



CUAHSI
allied for water science

CUAHSI Board Meeting Minutes

January 11-12, 2024

Roll Call

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

Term expires 12/31/2024

Alejandro Flores, Boise State University X
G.H. Crystal Ng, Univ. of Minnesota
Steven Loheide, Univ. of Wisconsin - Madison X
Ashley Matheny, Univ. of Texas - Austin X
Ashok Mishra, Clemson Univ.
Åsa Rennermalm, Rutgers Univ.

Terms expires 12/31/2025

JP Gannon, Virginia Tech X
Drew Guswa, Smith College X
Hoori Ajami, Univ. of California - Riverside X
Anne Jefferson, Univ. of Vermont (Chair) X
Jay Zarnetske, Michigan State Univ. (Past Chair) X

Term expires 12/31/2026

Safeeq Khan, Univ. of California, Merced X
Sarah Ledford, Georgia State Univ. (Chair Elect) X
Amy Burgin, Kansas State Univ. X
Darren Ficklin, Indiana Univ. X

Officers: (terms expire January 31, 2024)

Troy Gilmore, University of Nebraska (Treasurer) X
Adam Ward, Oregon State University (Secretary) X
Steve Architzel, UC Santa Cruz (Treasurer elect) X

CUAHSI Staff Present: Jordan Read, Maddie Scranton, Deanna McKay, Veronica Sosa Gonzalez, Lisa Mucciacito

Guests: J. St. John

Minutes prepared by Ward

Thursday, 11-January-2024

08:30 US Eastern Call to Order

Welcome, Introductions, & Review of Agenda

1. Jefferson and Read welcomed the Board, leading introductions and reviewing.
2. Jefferson reviewed the CUAHSI Code of Conduct for the meeting, reminding the Board to raise concerns to herself, Ward, and/or Read.

WaterSciCon24 Updates

1. Ward summarized progress on the WatSciCon 2024 meeting.
2. The board discussed the meeting structure and costs. Flores raised a concern that the meeting format was not markedly different than AGU fall meetings, and this could limit community excitement or attendance. Ledford and Burgin compared and contrasted logistics for this meeting in comparison to those hosted by other organizations.
3. The Board articulated concern about costs to attend, the quality of hybrid attendance, and whether any discount would be provided to CUAHSI members.
4. Jefferson noted that CUAHSI's summer Board meeting would be scheduled immediately following the Board meeting.

CUAHSI Status, Progress, & Future (Executive Director's Report)

1. Read presented a summary of critical threats to the organization and necessary actions in the coming year. Read summarized key points from the meeting briefing provided to the Board, focused on two key issues: (a) organizational cashflow, and (b) organizational compliance.
2. Read articulated three organizational challenges that exacerbate these issues:
 - a. CUAHSI's financial structure and operational processes were not aligned with the complexity and scale of the organization.
 - b. CUAHSI's complex portfolio of funding and high-inertia activities limit flexibility in adapting to changing conditions.
 - c. CUAHSI's hiring has been focused on program implementation that is visible to the community rather than support of internal operations.
3. Read summarized CUAHSI's fiscal model, including compliance requirements for federal awards. He also reviewed the role of external contractors for accounting and finances.
4. Read reported that CUAHSI's cashflow is critically limited. CUAHSI's funding structure is that 99.6% of the portfolio is expense-reimbursement, meaning that work must be done before reimbursement can be requested. Indirect funds (aka 'overhead') that would be used to invest in organizational staff, compliance, and work on the organization are, therefore, not available until reimbursable work has been done. Read reported that more than \$1M has been spent on external contractors to address past fiscal practices and improve organizational processes, procedures, and compliance. The average timescale between incurring an expense and receiving reimbursement is about 75 days for the organization.
5. Flores and Guswa initiated a discussion about cashflows, including how the timing of inputs and outputs may exacerbate cashflow concerns for the organization. Read clarified

that complexity of the portfolio means that the monthly billing to different projects can be highly variable on a month-to-month basis, leading to inconsistent timing of expenses and reimbursements through the year.

