Fostering Drought Mitigation Strategies through Information Services

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Photo: NRCS, Western Oklahoma, June 2011

Drought Mitigation

Mitigation: actions and programs done before a drought that would reduce long-term vulnerability to future droughts

- Natural hazards community
- “Adaptation” in climate change vocabulary

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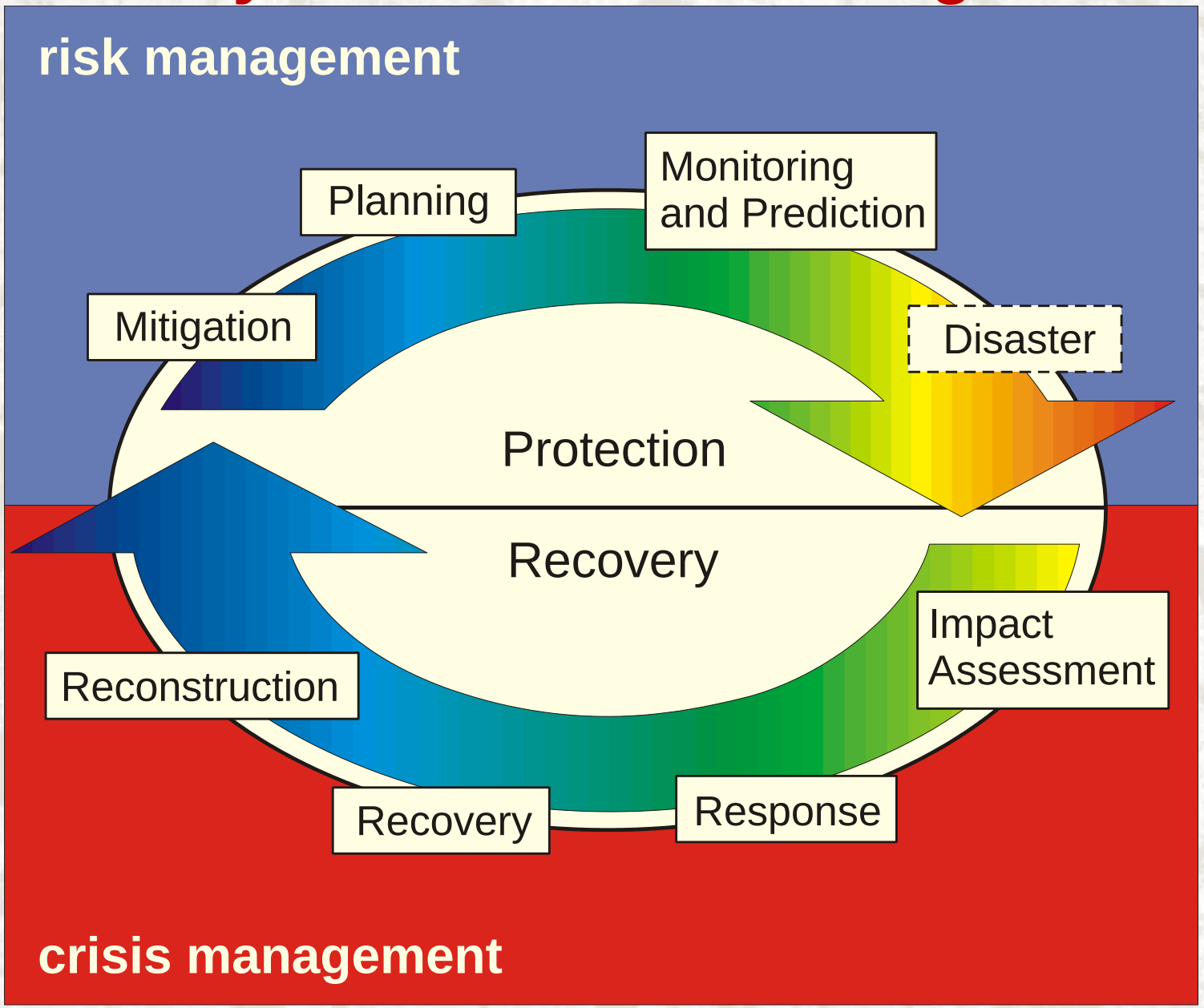
The Cycle of Disaster Management



Billion Dollar Disasters

NCDC, 1980-2011

Disaster	Events	Damage$	$/Event
Hurricanes	29	375	12.9
Tornadoes	30	79	2.6
Droughts	16	195	12.2
Floods	14	74	5.3
Fires	11	20	1.8
Winter-related	13	43	3.3
Total	**113**	**786**	**7.0**

