

Meeting of the Advisory Committee for Water Information's (ACWI's) Subcommittee on Hydrology (SOH)

July 27, 2006
9:30-12:00 AM (Eastern Time)
FERC Building
888 First Street, NE, Washington, DC 20426

Agenda

1. Welcome and Introductions
 2. Review and Approval of Agenda
 3. Approval of Minutes from 3-31-06 meeting
 4. Status of Action Items from 3-31-06 meeting
 5. Update of Roster and Subcommittee Membership
(including NASA Membership Application)
 6. Update on Hydrologic Modeling Work Group
 7. Update on Hydrologic Frequency Analysis Work Group
 8. Update on Satellite Telemetry Interagency Work Group
 9. Proposal for Hydrology and GIS Interagency Work Group
 10. Current Events within Hydrologic Communities
 - a. US Meteorological Science and Technology Seminars, June 22-23, 2006, Wuhan, China
 - b. American Institute of Hydrology (AIH) meeting May 21-24, 2006 Baton rouge, Louisiana
 - c. The Twenty-First Conference and Exposition of the ALERT Users Group, May 9-12, 2006 Yosemite Fish Camp, California
 - d. Holland – A “Water” Seminar – Prediction, Protection, and Purification, April 28, 2006, Washington, DC.
 11. Announcements and Business Reports from Member Organizations
(including a special presentation by Joe Krolak (FHWA): “Coastal Storm Events – FHWA Plan of Action”)
 12. Other Business
 - a. ASCE World Water Congress
 - b. Newsletter
 13. Plans for Next Meeting
 14. Adjournment
- Post Meeting Activity: Presentation of “Recent Trends in Climate and Their Impact on Water Resources” by Dr. Robert Livezey, National Weather Service

SUMMARY OF MEETING
(Prepared by Stephen Blanchard, USGS)

PARTICIPANTS

Peter Ahnert	National Weather Service (NWS)
Martin Becker	Defenders of Property Rights (DPR) <i>by phone</i>
Stephen Blanchard	Geological Survey (USGS) <i>by phone</i>
Tom Donaldson	National Weather Service (NWS)
Mike Eberle	Bureau of Land Management (BLM)
Ted Engman	National Aeronautic and Space Administration (NASA)
Don Frevert	Bureau of Reclamation (BOR)
Mary Greene	Office of Surface Mining (OSM) <i>by phone</i>
Jeff Harris	Army Corps of Engineers (USACE) <i>by phone</i>
Douglas James	National Science Foundation (NSF)
Charles Kazimir	Bureau of Land Management (BLM)
Joseph Krolak	Federal Highway Administration (FHWA)
Samuel Lin	Federal Energy Regulatory Commission (FERC)
Robert Livezey	National Weather Service (NWS)
William Merkel	Natural Resources Conservation Service (NRCS)
John Ondernonk	Federal Energy Regulatory Commission (FERC)
Claudia Scheer	Natural Resources Conservation Service (NRCS)
Eugene Stallings	National Hydrologic Warning Council (NHWC)
Will Thomas	Association of State Floodplain Managers (ASFPM)
David Toll	National Aeronautic and Space Administration (NASA)
David Wells	Environmental Protection Agency (USEPA)
Don Woodward	American Forests (AF)

Meeting Highlights

Sam Lin called the meeting to order at 9:30 AM (EST)

1. Welcome and Introductions

Sam Lin welcomed everyone to the meeting. Each person introduced themselves and their organizational affiliation. A total of 22 individuals participated, with 4 of the 22 participating by phone.

2. Review and Approval of Agenda

The meeting agenda was approved as listed above.

3. Approval of Minutes from 3-31-06 meeting

Will Thomas requested a correction to the 3-31-06 minutes. Under the ASFPM business report the sentence "The FEMA sponsored Galloway Levee Evaluation Committee report related to Katrina is due in June." was changed to "The FEMA sponsored Galloway Levee Policy Review Committee report related to Katrina is due in June."

The 3-31-06 meeting minutes were approved

4. Status of Action Items from 3-31-06 meeting

The action below related to STIWG from the 3-31-06 meeting was discussed.

***ACTION:** A vote will be taken at the next SOH meeting regarding official support of the STIWG issue paper document, "STIWG concerns and recommendations for the continued operation and support of the GOES DCS to the ACWI."*

Charles Kazimir, Chair of STIWG, presented the STIWG issue paper and requested that it, or a form of it, be sent to NOAA from the SOH. The STIWG issue paper is attached. There is a concern from STIWG regarding communications related to the importance of the GOES DCS. Several individuals offered suggested changes to the STIWG issue paper.

