2023 CUAHSI Winter Board of Directors Meeting
January 23 – 25, 2023
Carlyle Room, Residence Inn Alexandria Old Town South at Carlyle
2345 Mill Road, Alexandria, VA 22314

Remote Connection Information

https://us06web.zoom.us/j/88005564594?pwd=dGxKOEhGaGlEWlV5Z3BJSUFSTjJ2Zz09

Meeting ID: 880 0556 4594
Passcode: 554209
By Phone: 646 558 8656

January 24 Board Business Meeting Day 1 attendees:

Term expires 12/31/2022
Anne Jefferson, Kent State University **X**
Anne Nolin, University of Nevada-Reno
Ashok Mishra, Clemson University
Jay Zarnetske, Michigan State University **X**

Term expires 12/31/2023
Safeeq Khan, Univ. of California, Merced **X**
Sarah Ledford, Georgia State University **X**
Margaret Zimmer, Univ. of California, Santa Cruz **X**

Term expires 12/31/2024
Holly Barnard, Univ. of Colorado - Boulder **X**
Alejandro Flores, Boise State University **X**
G.H. Crystal Ng, Univ. of Minnesota **X (online)**
Steven Loheide, Unv. of Wisconsin - Madison **X**

Terms expires 12/31/2025
JP Gannon Virginia Tech X
Drew Guswa Smith College X
Hoori Ajami, Univ. of California - Riverside X

Jordan Read X
Jerad Bales X

Troy Gilmore (Treasurer) X
Adam Ward (Secretary)

NSF Personnel in attendance: Laura Lautz and Hendratta Ali

Zoom Participants (after break): Caitlin Grady, Veronica Gozalez, Vidya Samadi, Diana Karwin, and Robert Payn

1:00 p.m.   Board Meeting Call to Order and Passing of the Gavel   Lejo Flores
Welcome, Introductions, Expectations, Conduct   Jay Zarnetske
Knowing and contributing to the CUAHSI mission.
1. Zarnetske noted appreciation for new leadership, effort and conduct during, new NSF proposal to work on, multiple new directors, new potential roles for standing committees, new growth in community (PUIs). Zarnetske asked board members to know CUAHSI and devote energy to board responsibilities. Action items:
    a. Fill out when2meet to get board meetings scheduled
    b. Think about roles (in addition to attending meetings) relevant to standing committees and/or new initiatives.
    c. **Approval of minutes for October and November board meetings.**
        i. **Motion: Jefferson**
        ii. **Second: Ledford**
        iii. **Discussion: (none)**
        iv. **Vote: Approved (unanimous)**

Report from outgoing Executive Director   Bales
1. Reverse site visit for CZO hub was Jan 3. Three reviewers, no major issues, no follow-up. Critical Zone All Hands meeting scheduled for end of June.
2. Bales and Read attended a webinar for the new GEO OSE NSF program and have reached out to potential partners, but it would be heavy lift within the 2 months.
3. Discussion of GEO OSE (NSF staff stepped out of meeting during this portion):
    a. Zarnetske asked how soon we need to discuss potential GEO OSE proposal; Bales suggested discussing as soon as possible.
    b. Jefferson asked about value of relationship building during proposal development even without award? Bales: Definitely value there, but we want commitment to do that work. Partners contacted so far are not interested in leading a proposal.
    c. Ledford asked about a balance between budget and proposal development effort. Bales notes uncertainty in whether it's a convening or a technology call, which makes a difference.
    d. Flores noted CARE and TRUST principles are called out; is there benefit in focusing on one of these? Question raised about where one would start with tribes. Ng noted more optimism in this area, noting it is very relevant. Read noted this is really important, but had concerns about the time available to develop. Flores noted potential value of indicating interest in working on this issue in the right way (not rushing), and Ng notes the importance of citations to support this.
    e. Zarnetske suggested playing to current strengths; Bales noted convening role would most direct/relevant.
    f. Read noted good alignment between CUAHSI Strategic Goal #2 and GEO OSE, particularly potential for workflow, practices, training that could fill training gaps;

OpenScapes could support open practices and USGS ScienceBase could be a potential zero-cost collaborator.

  g. Conclusion on GEO OSE: Read stated a decision point was needed by end of next week; Zarnetske suggested that the conclusion of the board discussion was for Read and Bales to make a potentially difficult executive decision, factoring in potential threat of not being engaged.

4. Bales stated that Biennial workshop proposals are open and 2023 CUAHSI Virtual University is another opportunity open for submissions.

5. CIROH – proposal for summer institute submitted (2 to 3 additional pending; HydroLearn; Internet of Water; Community Science involving Stroud)

  a. Have received request for perceptual models ($250k over 2 years)

  b. Socio-hydrology within CUAHSI (Kristen Rob and colleague fully funded over three years); proposal for biennial workshop on this topic is anticipated

  c. Flores asked if CUAHSI was fulfilling some of CIROH's educational needs. Bales confirmed and noted the institute is named CUAHSI Summer Institute.

