



## CUAHSI Board Meeting Minutes

*July 27-29, 2020*

### **Roll Call**

12 members are present, 10 needed for quorum. “X” indicates present

#### **Term expires 12/31/2020**

Al Valocchi, University of Illinois Urbana-Champaign X

Amir AghaKouchak, University of California-Irvine

Jesus Gomez-Velez, Vanderbilt University X

R. Edward Beighley, Northeastern University X

#### **Term expires 12/31/2021**

Gordon Grant, Oregon State University X

Steve Loheide, University of Wisconsin-Madison (Chair) X

Jeanne VanBriesen, Carnegie Mellon University (Past Chair) X

Gretchen Miller, Texas A&M University X

Alejandro Flores, Boise State University X

Greg Characklis, University of North Carolina Chapel Hill X

#### **Term expires 12/31/2022**

Aditi Bhaskar, Colorado State University X

Anne Jefferson, Kent State University X

Anne Nolin, University of Nevada-Reno X

Ashok Mishra, Clemson University X

Jay Zarnetske, Michigan State University X

#### **Officers: (terms expire 12/31/2020)**

Audrey Sawyer, Ohio State University (Treasurer)

Adam Ward, Indiana University (Secretary) X

#### **CUAHSI Staff Present:** Jerad Bales

**Guests:** Laura Lautz (NSF), Justin Lawrence (NSF), Ingrid Padilla (NSF), David Tarboton (HydroShare)

Minutes prepared by Ward

**2020-07-27**

12:00 EDT Call to Order

1. Executive Director's Report

- a. Bales circulated the final reports for year 5 of award 1338606 and year 1 of award 1849458 prior to the meeting (attachments 01 and 02, respectively), as well as a summary of CUAHSI impacts due to the COVID pandemic (Attachment 04). He noted that one workshop is being attempted as a virtual workshop, where kits will be shipped to participants.
- b. Bales reported he is actively recruiting a new accountant for CUAHSI. He also reported multiple interviews are scheduled for the Deputy Director position.
- c. Bales is working to schedule the Biennial Meeting for 2021 in the Western U.S. At present he is working on negotiation of rates, and ensuring there is a clause in the contract that would allow for cancellation in travel is limited by the ongoing pandemic. The group discussed the potential of a virtual option to complement or replace this meeting in the event of cancellation. Miller and Gomez-Velez indicated a preference to have virtual participation as an option, noting this would make a pivot to entirely online easier if that decision were needed.
- d. Bales shared the Management Plan for the Critical Zone Hub submitted as part of the proposal package. (attachment 03).

2. NSF Report

- a. Lautz, Lawrence, and Padilla each congratulated CUAHSI on the award as the Critical Zone Hub, noting that the engagement with those program officers at NSF would likely be important for CUAHSI.
- b. Lautz noted the focus of the NSF GRFP priority areas on computational methods and skills. She encouraged the Board to consider the role of these skills in the geosciences.
- c. Lautz highlighted the Catalyzing Opportunities for Research in the Earth Sciences (CORES): A Decadal Survey for NSF's Division of Earth Sciences report from the National Academies of Science. She noted particularly the role of scientific infrastructure (both existing and future) in support of the geosciences, highlighting coordinated infrastructure on near-surface geophysics as one example.
- d. Lautz reported that a workshop on integrated hydrologic and terrestrial modeling that included representatives from many federal agencies was held in September 2019 (CUAHSI supported participation of the academic community). She noted a working group on coastal modeling as an initial focus. There is also a multi-agency group working on contaminants of emerging concern, with one

possible goal being cross-agency solicitations on emerging contaminants.