6. The group discussed indirect cost rates. Read noted that a provisional indirect rate of 35% has been approved for federal funding moving forward. This rate has enabled additional indirect costs – compared to the prior *de minimus* rate – to enable more accurate reimbursement of expenses for the organization.
7. What is the role of the Board in addressing cashflow and compliance issues? Read articulated two key areas for Board engagement to address these issues: (1) Fundraising for unrestricted funds and generating alternative sources of revenue; (2) addressing concerns raised regarding near-term challenges to the organization; and (3) communicating CUAHSI operations, needs, and services provided to the community to maintain the position of organization in the community. There are, of course, in addition to the ongoing efforts of the Board in governance and leadership.
8. Read identified strategies for CUAHSI staff including continued direct-cost work to generate indirect costs, addressing compliance issues, ensuring staff are aligned with organizational needs, and finding creative solutions to address cashflow.
9. The group discussed the timeline for 2020-2023 audits. Read reported that he is working to finalize the filing of the 2019 audit, noting that the new controller has recently received a clean 2019 Schedule of Expenses for Federal Awards, which now enables finalizing the 2019 audit. The external auditor is actively working on 2020 and 2021 audits, which are anticipated to be completed in the coming months.
10. Read reviewed staff organization and responsibilities. Ledford initiated a discussion about remote work and staff cohesiveness. Read reported that increasing his informal engagement with staff and opportunities for staff to engage with one another is important in the new year.

Board Engagement

1. Ward led a discussion of how to unlock Director engagement and commitment. Asked board members to identify what an optimally engaged Board of Directors would look like, and what the key characteristics of an optimally engaged Board are.
2. Ward facilitated a discussion of what expectations Board members have for their own engagement (time, role, and responsibilities) and what limits or barriers might exist that keep us from having an optimally engaged board.
3. Ward asked for information on what CUAHSI leadership (Board or staff) could do to facilitate or enable engagement.
4. Discussion concluded with individuals sharing their own current expectations for their time commitment to CUAHSI.

Nonprofit Fundraising

1. Jane St. John joined the Board to discuss nonprofit governance and fundraising. She led a session of about 90 minutes in total, broadly covering topics in the role of nonprofit boards in fundraising best practices.

2. The group conducted a series of breakout exercises, focused on. Notes here capture a summary of the discussion.
 - a. What leverage, assets, and/or attributes of CUAHSI exist?
 - i. Water as a compelling topic
 - ii. Community members and reach/visibility in the community
 - iii. Newsletter & website
 - iv. Virtual / data infrastructure
 - v. Staff, board, and member expertise (including domain science, data management, and science planning)
 - vi. Brand, reputation, and long-term success (value as a trusted partner)
 - vii. Open-science
 - viii. Job board
 - ix. Board of Directors membership
 - x. Membership in CUAHSI
 - b. How could these be monetized in the next 12 months?
 - i. Advertisement from vendors (website, list-serv)
 - ii. Monetize job board for postings
 - iii. Planning services for other scientific organizations
 - iv. Staff fee-for-service
 - v. Profit-generating events
 - vi. Naming of CUAHSI fellowships and programs
 - vii. Sponsorship of cloud storage space (e.g., AWS donates server space or a corporate sponsorship of 1 Petabyte/yr of data for HydroShare)
 - viii. Creative in-kind donations (e.g., donate your frequent flyer miles)
 - ix. Fundraising
 1. Grassroots
 2. Past board members
 3. Corporations (optimally water-adjacent)
 - x. 'Minor annoyance' fundraising (e.g., Wikipedia fundraising month, NPR drives)
 - xi. Raising membership dues, and/or charging dues to all member categories.
 - xii. Fee-for-service options on HydroShare (e.g., enhancements above basic function, and/or charge non-academic users). This could include filling needs for FAIR data for public agencies.
 - xiii. Continuing education
 - xiv. Training/meeting planning
 - xv. Ticketed events at meetings
 - xvi. Minimum donation for Board advisor seats/roles
 - xvii. WatSciCon sponsorship and attendance push
 - xviii. Corporate sponsorship of fellowships, programs, seminar series
 - xix. Strategic merger with another entity that shared values and goals
 - xx. Leasing of HydroShare data to corporate needs
 - xxi. New programs that fund themselves plus substantial overhead or
 - xxii. Fee-for-service by CUAHSI staff (event planning, data management, project management, consulting for local entities).