6. Bales shared about issues with registration process for SAM (system award management) delaying reactivation into December, causing an issue during proposal submission. The issue was resolved before affecting payroll.

7. Bales financial report:

  a. 29% spent at about 33% of the budget year

  b. Good reports from CRCFO

  c. Have a letter of commitment from an auditor to move forward

  d. Ledford asked about timeframe for audit. Bales stated that a timeframe has not been provided. Bales noted management review is upcoming, so they do understand timing is important.

8. Bales reminded the board it is their responsibility to initiate Executive Director's performance reviews.

9. Projects underway: Bales said a project summary is in the board meeting folder.

Strategic Reflection and Planning – overview of next steps   Zarnetske

1. Bales suggested getting input on draft Strategic Plan from board members who were not present.

2. Jefferson suggested a conceptual sketch of ecosystem/water data lifecycle could be warranted. Bales suggested noting where services hang off of the data lifecycle.

3. Discussion: When do we get community input? Who is it sent to? Is the ask for feedback about big-picture misses? Or ask what is most exciting?

4. Zarnetske suggested the board not wait a month on this. Suggestion (1) only very light editing, (2) preview with community (noting we had good engagement with a broad range of constituents), then put approval on the agenda for the February meeting.

2:30 p.m. Break

Note on Board Membership:

1. Zarnetske noted Chris Lowry and Holly Bernard will be leaving their board member roles. There will need to be discussion about a special election later.

Standing Committee Reports and Engagement

1. Informatics (liaisons: Mishra, Zimmer)   Samadi
   a. Six meetings in 2022
   b. 2022 goals
      i. Monthly informatics blog posts
         1. Wrote 7 posts
      ii. Better-run, well-reviewed, and more diverse HIF proposals/awards
         1. 19 proposals received, 3 awarded (graduate students Murray, Ramirez, and early-career faculty Zipper)
         2. Used rubric with 8 metrics
      iii. Participation in scientific conference/meeting to market CUAHSI's services
         1. 5 oral sessions at FIHM
      iv. Improving diversity and inclusion in the committee
         1. 2 new female committee members
         2. Goal to keep in mind diversity and inclusion when reviewing HIF proposals
   c. 2023 goals
      i. Support CUAHSI's data and modeling services
      ii. Engage hydrologic community in informatics tools and concepts
      iii. Review committee charter
      iv. Continue to administer the Hydroinformatics Innovation Fellowship
      v. Contribute blog posts and broadly advertise blog
      vi. Support CUAHSI's information service capabilities in the collaboration with the CIROH
   d. Needs
      i. Enhance communication with BoD
      ii. Invest more funding in HIF
      iii. Market information in blog through more diverse outreach activities
      iv. Consider term and condition for the committee members
      v. Include a rep from CUAHSI Informatics team to the committee – better understand CUAHSI's user needs
      vi. Provide incentive for grad student coordinating monthly blog post (review and revising)
   e. Discussion
      i. Jefferson: any web stats on blog posts and how do you publicize?
         1. Veronica offers to share those numbers via email.
         2. Blog posts publicized via CUAHSI social media. Would appreciate any help to get the word out at AGU or other venues. Veronica said that the blog post is included in newsletter.
      ii. Ledford/Flores: were there 3 fellowship due to funding limitations, or due to proposal competitive?
         1. Vidya stated the number of fellowships were limited by available funds. The $5,000 award is relatively small, would be ideal to increase to $8,000-10,000. Veronica noted a very small margin between 3rd and 4th ranked proposals.

iii. Read asks how committee supports CUAHSI data services? Is it through recommendations, or what mechanisms?
        1. Response: attended model gallery, gave feedback and notes need for CUAHSI representative for these types of events. These efforts fed into 2023 goals.
1. DEI (liaisons: Ng, Khan)   Grady
    a. 2022 activities
        i. 10 meetings
        ii. Draft committee charter
        iii. Cyber series, including Indigenous Voices
        iv. 1 session 2022 FIHM
        v. Sent out call for new members and in the process of adding
    b. 2023 goals
        i. Request funding to start a DEI related grant and implement; to support DEI programming requests from graduate students, postdocs, and EC faculty/researchers.
        ii. Add committee members
        iii. Submit session to AGU 2023
        iv. DEI highlights in the CUAHSI newsletter
        v. Continue brainstorming and solicitation of community input into committee
    c. Questions for the board
        i. Is there openness to funding a DEI-related grant program?
            1. Jefferson recalled a 1-page proposal was created, likely in 2020. It would be good to review this document and possibly merge. Loheide mentioned that consideration could be given to broader range of potential participants.
            2. The group discussed whether a new DEI award is within scope of the NSF Funding Agreement. BoD, staff and NSF rep felt it was not a concern.
            3. Zarnetske suggested DEI committee propose some visions that BoD can balance with their fiduciary responsibility. Guswa suggested BoD keep open mind/high-level review of these proposals.
        ii. What do you see as your priorities for the DEI committee?
            1. Zimmer noted there could there be a session or workshop at the Biennial to facilitate discussion around priorities.
            2. Zarnetske proposed a 6-month timeline for sharing new strategic plan, monthly conversations with committee, proposal development, given many unknowns at this moment. Then the biennial could be timely decision point.

iii. Does CUAHSI wish to serve as a clearinghouse for DEI-related materials and resources? (leverageing Hydroshare, etc.). Where does CUAHSI want to position itself in this space?

    iv. Understand more the roles of CUAHSI staff, BoD, and this volunteer committee with regard to priorities and goals in DEI.

