

Implementation Plan: 2013-2017

*Adopted in principle by the Board of Directors, April 3, 2013
and in final form by the Executive Committee of the Board, April 10, 2013*

CUAHSI MISSION STATEMENT

CUAHSI enables the university water science community to advance understanding of the central role of water to life, Earth, and society. CUAHSI focuses on water from bedrock to atmosphere, from summit to sea and from the geologic past, through the present and into the future.

CUAHSI will support this community to advance water science and to improve societal well-being by:

- developing, supporting, and operating research infrastructure*
- improving and promoting access to data, information and models*
- articulating and advocating priorities for community level water-related research and observations*
- facilitating interactions among the diverse water research community*
- promoting interdisciplinary education centered in water science, and*
- translating scientific advancements into effective tools for water management and policy.*

CUAHSI VISION STATEMENT

We envision a diverse and dynamic scientific community, enabled by shared infrastructure, developing an integrative understanding of interactions among water, earth, ecosystems, and society and the science necessary to achieve the sustainable management of water.

INTRODUCTION

The above mission and vision statements were adopted by the CUAHSI Board of Directors in 2011. They reflect the aspirations of the community that are ambitious for an organization of our size. To advance towards them requires a focused and strategic approach which recognizes the opportunities available to CUAHSI and leverages our resources to the greatest possible extent.

The role of CUAHSI defined by the strategic plan focuses on enabling the academic research community to undertake the interdisciplinary study of water by overcoming the fragmentation of water science across university departments, across directorates of the National Science Foundation, and across water management agencies at multiple levels of government. The support is both “hard” support of facilities and services, and “soft” support of community engagement and empowerment through meetings, workshops, and surveys.

Primary funding for CUAHSI comes from the Hydrologic Science program within the Surface Earth Processes section of the Earth Sciences Division of the Geosciences Directorate (about \$1M/yr) with a slightly smaller award for the Water Data Center from the EAR Instrumentations and Facilities program

(\$0.8M/yr). Water research is also done by other programs within EAR and across the Directorates of the National Science Foundation, particularly in Ecosystem Science of the BIO directorate and the Environmental Engineering and Sustainability in the Engineering Directorate. However, none of these other programs contribute to CUAHSI's base funding at this time. Conversely, there is an interest within NSF for a consortium to serve all four programs of Surface Earth Processes¹, yet the current name, composition and operation of CUAHSI clearly indicates that it serves the water science community.

This Implementation Plan contains a series of tactical decisions that focus our efforts and provide a credible approach towards achieving the vision of the Strategic Plan. It is being written in early 2013 at a point when many budgetary uncertainties for CUAHSI have been resolved, yet also at a time when the overall federal budget is experiencing unprecedented pressure. The key budgetary factors to be considered in this plan are

- the funding of the CUAHSI Water Data Center (WDC) has been awarded at a level of \$800K/yr for three years (2013-2015) through EAR Instrumentation and Facilities Program
- the HydroShare project has been funded for 5 years (2012-2016) at a level of \$900K/yr to extend development of the Hydrologic Information Systems project into modeling and social networking
- the Hydrologic Science program has no additional resources to contribute to CUAHSI operations beyond the current \$1M to \$1.2M/yr
- the Critical Zone Observatory program is currently soliciting 8 observatories (to be selected in June, 2013)
- a Network Office for the CZO program is being solicited (proposals due September, 2013)
- the Foundation-wide Science, Engineering and Education for Sustainability program continues
- NSF funding is unlikely to increase substantially during the next 5 years, i.e., it seems unlikely for the Foundation to double its budget as has been previously targeted.

Taken together, CUAHSI can expect little increase in funding through non-competitive means. Increases in funding, beyond the WDC operation, will likely come from expanding our funding base to other Directorates, other agencies, or through successful proposals to open solicitations. The focus must be on using our core funding as effectively as possible to develop activities that can be at least partially funded by other means.

