o 7 Missouri bridges (3 on North Dakota border)
 - o 4 pipeline crossings
 - o Namakan surveys
- Lower Mekong Initiative
 - o Circular on the effects of reservoirs on the Missouri – <http://pubs.usgs.gov/circ/1375/>
 - o SWAT model
 - o LMI hydrographic surveys
- GW Modeling – High Plains groundwater availability study
 - o Important because of the size (90,000 ft²) of the Northern High Plains
 - o Comprehensive water budgets and high resolution groundwater model
 - o Approximately 4 projects at a time
 - o Use other USGS staff
 - o Models are constructed using the latest approaches
 - Through the use of surface nuclear magnetic resonance sounding, aquifer tests can occur much quicker and with fewer staff
- Enbridge Oil Spill science support – Ron Zelt, Marshall, MI (1/2 time)
- Rhode Island floodplain mapping – working for Indiana
- Central Platte unsaturated zone recharge project
 - o Measure water recharge fluxes and chemical storage in unsaturated zone
 - o Estimate chemical transit times from land surface to the water table

- Continuous water quality monitoring
 - 2011 – 6 sites x 4 parameters, 2 water temperature sites
 - 2012 – 4 sites x 4 parameters, 3 temperature sites, 4 new sediment sites, 1 new NOx, 1 new lake profiler site x 7 parameters, potential for 2 more sites on the Missouri River
- Lower Platte sandbar dynamics – Jason Alexander uses low tech techniques to track the growth and degradation of sandbars over time. <http://watercenter.unl.edu/climate2011/PresentationsBreakout3/Alexander.pdf>
 - Q: Have you considered using LIDAR?
 - R: Time is an issue. We must be off of the sandbars in 20 minutes. Cannot disturb the bird habitats.
- CRISP – <http://www.cr.usgs.gov/rso/crisp/> - The goal is to provide appropriate integrated (or multidisciplinary) science to our partners that aligns with and enhances the mission of the [USGS Science Strategy](#).
 - Microbial Water Quality in the South Platte - http://my.usgs.gov/USGS-Internal/RSO/CRISP/Projects/FY09CRISP/CRISP_Proposal_Platte_pathogens_fullproposal.pdf - Microbial water quality effects of migratory birds in the Platte River
 - Collect a baseline dataset of avian pathogen concentrations in the Platte River during spring time periods of bird migration.
 - Monitor potential role of wild migratory birds as carriers of avian influenza
 - Compare avian pathogen concentrations upstream, in the middle, and downstream of the most commonly used roosting reach in the Platte River.
 - Results -
 - Microbe concentrations appear to be related to Sandhill Crane population located in the area.
 - Sediment samples for E.coli and Campylobacter showed strong correlation to crane populations.
 - Most pathogen concentrations increased upstream to downstream related to central flyway.

Nebraska WSC IT Overview (Kurt Schultz) ([Presentation](#))

Two IT Specialists

- Kurt Schultz – 2005-present
- Kelly Snow – 2007-present
- Other support specialists
 - Dwain Curtis – NWIS DBA
 - Howard Perlman – Web services
 - Rachael Hoagland –Outreach, HTML, and Web updates

Provide support for 32 Lincoln employees, 6 Lincoln students, 4 North Platte Field Office Employees, 3 remote employees, 5 senior staff (Lincoln); also co-located employees - Linda Pickett, Jim Langtry, Brian Tangen

End user workstations

- Mix of portable and desktop computers – support approximately 73 end user systems
- 4-year life cycle
- Ratio of 1 desktop to every 2 portables – trending toward almost solely portable hardware
- Based on DIET initiative, a more mobile/telework workforce

Other end user support

- PDAs – used mostly by data staff; testing other portable options such as smart phones and tablets
- Smart Phone issues
 - 4 different smart phone OS, plus different UIs
 - Simplest to manage are Blackberries – fewest here to manage
 - Central enterprise management; seamless notes integration
 - Most difficult/with the most issues is the Android – most to manage
 - Multiple UIs, more issues with Notes Traveler, requires more interaction for setup, weaker battery life

Currently support around 14 operating systems

IT Infrastructure (Systems)

- 4 Windows servers (file, backup, DHCP, license server, Hyper-V, SQL, InTrust, Print)
- 1 UNIX server (NWIS)
- 5 service workstations

- o Software distribution points for updates (SEP, SCCM, etc.)
- o Software distribution points for application deployment (Prism, GPOs, etc.)
- o Imaging (Symantec Ghost, etc.)
- o LiDAR
- o Spiceworks
- o Run scripts/pulling data for alternate loggers

IT Infrastructure (Network)

- 144 GB ports (68 PoE)
- Nortel BCM – 80 lines (64 digital, 16 analog)
- Cable modems for remote users
- Internet-only LAN segment – wireless AP in progress; planning on 2 wireless networks (1 public, 1 for USGS systems)

IT Infrastructure (latency issues) –

- What the NE WSC has done to address the issue
 - o 2nd T1 added to WAN
 - o New HP Procurve 5406 installed
 - o Bandwidth hogs identified
- What can still be done and barriers
 - o Implementing VLANs – limited effect, LAN is not really the issue
 - o Implementing QOS – was being tested at national level - (Note: Terri was recently given the approval to start implementing at the local sites. The project was held up temporarily due to the transition to the new Networkx contract. NE is on the list for QoS Implementation).
 - o Increased clamp down on bandwidth hogs – not a major issue in the NEWSC
 - o Encourage large data moves/downloads on off-hours
 - o Bigger pipes, more pipes, throughout USGS/DOI

Total Data

- NWIS Database – 10GB
- Other unix files – 138 GB
- “Projects” file server – 3.35 TB
- LiDAR – 3.3 TB
- User home folders – 2.17 TB

Geomodeling

- CPU array + Windows Server dedicated to Hyper-V
 - o Hyper-V server
 - Purchased in 2010
 - Dell PowerEdge 2970
 - 2 x 6-core AMD Opteron 2431
 - 32 GB
 - o CPU array
 - Consists of a farm of 8 high performance desktops/notebooks
 - At least 4 more systems to add
 - o Current
 - 38 total cores
 - CPU speeds 1.86-3.6 GHz

Security

- What’s mostly good in USGS
 - o Complex passwords
 - o Enterprise management (AD, eDEP, SCCM)
 - o GFE requirement
- What’s less good
 - o Locking workstations – users need to be better about this
 - o Greater number of mobile systems = missing updates and virus definitions
 - o More OS to support = more manual updates, less IT staff time for other duties
 - o Password complexity vs change times – too complex + short times = a lot of password resets or post-it notes

- o Users complain of too many usernames/passwords

Brand name justification

- Ignores practical, logical, and cost saving aspects of supporting heterogeneous product line (setup, warranties, interchangeable components, brain trust, etc.)
- Reinforces the need for a BPA contract
- Rewards quality products/service

Directives and due dates - Kurt commented that DOI directives / due dates can be a challenge for small centers.

