WICP Water Information Coordination Program
ACWI Advisory Committee on Water Information
The SOH CONNECTIONS

Volume 1, Issue 1, December 2006

Subcommittee on Hydrology Newsletter

at http://acwi.gov/hydrology/index.html

In this Issue:

Upcoming Meetings:

- **SOH January 11, 2007 – NASA, Greenbelt, Maryland**
- **ACWI – January 17-18, 2007, Herndon/Reston, VA, area**

ACWI's Greetings:

As the Executive Secretary of the Advisory Committee on Water Information, the parent Committee for the Subcommittee on Hydrology, I want to express my appreciation for your diligent work. The ACWI Charter describes our purpose, to advise the Federal Government on coordination of Federal water information programs. ACWI member organizations represent the interests of water-information users and professionals, and help us foster better communication between the Federal and non-Federal sectors on water information acquisition, information sharing, and related technology transfer. This new SOH Newsletter certainly meets that ACWI objective, and we appreciate your efforts to reach out to the broader hydrologic community. I join your able Subcommittee and Work Group Chairs in wishing you warm and wonderful holidays and a productive new year.

Sincerely,

Toni M. Johnson
Chief, USGS Water Information Coordination Program and
ACWI Executive Secretary

Welcome from the Chair:

Since assuming my current position with the Subcommittee on Hydrology (SOH), I have come to realize the great honor and privilege I have in being able to work with such a group. Not only does SOH incorporate a diverse background of organizations, but the representatives for each bring with them a dedicated commitment and willingness to improve our efforts in a collective manner. While SOH members continue their efforts, as before, to resolve the subcommittee's issues, I am delighted to announce that we have been forming a new organized working group/task force and perhaps more down the road, to achieve our defined functions.

Recently, the SOH has expanded its membership so that it now includes 20 organizations, 16 of which are federal agencies, and four of which are interest groups. As a continuing effort to foster increased interaction among members in addition to our face-to-face meetings, we have now created this newsletter. As the title suggests, the SOH wishes to "connect" members to one another by providing you with a vehicle for sharing your hydrological experiences and activities. The SOH also welcomes other readers of this newsletter to share those with us so that we may benefit mutually. Readers of this newsletter are encouraged to learn the details of our activities by accessing our meeting

minutes and this newsletter at our website.

I know that each member of our subcommittee joins in my appreciation of the voluntary efforts of editor-in-chief, Don Frevert and assistant editor, Mary Greene. They initiated this newsletter and garnered support for it from our parent committee, the Advisory Committee on Water Information (ACWI). Their success and the success of this newsletter are assured if each member puts forth his or her best effort to contribute pertinent information. The adage "many hands make light work" truly holds. I encourage each of you to participate as much as possible in order to make this newsletter as beneficial to the hydrologic community as possible.

Before concluding, I would like to take this opportunity to congratulate Don Frevert, Will Thomas and Charles (Kaz) Kazimir who received the SOH's annual appreciation awards at our October 26, 2006 meeting for the exceptionally diligent leadership these gentlemen have displayed in their working groups. Those groups include Hydrologic Modeling, Hydrologic Frequency Analysis, and Satellite Telemetry Interagency Working Groups, respectively. On behalf of the SOH, I also would like to thank each committee member's supervisor for the service and outstanding support that has been rendered by his or her representative. To be productive as before, let us continue our efforts to support the SOH purpose while moving toward 2007.

HAPPY HOLIDAYS & HAVE A WONDERFUL NEW YEAR!

S. Samuel Lin, Ph.D., PE

About the Subcommittee on Hydrology:

The Purpose of the Subcommittee on Hydrology is "To improve the availability and reliability of surface-water quantity information needed for hazard mitigation, water supply and demand management, and environmental protection." All members who join the SOH share in and support this common purpose as a network to fulfill our mission as defined in the Terms of Reference. The subcommittee is currently chaired by Dr. S. Samuel Lin of the Federal Energy Regulatory Commission. Dr. Lin can be reached by phone at (202) 502-8881 or by e-mail at ShyangChin.Lin@ferc.gov.