        1. Read stated the new 5-year strategic initiatives are aligned with DEIA; one possibility is the committee builds implementation plan with timeline, components, partners. Grady notes it would still be helpful to understand the roles of different CUAHSI participants in implementing plans.

        2. Flores/Ledford noted that staff could attend standing committee meetings.

        3. Veronica noted they had in mind a meeting at AGU, but could not access email list, so this generated some questions about roles, ability to communicate with community, etc.

    d. Discussion

        i. Ledford – asked status of board review of draft charter? Grady notes a document with comments in it, wasn't sure if it was complete. Flores notes this can be added as an agenda item, it's in the BoD's court.

1. Education and Outreach (liaisons: Nolin, Gomez-Velez*)   Wemple

    a. Wemple communicated her intention step down after 2 years as chair

        i. Tao Wen will likely be the new committee chair

        ii. Wemple noted turnover of board liaisons

    b. 2022 efforts

        i. Pathfinder reviews, updated rubric is a significant improvement, leading to more objective evaluation

            1. 2021 solicitation: 8 funded

            2. 2022 deadline extended to 1/25/23, currently 11 submitted, to be reviewed early Feb with decisions Feb 22

        ii. 4 sessions, 1 workshop at FIHM

    c. Regular meetings with CUAHSI staff

        i. Tony, Julia, and Deanna each attended once

    d. Attended strategic planning meetings

    e. Developed set of educational "projects" for consideration (note: committee is not volunteering to complete all these; shared here for Board discussion)

        i. CVU model for undergraduate educators

        ii. Virtual guest lectures, short video tutorials for undergraduates

        iii. DEI materials and best practices repository for educators (e.g., text for syllabi)

        iv. Institute or training program for undergraduate educators

        v. Extend LTAW to librarian applicants

        vi. e-textbooks and core curriculum for hydrology

    f. Attended SC chairs meetings with Sosa-Gonzalez and McCay

    g. 2023 plans

        i. Pathfinder reviews

      ii. Membership housekeeping
          1. Regularize onboarding/offboarding
      iii. Develop one or more projects in consultation with staff
      iv. Respond to board requests (willing to work on outreach to PUIs and undergraduate educators)
- h. View of committee role
  - i. Standing reviewers for Pathfinders and, in past, other reviews
  - ii. Consultation/input to staff as requested
  - iii. Idea generators
  - iv. Respond to other standing/emergent needs?
- i. Expectations
  - i. Regular board updates at monthly standing committee meetings
  - ii. Suggested standing committee engagement or consultation where appropriate (recognizing limited time/bandwidth of members)
  - iii. Suggest new standing committee members
- j. Board support
  - i. Select two liaisons with regular terms, ensuring they have bandwidth to participate
  - ii. Board chair/chair elect consider attending one standing committee meeting per year
- k. Discussion
  - i. Jefferson shared appreciation for frank discussion about bandwidth of committee.
  - ii. Guswa noted committee does do some outreach; Wemple stated that this occurs mostly through AGU sessions and via existing CUAHSI communications, but not outside of those mechanisms.
  - iii. Guswa asked about including PUI faculty in Pathfinder. Wemple suggested the board could ask the committee to think through this. Question is raised as to whether the PUI faculty are going somewhere to do research, versus something more like an analog to Summer Institute but for faculty, with benefit of developing a community of practice.

1. Instrumentation (liaisons: Bhaskar, Richards)   Karwan
   - a. 2022
     - i. IDTG
       1. Spring 2022 call had 9 proposals, 5 awarded, mostly students or early career
       2. Systematic feedback given
       3. Applications up, but not to pre-pandemic level
       4. Would like to think through $1,500 award, which is potentially limiting accessibility of call
       5. Potential to expand to PUI?
   - b. Committee organization work
     - i. Improved diversity, added graduate student, and smooth chair rotation
   - c. FIHM sessions
   - d. 2023 work
     - i. Important to rethink how to build "instrumentation community"