From its inception, CUAHSI has been seeking to develop infrastructure—both services and facilities—in five areas:

1. Informatics
2. Instrumentation
3. Observatories
4. Synthesis, and
5. Education and Outreach

In the last 10 years, we have gained experience in advancing each of these areas. Informatics has progressed to the point of CUAHSI's operating a facility, the CUAHSI Water Data Center. While a CUAHSI-operated Water Data Center can effectively serve all water scientists, instrumentation services are more effectively delivered through a CUAHSI-facilitated virtual Hydrologic Measurement Facility (vHMF) which has nodes

¹ Besides the Hydrologic Sciences program, the other three programs are Geobiology and Low-temperature Geochemistry, Geomorphology and Land-use Dynamics, Sedimentary Geology, and Paleobiology.

operated by individual scientists, including the CTEMPS Instrumentation Facility (operated by Oregon State University and University of Nevada, Reno with input from CUAHSI). None of the other three areas has received facilities funding, but there has been some NSF funding directed to each of them as will be discussed below.

This implementation plan proposes a consolidation of our efforts, recognizing developments at the NSF over this period, and building upon the strengths CUAHSI has as an organization. We propose to consolidate our activities into three areas: Community Facilities and Services, Community Engagement, and Governance. A cross-walk between activities listed in the strategic plan and in this implementation plan is presented in Appendix 1 with a brief description of each activity provided in the corresponding cell of the table.

COMMUNITY FACILITIES AND SERVICES

Water Data Center

A detailed specification for the WDC was developed separately ([doi:10.4211/datacenterspec.20120611](https://doi.org/10.4211/datacenterspec.20120611)). For this Implementation Plan, a few points of the impact of the budget reduction (from roughly \$1M to \$800K) are relevant:

- Staff reduction of 1 FTE will prolong development of operational services from 1 year to 2 years
- Pressure to find alternate funding sources is large to achieve the potential of the WDC
- Following the tenure of the interim Director, the current plan is for the Senior Software Engineer to become Director. It is unclear whether this person will have the necessary domain expertise to serve as an effective Director. We may need additional funds to hire a full time Director or retain Alva Couch (interim director for 2013) or recruit a different part-time Director.

Opportunities exist to increase funds for the WDC by expanding beyond the current scope as a data publishing/archiving/discovery center to support turn-key data management services for scientists deploying sensors, and licensing of the data catalog for non-academic use. Pursuing any of these opportunities will require more staff resources than currently available and will require some policy decisions to be made. Nonetheless, we need to build on the Water Data Center resources to expand services beyond what the current NSF funding level can provide.

Action Item: Include funding request for continuation of WDC in renewal proposal.

Action Item: Work with Informatics Standing Committee to determine appropriate additional funding streams to support WDC

Community Modeling

The Community Hydrological Modeling Platform (CHyMP) workshops held between 2008 and 2011 indicated many areas where software and data support could make hydrologic modeling more efficient. When the final workshop report was presented to NSF, it was made clear to us that NSF was interested in funding structured and well-defined activities where there were clear metrics of progress. There was little interest in funding a generic modeling platform. The community-governed Weather Research and Forecasting (WRF) model was held up as an example of the kind of activity that could garner NSF support.

No WRF-like model exists in the hydrologic community, in part, because of the range of objectives for constructing hydrologic models. However, the importance of defining progress in hydrologic modeling is

clearly important if we wish to increase investment in this activity. Defining current benchmarks in model performance through the establishment of a governance process is a role that CUAHSI could uniquely fill. The governance mechanism will establish and evolve a set of performance indicators, model tests, and standard data sets for the use of the community. In essence, CUAHSI would define a process to measure progress that can be used by individual scientists to support funding requests.

To narrow the focus for this initial effort, it was decided to focus on the hydrologic portion of large-scale Earth system models, such as the NSF-supported Community Earth System Model (CESM) that is used in climate change assessments. We recognize that many hydrologists are working in this area; our objective is to support on-going efforts and to make it easier for those working at smaller scales to explore the implications of their findings at large scale by reducing the barriers for using these large scale models.

We plan to collaborate with NCAR to create a CUAHSI-supported and maintained water-oriented extension of the current version of the Community Land Model (CLM), the continental module of CESM. The CUAHSI-supported CLM (CUAHSI-CLM) and associated resources will be used by the hydrologic modeling community to establish experiments, test new parameterizations, and document results that can be used to help prioritize changes to the NCAR CLM and to advocate for research and data needed to advance CLM. CUAHSI-CLM would consist of a code repository and documentation of this “water-focused” version of CLM, as well as data resources maintained at the WDC for running and evaluating the model. CUAHSI-CLM will serve as a community benchmark to stimulate creativity and advances in modeling approaches across hydrology.