Detailed information about the subcommittee can be found at: http://acwi.gov/hydrology/

The Subcommittee on Hydrology reports to the Advisory Committee on Water Information that operates under the Federal Advisory Committee Act.

Purpose of The SOH CONNECTIONS Newsletter:

During the SOH's October 26, 2006 meeting, it was agreed that it is important to establish the newsletter as an informational vehicle. The emphasis of the newsletter will be to provide information regarding recent and future activities that may not have been discussed at the SOH's regular meetings.

The newsletter will also provide a means of sharing late breaking information that should not wait until the next quarterly meeting. It will also share information related to agency policies, state-of-the-art technologies, and other pertinent information.

Joint Federal Interagency Hydrologic Modeling and Sedimentation Conferences Held in Reno, Nevada April 2nd to 6th

The Third Federal Interagency Hydrologic Modeling Conference and Eighth Federal Interagency Sedimentation Conference were held at the Silver Legacy Hotel in Reno, NV from April 2nd through 6th, 2006. 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 for the joint conference exceeded 600.

The Reno conference marked the first time the two conferences had been held jointly – after a long track record of success for both conferences.

Proceedings for the 2006 sedimentation conference and the seven previous sedimentation conferences can be viewed at: http://acwi.gov/8thFISC-ordering-revised.html

Proceedings for the Hydrologic Modeling conference will be posted in the coming weeks.

The two sponsoring subcommittees - Hydrology and Sedimentation - have determined that the joint conference format should be continued in 2010. Dates and a location for the 2010 conference will be determined in the coming months.

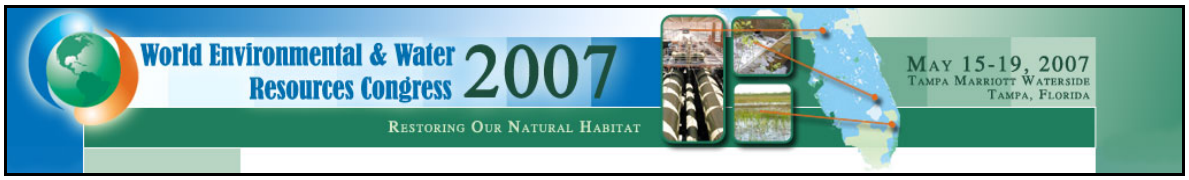
Participants at the Joint Hydrologic Modeling and Sedimentation Conference discuss new technology during an evening Demonstration Session. Photo courtesy of Jerry Bernard – Subcommittee on Sedimentation

State of the Art GIS Technology is presented during an evening demonstration session. Photo courtesy of Jerry Bernard– Subcommittee on Sedimentation

Participants are welcomed to the Joint Federal Interagency Hydrologic Modeling and Sedimentation Conference – Photo courtesy of S. Samual Lin – Subcommittee on Hydrology

Upcoming Conferences:

2007 American Society of Civil Engineers World Water Congress

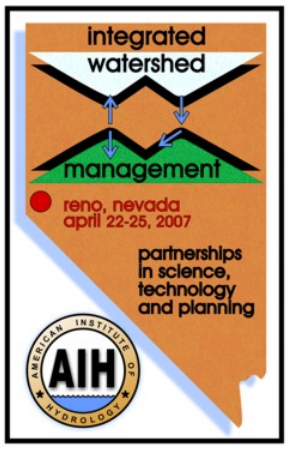


The American Society of Civil Engineers (ASCE) will hold its annual World Environmental and Water Resources Congress from May 15-19, 2007 at the Marriott Waterside Hotel and Marina in Tampa, Florida. The theme of the congress is *Restoring our Natural Habitat*. A number of sessions will focus on national issues like stream restoration, dam removal, green infrastructure and delta restoration as well as local issues like water resources recovery strategies in Florida and Everglades restoration. Additionally, general topical areas like surface water, ground water, environmental processes, irrigation and drainage, water quality, hydraulics, stochastic hydrology and watershed management will be addressed in technical sessions and tracks.