- Multiple authorities = multiple initiatives, working groups, and due dates

Certification and accreditation

- Usual complaints
 - o Unfunded mandate
 - o IT staff are preparing documentation on items that do not pertain to IT
 - o Streamlining smaller similar sites?
- Vastly improved and consistent now, so naturally – FDCCI, ADAT, IT Transformation

Other NWIS data non-DCP sources

- Current and future projects – will represent about ¼ of data NEWSC collects in NWIS
 - o Overton, NW (ISCO)
 - o Omaha evaporation site
 - o Papio (through OneRain)
 - o Foster Creek Lake Study
 - o D5700 Project (current project)
 - o Evapotranspiration (next project)
- Issues
 - o Proprietary software
 - o Outdated collection methods
 - o Inconsistent data
 - o Reliance on other, less interested organizations
 - o IT/DBA usually the last to know/has little say in project

Town Hall Meeting (Office of Water Information, Katherine Lins; NWIS Update, Susan Trapanese; IT Liaison Update, Ryan Stevens; Special Projects, Gary Fisher)

Town Hall Participants -

ITAC members, NEWSC staff - **By Phone:** Ryan Stevens (acting IT Liaison)

ITAC members introduced themselves to NEWSC staff.

Office of Water Information (OWI) Update – Susan Trapanese (for Katherine Lins)

- Susan provided a brief overview of the organizational structure of OWI and noted that ITAC provides a mechanism by which to gather information.

NWIS Update – Susan Trapanese

- Acceptance test for 5.0 release was completed in June and will be out on October 1.
- Cyber seminars will be held for DBAs and SAs this summer for upcoming Oracle changes
- Susan noted that Mark Hammill will be hosting webinars on web services this week and next week.

Special Projects Update – Gary Fisher

- Gary reviewed the structure of OWI highlighting responsibilities of the Office
 - o Office of Chief – ITAC, NWUG, IT reviews, data coordination, WBD
 - o National Water Information System (NWIS)
 - o Applications – special projects (mobile computing, WaterAlert, ADR, SIMS (RMS), NWIS Mapper)
 - o Water Information Coordination Program (WICP) – ACWI, Information requests, Water web
 - o International Water Resources

Updates -

- Mobile Computing
 - Support commitment from HQ
 - Migration of SWAMI, MONKES, and CHIMP to a single platform (SVMobile); investigating support for other operating systems
 - Station levels will be incorporated into SVMobile
 - Decrease in the number of manual entries to monthly site visits
 - Gary commented that Nebraska has adopted the new tools nicely (<10% manual entries)
- NWISWeb
 - Web services are the base for serving data
 - Site, IV, DV, GW, QW (summer), SV (measurements), Stats
 - Major changes – IV data
 - All IV data back to 10/1/07 are entered and older data can be added
 - Temporary data policy from 30 to 120 days
 - New product – aggregated water use data (Fall 2012)
 - Modernized help system will be released this summer
 - NWIS Mapper conversion to ESRI Javascript API
- Annual Data Report
 - 2-year process to evaluate and transition the ADR process
 - Bill Werkheiser will be sending a memo out regarding this effort
 - Water Science Field Teams (WSFT) will work with WSCs to maintain good data workflow practices
 - 2 teams – final reports due by December 31, 2012
 - WSC Data Chiefs – review role of ADR in workflow management and data QA
 - Managers – consider long-term needs for presentation-quality data reports
 - OWI will support scripts until at least June 30, 2014
 - 2012-2013 ADR will continue as usual for continuous sites
 - 2012-2013 will not require discrete SW, GW, QW, Biological data (can if want to) – biological scripts are now available
- *IT Liaison Update* – Ryan Stevens — updates on enterprise projects and services
 - Account management
 - USGS Team Lead – Sam Martinez
 - Projects – AD, DOI Access account management, reduced passwords portal, SCCM virtualization and Implementation, Quest QMK Implementation (Mac), Mail enable USGS AD
 - Focusing on disabled accounts
 - Account management portal will be expanded to SharePoint (SP) portal sites in addition to T&A; additional access areas added later
 - Google won email contract. Beta testing underway now. Paul Exter has selected remote locations and high-end users to test product configuration
 - Enterprise Service Desk
 - USGS Team Lead – Scott Holmes
 - Projects – Unified service desk, remedy implementation, Tier 1 to Tier 3 collaborative support for VA, CO, CA, 1-800 number pilot
 - Back-end management changes
 - Hosting services
 - USGS Team Lead – Paul Exter
 - Projects – data center consolidation plan, update bureau data center hardware inventory, complete bureau data center application inventory, Reston data center consolidation, EI server virtualization, DFC computer room move, Menlo Park computer room move
 - WSCs are completing data calls
 - Risk Management
 - USGS Team Lead – Joe Seger
 - Projects – risk framework for DOI, system certification boundary architecture, enterprise continuous monitoring, POAM remediation, USGCB implementation
 - Telecommunications
 - USGS Team Lead – Ellen Rierson

- Project – Ipv6 data call and readiness, NAC strategies (VA, CO, SD, AZ, CA), circuit consolidation, firewall/connector optimization/consolidation, remote access (HI, AK), TFA for remote access, video conferencing strategy, risk acceptance for firewall removal, unused voice circuits
- Flattening of the network – remove firewalls, USGS has a staggered approach so there has been little interference
- o Unified Messaging
 - Team Lead – Daphne Wahl
 - Projects – USGS migration to unified messaging, USGS Lotus directory cleanup, USGS directory synchronization, migration of USGS business processes from Lotus, alternative mail forwarding to non-DOI hosts, Microsoft client installation, DLP implementation, Lotus forms migration
 - Google won mail contract – there are still many questions
 - Increase in mail file size – 25 GB allotment to each user
 - Will USGS still use SP? Ryan responded that he does not see USGS moving away from SP
- o Workplace Computing
 - USGS Lead – Nicole Bogeajis
 - Projects – standard desktop configuration, standard application suite, personally owned equipment usage for QuickTime, enterprise asset management, desktop virtualization, workstation ratio reduction, provide IT support to non-Bureau office in a regional area

Q: Bob Swanson commented that SP is used by modelers, but there are storage limits. Will the strings be loosened on large file storage?

R: Ryan responded that there are limitations with the SP database backend and how data is stored. Ryan commented that he is unsure of the latest rendition on storage – there may be a 4 GB limit. Ryan commented that he will find out more information.

Q: Bob Swanson asked if USGS will see a Gmail interface.

R: Ryan responded that there will be a Gmail based web component. Solution may be a plug-in for Outlook that will allow for connection to Google Mail. We are testing to see if this is a viable solution.

Q: Boyce commented that the initial RFP did not mention Lotus archives. Will there be a batch process out of Lotus?

R: Ryan responded that this is being looked at.

Q: Bob Swanson asked if the contract includes access to Google tools (ex. Spreadsheets, word processing)

R: Ryan responded that additional costs will be assessed for these tools.

Q: Jenny McGuire – What are the Service Desk hours? Will the hours be extended?

R: Ryan responded that he has not heard that the hours will be expanded. There are other Service Desks for telecommunications that are 24x7. Ryan will encourage the Service Desks to get their information out to users.

Town Hall Questions:

Q: Now that Core NWIS (release 5.0) is moving to Oracle, will it look different?

R: Susan responded that the NWIS software will not look/function differently for users. There will be some changes for NWIS DBAs and SAs.

Q: In NWISWeb, is there a limit to the number of files that can be downloaded with a single request?

R: Susan responded that there is a limit of 30,000 “rows” or sites. The limit is in place to prevent the system from being bogged down with large retrievals. Bob Swanson commented that web services may be a good work-around. Users needing large amounts of data may want to contact the NWISWeb support team for suggestions on the best approach.

Q: Regarding computer security, is it a security issue to add a printer when visiting another WSC or agency?

R: Ryan responded that settings may be able to be adjusted to allow adding a printer. There is a bigger concern that the user could set the added printer as the default printer or fail to remove the printer afterwards. Sending a print job to a remote printer translates to loss of control of data outside your security boundaries.

