

# 2024 National Soil Moisture Workshop – Agenda July 15-18, 2024

[Utah State University](http://www.usu.edu)

USU Agricultural Sciences Building, Champ Dr, Logan, UT 84322

Please refer to [Drought.gov](http://Drought.gov) for continued updates: [2024 National Soil Moisture Workshop](http://2024.NationalSoilMoistureWorkshop.org).  
For virtual attendance: See Zoom link at the bottom.

Monday, July 15, 2024 – Local Sensor Company Tours		
*Transportation/carpooling will be coordinated, and the three tours will be held in parallel repetition at 1 p.m., 2:15 p.m., and 3:30 p.m.		
Time (MT)	Topic	Location
8:30 a.m.	Meet for carpooling and transportation to Campbell Scientific, if needed	University Inn 650 N 875 E Logan, Utah
9:00 a.m.	Meter and Campbell Scientific Soil Moisture Demonstrations and Discussion	Campbell Scientific Inc. 815 West 1800 North Logan, Utah 84321
12:00 p.m.	Lunch Break - Sponsored by Campbell Scientific	
1:00 p.m.	Apogee Plant Tour and Sensor Discussion	Apogee Instruments Inc. 721 W 1800 North Logan, Utah 84321
2:15 p.m.	Campbell Scientific Facilities and Sensor Manufacturing Tour	Campbell Scientific Inc. 815 West 1800 North Logan, Utah 84321
3:30 p.m.	Juniper Systems Classroom and Outside “Hands-On” Geospatial Mapping exercise	Juniper System, Inc. 1132 West 1700 North Logan, Utah 84321
4:45 p.m.	End of day	

Tuesday, July 16, 2024 – General Session Day 1		
Stan L. Albrecht Agricultural Sciences Building (AGRS), Campbell Scientific Lecture Hall		
Time (MT)	Topic	Speaker/Moderator

2024 National Soil Moisture Workshop – Full Agenda (continued)

9:00 a.m.	Welcome and National Coordinated Soil Moisture Monitoring Network (NCSMMN) Highlights	Jason Gerlich, NOAA/NIDIS
9:20 a.m.	Tribal Keynote	Crystal Tulley Cordova, Navajo Nation Department of Water Resources
9:50 a.m.	Discussion	
10:00 a.m.	Break - Free Discussion Time	
<b>Session 1   Moderator: Michael Cosh</b>		
10:30 a.m.	The Value of Long-Term In Situ Soil Moisture Observations	Michael Palecki, NOAA/NCEI
10:50 a.m.	Preferential Soil Hydrologic States in Terrestrial Water-Energy Coupling	Vinit Sehgal, Louisiana State University
11:10 a.m.	Modeling Vadose Zone Soil Moisture at Large Scales	Morteza Sadeghi, California Department of Water Resources
11:30 a.m.	Lunch Break - Sponsored by NIDIS	Eccles Conference Center
<b>Session 2 and Lunch Discussion   Moderator: Stephanie Connolly</b>		
12:30 p.m.	The Role of Soil Moisture Observations in Water Supply Forecasting in the West	Peter Goble, Colorado State University Elise Osenga, Aspen Global Change Institute Paul Miller, Colorado Basin River Forecast Center
1:00 p.m.	Updating the U.S. Forest Service Efforts to Establish a Forest Soil Moisture Monitoring Network	Stephanie Connolly, USDA Forest Service
1:20 p.m.	Incorporating Soil Context into USCRN's Standardized Soil Moisture Observations	Ronald Leeper, NCEI/NC State
1:40 p.m.	Updates on the Upper Missouri River Basin Project	Nathan Edwards, South Dakota State Mesonet
2:00 p.m.	Break - Free Discussion Time	

2024 National Soil Moisture Workshop – Full Agenda (continued)

2:30 p.m.	The Oklahoma Hydronet: Developing a Statewide Integrated Hydrologic Monitoring System	Tyson Ochsner, Oklahoma State University
2:45 p.m.	Advancing Soil Moisture Data Processing: Developing Open-Source Solutions	Andres Patrignani, Kansas State University
3:00 p.m.	Characterization of Soil Physical and Hydraulic Properties of TexMesonet Monitoring Sites	Bismark Osei, Texas A&M University
3:15 p.m.	Infiltration in Kunigal Taluk Tumkur District Karnataka State India	Dr. Ravindranath, Dayanandasagar College of Engineering
3:30 p.m.	Break - Free Discussion Time	
<b>Poster Session (repeated on Wednesday): David B. Haight Center</b>		
4:00 p.m.	<i>See list of posters at bottom of agenda</i>	
6:00 p.m.	Dinner Provided by Campbell Scientific at the David B. Haight Center	

<b>Wednesday, July 17, 2024 – General Session Day 2 (Campbell Scientific Lecture Hall)</b> Stan L. Albrecht Agricultural Sciences Building (AGRS), Campbell Scientific Lecture Hall		
<b>Time (MT)</b>	<b>Topic</b>	<b>Speaker/Moderator</b>
<b>Session 4   Moderator: Nathan Edwards</b>		
9:00 a.m.	Democratization of Real-Time Data Using Synoptic Viewer	Ashish Raval, Synoptic Data PBC
9:15 a.m.	Distributed Hydrological Models – Bridging Scales for Soil Moisture Predictions from Point Sensors to Landscape Scale and Beyond	Zamir Libohova, USDA-ARS
9:30 a.m.	Calculating a Minimum Overlap Period for Successful Intercalibration of Soil Moisture Sensors	Victoria Walker, ORISE (USDA-ARS)
9:45 a.m.	What Is the True Volume of Influence for Soil Moisture Sensors: Evaluating	Leo Rivera, METER Group, Inc.

2024 National Soil Moisture Workshop – Full Agenda (continued)

	Methods for Quantifying Volume of Influence from Soil Moisture Sensors	
10:00 a.m.	Low-Cost Soil Moisture Sensing Using WiFi Channel State Information	Stephen Farrington, Transcend Engineering / LandScan
10:15 a.m.	Discussion	
10:25 a.m.	Award Presentation and Group Photo	
10:30 a.m.	Break - Free Discussion Time	
<b>Poster Session: David B. Haight Center</b>		
11:00 a.m.	<i>See list of posters at bottom of agenda</i>	
12:00 p.m.	Lunch Break on Your Own	
<b>Session 5   Moderator: Michael Cosh</b>		
1:00 p.m.	Soil Moisture Remote Sensing Calibration and Validation Protocols	Michael Cosh, USDA-ARS
1:20 p.m.	Reprocessed NOAA SMOPS Blended Satellite Soil Moisture Data Product	Jifu Yin, NOAA/NESDIS/STAR, UMD-ESSIC
1:40 p.m.	Enhancing Agricultural Water Efficiency: UAV-borne SAR Technology for Soil Moisture Estimation	Lena Azimi, Purdue University
2:00 p.m.	Break - Free Discussion Time	
<b>Session 6   Moderator: Michael Cosh</b>		
2:30 p.m.	Comparison of Importance of Ancillary Variables for Two Different Sources of Daily Soil Moisture Downscaling Over CONUS	Eshita Eva, The Ohio State University
2:50 p.m.	Appraisal of an Active-Passive Algorithm for NISA High Resolution Soil Moisture Products over India	Dharmendra Kumar Pandey, Indian Space Research Organization

2024 National Soil Moisture Workshop – Full Agenda (continued)

3:10 p.m.	Use of Remotely-Sensed Temperature Data to Estimate Soil Moisture Using Thermal Inertia Analysis	James Zollweg, SUNY Brockport
3:30 p.m.	Break - Free Discussion Time	
4:00 p.m.	Group Discussion / Closing Comments / Next Steps	Michael Cosh, USDA-ARS
5:00 p.m.	End of Day	

<b>Thursday, July 18, 2024 – Field Trip of Forest Soil Moisture Monitoring</b> <i>* Session available in virtual format</i>		
Time (MT)	Topic	Speaker/Moderator
9:00 a.m.	Bus Departure for Field Sites from University Inn at 650 N 875 E, Logan, Utah	
9:45 a.m.	SNOTEL Site at Tony Grove Lake: <ul style="list-style-type: none"> <li>• Forest History</li> <li>• How Soil Moisture Data Can Inform Management Decisions for Land Planning</li> <li>• SNOTEL Discussion</li> </ul>	Justin DeRose, USU Quinney College of Natural Resources Stephanie Connolly, United States Forest Service Jordan Clayton, Utah Snow Survey
11:20 a.m.	Beaver Mountain Ski Resort: <ul style="list-style-type: none"> <li>• Forest History Overview</li> <li>• Area Soils and Soil Profiles Overview</li> <li>• Soil Moisture Sensor Challenges in Forest Soils</li> <li>• NRCS Xeric Soil Moisture Regime Study</li> </ul>	Justin DeRose, USU Quinney College of Natural Resources Janis Boettinger, USU Office of Global Engagement Scott Jones, USU College of Agriculture and Applied Sciences Kara Green, United States Forest Service
12:25 p.m.	Bear Lake Overlook: <ul style="list-style-type: none"> <li>• Forest History Overview</li> <li>• Three Creeks (Soil Health, Soil Carbon, Soil Moisture and More Monitoring Data)</li> </ul>	Justin DeRose, USU Quinney College of Natural Resources
1:00 p.m.	Box Lunch Sponsored by NIDIS	
2:00 p.m.	Return to Campus, End of Day	

## List of Posters

1. Point and Field Scale Soil Moisture Mapping | Seyedali Aziz, Texas A&M University
2. An Approach to Establishing Soil and Moisture Relationships in West Virginia | Jared Beard and Brian Nester, USDA/NRCS
3. Using Sensor Data from the Indiana Water Balance Network | Ginger Davis, Indiana Geological & Water Survey
4. Development of Satellite-Based Soil Moisture to Inform Crop Vegetation Health Dynamics | Manh-Hung Le, NASA Goddard Space Flight Center
5. Calibration of RHESSys with Soil Moisture Data and the Performance of RSS Soil Inputs | Carlos Quintero, Oak Ridge Institute for Science and Education
6. Role of Soil Moisture in Radon Transport Studies: A Comparative Analysis of Traditional and Modern Methods | Asmita Naitam, Georgia State University
7. Site Selection Strategies Using Mixed Communications for Soil Moisture Networks in Northern California | Mimi Payne, U.S. Geological Survey
8. Monitoring Soil Moisture for Detecting Potential CO<sub>2</sub> Leakage at Storage Sites | Hassan Dashtian, University of Texas at Austin
9. Characterization of Soil Physical and Hydraulic Properties of TexMesonet Monitoring Sites | Bismark Osei, Texas A&M University
10. Soil Moisture Data Value Study Sensitivity Analysis in the Upper Missouri River Basin | Jacklynn Beck, The Ohio State University
11. In Situ Monitoring of Soil Water Potential to Predict Fire Susceptibility of Dead Fuels | Aubree Cobos, METER Group Inc.
12. Impact of Regenerative Agricultural Practices on Water Quality | Sri Pinnamaneni, Colorado State University

## Zoom Link

### Virtual Connection Info:

#### **Tuesday, July, 16, 2024 8:00 a.m. - 6:00 p.m. MT**

Michael Cosh is inviting you to a scheduled ZoomGov meeting: [Zoom Link](#)

Meeting ID: 160 446 3735

Passcode: 2024

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