Discounted registration for the congress is available until December 31st. Specific information on the program, accommodations and registration is available at: http://www.asce.org/conferences/ewri2007

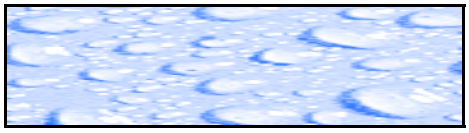
2007 American Institute of Hydrology Annual Meeting

The American Institute of Hydrology (AIH) will hold its annual meeting April 22-25, 2007 at John Ascuaga's Nugget Hotel and Casino in Reno, Nevada. The theme of the meeting will be *Integrated Watershed Management: Partnerships in Science, Technology and Planning.* Presentation topics will include Hydrologic Effects Associated with Climate Change, Cooperative Conservation Efforts, Adaptive Management, Groundwater and Stream Interactions Lakes and Reservoirs, Emerging Contaminants as well as discussions of issues in the San Francisco Bay – Delta Program, Carbonate Aquifer Systems in Nevada and Utah and Hydrologic Issues in the Klamath Basin. Additional information can be found at:



http://www.aihydro.org

Conference and Exposition of the National Hydrologic Warning Council



The Seventh Conference and Exposition of the National Hydrologic Warning Council will be held June 11-14, 2007 at the Hyatt Regency in Savannah, Georgia. The conference is the largest in the United States devoted specifically to real-time hydrologic warning systems, and how this technology assists local officials with storm readiness, emergency response, and disaster recovery. The theme for the conference is *"Building Bridges to Hydrologic Warning Partnerships"*. The event will feature plenary sessions, in-depth workshops, and multi-track concurrent sessions over the four day period. The latest information on registration and conference details can be found at: www.alertsystems.org.

Technical Exhibition and Conference of the Water Environment Federation

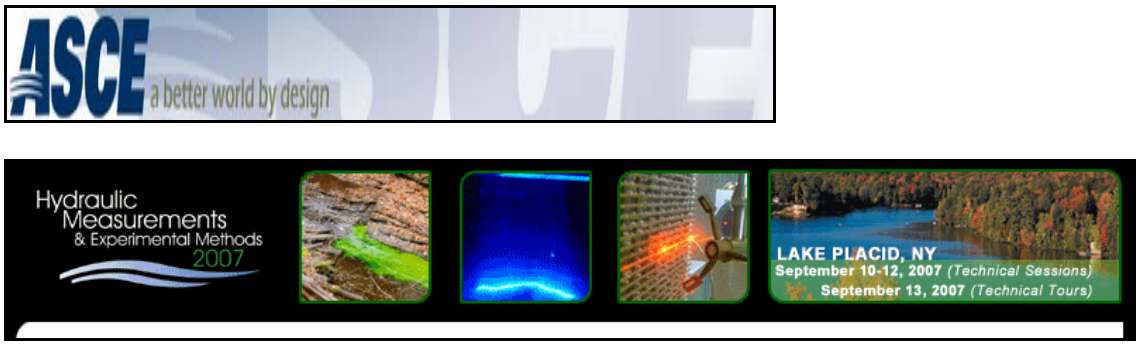
The Water Environment Federation will hold its 80th annual technical Exhibition and Conference at the San Diego Convention Center October 13-17, 2007. Water quality related topics such as coastal issues, collection systems, contaminants, disaster planning, facility operations and industrial issues will be discussed. Additional information on the conference can be found at: http://www.weftec.org/home.htm

International Conference on Water Resources Management

The International Association of Science and Technology for Development (IASTED) is hosting its second International Conference on Water Resources Management August 20-22, 2007 in Honolulu, Hawaii. Major theme areas of the conference will include Water Supply and Sustainable Use, Wasterwater and Stormwater Management, Integrated Watershed Management, Pollution Prevention and Reduction in Industry and Issues in Implementing Environmentally Sound Technologies.

Papers need to be submitted by April 1, 2007. Instructions for submitting papers and other information about the conference can be found at: http://www.iasted.org/conferences/home-578.html.