NEWSC Presentation 1 – Groundwater Modeling and Hydrogeologic Framework Enhancement in Nebraska (Steve Peterson and Jim Cannia) ([Presentation](#))

Steve Peterson discussed his work on enhancing hydrogeologic frameworks in Nebraska. There is a need for information about the availability of the Nation's groundwater resources – depletion, droughts, concern about climate change. Quantification of water-budget components is a prerequisite for effective water-resources management. Steve noted that multi-disciplinary studies across the U.S. will provide resource managers and policymakers with essential information needed for water-management decisions.

Reference - <http://txpub.usgs.gov/HPWA/index.html> -- <http://pubs.usgs.gov/sir/2011/5183/> -- <http://pubs.usgs.gov/sir/2011/5219/>

NEWSC Presentation 2 – Estimating Sediment Transport using Multibeam Echosounders on the Missouri River (Brenda Densmore and Jason Alexander) ([Presentation](#))

Brenda Densmore discussed her work on using multibeam echosounders to estimate sediment transport in the Missouri River. Multibeam hydrographic surveys allow for detailed bathymetric surveys. Bedload transport is analyzed to determine the amount of bedload moved over time.

ADJOURN DAY 1

Day 2 – Wednesday, June 13, 2012

CARP – Joe Nielsen

Joe updated ITAC on the status of CARP. Joe commented that the team hopes for final vendor selection in July. Evaluation of written proposals was done in KS WSC. Two teams evaluated proposals with respect to IT and functionality of the software. From that meeting, vendors were selected to give presentations to the team. These vendors will present their products in Denver in July. Roll-out will take approximately a year – will test servers and software. Further discussion will occur after the Data Conference. Joe noted that having a large group of people review the CARP proposal was a tremendous help.

OWI Special Projects (to include next steps for Field Computing) -- Gary Fisher

Special Projects

Questions to address –

- How to initiate a special project – gathering and selecting ideas, funding, staffing
- How to manage a special project – project plan, measuring results
- How to migrate from special project to program – responsibility, stewardship

Gary commented that SIMS may be a good project to start with for migration to a program.

WaterAlert – <http://water.usgs.gov/wateralert/>

Gary updated ITAC on the status of WaterAlert. Gary noted that there is a need to move WaterAlert to a sustained program.

- 37.5 K active subscriptions; 27.7K subscribers in June 2012 (compared to 31.5K/23K in January)
- Most support is to assist with subscription modifications.
 - o Issues – Needs an approved project plan and needs to be migrated to a “program”
- Katherine commented that the user group needs to be considered when migrating WaterAlert to a program. Gary responded that the current user group is large. Gary would like to evolve a user group – focus on what we can do next. Create a foundation first and build from there.
- A common concern echoed by many at ITAC is the need for WaterAlert to be robust and redundant.
- Katherine commented that users now expect WaterAlert support 24x7. This wasn't part of the initial plan. We need to come up with a management plan, however, there is no guaranteed funding – we cannot stop fundamental data collection that managers rely on.
- Terri raised the question of what happens to support for WaterAlert if the IT staff supporting WaterAlert transfer to DOI.
- Q: Mike Lewis – What is the total funding support?
R: Katherine responded that this is hard to determine. Gary commented that it takes about \$70K to run WaterAlert.
- Bob Kimbrough commented that cutting the application is not an option. He likes Gary's idea of moving it to a program. Bob asked if it is too late to reprogram WaterAlert? Gary responded that he does not think it is too late.

- Terri asked if there is a project plan. Gary responded that it's a "wish list." A formal plan needs to be developed.
- Gary noted that WaterAlert fits into the type of application that Bill Werkheiser likes – NWIS Mapper, WaterWatch – public-facing products.

Field Computing – <https://collaboration.usgs.gov/wq/FCIS/>

- Migration of website to SharePoint (will allow more authors, better content management, better bug tracking, etc.). SWAMI and Station Levels pages have been moved to the new site.
- Preparing for NWIS 5.0
 - Output from all applications are compatible with NWIS 5.0 – no changes needed
 - Retrieval scripts that produce data from NWIS to be used by SWAMI and MONKES need to be updated
 - 3 of 5 scripts for SWAMI have been updated
 - MONKES web page to be changed to use Oracle ODBC connection
- MONKES – patch update
- CHIMP – patch update
- SWAMI
 - Released version 4.11.1.0
 - <https://collaboration.usgs.gov/wq/FCIS/SWAMI/default.aspx>
 - Implement updates in SWAMI_PC this week
 - One more release planned – enhancement to sensor readings, add datum corrections. Testing begins in a few weeks.
- Stylesheets
 - MONKES stylesheet enhanced to show water level measurements that are recorded to MSL rather than below land surface
 - SWAMI stylesheet updated to show enhanced rating check info and to address bugs in levels display
- Station Levels
 - Released version 4.11.1.0
 - <https://collaboration.usgs.gov/wq/FCIS/StationLevels/default.aspx>
- Advanced Development
 - SVMobile will be only development after next SWAMI release

Katherine recommended that ITAC receive quarterly reports on the status of field computing issues. Kate suggested that the SP site be used to get discussion going.

Discussion on the use of automated tools

- Mike Lewis commented that he did a poll in his WSC asking if staff were/were not using automated tools. Mike will send Gary his results.
- Bob Kimbrough commented that there is reluctance to use available tools. Bob noted that there are a variety of reasons people are not embracing use of the tools. Mike Lewis commented that WSCs need to push use of new tools. Mike mandated use of automated tools. Kris Lund commented that the Data Chief in Iowa has given a deadline of October 1 to start using tools. Bob Swanson added that use of automated tools is reflected in staff performance in the NE WSC.

Site Management Advisory Committee (SMAC)

- Primary activity is to prepare and conduct user survey prior to National Data Conference
 - Callie Oblinger and Gary are working with Steve Gillespie to design the survey.
 - Best solution suggestion will come back to ITAC for endorsement.
- Top priority project is to investigate approaches to manage images and recommend best solution
- Other activity is to review and rank problem reports and requests for enhancements
- Gary commented that one challenge has been getting the team together to meet (once a month).

Gary commented that Brian Reece received money to better meet safety needs – SIMS helps satisfy the Bureau's safety needs. Dwain asked if there is a float plan in SIMS. Gary responded he would need to talk to Brian to ask about the availability of float plans. Bob Kimbrough also suggested adding flight plans (noting the use of helicopters for studies).