Action: Tom Donaldson will provide Charles with information about who the best individual is within NOAA to receive the letter. Charles will revise the STIWG issue paper according to the comments received at today's meeting and will send the revised version to Sam Lin. Sam will forward it to the SOH for review and comment. Once the issue paper is finalized, it will be sent by Sam to ACWI for their consideration.

5. Update of Roster and Subcommittee Membership

The SOH roster was circulated for review and to update any change in contact information. The revised roster is attached.

Jared Entin submitted a letter from NASA requesting the SOH consider NASA for membership. David Toll will serve as the NASA representative and Dr. Edwin "Ted" Engman will serve as the alternate. A motion was made and seconded to approve NASA for membership. All voted in favor of adding NASA to the SOH. There was discussion of holding a future SOH meeting at a NASA office.

Decision: NASA was approved for membership in the SOH.

6. Update on Hydrologic Modeling Work Group

Don Frevert reported that the joint Hydrologic Modeling and Sedimentation Conference was a great success - both technically and financially. More than 250 technical papers were presented along with more than 60 posters, 10 very well attended short courses and three technical field trips. Total attendance exceeded 600 including single day and student discounted registrants.

The organizers feel that the success of the conference could not have been attained without the leadership of Doug Glysson. Doug's efforts have been key to the success of many hydrologic modeling and sedimentation conferences in the past 20 years. It was moved, seconded, and approved that the Subcommittee on Hydrology express its appreciation to Doug in the form of a certificate of recognition and also a letter of appreciation to Dr. Robert Hirsch, Associate Director for Water of the U.S. Geological Survey.

Don Frevert noted that the two sponsoring subcommittees - Hydrology and Sedimentation will need to determine whether the joint conference format should be continued in the future and, if so, what the interval of the conferences should be - four years (as is the practice with the Hydrologic Modeling conference) or five years (as is the practice with the Sedimentation conference).

Action: The SOH is to discuss and decide at the next meeting whether or not the conferences will be held jointly and at what interval.

Decision: Sam Lin and Don Frevert will work together to send a Certificate of Appreciation to Doug Glysson and a letter of appreciation to Bob Hirsch (USGS) in recognition of Doug's many contributions to these conferences.

7. Update on Hydrologic Frequency Analysis Work Group (HFAWG)

Will Thomas reported on the status of work for the Bulletin 17B restudy. Will stated that he has made some progress on the action item to compile a data set from 50-60 streamgages for the testing. Will developed a list of over 100 station but needs to retrieve the data, review it, and develop the final database.

Tim Cohn (USGS) is working on updating the Expected Moments Algorithm software code in the USGS PEAKFQ software package. Tim expects the PEAKFQ package to be revised and ready for use on this project sometime around mid-September.

The approximate Bulletin 17B project plan for the near future is to (1) revise PEAKFQ with the latest EMA application; (2) retrieve the data for the streamgaging stations and establish a checked data set for 50-60 stations; (3) begin testing once the PEAKFQ code is done and the database is developed; and (4) schedule a meeting or conference call for the HFAWG in August or September to develop a detailed project plan and begin testing. Will expects to have a detailed project plan completed by the October SOH meeting.

Action: The HFAWG will complete the updating of PEAKFQ to include the latest version of EMA, establish a test database of 50-60 streamgaging stations, and develop a detailed project plan by the October SOH meeting.

8. Update on Satellite Telemetry Interagency Work Group

Chair – Charles Kazimir (Kaz) DOI/NIFC/BLM

Secretary – Jim Heil NOAA/NWS

a) On July 25, 2006 the STIWG presented a Letter of Appreciation to Warren Dorsey of NOAA/OSD. The letter is attached. As reported by NOAA/NESDIS in item #6, Warren Dorsey is largely responsible for the success of the High Data Rate (HDR) capability of GOES DCS.

b) The 105th STIWG meeting was held in Sioux Falls, South Dakota on Tuesday, May 16, 2006. About 30 individuals attended the meeting. CA, CO, about a dozen federal organizations, Mexico, and Canada were represented.

c) NOAA/NESDIS is holding excess STIWG funds in the amount of \$20,253.00 due to cancellation of universal service charge and a three year monthly savings from the Domestic Satellite (DOMSAT) contract.