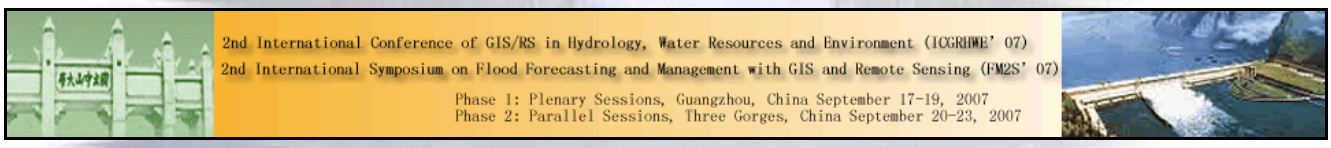
Third Conference on Hydraulic Measurements and Experimental Methods



The American Society of Civil Engineers and the International Association of Hydraulic Engineering and Research are jointly sponsoring the Third Conference on Hydraulic Measurements and Experimental Methods September 10-13 in Lake Placid, New York. Major topical areas include Advances in Measurement Technology, Measurements for Fundamentals of Flow Processes, Measurements of BioGeoPhysical Integrated Parameters, Experimental Methods and Data Analyses and Commercial Measurement Equipment.

Additional information on the conference can be found at the website: http://content.asce.org/conferences/HMEM07/abstract.html

2nd International Conference of GIS/RS in Hydrology, Water Resources and Environment and the 2nd International Symposium on Flood Forecasting and Management with GIS and Remote Sensing



The 2nd International Conference of GIS/RS in Hydrology, Water Resources and Environment and the 2nd International Symposium on Flood Forecasting and Management with GIS and Remote Sensing will be held in Guangzhou and Three Gorges, China, September 17-23, 2007. The deadline for submitting abstracts is March 31, 2007.

The conference topics include Hydrology, Water Resources, Environmental Issues, GIS and Remote Sensing. Three workshops on Precipitation Estimation and Forecasting, New Generation Flood Forecasting Methods; and Monitoring, Prediction and Mitigation of Water-Related Disasters will also be held during the conference.

More information is available at the conference website: http://www.hydroinfor.sysu.edu.cn.

Working Group Reports:

The Subcommittee currently supports three active workgroups and is in the process of adding a fourth. The active work groups focus on:

- Hydrologic Frequency Analysis
- Hydrologic Modeling and
- Satellite Telemetry

The fourth work group which is currently being formulated will focus on Hydrologic GIS Applications.

Hydrologic Frequency Analysis Work Group

The Hydrologic Frequency Analysis Work Group was set up with the purpose of recommending procedures to increase the usefulness of the current guidelines for Hydrologic Frequency Analysis computations and evaluating other procedures for frequency analysis of hydrologic phenomenon.

The group meets two to three times per year and is currently chaired by Will Thomas. He can be reached at (703) 317-6268 or by e-mail at wthomas@mbakercorp.com.

Additional information about the Hydrologic Frequency Analysis Work Group can be found at:

http://acwi.gov/hydrology/Frequency/index.html

Hydrologic Modeling Work Group

The Hydrologic Modeling Work Group has the primary objective of planning, organizing and running the Federal Interagency Hydrologic Modeling Conference which is held at four year intervals.

In 2006, the conference was held in conjunction with the Federal Interagency Sedimentation Conference and it is anticipated that the 2010 conferences will be held under the same joint format in order to save on travel costs and labor expenses.

The group meets by conference call two to four times a year. The present chair of the work group is Don Frevert. He can be reached by phone at (303) 445-2473 or by e-mail at dfrevert@do.usbr.gov.

Satellite Telemetry Interagency Work Group

The Satellite Telemetry Interagency Work Group (STIWG) was charted jointly by the Office of the Federal Coordinator for Meteorology and the Advisory Committee on Water Information to act as a users group for major users of the Geosynchronous Operational Environmental Satellite Data Collection System (GOES DCS) and to coordinate funding for user desired improvements to the GOES DCS.

