



## Improving Drought Resilience – Forest to Valley Bottom

March 14-16, 2017

Venue: Choteau, MT – Stage Stop Inn

[Final AGENDA \(version 20170309\)](#)

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Drought Workshop developed in partnership with:



United States Department of Agriculture  
Northern Plains Climate Hub



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Workshop conducted as part of the 2017 Crown Managers Partnership Annual Forum

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### **Workshop Objectives:**

- 1) Provide awareness and understanding of the vulnerabilities of key resources to drought.
- 2) Share and learn from a wide range of agency and private land owners on existing collaboration and management for drought.
- 3) Learn about and consider adaptation strategies and actions that can be applied to management of private, state, tribal, and federal lands.

### **Workshop Outcomes:**

The workshop will produce a **summary report** that outlines:

- 1) Key drought vulnerabilities important to participants.
- 2) Adaptation opportunities for specific locations or situations on the landscape (identified by participants).
- 3) The challenges, information, collaborations, and organizational capacity needed for successful implementation of the recommended adaptation opportunities.

Managers can use the workshop summary report to consider feasibility, information needs, and partnership opportunities for adaptation actions.



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## TUESDAY MARCH 14

### SESSION 1: DROUGHT, CLIMATE TRENDS, and ADAPTATIONS

Time	TUESDAY MARCH 14
12:00 PM	Sign in, pick up packets, and settle in
1:00 PM	<u>Welcoming Remarks</u> <b>Bill Avey</b> , Forest Supervisor, Helena Lewis & Clark National Forest
1:15 PM	<u>Agenda Review, Overview of Workshop Objectives</u> <b>Lisa Talavia-Spencer</b> , Workshop Facilitator
<b>DROUGHT AND CLIMATE TRENDS</b> ( <i>Moderator: Matt Reeves, Forest Service, Rocky Mountain Research Station</i> )	
1:30 PM	<u>Defining Drought</u> <b>Chad McNutt</b> , National Oceanic and Atmospheric Administration’s (NOAA) National Integrated Drought Information System – NIDIS
1:50 PM	<u>Montana Climate (past and future) trends and meteorological influences to drought</u> <b>Nick Silverman</b> , MT State Climate Office
2:10 PM	<b>BREAK</b>
2:30 PM	<u>Ecological Drought Framework</u> <b>Aaron Ramirez</b> , Science for Nature and People Partnership (SNAPP) Ecological Drought Working Group
3:00 PM	<b>REFLECTIONS</b> Discussion on what information was most important to you? <b>Product:</b> Generate list of important “climate and drought themes” influencing management.
3:45 PM	Reporting out
<b>ADAPTATIONS EXAMPLES</b> ( <i>Moderator: Jessica Halofsky, U of Washington/Pacific Northwest Research Station</i> )	
4:15 PM	<u>Adaption workbook for non-forested landscapes – What to do to improve drought resilience</u> <b>Hailey Wilmer</b> , USDA Northern Plains Climate Hub Fellow
4:30 PM	<u>Overview of drought adaptation strategies for key resources</u> <b>Jessica Halofsky</b> , University of Washington
4:45 PM	<u>Missouri Headwaters Drought Resilience Demonstration Project</u> <b>Tina Laidlaw</b> , MT Office, US Environmental Protection Agency <b>Ann Schwend</b> , MT Dept. of Natural Resources and Conservation - Upper Missouri Basin Water Planner
5:00 PM	<u>Day 1 Closing remarks and logistics for evening</u> <b>Lisa Talavia-Spencer</b> , Workshop Facilitator
5:15 PM	<b>BREAK</b>
5:45 PM	No host bar
6:15 PM	<b>Dinner (provided)</b>
6:45 PM	<u>Keynote Speaker - Economic &amp; Social Aspects of Water in Montana</u> <b>John E. Tubbs</b> , Director - MT Dept. of Natural Resources and Conservation  (Introduction by Ann Schwend, DNRC)



