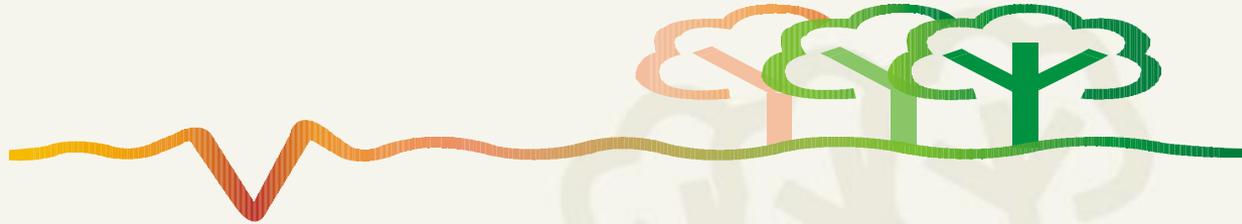


The National Drought Mitigation Center

**Mark Svoboda, Climatologist
Monitoring Program Area Leader
National Drought Mitigation Center
University of Nebraska-Lincoln, USA**

2012 Caribbean Drought Training Workshop, Kingston, Jamaica May 22-24, 2012

National Drought Mitigation Center



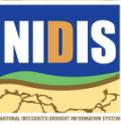
Mission: To lessen societal vulnerability to drought by promoting planning and the adoption of appropriate risk management techniques.