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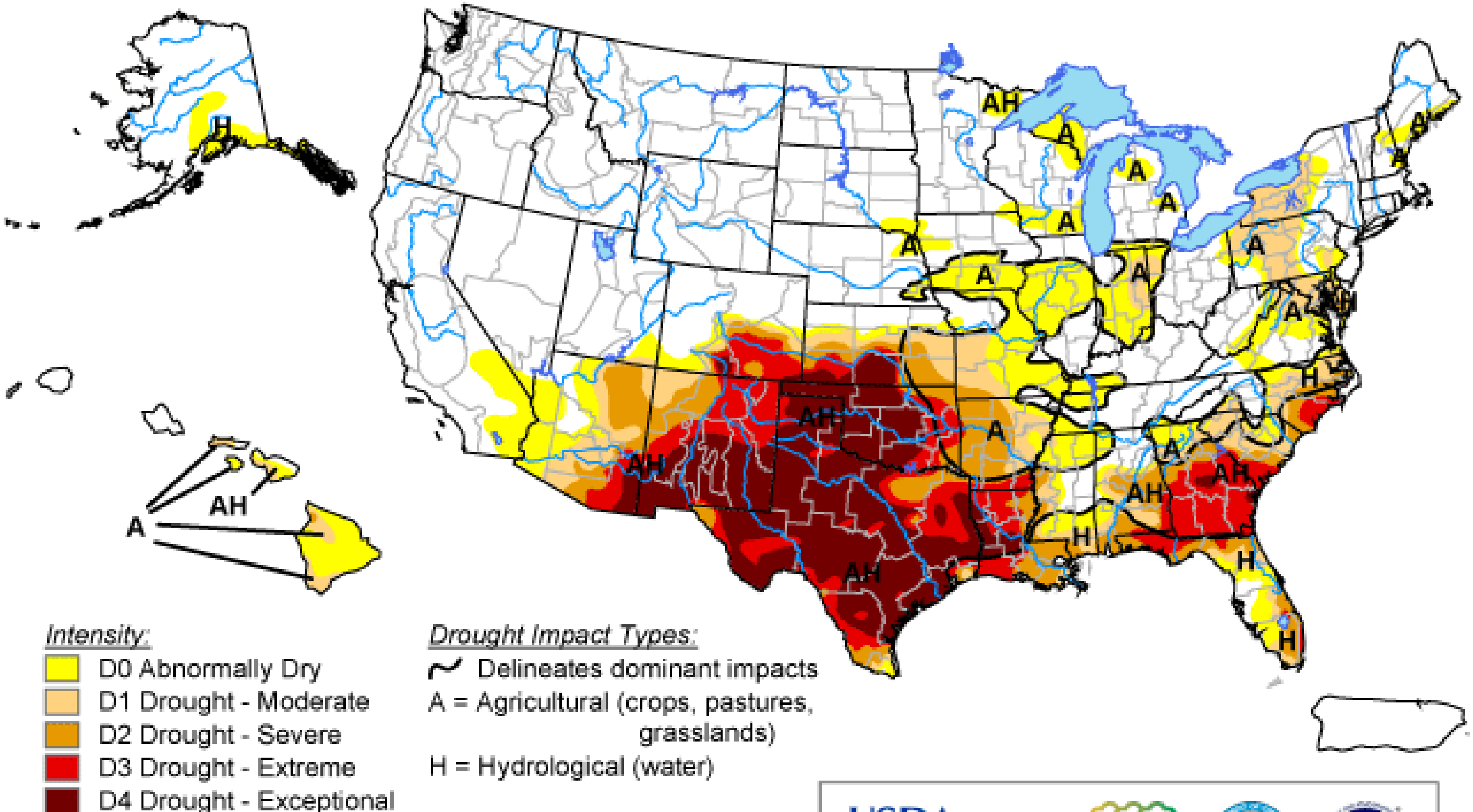
U.S. Drought Monitor

August 2, 2011
Valid 8 a.m. EDT



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

http://drought.unl.edu/dm

Released Thursday, August 4, 2011
Author: Brad Rippey, U.S. Department of Agriculture

