

Advisory Committee on Water Information WebEx March 1, 2011

Summary of Action Items

USGS Science Strategy Planning Process: ACWI member agencies are being asked to assist the USGS Science Strategy Planning Teams (SSPTs) in framing their plans for the next 10 years. The SSPTs are charged to lay out their plans by October, and they have asked ACWI to do three things:

ACTION: ACWI member organizations are asked to **provide input to the SSPT process by using the following email address: conversation@usgs.gov**. The ACWI Executive Secretary will provide a compilation of the SSPTs' goal statements and questions to ACWI member organizations (the compilation appears at the end of this document). The optimal timeframe is to **submit comments before May 1**.

ACTION: ACWI member organizations are asked to **become involved with the individual SSPTs** that best fit their own agency's mission and interests. Those with an interest can submit their contact information to Wendy Norton (wenorton@usgs.gov), the ACWI Executive Secretary.

ACTION: The ACWI Executive Secretary will make arrangements to **send the GeoHealth newsletter to ACWI members**.

Secure Water Act Section 9506 report: Regarding the report that the Subcommittee on Water Availability and Quality (SWAQ) is working on, as mandated by section 9506 of the Secure Water Act, ACWI's National Water Quality Monitoring Council commented on the SWAQ report during late 2010, and extensive modifications have been made. Shortly after the March 1 ACWI meeting, there will be a notice in the Federal Register and the report will be posted on the ACWI website for a 30-day public review period.

ACTION: ACWI member organizations are asked to **comment on the Section 9506 report during the public review period**. The ACWI Executive Secretary will notify members when the report has been posted on the website.

Preparation for the July ACWI meeting: The Interstate Council on Water Policy has requested that supporting materials for the July meeting be provided to members a month in advance, to help bring more robust discussion and advice to the table.

ACTION: The Executive Secretary will **send supporting materials a month in advance of the July meeting**, and if possible will schedule a WebEx some time during June.

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Meeting Minutes

Bill Werkheiser welcomed the group and introduced himself as the new Alternate Chair for ACWI and U.S. Geological Survey (USGS) Associate Director for Water. Everyone at the table introduced themselves briefly; then Wendy Norton announced the names and affiliations of those on the telephone.

Budget Roundtable

Bill Werkheiser – U.S. Geological Survey budget outlook

- The 2012 budget request for USGS includes a net change of +\$6 million above the 2010 appropriated level:
 - -\$2 million Ground Water Resources Program (GWRP); the National Ground Water Quality Monitoring Network will be affected, along with principal aquifer studies.
 - -\$6.5 million in the National Water Quality Assessment (NAWQA) Program. This would eliminate the ground-water component of the program; sediment transport studies in Gulf, San Francisco Bay, and Chesapeake Bay; curtail analytical methods development; and stop implementation of real-time water-quality sensors.
 - -\$6.5 million eliminates grants to the State Water Resource Research Institutes.
 - We are trying to preserve core activities in National Streamflow Information Program and the Cooperative Water Program in spite of “management efficiency” reductions (travel, etc.), which amount to about \$4.4 million for the two programs combined.
 - The WaterSmart initiative identifies \$1.1 million for GWRP to expand its principal aquifer capability, but those studies are being cut in the 2012 budget, so the WaterSmart funding needs to fill that gap (which it can do partially). The USGS funds for WaterSmart in 2012 (+\$9 million in total) will be split several ways:
 - \$1 million for grants to State water resource agencies to assist them in advancing their water use programs.
 - \$0.5 million each to Biological Research and Monitoring (ecological flow component), Geographic Analysis and Monitoring (remote sensing activities for analyzing evapotranspiration, irrigated agriculture), and the National Cooperative Geologic Mapping Program (assistance with principal aquifer studies).
 - \$1.1 million to GWRP to advance principal aquifer studies.
 - The remainder goes to Hydrologic Networks and Analysis for work on water use, ecological flow, and overall water budget analysis (for example, estimating flow at unaged locations).
 - There will also be three geographic area focus studies (Colorado, Delaware, and Apalachicola-Chattahoochee-Flint basins) funded at \$0.5 million per year for 3 years – these studies will look at competition for water in these areas and the factors that cause that competition.