d) A STIWG work group headed by Paul Tippett drafted a Data Collection Platform Interrogate (DCPI) specification. The Small Business Innovation Research (SBIR) contract should be announced by early August. This will provide limited remote control of DCP's.

e) Wallops reported that the launch of GOES N will be 1.5 years late. GOES 10 was replaced by GOES 11 around the first of July 2006. There are two new chassis of High Data Rate (HDR) demods with 40 channels each one for each satellite. Since the last STIWG meeting the NOAA/NESDIS purchased the remaining 80 HDR channels for each satellite and they should be installed in the near future.

f) NOAA/NESDIS reported that a settlement has been reached with the prime contractor on the Data Automated Processing System (DAPS) II project at Wallops. DAPS II is dead. NESDIS is picking up the pieces and deciding on the next course of action regarding DAPS I. Initial plans are to use demods with the DAMS NT interface to connect a backup similar to EDDN.

NESDIS is still working on the narrow band specifications. (This scheme will double the capacity of the current GOES DCS). 50% of the current GOES DCS assignments are now HDR.

g) There was a lengthy discussion of the EDDN at the USGS EROS data center. Ernest Dreyer of USGS presented goals of the EDDN system.

Goals:

- Receive data from all DCPs transmitting on the GOES DCS independently of the receive site at Wallops Island, VA.
- Locate facility at site sufficiently distant from Wallops Island to achieve event independence.
- Implement additional pilot signal at a location other than Wallops Island.
- Distribute data independently of Wallops Island.

EDDN project:

- Locate DRGS systems at EROS data center in Sioux Falls, SD to backup the GOES DCS Wallops facility.
 - NOAA/NESDIS & USGS will share the procurement costs.
 - GOES DCS users who agree will share the operations and maintenance costs.

EDDN Status: A draft system specification and statement of work is complete and has been distributed to manufactures for comments.

EDDN discussion: IT security. There was some question whether or not FIPS-140 or other FIPS regulation will apply to EDDN.

We will need to use Platform Description Tables (PDT) in DAPS I system. There is no mandate to currently make PDTs available. STIWG needs to come to an agreement with NESDIS on PDT availability. There was a recommendation to remove phone numbers from the PDT before distributing. We may gain access to a subset of information in the PDTs but a STIWG work group has to define the required fields.

Use network lists to comb out desired messages to decrease the required bandwidth of systems connecting to the EDDN.

Make a web enabled DCP transmission monitoring tool to monitor DCP message data.

A work group will define message decoding schema and repository. NESDIS volunteered to host the repository.

h) Strategic Planning and Operations with NOAA.

Charles Kazimir provided a report on the meeting with SOH in Reno. (See SOH Reno minutes).

Sam Lin, SOH Chair, setup a meeting on 07/26/06 with Toni Johnson - ACWI executive secretary, Sam Lin -SOH chair, Kay Metcalf - GOES DCS program manager, Ernest Dreyer - STIWG/USGS, Charles Kazimir –STIWG chair, Stan Brua - STIWG/USACE, Carol Lewis – USGS/WICP, and Phil Turnipseed – USGS/OSW. The meeting purpose was to demonstrate how GOES/DCS relates to ACWI and issues identified in the issue paper presented to SOH in Reno. Toni Johnson gave suggestions to streamline and present a higher level overview of the presentation STIWG gave to the SOH in Reno. Toni also suggested the STIWG try to enlist state agencies and the Western Governors Association to endorse the STIWG issue paper before she presents it to the ACWI group. The STIWG is to also identify all the users of GOES DCS data and how they use it.

i) Next STIWG meeting will be in Ashville, NC – the week of November 7th.

Action: Charles will revise the STIWG related presentation and materials for ACWI and will make a presentation to ACWI at their October meeting.

9. Proposal for Hydrology and GIS Interagency Work Group

William Merkel presented a proposal for a Hydrology and GIS Work Group to be formed under the Subcommittee on Hydrology.

There are so many Federal agencies which collect, store, distribute, use, analyze, and develop applications in GIS as related to hydrology, hydraulics, and water quality that a work group to coordinate among Federal agencies would be beneficial.

A draft Terms of Reference for the work group was distributed before and at the SOH meeting. The draft Terms of Reference at attached.

The purpose as described in the Terms of Reference has a very broad scope including data sources, data quality, GIS applications, training and user support. The actual working group members could decide what specific products would be feasible to develop and distribute. The working group could start with information exchange concerning GIS data and applications. One possible product could be a list of web sites where GIS data are available and a short description of the data. Another possible product could be to assemble a list of GIS application needs of the Federal agencies. This could be presented to ESRI as a combined federal need request to provide future direction to ESRI product development staff.