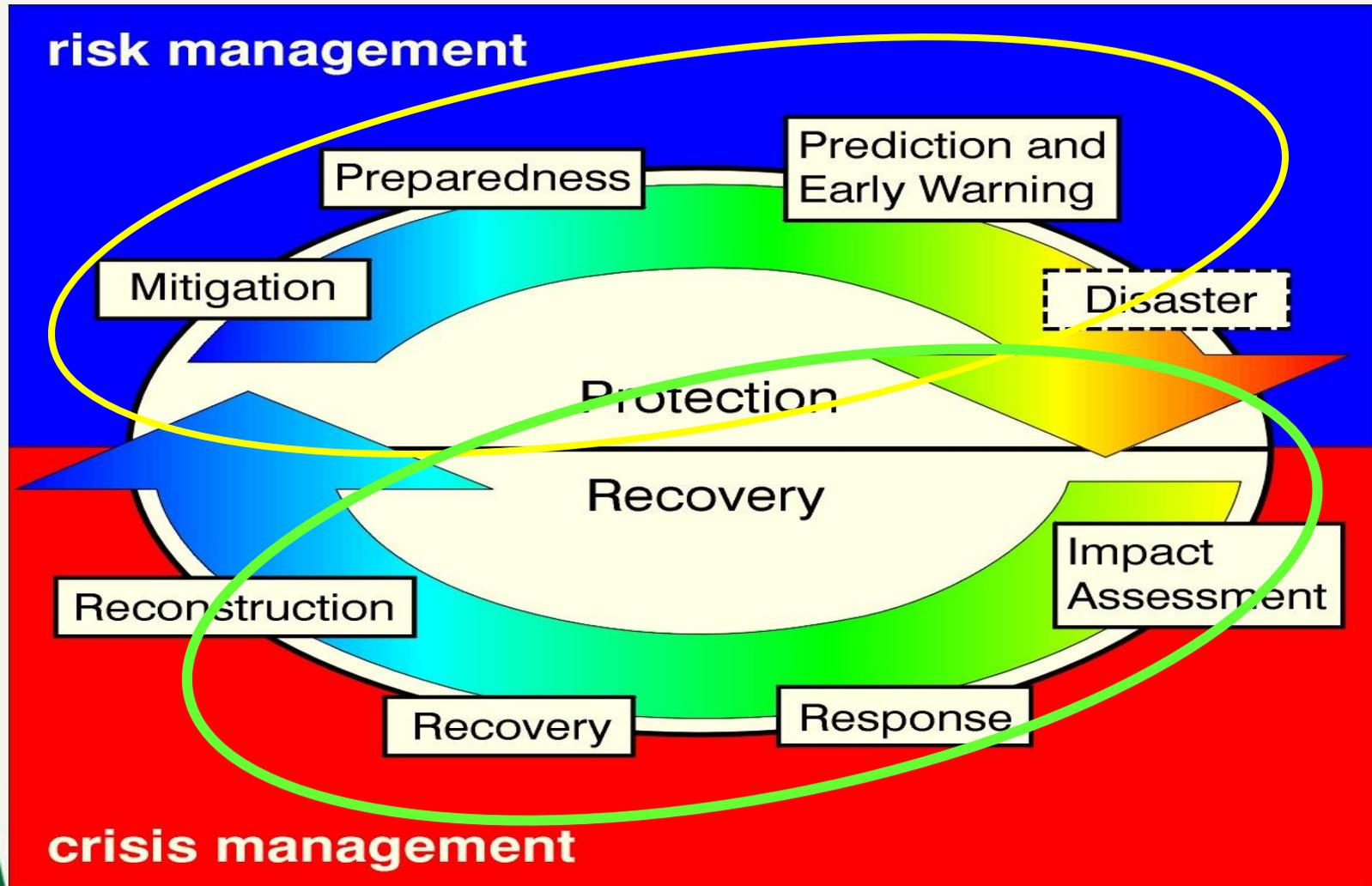
NDMC Program Objectives

- ▶ **Improve the science** of drought monitoring, planning, and mitigation
- ▶ **Build awareness** of drought and its **impacts** on society and the environment, and how human actions affect our **vulnerability** to drought
- ▶ Focus the attention of policy makers on the importance of **drought policy and planning** in the wise stewardship of natural resources

“End-to-End”: Research-Applications-Operations-Outreach Continuum



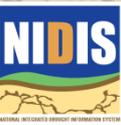
The Cycle of Disaster Management



NDMC in 1995



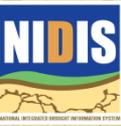
- ▶ Director: Don Wilhite
- ▶ Staff: Deb Wood, Kelly Smith, Mark Svoboda, Vicki Wilcox, and Mike Hayes
- ▶ International Drought Information Center (IDIC)
- ▶ Website launched in November 1995
- ▶ 29 states with Drought Response Plans



NDMC in 2012



- ▶ Director: Dr. Mike Hayes
- ▶ Staff: 17 people! Tremendous diversity.
- ▶ Students: 2 on assistantships
- ▶ Website: drought.unl.edu
- ▶ DroughtScape
- ▶ USDM, NADM, VegDRI, DRA, DIR
- ▶ 45 states with drought plans, 10 states with drought mitigation plans
- ▶ NIDIS

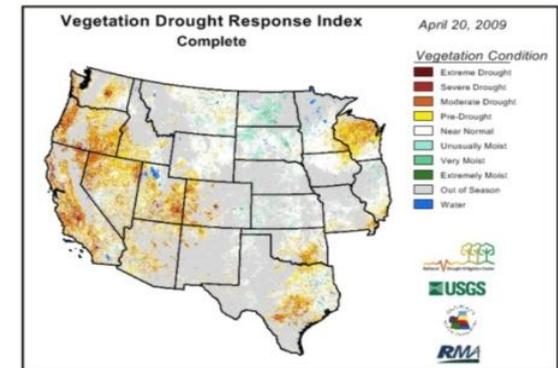
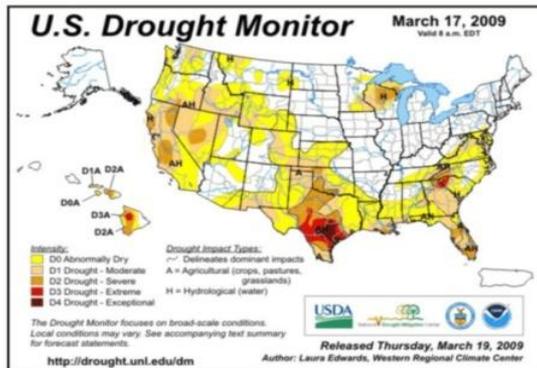


