



2026 National Soil Moisture Workshop Agenda

June 9-10, 2026

University of North Carolina at Asheville

The Sherrill Center and Kimmell Arena, 227 Campus Dr, Asheville, North Carolina

Hosted by the National Oceanic and Atmospheric Administration’s National Integrated Drought Information System (NIDIS), in collaboration with the U.S. Department of Agriculture and the U.S. Forest Service.

>> For virtual attendance: Zoom information is provided on the last page <<

| Tuesday, June 9, 2026 – General Session Day 1 The Sherrill Center | | |
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| Time (ET) | Topic | Speaker/Moderator |
| 8:30 a.m. | Welcome to Asheville and the Sherrill Center | Ronald Leeper– NC State University (NCSU) and Cooperative Institute for Satellite Earth System Studies (CISESS) |
| 8:40 a.m. | Welcome, Natural Hazards and Soil Moisture Theme | Elise Osenga – CIRES, University of Colorado Boulder/NOAA National Integrated Drought Information System (NIDIS) |
| 8:50 a.m. | National Coordinated Soil Moisture Monitoring Network (NCSMMN) Highlights and the Value of Soil Moisture in Hazards Planning | Michael Cosh – U.S. Department of Agriculture, Agricultural Research Service (USDA-ARS) |
| Session 1: Fire & Forests Moderator: Stephanie Connolly | | |
| 9:00 a.m. | Key Note: Soil Moisture as a Cross-Cutting Indicator for Natural Hazards: Challenges, Data Gaps, and Emerging Opportunities | Ali Fares – Prairie View A&M University |
| 9:30 a.m. | Keynote Q&A | Moderator – Stephanie Connolly – USDA Forest Service (USFS) |
| 9:40 a.m. | Soil Moisture in the Wildfire Continuum | Gabrielle Boisrame – Desert Research Institute |
| 9:55 a.m. | Simulating and Partitioning Interception, Evaporation, and Transpiration by Vegetation Type in a Semi-arid Montane | Emory Ellis – Northern Arizona University |

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| | Watershed in the Southwest Using HYDRUS-1D | |
| 10:15 a.m. | 1 Hour Break – Coffee & Conversation Corners | |
| Session 2: Characterizing Drought Moderator: Elise Osenga | | |
| 11:15 a.m. | Drought Research & Tools: Soil Moisture Products and Services Powered by ACIS | Natalie Umphlett – Northeast Regional Climate Center, Cornell University |
| 11:25 a.m. | A SIMPL Framework for Drought Severity Assessment with Disparate Data | Vinit Seghal – Louisiana State University |
| 11:35 a.m. | Stakeholder Engagement and Applications Co-Development of NLDAS-3 for Drought Monitoring and Beyond | Jonathan Case – University of Alabama Huntsville |
| 11:45 a.m. | Session 2 - Discussion and Q & A | Moderator: Elise Osenga – CIRES, NIDIS |
| 11:55 a.m. | Assessing Soil Moisture Response to Drought from Historical and Soil Context | Ronald Leeper– NCSU, CISESS |
| 12:05 p.m. | Soil Moisture in the New D3 Drought Tool | Zachary Hoylman - University of Montana |
| 12:15 p.m. | Group Picture | Michael Cosh - USDA-ARS |
| 12:30 p.m. Networking Lunch – Provided by METER Group | | |
| Session 3: Managing Agriculture Under Drought Moderator: Peter Goble | | |
| 1:30 p.m. | Will You Leave Your Field Barren? The Story of Drought, Soil Moisture and Cover Crops | Sumita Sen – The Ohio State University |
| 1:45 p.m. | Soil Moisture Dynamics Under Automated Surge Irrigation in Northern Utah | Ngoni Mufute – Utah State University |
| 2:00 p.m. | Agricultural Planning Activity | Moderator: Peter Goble, Colorado State University |
| Session 4: Remote Sensed Soil Moisture Products Moderator: Micheal Cosh | | |