2011 Drought Impacts

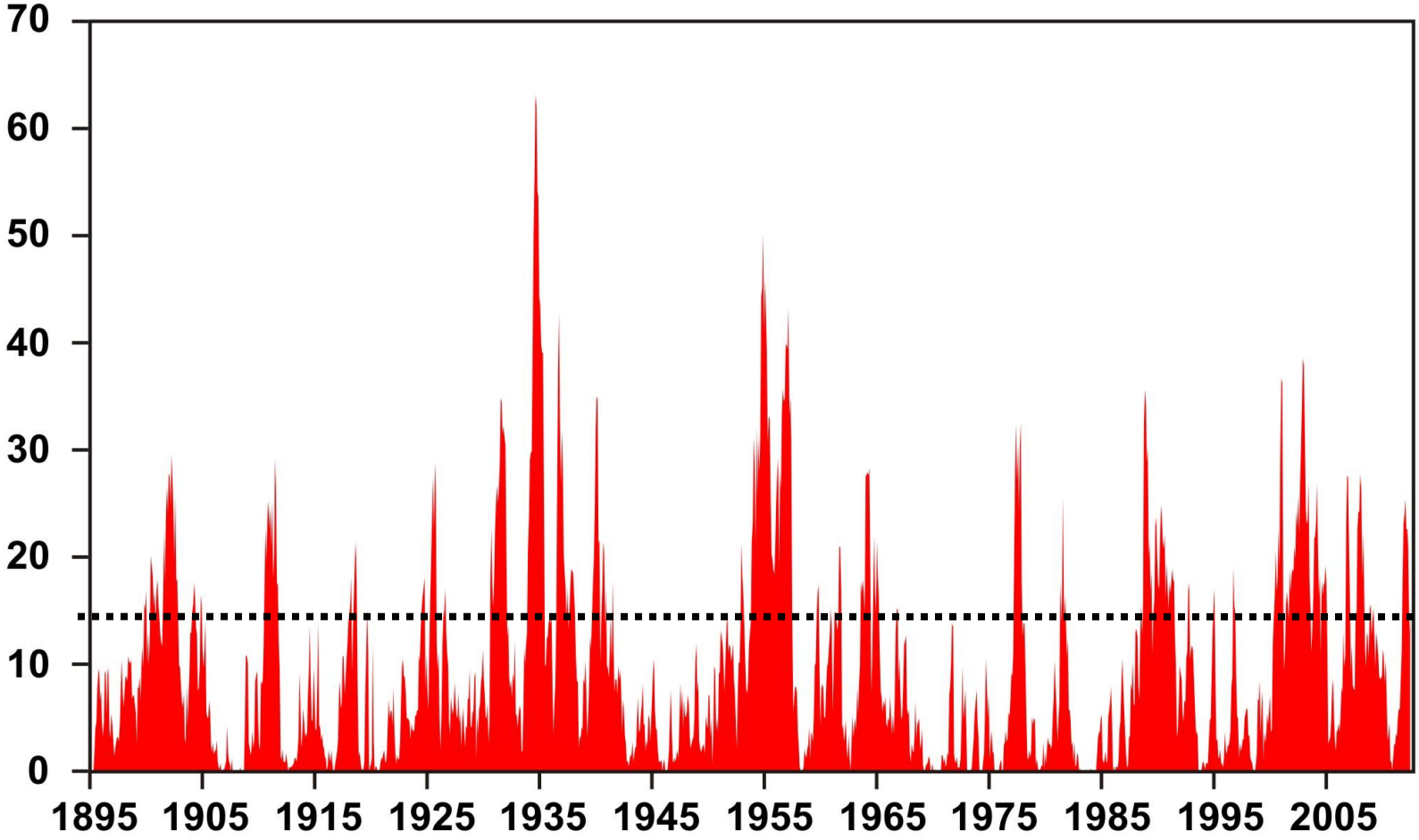
- NCDC: total direct losses to crops, livestock, and timber = $10 billion
- Texas: $5.2 billion in agricultural losses through July
  - Livestock $2.1 billion, Crop losses $3.1 billion
  - $13.1 billion in agricultural losses since 1998
- Oklahoma: more than $2 billion in agricultural losses
- Kansas: more that $1.7 billion in agricultural losses

2011 Livestock Impacts

- Oklahoma experienced a 12% cattle inventory decline.
- New Mexico: “2011 the worst year in memory for the range livestock industry.”
- Texas: “Of the 15,500 members of the Texas and Southwest Cattle Raisers Association, 84% have reported reducing herd size by an average of 38%. This translates to a net reduction of 600,000 to 800,000 head, or about 12%-16% of supply. Total impacts on the Texas economy are estimated at $2.2 billion from livestock losses alone.”