- e. Padilla highlighted the Pardee Symposium being planned for the upcoming GSA meeting. The session will focus on outstanding needs, upcoming strategies to address these, and strategies to translate outcomes to a broad audience in hydrologic sciences.
  - f. Lawrence complimented the Board on prioritization of DEI as an organization and for their efforts to support the community. Bales requested a formal communication from the NSF when the Hub decision is public. Lawrence clarified that he would appreciate a combined press release when the other awards were finalized as opposed to CUAHSI getting out ahead.
  - g. Grant and Bales discussed the management plan for the CZ Hub and the timing of formation of these groups. Bales noted this would be a priority after the awards begins.
3. Joint Hydrologic Sciences Meeting
- a. Loheide noted that the mixer and program at the Fall 2020 virtual AGU meeting needs to be considered. He noted this is an important outreach effort to convey to members what CUASHI does for them, and to grow the participation in CUAHSI. He initiated a discussion of how this impact could be replaced, and how to use this as an opportunity to strategically expand the diversity of CUAHSI's membership.
  - b. Bales reported that planning for the Joint meeting in terms of venues, budgets, and other coordination has been behind schedule relative to the plan that was initially set. His overall impression is that the planning is lagging.
  - c. Bales introduced the concept of a Voices of the Future award that will focus on engaging students with CUAHSI and amplifying their voices and visions in the community (attachment 05). Bales noted he is working closely with AGU Hydrology section leadership on the role of CUAHSI in the Joint meeting as well as the 2020 Fall meeting.
  - d. Grant confirmed that he and Scott Tyler are expecting a 'walkthrough' of the Fall 2020 AGU meeting in August. He committed to sharing his experience with the Board in September to help the Board plan for the Fall 2020 meeting.
  - e. Jefferson and several others endorsed the 'Voices of the Future' award. She suggested partnering with a journal to print the papers from the students as commentaries, subject to review at WRR. Jefferson suggested Charlie Luce as a possible champion given his role at WRR and with OSPA at the Fall 2020 AGU meeting. Padilla suggested that it would be important to actively solicit a diverse body of participants for this type of award. Gomez-Velez suggested Eos as another possible outlet.
  - f. Padilla suggested targeted outreach to HBCUs and other minority serving

institutions to extend invitations to any activity planned for AGU. Bales concurred, noting discussion is planned for Wednesday about expanding opportunities for HBCUs and MSIs as CUAHSI members.

- g. Grant suggested a Let's Talk About Water style event.
  - h. Padilla suggested CUAHSI engaging at GSA, particularly since student registration is free for the Fall 2020 meeting which will yield broad participation.
  - i. VanBriesen suggested a role for CUAHSI in helping highlight video updates from researchers on their most important new work and could be viewed in an asynchronous way, and possibly also as a networking opportunity. She particularly emphasized students, post-docs, and early career faculty who network extensively at these events as part of building their careers.
  - j. Lawrence suggested an intentional effort at the National Association of Black Geoscientists meetings.
  - k. Loheide noted that a planning team to represent CUAHSI in the Joint meeting planning efforts would include Bales, VanBriesen, one student, and one early career representative. VanBriesen suggested a process that would allow people to self-nominate or nominate others to ensure broad participation on the committee. The group discussed an open call for nominees. Jefferson suggested member representatives could be contacted to solicit nominations.
  - l. Nolin suggested that there should be a clear plan in place that defined what a diverse enough pool will look like before a decision is made. VanBriesen suggested that a criteria of 50% of names that aren't recognized by the assessment committee is a practical approach to assessing whether the pool is broad.
4. HydroShare Update
- a. Tarboton made a presentation to the Board on "Strengthening the Culture of Data and Model Sharing" (slides available on HydroShare by searching "cuahsibod20").
  - b. The group noted the importance of the connections between HydroShare and compute infrastructure as a unique capability that should be exploited and advertised.
  - c. Ward presented on the educational resources that have been organized on HydroShare, including the click-by-click guide to enable new users to rapidly get up-to-speed on the platform.
  - d. Loheide assigned the Board the 'homework' of uploading a file to HydroShare before the meeting begins tomorrow. Each Board member should upload a resource, considering the workflow, any barriers to entry, and how the workflow and ecosystem can support FAIR data sharing.
  - e. Grant initiated a discussion of the future of HydroShare, particularly as the educational norms are changing in the current pandemic. He asked about

educational resources as a possible mechanism to generate support for HydroShare.

- f. Tarboton discussed the possible role of HydroShare and HydroLearn as helping cross boundaries between institutions for shared educational programming.
5. Adjournment
    - a. Loheide opened the floor to any other business. Hearing none, the meeting was adjourned for the day.