3. The group discussed establishing an ad-hoc fundraising committee of the Board. Important roles for the entire Board we also discussed, including raising visibility for the organization, serving as a CUAHSI ambassador, and actively networking and identifying opportunities.

CUAHSI Governance

1. Jefferson initiated a wide-ranging discussion of CUAHSI governance, including the formal and informal processes, structures, norms, and expectations for how the organization functions.
2. The group brainstormed current challenges in CUAHSI governance. Key themes in the discussion include
 - a. The skillsets, perspectives, and expertise on the board are limited due to the requirement of membership representation. Notable gaps on the Board include legal expertise, fundraising and philanthropy, non-US academics, students and post-doctoral researchers, government agency representation, academic administration, financial management and accounting, extensive Board experience, and industry representation.
 - b. Membership does not represent the entirety of the water science community. For example, agency scientists do not have a mechanism toward membership.
 - c. Board composition, size, and terms lead to structural challenges including loss of institutional knowledge, rapid turnover of Board membership, and continuity in leadership. This may also limit the expertise and experience with Board operations that are present in the group.
 - d. Communication between staff, Board, and standing committees is irregular.
 - e. CUAHSI's community is large, but there are few 'inroads' for individuals within the community to participate meaningfully in CUAHSI operations.
 - f. Are officer roles clearly defined and meeting organizational needs? Do additional roles or positions need to be established to help retain institutional knowledge or continuity of operations?
 - g. Sustained, long-term operational norms and information management could increase transparency and consistency for the organization.
 - h. Inactive members and/or outdated representative lists challenge the ability of CUAHSI to establish quorum.
3. Jefferson initiated a series of break-out groups to imagine future governance structures for CUAHSI and critical limitations that could be addressed. The brainstorming was wide-ranging, with ideas discussed including:
 - a. The Board composition was discussed as limiting, including: limitation to single representatives from an institution, large size and rapid turnover, changes in responsibilities, and overall composition (e.g., requiring being a member representative). Establishing specific roles on the Board (e.g., PUI representative, legal representative) was also discussed. Appointment of advisors to the Board was raised as another way to broaden expertise in the room.
 - b. Separation of the Board Chair from terms of all Board members could deviate. For example, Board Chair could be elected by the members with a longer term.

- c. The role of standing committees was discussed, including their structure and function. Standing committees electing chairs who would serve as Board members was discussed.
- d. Establishing a ‘distinguished advisory committee’ of past Board chairs and long serving individuals would provide longer-term memory and advice to the Board.
- e. The group discussed structuring organizational needs to ensure Board awareness, but moving some workload to a ‘Board adjacent’ or ‘Board chaired’ committees. This would help optimize the matters where the full Board needs to be engaged, providing a way for more individuals to actively and meaningfully participate in the organization.
- f. Structuring the Board to explicitly include a series of standing committees, where each cohort of Board members would have one representative serving a three-year term on each committee. This would help ensure continuity in operations and clearly define the roles and expectations for the Board members.
- g. The group discussed Bylaws changes and how to balance organization efficiency with transparency. Examples of ideas discussed included allowing the Board to change Bylaws with a unanimous vote but requiring a membership vote in all other cases.
- h. Continuity of Board service and roles when individuals change institutions was also discussed, noting continuity is sometimes lost when individuals move institutions.
- i. Board terms were discussed, with some feeling 3-yr terms were relatively short. The group also acknowledged that longer terms could make it more difficult to fill Board seats.
- j. The structure of the organization, including the potential of establishing vice presidents with responsibility for certain functions could be possible.

