



CZNet All Hands Meeting Agenda
Salt Lake City, UT
June 26-28, 2023

Monday, June 26

- 8:30 a.m. Opening Breakfast: all are welcome!
9:30 a.m. Welcome: Jordan Read, Hub
- 9:45 a.m. Introduction to CZ Science and Thematic Clusters
10:30 a.m. Poster session
12:15 p.m. Lunch
1:15 p.m. Poster Reflections: Lixin Jin, Drylands
- 2:15 p.m. CZNet Perspectives on Data
Panel organized by the Hub CyberInfrastructure Group
- 3:30 p.m. Cross-CZ Spark Pitches (Jordan Read, Hub)
4:30 p.m. Adjourn

Tuesday, June 27

- 9:00 a.m. Accelerating Critical Zone Knowledge and Understanding through Synthesis
Jill Baron, Hub
- 9:30 a.m. Idea Incubator: Jeff Munroe, Greg Carling, and Maura Hahnenberger, Dust²
- 12:00 p.m. Bag lunch pickup
1:00 p.m. Field trip (bus departs at 1 pm from University Guest House)
~5:00 p.m. Buses return to University Guest House, adjourn

Wednesday, June 28

- 9:00 a.m. NSF Perspectives and Discussion
Richard Yuretich and Candace Major, National Science Foundation
- 10:00 a.m. Closing the Loop: Idea Showcase and the Next Steps in Our Network
Julia Perdril, Dustin Kincaid, Big Data
- 12:30 p.m. Lunch and wrap up
****END OF FORMAL MEETING****
- 1:30 p.m. Afternoon is free for group/cluster meetings
2:00 p.m. (OPTIONAL) Field trip to NEON site: Deanna McCay (Hub) and Rhea Esposito
(Advisory Committee)

Note: Event details on subsequent pages

Monday, June 26

8:30 a.m. Opening Breakfast: all are welcome!

Description: The CZNet All-Hands Meeting starts off with an opening breakfast. This is a great opportunity to reconnect with colleagues, meet new people, and learn about the work of other CZ researchers. In addition to the mentor breakfast for those who had signed up, we are offering a "data management table" for those who are interested. There may be other topically-focused tables as well, so stop by to enjoy the food and good company!

9:30 a.m. Welcome: Jordan Read, Hub

9:45 a.m. Introduction to CZ Science and Thematic Clusters

Description: Each thematic cluster will have three minutes to introduce their research projects and goals briefly. While many are familiar with the Critical Zone Collaborative Network and have been engaged since the formation of the network, this session will help quickly orient all participants to the Critical Zone Collaborative Network and the ongoing research projects.

10:15 a.m. Break and Poster Setup

10:30 a.m. Poster session 1 (even-numbered posters)¹

Description: We invite CZ scientists to share their research at our highly interactive poster session. This extended session, scheduled for the first day of the meeting, will encourage networking, provide updates from each thematic cluster, and highlight research projects in process. The poster session is intended to stimulate discussions, consider connections between research projects, and identify future possible collaborations.

¹ See pages 7-10 for list of posters and presenters.

11:15 a.m. Poster session 2 (odd-numbered posters)

12:00 p.m. Lunch

1:15 p.m. Poster Reflections

Lixin Jin, Drylands

Description: This session aims to facilitate conversations on the common themes among the critical zone researchers and identify areas for collaboration and future research directions. Topics are open to different lenses, including data, sensors/techniques, education and outreach, and others.

2:15 p.m. CZNet Perspectives on Data

Panel organized by Hub Cyber Infrastructure Team

Facilitator: Deanna McCay (Hub)

Panelists: Jeff Horsburgh (Hub), Jon Lagrosa (Urban), Danielle Pratt (Coastal),
Claire Welty (Urban)

Description: We will discuss data management, publishing, sharing, and dissemination within CZNet and beyond. Our panelists will offer valuable perspectives on data management across the Critical Zone Collaborative Network. This panel will consist of a structured conversation followed by a question-and-answer segment in which panelists answer audience questions.

