



CUAHSI Spring 2006

Consortium of Universities for the Advancement of Hydrologic Science

What's New in CUAHSI's Communications Efforts

You may have noticed that the CUAHSI Web site has a new look. Many of the changes are cosmetic, but the more important changes are “under the hood” – in the technical design of the site. They ensure that the site is more manageable and maintainable as well as more navigable for the visitor. In addition, CUAHSI has taken out a second, ancillary domain name—**hydrologicscience.org**—in order to provide enhanced database services such as ColdFusion and DotNetNuke. We are using ColdFusion for the Hydrologic Instrumentation Marketplace

(aka, Hydro-Bay), for workshops (e.g., the October 2006 PUB Workshop in Corvallis), and for visitor feedback forms. Navigation between the two domains is in most instances transparent to a visitor and there are strong inter-domain linkages so hopefully one does not get lost or stranded while visiting either domain.

We have also implemented a “Job Opportunities” page in the CUAHSI domain. We hope to use this page to communicate opportunities for graduate students and other research-



related activities. If you have an opportunity you would like to broadcast to the community, please forward your information to the CUAHSI Webmaster at webmaster@cuahsi.org.

Paths Forward

CLEANER - - CUAHSI is working with the CLEANER Program Office (CPO), supported by the Engineering Directorate of the NSF, in the design of an observatory network, tentatively entitled the **WATER and Engineering Research System (WATERS) Network**. CLEANER has been holding a series of meetings over the past six months to define the environmental engineering community vision for and functional requirements of observatories. In addition,

a joint CUAHSI CLEANER workshop was held in November, 2005 that generated a great deal of synergy between the engineering and hydrologic science communities. A common observatory could serve both communities. Further details on the conceptual design will be developed in the latter half of 2006.

Science Advisory Team - - Producing an effective science and adequate implementation plan for CUAHSI has been a challenging goal. After review-

ing past efforts, the CUAHSI Board of Directors decided to empanel a new **Science Advisory Team** at its meeting in Chicago in June, 2005. Led by John Wilson (New Mexico Tech) and ably assisted by Kevin Dressler (Penn State), the team has been working on a new science plan for the community, which should be released this summer. Community input will be sought through cyberseminars and regional meetings planned for late Summer and Fall 2006.

Establishment of a Synthesis Center

The NSF Program in Hydrologic Science has released a new Program Solicitation (NSF 06-545) that contains a section on “Transformational Opportunities.” This section notes that the program will consider “activities to assess methods for implementing watershed scale hydrologic observatories, hydrologic synthesis, instrumentation, sensor development, and cyberinfrastructure.” See: www.cuahsi.org/funding.html

Open Letter from NSF

Please read an Open Letter to the Hydrologic Science Community from Art Goldstein, Acting Director, Division of Earth Sciences, National Science Foundation. A link to the letter is on CUAHSI's home page at www.cuahsi.org/. Thank you.

HMF Watershed Partners

Hydrologic Measurement Facility (HMF) is seeking to develop partnerships with groups actively engaged in watershed research. We are interested in collecting geophysical data in support of hydrological research with the goal of advancing and supporting the use of geophysics in the hydrologic sciences. Our plan is to test a variety of geophysical methods within watersheds, providing the equipment, the experienced users, and data analysis. To view this information, go to:

www.cuahsi.org/hmf/geo-watershed-ad.html

USA PUB Workshop - October 16-19 - Oregon State University

Workshop objectives:

1) Introduce PUB science to the USA hydrologic community; 2) Review PUB science questions as a potential template for USA community science questions; 3) Critically discuss the open questions in hydrology as it pertains to the establishment of hydrologic observatories; and 4) Spark dialogue among participants to identify the most promising avenues for the efficient development of community

science questions.

The workshop will be organized around PUB's six science questions: 1) Watershed Classification; 2) Conceptualization of Process Heterogeneity; 3) Uncertainty estimation and model diagnostics; 4) Development and use of new data collection approaches; 5) New Hydrological Theory; and 6) New Modelling Approaches.

For additional information, see: www.hydrologicscience.org/pub/



CUAHSI People

At the January 10-11, 2006 Board meeting, **Claire Welty** (UMBC) carried the majority vote and won election as the CUAHSI Board of Directors Chair-Elect. **Jay Famiglietti** secured the majority vote and the position of At-Large Member to the Executive Committee.

CUAHSI New Hires . . .

Beverly Blue was hired as the CUAHSI Administrative Assistant and **Jessica Annadale** recently joined CUAHSI as our Controller.

New Memberships

New International Affiliates

University of Trento, Italy
Riccardo Rigon as the Representative and Alberto Bellin and Aronne Armanini as Alternates.



Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia
Stuart Minchin as the Representative.



HMF Update - Breaking News

Survey Results Published!

The HMF seeks to serve the community, providing specifically what the community is prepared to use effectively. As part of this process a survey was conducted, with almost 400 respondents! Briefly, people wanted access to high-end instruments, and wanted the HMF to have a single location from which to serve, and where people could develop new generations of instrumentation. See the entire report at www.cuahsi.org/docs/EOS-survey-20060119.pdf and an article published in the AGU weekly EOS at www.agu.org/journals/eo/eo0547/2005EO470005.pdf.

White Paper Committees Nearing Complete Draft Strategy Docs

What are the strategic opportunities where facilitation could enhance experimental discovery in Hydrologic Science? Three committees have been working since November of 2005 to address this question for the areas of The Water Cycle, Geophysics, and Biogeochemistry. The first external draft of these documents will be released to the public on May 1. Currently internal drafts are under internal review.

Cyberseminars

Chris Paola, NCED and **Sue Brantley**, CZEN: An Integrated Approach to Earth Surface Science, April 20th 3:00pm ET

Peter Wilcock, JHU and **Jeff Marr**, NCED: Streamlab06: A community virtual experiment, April 28th 3:00pm ET

Join CUAHSI's Listserv - CUAHSI-L

- Address an email message to LISTSERV@LISTSERV.AGU.ORG
- In the body of the message, type **SUBSCRIBE CUAHSI-L Your Name** (where Your Name is how you want the listserv to address you).
- Send the message.
- See http://www.cuahsi.org/join_email_list.html

WaterOneFlow Web Services

The CUAHSI community has identified a need for access to a large volume of high quality hydrologic data and the Hydrologic Information System team has shown that this need can be met by “web services” which provide direct access to national data archives without the need to manually use web pages. The most complete set of services presently available is to the USGS National Water Information System, but some services are also available for the Ameriflux tower network, the NCAR DayMet system, and NASA MODIS data. Information about these services can be accessed from the CUAHSI web site at: <http://www.cuahsi.org/his/webservices.html>.

We have entitled these services “WaterOneFlow” because they are intended to provide a common data window by which data can be extracted from national data archives, transformed into a common format, and then loaded into a user’s application. At present, the main applications for which the services have been prototyped are Excel, ArcGIS and Visual Basic, and some progress has also been made ingestion of data into Matlab. Other data sources being researched at present include EPA Storet, the LTER Climdb and Hydrodb data, USGS NAWQA data and real-time precipitation forecasts from Unidata.

Data services for a point observation network are provided at three levels:

- **GetSites** – identifies the sites where data are measured;
- **GetVariables** – identifies the variables measured at a given site;
- **GetValues** – obtains the observed values of a given parameter at a given site.

For the USGS NWIS system, a map interface to these services is provided in the Hydrologic Data Access System at <http://river.sdsc.edu/HDAS>.