NDMC

Monitoring
Program Area
(Mark Svoboda)

Planning and Social
Science Program Area
(Cody Knutson)

GIScience
Program Area
(Brian Wardlow)



▪ **End-to-end Continuum: Research-Applications-Operations and Education**



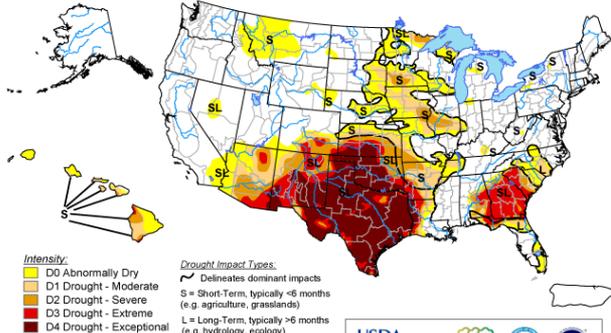
NDMC's Monitoring Program Area

Monitoring

Activities

U.S. Drought Monitor

October 4, 2011
Valid 8 a.m. EDT



Intensity:
 D0 Abnormally Dry
 D1 Drought - Moderate
 D2 Drought - Severe
 D3 Drought - Extreme
 D4 Drought - Exceptional

Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months (e.g. hydrology, ecology)



Released Thursday, October 6, 2011
Author: Rich Tinker, CPC/NCEP/NWS/NOAA

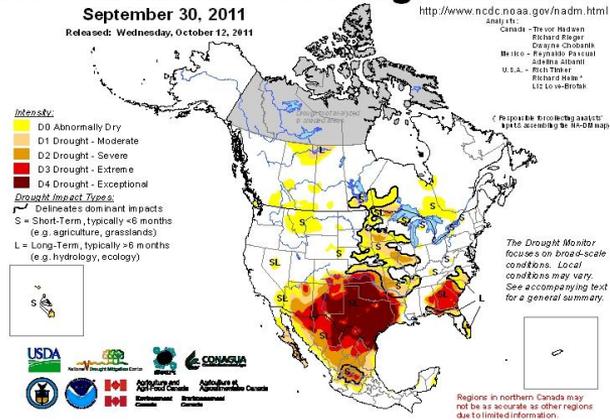
<http://droughtmonitor.unl.edu/>

North American Drought Monitor

September 30, 2011

Released: Wednesday, October 12, 2011

<http://www.ncdc.noaa.gov/nadm.html>



Intensity:
 D0 Abnormally Dry
 D1 Drought - Moderate
 D2 Drought - Severe
 D3 Drought - Extreme
 D4 Drought - Exceptional

Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically >6 months (e.g. hydrology, ecology)

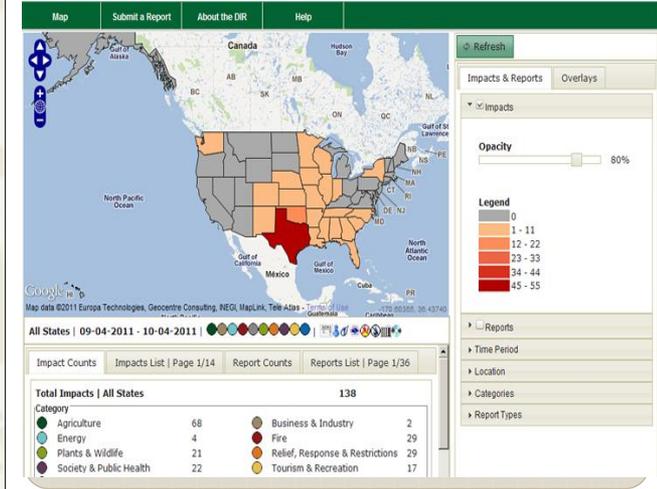
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text for a general summary.