      ii. Propose rebrand/redefine "Instrumentation"
1. Revise name and description on website
2. Focus on high quality data generation (not just the physical instruments)
3. Better connect to to catchment science community
4. Take pulse on needs and state of hydrology community on high quality data collection
5. Integrate above with other CUAHSI activities
     iii. IDTG
1. Continuous quality improvement of rubric, advertising strategy, etc.
2. Estimate 5 awards in 2023
     iv. Support FIHM 2024, including urban hydrology/instrumentation
     v. Amend charter to organize such that responsibility is shared among committee members beyond the chair

e. Discussion
     i. Zimmer asks for specifics of proposed connection with catchment science. Karwan notes request about where videos of protocols could be deposited with CUAHSI. There was not an obvious place to put this, in contrast with the data generated.
     ii. Ledford and Zarnetske note how this ties into new strategic plan, not opportunities to tie into the data science side. And vice versa.
    iii. BALES notes example of methods for DTS in rivers, which is in Hydroshare, and that is very feasible.
     iv. Flores notes compelling aspect of providing, e.g., a template for how to set up an experimental watershed.
     v. Karwan notes there have been cases where people have wanted to offer training, but not known how to do that through CUAHSI.
     vi. New name for committee is difficult, several options discussed. JR notes that data purpose is a consideration – designed for re-use or exists as an artifact of the science we just published?
    vii. Zarnetske lifts question of whether $1,500 is viewed as too little? Notes website demystifies proposal process, which is appreciated.
    viii. Discussion about timing of grant review period and possible effects on submissions? Possibly fewer awards of higher amount?

5:00 p.m. Standing Committee Discussions
a. Reflections on Standing Committee Reports   All
- Veronica updated the board with data on page views for Informatics blog, which ranged from 1 to 12 views each.
     i. Read asked about the origin of the blog. Group discussion included suggestion that there might be other platforms with more visibility.
- Guswa takeaways from standing committee discussion is that their functions are (1) communication to community, (2) allocation of funds to community, (3) feedback to BoD and staff, and (4) participate in BoD discussion when needed. Zarnetske shared that a key function is to provide

expertise that the board doesn't have. Jefferson noted that CUAHSI is not providing standing committee tools for outward communication.

- Discussion of whether charters and strategic plan align? Currently, committees write charters.
- Jefferson appreciated committees providing lists of what they are excited about.
- Bale recalled Cindy Zook's (Strategic Planning consultant) comments on pros/cons about standing committees versus initiative-driven committee work.
- Group discussion highlighted that new board members can (and have) come from standing committees. Standing committees are convening sessions, generating ideas, etc., and indicated openness to revisioning. Alignment is important but difficult given current communication. A need remains for BoD to give direction, bounds, scope, etc. Read noted some storylines from standing committees could be effective in seeking outside funding, e.g., foundation funds or other options.

a. Appointment of New Board Liaisons   Zarnetske
- See Leadership Role document

b. Chair-elect election
- **Steve Loheide and Anne Jefferson were nominated**
- **No discussion after brief statements by nominees**
- **Anne Jefferson elected by secret ballot (11-1)**

c. ExComm election
- **Khan elected with no opposition**

Tuesday January 24, 2023 meeting was adjourned at 6:10pm

Wednesday January 25, 2023
CUAHSI Board Business Meeting Day 2

Term expires 12/31/2022
Anne Jefferson, Kent State University **X**
Anne Nolin, University of Nevada-Reno
Ashok Mishra, Clemson University
Jay Zarnetske, Michigan State University **X**

Term expires 12/31/2023
Safeeq Khan, Univ. of California, Merced **X**
Sarah Ledford, Georgia State University **X**
Margaret Zimmer, Univ. of California, Santa Cruz **X**

Term expires 12/31/2024
Holly Barnard, Univ. of Colorado - Boulder **X**
Alejandro Flores, Boise State University **X**
G.H. Crystal Ng, Univ. of Minnesota **X (online)**
Steven Loheide, Unv. of Wisconsin - Madison **X**

Terms expires 12/31/2025
JP Gannon, Virginia Tech X
Drew Guswa, Smith College X
Hoori Ajami, Univ. of California - Riverside X

Jordan Read X
Jerad Bales X

Troy Gilmore (Treasurer) X
Adam Ward (Secretary)

8:00 a.m.   Call to Order   Zarnetske

8:05 a.m.   Logistics and Voting   Zarnetske

    1. Election of CUAHSI President/Executive Director Jordan Read
        a. Motion: Khan
        b. Second: Gwusa
        c. Discussion: Flores and Loheide shared their excitement and support for Read.

d. Vote: Approved (unanimous)

2. Spring ExCom and Board meeting dates
   a. Board meeting schedule:
      i. Monday 12-1pm eastern
      ii. 3rd Monday of each month
      iii. Feb 20 is next meeting

3. Summer Board meeting (Biennial vs elsewhere)
   a. Several option debated among the group. Overlap with Gordon Conference after Biennial is discussed.
   b. **Based on informal poll, consensus is to have in-person board meeting on Thursday following Biennial. If an hour or two is available on Wed, board will also meet then.**
   c. Discussion included questions about funding for trip, e.g., is a portion or all of board travel covered? Bales stated that the inclusive resort costs exceed per diem, which complicates issue, more details later. Board registration is waived.