Establishing this collaboration will benefit both hydrologists who are working on large-scale land-atmosphere interactions by providing community modeling resources and those hydrologists working at smaller scales by generating a continental framework for nesting smaller and higher resolution models that are consistent with the large scale dynamics. CUAHSI-CLM also will provide the physical framework for incorporating large-scale earth system processes such as carbon, nutrient and sediment dynamics. CUAHSI-CLM becomes a mechanism for hydrologists to directly influence how hydrology is represented in global Earth System models and a benchmark to be used by researchers working on modeling approaches over a broader range of hydrologic models, both within and outside of the CLM framework. Additionally, the support and resources provided by CUAHSI will make CUAHSI-CLM a realistic hydrologic model more accessible for use by the broader hydrologic community, and expand the capability to investigate past and future water resource security and associated food security. Furthermore, CUAHSI Water Data Center can provide access to *in situ* hydrologic data needed to improve CLM.

Thus, this initial effort will define the process by which the water science community can contribute to CLM. Participation by the community, as measured by the number of scientists accessing the test problem data sets and interest in the governance process, will indicate the future level of effort required to continue these activities. If fully successful, CUAHSI would request funds to support professional maintenance of CUAHSI-CLM code, user training in CUAHSI-CLM, annual workshops, and formally participate in CLM governance.

Action Item: Include funding request in renewal proposal to initiate activity.

Community Instrumentation

The goal of this effort is to increase the support for instrumentation acquisition by the water science community. Establishment of a centralized instrumentation facility is complicated by the wide range of instrumentation used by the water community and the lack of consensus on critical instrumentation. CUAHSI has pursued a virtual Hydrologic Measurement Facility based upon individual scientists acquiring

instruments and permitting community access to a portion of the “beam time” of the instrument. CTEMPS (Center for Transformative Environmental Measurement Programs) is the most heavily used node of the vHMF. CTEMPS was funded by the Earth Sciences Instrumentation and Facility program and is operated by the University of Nevada and Oregon State University with which CUAHSI has a Memorandum of Understanding. Other nodes include the University of Iowa’s mobile radar facility and the University of Arizona’s Hydrogeophysics Nodes that provides consulting services for hydrologists interested in using geophysics.

The Board has stated a goal of increasing the number of nodes in the vHMF or expanding the range of instrumentation available at CTEMPS. Achieving this goal requires continued community engagement to determine what instrumentation services are best delivered at the community level. Building on our experience in hosting scientific conferences, we plan to initiate a biennial Conference on Field Instrumentation in conjunction with CTEMPS and Biosphere 2’s Landscape Evolution Observatory (LEO). No other conference that focuses on field instrumentation exists. The conference will include invited speakers, a research poster session, and exhibitors as well as special sessions on CUAHSI Node opportunities and on writing proposals to NSF’s Instrumentation and Facilities programs. The objectives of the Instrumentation Conference will be:

- To assist scientists in acquiring instrumentation with the intent to form new nodes of the vHMF
- To generally promote the node model for instrumentation sharing through research success stories
- To identify community priorities and demand for instrumentation that potentially could be offered through CTEMPS
- To share experiences and expertise regarding the use and design of instrumentation

Substantial support for this meeting will come from instrument manufacturer exhibition fees and registration fees.

A second aspect of instrumentation is training given the high rate of technological innovation. We have experience with holding both Hands-on and Technical Exchange workshops to help advance instrumentation and diffuse knowledge about advanced instrumentation. To date, the training offered has been opportunistic: we have identified both a technology and a proponent of that technology to develop the course.

We wish to develop a more comprehensive approach that would develop a phenomenon-based curriculum that could be offered on a more regular basis. Graduate students enter water science programs with a background of various undergraduate degrees. Coming from diverse disciplines, they may have limited or no undergraduate experience in fieldwork or their experience may not be relevant to their graduate project. CUAHSI can fill a need for more systematic field training by identifying experts who are interested in offering field classes and assisting with the logistics of offering the classes. This training program would focus primarily on graduate students, but will also be valuable for new or senior faculty who are interested in moving into different areas of research.