- *Tony Willardson* – How does this fit in with the other Secure Water Act study underway on the Colorado? *Eric Evenson* – USGS has been working closely with Bureau of Reclamation, and they have helped us identify areas of scope that would dovetail with river basin supply and demand study that Reclamation is doing.
- *Bob Goldstein* – I’m very interested in WaterSmart. Is there going to be a periodic newsletter so we can keep abreast of its progress? *Evenson* – Yes, we’re expanding the website and have developed plans to keep stakeholders informed and involved.
- *Darryl Glover* – Regarding the decrease proposed for the NAWQA Program, what is the net impact to the NAWQA Cycle 3 plan that was just rolled out? *Werkheiser* – the plan is developed independent of the budget, so what will be affected is how aggressively we implement the plan.
- *Mary Musick* – Regarding the scaling back of the NAWQA groundwater component – does that reduction include synthesis report compilation, or is it monitoring? *Werkheiser* – It’s on the monitoring side.
- *Doug McLaughlin* – what is ACWI’s possible or most effective role? Perhaps we can do an impact analysis? *Wendy Norton* – Yes, we can do such an analysis and submit it to the Secretary, but we cannot submit it to Congress. Although ACWI’s non-Federal member organizations are free to lobby against proposals contained in the President’s budget, ACWI is prohibited from doing so because we are a Federal Advisory Committee.
- *Peter Evans* – We need to stay focused on giving the Department of the Interior and USGS advice on how to move forward. For example, can we use the WaterSmart increase to limit the damage of the budget reductions?
- *Ruben Solis* – Regarding the reductions in the Cooperative Water Program and National Streamflow Information Program, is it too early at this point to say where (geographically) those cuts would occur? *Werkheiser* – Right now, we would distribute them equally across the country, and they would come as reductions in travel, equipment, and other administrative type things. *Solis* – Would it impact gages? *Werkheiser* – I think the impact would be minimal.
- *Evans* – Could you bring us up to date on the impact of the “no earmarks” rule? That will affect some gages, won’t it? *Werkheiser* – Yes it will. We have several earmarks that are used to fund gages: primarily Lake Champlain, Hawaii, and the National Weather Service’s (NWS) earmark for the Susquehanna basin, which provides USGS with funding to run the monitoring network in the basin; we’re discussing impacts in Susquehanna with NWS.
- *Gary Carter* – Is there a chance of getting departmental help, or will the full impact of eliminating earmarks fall on the Water Science Centers? *Werkheiser* – We’ll try to make sure the full brunt doesn’t fall on individual Science Centers, but we don’t have a lot of leeway, and departmental help is unlikely.

Gary Carter – National Weather Service (NWS) budget outlook

- The Integrated Water Resources Science and Services (IWRSS) effort that NWS briefed ACWI on at the July 2010 meeting is looking like a good opportunity, despite these uncertain budget times – largely because it is a collaborative effort. NWS, USGS, and the Corps of Engineers have a formal memorandum of understanding ready to go, so they can work together on this project. In March or April we expect to get a 3-agency team started on the planning process to get our data more interoperable. We will also get a 3-agency team started on a roadmap for updating inundation mapping.
- NWS is working with USGS on the impact of ending the earmark that has historically provided funding for flood monitoring in the Susquehanna basin.

- The USGS streamgaging network is absolutely essential to NOAA/NWS, to accomplish their flood forecasting mission.