4. Executive Director's travel
   a. April: Water meeting mid-April in DC
   b. June: Summer Institute Kick-off, Biennial, and Board meeting
   c. **Motion to approve Executive Director travel as discussed**
      i. **Motion: Loheide**
      ii. **Second: Ledford**
      iii. **Discussion: (none)**
      iv. **Vote: approved (unanimous)**
   d. General discussion on Director travel: Jefferson asked about anticipated frequency of Read's visits to CUAHSI offices. Read suggests, based on prior experience managing distributed teams, he would like to travel every 4 months, plus opportunistic connections with staff during, 4-5 in-person meetings with Deputy Director McCay. One all-hands annually, at most.

8:45 NSF personnel Lautz and Ali arrive

5. Comments by incoming Executive Director Jordan Read
   a. Notes excitement about opportunity, appreciation for energy over the last few days, notes great appreciation for BALES's prior work.
   b. Value: collaboration across different backgrounds, creating something not otherwise possible while retaining creativity and autonomy
   c. Experience: large collaborative networks, connections with CUAHSI for years, seeing technology solutions emerging, experience with GLEON
   d. Student Experience: appreciated student experiences and opportunities, would like to provide this for other students by integrating them in CUAHSI experiences
   e. Recent Experience: bridge between researchers and software engineers, with both as direct collaborators, then seeing the role of Data Science group in helping connect 18 Federal employees, plus 8 data scientists in other parts of organization, building visualizations of complex data for end users, and harnessing and pairing

ML with process-based modeling in water prediction, developing programmatic and trusted approach to move data to products.

 f. Looking forward:

  i. Invaluable (critical) infrastructure: very important data services that need to support science

  ii. Community growth: hydrology/water solutions need to involve others

  iii. Community and Individual experience: feeling of belonging in this community and the need to define, nurture and extend that.

  iv. Potential to help community understand software development process, so they can better understand decisions that will need to be made about technology.

  v. Consider solutions that help people move across CUAHSI products, train-the-trainer

  vi. Mission-aligned funding: diversify funding while ensuring what we are doing remains aligned with mission

  vii. Agency partnerships, including for student benefits

  viii. Incentives: e.g., for instructors of CVU to grow community; for FAIR practices across water science, to design for re-use

  ix. Consider how we define membership

6. Discussion

 a. Jefferson inquired about details for student experiences. Read shared an example of creating network for students, e.g., pairing students with experienced attendees at meeting; possible leadership roles for students; baseline skill-building opportunities for hydrology students (some from CUAHSI, some from participants); generally, widen, more holistic, inviting more diverse set of students.

 b. Ajami inquired about engaging undergraduate students. Read gave an example of partnering with USGS on field training, which could include undergraduates. Data management cycle training could also be appropriate. Bales shared that McCay is gathering data to help understand needs, including for PUIs. Zarnetske noted that we are in position to adopt and build on other programs and resources that exist.

 c. Lejo noted appreciation for bringing attention to modern software development process, which is important in water science.

 d. Kahn inquired about membership model and whether students could be involved as an entry point to CUAHSI. The Board noted this is a governance issue. Jefferson raised the possibility of non-voting student representatives (liaison). Zarnetske noted the need consider how this could fit in with a holistic student experience. Ledford stated that engagement with AGU H3S could be effective.

7. PUI Membership: Chico State (PUI) has applied for membership

 a. Motion to approve Chico State as CUAHSI member

  i. Motion: Jefferson

  ii. Second: Ledford

  iii. Discussion: Bales stated that the application is solid. Question raised about when dues are due, BALES notes institutions are non-voting member until dues are received.

          iv. **Vote: Approved (unanimous)**

BREAK

8. Report from Hydrologic Sciences   Lautz
   a. NSF personnel introductions: Laura Lautz, Hendratta Ali, Richard Yuretich
   b. CUAHSI introductions
   c. Lautz shared the following:
      i. NSF rotator Beth Boyer has rotated back to Penn State
      ii. Appreciation for service on board, including time spent on strategic planning
      iii. Appreciation for Bales' prior work and commitment to transition
      iv. Welcome to Read
   d. Overview of funding
      i. Cooperative Agreement (think of it as "Core Support Award")
         1. $2.5M/yr provided
         2. CUAHSI data services
         3. Leadership
         4. Education/Outreach
      ii. Other sources, CZO, etc.
      iii. Discussion today is mostly in context of Cooperative Agreement
   e. Interested in discussing community of users. Who is using:
      i. Water data services
      ii. Community services (education, grants, workshops, etc.)
   f. Are there areas where the intended CUAHSI targeted audience diverges from the community of users? How should we think about this? Are there people in target audience who don't use services. E.g., are PUIs using services?
   g. Many exciting ideas, how does CUAHSI prioritize?
      i. Zarnetske highlighted efforts toward listening sessions for strategic planning, though this is addressing known unknowns
      ii. Flores noted potential to apply agile principles to draw out and respond to user needs. Important to operationalize.
      iii. Zarnetske shared that gap analysis is a priority in strategic planning.
      iv. Read discussed user-centered design, which includes understanding and balancing what the user is doing versus what the user is asking for.
      v. Guswa noted intentionality in strategic planning process around broadening from hydrology to water science, while also
      vi. Loheide highlighted potential new partners (e.g., USGS), new growth, and how that drives the various mental Venn diagrams described in Lautz's comments. There is anonymity in some services, while there's a known audience for other services. Ledford clarifies we know who uploads to Hydroshare but we don't know who downloads. Bales clarified that CUAHSI technically has emails, but not necessarily a full profile. Loheide stated that we don't always know what they use data for.