Annual Data Report ADR (ADR) –

- 2-year process to evaluate and transition the ADR process
 - Bill Werkheiser will be sending a memo out regarding this effort
 - Water Science Field Teams (WSFT) will work with WSCs to maintain good data workflow practices
 - 2 teams – final reports due by December 31, 2012

- WSC Data Chiefs – review role of ADR in workflow management and data QA
- Managers – consider long-term needs for presentation-quality data reports
- o Need to start gathering nominations for the Data Chiefs team
- o Gary reviewed with ITAC his best practices handout and asked if ITAC should discuss candidates to forward to Bill.
 - Bob Kimbrough commented that it is a good idea to capture best practices in centers.
 - Katherine suggested that ITAC can help with names. She would like for someone from ITAC to be part of the group. Bob Kimbrough responded that he would like to be part of the team.
 - Scott Gain asked if there is any historical information to reference. He commented that in the Southeast, Mickey Plunkett put together a document – Ideal Data Program. Scott commented that he can get a copy of the document. Bob Swanson referred to white papers produced from a small committee that Bob Hirsch set up. Scott noted that it would be good to refer back to these papers.
- o Bob Kimbrough asked about what we need to keep if the ADR goes away... Does Gary's idea need to be tied to the September 1, 2012 deadline to determine what we want to keep from the ADR product.
- o Comment - statistics and manuscripts will be lost if the ADR goes away. Bob Swanson responded that he does not think it will be difficult to move those things to NWISWeb. Gary commented that QA/QC will be lost.
- o Scott commented that our annual analysis separates us from others who do similar reports.
- o Mike Lewis commented that in Colorado, the WSC stopped publishing water quality and groundwater data 5 years ago. The data are published in NWISWeb – the process is the same, but there is no published report.
- o Gary asked the group if they feel that there should be an annual analysis with or without the ADR. The group responded yes.
- o Katherine summarized that the goal is to identify, for Senior Staff, what the ADR provides that we need to keep if the ADR, as we know it, is no longer produced. Katherine asked if the team should only consist of data chiefs or if others should be involved.
- o Comments were made that track revisions (for reliability), gage datums, and manuscript information are important.
- o ITAC suggested that the team include data chiefs, WSC Director, water quality specialist, studies chiefs, Jim Kolva or an Office of Surface Water representative.

ACTION – ITAC to send names to Gary by July 1 for submission to Bill Werkheiser.

Mobile Application Framework for USGS – Lorna Schmid

Lorna commented that she is working with the Office of Communications and others to get Terms of Service (TOS) signed by the DOI Solicitors Office. A suite of draft documents to establish a framework for managing mobile application development and delivery has been developed - (<http://internal.usgs.gov/mobile>). Included in these documents are a One-Stop Shop Outline, Mobile Applications Development Framework, Policy Matrix, and Mobile Application Evaluation Guidance. Lorna commented that she has worked to identify laws and regulations, and having this policy matrix may give a better eye for ensuring policies are met. Mobile application concept development – 5 areas to consider:

- Feasibility – Is data available? Is technology current?
- Effectiveness – Is the application serving the target audience?
- Risk of private competition
- Government justification – Why spend government dollars?
- Cost effectiveness - Is the application worth the time and money to build?

Lorna worked with colleagues at the October 2011 CDI Workshop to finalize and submit a proposal – USGS Mobile: Developing a Framework – the proposal was funded. Development of the framework will require collaboration with Core Science Systems, Enterprise Information, Science Quality and Integrity, Office of Communication, Publishing, and the mobile community. A planning workshop will be held July 17-19 in Shepherdstown, West Virginia. The team will be coordinating with the Mobile Application Development Focus Group and the Citizen Science Board. Goals are to provide a linked resource that points to identified “owners” of content related to device procurement and management, application development, and delivery resources including policies and support. Remaining funds will be put towards creating a wireframe and to develop a proposal to complete tasks that will allow the framework to be developed out.

Lorna shared the group's SharePoint site – <https://myinsight.usgs.gov/personal/lorna/MobileWorkshop/SitePages/Home.aspx>

Lorna commented that Ken Dreyer is working on an internal repository which will contain reusable code snippets for applications.

Q: Bob Swanson – Who is the TOS geared towards? Apple, Google?

R: Lorna responded both. Neither has signed the TOS. Tim Fullerton is the DOI contact working with the Solicitor's offices. This is a work in progress.

Q: Terri Moore – Did you say you were developing a place for code?

R: Lorna responded yes.

Bob Swanson– “How do we aid external developers?” Is your team addressing USGS-only and this? Lorna responded that it’s an open table. The mobile applications group includes folks that are non-USGS. It is part of Citizen Science work. Lorna suggested that ITAC may want to be part of this group.

Q: Bob asked “what is the Citizen Science Group?”

R: Lorna – under CDI and is open to everyone.

Scott Horvath (joined discussion by phone) – Scott commented that we are moving forward. Next steps are to determine the approver for the application. Scott commented that Apple has a “special” process for government TOS.

Q: Bob Swanson – Do we have anyone attending WWD conference (Apple’s development conference)?

<https://developer.apple.com/wwdc/>

R: Lorna responded that she is not sure.

R: Bob Swanson commented that if we are going to play in this area, then we should have people at these types of conferences. Bob suggested checking on Android development conference.

Q: Terri asked Lorna about the file size of files in SP. Is the limit 2GB?

R: Lorna – the upload limit is 250 GB. Users can get around this by discussing the file size limit with GS-HELP SP. The user will need to describe why they need more space.

R: Kate Flynn commented that file size is an issue.

R: Lorna noted that she would appreciate more information on what the files are and their exact size. There are things that can help. There are limits in place to help govern the site and to determine how fast SP is growing – having users ask for increases in storage allows for tracking. Lorna suggested cc’ing her in email sent requesting for space. This will help to figure out best practices for managing the SP site.

Web Reengineering Team (WRET) Update – Nancy Sternberg

- WRET Phase 1 took place about one year ago – provided an opportunity to look at the USGS Web and make suggestions on how to better present our information and ensure we keep up with other agencies. A presentation was made to a subset of the ELT who are championing this project.
- WRET met in Reston the week of June 4 to work on Phase 2 of the plan.
 - o 11 teams –content, architecture, analytics, presentation, customer service, etc..
 - o Teams were tasked with assessing the current site to identify things it does/does not do
 - o Working to pull teams together for a pilot (possible creation of a fictitious center web site)
 - Using information backbone technique – incorporate data in a phased approach
 - usgs.gov and second level sites
 - hope to have the pilot complete by early fall
- Quick wins:
 - o Web Handbook and Office of Communications Web policies – working towards a unified place for this information (Fall 2012)
 - o Analytics tools – ForeSee, Google Analytics, ASK USGS – use information from these tools to drive our efforts

Katherine expressed concern over the potential impact this will have on Mission Areas and Centers. Nancy responded that the footprint of the USGS Web is large. Web reengineering effort is a 5-year plan (this is year 1). We are focused on ensuring that what is recommended is low-key, low cost, focus is on our science, and that we offer a tool set to get data out to the public.

Bring Natweb infrastructure to the project.

Q: Katherine Lins – What will happen with the enterprise agreement with Google? Is anyone looking at moving to something else?

R: Nancy Sternberg responded that no one on the WRET team is looking at this. Nancy commented that she is the POC.

Katherine commented that she would like for Nancy to talk with David McCulloch. Nancy took the **ACTION** to follow-up with David. Katherine responded that it is critical for David to be aware of discussions about this. Gary Fisher noted that

he works with David and asked to have his name included for discussions. Gary commented that the license agreement for Google will not be renewed. The NWIS Mapper is being converted to ESRI.

Q: Katherine Lins – How far down does the WRET effort tier down? Will WSC pages be affected?

R: Nancy responded that yes, at some point in time, those sites may be affected. The WRET is aware that some sites will take longer (ex. NWIS).

Q: Bob Swanson and Katherine Lins – Is the template similar to the Water web framework that WSCs use?

R: Nancy responded that there is no single look and feel yet, but, yes, it may be similar. All disciplines are involved.

Katherine request that developers be involved in further discussions as the project moves forward.