Elections

1. Jefferson reported that the Board needs to elect officers (Secretary, Treasurer), a Board Chair-elect, and possibly a Board representative to the Executive Committee. Ward confirmed that a quorum of the Board is present.
2. Election of Officers of the Organization
 - a. Jefferson thanked the officers for their service during the past three-year term.
 - b. Jefferson opened the floor to nominations for the position of Secretary, and self-nominations were solicited in the newsletter (none received). Ward was nominated for the position of Secretary. No additional nominations were received.
 - c. **Motion: Appoint Ward as the Secretary of the organization for a 3-yr term beginning 1-Feb-2024 through 31-Jan-2027**
 - i. **Motion: Ledford**
 - ii. **Second: Loheide**
 - iii. **Discussion: (closed)**
 - iv. **Vote: Approved (unanimous)**
 - d. Jefferson opened the floor to nominations for the position of Treasurer, and self-nominations were solicited in the newsletter (none received). Architzel was nominated for the position of Secretary. No additional nominations were received.

- e. **Motion: Appoint Architzel as the Treasurer of the organization for a 3-yr term beginning 1-Feb-2024 through 31-Jan-2027**
 - i. **Motion: Ledford**
 - ii. **Second: Loheide**
 - iii. **Discussion: (closed)**
 - iv. **Vote: Approved (unanimous)**
- 3. President of CUAHSI. Jefferson noted that Read was elected CUAHSI President in January 2023 and continues to serve in that role until the Board elects another president. The Board expressed faith in his leadership and service, and chose not to take action.
- 4. Chair of the Board
 - a. Jefferson opened the floor to nominations for the future Chair of the Board for CUAHSI. The elected individual would serve as chair-elect for 2024/25, chair for 2025/26, and past-chair for 2026/27. Ledford and Khan were nominated for the position.
 - b. Ward conducted a vote with tallies verified independently by Guswa.
 - c. Ledford was elected as the future Chair of the Board.
- 5. At-large member of the Board
 - a. Jefferson reported that the Board needs to elect two at-large representatives to the Executive Committee. Jefferson opened the floor to nominations. Nominations were received for Khan, Ajami.
 - b. Ward conducted a vote with tallies verified independently by Guswa.
 - c. Khan and Ajami were elected to serve as the at-large representatives of the Board on the Executive Committee.

Planning for Friday, 12-Jan-2024

- 1. Jefferson noted that NSF program officers and CUAHSI staff will join the Board for the meeting.
- 2. Jefferson briefly reviewed the agenda, highlighting several voting items that will be addressed tomorrow. She requested each person consider how they plan to contribute to the organization in the coming year.

Friday, 12-Jan-2024

08:00 US Eastern Call to order

Joined: CUAHSI Staff – Veronica Soza Gonzalez, Deanna McCay

CUAHSI Program Updates

- 1. Education and Outreach
 - a. Soza Gonzalez provided updates on the Virtual University and ongoing Fellowships & Travel Grants. Virtual University continues slow and steady growth and expanded participation of institutions.
 - b. McCay provided a brief update on Education and Outreach programs. CyberSeminar series continue to be well attended and are aligned with strategic

goals for the organization. Two workshops were facilitated, including the annual NASA ‘Snow School’ and a PFLOTRAN workshop at PNNL. The CZNet-REU was a success, providing experiences for a group of 10 students and planned to occur again in Summer 2024. The 8th annual Summer Institute in partnership with the National Water Center was a success, including support from CIROH that will continue into the future.

2. Technical and Data Services

- a. Release of the CZNet Data Submission Portal, enabling the CZ community to readily upload data and coordinate information across HydroShare, Zenodo, and EarthChem.
- b. Updates to the model domain subsetter, which enables users to create the required inputs for models on sub-domains. Applications include ParFlow-CONUS, v2 of the National Water Model, and additional applications.
- c. Centralizing user authentication, making a single sign-on uniform across CUAHSI services, improves user tracking, and streamlines the process of managing user accounts..
- d. HydroShare modernization, funded by CIROH to pilot deployment on commercial cloud services rather than local hardware. This supports modularization of the codebase and enables future expansion and customization of data services.