vii. Guswa: who is responsible long-term for the cost of FAIR data? Lautz notes recent OSTP document, and from NSF side, in concept, there is inherent interest to support FAIR. From a program perspective, there's a question about who the community of users is. Notes NSF receives proposals, then makes decisions based on priorities of the community that reviews and recommends. Yuretich shared that the long-term probably involves a diversity of support that helps balance the charter of NSF (advancing science).

viii. Additional notes:
   1. Lautz suggested reviewing National Academies Decadal Report (Earth in Time)
      a. Near-surface geophysics workshop report may be relevant to CUAHSI
   2. Interested in conversation about FIHM, appreciation for CUAHSI's effort in this; noted conversational plenary and other events; curious about if/how the intention to broaden participation worked out
   3. Khan asked about the process for community input to CUAHSI cooperative agreement review; Lautz stated that it is judged on same criteria as any Hydrological Sciences proposal, with adapted review process
   4. Loheide inquired about the community of proposal submitters. Lautz stated that proposal loads and funding rates at the program level are not shared. Notes Hydrological Sciences is a subset of water science projects, however.
   5. Barnard raised question to CZ representatives from NSF; Richard and Ali note how this is a good example of collaboration.
   6. Flores noted that NSF resources are often mentioned in solicitations; there may be opportunities to include CUAHSI in more of these lists of resources. Lautz and Ali note discussions at NSF to make the community more aware of resources.

9. CUAHSI Meetings   Zarnetske
   a. Reflection on AGU Business Meeting   Flores
      i. CUAHSI was not invited to speak at the AGU Business Meeting
      ii. Would be good for CUAHSI to discuss how we would like to engage in Section meetings.
      iii. Bales shared discussions with John Selker at AGU. There is a planned meeting with Read.
      iv. Ledford asked if it may be advantageous to have dedicated AGU events, in addition to booth. Bales noted the expense of lunch/mixer events. Zarnetske noted some 'insider' aspects of events, though they would likely fit in the category of "high-touch" outreach described by Zook in strategic planning session.
      v. The group discussed various historical events, merger of AGU/CUAHSI mixer event, pre- and post-COVID scenarios; agree this is high value,

perhaps some documentation of past practices could be helpful communication between CUAHSI and AGU.

    b. FIHM reflection and FIHM 2024 engagement   Zarnetske

        i. Ledford noted BoD had some concerns behind the scenes

        ii. Speaking as attendees,

            1. Gannon and Guswa shared generally positive experience

            2. Ajami did not attend due to cost

        iii. Bales: 2024 meeting is in St Paul, need to recruit participants from CUAHSI for planning

        iv. Zarnetske asked for BoD discussion about value of continuing participation. Various discussion, but no indication that CUAHSI won't participate.

10. PUI Outreach and Recruitment   McCay

    a. PUI questionnaire results – next steps

        i. See slide deck for additional details

    b. Some PUIs have joined, but not a floodgate of new members

        i. Why become a PUI member?

        ii. Early actions

            1. Review existing programs, formal "interviews" with faculty, brainstorm with E&O standing committee

        iii. Surveys supported by Dr. Rob, Dr. Forbes, and Forbes PhD student; included IRB; was detailed, long survey, with 3 main parts; see slide deck for details

            1. Background

            2. Research expectations, resources, and needs

            3. Teaching expectations, resources, and needs

        iv. 43 survey respondents, 18 private, 23 public

            1. Respondents perceived 10-25% of time dedicated to service

            2. Written response indicated desire for reduced teaching/service load

            3. Support for paid research was low

            4. Greatest challenge for mentoring undergraduate researchers:

                a. Lack of funding, student stipends, direct expenses

            5. Lack of financial support to join professional societies

        v. Collaborative session is planned for March

11. Discussion:

    a. Kahn asked how much respondents knew about CUAHSI already. McCay stated that they focused on what was desired rather than what was available. In the collaborative session they will share more about CUAHSI services, etc. Did not ask specifically about whether they met criteria for PUI, but a subset were liberal arts.