Percent Area of the United States in Severe and Extreme Drought

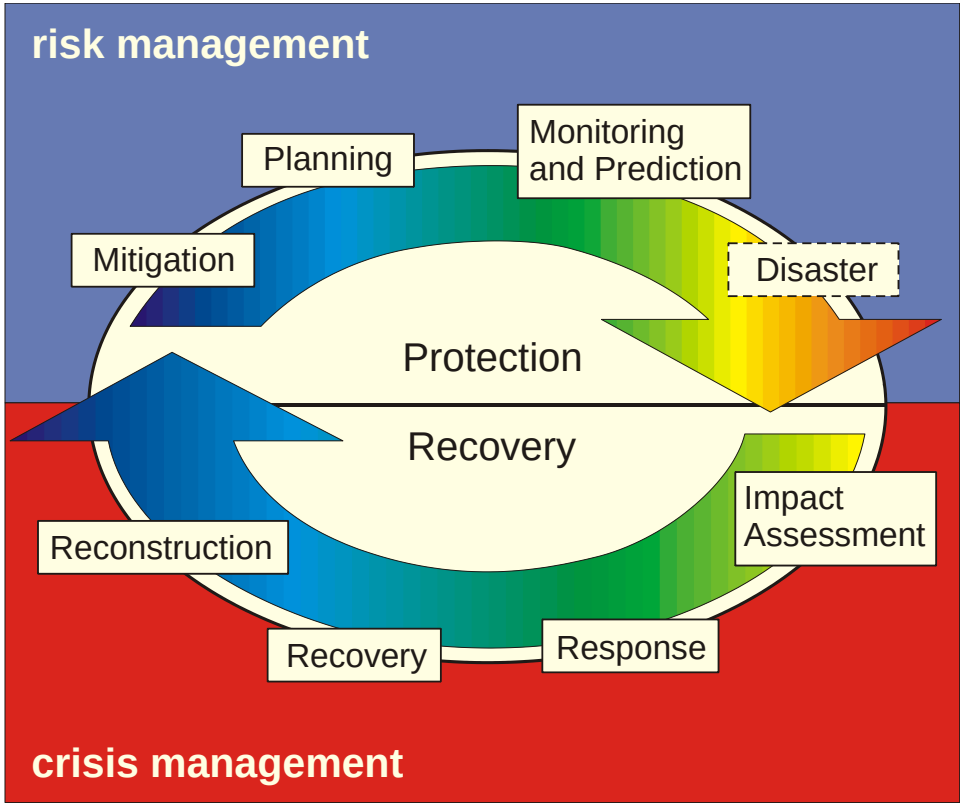
January 1895–January 2012



Based on data from the National Climatic Data Center/NOAA

Characteristics of Crisis Management

- Reactive, post-impact
- Poorly coordinated
- Untimely
- Poorly targeted
- Ineffective
- Decreases self-reliance → greater vulnerability



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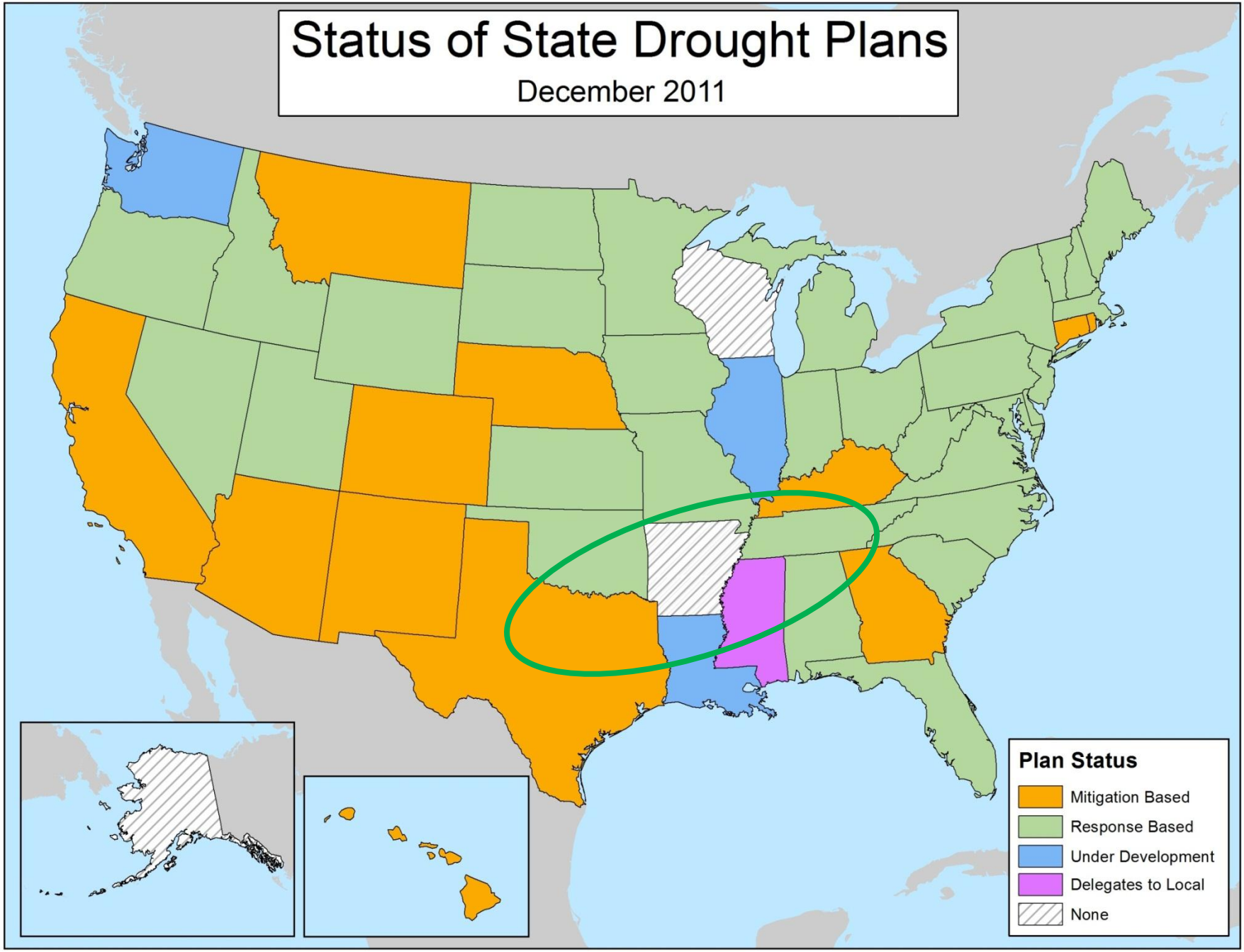
Risk Management: Planning