Jerry Webb – U.S. Army Corps of Engineers budget outlook

- Same story as USGS and NWS ... different chapter. Under the Continuing Resolution, the Corps of Engineers is operating under 2010 levels. For 2011 we're not envisioning any significant cuts.
- We're concerned about trying to maintain our support for the streamgaging network, but we're looking at the issue for 2012 and will try to keep USGS in the loop.
- Memoranda of agreement are in place with Bureau of Reclamation and others, and NOAA's IWRSS and the Corps' own "Federal toolbox" will help us.
- *Evans* – We really appreciate the fact that you (the Federal agencies) are communicating among yourselves to solve some challenging budget issues, and I hope that IWRSS opens substantial opportunities for efficiency and allows us to extend our data networks. We have to be able to collect more data. The Susquehanna issue is worrisome; this is a national network, and it's not fair that the mid-Atlantic States should be disproportionately affected by budget cuts, simply because the Susquehanna portion of the network is funded by what was originally an earmark.
- *Evans* – Do you have any sense of how the Corps will work through the question of reduced funding translated into reduced support for the USGS streamgaging network? *Webb* – It will be on a region-by-region basis. The cuts will be spread across the whole Nation, and then each region will decide how their cut would be applied, according to each region's greatest needs and priorities. Our overall budget will go down when all the post Hurricane Katrina work is done in 2012, so that offers some challenges.
- *Evans* – It would be nice to know if the Corps headquarters is going to issue any guidance about how to apply the reductions. *Webb* – It would be nice if there were some guidance, but that's not very likely because some regions are hurting more than others; we'll try to let USGS know well ahead of time about gage closures so that other sources of support can be found. One issue is that the density of our network is not consistent right now.

Mike Shapiro – U.S. Environmental Protection Agency (EPA) budget outlook

(This discussion actually occurred during the afternoon, but it has been placed here in the minutes because it follows naturally from the above discussion of other agency budgets.)

- In FY 2012 the water portion of the EPA budget is proposed for lower levels of funding than in 2010. A lot of the reductions on the water side have come out of the large infrastructure programs that we manage (State revolving funds for drinking water and clean water) – about \$950 million lower than 2010. The program would still be bigger than it was in 2009, however, because funding for this program has increased during the past couple of years.
- There is also a significant reduction in the Great Lakes Restoration initiative (maybe a \$100 million decrease, down to about \$350 million).
- In total, we have a few areas of modest investment, but most programs are either level or slightly down.
- *Joe Lee* – Was there a reformulation of the distribution of SRF money under the Safe Drinking Water Act? *Shapiro* – No, there is no geographic redistribution, but there are some changes related to how some of the funds are to be used.

- *Glover* – Are there changes to 106 supplemental water monitoring grants for 2012? *Shapiro* – The overall program saw an increase of about \$21 million in 2012, but there is no specific change to the allocation for monitoring programs.
- *Evans* – What would the extra \$21 million go to, if not for supplemental monitoring grants? *Shapiro* – Primarily to provide additional resources for CWA implementation support (permitting, TMDL, water-quality standards programs, etc.)

Discussion of other budget issues

- *Tony Willardson* – The NRCS snow survey program is important to us. Also, I understand there is a \$13 million increase for Landsat operations in the USGS budget? *Werkheiser* – Yes, that is correct. *Willardson* – is there no longer a Geography program? *Werkheiser* – Most of Geography have been folded into the Climate Change and Land Change mission area.
- *Willardson* – We are participating with Western Governors Association under a DOE grant to look at the water related aspects of energy production in the west. We're working closely with Sandia and other national labs on this. *Evenson* – We're hoping that the thermoelectric power generation work we're doing can feed into the work that Sandia is doing.
- *Willardson* – What, if any, feedback are you getting back from the States regarding their budgets and their ability to participate in streamgaging program? *Werkheiser* – Not much thus far.
- *Solis* – Texas is facing a significant budget situation, including cuts (\$300k per year) to our side of the USGS Coop Program. This compounds the difficulty when cuts are coming from both the State and Federal side.
- *Glover* – We just got our Virginia budget news yesterday. We have had another cut to surface-water quality monitoring and cuts to local water supply planning grants.
- *Werkheiser* – I'm surprised the States have been able to keep their funding for monitoring in the fact of continuing cuts, which have been going on for several years already. But we don't have any hard numbers yet for 2012.
- *Evans* – Even if we need to work with estimated numbers, it might be informative to work with ballpark numbers (for example, big cuts like those at the Corps) and try to estimate how that translates into numbers of streamgages lost. This will help us figure out our options strategically. *Werkheiser* – I agree, we're burning the candle at both ends and will probably try to get an order-of-magnitude estimate, as the State budget pictures become clearer.
- *Evans* – Would it be possible to ask the USGS Water Science Directors to give you a quick appraisal? *Werkheiser* – That's exactly what we'll do because they're the ones on the ground who know the local programs. *Solis* – We're already planning to meet with the Texas Water Science Center director next week, to try to plan for which gages may have to be eliminated.
- *Mary Musick* – Bill Werkheiser mentioned that the USGS 2012 budget includes reductions to the National Ground Water Monitoring Network; is that cut to the pilot effort that the Subcommittee on Ground Water has been working on? *Werkheiser* – Yes, that's the USGS side of that effort.