    b. Ledford noted that prestige of institutions can play into their resources and perspective.

c. Flores asked about other details of institutional identity; McCay noted the significant effort involved in developing background questions due to their importance.
d. Guswa reiterated the diversity of PUIs and asked whether turnkey solutions versus professional development were more valued. McCay stated this question can be addressed in collaborative sessions.
e. Ajami asked who would be involved in collaborative session. McCay notes that IRB plan said they would draw from survey participants who indicated interest.
f. Loheide asked about strategy for standing committees, bins ranging from things we can do immediately with no funding, to huge fundable ideas.
g. Zarnetske proposed that this effort could be project for E&O standing committee; McCay and Jefferson noted E&O committee could indicate their interest in a role.
h. Guswa noted cross-cutting teaching and research capacity of survey participants; is this an indication of services that could be helpful?
i. Flores suggested a product focus in analyzing results.
j. Gannon stated it would be interesting to know what is already being used. McCay shared that there are questions in the proposal that address that and could lead to discussion in collaborative sessions.
k. Kahn suggested going back to strategic plan to be strategic about what we offer.
l. Bales suggested this is about engaging faculty and larger community of faculty, rather than getting more PUIs as members; Loheide sees this as an approach to broaden undergraduate engagement. Would be nice to incorporate these recommendations into an implementation plan.
m. Flores asked about possible connections with Earth Educators Rendezvous
n. Zarnetske proposed next steps of:
     i. Survey group works with E&O liaisons and BoD Chair to create a task for the E&O committee, asking for
          1. Needs for next steps, at small, medium and large-scale, to develop a strategy for moving forward
          2. Timing is important (3-6 mos) so it can be considered in the cooperative agreement renewal
o. Ad hoc committee needed?   Zarnetske

12:15 p.m.   Lunch

12. CUAHSI Biennial, including Community Award   Khan
     a. Theme: Discovering New Horizons in Water Science
     b. 8 sessions planned
          i. See slides for details of sessions and the lead chairs
     c. Keynotes: Kamini Singha, Richard Milligan, and Kelly Gleason
     d. Agenda details: see slides for detail
     e. Discussion
          i. Ways to go about inviting speakers?
               1. Current approach tends to select from organizers' network
               2. Can we do this now, or do we need to wait until the next event

     ii. Special Sessions?
    iii. How do we elevate our commitments to DEI?
          1. Despite a lot of effort, did not yield desired results
    iv. Suggestion: start planning early
     v. Read asked about sharing the strategic plan at this meeting; Zarnetske suggested it could go in workshops on Tuesday.
    vi. Ajami asked for more detail on why speakers are invited
   vii. Desire to showcase CUAHSI services, perhaps have staff do a workshop
  viii. Khan noted session descriptions are due Feb 6
    ix. Ng raised question of indigenous community attendance, whether registration could be waived; Khan noted potential issues if this is not done correctly; Flores stated that a potential first step could be inviting a scholar on knowledge systems, educating our community
     x. Ajami suggests ensuring early-career presence
    xi. Zimmer pointed out that Gordon conference gets a registration list and then invites speakers from that community
   xii. Ledford suggested people submit a description of what they do, maybe with an opt-in.
  xiii. Loheide and others note we are on a short timeline with summer schedules getting locked in.
  xiv. Guswa asked about interest in collecting more information on attendees to address understanding of CUAHSI audience/participants.
   xv. Zarnetske proposed next steps: procedure next time and earlier start next time; for now, need an effort to complete this planning process now.
          1. We urgently need speakers, all hands on deck, Khan will distribute spreadsheet to BoD to suggest potential speakers

13. Community Award
    a. Loheide described past awardees and process; nominations from board and staff with paragraph justification. Could consider making 2020 awards (never formalized) along with 2022. Might consider some of the innovative things done during the pandemic.
       i. Zimmer, Zarnetske will lead this process
      ii. This item will be added to the Feb agenda
    b. BoD discussion about potentially being over-conferenced, overlap with other conferences, same (even years) year as FIHM

14. Review of Action Items and Closing Remarks   Zarnetske
    a. See Action Items provided by Zarnetske, below.

January 25 meeting adjourned at approximately 2:10 p.m.

January 24 and 25 meeting minutes prepared by Troy Gilmore

Action Items (provided by Zarnetske):