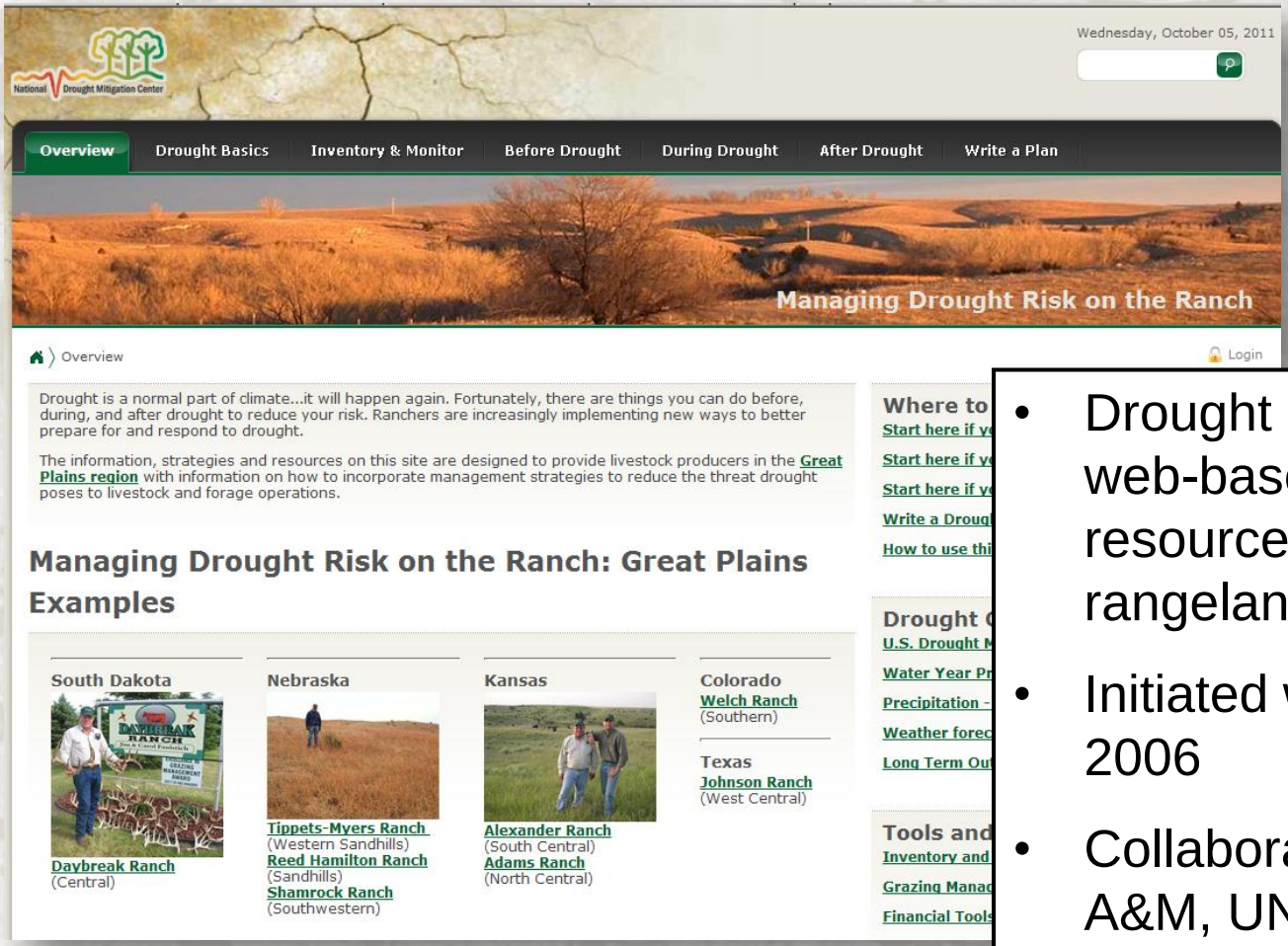
- State level
- Local level
  - Municipalities: Drought Ready Communities
  - River Basins
  - Producers: Managing Risk on the Ranch
- International


Status of State Drought Plans
December 2011
Plan Status
Mitigation Based
Response Based
Under Development
Delegates to Local
None

Drought-Ready Communities

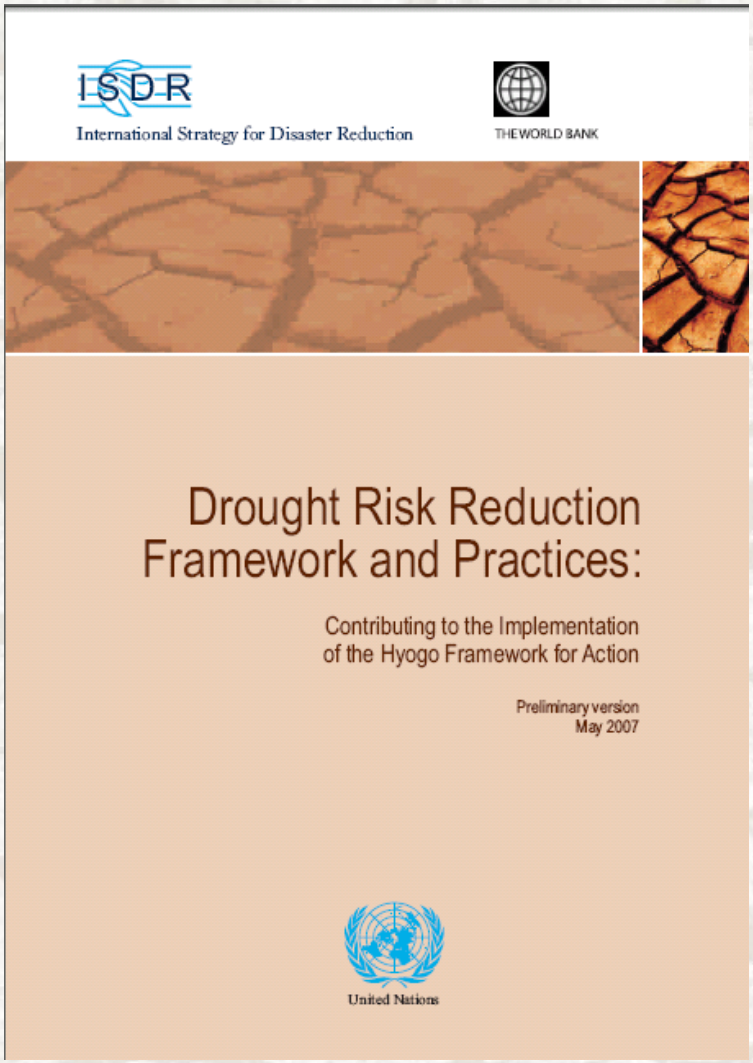
A Guide to Community Drought Preparedness

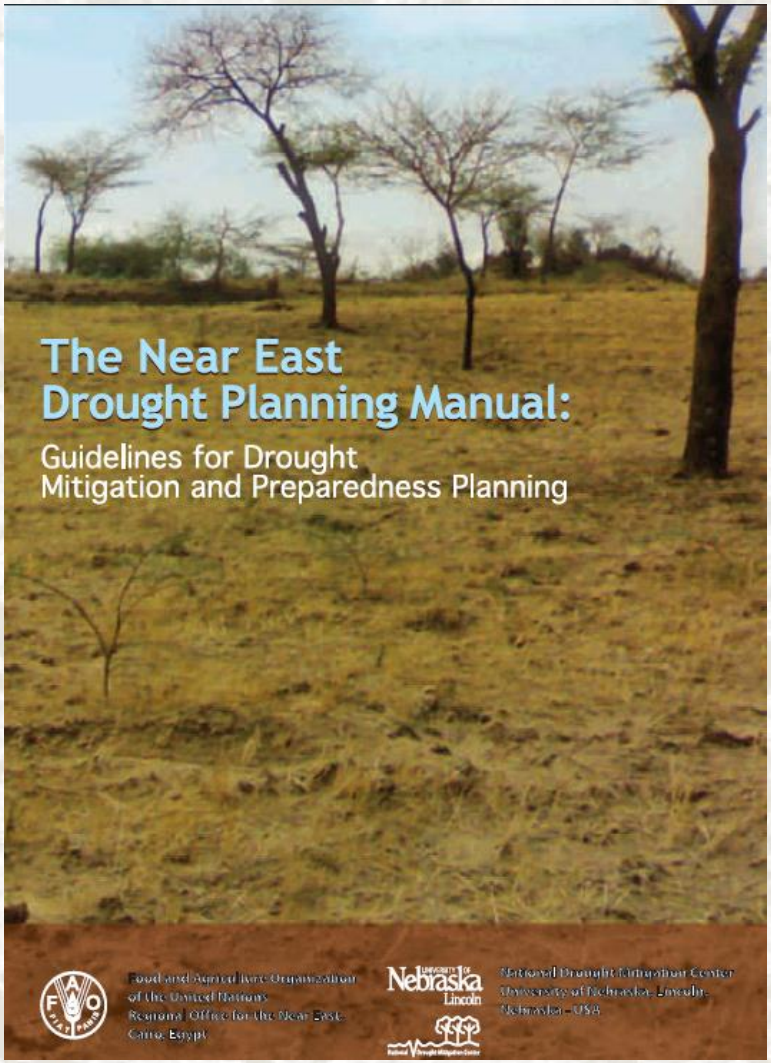
Managing Drought Risk on the Ranch



- Drought planning process and web-based educational resource for forage and rangeland producers
- Initiated with RMA funding in 2006
- Collaborators include SDSU, TX A&M, UNL, and ranchers and advisors from SD, NE, KS, CO, TX
- www.drought.unl.edu/ranchplan

International Drought Planning Guides





Risk Management: Mitigation

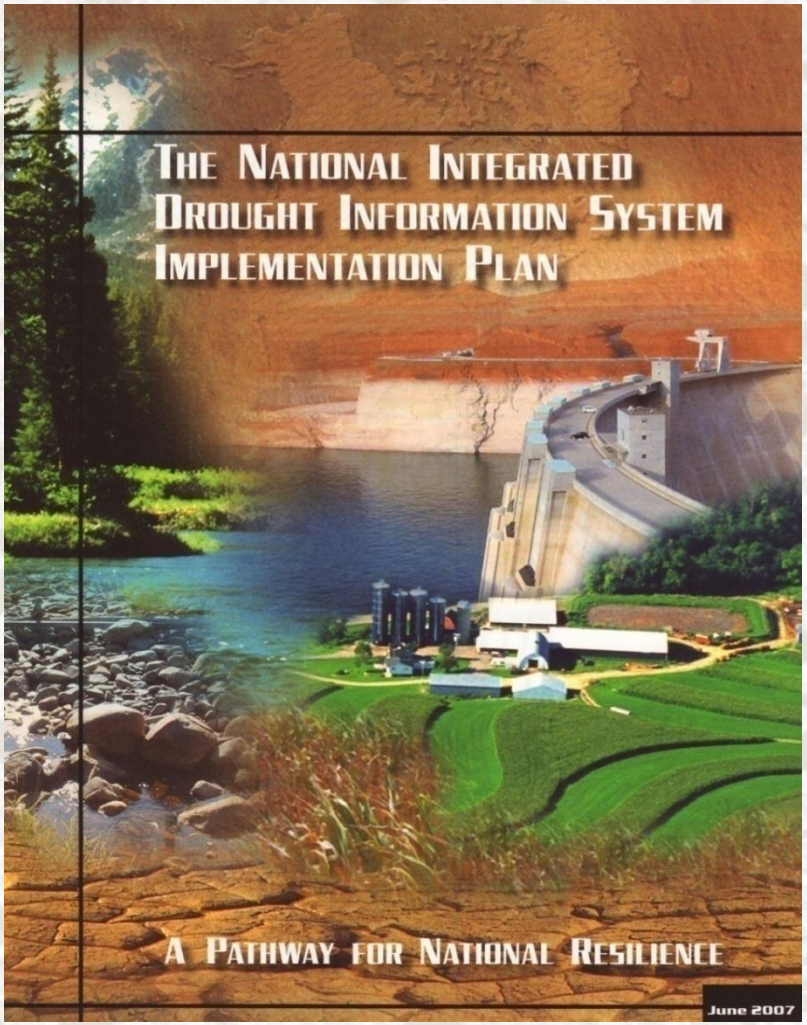
Categories of Drought Mitigation Actions

- Improved monitoring
- Drought planning
- Communication and coordination
  - Information Services
- Education/public awareness
- Water supply augmentation
- Demand reduction/water conservation
- Water use conflict resolution
- Legislation/policy changes

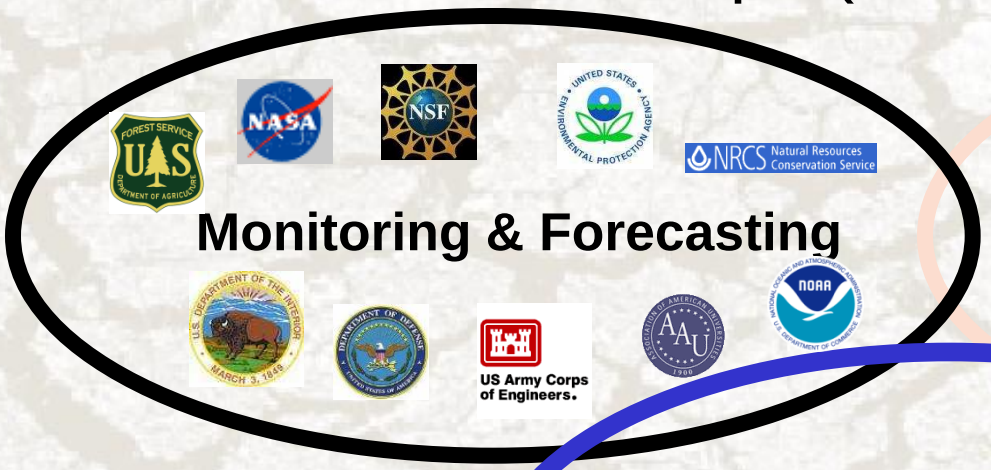
Mitigation Database Project

- Collaborate with officials and relevant stakeholders to identify appropriate methods for categorizing, reporting, and accessing drought mitigation case studies and news stories
- Develop a user-friendly web interface for improving accessibility
- Based off of the concepts used by the Drought Impact Reporter and UN-ISDR

