



— BUREAU OF —
RECLAMATION



Thirteenth Biennial U.S. Drought Monitor Forum

Lower Colorado Region Training Center (Bldg 100)

500 Date Street

Boulder City, NV

April 11-13, 2023

Organized by the National Drought Mitigation Center (NDMC), United States Geological Survey (USGS)
and the United States Bureau of Reclamation (USBR)

All times are Pacific Daylight Time (PDT)

Day 1: April 11th, 2023

Session 1—Welcome/Keynote/USDM History

Moderator: Deborah Bathke

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| 8:00 am—8:30 am | Registration |
| 8:30 am —8:45 am | Organizational Welcome
Mark Svoboda, National Drought Mitigation Center
Katherine Dahm, Senior Scientist USGS Rocky Mountain Office
Jacklynn Gould, Regional Director, Lower Colorado Basin Region, USBR |
| 8:45 am—9:15 am | Opening Remarks and Forum Objectives and Logistics and Icebreaker
Brian Fuchs, NDMC |
| 9:15 am—9:35 am | Keynote Address
William Werkheiser, Senior Science Advisor, USGS |
| 9:35 am—9:55 am | History of the USDM Process: Approaching 25 years, what's changed, what's stayed the same, and the future?
Mark Svoboda, NDMC |
| 9:55 am—10:10 am | Break |

Session 2—United States Drought Monitor Process

Moderator: **Mark Svoboda**

- 10:10 am—10:40 am **The United States Drought Monitor Process: How is the map made?**
Brian Fuchs, NDMC
- 10:40 am—11:00 am **The Current USDM Process for the United States: Challenges and Opportunities**
Deborah Bathke, NDMC
- 11:00 am—12:00 pm **Panel Discussion on the USDM Process and Stakeholder Feedback**
Moderator: Becky Bolinger, Colorado State Climate Office
All USDM Authors in attendance
- 12:00 pm—1:00 pm **Lunch Provided**

Session 3: USDM Partners: Updates on Recent Activities and Flash Drought

Moderator: **Tsegaye Tadesse**

- 1:00 pm—1:15 pm **USDA and the U.S. Drought Monitor: 2023 Update**
Brad Rippey, United States Department of Agriculture
- 1:15 pm—1:30 pm **CPC Updates: Week-2 Hazards and Monthly/Seasonal Drought Outlooks**
Brad Pugh, Climate Prediction Center
- 1:30 pm—1:45 pm **NDMC Drought Information Tools Update**
Curtis Riganti, National Drought Mitigation Center
- 1:45 pm—2:10 pm **Small Group Discussion**
Deborah Bathke, National Drought Mitigation Center
- 2:10 pm—2:25 pm **Getting Ahead on Flash Drought From Early Warning to Early Action**
Jason Otkin, University of Wisconsin-Madison
- 2:25 pm—2:40 pm **A Product for Near Real-Time Flash Drought Monitoring**
Jordan Christian, University of Oklahoma
- 2:40 pm—3:00 pm **Break**

Session 4: USDM Table Top Exercise: Let's make a map !

Moderator: Brian Fuchs/Deborah Bathke

3:00 pm—4:15 pm **Small Group activity: Each table will make a USDM map based on data and information provided and share results.**

4:15 pm—4:45 pm **What? So What? Now What?**
Deborah Bathke, National Drought Mitigation Center

Day 2: April 12th, 2023

8:00 am—8:30 am **Registration**

8:30 am—8:45 am **Welcome: Setting the stage for Day 2**
Brian Fuchs, National Drought Mitigation Center

Session 5—Drought Impacts

Moderator: Brad Rippey

8:45 am—9:05 am **Drought Impacts: Current State of Affairs**
Kelly Smith, National Drought Mitigation Center

9:05 am—9:25 am **The Current State of CoCoRaHS**
Henry Reges, Colorado State University

9:25 am—10:00 am **Group Activity: How are drought impacts being reported in your area or sector?**
Facilitated by Deborah Bathke, National Drought Mitigation Center

10:00 am—10:20 am **Break**

Session 6—The state of the Science, Pushing Thresholds.