The group met on July 26, 2006 to discuss an issue paper outlining GOES DCS vulnerabilities. The meeting goal was to alert management and environmental data users about circumstances that could limit data accessibility. The work group is also working with NOAA management to increase the priority of the GOES DCS within NOAA

The successful meeting ended with agreement to provide the time on the agenda of the October 4, 2006 ACWI interim meeting for STIWG to discuss these issues with the full ACWI membership.

Representatives in attendance were from ACWI, SOH, STIWG, USGS, NESDIS, and USACE.

Joint meeting on July 26, 2006 of representatives from SOH, STIWG, and ACWI including (front row S. Samuel Lin, Chair of SOH and Toni Johnson, Executive Secretary of ACWI; back row Charles (Kaz) Kazimir, Chair of STIWG, Phil Turnipseed, Ernest Dreyer and Stan Brua, members STIWG. Photo courtesy of S. Samuel Lin, Subcommittee on Hydrology.

Hydrologic GIS Applications Work Group

Thoughts on Collaborative Hydrologic Database Solution

Steve Blanchard introduced the topic of the SOH exploring the possibility of a web portal to a collaborative hydrologic database that would provide easy access to water data produced by various agencies and organizations. Steve presented a power point presentation of examples of selected existing collaborative hydro databases in the SOH's 10/26/06 meeting. One good example is WaterMonitor.gov, which a portal to federal water information from several agencies. Several members suggested we look into the CUAHSI

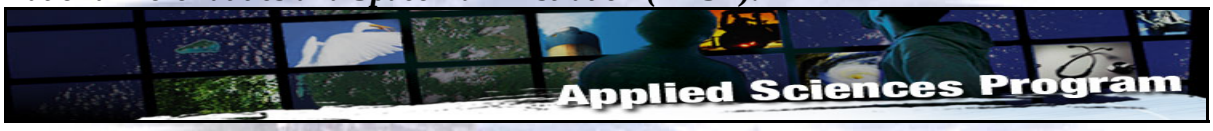
Hydrologic Information System (HIS). More info about HIS is available at URL: http://www.cuahsi.org/his.html.

The SOH was generally interested in discussing this further and agreed to continue the dialogue at the January 2007 meeting.

The proposed Hydrologic GIS Applications Work Group will focus on development and support of GIS applications in hydrology and hydraulics. The group anticipates meeting at least three times per year. Additional information on the proposed work group can be obtained from Bill Merkel. He can be reached at (301) 504-3956 or by e-mail at William.Merkel@wdc.usda.gov

Latest News from Member Organizations:

National Aeronautics and Space Administration (NASA):



NASA recently requested and subsequently received approval for membership to ACWI-SOH. NASA has long been considered to be a science organization but only within the last few years has its Applications Program begun to have an impact on solving many of the nation's technical, societal and economic problems (http://science.hq.nasa.gov/earth-sun/applications/).

The Earth science applications area is one of the 18 themes in NASA's Strategic Plan. The NASA Earth Science Applications theme has the objective to accelerate the use of NASA science results in applications to help solve problems important to society and the economy, primarily through user decision support tools. One of twelve Applications of National priority, the NASA **Water Management Program** addresses concerns and decision making related to water availability, water forecast and water quality.

The NASA Water Management Program primarily partners with other Federal agencies such as EPA, Bureau of Reclamation, USDA, and also state governments, academia, private firms, and many include international organizations. Examples of the types of NASA contributions to the water management community include such possibilities as:

- Satellite observations within models assist to estimate water storage, i.e., snow water equivalent, soil moisture, aquifer volumes, or reservoir storages.
- Model derived products, i.e., evapotranspiration, precipitation, runoff, ground water recharge, and other 4-dimensional data assimilation products
- Improve water quality assessments by using inputs from NASA models and satellite observations for water quality modeling and monitoring systems.
- Water (i.e., precipitation) predictions from days to decades over local, regional and global scale