We propose to develop a curriculum of Hands-on workshop courses organized around the water cycle. For example, courses could be offered on measuring precipitation, measuring snow and ice, surface water/groundwater exchange, or surface-water hydraulics. With a more formal structure in place, we can recruit expert instructors and enable better planning by faculty who wish to send students to these courses, which will be offered in a predictable sequence. This structure can allow “special topics,” e.g. on emerging technologies or instrumentation of vHMF nodes. Course materials will be archived on the CUAHSI website. We propose to offer 2-3 courses per year, and repeat topics every 2-3 years. We will also pilot courses with no subsidy from NSF. Course materials can be updated as technology and science evolve.

In addition, we plan to continue the series of Technical Exchange workshops collaboratively with the USGS at a rate of roughly one per year. These workshops provide a unique opportunity for academic and agency scientists to engage with manufacturers and engineers directly, can aid in identifying promising technologies for CUAHSI nodes, and will be held with the intention of leading to a peer reviewed publication to broaden the impact and document the outcomes of these development sessions.

Action Item: Expand staff to include a bachelor's level training coordinator in renewal proposal

Action Item: Announce intent to develop course to recruit more input from community and work with Education Standing Committee on refining course units.

Action Item: Draft one or two example water cycle courses and vet through Instrumentation Standing committee

Action Item: Assess demand and willingness to pay for courses at regional meetings

Observatories and Observatory Networks

NSF has solicited proposals to operate 8 Critical Zone Observatories. Given that the initial round of CZO funding was assembled on an ad hoc basis, the new solicitation indicates that this is planned as a long-term investment by the GEO Directorate. Recognizing that these 8 observatories will be selected by a panel based upon the scientific merits of each site, CUAHSI's interest is in helping to ensure that this investment by NSF meets the objectives of serving a community of scientists beyond the immediate PI's.

NSF is also soliciting a Network Office for the CZOs to assist in coordination among the sites. Although NSF's vision may not explicitly include support for community access, this is an opportunity to address how community access can be improved while recognizing the PIs interests. Data services are central to providing community support for CZOs and we are in a good position to provide these services.

The vision of the National Office as contained in the solicitation is inconsistent with CUAHSI submitting a proposal as a lead. Therefore, given our read of the solicitation, the Board has announced to the community CUAHSI's willingness to partner as a subawardee. Such an arrangement would provide CUAHSI support services to the PI for logistics of the office, and would define a pathway for increasing community access to the site. CUAHSI has agreed to work with Aaron Packman (Northwestern) in the development of a proposal for a Network Office. This is a non-exclusive arrangement and other PI's could be supported in a similar arrangement.

Action Item: Develop support services for PI's seeking to head CZO Network Office

Synthesis Center

The synthesis pilot activities (Sivapalan and Vorosmarty) indicated many attributes necessary for successful synthesis activities, including the need for post-doc support to advance the activities between the meetings of the working group and the need for data support. Adding a post-doc to a working group is a major increase in resource that takes the activity from being a relatively small amount of funds for travel to a full-blown proposal. In the National Center for Ecological Analysis and Synthesis (NCEAS) model, post-docs were shared among multiple working groups. However a physical center is necessary for hosting the post-docs, but NSF is not interested in funding a physical center. Clearly the WDC can provide data support.

A further complication is that water issues are typically regional in nature, not national. However, academic centers need national, indeed global, profile to be competitive. Any physical center will be located

somewhere. When CUAHSI partnered with UC Berkeley on submitting an unsolicited proposal for a National Data Center, one criticism of that proposal was that it was too California-centric. However, in part because it was meant to be a national center, that proposal attracted a high degree of interest from corporate partners. Some \$14M was pledged to augment the \$7M that NSF had proposed as a funding level.