3. Discussion

- a. Ledford asked about the number of workshops and the associated effort. McKay indicated 3-4 workshops per year would be a sustainable model, with added capacity if agencies are engaging. Collaboration on workshops with other agencies is an opportunity to engage non-NSF partners with the organization.
- b. McKay discussed tracking of users through their careers, integrating attendance of events with data services and even action of advisees. This is an area for future investment. Privacy as a balance with user tracking has been a point of discussion to ensure thoughtful, responsible progress.
- c. The group discussed transparency in how partners and participants are selected, to ensure that the community understand the process and do not perceive a bias in the system.
- d. Flores initiated a discussion about the potential to work with H3S on career opportunities, with CUAHSI’s agency partners being logical to collaborate in this area. The group concurred partnering with H3S is an important opportunity. Loheide discussed whether a CUAHSI community of students would compliment H3S activities, or how students engage in CUAHSI’s governance structure.

NSF Visit

Laura Lautz, Chris Lowry, Richard Yuretich, Hedretta Ali, and Raleigh Martin joined the Board for this section of the meeting.

1. Program officers introduced themselves and reflected on CUAHSI-relevant updates on NSF programs and activities, and potential opportunities for CUAHSI to engage.
2. Martin discussed the NSF Geoscience RISE and the Technology, Innovation, & Partnerships (TIP) directorate. The TIP includes an initiative to advance geoinformatics

and cyberinfrastructure. Martin also reported that increasing attention to open science and access to results of federally funded research. This called for public access to publications and their underlying data for all research supported with federal funding. The group discussed potential futures related to publication costs, data services, and federal requirements. Discussion of model input, code, and output documentation explored which data are essential to archive and make accessible.

3. Lautz and Lowry provided an overview of ongoing efforts in the Hydrologic Science program and related efforts at NSF. Lautz highlighted the ‘climate incubator’ at RISE as an opportunity for the HS community, and several opportunities within the ‘Build a resilient plan’ theme at NSF and the recent Dear Colleagues Letter related to Critical Zone education.
4. Ali described the GEO EMBRACE program, noting this opportunity is aligned with CUAHSI’s efforts.
5. Yuretich discussed the future of Critical Zone research at the NSF, noting that the future of the program is being discussed. He anticipates input being solicited from the CZ and research community in the coming months.

Standing Committee Updates

1. Sosa Gonzalez provided a report on the state of standing committees, providing updates on membership, recent activities, and status of activities. The group discussed engagement of the standing committees in the proposal process, including positive discussions with the committees.
2. Read presented a potential model for standing committees in the future. He summarized inefficiencies in the current structure, linking organizational needs to potential structures. The group discussed the distinct roles of the Board, committees, and staff. The overarching discussion focused on the idea of advisory committees that report to the CUAHSI staff directly rather than the Board as an intermediary. The Board articulated a desire to remain informed in the committee structure, which might include Board liaisons in the current governance structure.
3. The Board discussed whether committees should be focused on single awards (e.g., advisory on the cooperative agreement) vs. advisory across the entire CUAHSI portfolio.

Biennial Planning

1. Mucciaccito and Khan updated the Board on early planning efforts for the Summer 2025 Biennial meeting. Mucciaccito presented a timeline for major decisions and milestones, noting that selection of dates and a venue are urgently needed.
2. Mucciaccito reported an estimate of about \$60k for on-site expenses for the meeting, noting that substantial subsidies are also required to support attendees (e.g., travel support, fellowships) as well as substantial staff expenses for the biennial.
3. Khan reported that the committee has previously included two Board members, one community member (optimally representing a PUI or MSI membership), and CUAHSI Staff (E. Clark, L. Mucciaccito). He described the role and time commitment associated with Biennial planning, including venue planning, identifying speakers for lectures, planning sessions, and shaping special sessions and activities at the meeting.

4. Jefferson initiated a discussion of whether a summer 2025 meeting should be held, or to hold for one year until the future of WatSciCon and the partnership with AGU are determined. Several Board members noted that the Biennial is a highly visible and valued activity for CUAHSI's community. The Gordon Research Conference on Catchment Science is also hosted in summer 2025, which has substantial overlap with the CUAHSI community.
5. The group discussed potential cost savings, for example with a university campus hosting and a less formal logistical program. Reducing one-time effort by establishing a recurring venue was also discussed as a potential to ease the effort.
6. Read initiated a discussion of possibly hosting smaller, regional meetings that rotate between host institutions. Potential conflict with regional meetings and state-level conferences was identified. The value in connecting staff with members and building community have been discussed.
7. The group discussed staff effort and availability to implement biennial meetings.