Action items discussed and agreed to at end of winter board meeting. They are generally listed in order that they need to be addressed:
- o ASAP: CUAHSI staff leadership will take 1 week (~end of January) to assess and then decide on the NSF solicitation for Data Centers.
- o ASAP: Send out full board and ExCom meeting invites (task for Maddie)
  - o Full board meetings: Zoom Mondays 12-1pmET every third week of month until Biennial meeting in June
  - o ExCom meetings: Zoom Mondays 12-1pmET every first week of month until Biennial meeting
  - o Full board summer meeting: In-person with Zoom option immediately after Biennial. June 14 (2h in PM after end of meeting), June 15 (all day; adjourn end of day).
- o ASAP: Strategic Plan next steps
  - o Ng, Nolin, Mishra, Ward need to review Strategic Plan draft ASAP
  - o After their review/consideration, we finalize the plan internally (goal very minimal changes)
  - o "Preview" plan to CUAHSI community – staff and larger community
  - o Board votes on plan ASAP – aim for February board meeting, but March is acceptable
- o ASAP: Biennial Meeting action items:
  - o Need to assist Safeeq and biennial planning team with completing the section speaker rosters. Answer Safeeq request on this ASAP.
  - o Community Award restart. Board agreed to offer the postponed 2020 community awards to Jeff and Efi at the 2023 biennial. Also, need to take nominations from CUAHSI staff and board members ASAP. Send to Jay and Margaret. Send very brief nomination statement (a paragraph or couple sentences). Goal is to identify 1-2 new community awardees for biennial. Will discuss nominations at February board meeting.
- o ASAP: Liaisons give standing committees clear initiatives for work over next 3-6months
  - o All SCs, except E&O, still need to answer the questions that the board and Jerad asked them to respond to for the board meeting. E&O responses to these questions were incredibly insightful, and we would like to capture that feedback from other SCs.
  - o E&O: Building on PUI progress. Complete initial assessment of PUI surveys and finish discussions with PUI participants. Produce a succinct report on: 1. Next steps and recommendations for the board to act on and/or help out with, 2. Identify and present opportunities for how CUAHSI can help or be leveraged to advance PUI constituents -faculty, students, etc. Recommended guidance for presenting opportunities is to suggested tiers of opportunities based upon required money/effort: a. small $ and effort, b. intermediate $ and effort, c. large $ and effort. This report will be most useful if delivered by May or latest start of June to the board. Justification: Engaging PUIs and undergrads more is a top priority. Turning recommendations in to implementation and proposal plans needs to start around June 2023 (e.g., to help with NSF Coop renewal proposal).

- o DEI: Building on past board efforts and suggestions from DEI SC, the board would like DEI to focus on the DEI award initiative. Develop multiple award models/proposals to present to board for consideration on or before summer board meeting (June), so that the board can create and enact a new DEI aligned award/funding from CUAHSI in 2023. Continue to ideate and help guide CUAHSI with implementing the DEI plan.
  - o Informatics: initiative to be determined working with liaison and SC, but continued work on blog should be seriously assessed and board initially recommends no more effort be placed into blog effort
  - o Instrumentation: initiative to be determined working with liaison and SC, but encourage continued thinking about new name, directions, purpose, and focusing on best practices and SOPs is encouraged
- o ASAP: Nomination for two vacant director positions (Holly and Chris resigning ASAP). New nomination and special election required per bylaws. Sarah and Steve will lead the nomination and election process.
- o Discussion of the future of Standing committees needs to be on multiple 2023 meeting agendas with goal for possible SC changes in place for 2024. Ask standing committees to review strategic plan and ideate on future of SCs in light of new strategic plans
- o Hold discussions of CUAHSI governance and member dues per new strategic planning. Develop a path to explore revisions to governance and dues.
- o Board members Lejo and Steve will be developing a plan and timeline for the ED review
- o FIHM: Board needs to help identify CUAHSI planning team to work with Adam Ward (CUAHSI chair for FIHM 2024). Need to find a Vice Chair, Early Career, and Student members of team. Send recommendations to Jordan/Adam.
- o Continually check in on and find ways to support CUAHSI in developing the new NSF Coop renewal proposal during 2023. Help establish a timeline, strategy for including board. Currently expected that Lejo, Jay, Anne will be the primary board members working on this proposal with CUAHSI.
- o Continue thinking individually and collectively about what "community" means holistically for CUAHSI. This is a top priority from our strategic planning and NSF. For example, what are the community of uses of CUAHSI resources? Who does CUAHSI think is their audience vs the actual audience? What constituents are we missing? Do we know? Are there unexpected users/members of the community? How do we get this data/information? How would we respond to identified gaps in our community or unexpected users? What are the needs for the different types of audiences/constituents? Include plans for knowing this or how to figure it out in the NSF coop renewal proposal. Advanced thinking and planning for these questions seems critical for CUAHSI's coop renewal.
- o Follow up on if CUAHSI staff addressed NSF suggestions:
  - o From NAS report to division of earth sciences, specifically Near-surface geophysics center need and the workshop report on this; might inform future funding and service opportunity for CUAHSI
  - o Did FIHM succeed in actually broadening participation in hydrological sciences? Any data/info from AGU to address this question.

- o Think about how CUAHSI can continue to become more central to NSF GEO. CZNet addition is a good trajectory, but good strategy to become more central and therefore critical to broader community and funding resources.
- o Start producing better documentation of board activities and processes. Pandemic and board turnover have proven that documentation of policies and procedures is critical to continuity and reducing effort of board members overall.