Discussion of next ACWI meeting

The next face-to-face meeting of ACWI will be July 12-13 in Herndon, Virginia. We will have another WebEx in June, to prepare and get some of the administrative requirements (like subcommittee reports) out of the way, so we can have more discussion time during our face-to-face meeting.

Evans – If we can get supporting materials a month in advance, it would help us bring more robust discussion and advice to the table. *Norton* – Yes, we will do that.

Discussion of Secure Water Act reports

- *Evans* – What happened to the report that the Subcommittee on Water Availability and Quality (SWAQ) is writing in response to Section 9506 of the Secure Water Act? *Norton* – It will be posted soon on the ACWI website for public review and comment.
- *Willardson* – Reclamation report’s final draft is out (section 9503c) for review too.
- *Webb* – I have seen the SWAQ report, but it doesn’t currently contain much in the way of recommendations on what needs to be done.
- *Evans* – Is the SWAQ report going to come back to ACWI before the Secretary has to give it back to Congress? *Webb* – They’re trying to get individual comments in, and then it will be available for public comment next week. *Evans* – ACWI has not been engaged in the process yet, even though the Secure Water Act says that they should be, so we really need to talk about this report. Can we have another telecon after the report is posted for public comment? *Norton* – yes we can.
- *Webb* – Please let us know when the report is on the website. *Norton* – We will do so.

In response to the discussion of the status of the section 9506 SWAQ report, Jared Bales (USGS) joined the group briefly and provided the following information:

- ACWI’s National Water Quality Monitoring Council commented on the report last fall, and extensive modifications have been made.
- In a few days we will publish a notice in the Federal Register and post the report on the ACWI website for the 30-day public review period.
- SWAQ was able to obtain a 30-day extension, so the report is now due at the end of April instead of the end of March. This will allow for the full standard 30-day review period.

Science Strategy Planning Team (SSPT) Briefings and Discussion

Bill Werkheiser – Science Strategy Planning Team (SSPT) Introduction

- The Science Strategy Planning Process is based on USGS Circular 1309 – *Facing Tomorrow’s Challenges: USGS Science in the decade 2007-2017*
- This planning process is based on thematic Mission Areas, and USGS is being reorganized from a structure based on science disciplines to one based on the Mission Areas. There is purposely a lot of overlap among the mission areas, so we need to work very closely together.
- The SSPTs are charged to lay out their plans by October.
- Our SSPTs want your input! Conversation@usgs.gov
- Those who want to provide input to the SSPT process can do so through the USGS *Start With Science* web page. Go to the main USGS page (<http://www.usgs.gov>) and click on “Start with Science” in the upper left corner of the page.
- Questions that each SSPT is requesting ACWI’s help to answer are compiled at the end of this document.

Bob Holmes – Natural Hazards SSPT

- Coastal and Marine Geology, Earthquakes, Geomagnetism, Global Seismic Network, Landslides, and Volcanoes are the programs (budget line items) that this mission area includes. Also included is flood hazards, an activity that is spread across several budget line items.
- Mickey Plunkett is the point man for floods on the natural hazards SSPT.
- This team also includes a “societal consequences” component to address the ways in which these hazards affect communities.
- Statutory responsibilities of USGS relating to natural hazards include the issuance of warnings for earthquakes, volcanoes, landslides. USGS also supports agencies like NOAA who have responsibility to provide tsunami warnings, flood and hurricane warnings, and information about geomagnetic storms and wildfires.