The need for a physical Synthesis Center remains. Can existing university-based water centers, including USGS-funded Water Resources Research Institutes but also other similar institutes, be federated into a National Network? Can we effectively market such a network to potential corporate funders and philanthropists to make this idea successful? Would federation help such existing centers attract more funding? What services can be provided more effectively in a centralized manner? A federation of regional centers could be one approach to achieving the community's goal of synthesis opportunities.

Other alternatives exist for a potential synthesis center. First, there is the new Water Center operated by the National Weather Service in Tuscaloosa, AL. CUAHSI could explore establishing a cooperative institute with NOAA for hosting synthesis activities at this center, either directly or in coordination with the University of Alabama. A second possibility would exist through the various NSF programs that seek partnerships with the private sector. There is an organization called the Water Innovations Alliance (WIA) that represents various companies interested in water (primary by providing technologies for treatment and supply). Funding a synthesis center is certainly outside the mainstream for the NSF program and for the WIA, but it might be worth exploring.

Action Item: Hold regional meetings with CUAHSI members to explore the concept of regional synthesis centers

Action Item: Contact WIA to assess industry interest once concept is better formulated

Education and Outreach

Water science is inherently interdisciplinary, yet universities (and graduate training) are organized disciplinarily. Our members come from earth sciences, geography, civil and environmental engineering, and ecology each with their own perspectives on the structure of knowledge and empirical evidence. Scientists can benefit from understanding the approach and perspectives of other disciplines throughout their careers, but a particular challenge is how we meet the needs of graduate education to be both sufficiently deep in the home discipline while having a breadth of outlook to be able to effectively communicate, integrate and place in context their science and knowledge to scientists, students, and stakeholders working in related fields.

Formal outreach activities are attached to the Water Data Center, as a funded facility. The initial outreach activities of the WDC are directed to tribal colleges and universities, (in particular, Salish Kootenai College which recently instituted a hydrology degree) and tribal governments. For the core CUAHSI cooperative agreement, we propose to continue to expand on our current programs as well as integrating WDC activities into a cohesive, comprehensive E/O program.

Educating the Next Generation of Water Scientists

Our university members provide excellence in both undergraduate and graduate education in a wide variety of water science disciplines. CUAHSI's role is to provide support and services that enhance graduate student education and specifically provide opportunities for graduate students to broaden their research and/or education beyond their primary research and disciplinary foci. Existing programs include:

- **Cyberseminars** are valuable knowledge resource. Graduate students can learn about cutting edge research being done by top people in field. They can participate and ask questions much like a departmental seminar series, but the web technology opens up the opportunity to a much wider audience. Archiving of the seminar creates an on-going resource that can be accessed well after the seminar and creates a growing library of cutting edge and visionary thinking in water science that will inform and inspire graduate students well into the future.
- **Pathfinder Fellowships** provide a unique opportunity to broaden research.
- **Student Travel Grants** to CUAHSI meetings and workshops provide opportunities for students to meet with senior people within water science, to place their research in the broader context of the water science field, and make them aware of new opportunities.

We plan to expand these offerings with **Master Classes** aimed at beginning graduate students to provide access to topics that may not be available at the student's home institution, or even within the purview of the student's home department or discipline. Courses should be inspirational and help students understand how other disciplines think, in addition to conveying factual aspects of disciplines. We intend to carefully recruit instructors who are passionate about a topic rather than trying to provide a comprehensive selection of courses.

Action Item: Offer Watershed Science Master Class at Biosphere 2 facility in January 2014 (McDonnell, Tague, Hooper, and Troch) on a full-cost reimbursement basis to assess demand and to demonstrate utility

Action Item: Solicit other potential short courses to develop short descriptions for evaluation by Education Standing Committee

Let's Talk about Water

This film-followed-by-a-panel format has been supported using foundation funds but with staff support from NSF funds. We propose to continue this approach because of the interest evidenced by the recent competition for challenge grants and the quality of the proposals.

Action Item: Develop corporate and foundation sponsors for challenge grants for LTAW events

Action Item: Continue to assemble resource materials for website

COMMUNITY ENGAGEMENT

Biennial Symposium

The CUAHSI Biennial Symposium has been established as a successful meeting. We need to choose future themes and to consider partnering with other organizations to use this meeting to broaden the reach of CUAHSI for water disciplines. Meeting themes should pick up on NSF cross-directorate initiatives, such as sustainability and seek to highlight projects that receive cross-directorate funding, such as the Water Sustainability and Climate sites.