14:20 EDT    Adjourned

**2020-07-28**

12:00 EDT    Call to Order

6. Data Services Needs and Future Directions
  - a. Loheide initiated a discussion on data services, with a particular focus on the culture of data sharing including barriers, cultural limitations, and the role of data in scientists' careers. The Board was provided with several pre-reads on the subject (attachments 07-14).
  - b. Beighley noted that there is an important difference between providing raw data and derived products that are interpreted in a study. This leaves future users to reconstruct workflows or models rather than readily accessing the data that are interpreted. The data that are shared vs. desired is an important distinction.
  - c. Jefferson noted that the time and effort to prepare comprehensive metadata is a barrier. She suggested any training or metadata 'wizards' or other support would help increase the value of data that are shared, particularly for data that are collected but not central to a publication. The group noted that data can be kept private to allow for a working space for collaboration as opposed to only final publication. Tarboton suggested metadata may evolve as a result of people answering questions from users, and may be revised over time to better support users.
  - d. Bhaskar suggested that quick-start guides should clarify that when a DOI is assigned the resource becomes frozen, and that 'publish' was confusing. She suggested the preferred process and timing between uploads and publication could be more clear. The group discussed the confusion that the back-and-forth between HydroShare and publication processes, noting this could be improved for authors. Tarboton indicated HydroShare is working to allow some metadata to be editable even after a DOI is assigned (e.g., adding related publications).
  - e. Loheide shared an experience where reviewers of a paper performed QA/QC, and noted there is a role for journals in requiring data publication.
  - f. Flores suggested that authors and those receiving funding will be increasingly compelled to share data, and that CUAHSI should focus on the value added by CUAHSI over publishing with alternative locations (e.g., university libraries). He

cited the opportunity to integrate research products with teaching and learning of students via the HydroShare tools as one example of a value-add.

- g. Gomez-Velez and Flores both suggested that a campaign to differentiate HydroShare and its advantages from other services - with proactive outreach to scientists - is a necessary step to increasing and standardizing use.
  - h. Loheide suggested that there is not much mechanism at present to highlight the data sets being made available and their quality. For example, in promotion and tenure reviews one could comment on the extent to which field data are shared. He suggested CUAHSI may have a role in encouraging recognition of good data stewards. Grant suggested a 'data sharing award' or similar recognition.
  - i. Padilla suggested that FAIR data standards are the goal for most federal agencies, meaning that sharing will be increasingly scrutinized as part of the award process. She noted there is a difference between sharing data and sharing data with a quality and documentation that makes others want to use it. She suggested the QA/QC procedure on HydroShare is currently limited, which makes it easy for uploads but possibly challenging to users.
  - j. Nolin discussed the challenges of creating data that people want to use. She suggested discussions with other, older data hubs to assess best practices and ensure we are building upon known successes.
  - k. Grant suggested a data sharing and metadata course that CUAHSI could offer across the graduate community. This would include a best practices course or series of modules, which might lead to a certificate. He also suggested additional modules for professional development that would be logical, such as 'how to write reviews'.
  - l. Padilla suggested that this training needs to be available across many disciplines, and with the CZ Hub coming online there will be a broad community of users and data types that need to be supported.
7. Standing Committee Reports
- a. Diana Karwan, Chair, Instrumentation
    - i. Karwan summarized committee membership, key accomplishments, and future priorities for the committee.
    - ii. Key activities in the past 6 months have included administering the Instrumentation Discovery Travel Grant and updating the hydrologic facilities listing on the CUAHSI website. She reported more than 50% of awards for IDTG were to self-identified women and ethnic minority applicants.
    - iii. Karwan identified the IDTG as an opportunity to build capacity for the awardee. The committee is discussing how to advertise and incorporate diversity into the review, and to highlight past success stories on CUAHSI's website. She also expressed goals to diversify the committee, and organize a workshop that could be associated with either the CUAHSI Biennial or AGU Joint Hydrologic Science meeting, with a possible topic focused on the instrument-to-data workflow.