Nancy – The Federal Digital Strategy was recently released -

<http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government-strategy.pdf>

Indexing NHD gages – Karen Hanson (Watershed Boundary Dataset product lead, UTWSC)

- Watershed Boundary Dataset (WBD) is integrated in a database with the National Hydrography Dataset (NHD).
 - o Goal is to build a national geospatial layer for boundaries
 - o WBD is the best national seamless layer with geographic areas 90-95% defined.
 - This effort will take in >140,000 sites
- Benefits of updating NWIS basin boundaries with WBD
 - o CO WSC model is developed and tested - other WSCs have similar process
 - o WBD provided high-resolution geometry for developing a national geospatial product of official NWIS basin boundaries
 - o Web stores – non-contributing areas, line source
 - o NHD/WBD stewardship in place
 - o Already 48,729 NWIS gages snapped to the 1:24,000 scale within the same geodatabase
- Goal is to have an automated process.
- A national data model has been approved – features NHD and WBD
 - o Pilot
 - Test geodatabase structure
 - Develop workflow and interaction with WSCs
 - Refine process
 - Provide guidance and data package to WSCs
- National Issues –
 - o There is a need for a consistent definition of non-contributing
 - o What is the threshold of percentage change to drainage area update before additional QC? SD used 10%
 - o Updating NWIS – actual vs. snapped NHD, new areas for NWIS basin boundaries

Q: Kris Lund – are you using a current list? Do you add new gages?

R: Karen responded yes, we use active gages and will need to work out a process. Refresh every 6 months.

Q: Kris – In Iowa, the NHD update is not done at USGS but at the State Geological Survey. Have you run into this?

R: Karen responded that this is a good stewardship process and that there are stewards in almost all states. There is a process to syncing NHD and WBD.

Q: Bob Swanson – How do you prioritize working through the WSCs?

R: Karen responded that they will start in CO or SD, and will work with WSCs who have data already (such as VA or ME).

Karen's office is working on AK as part of Streamstats. This is not currently a mandate. We will work on states as we find the time because people need the data. It may take email from Headquarters to introduce the idea for it to catch on.

Q: Mike Lewis – Can you ballpark the amount of time it takes for a WSC to complete the process?

R: Karen responded that it is a manual process (@10 minutes per site once set up). If this were an automated "cookie cutter" approach, a lot of time could be saved.

Gary Fisher noted a related similar effort that he is working on with Kernell Ries regarding drainage areas.

WMA Contract for Programming and Technical Support Services - Kate Flynn

Kate provided background information about the contract to ITAC. The contract is managed by OSW, and it is available to any Water office needing technical services such as programming, mentoring, and/or training. We are nearing completion of the 4th year of the contract. Over 15 years, a similar mechanism has been in place.

Background –

- Contract for technical services
- Established through the RFP process – current and written to meet needs
- Required experience in hydrology/hydraulics
- Work done under task orders (but no guarantee that there will be any task orders)
 - Flexible
 - Information to provide
 - Background and objectives (1-2 paragraphs)
 - Requirements – level of detail varies as well as the length (1-2 paragraphs to multi-page)
 - Deliverables – specific item or event, due date
 - Required contracting bids – 508, security, government supplied, travel

Intent of contract

- Take care of contracting details up front
- Simplify process for individual tasks
- Make it flexible to provide a broad range of requirements
- Make accessible to Water offices
- Aim for generic solutions – makes the contract applicable for more centers

Programming examples – PeakFQ, NSS/StreamStats, AWUDS & SWUDS, DECODES & LRGS, BASINS environment (SWStat and GWToolbox)

Mentoring

- Combination of face-to-face mentoring and phone/email support and assistance
- Flexible – can meet at your office (greater cost) or meet at contractor's office (cost effective) – usually over 3-5 days
- Examples – getting started with modeling HSPF, moving up to a new level in HSPF, getting started with programming (BASINS/MapWindows environments), hydrologic simulation programming – Fortran
- Mike Lewis commented that the contract was used for mentoring services in VA and was successful.

Training – formal classroom training is available for HSPF and other applications

- Alan Lumb will do some of the training and Darwin Ockerman will pick this up for the future.

Advantages

- Cost is fixed and similar to burdened cost of USGS staff
- No overhead applied, full amount goes to vendor
- No requirement to use the contract

BASINS Environment – Features

- Uses an open source GIS
- Direct retrieval of data from NWISWeb
- Other time series data available
- GIS coverages available for download
- Add your own GIS coverages

Applications plug-in

- Plug-in
- SWStat

Applications – Brand your own

- GWToolbox
 - Hydrograph separation: HYSEP – 3 methods
 - Rutledge's programs – Part, Pulse, Recess, Rora

Kate gave a demonstration of the GWToolbox application.

Q: Terri Moore – Does someone on the outside have experience with DECODES?

R: Kate responded “yes” – the BASINS contractor.

Q: Mike Lewis – Are Stuart Rounds’ web-based applications included?

R: Kate responded that she is not sure on the progression of that.

Q: Katherine asked if ESRI is included.

R: Kate responded no. The goal has been to make it non-proprietary. Katherine commented that if we are going to have an enterprise contract, having ESRI expertise is important. The mentoring portion of the contract may provide for a good way to get assistance more readily than going through ESRI. The USGS does not have the expertise to do everything that we want to do. Kris commented that we train people to get through a project, but we do not have the expertise to maintain it long-term.

Q: Katherine – If we have ESRI needs, can the contractors provide help?

R: Kate responded that it can be added if it is needed.

Q: Scott Gain – When is Aquaterra ending?

R: Kate responded that the contract ends this summer, but will be extended until the new contract is in place. Open RFP with the new contract and they are hoping to have a well-rounded review group.

Q: Bob Kimbrough – Is there a cap on what we can spend?

R: Kate responded that she thinks it is \$2.5M – ensures the opportunity to go as high as may be needed.

Q: Katherine – How long does it take to get a task order through?

R: Kate – Prior to DOI approval requirement, if > \$3000, the process took a week. The process now takes 1 month or longer.

Q: Pete Cinotto – Is the GWToolbox stand alone?

R: Kate – Yes, OGW wants it to be a stand alone USGS-branded tool. SWStat is a plug-in for it.

NWIS Future Vision (The NWIS Vision 2011) – Dane Ohe

Dane gave an overview of NWIS Vision 2011. The goal at the end of the long-term multi-year process is to have a centralized, aggregated product for discrete data. Dane discussed the history leading up to this effort noting that NWIS-WATSTORE was originally one system that was moved to distributed systems in the 1980’s. He commented that they are trying to solve the issues associated with having 45 distributed servers which is expensive and inefficient to maintain, and results in inconsistent data display. The NWIS future state architecture vision is endorsed by Bill Werkheiser, Jerad Bales, NWIS ESC, and the NWIS user groups.

The Vision will be carried out in a three-phased approach with each phase resulting in independent, testable, and valuable products. At the end of the process, it will not be necessary to have NWIS servers in WSCs. The intent is that the current servers will be the last ones that will need to be bought and maintained in WSCs.