Business Items

1. Audit Committee Chair
 - a. Jefferson opened the floor to volunteers for the Audit Committee Chair. The Board discussed the role of the committee and the desire for continuity. Guswa volunteered, and co
 - b. Appoint Guswa as Audit Committee Chair for 2024.**
 - i. Motion: Ledford**
 - ii. Second: Ficklin**
 - iii. Discussion: (none)**
 - iv. Vote: Approved (unanimous)**
2. CUAHSI Retirement Match Contribution
 - a. Jefferson reported that CUAHSI has contributed to employee retirement accounts at a rate of 9%. This is required to occur on an annual basis. The Board approves on an annual basis.
 - b. Motion: Approve continuation of CUAHSI's current retirement contribution (9%) for the next year.**
 - i. Motion: Guswa**
 - ii. Second: Ledford**
 - iii. Discussion: (none)**
 - iv. Vote: Approved (unanimous)**
3. Executive Director Travel
 - a. Read summarized upcoming travel including:
 - i. Travel to Utah State University for a CUAHSI Seminar and HydroShare team meeting. This is paid by the Utah State University seminar series March 6-8. Travel to Washington, DC for CUAHSI managers meeting Jan 30-Feb 1. Trip was shifted to Boston to reduce costs.
 - b. Motion: Approve Read's travel as outlined above.**
 - i. Motion: Ledford**
 - ii. Second: Jefferson**
 - iii. Discussion: (none)**
 - iv. Vote: Approved (unanimous)**

4. Board Minutes
 - a. **Motion: Approve Board minutes from July-December 2023.**
 - i. **Motion: Guswa**
 - ii. **Second: Gannon**
 - iii. **Discussion: (none)**
 - iv. **Vote: Approved (unanimous)**
5. Assignment of Board roles for 2024.
 - a. Jefferson, Read, and past chairs will work to develop a priority list of needs from the Board for 2024. This will be used to inform Board assignments for the year.

Executive Director Review

1. Flores and Loheide summarized the Executive Director Review process for new Board members. Flores will lead the review of Read for his first year on the Board, with Loheide serving on the committee. An external-to-the-board member will be identified and appointed to the committee. Loheide and Flores reviewed the documents that are produced and collected both from Read and the review committee.

MSI and PUI Engagement

1. McKay reviewed current efforts to engage students and faculty at MSIs and PUIs, including programs and services, at conferences and biennials, and as members of the organization.
2. McKay reviewed survey responses, identifying common feedback from members and ‘pain points’ from survey results. McKay is working on which demographics to collect in future surveys to better characterize the CUAHSI user base. Data security and storage, and transparency in what data are used for, are being considered before demographic data are collected.
3. McKay highlighted ongoing efforts including the CIROH-funded HydroLearn effort and the CZNet-REU program, both of which foster impactful learning experiences for students and supporting the faculty who teach them. She also noted efforts moving forward to partner on education efforts and build on the success of existing, successful programs. Finally, she discussed alignment of these efforts with the pending renewal proposal.
4. Khan initiated a discussion of a systematic campaign to drive engagement vs. a more grassroots and informal effort. The group discussed a range of strategies, noting that this could take substantive effort from staff and Board members to plan and execute.
5. The group discussed CUAHSI as helping rally the community around a common or shared hydrology education curriculum and resources to support instructors.
6. Jefferson initiated some reflection on CUAHSI’s past, planned, and potential activities to engage with PUIs and MSIs. Prioritization of the places where professional development and student engagement are already high for that community (e.g., Earth-educator rendezvous) may be the optimal point for people to meet the organization.

Future Meetings

1. Board meetings will occur the first Wednesday of each month, 1-2pm Eastern. The executive committee will meet on the third Wednesday of each month. Board members

are requested to hold this hour each week to enable committee meetings and working sessions for priority activities.

2. In-person Board meetings:

- a. The Board meeting will follow immediately after the WaterSciCon meeting in St. Paul, MN in July 2024.
- b. The Board is requested to tentatively hold January 8-10, 2025 for their in-person Board meeting.