CZNet scientists are expected to comply with National Science Foundation's EAR Data Policy. In this session, we will hear different perspectives and approaches to working within this policy.

3:15 p.m. Break

3:30 p.m. Cross-CZ Spark Pitches

Jordan Read, Hub

Description: This is an opportunity for any all-hands participant to make a short pitch - the "spark" that could help launch a new vibrant cross-CZ collaborative project. Speakers will have five minutes each to share a concept, and we encourage contributions of all sorts, including science, data, and education. Ideas will be one component of the tabletop exercise the next day.

4:30 p.m. Adjourn

Tuesday, June 27

9:00 a.m. Accelerating Critical Zone Knowledge and Understanding through Synthesis

Jill Baron, Hub

Description: The Critical Zone Network is rapidly collecting many types of data across the different nodes that can be brought together to ask exciting and important questions. Jill Baron will offer a brief introduction to synthesis and synthesis centers that facilitate and catalyze ideas that lead to new knowledge and insight. There will be a longer discussion later in the all-hands meeting with anyone interested in talking about ideas and how to write a proposal to conduct synthesis at the Powell Center.

9:30 a.m. Idea Incubator

Jeff Munroe, Greg Carling, and Maura Hahnenberger, Dust^2

Description: Collaboration is explicit in the name of the Critical Zone Collaborative Network, but how can we best work together to make this network more than a collection of independent projects? This session will guide participants through structured brainstorming exercises intended to identify topics of convergent interest in research, outreach, DEI, data management, and other points of intersection. Space will be provided to consider previously identified themes, as well as new ideas looking forward. The overall goal is to facilitate creative conversation and to develop actionable plans for collaboration at a variety of scales.

12:00 p.m. Bag lunch pickup

1:00 p.m. Field trip (bus departs at 1 pm from University Guest House)

Description: We are excited to offer field trips at this year's All Hands meeting! We will be running two field trips simultaneously on Tuesday afternoon, with each departing from the University Guest House.

We recommend the following attire and supplies:

Sunglasses, hat, and footwear suitable for short hiking across sand and on a rocky trail. Be sure to bring water, sunscreen, and bug spray as well.

~5:00 p.m. Buses return to University Guest House, adjourn

Wednesday, June 28

9:00 a.m. NSF Perspectives and Discussion
Richard Yuretich and Candace Major, National Science Foundation

10:00 a.m. Break

10:15 a.m. Closing the Loop: Idea Showcase and the Next Steps in Our Network
Julia Perdrual, Dustin Kincaid, Big Data

Description: This is an opportunity to present collaborative ideas that emerged throughout the meeting that “leverage the network to strengthen the network.” Participants are invited to offer ideas on various themes, including collaboration around DEI, education, tools, research ideas, data, outreach, values, and more.

12:30 p.m. Lunch and wrap up

****END OF FORMAL MEETING****

1:30 p.m. Afternoon is free for group/cluster meetings

1:45 p.m. (OPTIONAL) Field trip to NEON site
Deanna McCay (Hub) and Rhea Esposito (Advisory Committee)

Poster	Presenter	Tentative Poster Title
<i>Big Data</i>		
1	Andrew Vierbicher	What happens post-fire? Shallowing flow paths and enhanced solute export in a small montane catchment
2	Bren Cable	Disturbances, Resilience, and the Role of Calcium Bearing Minerals Weathering in Northeastern Forests
3	Camden Hatley	Event-scale nitrate transport behaviors in an agricultural, flow-controlled river basin
4	Shaurya Swami	Forecasting River Turbidity using Innovative Machine Learning Techniques
5	Gabrielle Boisrame	Yosemite's Natural Fire Laboratory
6	Dustin Kincaid	TBD
7	Niara Hicks	Interactions between water, quality, water, quality, and vegetation health
<i>CINet</i>		
8	Mozhgan Askarzadehfarahani	Information Flow Paths Determine Causal Mechanisms of Vertical Carbon Fluxes in Machine Learning Models and Data
9	Allison Goodwell	TBD
10	Ashlee Dere	Soil solute and gas fluxes through the Management Induced Reactive Zone
<i>Coastal</i>		
11	Ashleigh Montgomery	Using IRIS Films to Identify Changes in Soil Redox Conditions in Coastal Marshes
12	Yu-Ping Chin	Land Use and Climate Influences on Dissolved Organic Matter Composition in the Coastal Critical Zone