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| 2:15 p.m. | Validating NISAR Soil Moisture Products Inside Active Agricultural Fields | Simon Kraatz - USDA (Panel potential, with some other invited folks) |
| 2:25 p.m. | Advancing Precision Agriculture: High-Resolution Root-Zone Soil Moisture Retrieval Using UAV-Based L-Band Radiometry | Nikhil Raj Deep – University of Florida |
| 2:35 p.m. | Bayesian Soil Moisture Retrieval Using High-Resolution SAR | Lena Azimi – Purdue University |
| 2:45 p.m. | Session 4 - Discussion and Q&A | Michael Cosh - USDA-ARS |
| 2:55 p.m. | Closing Remarks and Poster Session Logistics | Elise Osenga – CIRES, NOAA NIDIS |
| Session 5: Poster Session | | |
| 3:00 p.m. - 5:00 p.m. | Poster Session, Snacks, and Networking | |
| 6:00 p.m. | No-Host Happy Hour: <i>This is an unofficial gathering for anyone hoping to continue the day's conversations. Tables are not reserved, and drinks are on your own tab.</i> | |

| Wednesday, June 10, 2026 – General Session Day 2 The Sherrill Center | | |
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| Time (ET) | Topic | Speaker/Moderator |
| Session 6: Floods Moderator: Elise Osenga | | |
| 8:30 a.m. | Schedule for the Day & Other Reminders | Elise Osenga |
| 8:40 a.m. | Keynote: <i>To Be Announced</i> | <i>To Be Announced</i> |
| 9:15 a.m. | A Missing Variable in Flood Modeling: Soil Infiltration Capacity Driven by Soil Health | Stan Pace - CaluSolv |
| Session 7: New Technologies and Methods for Data Generation Ronald Leeper | | |
| 9:30 a.m. | Exploring the Limits of Complex Dielectric Through Intersections Technology | Chris Chambers - METER Group |

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| 9:40 a.m. | Modeling Soil Moisture from Rainfall at Network Sites | Victoria Walker – Embry Riddle Aeronautical University |
| 9:50 a.m. | A low cost fully autonomous UAV based soil moisture payload for near surface measurements | Hemanth Narayan Dakshinamurthy – South Carolina State University |
| 10:00 a.m. | Session 7 – Q&A and Discussion | Moderator: Ronald Leeper – NCSU, CISSES |
| 10:15 a.m. | Coffee Break - Networking and Poster Session Part II | |
| Session 8: Integrating In Situ and Gridded Products Moderator: Michael Cosh | | |
| 11:15 a.m. | <p>Panel Discussion – Comparing and Improving Modeled and Remote Sensed Products</p> <ul style="list-style-type: none"> ● A National-Scale Comparison of SOILWAT2 and SPoRT-LIS for Simulating Soil Moisture Dynamics ● Beyond the Bucket: Improving Soil Moisture Monitoring with Knowledge-Guided Machine Learning ● Utilizing In Situ Data For Satellite-Based Product Assessment and Application | <p>Moderator: Michael Cosh -USDA-ARS</p> <ul style="list-style-type: none"> ● Ali Ashrafi - Oklahoma State University ● Zachary Hoylman – University of Montana ● John Bolten - NASA |
| 11:45 a.m. | Distributed Hydrological Models for Soil Moisture Predictions from Point Sensors to Landscape Scale and Beyond: A Case Study from Pullman, Washington | Zamir Libohova – USDA-ARS |
| 11:55 a.m. | Application of In Situ and Remote Sensing–Based Soil Moisture Indices for Agricultural Drought Assessment in the Southern Great Plains | Gebrekidan Tefera – Prairie View A&M University |
| 12:05 p.m. | Exploiting the Relationships Between In-Situ Soil Moisture Data and Remotely Sensed Vegetation Indices to Improve Oklahoma’s Soil Moisture Mapping System | Arturo Flores – Oklahoma State University |
| 12:15 p.m. | Session 8 – Q&A and Discussion | Moderator: John Bolton – NASA |
| 12:25 p.m. | NCSMMN Leadership in Soil Moisture | Micheal Cosh - USDA-ARS |