Eric Evenson – Water SSPT

- We will link to the SSPT slide presentations and other information from the ACWI website, so everyone can get to the SSPT information easily.
- There is a lot of overlap between the SSPTs, and we will be planning jointly with the other SSPTs to develop integrated science approaches (see slides and the compilation of goals and questions that appears at the end of this document).
- Integration of science activities will be a major theme.

Herb Buxton – Environmental Health SSPT

- The Toxic Substances Hydrology Program used to be part of the Water discipline and is now part of the Environmental Health mission area. We will keep close linkages with NAWQA and other water programs, as we always have.
- This is a time of opportunity when we’re getting lots of input from our scientists and from other organizations on what USGS should be doing in the area of environmental health.
- The first step in our planning process was defining what Environmental Health Science means for USGS: multidisciplinary study of relationships among the quality of the physical environment (both natural and built environments), the health of the living environment (the health of all organisms, from microbes to wildlife to crops to wild plants – i.e., the health of all species and the ecosystems in which they reside), and human health (contaminants in drinking water and dust, or zoonotic disease impacts on people).
- Next steps: identify 4-6 goals; define major science issues associated with each goal; describe short-term (3-5 years) and long term (5-10 years) priority actions.

Dave Kirtland – Global Change SSPT

- In global change research, the USGS focus is on climate and land use change.
- They already have a draft science strategy that is already on the web because they got started before any of the other SSPTs. Their plan –
 - defines global change very broadly,
 - highlights key research questions, and
 - defines current state, envisions where we want to go, and describes high priority strategic actions and products needed to get us there.

- Fundamental science goals: past global changes; sea level rise and coastal response; biological responses; droughts, floods, and water availability; land-use and land-cover change; and the global carbon cycle.
- Monitoring is a critical component for this SSPT. Networks need to be multi-purpose, multi-variate, multi-scale.

Jon Kolak – Energy and Minerals SSPT

- Four strategic areas form the basis for our discussions: natural resource security for the future, environmental health, economic vitality of the Nation, management of Federal and other lands.
- Issues of concern to the ACWI member agencies may include energy-water nexus issues, and ACWI groups such as NWQMC, SWRR, and SOGW may find the Energy and Minerals SSPT especially pertinent to their activities and concerns.

Gary Brewer – Ecosystems SSPT

- Ecosystem science is the study of organisms interacting with their environment and the consequences of natural and human-induced change on those systems.
- The *Facing Tomorrow's Challenges* document notes that “ecosystems are foundational.”
- The team has tentatively identified 5 focal issues/goals [listed at the end of this document]. Are these five goals a good way to organize future USGS ecosystem science research? Are these adequate to frame the planning process?
- We are asking our partners to help us determine if these are the right goals to focus on, or if we should focus differently.

Roland Viger – Core Science Systems SSPT

- Core Science Systems includes the National Geospatial Program, National Cooperative Geologic Mapping Program, Biological Informatics, Data Preservation programs, library.
- Core Science Systems deals with the ways in which information travels between and among the other SSPT mission areas. We want to improve how we acquire, manage, and analyze information, and how we support earth science decision making.
- Community for Data Integration: fosters broad understanding of data and info (R&D, new geospatial info, developing technical expertise).

Questions and Discussion of the SSPT Goals and Activities

Lee – I want to commend the USGS on doing this. It’s a culture change, and I know there are bumps in the road. Are any of the groups concerned about the timing of the process? *Werkheiser* – We’re asking groups to be far-reaching in developing their strategies, so our priorities should be the same no matter how much money we have to put toward them. When we do have to make tough decisions on what to fund, we want to be able to look to the SSPT plans to help decide what to fund.

Evans – It seems that these teams are looking to future work that USGS should add to their capability. The National Research Council assessment a few years ago said that it might be good if USGS narrowed its focus and became more expert in fewer areas. *Werkheiser* – Yes, the temptation in an exercise like this is to think of all the great things we *could be* doing. The challenges that we face include making our

existing work better, as well as identifying new things that we should be doing. *Evenson* – We have already discussed what we will do if we get no new money at all. We have discussed program integration work that we should be doing regardless of new resources.

