CUAHSI Board of Directors Meeting
Teleconference, October 31, 2006

Call to Order: 1:05 pm EST

→ **Note:** The arrow symbol indicates a vote or important item for further discussion or action

Welcome (*Wendy Graham, Chair*)
Roll Call (*Kevin Dressler, Secretary*)

Present: Kevin Dressler, Jeff Dozier, Jon Duncan, Efi Foufoula, Wendy Graham, Rick Hooper, Praveen Kumar, Greg Pasternack, John Selker, Fred Scatena, Christine Shoemaker, David Tarboton, Laura Toran, Claire Welty, Chunmiao Zheng

- Meets the required 10 members for quorum (11 present)

Approval of June 9 Minutes

→ Motion Approve June BOD Minutes: Wendy Graham
Second: Dozier
Approval: Yes
Discussion: None

Retirement Benefits (*Rick Hooper, Executive Director*)

- At last board meeting we said that we would adopt AGU policies
  - The full policy was sent out to the board by email
    - 3 component package (originally shown as 1)

→ Motion of Board to accept the AGU 3-component package: Jeff Dozier
Second: Fred Scatena
Approval: Yes
Discussion: What financial impact is this for current employees?

- really only impacts the executive director, at this time, by adding ~5% to the retirement benefit (on the order of $20K)
- no change in budget implications, this is just a rewording of policy

Audit Status (*Rick Hooper/Chunmiao Zheng, Treasurer*)

- Paul Thrasher was hired at the end of 2004 and also Jessica Annadale
- Total disputed amount is ~$50K
  - Of that $25K was disallowed housing involving the executive director
  - Projected net liability will be $5-$35K, depending on what NSF does about the housing allowance (we currently have $180K to pay for such disallowances)
    - Rick Hooper was not a CUAHSI officer at the time of the allowance which is the reason for the disputed cost

- On restricted payments right now which means CUAHSI has to bill NSF every time we want funds
    - Causes problems b/c these requests are floated by using member unrestricted funds
        - Change of status will have to come from NSF reviewing the new accounting procedures of CUAHSI

Science Plan Status (*Wendy Graham, Chair*)

- Reviews from the board were fairly positive in late June
- September 1st was set as the end date
    - No additional revisions have been sent from Wilson after June, 2006
- In September 6 ExCom meeting the committee voted to accept the SAT submission and that the ExCom would work with the CUAHSI staff for any further changes
    - The ExCom has had periodic discussions on Section 2, mainly working on science Question 3 of the plan
    - ExCom directed Hooper not to make final payment until Wilson provides or confirms final report
- Is the science plan in a form that the CUAHSI staff can effectively move the document forward?
- Do we need a subcommittee of the board to work on it and then turn it back to the CUAHSI staff?
    - The science is still "vague" in Section 2 – Hooper
    - ExCom had previously agreed to help the CUAHSI staff
- Need a general call for specific questions and instrumentation – Selker
    - "Survey" of what people want to see in the 5-yr strategic plan for CUAHSI
    - Incentive for people to step forward with a hypothesis
- If we have specific targets then we can discuss with NSF what the appropriate avenues are for supporting those targets
- Do we publish relatively as is, at a high level?
    - Consensus from the board is suggesting to publish this document with some polish
    - Call it "phase 1" and then outline a "phase 2" to take it to another more specific level
        - Can CUAHSI provide any funds in phase 2 for specific groups? – Duncan
            - Maybe staff time, relatively small amount of money that is either in the budget or can be found

→ Motion to accept ExCom objective of putting out the current science plan (as Phase 1) as soon as possible and out to the community for review, by December 31: Selker
Second: Graham
Approval: Yes
Discussion: Hooper suggests that the plan should go to GeoProse for polishing before being released

→ Motion to institute a process by which to solicit, evaluate and process hypotheses in furtherance of the science plan, as a phase 2: Selker
Motion to table this motion: Dozier
Approval: Yes
Discussion: None

Observatory Initiatives (*Rick Hooper/Laura Toran, Director Liaison*)

(a) CZO

- Opportunity that Goldstein took advantage of
- Mixture of CZEN and CUAHSI groups, and a healthy response