Regions in northern Canada may not be as accurate as other regions due to limited information.

Drought Impact Reporter

National Drought Mitigation Center



USDM/NADM

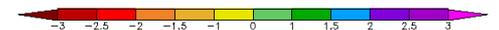
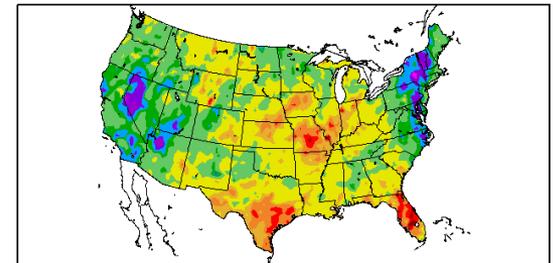
DIR

NIDIS

SPI

Drought Risk Atlas

Monthly SPI
10/1/2010 - 10/31/2010



Generated 11/2/2010 at HPRCC using provisional data.

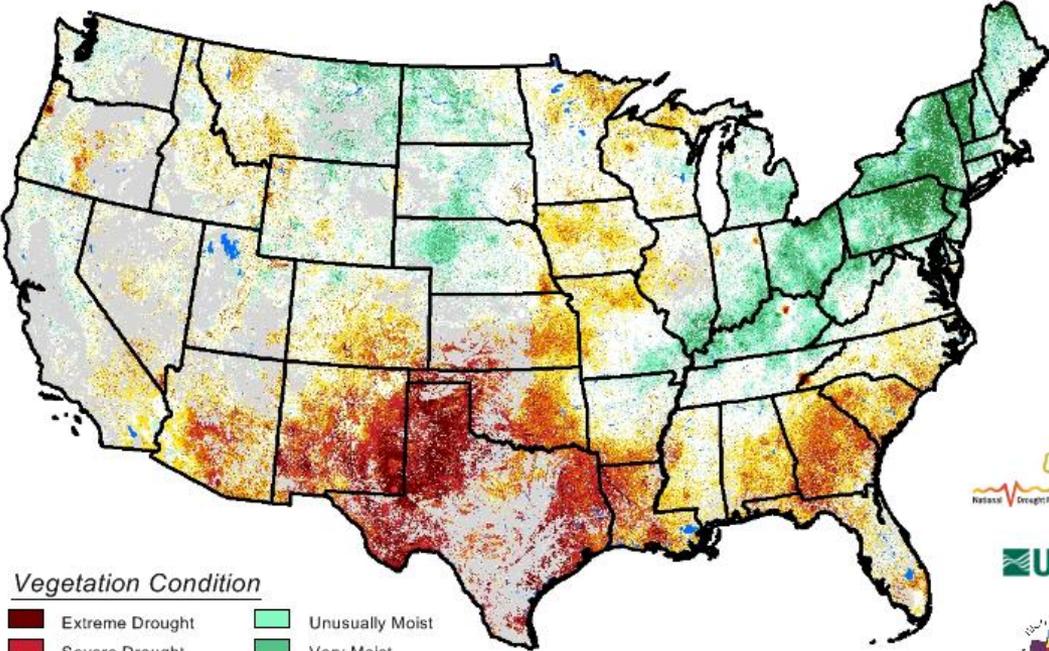
Regional Climate Centers



NDMC's GIScience Program Area

Vegetation Drought Response Index
Complete

October 17, 2011



GIScience

Activities

Remote Sensing
GIS
VegDRI
VegOut

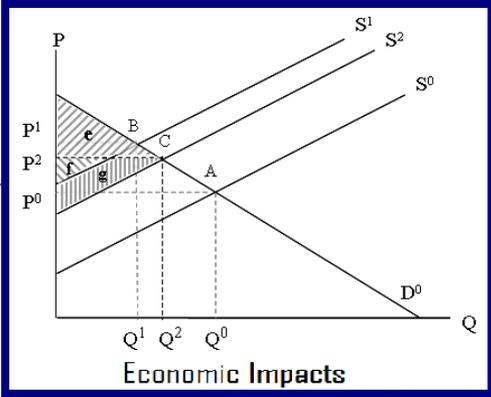
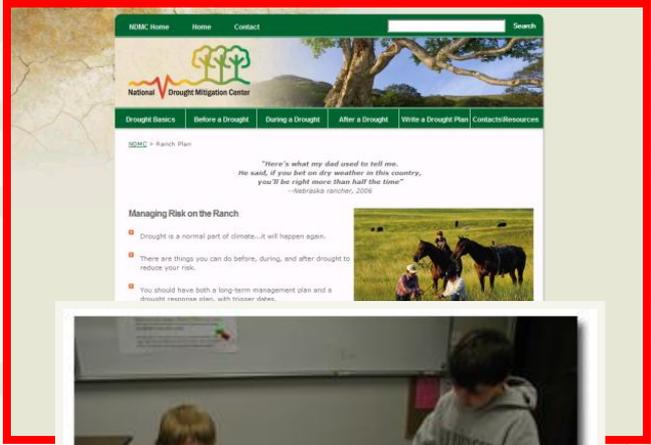


NDMC's Planning and Social Science Program Area



Planning

Activities



How to Reduce Drought Risk

Preparedness and Mitigation Working Group
 March 1998
 Principal Author:
 Cody Knapp,
 National Drought Mitigation Center
 Mike Hayes,
 National Drought Mitigation Center
 Tom Phillips,
 U.S. Bureau of Reclamation

Stakeholders Guides Planning Education

Republican River Basin Water and Drought Portal

Welcome to the Republican River Basin Water and Drought Portal

Water resources in the Republican River Basin are vital to the sustainability of the life that surrounds them. Not only is it important to the well being of people but it's also necessary for crop production, animal life, and the hydrological cycle. This portal was created to provide comprehensive information on emerging and ongoing water and drought issues for anyone that has an interest in the Republican River Basin. It will also give stakeholders the information and tools needed to enhance the basin's drought and water shortage preparedness.

The links listed to the left lead to information about past, current, and potential water and drought conditions. You will also find sections on actions that can be taken to foster effective water and drought management, educational tools, research that has been done in the basin, and legislative information.

The portal is part of the National Integrated Drought Information System (NIDIS), which is a national effort to provide enhanced access to drought-related information. The National Drought Policy Commission was established under the National Drought Policy Act of 1998 to ensure collaboration between different government agencies on drought-related issues. The Commission issued a report titled *Preparing for Drought in the 21st Century* in 2000. Following the Commission's recommendations, the National Integrated Drought Information System (NIDIS) was envisioned in the Western Governors' Association Report in 2004. The NIDIS Act was introduced in the U.S. Congress and signed by the President in 2006. To learn more about NIDIS, see the national website at <http://www.drought.gov>.

What's New

Listening Sessions getting set for Wray, Colby, and McCook...

We will continue to add content to this website. Please visit us again to find more and updated information. Your feedback is important to us. Please send comments to klinkson@unl.edu.