- iv. Gomez-Velez asked about extensions for the awards if travel remains limited. Karwan and Bales reported one extension has been granted, and they hope to remain flexible and support the applicants as much as possible.
  - v. Padilla encouraged Karwan to consider reaching out to HBCUs and MSIs to recruit committee members. She also suggested shipping of equipment and connection remotely as a way to maintain the program during the pandemic.
  - vi. Gomez-Velez suggested a slack channel that has field hydrologists sharing tools and techniques and offered to connect Karwan with this group.
- b. Emad Habib, Chair, Education and Outreach
- i. Habib summarized key ongoing activities for the community including the Lets Talk about Water program, training workshops, and the Pathfinder Fellowship program.
  - ii. He noted the LTAW program applications were delayed until September, and the committee is considering options to move forward including alternative plans for virtual events, delaying events until at least Spring 2021, or reshaping the awards in a more substantial way (e.g., a video competition).
  - iii. Habib reported the committee is particularly interested in advancing undergraduate education offerings and services in the coming year.
  - iv. Loheide remarked on the convergence of initiatives to support undergraduate institutions and improve DEI within CUAHSI's portfolio.
  - v. The group discussed the need to survey or otherwise assess the needs of the target populations for each activity to ensure CUAHSI services are well-aligned with community needs.
- c. Naomi Tague, Chair, Informatics
- i. Tague summarized activities and upcoming priorities for the Informatics committee. She highlighted ongoing activities including providing feedback on HydroShare development, managing the HydroInformatics Innovation Fellows program, and serving as a sounding board and idea generator for CUAHSI in data services and informatics.
  - ii. Tague highlighted the need to develop a resource database for hydrologists, by hydrologists. The goal would be to informally share resources from a bottom-up drive, such as an informatics blog.
  - iii. Tague discussed the rubric used to evaluate applications for the HydroInformatics Innovation Fellows program, including targeting programs that will likely make a difference. The committee will consider adding a metric focused on DEI in the next round of awards. She reported

that these awards create useful products for direct use by the community, and suggested that funding amounts are relatively low compared to the visibility and community benefit in this program.

- iv. The group discussed the early applicants for the fellowship program, noting that it takes a few years for the role and purpose of the program to become clear to the community.

8. Unique Barriers to Diversity in the Geosciences

- a. Loheide introduced the discussion on CUAHSI's DEI activities. Miller hosted Kueheli Dutt to present to the Board on Unique Barriers to Diversity in the Earth Sciences as a foundation for the discussion on DEI planned for the next segment of the meeting.

9. Adjournment

- a. Loheide opened the floor to any other business. Hearing none, the meeting was adjourned for the day.

15:05 EDT    Adjourned

**2020-07-29**

12:00 EDT    Call to Order

10. CUAHSI Grant Activity Review

- a. Loheide introduced the CUAHSI Grant Activity Review and emphasized the purpose was to evaluate the portfolio of grant activities as they relate to CUAHSI's priorities, budget, and COVID pandemic response.
- b. Characklis presented a summary of CUAHSI's existing grant and fellowship programs (attachment 16). His summary included a breakdown of success rates, career stages, and gender of awardees. He noted that limited demographic data has been collected in past applications, but all committees are considering how these data can be collected and considered in the future.
- c. Valocchi asked about the funding source for the LTAW events. Bales reported that these had historically been supported by a combination of the Johnson Family Foundation, CUAHSI's NSF award, and matching funds from the awardee, although no JFF funds are now available for 2020 and 2021.
- d. The group discussed collection of additional demographic data for CUAHSI activities, which would include these programs. The group also discussed targeted marketing of various programs to HBCUs and MSIs in the future. Bales suggested that resolution of CUAHSI member eligibility would be an important step in this process.
- e. Grant and Loheide discussed the assessment of longer-term contributions from past awards. Loheide suggested a follow-up with past recipients to assess their impact in terms of the long-term outcomes for fellows. Padilla discussed the



follow-up that is part of the NSF REU programs as one model for tracking participants.

- f. Bales noted that Jon Pollock is completing a longitudinal study of past participants that should be ready for the Board in January 2021.
  - g. Jefferson requested a summary of grant and fellowship awards by institution. Bales shared the raw data with the Board for their review.
  - h. Characklis suggested committee reports each Board meeting should include explicit reporting out on award applications, success rates, and demographics of awardees. He reported committee chairs are engaged in administering the awards and all are actively seeking to expand diversity, equity, and inclusivity of their programs.
  - i. Bhaskar cautioned the attribution of long-term success to a relatively small input of support from CUAHSI, noting correlation may not explain a causal mechanism.
11. CUAHSI Ad Hoc Committee on Membership Report
- a. Zarnetske presented a summary of CUAHSI's membership definition at present and potential modifications to advance the goal of being a more inclusive organization and serving a larger population of hydrologists. He summarized the committee composition and activities, and the potential future steps for the committee.
  - b. One key recommendation from the committee will be to modify the bylaws to allow PUIs to be eligible for full membership. He discussed several models for inclusion including membership types, fee structures, and representation.
  - c. Additional recommendations include regular assessment of CUAHSI membership types, targeted recruitment of PUIs and engagement of their representation in leadership activities, and immediate inclusion of PUI representatives in the decision-making process.
  - d. Loheide asked about the general response to dues amount and structure during the interviews. Zarnetske reported that when the benefits were clearly articulated, the justification of the funds was not dealbreaker. He emphasized the need to help make the case for administrators.
12. DEI and CUAHSI
- a. Miller initiated a discussion of the DEI implementation plan, including a review of DEI implementation ideas that have been brainstormed to-date by the planning committee. She highlighted key activities including:
    - i. Compile, track, publish, and act on metrics for CUAHSI programs and services
    - ii. Expand participation of underrepresented groups
    - iii. Provide DEI training to CUAHSI Board and Staff
    - iv. Add/enhance DEI specific programming
    - v. Develop a mentoring program
  - b. Bhaskar asked about the timeline for this plan. Bales responded that there are initial steps in each activity that may be taken in the next year, and hopes this is a starting point that can be readily implemented and then revisited in future years.