Once created, the working group could address any issue requested by the SOH.

There are other Federal GIS-related committees which would be concerned with mutual issues. These are the Federal Geospatial Data Committee (FGDC) and the ACWI Subcommittee on Spatial Data. Some coordination with these and other potential interest groups could be completed to insure complementary and not competitive or overlapping concerns.

Some possible obstacles to such a working group are:

- the diversity of specialized GIS datasets and applications (some of which are proprietary).
- communication among technical specialists in science, engineering, and GIS.
- the rapidly changing GIS technology, applications, data types and sources.
- consideration of GIS vendors other than ESRI.

Success of such a working group depends on the approval of SOH and ACWI. It also depends on finding interested persons in each of the member organizations to participate in the working group.

Action: Each SOH member is to take the draft terms of reference back to their organization for review and comment. Suggestions are to be provided to William Merkel. Steve Blanchard will send the draft terms of reference to the ACWI Subcommittee on Spatial Data and to the Office of Science Technology and Policy (OSTP) Subcommittee on Water Availability and Quality (SWAQ) and request these two groups also provide comments to William. William will revise the document and send it back out to the SOH by October 1, 2006.

10. Current Events within Hydrologic Communities

- a. U.S. Meteorological Science and Technology Seminars, June 22-23, 2006, Wuhan, China

Tom Donaldson (NWS) reported on his attendance at this meeting. Tom attended along with other NOAA, NWS, and University of Oklahoma personnel. Tom gave 3 presentations (river forecasting, weather forecasting, and AHPS) and there were additional presentations from the other members of the U.S. and China delegations. The 2-day workshop was followed by a 4 day tour of Southern China. NOAA will continue to work with this group from China.

- b. American Institute of Hydrology (AIH) meeting May 21-24, 2006 Baton rouge, Louisiana

Doug James (NSF) reported on this meeting. A focus of the meeting was to discuss the issue of "The Graying of the Hydrologists Community." It was hoped that the meeting would draw many "older" hydrologists to address the issue but not many older hydrologists came. Instead the meeting was made up of mostly young hydrologists who were excited about the opportunities they would have because of the many expected retirements of the large population of older hydrologists. The SOH commented in general on some of the characteristics they are observing in the new hydrology college graduates.

- c. The Twenty-First Conference and Exposition of the ALERT Users Group, May 9-12, 2006 Yosemite Fish Camp, California

Gene Stallings did not attend this meeting but reported that the organizers thought the meeting went very well and they had more than 100 people in attendance.

- d. Holland – A “Water” Seminar – Prediction, Protection, and Purification, April 28, 2006, Washington, DC.

Sam Lin reported on this meeting. A “water” seminar on the subject “Prediction, Protection, and Purification” was held at The Netherlands Ambassador’s residence on April 28, 2006. There were approximately 50 participants attending this seminar with three of presenters from The Netherlands. This is an annual activity provided by The Netherlands Embassy’s Science and Technology Office. “Water Science and Technology” was designated as the theme for this year’s event especially after the Hurricane Katrina flooding tragedy took place in the New Orleans area last year.

One of the major presentations was made on the subject, “Tools and Methods Supporting Flood Risk Reduction in The Netherlands.” The measures of periodic inspection and maintenance work, flood forecasting systems, and early warning systems were introduced. The Dutch’s concept, philosophy, and policy adopted for flood protection were particularly found interesting and insightful to me. Also, two H&H modeling examples, the New Orleans inundation and an Australia dam breach simulations and flooding animations were demonstrated.

The Netherlands use the so-called “LOFAR” network which is capable of combining the largest radio telescope of the world with other sensor applications like geophysics, agriculture, meteorology, and ICT (information and communication technologies). One meteorological application example of the system capabilities is forecasting flood events through H&H dynamic modeling on the basis of estimated rainfall data collected by means of LOFAR (see more information in the web site below).

<http://www.strw.leidenuniv.nl/annual-reports/annrep03/node92.html>

11. Announcements and Business Reports from Member Organizations

Federal Highway Administration – Joe Krolak

- Joe presented an overview of the FHWA’s Coastal Storm Events - Plan of Action using Powerpoint. The presentation is attached.
- Rick Capka was confirmed by the Senate as the FHWA Administrator. He had been serving as Acting Administrator since last August.
- US DOT Secretary Mineta resigned in July. He will be missed by folks at DOT.
- FHWA is working with State DOTs to attempt a pooled fund project for updating rainfall frequencies.

Federal Energy Regulatory Commission – Sam Lin

The Taum Sauk Pumped Storage Project's upper reservoir rim dike failed On December 14, 2005 resulting in a release of the upper reservoir. The FERC released on May 25, 2006 for public comment a report by an Independent Panel of Consultants on the technical reasons for this incident. The report cites the primary cause of the Taum Sauk breach as overtopping of the upper reservoir dam due to improperly maintained and installed water level monitors. The report states that the monitors became loose after installed and indicated reservoir levels lower than actual levels. More specific information is provide at the web site below:

<http://www.ferc.gov/industries/hydropower/safety/projects/taum-sauk/ipoc-rpt.asp>

U.S. Geological Survey – Steve Blanchard

- President Bush has nominated Dr. Mark Myers to be the next Director of the USGS. Dr. Myer had his confirmation hearing before the Senate on July 20, 2006.
- The President proposed an approximately \$2.8M increase for the USGS National Streamflow Information Project for FY07. Both the U.S. House and Senate have marked the USGS appropriates for FY07 and both have also included the increase.

Corps of Engineers – Jeff Harris

Nothing to report

National Weather Service – Tom Donaldson

Nothing to report

Defenders of Property Rights – Martin Becker

Nothing to Report

Bureau of Land Management – Mike Eberle

Nothing to report

National Aeronautic and Space Administration – David Toll

Nothing to Report

Bureau of Reclamation – Don Frevert

Don Frevert reported that Commissioner John Keys retired effective April 14th and Deputy Commissioner Bill Rinne has been acting Commissioner since Mr. Keys' retirement. The President has nominated Robert Johnson to be Commissioner - subject to confirmation by the Senate. Mr. Johnson has been Regional Director for Reclamation's Lower Colorado Region in Boulder City, Nevada.

Reclamation is continuing its "Managing for Excellence" initiative. More than 40 internal task committees are reviewing the way Reclamation does business and considering ways these practices might be improved. Final recommendations are expected by December 2007.

National Science Foundation – Douglas James

Nothing to report

Natural Resources Conservation Service – Claudia Scheer

Nothing to report

National Hydrologic Warning Council – Eugene Stallings

The Phase 2 Report, “Flood management benefits of USGS streamgaging program” has been submitted to the NHWC Committee for review. David Ford Engineers estimated that once all of the comments have been received, the revised version should be available within 10 days.

The Seventh National Conference and Exposition of the National Hydrologic Warning Council will be held in Savannah, Georgia from June 11-14, 2007. The conference is the largest in the United States devoted specifically to real-time hydrologic warning systems, and how the technology assists local officials with storm readiness, emergency response, and disaster. More information about the conference is available at the URL: <http://nhwc.udfcd.org/>

Association of State Floodplain Managers – Will Thomas

Will Thomas reported that the Michael Baker team that supports FEMA with respect to the National Flood Insurance Program is known as the National Service Provider (NSP). Will noted there is a Focus Group composed of the NSP, ASFPM, and National Association of Flood and Storm Water Managers (NAFSMA) that meets quarterly to discuss issues and concerns relative to FEMA’s Map Modernization (Map Mod) Program. This group recently met on July 25-26 in Alexandria, VA to discuss issues related to Map Mod, and the effectiveness of levees and proposed new legislation on the national flood mapping effort.

Environmental Protection Agency – David Wells

Nothing to report

American Forests – Don Woodward

Nothing to report

12. Other Business

- Don Frevert reported that the American Society of Civil Engineers will hold its annual World Environmental and Water Resources Congress from May 15-19, 2007 in Tampa, Florida. Abstracts are still being accepted until September 15. Additional information is available at: <http://www.asce.org/conferences/ewri2007>
- SOH Newsletter – The members discussed the possibility of having a SOH Newsletter that could be distributed about every 3 months. The question arose whether we had the resources to do the newsletter. The newsletter will be discussed more at the next meeting.

13. Plans for Next Meeting

The next meeting of the Subcommittee on Hydrology will be on Thursday October 26, 2006 from 9:30 am to 12:00 pm at the FERC building in Washington, DC.

14. Adjournment

Post Meeting Activity: “Recent Trends in Climate and Their Impact on Water Resources” by Dr. Robert Livezey, National Weather Service. The presentation is attached.

ATTACHMENTS

- Letter of Appreciation for Warren Dorsey
- Draft Terms of Reference for the proposed Hydrology and GIS Workgroup
- STIWG issue paper
- Current SOH Roster
- Joe Krolak’s presentation on the FHWA Coastal Action Plan
- Dr. Robert Livezey’s presentation on “Recent Trends in Climate and Their Impact on Water Resources”.

**Letter of Appreciation For
Warren Dorsey**

07-25-06

Dear Mr. Dorsey:

The Satellite Telemetry Interagency Working Group (STIWG), on behalf of all users of the GOES Data Collection System (DCS), wishes to thank you for all your contributions to the GOES DCS. Your technical expertise and experience have contributed to the success of the mission of each of our agencies, which depend upon the GOES DCS to protect our country. Your persistence and attention to detail have led us through the most major enhancement to the GOES DCS in decades: the High Data Rate development. With more than 50% of the system now using High Data Rate transmitters, we can now declare this effort a success. Additionally, the implementation of a new generation of digital demodulators in NOAA's ground system have expanded the flexibility to allow for many new modern innovations that will increase the usefulness of the system for years to come.

The STIWG extends our sincere appreciation for your continued professional development and support of the GOES DCS. We look forward to a continuing partnership with you and with NOAA in the future evolution of the GOES DCS.

We are all fortunate to have such a dedicated professional on our team.

Sincerely,

Charles Kazimir, DOI/BLM/NIFC
Chair, STIWG

STIWG members:

Alan Pihlak	NOAA/ERL	Jim Doty	DOI/USBR
Bonnie Wyatt	DOA/USFS	Ken Rakestraw	IBWC
Debra Braun	NOAA/NCDC	Mark Bushnell	NOAA/NOS
Dick Bahr	DOI/NPS	Pete Lessing	NOAA/NDBC
Ernest Dreyer	DOI/USGS	Stan Brua	DOD/USACE
James Heil	NOAA/NWS		

**SUBCOMMITTEE ON HYDROLOGY
TERMS OF REFERENCE
FOR
HYDROLOGY AND GIS INTERAGENCY WORK GROUP**

I. Sponsorship:

The Hydrology and GIS Interagency Working Group (HGIWG) is sponsored by the Advisory Committee on Water Information (ACWI). HGIWG will report directly to the Subcommittee on Hydrology (SOH) of ACWI.

II. Purpose:

- A. The HGIWG is a user group for the GIS applications in hydrology and hydraulics.
- B. The HGIWG will focus on 1) availability, efficient access, and quality of GIS data for applications in hydrology and hydraulics, 2) promoting cooperation among agencies on development of GIS applications in hydrology and hydraulics, and 3) facilitating training and user support on associated GIS applications.

The HGIWG will be subject to the direction of and will report activities to the SOH of ACWI in order to facilitate the integration of GIS technology into hydrologic and hydraulic analysis and design of water resource systems.

III. Membership:

- A. Federal and state agencies and interest groups are encouraged to participate as members of the HGIWG when matters of concern to them are involved.
 - 1. Only Federal agencies using GIS are eligible for voting membership on the HGIWG.
 - 2. Each Federal entity is entitled to one official voting member and a designated alternate provided:
 - a. it is a significant user of GIS, or
 - b. it contributes financially to HGIWG projects.
 - 3. Non voting state agencies and interest groups may appeal their concerns to a voting member or attend a HGIWG meeting and express their concerns.
 - 4. Unless otherwise decided by voting members, the USDA-NRCS voting member will coordinate and represent concerns of interest from non-federal members and users of GIS.
 - 5. HGIWG will maintain a current listing of its voting members and alternate(s) on file through the SOH of ACWI. The Secretary of the HGIWG is responsible for keeping a list of all voting members.

The Chair and Secretary of the HGIWG will be determined by consensus of official voting agency (or group) representatives. Normally, both the Chair and Secretary will rotate annually among the voting member agencies. A rotational list will be kept by the HGIWG Secretary.