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## WEDNESDAY MARCH 15

### SESSION 2: VULNERABILITIES OVERVIEW / MANAGEMENT AND COLLABORATION

Time WEDNESDAY MARCH 15	
8:00 AM	Opening Remarks ( <b>Lisa Talavia-Spencer</b> , <i>Facilitator</i> )
Forest Systems ( <i>Moderator: Amy Gannon, Montana DNRC Forestry Division</i> )	
SCIENCE	
8:15 AM	<u>The drivers of drought and fire in northern Rocky Mountain forests: interactions of vegetation, climate, and disturbance</u> <b>Bob Keane</b> , <i>US Forest Service Rocky Mountain Research Station Missoula Fire Sciences Laboratory</i>
8:40 AM	<u>A century of drought-related mountain pine beetle disturbance throughout Northern Region forests from 1915-2016</u> <b>Joel Egan</b> , <i>US Forest Service, Forest Health Protection</i>
9:05 AM	<u>Whitebark pine: implications of drought and a high-mountain ecosystem</u> <b>Michael Murray</b> , <i>Ministry of Forests, Lands, and Natural Resources, Government of British Columbia</i>
9:30 AM	Q&A
9:45 AM	BREAK
MANAGEMENT AND COLLABORATION	
10:05 AM	<u>Confederated Salish Kootenai Tribes Drought Plan</u> <b>Mike Durglo, Jr.</b> , <i>Confederated Salish Kootenai Tribes</i>
10:20 AM	<u>Assessing limber pine condition along the Rocky Mountain Front: a multi-agency approach</u> <b>Dave Hanna</b> , <i>The Nature Conservancy</i> <b>Amy Gannon</b> , <i>MT Dept. of Natural Resources and Conservation, Forestry Division</i> <b>Tanya Murphy</b> , <i>Helena-Lewis &amp; Clark National Forest</i>
10:35 AM	Q&A
10:50 AM	BREAK
Range and Agriculture Systems ( <i>Moderator: Ann Schwend, DNRC Upper Missouri Basin Water Planner</i> )	
SCIENCE	
11:05 AM	<u>Impact of drought on rangeland vegetation and agricultural resources</u> <b>Matt Reeves</b> , <i>USDA Northern Plains Climate Hub, Rocky Mountain Research Station (USFS)</i>
11:20 AM	<u>Soil Health – Key to Drought Resilience</u> <b>Marni Thompson</b> , <i>Natural Resource Conservation Service</i>
11:35 AM	<u>Hydrology of the Teton River- water management in an over appropriated river basin</u> <b>Aaron Fiaschetti</b> , <i>MT Dept. of Natural Resources and Conservation</i>
11:50 AM	Q&A
12:05 PM	LUNCH ( <i>provided</i> )
MANAGEMENT AND COLLABORATION	
1:00 PM	<u>Drought Management - Leveraging Existing Water Management Infrastructure in the South Saskatchewan River Basin</u> <b>Rick Friedl</b> , <i>Alberta Environment and Parks</i>
1:15 PM	<u>Drought and Range Management on Alberta Rangelands</u> <b>Amanda J. Miller</b> , <i>Alberta Environment and Parks</i>
1:30 PM	<u>Greenfields Irrigation District &amp; Water Management on the Sun River</u> <b>Erling Juel</b> , <i>Greenfields Irrigation District</i>
1:45 PM	<u>Agriculture Resource Management Plan</u> <b>Loren BirdRattler</b> , <i>Blackfeet Tribe</i>
2:10 PM	Q&A
2:25 PM	BREAK



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2:35 PM	<b>BREAKOUTS: Vulnerabilities and Adaptations – Concurrent sessions for Forest and Rangeland/Agriculture System</b> <b>Product:</b> <i>Adaptations Options for key vulnerabilities selected by participants</i>
4:35 PM	Report Out
5:05 PM	End of day debrief (Dinner own your own)

## THURSDAY MARCH 16

### SESSION 2: VULNERABILITIES OVERVIEW / MANAGEMENT AND COLLABORATION (Cont.)

Time	THURSDAY MARCH 16
8:00 AM	Opening Remarks ( <i>Lisa Talavia-Spencer</i> )
<b>Riparian Systems Science Panel</b> ( <i>Moderator: Eric Macknak, Environment and Parks, Government of Alberta</i> )	
<b>SCIENCE</b>	
8:15 AM	<u>Understanding the vulnerability of aquatic ecosystems to drought in the Northern Rockies: implications for enhancing resilience and adaptation</u> <b>Clint Muhlfeld</b> , <i>US Geological Services, Northern Rocky Mountain Science Center</i>
8:30 AM	<u>Fluvial Geomorphology, Floodplain connectivity</u> <b>Karin Boyd</b> , <i>Applied Geomorphology, Inc.</i>
8:45 AM	<u>Natural water storage solutions to drought</u> <b>Nathan Korb</b> , <i>The Nature Conservancy</i>
9:00 AM	<b>Q&amp;A</b>
9:15 AM	<b>BREAK</b>
<b>MANAGEMENT AND COLLABORATION</b>	
9:35 AM	<u>Watershed Resiliency and Restoration Program</u> <b>Andy Lamb</b> , <i>Alberta Environment and Parks</i>
9:50 AM	<u>The Lost Art of Sub-Irrigation</u> <b>Mike Briggs</b> , <i>Theodore Memorial Roosevelt Ranch</i>
10:05 AM	<u>Putting Beavers to Work for Watershed Resiliency and Restoration</u> <b>Danah Duke</b> , <i>Miistakis Institute</i>
10:20 AM	<b>Q&amp;A</b>
10:35 AM	<b>Breakout – Riparian Systems- Vulnerabilities and Adaptations</b> <b>Product:</b> <i>Adaptations Options for key vulnerabilities selected by participants</i>
12:35 PM	<b>LUNCH (provided)</b>
1:35 PM	<b>Report out from Riparian Systems breakout</b>
2:05 PM	<b>Wrapping UP</b> ( <i>Lisa Talavia-Spencer, Jessica Halofsky, Linh Hoang</i> )
2:35 PM	<u>Closing Remarks and Acknowledgments</u> <b>Ian W. Dyson</b> , <i>Alberta Environment and Parks</i>
3:05 PM	Adjourn - Safe Travels

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