Peter Lyttle – I was pleased to hear Eric Evenson say that one of the Water goals is to *anticipate* and respond to water use conflicts. These types of conflicts spread and spread. Anticipation will be critical.

Randy Orndorff – Looking at the socioeconomic aspects and drivers of these issues is critical, and that is where many of the new pieces of work would come in.

Willardson – Along those same lines, even though water use is leveling off in general, we've seen growth in water demand to meet growing energy demand. We're just now seeing interesting cases in this area; for example, Wyoming energy companies are buying water rights from farmers for fracking purposes.

Willardson – Will drought fall under the Hazards mission area, as well as under the Global Change mission area? *Evenson* – Yes it's a cross-cutting issue, but when we're talking about drought and water availability, we need to distinguish between "conflicts" and "emergencies."

Evenson – The "Start with Science" website (http://www.usgs.gov/start_with_science/) is still under development. All of the SSPTs will soon be listed in the "Open for Comment" section.

Evans – Will the other SSPT plans eventually have the same level of the detail that the Global Change plan has? *Werkheiser* – Global Change was the pilot, so they have already completed their draft report, and the other teams are catching up. *Evenson* – We're hoping to make the other plans more detailed after we get responses to the questions we're asking ACWI to answer.

Solis – What is the deadline for comments? *Evenson* – Our first draft of our plans are due to the USGS Executive Leadership Team by July. Then they'll go through a series of reviews and revisions including an open public review, which will be done in October. In May-June-July we will be writing reports, so it's better to give us comments before May 1. The Global Change plan is already out for public comment, and comments are due April 9.

Bob Goldstein – Once the plan is completed, how will it be implemented? *Werkheiser* – We'll use the plans to guide our annual budget request to Congress. *Evenson* – And of course the annual budget requests deal with fluctuations in program due to changing priorities and changing funding levels.

McLaughlin – How will input be acquired from other Federal agencies, State agencies, etc? *Evenson* – We recognize that we need to integrate, not only our own USGS programs, but water programs across the whole water community. For example, the IWRSS work and the Corps of Engineers Federal Toolbox that were mentioned this morning provide opportunities to make a better and more comprehensive product. *Dave Kirtland* – The Office of Science and Technology Policy held a workshop here at USGS in November regarding Climate Change and how to incorporate all the diverse types of data that will be offered up to help study global change issues.

Herb Buxton – We have a "GeoHealth Newsletter" that comes out twice a year. It includes accomplishments, announcements, etc. *Norton* – I will make arrangements with Herb to get the newsletter out to ACWI members.

Evenson – We will be holding more listening sessions in the future, but if you are interested in working with one of the SSPTs in particular, let us know who you are. Send your contact information to Wendy Norton (wenorton@usgs.gov), and she will give your information to the team you're interested in.

Solis – Will the work of these teams compete with streamgages? *Werkheiser* – no, there will be no budget request for the teams themselves. Also, streamgaging is going to rank as a high priority for more than one of the SSPTs. *Evenson* – One of the exercises we have recently gone through is looking at the density of monitoring across the Nation, and there are definitely holes and thin spots. The uncertainty that results from these thin spots is a great advertisement for the need for more gages.

Cliff Duke – Matt Larsen came to talk to the Ecological Society of America (ESA) last week about the Global Change work, and ESA and other non-governmental organizations would probably like to host the other SSPTs' efforts. *Evenson* – If you invite us, we will do our very best to try to visit you for a discussion. *Evans* – Yes, that would be good, but it would be difficult to have a constructive discussion until after the questions you're posing have been answered.

McLaughlin – I appreciate the opportunity to hear how USGS is approaching these new mission areas, and I appreciate the opportunity for input early in the process as well as later on.

Evans – If we have the chance to express our interest right now, then ICWP would like to be involved in both the Water and Global Change SSPTs.

Musick – Would the teams be interested in interacting with the ACWI subcommittees? *Evenson* – Yes.