Recent Drought News

"National Drought Mitigation Center and NIDIS to host listening sessions May 27-29" - [NIDIS \(2.25.2009\)](#)
[\(view full announcement\)](#)

"Nebraska court battle over Republican River tax set to begin" - [U.S. Water News \(7.18.2008\)](#)
[\(view article\)](#)

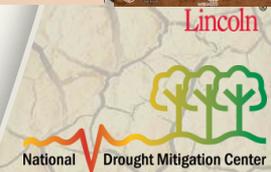
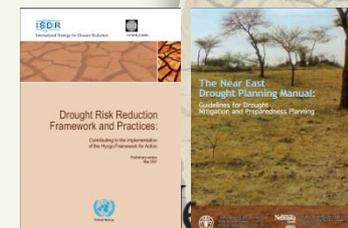
NIDIS
 NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

UNIVERSITY OF
Nebraska
 Lincoln

Drought Mitigation Center

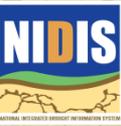
Tools for Planning: NDMC and NIDIS

- All droughts are “local”
- Planning is a “living” process
- Planning should start local
- Planning at all scales
- **Now what?**



NDMC Stakeholder Interactions

- ▶ Web site (drought.unl.edu) (*DroughtScape*)
- ▶ Workshops, Listening Sessions, Conferences
- ▶ Webinars
- ▶ Media Contacts (~500 – 1,000 annually)
- ▶ Data/information requests
- ▶ Surveys
- ▶ Evaluator Networks (USDM/VegDRI)
- ▶ Drought Impact Reporter (including CoCoRaHS)
- ▶ Drought Ready Communities Project (APA/ICLEI)
- ▶ Ranch Planning Project
- ▶ *Discover the Waters of Nebraska*
- ▶ Climate Change Literacy for Educators
- ▶ National Integrated Drought Information System (NIDIS)
- ▶ Nebraska's Climate Assessment and Response Committee



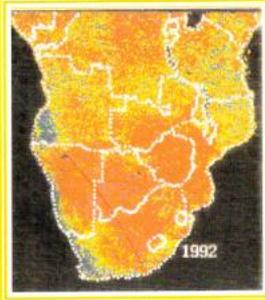
NDMC International Activities



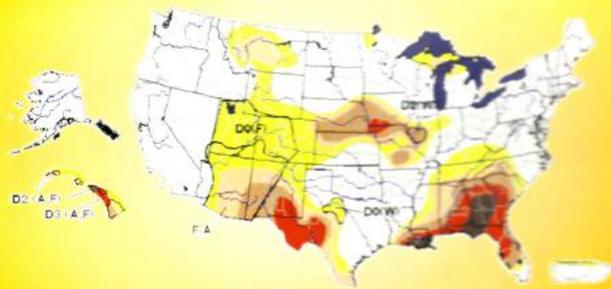
- **UN organizations:** **FAO, ISDR, and CCD**
- **World Meteorological Organization (WMO)**
- **USAID**
- Various regional and national drought centers
- Numerous government agencies and universities in different countries
- Visiting scientists/workshops/training

Activities 2005–2011

Australia • Austria • Brazil • Cambodia • Canada • Chile • China • Czech Republic • Egypt • Ethiopia • European Union • India • Iraq • Italy • Japan • Jordan • Mali • Mexico • Morocco • Mozambique • Namibia • Netherlands • Saudi Arabia • Slovakia • Slovenia • South Korea • Spain • Switzerland • Syria • Tunisia • Turkey • United States • Vietnam • Zambia