Action Item: Pick a meeting theme for 2014 strategically to emphasize interdisciplinary nature of CUAHSI

Regional Meetings

Beginning in 2013, CUAHSI will hold regional meetings that will bring together roughly 15 member universities at a time. The strategic objectives of these meetings are

- To describe CUAHSI services and to get feedback on these services
- To recruit additional individuals to engage with CUAHSI
- To explore the feasibility of combining existing Water Centers (including WRRIs) into a federated network of Regional Synthesis Centers with CUAHSI providing data services support and other centralized services
- To enable participants to network among themselves to prepare for future interdisciplinary calls

Action Item: Hold 3 regional meetings during 2013 to assess community interest

Action Item: Assess results to determine structure and content of future regional meetings

Exhibitions

CUAHSI has exhibited every year at both the GSA and Fall AGU meetings with our full booth set up. Although exhibition fees to these meetings are expensive (between \$10,000 and \$15,000 including space rental, utilities, internet access, and shipping costs), these meetings attract the heart of the community that CUAHSI serves. We have typically held a town hall meeting at AGU as well as having the booth that attracts approximately 200 attendees.

Both of these meetings are in the autumn. We also attend 1 or 2 smaller specialty meetings in the spring, including the American Association of Geographers, American Water Resources Association, Environmental Water Research Institute (part of ASCE), American Society of Limnology and Oceanography, and Society for Freshwater Science (formerly North American Benthological Society).

We plan to continue this level of engagement at professional society meetings.

Action Item: Continue funding request for this level of exhibition

GOVERNANCE

CUAHSI is unique among university consortia funded by NSF in the breadth of disciplines served because water connects so many parts of the Earth system. The challenges to such a consortium are obvious and include the various disciplinary world views (which complicate communication) and fragmentation of the science across university departments and NSF programs. The opportunities, however, are equally compelling. CUAHSI has as its mission to bring together these fragments and enable natural scientists, social scientists and engineers to more readily work together. The goal is to continue to develop CUAHSI to be the authentic grass-roots voice for the broad water community and expand that community to be fundable from multiple programs within multiple Directorates at NSF.

Board of Directors

CUAHSI expanded the number of representatives from each member university to 3 members, with a request to universities to diversify representation of disciplines, career stage, and other demographic factors. This has resulted in a far more diverse board, with a mixture of aquatic ecologists and geochemists complementing the more traditional hydrologists on the Board.

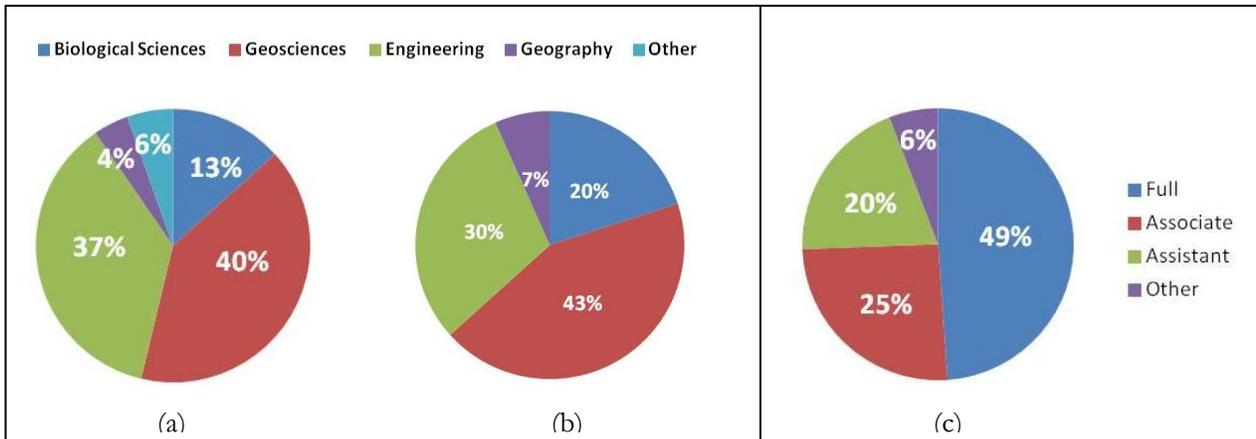


Figure 1. Distribution of representatives (a) and Board of Directors (b) by home department and distribution of representatives by academic rank (c).