- c. Bhaskar raised the question how DEI should be considered as a part of existing programs vs. warrant new programs specifically focused on DEI.
- d. Grant suggested we consider the intersection of DEI and water resources as a way to leverage CUAHSI's unique position in the space.
- e. Flores suggested the creation of a fellowship opportunity for diverse scholars, where the applicant self-identifies that they wish to be evaluated along with an existing fellowship program. This would leverage existing infrastructure and reviews, while earmarking funds to advance DEI goals.
- f. Flores suggested strategic partnerships focused on environmental justice, citizen science, and supporting diverse communities would be a strategic path forward.
- g. Zarnetske suggested that CUAHSI should invest in generating additional resources to support a broader portfolio of funding for this effort. This could be via strategic partnerships or leading proposals to raise funds.
- h. In reference to discussion about working with under-served communities on their water issues, Jefferson emphasized the need to forge strategic partnerships with the communities before assuming that CUAHSI has the correct plan and resources in place.
- i. Miller noted disability status will be added to the demographics questionnaires that are being planned.
- j. Bales and Miller noted that the proposed demographic form would be part of any CUAHSI registration, including attendance of a live event (e.g., cyberseminar), fellowship application, and so forth. The group discussed HydroShare as one possible exception because many users already exist and have not provided any demographic information. Consequently, following-up with them will be a challenge.
- k. The group discussed the identification of appropriate goals for CUAHSI in the DEI space. Examples were to reflect the US population, the AGU hydrology population, and similar. Miller noted this is important as a basis to judge the success and progress made as part of the implementation plan. Several Board members concurred with the idea that continuous improvement and collection of baseline data were critical first steps.
- l. Jefferson suggested a persistent user profile to avoid redundant data collection.
- m. Flores suggested a targeted assessment of peer and near-peer organizations to assess progress, activities, and set goals.
- n. Zarnetske raised the issue of how DEI is being integrated into existing CUAHSI programs in a deep and meaningful way. He suggested, for example, the opportunity to critically assess all policies, committees, hires, and so forth from a DEI perspective. Miller suggested the potential of having a DEI committee that would readily become overwhelmed by required involvement across the board. Instead, she advocates for an implementation plan that will clearly outline how DEI is repeated across the CUAHSI portfolio, such as a required check-in or reporting from committees.
- o. The group discussed a change to the bylaws as a way to reinforce this in the culture from a top-down perspective and ensure DEI remains a priority. Loheide suggested this could also be an internal or organizational policy. Miller also

suggested this could be added to committee charges, which would make this a formal expectation without the requirement of a bylaw change. Jefferson suggested formalizing how DEI was considered as an expected part of the report out from any committee would be a simple way to improve the organization.

13. Wrap-up

- a. Based on the poll circulated, Board and ExCom meetings are likely to be scheduled Mondays 2-3pm Eastern. Ward and Loheide will follow-up on this.
- b. Loheide suggested that the meeting scheduled for Monday, 10-Aug would be cancelled. He does expect the 24-Aug ExCom meeting to proceed as scheduled.
- c. Miller reported the January 2021 Board meeting would tentatively be held the week of 4-Jan or 11-Jan-2021, which precedes the start of the semester for most Board members. She tentatively identified January 11-13, 2021.

14. Adjournment

- a. Loheide opened the floor to any other business. Hearing none, the meeting was adjourned for the day.

14:15 EDT    Adjourned