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| | Award – Presentation | |
| 12:30 p.m. | Networking Lunch – Lunch Provided | |
| Session 9: Advancements in Observation Networks Moderator: Elise Osenga | | |
| 1:30 p.m. | Benchmarking Soil Moisture Errors Using SCAN and USCRN Networks | Michael Cosh - USDA-ARS |
| 1:40 p.m. | Nationally Coordinated Total Water Monitoring | Nathan Edwards – South Dakota State University |
| 1:50 p.m. | Upgrading a Long-Term Soil Moisture Monitoring Network Through the Oklahoma Hydronet | Gabriela Silva – Oklahoma State University |
| 2:00 p.m. | Bringing Soil Moisture to South Alabama | Austin Clark - South Alabama Mesonet |
| 2:10 p.m. | Session 8 – Q&A and Discussion | Moderator: Elise Osenga - CIRES/NOAA |
| 2:20 p.m. | Activity - Introducing a Searchable Soil Moisture Network Inventory and Other NCSMMN Resources for Networks | Rocky Bilotta – NOAA NCEI Elise Osenga - NOAA NIDIS |
| 2:30 p.m. | Coffee Break | |
| Session 10: Long Term Monitoring: Coweeta Moderator: Stephanie Connolly | | |
| 2:50 p.m. | Keynote: Title TBD - Long Term Monitoring at Coweeta Experimental Forest | Jennifer Knoepp – USDA Forest Service |
| 3:20 p.m. | Keynote Q&A | Moderator: Stephanie Connolly – USFS |
| 3:30 p.m. | Group Reflection: Gaps, Opportunities, and Next Steps Needed to Improve Applications of Soil Moisture Information | Mike Cosh – USDA ARS Elise Osenga – CIRES, NIDIS |
| 3:50 p.m. | Instructions for June 11 Field Trip | Stephanie Connolly – USFS |
| 4:00 p.m. | Closing Remarks and Reflections from the Workshop, Thank You | Mike Cosh, Elise Osenga |
| 4:30 p.m. | End of Day | |

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Due to limited space, we can only allow those who have registered to attend the field trip. Full directions for the field trip will be provided to field trip registrants directly.

| Thursday, June 11, 2026 – Field Trip – Prior Registration Required for Attendance | | |
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| Time (ET) | Topic | Lead: Stephanie Connolly, USFS |
| 8:00 a.m. | Gather for Vans at Designated Location. Vans will load at 8:15 am promptly | |
| 8:30 a.m. | Vans Depart Promptly at 8:30 a.m. | |
| 4:30 p.m. | Return to Hotel | |

2026 National Soil Moisture Workshop - Keynote Speakers

Further Information Coming Soon

National Soil Moisture Workshop Poster List

Agricultural Resilience and Risk Management

Andres Hernandez, University of Texas Rio Grande Valley

Soil Moisture Under Solar Panels in a Vineyard: A Case Study to Support Drought Tracking

Srijana Chaudhary, Prairie View A&M University

Investigating the Relationships Between Soil Health and Meteorological Variables in the Southern Texas Environment

Drought Characterization

C. Prakash Khedun, South Carolina Water Resources Center, Clemson University

A Multivariate Analysis of Drought Duration and Severity in a Warming Climate

Peter Goble, Colorado State University

Using Downscaled NASA Land Data Assimilation Products to Monitor Water Systems in Colorado

Hazards Assessments: Landslides

Thomas A. Stanley, University of Maryland Baltimore County

Assessing Soil Moisture Products for the Cumberland Plateau

Land Surface Interactions

Manh-Hung Le, NASA Goddard Space Flight Center

Statistical and Machine Learning for Improving the Utility of Soil Moisture Networks for Satellite-Based Soil Moisture Product Assessment in the Upper Missouri River Basin

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Ruixuan Ding, Ohio State University
Does Soil Moisture Promote or Suppress Rainfall?

Networks or Sensor Validation

Edward Ayres, NEON, Nattelle
Validating Sensor-Based Soil Moisture Measurements for a National-Scale Network

Todd Caldwell, Desert Research institute
NICE Net: A Statewide Agricultural Climate and Reference Evapotranspiration Monitoring Network for Nevada

Virtual Attendance

Join ZoomGov Meeting

Coming soon....

Please download and import the following iCalendar (.ics) files to your calendar system.

Meeting ID:

Passcode:

