Drought Preparedness and Mitigation Strategies: National Drought Mitigation Center Perspective

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National Drought Mitigation Center

Founded: 1995 at the University of Nebraska-Lincoln by Dr. Don Wilhite.

Mission: To lessen societal vulnerability to drought by promoting planning and the adoption of appropriate risk management techniques.
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- Staff: 16 people, tremendous diversity
- Operational tools, research, outreach, training
  - “Research to Operations to Applications to Education” Continuum
The Cycle of Disaster Management

Risk management
- Planning
- Mitigation
- Protection
- Recovery

Crisis management
- Disaster
- Impact Assessment
- Response
- Reconstruction
U.S. Drought Monitor (USDM):

- **State-of-the-art assessment in the U.S. since 1999**
  - Collaborative effort between NOAA, USDA and NDMC
  - NDMC home to archives
- **350 experts provide input**
- **Policy implications in Farm Bill/USDA, IRS, NOAA-NWS and several state drought task forces**
- “Go to source” for media and the public
DIR 2.0, 2011:
http://droughtreporter.unl.edu
Drought Risk Atlas (DRA):

• Set to launch in spring 2012
• ~3000 stations archived
  • SPI, SPEI, PDSI, sc-PDSI and Deciles
  • Weekly gridded maps back to early 1900s

Created to answer questions about the characteristics of drought:
• Frequency/return periods
• Duration
• Trends
• Intensity
• Spatial extent
Planning: Drought Plan Components

- Monitoring and early warning
  - Assess, communicate, and trigger action
  - Cannot manage what is not monitored
  - Information system

- Vulnerability assessment
  - Who and what is at risk and why?
  - Impacts

- Mitigation and response actions
  - Actions/programs that reduce risk and impacts and enhance recovery
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Increasing need for more reliable seasonal forecasts/outlooks

Increasing need for timely, reliable climate/water supply assessments

Increasing need for higher resolution analysis for policy/decision support
Drought-Ready Communities
A Guide to Community Drought Preparedness
Managing Drought Risk on the Ranch
Professional Development
Webinar Series

January 30: Managing Drought Risk on the Ranch: Planning Process
Jerry Volesky, Range and Forage Specialist, the West Central Research and Extension Center, and Lynn Myers, Tippets-Myers Ranch.

February 27: Avoiding Analysis Paralysis: Monitoring and Setting Critical Dates for Decision Making During Drought
Dwayne Rice, Rangeland Management Specialist, NRCS, Kansas; Ted Alexander, Alexander Ranch; and Cal Adams, Adams Ranch.

March 27: The New Cumulative Forage Redundancy (CFR) Index: Assessing Drought Impacts and Planning a Grazing Strategy
Pat Reese, owner and senior consultant of Montane Enterprises and Professor Emeritus at the University of Nebraska – Lincoln.

April 24: Using a Drought Calculator to Assist in Decision Making
Stan Boltz, State Range Management Specialist, NRCS-SD and Jeff Printz, Range Management Specialist, NRCS-ND.

May 29: Economic Factors to Weigh in Making Decisions during Drought
Matt Stockton, Agricultural Economist at the West Central Research and Extension Center in Platte, Nebraska.

More information can be found at:
http://drought.unl.edu/ranchplan
Contact Tonya Haigh, 402-472-6781, thaleigh2@unl.edu, with questions.
U.S. Drought Management Database Portal

Introduction

This is a growing collection of information about what has and has not worked in responding to and preparing for drought in the United States. It is categorized by sector, that is, information of interest for farming, livestock production, water supply and quality, energy, recreation and tourism, fire, plants and wildlife (environment), and society and public health. Each sector is further divided into sub-sectors.

The Full Search option lets you search by many more criteria, including dates, type of activity (planning, response, monitoring, etc.), decision-making scope (from individual through federal government), analysts, and by resource types. You can also do a basic search.

Have something to contribute or recommend? Email ndmc@ncei.edu

Featured Strategy

Ruinous Drought Tests Kansas Model for Supplying Water to Farms

While the 2012 drought impacts the Great Plains Region, Kansas has stabilized water levels that have lessened the impacts of drought by stabilizing the economy, ecology, and use. Farmers in the Eastern part of Kansas have been using a risk strategy of adjusting their water rights into a five-year allotment. The main trade-off is that farmers must reduce their water use in subsequent seasons for the next five years.

More information...

Quick Search by Sector

- Farming
- Livestock Production
- Water Supply & Quality
- Energy
- Recreation/Tourism
- Fire
- Plants & Wildlife
- Society & Public Health
NIDIS Act of 2006

Provide an effective drought early warning system that:

- Collects and integrates information on the key indicators of drought for usable, reliable, and timely early warning and assessments of drought conditions and impacts;

- Communicates drought forecasts, conditions, and impacts on an ongoing basis to decision-makers at the Federal, regional, state, tribal, and local levels of government; the private sector; and the public.
National Drought Forum: The 2012 Drought and U.S. Preparedness in 2013 and Beyond

Goals and Objectives:
The primary goals for the National Drought Forum on Dec. 12-13, 2012, are to understand the extent of 2012 drought impacts and response, and to provide new information and guidance for coordination to improve the nation’s drought readiness in 2013 and preparedness for future droughts. By convening high-level drought program experts and representatives from impacted regions, we hope to engender a candid and enlightening conversation that will result in specific recommendations for further improving U.S. drought readiness.