(b) WATERS Network

- Want this to seam, in part, with the CUAHSI science plan
  - Having some difficulties getting to specifics – remains somewhat vague
  - The concept behind the activity is still under discussion between CUAHSI and CLEANER
- Conceptual design is going like an RFI in that it will go to regional groups for further design

HIS Report (Dave Tarboton/Chris Shoemaker, Director Liaison)

- A 3-page report was sent out by email that summarizes HIS status
  - **This report is attached in Appendix A**
- NSF has selected the renewal for funding and NSF has asked for a strategic plan before there is a final award
- Workshop November 15-17 in Austin, TX to roll out the first version of HIS to the WATERS testbed teams
- Needs to be more careful evaluation process of products before they are formally released
- The renewal went through a very competitive competition which has received good words from NSF in terms of how things are going and the results of the work
  - 5 yr project with ~$900K/yr (some EES, Geo-informatics and mostly Hydrosciences)
    - Maidment, Project PI

HMF Report (*John Selker PI HMF Project; Greg Pasternack, Director Liaison*)

- Main motivation is unprecedented opportunity in hydrologic measurement
  - For example, cost of making a mass spectrometer reading has dropped by a factor of 10,000
  - Further, water temperature can be measured using fiberoptic technology, effectively increasing the time and measurement resolution
- Want to improve hydrologic discovery by getting state of the art instruments into scientists hands and to help with measurement knowledge
- The HIF has been made available and 2 campuses have signed on so far (e.g. Utah State and Temple)
- Three large white papers completed on Geophysics, Water Cycle, and Biogeochemistry – helped to produce the IF (Instrumentation and Facilities) proposal of HMF to NSF in August 2006
  - ~$3MM Proposal
  - Two nodes (central facility and field nodes to capitalize on expertise at different locations)
    - (1) Water cycle focused on ET (eddy covariance, wireless sensors for soil moisture, met measurements, scintillometer, mass spectrometer)
    - (2) Biogeochemistry – multiple overlaid sensor systems for high temporal resolution water analyses in real-time
    - Geophysics nodes is already operating with Rosemary Knight at Stanford
- WRR special issue discussions underway
- Geophysics Workshop: "Effective Delivery for Hydrology"
- Need to work on how to best market this service to customer institutions
  - Campus representatives should develop a distribution list for their institution
  - However, does not solve the email problem of getting lost in email traffic
    - Need presence at AGU
    - Flyer to representatives to post on their bulletin boards, etc
- Without the community science drivers it is hard to lobby for instrumentation infrastructure
- What's the status of current and proposed grants?
  - Planning grant – started September 1, 2005, three year grant
  - IF panel will most likely report back on proposal by late February
- Working relationship with NSF can improve from visibility and visiting at NSF
  - Need also to develop credibility by producing good result with initial funds
  - Bear also in mind that the request for funds is a large percentage of the total IF budget

Education and Outreach Efforts (*Rick Hooper*)

a) Watershed Media Project

- Submitted a pre-proposal and was encouraged to submit a full proposal
- Martha Conklin has agreed to chair an E&O committee
  - NSF has urged a more robust education portfolio

b) Diversity, other initiatives

- Proposal to Geo-Ed program – working with NCED to repeat the science camps that NCED pioneered with Native American groups
- Needs from member universities:
  - Need a short document that speaks to what a career in hydrologic science mean?
  - From members: need a blurb both on their undergrad and graduate programs in hydrology
    - To do so, it would be nice to have from to fill out from CUAHSI

- What about CUAHSI connection to UCOWR
  - Was not pursued actively in the past
  - UCOWR has a stronger education component
  - The general feeling of the board is to pursue a contact and more formal relationship

Date for January Physical Meeting and April Teleconference

Reminder January 9-10, 2007; Washington
Proposed April 11, 2007; 2:30 pm Eastern
Membership Meeting, November 30; 3 pm Eastern

Adjourned: 3:10 pm EST

Appendix A

Report on Status of the CUAHSI Hydrologic Information System Project to CUAHSI Board of Directors, October 31, 2006

David G Tarboton (reporting)
David R Maidment (PI)

Overview

The phase I grant for the development of a prototype Hydrologic Information System (HIS) is coming to completion (grant period ends ~ Oct 2006). Total funding was ~$2.5 Million. The outcome of this project is referred to as HIS 1.0 to be detailed below.

