

National Soil Moisture Network Workshop

Progress made and future directions

May 24 - 26, 2016

NOAA/National Integrated Drought Information System

325 Broadway, Boulder, CO 80305

Goals and Objectives

- Communicating and coordinating soil moisture monitoring and assimilation activities across the federal landscape with states and other interests, including the private sector.
- Providing an update on the progress made thus far on a Coordinated National Soil Moisture Network. Reporting on the findings from the NSMN pilot work.
- Crafting a future direction and approach for a coordinated NSMN. Identifying the next steps, addressing who will be involved, and how and what needs to be accomplished. Identifying short-term, medium-term, and long-term goals of coordinating a NSMN.

Day 1: Tuesday, May 24, 1:00 PM

1:00 - Welcome & Introduce Meeting Objectives – Robin Webb

1:15 – 2:15 - Session 1: Background & Update

1. November 2013 workshop and framework for a National Soil Moisture Network – Mike Strobel
2. National Drought Resiliency Partnership and goals of NIDIS – Roger Pulwarty
3. NSMN Pilot Study – design and outcomes – Steven Quiring and Jessica Lucido
4. Pre-Workshop Survey Results Review – Chad McNutt

2:15 – 3:45 - Session 2: Public sources of information and their application (moderator: Michael Strobel)

1. In situ networks
 - a. SCAN – Deb Harms, NRCS
 - b. CRN – Jesse Bell, NOAA
 - c. NASMD – Steven Quiring, Texas A&M University
 - d. National Mesonet – Paul Heppner, Global Science and Technology
2. Remote sensing
 - a. SMAP, SMOS, GRACE, others – Chris Hain, NOAA
3. Modeling
 - a. NLDAS – Youlong Xia, NOAA-NCEP
 - b. NASA – David Mocko and Sujay Kumar, NASA
 - c. NASA SPoRT – Clay Blankenship, NASA-MSFC

3:45 – BREAK

4:00 – 4:45 - Session 3: Private and grass root sources of information (Moderator – Steven Quiring)

1. Private industry
 - a. Climate Corps – Ravi Sripada
 - b. Decagon – Doug Cobos
2. Citizen science
 - a. GLOBE – Travis Andersen
 - b. CoCoRaHS – Nolan Doesken

4:45 – 5:00 – Discussion and Closing remarks

6:30 – Informal happy hour at Bohemian Biergarten <http://bohemianbiergarten.com/>

Day 2: Wednesday, May 25

8:00 – Recap of previous day

8:15 – 9:30 - Session 4: Panel - Users of soil moisture information Part 1 (Moderator – Chad McNutt)

1. U.S. Drought Monitor – Mark Svoboda, National Drought Mitigation Center
2. Soil Survey – Cathy Seybold, USDA National Soil Survey Center
3. Drought assessment – Christopher Redmond, Kansas State University
4. Climate Hubs- Mike Wilson, USDA-NRCS

9:30 - BREAK

9:45 – 11:00 - Session 4: Panel - Users of soil moisture information Part 2 (Moderator – Jessica Lucido)

5. Water Census – Earl Greene, USGS
6. River Forecasting – Eric Jones, NOAA
7. Human Health – Jesse Bell, NOAA/CICS-NC
8. Climate Change – Carolyn Olson, USDA OSEC
9. Reservoir Management – Kevin Grode, USACE

11:00 – 12:15 - Session 5: Small Group Facilitated Discussion: Identifying gaps & needs

- Identifying gaps in available data and information products
- Identifying temporal and spatial
- Brainstorm how existing data sets could be leveraged or integrated to fill gaps and meet needs
- Vote & prioritize information products

12:15 – 1:15 - WORKING LUNCH

Session 6: Lessons learned from other programs and networks

Introduce discussion sessions, opening remarks on White House Roundtable – Richard Pouyat

Facilitators for sessions on Wednesday and Thursday: Veva Deheza (NIDIS), Jessica Lucido (USGS), Richard Pouyat (Office of Science and technology Policy), Alicia Marrs (NOAA), and Chad McNutt (NOAA)

1:15 – 2:30 - Session 7: Small Group Facilitated Discussion: Collaboration, funding & data integration

- Collaboration models

- Funding models
- Data integration strategies

2:30 – 3:00 - Group reports

3:00 – BREAK

3:15 – 4:30 - Session 8: Data format

1. Standards and specifications for networks
2. Telemetry
3. Web services
4. Spatial and temporal frequency
5. Soil science

4:30 – 5:00 - Group reports

5:00 – Closing remarks

Day 3: Thursday, May 26

8:00 – Recap of group reports and objectives

8:15 – 9:15 - Session 9: Small Group Facilitated Discussion: Gathering requirements for the Network

- Describing preferred data access formats and method
- Describing preferred data access frequency & access methods
- Brainstorming ways of presenting and visualizing soil moisture data
- Vote & prioritize network requirements

9:15 – 9:45 - Group reports

9:45 – BREAK

10:00 – 11:30 - Session 10: Next steps

- Identifying goals for the network
- Forming work group(s) to develop a framework for the network

11:30 – Closing remarks

Posters:

1. Soil Climate and Moisture Dynamics Under Snowmelt - Kent D. Sutcliffe
2. The future of soil water availability in snow-covered mountains - Adrian A. Harpold
3. Satellite-based Microwave Soil Moisture Retrievals from the NOAA Soil Moisture Product System (SMOPS) - Christopher Hain

4. Does Including Soil Moisture Observations Improve Operational Streamflow Forecasts in Snow-Dominated Watersheds? - Adrian Harpold, Kent Sutcliffe, Jordan Clayton, Angus Goodbody, and Sharely Vasquez
5. Kansas Mesonet: Current Status - Christopher Redmond, Mary Knapp
6. Current Status and Development Plans of the North American Land Data assimilation System - Youlong Xia
7. The North American Land Data Assimilation System (NLDAS) Science Testbed: An Environment for the Systematic Evaluation and Benchmarking of NLDAS Outputs - D.M. Mocko, S.V. Kumar, S. Wang, K.R. Arsenault, C. Peters-Lidard, G.S. Nearing, Y. Xia, M.B. Ek, and J. Dong