

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

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

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

Please refer to 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 101), 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 | |
| Session 1 Moderator: Michael Cosh | | |
| 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 |
| Session 2 and Lunch Discussion Moderator: Stephanie Connolly | | |
| 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 | |
| Poster Session (repeated on Wednesday): AGRS Atrium | | |
| 4:00 p.m. | <i>See list of posters at bottom of agenda</i> | |
| 6:00 p.m. | Dinner sponsored by Campbell Scientific at the Alumni House | |

| Wednesday, July 17, 2024 – General Session Day 2 (Campbell Scientific Lecture Hall) Stan L. Albrecht Agricultural Sciences Building (AGRS 101), Campbell Scientific Lecture Hall | | |
|--|---|--|
| Time (MT) | Topic | Speaker/Moderator |
| Session 4 Moderator: Nathan Edwards | | |
| 9:00 a.m. | Democratization of Real-Time Data Using Synoptic Viewer | Ashish Raval, Synoptic Data PBC |
| 9:20 a.m. | Calculating a Minimum Overlap Period for Successful Intercalibration of Soil Moisture Sensors | Victoria Walker, ORISE (USDA-ARS) |
| 9:40 a.m. | What Is the True Volume of Influence for Soil Moisture Sensors: Evaluating Methods for Quantifying Volume of Influence from Soil Moisture Sensors | Leo Rivera, METER Group, Inc. |
| 10:00 a.m. | Low-Cost Soil Moisture Sensing Using WiFi Channel State Information | Stephen Farrington, Transcend Engineering / LandScan |

2024 National Soil Moisture Workshop – Full Agenda (continued)

| | | |
|--|---|---|
| 10:20 a.m. | Discussion / Award Presentation and Group Photo | |
| 10:30 a.m. | Break - Free Discussion Time | |
| Poster Session: AGRS Atrium | | |
| 11:00 a.m. | <i>See list of posters at bottom of agenda</i> | |
| 12:00 p.m. | Lunch Break – Sponsored by Meter Group | |
| Session 5 Moderator: Michael Cosh | | |
| 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 | |
| Session 6 Moderator: Michael Cosh | | |
| 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 |
| 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 | |

| Thursday, July 18, 2024 – Field Trip of Forest Soil Moisture Monitoring <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"> • Forest History • How Soil Moisture Data Can Inform Management Decisions for Land Planning • SNOTEL Discussion | 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"> • Forest History Overview • Area Soils and Soil Profiles Overview • Soil Moisture Sensor Challenges in Forest Soils • NRCS Xeric Soil Moisture Regime Study | 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"> • Forest History Overview • Three Creeks (Soil Health, Soil Carbon, Soil Moisture and More Monitoring Data) | 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

2024 National Soil Moisture Workshop – Full Agenda (continued)

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 CO₂ 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
13. On the Relationship Between Soil Moisture and Soil Respiration: Assessing Impacts of Various Land Management Practices in Herbaceous Dominated Ecosystems | Pramod Hegde, University of Georgia

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

Wednesday, July 17, 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

Thursday, July 18, 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

Numbers valid for all days of the workshop.

One tap mobile:

+16692545252, 1604463735# US (San Jose)

