Drought Risk in the Big Picture

Brian Wardlow and Nicole Wall
National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

Photo: Cimarron County, Oklahoma
Gary McManus, Oklahoma Climatological Survey, late June, 2008
What state do you live in currently?

A. Washington
B. Idaho
C. Oregon
D. Montana
E. Nebraska
F. Other
What group of users do you represent?

A. Agricultural producer (rancher or farmer)
B. Government agency representative
C. Private business
D. Other
When you look to the future, what issue provides the greatest threat to agricultural producers in the Northwest?

A. Drought
B. Climate Change
C. Water Resources
D. Food
E. Economy
F. Other
“There’s nothing more frightening than being without water.”
Mayor Campbell, Edina, MO, May 1989
The Cycle of Disaster Management

Risk Management

Planning
Monitoring and Prediction
Mitigation

Protection

Recovery

Reconstruction

Response

Impact Assessment

Disaster

Crisis Management

Recovery

Recovery
National Drought Mitigation Center

*Founded:* 1995 at the University of Nebraska-Lincoln

*Mission:* To lessen societal vulnerability to drought by promoting planning and the adoption of appropriate risk management techniques.
NDMC Organizational Structure

NDMC Director
  Mike Hayes

Administrative Professional

Monitoring Program Area (Mark Svoboda)
  Specialists:
  • Climatology
  • Water resources
  • Hydrology

Planning and Social Science Program Area (Cody Knutson)
  Specialists:
  • Ag. Economics
  • Human Dimensions of Drought (socioeconomic)
  • Drought Planning & Mitigation Strategies

Geospatial Technologies Program Area (Brian Wardlow)
  Specialists:
  • Remote Sensing
  • GIS

Support (Mark Svoboda)
  Communications
  Web and System Administration
  Outreach
  Workshops
RMA supported projects developing drought tools for agricultural producers.
Drought is:

A. A rare event?
B. A normal feature of climate?
Percent Area of the United States in Severe and Extreme Drought

January 1895–July 2008

Based on data from the National Climatic Data Center/NOAA
Lessons Learned

Drought is not just a physical event
- Vulnerability plays a major role
- Vulnerability is dependent upon society
- Vulnerability is dynamic
Lessons Learned

- Drought is not just a physical event
- “Wait and see” is a natural reaction
  - Can suppress timely responses
  - Need a plan in place…with triggers/thresholds
Lessons Learned

- Drought is not just a physical event
- “Wait and see” is a natural reaction
- Communication is critical
  - Overcome fears
  - Essential for public support and buy-in
Lessons Learned

- Drought is not just a physical event
- “Wait and see” is a natural reaction
- Communication is critical
- Planning ahead is a good investment of resources
Drought Planning Progress

- Federal level
- State level
- American Indian Tribes
- Local level
  - Municipalities
  - River Basins
  - Counties
  - Producers
Does your state have a drought plan?

A. Yes
B. No
C. Don’t Know
Status of State Drought Planning
1982

- Dark gray: States with plans
- Light gray: States without drought plans
How about you? Do you have a drought plan written down?

A. Yes
B. No
Managing Risk on the Ranch

"Here’s what my dad used to tell me. He said, if you bet on dry weather in this country, you’ll be right more than half the time."
-- Nebraska rancher, 2006

Making management decisions is an every day exercise for livestock and forage producers. Producers manage for things they can control and things they can’t; for conditions that persist and those that change daily. All regions are prone to some form of extreme weather events such as thunderstorms, blizzards and drought. These extremes and the unknowns that seem to be around every corner, and the disastrous effects they can cause, demonstrate why long-term planning is essential to effectively manage agricultural risk.

Drought is one hazard that affects every portion of the United States sooner or later, and producers are increasingly implementing new ways to better prepare and respond to it. The information, strategies and resources on this site are designed to provide producers with information on how to incorporate management strategies to reduce the threat drought poses to livestock and forage operations.

Our Philosophy and Purpose

- Drought is a normal part of climate...it will happen again.
- There are things you can do before, during, and after drought to reduce your risk.
- You should have both a long-term management plan and a drought response plan.
- The goal of this website is to help you become more resilient to hazards such as drought.

How to Use This Site

The Introduction section of this site provides in-depth information on climate and historical drought occurrence; the effects drought has on livestock, grasses, and grazing management; and drought-related financial considerations.

The Before Drought, During Drought, and After Drought sections detail long- and short-term management strategies that can be implemented to make your operation more resilient and prepared for drought conditions.

The Write a Drought Plan section describes how appropriate strategies can be identified and included in a drought plan for your operation, and the Contacts and Resources section provides examples of other producers who have developed drought plans, as well as, experts and other information sources to help you better prepare for and respond to drought.
August 24, 1999

U.S. Drought Monitor

Map focuses on widespread drought. Local conditions may vary.

- **D0** Watch
- **D1** Drought
- **D2** Drought—Severe
- **D3** Drought—Extreme
- **D4** Drought—Exceptional

Drought type: used only when impacts differ

- **A** = Agriculture
- **W** = Water
- **F** = Forest fire danger

Plus (+) = Forecast to intensify next two weeks
Minus (-) = Forecast to diminish next two weeks
No sign = No change in drought classification forecast

- **Updated every Thursday morning** -
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

Release Thursday, November 6, 2008

Author: Mark Svoboda, National Drought Mitigation Center
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http://drought.unl.edu/dm
### Drought Conditions (Percent Area)

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<th></th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
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<td>Current</td>
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<td>50.8</td>
<td>8.5</td>
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### Intensity:
- **D0 Abnormally Dry**
- **D1 Drought - Moderate**
- **D2 Drought - Severe**
- **D3 Drought - Extreme**
- **D4 Drought - Exceptional**

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Workshops on Drought Management Tools

- Provide producers and advisors with tools to better understand the linkages between local climate and agricultural production
- Obtain feedback on what information or tools are needed to better understand these linkages
- Multiple feedback approaches