Documents for Meeting:
- Participant List
- Final Agenda — Updated 12/21/12
- Goals & Objectives
- List of Speakers
- Guidance for Breakout Discussions

Current Drought Conditions:
- Latest Drought Monitor
- Latest Drought Outlook
- Latest Drought Impact Reporter

Reports:
- Summary Report: Colorado Drought Tournament 2012
- Drought-Ready Communities — A Guide to Community Drought Preparedness
- NIDIS Newsletter, Winter 2012
- National Integrated Drought Information System (NIDIS) 2-pager
- WSC 2011 Drought Report
- National Drought Mitigation Center Overview
- CNS Reports (2)
  - Drought in the United States: Causes and Issues for Congress
  - Selected Federal Water Activities: Agencies, Authorities, and Committees
National Integrated Drought Information System (NIDIS)
Regions in the US where NIDIS is currently developing drought early warning information systems

NIDIS is working toward a fully national drought information system through national, tribal and state partnerships
NIDIS-supported research and monitoring is conducted across the nation
For monitoring, forecasting, data products, research activities and information on NIDIS webinars and meetings, visit the drought portal - www.drought.gov
NIDIS Approach

- Working with stakeholders and existing partnerships/networks through:
  - Drought assessment/monitoring groups
  - Climate outlook forums
  - Education and outreach webinars
  - Engaging the preparedness community
MANAGING DROUGHT IN THE SOUTHERN PLAINS

You are invited to join us in a webinar (web-based seminar) series to discuss drought conditions, impacts and resources available to help manage drought in the Southern Plains. Webinars will be held on the 2nd Thursday of each month at 1:00 P.M. Central Time. A shortened briefing will also be offered on the 4th Thursday. The content is geared toward a general audience—anyone who has responsibility to manage or assist others in managing drought and its related impacts.

If you would like to join in these webinars, you need to register via the SCIPP website: https://www.southernclimate.org or e-mail scipp@mesonet.org. For each webinar, you will receive an e-mail with the link to access the webinar. Each webinar will last 45-60 minutes.

Each webinar will include an overview of the current drought assessment and outlook, summary of impacts across the region, and a topic or resource, such as La Niña or wildfire conditions. You will have an opportunity to suggest topics for following webinars.

The primary focus is in the states most heavily impacted from the current drought - Texas, Oklahoma and New Mexico - but participation from surrounding states is encouraged.

The webinar series is sponsored by a partnership of the National Integrated Drought Information System (NIDIS), National Oceanic and Atmospheric Administration (NOAA), National Drought Mitigation Center, Southern Climate Impacts Planning Program, Climate Assessment for the Southwest, and the region's State Climatologists.

Information from the webinars will be posted on a website linked through http://www.southernclimate.org. A two-page summary will be produced and posted for each webinar. Please pass this announcement to relative organizations or groups that are involved in managing or monitoring drought and its related impacts.

To register or for more information, contact:
Southern Climate Impacts Planning Program
http://www.southernclimate.org
405-325-2941 or scipp@mesonet.org

Webinar Topics:
- La Niña
- Cattle & Livestock
- U.S. Drought Monitor
- Ecological Impacts
- Seasonal Forecasting
- Flash Drought
- Water Supply
- Wildfire
- Drought Ready Communities
- Agricultural Impacts
Hazards & Threats

Drought

Key & Emerging Issues
- Individuals & Families
- Crop and Livestock
- Community

Quick Find Key Current and Future Issue Resources
- National VOAD Drought and Wildfire Taskforce
- Archived Webinars
- Resource Collection
- eXtension

Point of Contact
Pat Skinner

More Info on Drought from eXtension
- Drought Resources Content
  - Last Updated: 4/18/2013 1:17 PM
- Hundreds of U.S. counties labeled disaster areas due to drought:
  - Last Updated: 6/10/2013 11:43 AM
- Drought Monitor officials: Historic "Flash Drought" of 2012 to Continue into 2013
  - Last Updated: 1/3/2013 9:41 AM

Extension

The Drought articles and FAQs on extension can be reached through the
- eXtension Drought pages

Articles are grouped under the following headings:
- Livestock and Pasture
- Crops
- Home and Landscape

Links to the latest extension.org articles and FAQs related to drought are provided below:

Last Updated 7/17/2012 9:03 PM
Lessons/Conclusions

- Monitoring and Early Warning Information: can often be a starting point for the engagement of stakeholders for risk management.
  - It is often what the stakeholders know and can relate to
  - Allows trust to develop (between different stakeholders, with the data, making decisions, etc…).
Lessons/Conclusions

- **Droughts provide windows of opportunity:**
  - Often the best opportunity to engage officials comes only after a drought event.
  - Excellent experiments to improve the early warning and risk management relationship
  - 2011 and 2012
Lessons/Conclusions

- **Partnerships and networks are fundamental:** assists with dealing with the spatial complexity and building capacity
  - NIDIS
  - Universities are critical for building the capacity related to research and outreach
    - Extension (Climate Extension Specialists)
  - U.S. Drought Monitor