13	Dannielle Pratt	The Hydrologic Drivers of Marsh Migration
14	Tyler Messerschmidt	Subsidence due to root zone collapse can facilitate or impede marsh migration into coastal forests.
15	Elizabeth Whitney	Land Use and Climate Influences on Dissolved Organic Matter Composition in the Coastal Critical Zone
16	Amanda Sprague-Getsy	Characterization of Groundwater Carbon along the Transition from Saltmarsh to Upland in the Delmarva Peninsula
<i>CZNet Coordinating Hub</i>		
17	Sadikshya Sharma	Exploring Agricultural Sustainability in the Critical Zone: A DEA Analysis of Environmental and Economic Conditions in the Chesapeake Bay Watershed
18	Jeff Horsburgh	Updates on CZNet Hub Data Management
19	Deanna McCay	Updates on the CZNet REU Program
<i>Drylands</i>		
20	Christian Leach	Tracking moisture fluxes in the unsaturated zone using water potential and comparing data to current DASH model
21	Lin Ma	U-series and Sr isotope systematics in soil carbonates from both natural and managed Dryland Critical Zones
22	David Huber	Data fusion of drone hyperspectral imaging with inductive electromagnetics to infer geochemical and hydrological characteristics influenced by critical zone architecture
23	Liz Andrews	Impacts of Arid Land Agriculture and Flood Irrigation on Carbon Dynamics
24	Zahra Ghahremani	Title TBD
25	Lixin Jin	Tree size as a proxy of texture and soil salinity in a pecan orchard: exploring the spatial variability and dominant controls on water and carbon fluxes in managed dryland critical zone

<i>Dust^2</i>		
26	Austen Lambert	Understanding the Effect of Mining Dust Emissions on Pristine Alpine Soils
27	Ty Hosler	Predicted Dust Emission Fluxes for the Great Salt Lake Shoreline Under Varied Wind and Soil Moisture Levels
28	Otto Lang	Record high dust-on-snow deposition in the Wasatch Mountains: Is the shrinking Great Salt Lake to blame?
29	Reuben Attah	Assessing the oxidative potential of dust from the Great Salt Lake
30	Alyssa Thompson	Using an end-member mixing analysis to understand sources of chemical variation in an alpine watershed under a changing climate, Provo River, northern Utah
31	Kendra Caskey	Particulate and Dissolved Trace Elements in the Provo River
32	Abigail Santis	Long-Term Effects of Dust Deposition on Alpine Soils in the Southwestern United States
33	Abby Mangum	Characterizing Dust from National Wind Erosion Research Network Sites Using Strontium Isotopes, Major and Trace Element Chemistry, and Mineralogy
34	Kamaljeet Kaur	Laboratory and Field Evaluation of the Alphasense OPC-N3 and PMS5003 Sensors for Measuring Coarser Particles
35	Jeff Munroe	Local Sources Control the Properties of Mineral Dust Accumulating in the High-Elevation Critical Zone of the Great Basin and Rocky Mountains, USA
36	Elijah Alfred	Analysis of Dust Event Days (DEDs) and Dust Sources in the Great Salt Lake Region
37	Maura Hahnenberger	Muddy Snow and Hazardous Air: Dust Transport from Great Salt Lake
<i>Dynamic Water</i>		
38	Lauren Lowman	How land surface characteristics influence the development of flash drought

Geomicrobio

39	Emma Aronson	TBD
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