Benefits of the Vision

- All discrete NWIS data available from a single source
- Enhance integration and data sharing – ends duplicated infrastructure, saves money and personnel time, eliminates inconsistent data presentations
- Implement newer technologies in NWIS – easier to modify NWIS to meet user needs
- Reduce/remove NWIS footprint in WSCs

Risks and risk management

- Impractical expectations
- Resource adjustments required by other activities
- Vision 2011 is not completed – each phase has independent products for use
- Commercial ADAPS replacement (CARP) – a high priority for NWIS; aggregation of ALL NWIS site information is an advantage for CARP and other systems

Phases

- Phase 1 – aggregated read-only internal system
 - Duplicated identified and managed
 - GUI retrieval system
 - Benefits
 - Aggregated data set for internal use
 - Automated method to identify and rank duplicates
 - Consistent national view of the NWIS dataset
 - Status – 2013 release
 - Development machines purchased and are available to developers and team members
 - Monthly conference call for technical staff
 - Initial resource assignments
 - Communications website drafted
 - July 2012 announcement of website and “The NWIS Vision” by Katherine Lins
- Phase 2 – public-read-only National system
 - No proprietary or duplicated data in this database
 - Benefits
 - Displays outcome of de-duplication process
 - Access for value-added applications to a single aggregation of NWIS data
- Phase 3 – aggregated transactional system
 - Includes a GUI input and management interface
 - Benefits
 - Removes the need for creating duplicate sites
 - Removes the need for a distributed system – reduction of the 45 WSC servers
 - Aligns with DOI/USGS strategic plans for IT transformation

Q: Kris – In starting the de-duplication process, there may be other clean-up processes that DBAs need to consider. As we move forward, we don’t want to create legacy problems. Are WSCs going to be encouraged to clean up their databases?

R: Dane responded that the focus has been on de-duplication, but we should step back and look at other things that need to be cleaned up. Kris suggested that communications to WSCs should encourage WSCs to take these opportunities when possible.

Q: Scott Gain – Can you talk about technological improvements over the next 5-7 years? Are there assumptions about network improvements?

R: Dane responded that he understands there are performance issues, and this is an issue that will be metered and measured. Dane commented that the only thing on the network will be the interface. The team is looking at cloud hosting – no maintenance for USGS and network issues should improve. Dane noted that performance is a concern from Bill and Jerad as well.

Mike Lewis commented that it seems that there has been a loosening up regarding the delivery date. Dane responded that the goal is to have the new system available by the time the current servers are retired.

Q: Bob Swanson – How long will we be frozen at 5.1?

R: At least one year. Prioritization will be made with input from ESC. The risk is in that if other issues arise, the deadline may extend.

Q: Mike Lewis – Has there been any pushback from WSCs?

R: Dane responded that there has not been as much pushback as in previous years.

Q: Scott – Are we keeping in mind that if we don’t meet the deadline, there is a need to keep the current systems going?

R: Dane responded that this will be a phased implementation. We can stop and redirect our efforts at the end of phase 1 or 2 if technology changes. Dane emphasized the need to move forward as NWIS has been in its current form since the mid-80’s

Boyce Blanks commented that in Joe Nielsen’s CARP overview, the RFP included the Vision language. It is comforting that there are other eyes looking at this. Boyce also commented that as a System Administrator he has concerns about a central site. Boyce suggested that communication to field on service level agreements would be good. Dane responded that there will be a change in the fundamental business practices.

Q: Dane – How often would ITAC like project updates? What format would ITAC like for updates? Would ITAC like to help?

R: Bob Swanson suggested that ITAC be updated at each face-to-face meeting with an email prior to the meeting.

Dane commented that they are setting up Town Hall WebEx sessions for the WMA and will be presenting at the Groundwater Conference and the National Data Conference in Portland.

Programming Forum – Pete Cinotto

Pete gave an overview of his Programmer's Forum concept for ITAC's new members noting that the forum is still in its infancy. The forum will be a group where programmers can voice their concerns and demonstrate the resources that are available for use in WSCs. Pete read through his forum proposal and shared feedback from constituents indicating there is support for the forum. One purpose of the forum is to increase collaboration – share tools and resources, leverage computer powers and resources. Pete's goal is to increase participation before the next meeting.

Q: Katherine – How do we distinguish this as a water issues as compared to a CDI issue?

R: Pete responded that there is difference in how water produces a program. Gary Latzke commented that it would be nice to participate more, but it is difficult to do so when having to meeting the needs of cooperators. Gary noted that the funding model between CDI and WSCs is different. This is where the disconnect lies. There is not a good mechanism in place for USGS to participate with CDI.

Bob Swanson suggested that the Programmers Forum be added to the topics list for webinars. Bob commented that some of what is being discussed goes along with Lorna's discussion during her mobile computing update.

ACTION - Begin process to identify scope and content for WebEx related to programmer's forum (ITAC noted that they wanted to see a demo of products, and so forth)

ACTION - Reach out to gain more participation in forum - the following programmers were recommended: Dave Blodgett, Stuart Rounds, and Bryant Jurgens.

ACTION - Follow up with WiM and other programming groups to gain further information related to the approval process for tools and templates developed within Water Science Centers – Katherine had noted that this could be a voluntary process and other ITAC members noted that some reward process might serve as an incentive to "daylight" and develop applications. Scott Gain noted that this review process must not be too restrictive or creativity / progress would be hampered.

ACTION - Follow up with programmers related to developing a code / tools / template repository (collaboration with CDI??)

ADJOURN DAY 2

Day 3 – Thursday, June 14, 2012

Webinar Planning – Ramona Neafie

Ramona has developed a document for use in setting up ITAC Webinars. A draft of the document is posted on the SP site (Shared Documents → Webinars → Setting up an ITAC Webinar). Ramona noted that there is another file in SP (ITAC Webinars) that needs to be renamed as it deals with webinars for ITAC meetings. Ramona reviewed the document with ITAC noting that it contains detailed descriptions for each step of the process. Ramona noted that she should step Gary through the process document to identify any problems or areas of confusion.

Q: Ramona – For the email announcement, does it still go to David McCulloch?

R: Katherine – The presenter should properly format the email announcement and send to the Webinar Coordinator. The Webinar Coordinator will forward the formatted announcement to Kim for Katherine's review and approval to send.

Additional suggestions –

- All replies should go to the presenter (set this in Lotus – Advanced sending options).
- Check the box to NOT receive out of office notifications

Pending Webinars –

- DBA series – Kevin Housel – Kris commented that there is a potential need for a session on Oracle.
 - o **ACTION** – Kris will follow-up with Kevin about future DBA series webinar topics.

- Mac's in the workplace – Tony (SA in ND) or Terri suggested someone from BUTST
 - **ACTION** – Terri will talk to Ken Dreyer (BUTST Chair) about a webinar on MACs in the workplace.
- Tim Lee series
 - **ACTION** – Terri will follow-up with Tim Lee about telecommunications webinar.
- OWI/ITAC sponsored GIS training classes – Jennifer Sieverling to post on GIS site as Water training.
- Stream View – at a later date when there is more to show and report
- Programing Forum – Pete Cinotto
- Analytics – Ramona Naefie
 - We are close to having a consolidated include file for all Web pages. Ramona suggested there could be a webinar on code implementation and producing reports. Timeframe: later this year or early next year.

Q: Mike Lewis – Have we asked USGS what they would like to hear about?

R: Katherine suggested that ITAC representatives should “poll” their constituents regarding their needs from which a webinar could be built.

ACTION – Kim will obtain a dedicated conference call code for ITAC's use. **COMPLETE**

GIS Training Plans and Mapping Summit - Gary Fisher

NWIS Mapper: Migration from Google Maps API to ESRI Javascript API

Background –

- NWIS Mapper and other USGS sites use the Free Google Maps API
- September 2011 – Google changed the TOS for free Google Maps API. Federal agencies cannot legally agree to the TOS.
- DOI procured and paid for Google Maps Premier license for all DOI Bureaus for FY12 with two option years.
 - The COR who negotiated the license has left DOI and the contract has a lot of “To Be Determined” costs.
 - Google changed TOS again. Under clarified interpretations, it is unlikely that we will be able to agree to use any non-free API.