*Early Warning Systems for Drought
Preparedness
and Drought Management*



World
Meteorological
Organization
Weather • Climate • Water
WMO - No. 1006

Drought monitoring and
early warning:
concepts, progress and future challenges

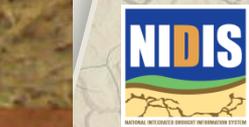
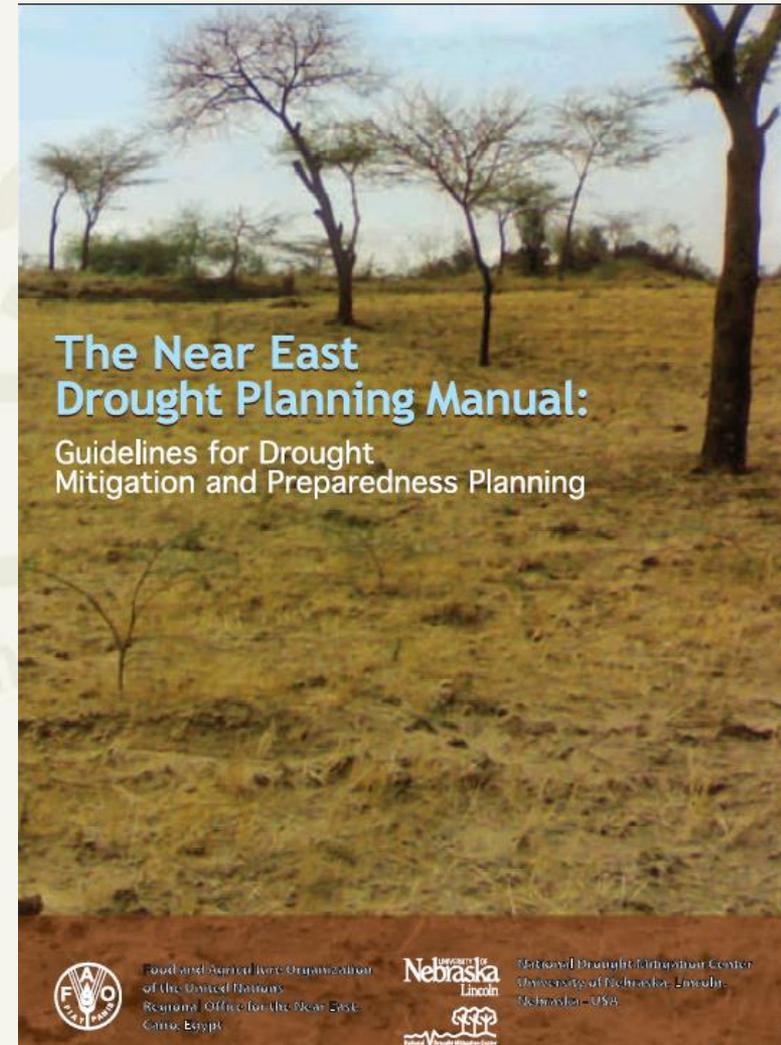
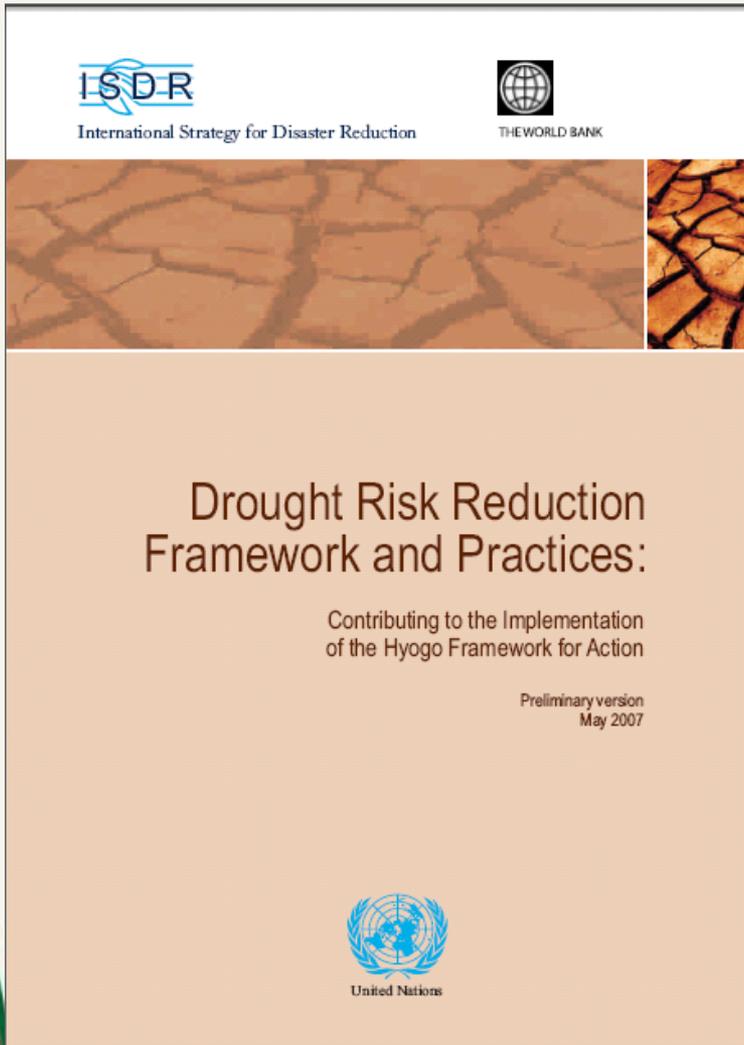
Weather and climate information for
sustainable agricultural development