Moderator: Brad Pugh

10:20 am—10:35am **Quantifying the Potential for Enhancement in the Hydrological Drought Monitoring Capability**
Tirthankar Roy, University of Nebraska-Omaha

10:35 am—10:50 am **Facilitated Discussion**
Deborah Bathke, National Drought Mitigation Center

- 10:50 am—11:05 am **Drought Assessment Has Been Outpaced By Climate Change: Empirical Arguments for a Paradigm Shift**
Zach Hoylman, University of Montana
- 11:05 am—11:20 am **The Next Generation “Objective Blends” from the National Drought Mitigation Center**
Brian Fuchs, National Drought Mitigation Center
- 11:20 am—11:35 pm **Snow Drought in the West**
Dan McEvoy, Desert Research Institute
- 11:35 am—12:00 pm **Discussion**
Deborah Bathke, National Drought Mitigation Center
- 12:00 pm—1:00 pm **Lunch Provided**

Session 7—Federal and Western State Initiatives on Drought
Moderator: Curtis Riganti

- 1:00 pm—1:20 pm **USDA’s Southwest Climate Hub**
Noah Silber-Coats, USDA SW Climate Hub
- 1:20 pm—1:40 pm **USBR Lower Colorado Dams Office: Drought Impacts on Hydropower**
Len Schilling, Area Manager, Lower Colorado Dams Office
- 1:40 pm—2:00 pm **Colorado River Basin Springs as Climate Refugia, Southwestern USA**
Larry Stevens, Springs Stewardship Institute
- 2:00 pm—2:20 pm **U.S. Environmental Protection Agency: Supporting Drought Resilience through State Planning**
Roger Gorke, Senior Policy Advisor, Office of Water
- 2:20 pm—2:40 pm **USGS Drought Predictions**
Erik Smith, USGS Drought Program
- 2:40 pm—3:00 pm **Break**
- 3:00 pm—3:20 pm **USGS Snow Monitoring and Modeling Activities in the Upper Colorado River Basin**
Graham Sextone, USGS

- 3:30 pm—4:00 pm **Keynote Address**
Tanya Trujillo, DOI Assistant Secretary for Water and Science
- 4:30 pm—6:00 pm **USDM Author's Only Meeting (everyone but the Authors are excused)**

Day 3: April 13th, 2023

- 8:00 am—8:30 am **Registration**
- 8:30 am—8:45 am **Welcome: Setting the stage for Day 3**
Brian Fuchs, National Drought Mitigation Center
- 8:45 am—9:15 am **Climate of Nevada**
Klaire Rhodes, Nevada State Climate Office

Session 8— Drought on the Colorado River and Tributaries **Moderator: Kelly Smith**

- 9:15 am—9:30 am **Changing climate drives future streamflow and baseflow declines and challenges in meeting water demand across the southwestern United States**
Olivia Miller, USGS Hydrologist
- 9:30 am—9:45 am **Regional Scale Water Availability Assessment in the Upper Colorado River Basin**
Matt Miller, USGS Project Manager
- 9:45 am—10:00 am **Break**
- 10:00 am—10:15 am **NRCS Snow Survey: Update on New Data Products and Site Upgrades**
Karl Wetlaufer, NRCS
- 10:15 am—10:30 am **NWS predictions in peak flow related to changes in snowpack**
Barry Pierce, NWS Las Vegas
- 10:30 am—10:45 am **Discussion**
- 10:45 am—11:00 am **USBR: Status of the Colorado River**
Meghan Theimann, P.E., PMP - Civil Engineer/Project Manager, Boulder Canyon Operations Office

- 11:00 am—11:15 am **USBR snow water supply forecast program (recorded)**
Christopher Frans, USBR Research and Development Office
- 11:15 am—11:30 am **Lower Colorado River Multi-Species Conservation Program: Technology, Restoration, and Climate Variability**
Jimmy Knowles, USBR Adaptive Management Group Manager
- 11:30 am—12:00 pm **Final Discussion/Forum Conclusion**
Brian Fuchs, National Drought Mitigation Center
- 12:00 pm—12:45 pm **Lunch Provided**
- 12:45 pm—1:00 pm **Load busses to Hoover Dam**
- 1:00 pm—4:00 pm **Guided tour of Hoover Dam**
Buses will take us to/from Hoover Dam from the facility.
***NOTE* Closed toe shoes required!**



On behalf of the entire team at the National Drought Mitigation Center and the home agencies for all the U.S. Drought Monitor Authors, we would like to thank you for your participation and contributions.