IV. Meeting and Procedures:

- A. Meetings will normally be three times a year or at the call of the Chairperson upon the request of one or more members to carry out a specific task. Notification of meetings and an agenda will be distributed to members of the HGIWG two weeks prior to meetings. All meetings will be in the Washington, DC metropolitan area.
- B. All decisions will be on the basis of unanimous agreement by the voting members whose agencies are parties to the decision or subsequent action.
- C. Voting is normally done at the meetings by the voting members in attendance, either physically present or participating by teleconferencing. Voting members who cannot attend a meeting in which a vote is required may submit their votes in writing to the chairperson prior to or after the meeting. The use of email is acceptable. If at any meeting in which there is an issue that requires a vote from an agency's representative, and that representative is not present and has not submitted a vote to the chairperson in writing, the result of the vote will be delayed until the chairperson can obtain a vote from all required voting members.
- D. When consensus is not reached on significant questions, the matter will be referred to the SOH for resolution.
- E. The official agency representative will act as the agency spokesperson in matters of concern to HGIWG. The agency representative will coordinate HGIWG issues with each member's respective agency.
- F. Coordination among HGIWG members will be effected at meetings, by correspondence, e-mail, or by documented telephone calls.
- G. The HGIWG Chair and/or Secretary will provide the SOH and ACWI written notification of proposed actions/requirements of the HGIWG. The SOH will provide formal written response to the HGIWG notifications.
- H. The HGIWG may establish internal procedures and/or ad hoc committees to conduct business.

The HGIWG may initiate development of a Memorandum of Understanding among the member agencies. Agencies not involved in a HGIWG project may abstain from voting on the project and from contributing staff and/or financing to the project.

V. Purpose

- A. HGIWG will prepare reports and publications needed to fulfill the purposes of the HGIWG as requested by the SOH of ACWI.
- B. Minutes of HGIWG meetings will be provided 30 days after the meeting to all HGIWG members and Chair of the SOH and be available for all interested parties.
- C. Chairperson of the HGIWG will report current activities to the SOH meetings, as appropriate or as requested.

VI. Termination:

The HGIWG will remain in existence until terminated by action of SOH and ACWI.

Dates of Approval: Subcommittee on Hydrology (SOH) and Advisory Committee on Water Information (ACWI)

(Signed Date)

Toni M. Johnson

S. Samuel Lin

Executive Secretary, ACWI

Chair, SOH

STIWG CONCERNS AND RECOMMENDATIONS FOR THE CONTINUED OPERATION AND SUPPORT OF THE GOES DCS

March 31, 2006

BACKGROUND – In 1985 the STIWG was chartered to work collaboratively with NOAA/NESDIS to improve and operate the GOES Data Collection System (DCS) Automated Processing System (**DAPS**) to collect real time environmental data from the GOES satellite. STIWG members represent their agencies to assure that their agency needs are considered in the overall operation of the GOES DCS. The environmental data collected are used by the various STIWG agencies to make decisions which directly affect the protection of life and property, commerce, and science. These decisions impact every aspect of the infrastructure that support and protect the citizens of the United States and much of Western Hemisphere.

CURRENT STATUS - There is no known formal commitment to operate the GOES DCS and supporting ground equipment. Additionally there is no known formal strategic plan to demonstrate NOAA's continuing support of the DCS (satellite components and ground components) of the GOES. To the credit of NOAA/NESDIS they have always found the necessary resources to fund operations & maintenance of the DCS ground system. The current ground system is a mix of new and old receivers, demodulators, and old computer hardware. An initiative to rebuild DAPS to current technology was halted due to contract and system performance problems. The DAPS II would not be functional today if delivered according to the existing contract specifications because of a prolonged contract period and improvements in technology. NESDIS does not currently have a backup for DAPS nor does it have a tested documented procedure for the backup of the GOES command and control. Backups of these systems are required for continued use of the satellite resources. The DCS program is defined as an ancillary system, where significant failures in the GOES systems would leave users without data. However, in the event that imagery instruments and their backups fail on GOES, the next serviceable satellite in orbit would be placed into operation, or the launch of a replacement satellite would be expedited. Failure of the command and control of the satellite, or failure of the system at Wallops would render both imagery and DCS inoperable.

The STIWG planned and designed the capability to operate an Emergency Data Distribution Network (EDDN). NOAA/NESDIS and the USGS have a partnership to build this EDDN system at the USGS Sioux Falls, South Dakota facility. The USGS is in the preliminary stages of the procurement activities necessary to develop the system. The STIWG member agencies will contribute to the continued operation and support of the EDDN. The EDDN is a partial solution that will enable users of the GOES DCS to retrieve their environmental data through the internet in the event of a DAPS failure. EDDN sustains yesterday's capability but will not allow for addition or modification of data transmission, will not supply data to DOMSAT, or the NWS telecommunications gateway. However, without command and control of the spacecraft, no GOES tabular or imagery data will be available to support operations.