These efforts should continue. As our activities are perceived to be relevant to other disciplines, then we will attract additional candidates for the Board who will represent additional disciplines. If we can demonstrate the utility of CUAHSI to other program and directorates, we will be more likely to attract funding or enable Hydrologic Science to negotiate some cost sharing arrangement.

Action: Continue to recruit multiple water disciplines to serve of CUAHSI Board

Action: Elicit suggestions for how CUAHSI services should be extended to better serve more disciplines

Action: Document breadth of Board and participation by multiple disciplines in CUAHSI activities/services

Senior Management

Currently, one person (Rick Hooper) serves as both President and Executive Director of CUAHSI. This combines the duties of President, who is to serve as an intellectual lead for the Consortium and lead the strategic planning effort, with the operational duties of running the Consortium handled by the Executive Director. As CUAHSI enters a more predictable phase and as we look beyond Hooper's tenure at CUAHSI, it seems difficult to attract a senior scientist who would be willing to abandon a research career to assume the dual President/Executive Director role, especially given the size of the organization.

Therefore, we will propose over the course of the next renewal grant to split the position of President and Executive Director. To make this change as cost-neutral as possible, we will have a half-time president and a full-time Executive Director who will be compensated at a level commensurate with a non-profit corporation at this size. The President will be elected by the Board and focus on strategic planning. The vision is for the President to complete a full strategic planning cycle of developing a science plan, strategic and implementation plan based on that science plan and then executing that plan over the course of 6 years (two terms). A compensation rate of 50% appears adequate for a senior professor with high profile in the discipline to undertake such an effort over that period of time. Relocation to the CUAHSI offices would not be necessary because the full-time Executive Director would be managing operations.

The President would work closely with the Executive Director on this planning cycle because the Executive Director holds the corporate knowledge of CUAHSI operations and past planning experiences. The Executive Director will also provide key tactical input to the planning and development strategy that emerges.

The Executive Director is responsible for the legal and contractual obligations of the Consortium, but also must be a PhD-level scientist who can assure that CUAHSI's operational services meet the community's needs. The compensation level can be significantly less than the compensation of the joint position. An individual who wishes to take on research administration can fill this role but does not have to be a senior scientist with national to global stature. The Executive Director would be a full-time employee who would have to be located at the CUAHSI offices, which are currently in the Boston area.

By splitting these positions, we believe that we will be able to attract a larger pool of candidates for each position as well as to open the President's position to new people and, thereby, to get fresh perspectives in leading CUAHSI.

Action Item: Develop a transition plan in consultation with NSF on splitting senior management positions and vet that plan through the community at the 2013 Annual Membership meeting.

Appendix 1.

TABLE

Strategic Plan	Community Engagement	Community Facilities and Services	Governance
Community and Governance	1. Biennial Meeting 2. Regional Meetings 3. Exhibitions		Representative Expansion/ Board Diversity
Service Delivery: Data Access		CUAHSI WDC	
Service Delivery: Instrumentation Node Model	Instrumentation Conference	1. vHMF nodes 2. CTEMPS 3. Hands-on Workshops 4. Technical Exchange Workshops	
Service Dvlpmnt: Community Modeling		1. CUAHSI-CLM 2. Informatics Meeting	CUAHSI CLM governance
Service Dvlpmnt: Instrumentation Technology	1. Instrumentation Conference 2. Technical Exchange workshops		
Service Dvlpmnt: Observational Strategies		Data Support	Support for CZO National Office
Service Dvlpmnt: Synthesis	Regional Meetings	Data Support	Federated Network of Regional Centers
Service Dvlpmnt: Regional Centers and Consortia	Regional Meetings	Data Support	Federated Network of Regional Centers
Outreach and Education	Biennial Meeting	Data Support for E/O programs (e.g. LTAW events; Pathfinder research)	
Translational Science	Corporate Affiliate Members		