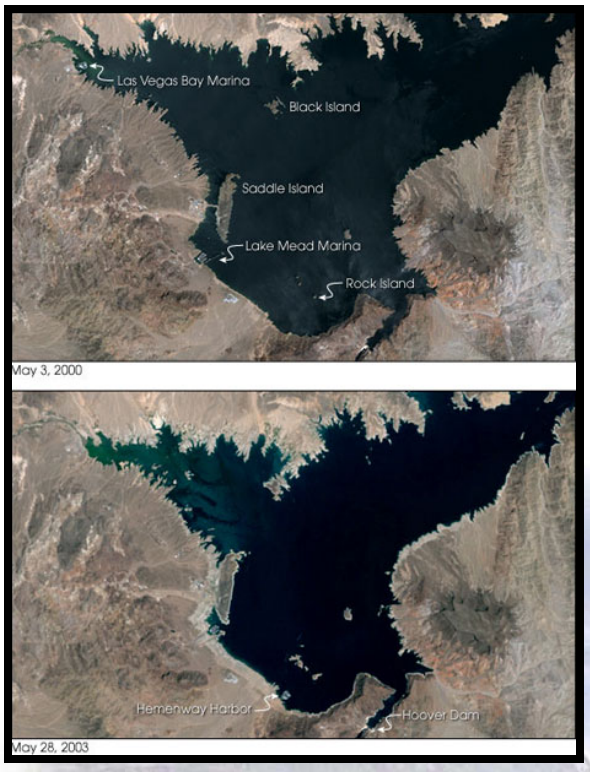


Photo: In the Boulder Basin of Lake Mead, the lower water level has connected former islands like Saddle Island to the shoreline. The National Park Service has also moved marinas to the new shoreline or new sites, such as moving Las Vegas Bay marina to Hemenway Harbor. (Image by Jesse Allen, based on data provided by the Landsat 7 Science Team)

Measurements from sensors aboard the following satellites include Aqua, Terra, Gravity Recovery and Climate Experiment (GRACE), Tropical Rainfall Mapping Mission (TRMM), Earth Observing (EO) - 1, and Landsat. We also anticipate future measurements from CloudSAT, the Global Precipitation Mission (GPM), National Polar-Orbiting Operational Environmental (NPOESS), NPOESS Prepatory Project (NPP) as well as planned missions such as Cold Land Process, Soil Moisture and Surface Water missions. In addition, there are numerous water related assessments, including land surface models (e.g.'s, Community Land Model {CLM}, Mosaic, Noah, Variable Infiltration Capacity {VIC}) supported by the Land Data Assimilation System (LDAS) project (http://ldas.gsfc.nasa.gov) and the more applications oriented Land Information System (LIS) (http://lis.gsfc.nasa.gov). Also of significance, various land-atmosphere modeling and predictions are supported by NASA mesoscale and general circulation weather and climate models. Major objectives of the Water Management Program Element's goal include:

- Develop and nurture partnerships with appropriate water management organizations
- Identify and assess partners' water management responsibilities, plans, and decision support tools and evaluate capacity of NASA Earth Science results to support the partners through Benchmark Reports
- Validate and verify application of NASA Earth- Science results with the partners' Decision Support Tools
- With partners, document the impact and value of NASA Earth Science results relative to partners' obligations and support adoption into operational use
- Communicate results and partners' achievements to appropriate water communities and stakeholders and facilitate permanent adaptation of the NASA data and products in their day-to-day operational procedures

Towards these goals the NASA Water Management Program is currently supporting nine funded projects, primarily selected through solicitations and a Water Management Project Office. Representatives from each of these activities provided summary presentations on their use of NASA products in to operational decision support tools at the

First NASA Water Management Program Workshop (2006). Presentations for this workshop are available at (ftp://hsbserv.gsfc.nasa.gov/Dtoll/water/).

Additional information on the program can be obtained from David Toll. He can be reached by phone at (301) 614-5801 or by e-mail at David.L.Toll@NASA.gov.