The phase II proposal for development of HIS is under consideration at NSF. Request is for $4.6 Million

- Proposal was submitted February 2006 to EAR Informatics solicitation (NSF 05-587)
- Reviews have been returned – generally favorable
- We have been told that this has been selected for funding
- We are iterating with Doug James on a Strategic Plan for this project (It is not clear whether provision of a satisfactory strategic plan is a condition of and is delaying award)

A workshop has been planned for Nov 15-17 in Austin Texas to introduce the WATERS testbed teams and some other groups that NSF has invited to HIS 1.0.

Outcomes from Phase I

Initial outcomes detailed in Status Report (Maidment, 2005, http://www.cuahsi.org/his/docs/HISStatusSept15.pdf)

- Conceptual framework for service oriented architecture
- User needs assessment
- Metadata profile
- Observations data model
- Remote sensing data source review
- Neuse Digital Watershes
- Flux Coupler
- Modelshed conceptual development and implementation for Illinois River basin

HIS 1.0 to be introduced at the Austin Workshop

- HIS Server National – at SDSC comprising
    - Hydrologic Data Access System (HDAS) Map interface (MapServer developed by ESRI)
    - Observations catalogs for national data sources
    - Web Services for national data sources
    - Observations Data Model for archiving and serving of CUAHSI data

- HIS Server Workgroup. This is a deployable version of HIS Server that can be implemented by workgroups or observatories and comprises similar capability to the National HIS but for regional data sources
    - Map interface (MapServer developed by ESRI)
    - Observations catalogs for national data sources
    - Web Services for national data sources
    - Observations Data Model for archiving and serving of CUAHSI data
- HIS Analyst. The personal components of HIS for use by an individual scientist comprising
    - Application templates and HydroObjects for direct ingestion of data into analysis environments: Excel, ArcGIS, Matlab, programming languages;
    - MyDB for storage of analysis data
    - HIS Workbook providing tutorial information on the use of HIS

Phase II

Goals

- Enhancing **Data Access**
- Supporting **Hydrologic Observatories**
- Advancing **Hydrologic Science**
- Strengthening **Hydrologic Education**

Team

- Maidment (PI), To, Whiteaker (UT Austin)
- Zaslavsky, Valentine (SDSC)
- Tarboton, Horsburgh (USU)
- Piasecki, Boran (Drexel)
- Goodall (Duke)
- Hooper, Duncan (CUAHSI)

Approach

- Careful evaluation of priorities
- Staged orderly review and release
    - Development
    - Provisional
    - Release

Year 1 goals

- WaterOneFlow services – carrying the federal water data web services from NWIS (Provisional), Storet (Development) and NCDC (Development) to a Release stage.
- Observations Data Model – carrying the current Observations Data Model structure (Provisional) and Data Loader (Development) to Release status.
- Hydrologic Data Access System – providing a robust map interface to the federal WaterOneFlow web services. This involves a collaboration with a commercial partner, the Environmental Systems Research Institute, which is donating programming resources to help CUAHSI achieve this goal.

- HIS Workbook – complete the implementation of tutorials and templates for ingesting the data from the federal water data web services into various application environments (Excel, ArcGIS, Matlab, programming languages).

Year 2 goals

- Implement Digital Watershed assembly and analysis capabilities in the 10 testbed HIS workgroup servers

- deployment of the WaterOneFlow system of web services and a local HDAS portal at observatory test beds.
- guidance and support on the population of "digital watersheds" as integrated assemblies of local and remote data sources at observatory test beds.

Ongoing goals and activities

- Innovation and intellectual knowledge advancement
- Technology development and deployment
- Forging of mutually beneficial collaborative partnerships and relationships with organizations with similar goals
- HIS review and evaluation based on user feedback
- Standards development and promotion
- Observation data model Sensor to database capability
- Hydrologic Science
    - New data models to formalize the representation of additional hydrologic features
    - Analysis and modeling capability
- Hydrologic Education
    - Expanded workbook with tutorials on HIS use