http://www.wmo.int/pages/prog/wcp/agm/publications/agm_proceedings.php

UNIVERSITY OF
Nebraska
Lincoln



International Drought Planning Guides



Drought-Ready Communities

A Guide to Community Drought Preparedness



Wednesday, October 05, 2011

National Drought Mitigation Center

Overview | Drought Basics | Inventory & Monitor | Before Drought | During Drought | After Drought | Write a Plan

Managing Drought Risk on the Ranch

Overview

Drought is a normal part of climate...it will happen again. Fortunately, there are things you can do before, during, and after drought to reduce your risk. Ranchers are increasingly implementing new ways to better prepare for and respond to drought.

The information, strategies and resources on this site are designed to provide livestock producers in the [Great Plains region](#) with information on how to incorporate management strategies to reduce the threat drought poses to livestock and forage operations.

Managing Drought Risk on the Ranch: Great Plains Examples

South Dakota	Nebraska	Kansas	Colorado	Texas
 Daybreak Ranch (Central)	 Tippets-Myers Ranch (Western Sandhills) Reed Hamilton Ranch (Sandhills) Shamrock Ranch (Southwestern)	 Alexander Ranch (South Central) Adams Ranch (North Central)	Welch Ranch (Southern)	Johnson Ranch (West Central)

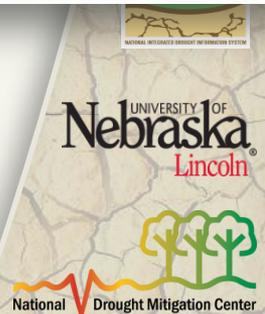
Where to Start
[Start here if you are in a drought](#)
[Start here if you are recovering from a drought](#)
[Start here if you are preparing for a drought](#)
[Write a Drought Plan](#)
[How to use this site](#)

Drought Conditions
[U.S. Drought Monitor](#)
[Water Year Precipitation \(Oct. 1st to present\)](#)
[Precipitation - past 30 days](#)
[Weather forecast](#)
[Long Term Outlook](#)

Tools and Resources
[Inventory and Monitoring Tools](#)
[Grazing Management Tools](#)
[Financial Tools](#)



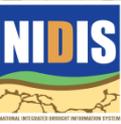
LOWEY PLAINS BIODIVERSITY CORRIDOR ALLIANCE



NDMC's Future Opportunities



- ▶ Climate change
- ▶ Public health issues
- ▶ Transboundary issues
- ▶ Food and water security
 - Global Water Institute/Water for Food
- ▶ Risk management
 - Mitigation applications
 - Planning activities (move toward mitigation plans)
 - Improved monitoring and early warning/information
 - Decision support
- ▶ National Integrated Drought Information System (NIDIS) (drought.gov)
- ▶ Global Drought Early Warning and Information System (GDEWIS)





Thanks!

Contact information:

Mark Svoboda

National Drought Mitigation Center

msvoboda2@unl.edu

<http://drought.unl.edu>