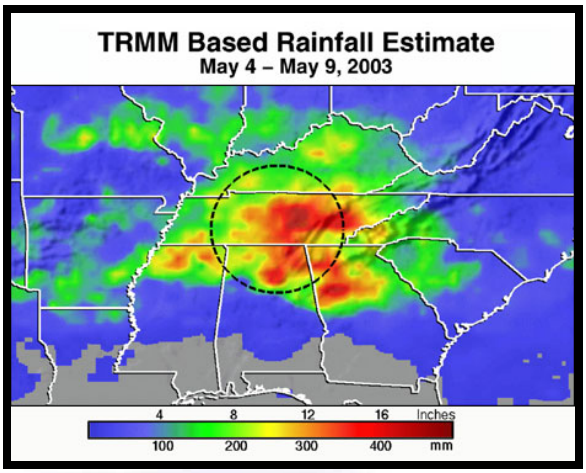


Photo: Data from TRMM and other satellites estimated more than 16 inches of rain fell in the red areas of the top map (TN, AL, GA) from May 4-9, 2003 from spring storms. Credit: Hal Pierce/Jeff Halverson, NASA Goddard Space Flight Center

US Geological Survey:

U.S. Water Monitor -- A Portal To Federal Water Information

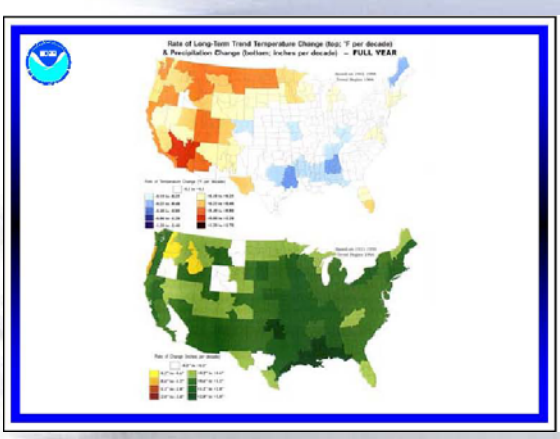
The US Geological Survey, in cooperation with several other Federal Agencies, is developing a WaterMonitor,gov website which serves as a portal to Federal water information throughout the United States. The WaterMonitor.gov website. is envisioned as a companion to the Drought Monitor website. The WaterMonitor.gov Website has been established and is currently serving a base level of Federal water data. Plans are to continue to add additional water data to the site to facilitate access to more and more Federally collected water data. Check the website out at the URL: http://watermonitor.gov/

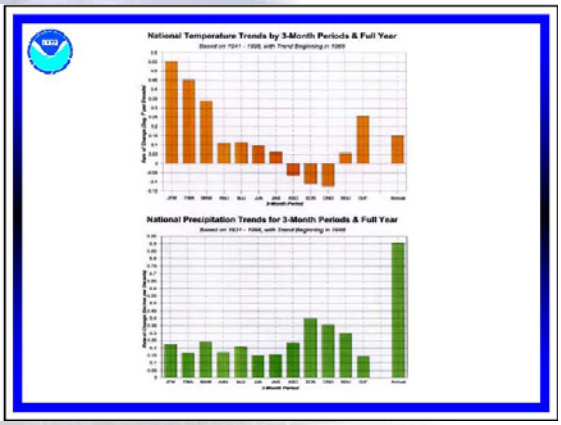
Information on the Water Monitor can be obtained from Steve Blanchard (703-648-5629, sfblanch@usgs.gov) or from Harry Lins (703-648-5712, hlins@usgs.gov).

Technical News:

A recent technological advance from the United Kingdom utilizing sensors to monitor water depth and flow rates may allow for earlier detection of flooding conditions in river channels. The technology is currently being tested in the River Ribble. An article describing this technology can be found in the October, 2006 CET Newsletter or at the website: http://www.newscientisttech.com/article/dn10360-intelligent-sensors-watch-for-impending-floods.html

On July 27th, Dr. Robert Livezey of the National Weather Service spoke to the Subcommittee on Hydrology on, "Recent and Future Trends in North American Climate and Weather". This presentation can be found at: http://acwi.gov/hydrology/minutes/index.html.





Editor's Corner:

Thank you to those who provided news & information for this issue of the newsletter, your efforts are greatly appreciated.

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