SUMMARY - STIWG's concerns are based on the following information:

- An RFI was recently issued which solicited the private sector for a new approach to GOES DCS operations for NOAA. While there were no responses from industry, this demonstrates NOAA's ability to directly impact other agency operations.
- Shrinking budgets and cost overruns are continually impacting all government programs.
 - A recent CNN news report stated that the deployment of new NOAA/NASA environmental satellites are a program in crisis due to shrinking budgets and cost overruns. A full report can be found at <http://www.cnn.com/2006/TECH/space/03/06/flying.blind.ap/index.html>. Because NASA launches NOAA's satellites, funding issues at NASA potentially impact NOAA's programs.
 - Recently, there was GAO Testimony before the Committee on Science; House of Representatives titled *Polar Orbiting Operational Environmental Satellites – Technical Problems, Cost Increases and Schedule Delays Trigger Need for Difficult Trade-off Decisions*. A full report on this testimony is available from the GAO here: <http://www.gao.gov/new.items/d06249t.pdf>. and an article about this issue was published in The Journal of Net-Centric Warfare and is available here: <http://www.isrjournal.com/story.php?F=1595638>.
- There is no known documented and tested plan to continue command & control of GOES. Without near continuous command and control, the GOES will automatically start a shutdown sequence and go into a slow spin to maintain station keeping orbit. This will result in loss of all DCS data and imagery (all GOES systems) in a very few hours.
- NOAA has a Wallops DCS backup plan but the STIWG believes it is inadequate due to lack of geographic separation of facilities. There is no known plan in place to re-evaluate the backup. The EDDN will function as a backup to sustain current Data Collection Platform (DCP) data distribution operations for users. Even with EDDN, should command/control of spacecraft fail, all data for all users will be lost.
- The Wallops backup outlined in NOAA's COOP plan is not operational. DAPS II is not a deliverable system. Lack of funding prohibits construction of a geographically decentralized backup to command and control. The EDDN is an attempt by GOES DCS users to take whatever responsibility they can for their own continuation of operations.
- STIWG has not seen the DCS COOP Plan that NOAA has developed. However, we have been briefed about it by various members of NESDIS and what we are told is not sufficient in our opinion. The COOP Plan was developed prior to the September 11, 2001 attacks and the recent Hurricane Katrina and Rita disasters.
- Because the GOES DCS is currently identified as an ancillary system on the spacecraft, STIWG member agencies are concerned about the availability of their mission critical data in the event of anything from a simple system failure on the GOES to an environmental or terrorist caused failure.

RECOMMENDATION:

- The STIWG would like to be an involved partner with NOAA in the strategic planning process of the DCS portion of GOES and the DAPS. In fact, this direction comes from the STIWG Terms of Reference.
 - NOAA and STIWG should collaboratively build a strategic plan for the continued operation of GOES DCS including ground support operations.
 - The strategic plan should identify levels of support and the funding mechanism of the support.
 - NOAA and STIWG plans should have measurable results, milestones and an update cycle.
- NOAA must develop a COOP Plan which specifies methods and timelines to validate backup procedures (COOP Plan & Testing). It must take into consideration the National Disasters of September 11, 2001 and Hurricanes Katrina and Rita of 2005. This COOP Plan must be made available for STIWG review and concurrence. Documentation of plan testing and validation must be provided in writing to the STIWG on a semi-annual basis at regularly scheduled STIWG meetings.
- STIWG requests that NOAA elevate the GOES DCS and DAPS system to primary systems.
- The STIWG requests a responsive relationship with NOAA's strategic planning activity. The STIWG routinely works very closely with the GOES DCS Program Manager. This position does not possess the necessary authority to make strategic commitments for NOAA.
- The STIWG requests an official formal response from NOAA's strategic planning activity regarding these recommendations.

BOTTOM LINE

STIWG member agencies and other users of the GOES DCS are accountable to their constituencies for continuous access to the environmental data transmitted via GOES. GOES DCS agencies are responsible for designing and validating COOP plans for continuous operations of their own agency missions, including access to their data. Answers regarding NOAA's plans for operating the GOES DCS are essential for these agencies to effectively design their COOP plans in order to insure sustained operations in support of their agency mission mandates.

We are requesting that ACWI and/or SOH respond with their plans on how to elevate our issue paper and associated concerns. We welcome any member of SOH or ACWI to our next STIWG meeting to be held in Sioux Falls, SD on May 16, 2006.

APPROVED / DENIED (circle one)

SIGNATURE

SOH Chair

Date