Evans – Is it possible to have another ACWI telecon about 20 days into the review period for the SWAQ report? *Norton* – Yes, we will schedule one.

Goldstein – How will USGS look in the year 2021 as a result of this plan? I would like to see this question addressed at the summer meeting.

Since there were no additional questions or comments, the meeting was adjourned at 4:00 p.m.

Attending in person:

American Society of Drinking Water Administrators
Darrell Osterhoudt

American Water Resources Association
Harry Zhang

Ecological Society of America
Cliff Duke

Ground Water Protection Council
Joe Lee

U.S. Geological Survey
Bill Werkheiser, ACWI Alternate Chair
Wendy Norton, ACWI Exec Secretary
Sheri Alcalde
Gary Brewer
Herb Buxton
Bill Cunningham
Eric Evenson
Dave Kirtland
Jon Kolak
Peter Lyttle
Sharon McKinney
Randy Orndorff
Tim Smith (retired)
Susan Wells

On the phone:

American Society of Drinking Water Administrators
Brandon Kernen

Association of American State Geologists
Bob Marvinney
Derric Iles

Association of Metropolitan Water Agencies
Tom Leahy

Association of State Flood Plain Managers
John Miller

Association of State and Interstate Water Pollution Control Administrators
Darryl Glover

Electric Power Research Institute
Bob Goldstein

Ground Water Protection Council
Mike Paque

Interstate Council on Water Policy
Peter Evans

League of Women Voters
Edith Stevens

National Council for Air and Stream Improvement
Doug McLaughlin

National Ground Water Association
John Jansen

North American Lake Management Society
Steve Heiskary

Subcommittee on Ground Water
Mary Musick

Western States Water Council
Tony Willardson
Ruben Solis

National Aeronautics and Space Administration
Ted Engman

National Weather Service
Gary Carter

U.S. Army Corps of Engineers
Jerry Webb

U.S. Environmental Protection Agency
Mike Shapiro

U.S. Geological Survey
Bob Holmes
Mickey Plunkett
Gary Rowe
Cathy Tate
Roland Viger

Compilation of Goals and Questions

USGS Science Strategy Planning Teams (SSPTs)

Water Mission Area

Cross-cutting issues where the Water mission area intersects with the other mission areas:

- Water quality and flow.
- Impacts to environmental health and human health.
- Water needs for energy development and energy production; energy needs for producing water.
- Data Integration; decision-support systems; data management; product delivery.
- Changes in precipitation, evapotranspiration, flow, temperature, timing characteristics, etc.
- Floods, debris flows, high flow hydrologic techniques, etc.
- Water quality and flow.
- Needs for ecosystems.

Questions:

- What areas of science will be needed to address water availability issues of the future?
- What specific areas of water-related research should USGS advance in the next 5-10 years?
- What types of water-related products should USGS aim to produce in the next 5-10 years?
- What does water need from other mission areas (and from other agencies)? And what does water have to offer the other mission areas (and other agencies)?

Global Change Mission Area

Goals:

- Improve understanding of past global changes in support of policy and management decisions.
- Improve understanding and prediction of the global carbon cycle.
- Improve understanding of land use and land cover change rates, causes, and consequences.
- Improve understanding at a process level of droughts, floods, and water availability under changing land use and climate.
- Improve understanding and prediction of coastal response to sea-level rise and climatic change.
- Improve understanding and prediction of biological responses to global change.

Questions:

- Are there important climate and land-use change issues that we haven't addressed in this draft?
- Are there areas in the draft that aren't very important or that we've focused on too much?
- Do you have any other issues, questions, or ideas?

Natural Hazards Mission Area

Goals:

- Advance fundamental understanding of hazards processes.
- Develop and support robust monitoring and communications and infrastructure.
- Characterize hazards, assess vulnerability, and communicate risks.
- Improve forecasting capability.

Questions:

- For those hazards in which USGS has a role, what are the priority issues?
- What future USGS investments in hazards science will have the greatest return?
- How can the USGS improve the access and usability of its natural hazards science information to make the greatest positive societal impact?
- What partnerships will be essential to inform policy and actions?