Q: Terri – What is the cost for a government individual license?

R: Gary responded that it depends on usage.

Gary commented that David McCulloch's impression is that the license will not be renewed.

Office of Water Information Efforts –

- NWIS Mapper migrated from Google Maps API to ESRI Javascript API
- Presented two webinars on how to migrate mappers and Web sites in cooperation with ITAC and Enterprise GIS. Gary noted that the webinars were too well attended and support requests are overwhelming. Martyn Smith (NY WSC) has been funded to help field questions.

Why migrate to ESRI Javascript API?

- It's free – based on an open-source javascript toolkit called Dojo
- ESRI geocoders are free and results can be used on any basemap or application
- Can be integrated with ArcGIS Server and has the potential to provide more sophisticated internal and external mapping related web applications

Gary noted that there is a good certainty that we are good with using ESRI through 2017.

Q: Mike Lewis asked what the extent of use is in a WSC?

R: Gary responded that David McCulloch would have an idea.

Mike suggested polling WSCs and giving them a heads up about not being able to use Google anymore. Katherine responded that she does not want to be in the position to let people know they are not in compliance. Katherine expressed concern over advising people to change and then the issue is resolved at the last minute.

ACTION – Katherine will talk to Nancy Sternberg. Katherine would like discuss the need for communication to go out regarding the conversion of maps from Google to ESRI. She would like to include Dale England and David McCulloch in this discussion.

Q: Boyce Blanks – Is there someone, maybe David Boldt, who can find out who is using Google maps on their pages.

Q: Are there tools to identify sites using Google API. Ramona commented that there is a DOI page with month by month APIs. There may be a way to comb through, but will not be a comprehensive review. It will only detect if someone visits a page with a map using Google API.

Q: Boyce to Ramona – Is it difficult to write a script to search sites?

R: Ramona – This could be done, but it would be difficult to fine tune the search. Ramona also commented that she has no idea on how long this would take to run. Ramona suggests talking to David Boldt about a search.

Water Mapping Summit

Gary presented a proposal to ITAC for a USGS Water Mapping Summit. Gary's proposal stems from an increase in USGS water data products that include a spatial display. Increased use of spatial displays may lead to presentation inconsistencies, ambiguous data interpretations, and inefficient use of limited development and support resources. We need to present information consistently across our products.

Gary would like help from ITAC to identify who should be part of this effort. Gary identified potential participants in his proposal, but would like feedback from ITAC.

Q: Gary to ITAC – What is ITAC's feeling on hosting a mapping summit?

R: Scott commented that he thinks it is a good idea, there is utility in this. Emphasize larger applications. Scott commented that the initial list looks good to start with. Scott recommended getting agreement on the look and feel of what is being proposed and then hold a WebEx meeting.

R: Mike Lewis suggested having a WebEx meeting outside of ITAC to discuss the proposal.

R: Katherine commented that the summit be a developers team meeting. She suggested removing Geography and DOI from the listing of participants. Boyce responded that Geography and DOI could be subpanels.

R: Bob Kimbrough emphasized that the focus should be on national efforts.

R: Mike commented that if recommendations are put out, others will climb on board.

Gary commented that he will decide what is needed and come back to ITAC for further input.

Review of Town Hall Meeting – Terri Moore

Review of Action Items – New from Meeting and Review of Current AIs

ITAC reviewed new and outstanding action Items from the meeting. **Note:** New AIs are documented at the end of the minutes.

ITAC meeting schedule, member replacement, officer elections - Next F2F location and dates

Proposed meeting dates and locations–

- October 212 – New Jersey – last week of October
- March 2013 – New Mexico – 10/29-11/2 or 11/5-9
- July 2013 – Missouri, New Hampshire, New York, or Wyoming

Officers –

Katherine noted that ITAC needs a Chair, typically a WSC Director. Katherine asked if Scott would Chair ITAC, and he accepted.

ADJOURN

Town Hall Questions

I have been plagued for years by slow line speed issues or high latency in the field offices. As line speeds are increased, traffic increases faster, and the myriad of security bottlenecks slows response even more, kind of like a Seattle freeway. Our IT folks are constantly working on the issue, but, also like a traffic engineer are implementing fixes to last year's problems just as this year's traffic is increasing. These problems are compounded, not improved, when we partner with other Feds to share trunk lines. As we progress to the cloud, new NWIS, CARP, and Field Computing, is ITAC, or anyone else, keeping track of network requirements. Every new piece of software seems to run even slower than the last. I wish there were a benchmark published by Office of Water Information that we could compare to our field office connections. OWI is good at helping us anticipate the size of computers we'll need, could we get some help with networks?

ITAC understands the network issues that seem to be increasing in all our Centers and continue to research ways to assist. Last year Terri Moore worked with the Telecommunications group in identifying sites that were maxing out their bandwidth and assisted in getting those sites upgraded. If sites continue to have issues, we encourage the System Administrators to submit a ticket to the Service Desk and ask for assistance from the Network team to analyze the network at the site to find out if there is a local issue that may be bogging down the network or if the site needs an upgrade. They have the tools available to monitor the network over several days that can assist in determining the problem. Many times, after a network analysis, we have found misconfigurations on the local network that have contributed to the problem.

One activity the USGS planning and operations groups are doing is having ESN provide a semi-annual list of all tail (site) circuits in the USGS indicating what percentage of usage they are currently experiencing. If the site is above 70% they will contact the site to see if they are interested in upgrading and adding additional bandwidth. At anytime the site System Administrator can request a top talkers report to better understand the types of traffic that is transiting their circuit. We are also looking at sites that have 3 X T-1s and examining if it is cost beneficial to move to a fractional DS-3.

In addition, one of the services that we have been testing for Water specifically is Quality of Service (QoS). QoS is the ability to provide different priority to different applications, users, or data flows [http://en.wikipedia.org/wiki/Flow_\(computer_networking\)](http://en.wikipedia.org/wiki/Flow_(computer_networking)) or to guarantee a certain level of performance to a data flow. A considerable amount of testing has been conducted on the use of Quality of Service (QoS) for the Water Science Centers, particularly the field offices, that have been struggling with slow internet connectivity accessing our NWIS applications over the Wide Area Network. QoS has been successful at the test sites (PA, IA, OR). [http://en.wikipedia.org/wiki/Flow_\(computer_networking\)](http://en.wikipedia.org/wiki/Flow_(computer_networking)) Therefore, a message was sent out to Centers asking if they were interested in implementing QoS. A list was sent to the Telecommunication Group to begin implementation. Due to the transition to the new Networx contract, the Department requested that QoS implementation be put on hold until the Bureaus migrated to the new Networx contract. We were recently notified that we could begin implementation and Terri has been working with the Tim Lee to begin implementation. There will be a monthly recurring charge for QoS based upon the amount of bandwidth a site wants reserved for NWIS. The cost is \$1.30 for every 64kbs. For example, 512kbps is $512/64Kbps = 8 \times \$1.30 = \10.40 . It's a pretty cheap investment!

Field Office network performance issues --This continues to be my main concern because 1) FO network speed still lags; 2) the CRP bean-counters expect us to produce more; 3) we have no idea how the ADAPS replacement will work within our current network configuration (but, in all likelihood it --like all new software-- will demand more bandwidth and processing power, not less); and 4) the NWIS server consolidation --> logically it would seem this will only compound performance issues (admittedly, this is down the road a bit.....but if we can't fix the problems we have now, I am less optimistic about the future).