Environmental Health Mission Area

Goals:

- Anticipate, detect and assess emerging threats from contaminants and diseases affecting aquatic and terrestrial organisms and humans.
- Characterize the environmental factors that control exposure to natural and anthropogenic contaminants, and their effects on, aquatic and terrestrial organisms and humans.
- Elucidate the ecological and environmental factors that influence the occurrence and evolution of infectious diseases affecting aquatic and terrestrial organisms and humans.
- Determine the interactions among contaminants, pathogens, environmental changes and other stressors that combine to affect the health of aquatic and terrestrial organisms and humans.
- Enhance methods to anticipate and rapidly assess the environmental impacts of natural or anthropogenic disasters on the health of aquatic and terrestrial organisms and humans.
- Synthesize and communicate integrated environmental health science information to decision makers and the public.

Questions:

- What are the most important Environmental Health issues facing the Nation in the next decade?
- What are the core USGS capabilities in Environmental Health Science? What is missing from the USGS portfolio?
- What are the essential cross-linkages between the Environmental Health and other Mission Areas? How can these linkages best be made?
- Does the USGS definition of Environmental Health Science resonate with you and the science issues you expect to deal with in the coming decade?
- What stakeholders are key to a successful USGS Environmental Health Science agenda? What suggestions do you have for improving stakeholder connections?

Energy and Minerals Mission Area

Strategic areas to focus on:

- Natural resource security for the future.
- Environmental Health.
- Economic Vitality of the Nation.
- Management of DOI, Federal, and Other Lands.

Questions:

- What are the most important energy and mineral resource issues facing the Nation in the next decade?
- What is the USGS role in providing the science needed to address those issues and to identify new issues?
- How can USGS improve the access and usability of the science information that we provide?
- What partnerships will be essential to getting that information to decision makers?

Ecosystems Mission Area

Goals:

- Understanding ecosystem structure, function and processes.
- Understanding how drivers and stressors influence ecosystem change.
- Understanding the services that ecosystems provide to society.
- Science to support strategies for adaptation, restoration and conservation of ecosystems.
- Tools and approaches that will better inform decisions about ecosystems.

Questions:

- What are the most important ecosystem science needs and challenges for the coming decade?
- What actions do you recommend that the USGS take to address these ecosystem science needs and challenges?
- How can USGS better provide relevant and timely ecosystem science information to decision makers, the scientific community, and the public?

Core Science Systems Mission Area

Goals:

- Help earth scientists and managers work better and faster
- Improve how we:
 - Acquire
 - Manage and Analyze
 - Support earth science and decision making using scientific information
- Provide high-level support for infrastructure, standards, and collaboration

Questions:

- Basic Earth Science Information Needs
 - What are the major gaps in Federal monitoring of the environment?
 - Are there new types of instrumentation such as micro sensing clouds?
 - What are major gaps in network design thinking?
 - Do you see a need for basic, national data sets that do not exist?
 - Maps of channel width geomorphology and hydraulic management?
 - What remotely sensed data products are needed for ecosystems modeling?
- Earth Science Information Handling and Distribution
 - Leadership in designing infrastructure, definition of standards
 - Traditional Data Pulls
 - Web pages
 - PDA
 - Pushing info
- Value-adding tools
 - Simple analyses:
 - WaterWatch (standard stats),
 - WaterAlert (user defined/inputs)
 - Models – do we need to run “on the web”? How deep into research or support of computer science and engineering?
 - Visualization: spatial extent of indeterminate boundaries, trends, uncertainty
 - Decision-support for major topics, like Clean Water Act, SWAQ
- Facilitating integration– Ways that we can take currently existing earth science information and improve the ability to bring it to bear on new science and management needs.
 - How to better leverage real-time sensors for water quality?
 - Are there major issues with interoperability, getting our science information to work with yours? With other people’s?
- What are your visions for:
 - Basic Earth Science Information Needs
 - Earth Science Information Handling and Distribution
 - Value-adding Techniques & Tools
 - Facilitating integration