We really won't know till we try running whatever software tools we get in our network environment. While there may be a lot of tweaking that can be done to software tools to improve performance over the network, in the end it may not be a problem with the software but rather with the network.

The commercial product vendors are well aware of the issues with networks in general and although we can't promise anything, we certainly have expectations that the selected solution can be configured to work well even with our less than optimal network. We'll be working hard with both the vendor and UGS/DOI to make that happen.

Regarding NWIS Server Consolidation – Dane Ohe gave an overview of NWIS Vision 2011. The goal at the end of this multi-year project is to have a centralized, aggregated product. Dane discussed the history leading up to this effort noting that NWIS-WATSTORE was originally one system and was moved to distributed systems in the 1980's. He commented that they are trying to solve the problem of having 45 distributed servers which is expensive, inefficient to maintain, and results in

inconsistent data display. Aggregation of the database will occur through a 3-phase approach. The goal is to have the new database available by the time current servers are retired. The aggregated database aligns with DOI/USGS strategic plans for IT Transformation. The NWIS future state architecture vision is endorsed by Bill Werkheiser, Jerad Bales, NWIS ESC, and user groups.

Field Computing programming / development -- The individuals who developed all the various stand-alone programs -- from PCFF to Levels -- are to be commended. However, this shotgun approach to a comprehensive set of programs has resulted in many inefficiencies, not the least of which, is the expectation that the typical field person is expected to know all the quirks of each, carry the multiple computing devices required to use them, and then recall the specifics for each for getting the data into NWIS. Perhaps this is not an issue for most; however, here there is no such thing as a streamgager or a water-quality tech or a groundwater person --> each staff member has to do it all most of the time on every field trip. Also -- as was mentioned several places in the minutes from your last meeting-- there is a serious need to evaluate platforms. The PDA seems to be dead (or dying) -- there is seemingly no justification for continued development on this platform.

SWAMI, MONKES, CHIMP and Station Levels are being developed under the sponsorship of the Office of Water Information as a complete package targeted to collection of data at the point of measurement, so are particularly desired on handheld or likewise portable devices. PCFF is sponsored by the Office of Water Quality and is separate from development of the handheld applications; PCFF is typically used on a laptop or tablet computer. There are also a PC version of SWAMI. The handheld applications all operate currently on Windows Mobile devices. The selection of specific devices is at the WSC discretion, but the user interface for each program is identical on all devices. The reference to PDA is inaccurate, because the only devices targeted are fully functional computing platforms. PDA's as such were investigated in the early days of development because they were the dominant platform, but are no longer viable and are not being considered. Future development will provide an integrated software solution to be known as SVMobile (Site Visit Mobile), which will include all of the functions of SWAMI, MONKES, CHIMP, and Station Levels. The expected development of Windows 8 shows promise to be a viable operating system for handhelds as well as on laptops and tablets, but we are also following a general path that could support deployment on selected SmartPhones if that technology proves to be our best option. The development of mobile applications is being guided by a business plan and by the 2011 report by the Field Computing Review Committee, and is regularly monitored by ITAC.

Since I rotated off of ITAC and handed the electronic data issue to Jim Kolva, I haven't seen any progress or seen anything on ITAC's agenda pushing for resolution and guidance to the field. It is still an issue that won't go away and gets bigger every day.

Update on the latest on electronic archiving: (from Jim Kolva)

Jim noted that he is finishing up another draft of the memo.

The electronic files should be saved on a stable media in the field (transferred from the laptop hard drive to a USB drive etc.) and then stored in a consistent file structure back on the WSC server.

We have determined that formal chain-of-custody is not needed.

Documentation that should be included in the process:

- *Who collected, processed and stored the information.*

Ultimately,

- *Electronic files (like discharge measurements) should be stored in the NWIS database along with extracted information.*
- *The "blob" in SiteVisit is currently sufficient except for the fact that if the site visit is deleted from the database, so is the original information.*
- *We need a cache to retain any deleted information for at least some defined time period.*

With the use of pda or laptop site visit information collection (SWAMI) and the like, the problem is getting larger.

- *We do need guidance and direction for the field.*
- *We do need to have a place for this metadata included in the database in a relational form if possible.*

Direction is still a bit nebulous as the CARP process will have a major impact on methods of archiving and physical architecture of the archive.

I've talked to a few WSCs or offices recently that don't currently have in-house web support. It might be useful if there was a list somewhere of USGS folks with demonstrated experience using the WSC web framework who might be available for piecemeal or ongoing web work from other water offices.

I've talked to a few WSCs or offices recently that don't currently have in-house web support. It might be useful if there was a list somewhere of USGS folks with demonstrated experience using the WSC web framework who might be available for piecemeal or ongoing web work from other water offices.

ITAC agreed this was a good idea and the team will be discussing how to gather the resources and the best place to post the information.

It would be helpful if the minutes include a detailed update of what is reported out about the WRET s (Web Reengineering Team) status & plans.

An update is included in the minutes. Future updates will be included in the minutes as they become available.

Now that NWIS is moving to Oracle, will it look different?

Susan responded that NWIS will not look different.

Is there a limit to the number of files that can be downloaded?

Susan responded that there is a limit of 30,000 sites. The limit is in place to prevent the system from being bogged down with large retrievals. Bob Swanson commented that web services may be a good workaround. Susan commented that there may be internal workarounds – contact NWISWeb support team for help.

Regarding computer security, is it a security issue to add a printer when visiting another WSC or agency?

Ryan responded that settings may be able to be adjusted to allow adding a printer. There is a bigger concern that the user could set the added printer as the default printer or fail to remove the printer afterwards. Sending a print job to a remote printer translates to loss of control of data outside your security boundaries.

ACTION ITEMS --

AI – Person assigned: ITAC

Issue: ADR evaluation and transition

Description: Develop a team to identify what the ADR provides that we need to keep if it is no longer produced.

AI – Person assigned: Pete Cinotto

Issue: Facilitation of the needs of high end programmers.

Description:

- Reach out to gain more participation in forum - the following programmers were recommended: Dave Blodgett, Stuart Rounds, and Bryant Jurgens.
- Begin process to identify scope and content for WebEx related to programmer's forum (ITAC noted that they wanted to see a demo of products, and so forth)
- Follow up with WiM and other programming groups to gain further information related to the approval process for tools and templates developed within Water Science Centers – Katherine had noted that this could be a voluntary process and other ITAC members noted that some reward process might serve as an incentive to "daylight" and develop applications. Scott Gain noted that this review process must not be too restrictive or creativity / progress would be hampered.
- Follow up with programmers related to developing a code / tools / template repository (collaboration with CDI??)

Status: Update on next call

AI – Person assigned: Gary Fisher

Issue: Mobile Computing

Description: Brief ITAC on mobile computing workshop. Gary will invite Burl and Bob to participate.

Status: Fall update

AI - Person assigned: ITAC

Issue: Webinar series

Description: Follow-up for potential webinar topics

- DBA series - Kris will follow-up with Kevin about future DBA series webinar topics.
- Mac's in the workplace – Terri will talk to Ken Dreyer (BUTST Chair) about a webinar on MACs in the workplace.
- Network issues – Terri will follow-up with Tim Lee about telecommunications webinar.

AI – Person assigned: Kim Martz

Issue: Conference call logistics

Description: Kim will obtain a dedicated conference call code for ITAC's use.

Status: **COMPLETE**