Risk Management: NIDIS



Drought and Water Resources:
Federal Partnerships (States, Tribes, Urban, other)



Early Warning Information

Slide Courtesy of Roger Pulwarty, NOAA/NIDIS

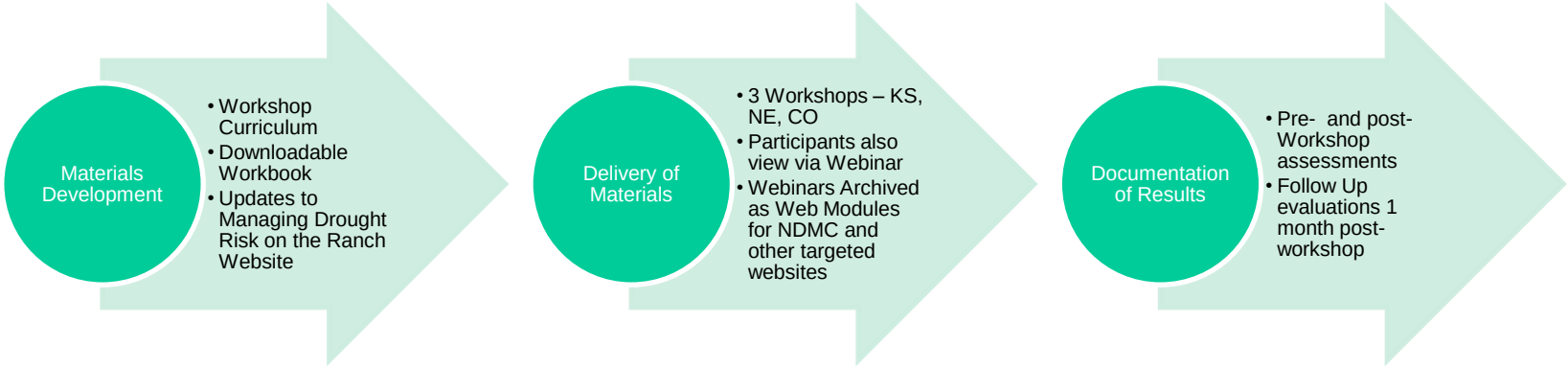
Regional Drought Early Warning Systems (DEWS)

Risk Management Education for Ranchers

Products: Workshops in KS, CO, NE; workbook based on Managing Drought Risk on the Ranch website; archived materials available online

First workshop held January 21st, Emporia, KS

Links to archives (ppt and audio): www.drought.unl.edu/ranchplan



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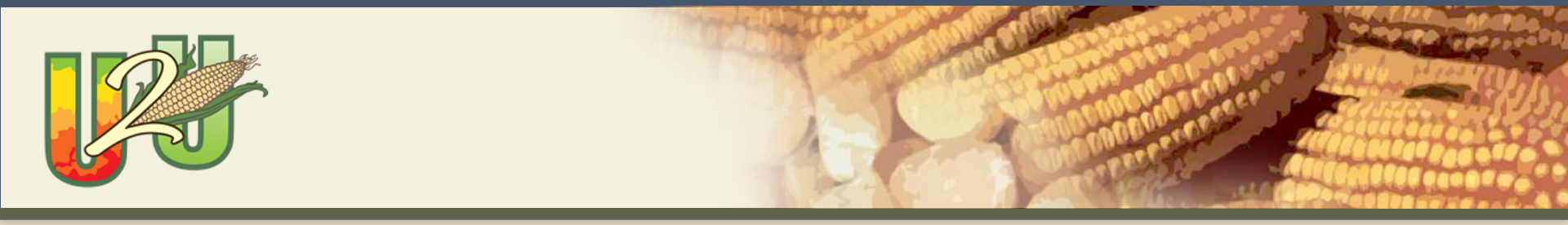
useful to usable

http://www.AgClimate4U.org

Transforming Climate Variability and Change Information for Cereal Crop Producers in the Midwest

Linda Prokopy, PhD
Purdue University

USDA NIFA
United States Department of Agriculture
National Institute of Food and Agriculture



- State climatologists
- Crop modelers
- Agronomists
- Economists
- Social scientists
- RCC staff
- NOAA staff

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PURDUE UNIVERSITY

SDSU

UW Extension Cooperative Extension

ILLINOIS

MRCC Midwestern Regional Climate Center

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

High Plains Regional Climate Center

MU

National Drought Mitigation Center

MICHIGAN

Iowa State University of Science and Technology

Final Thought

“Moving forward”, drought risk management needs to be placed into the broader context of the issues surrounding water, sustainability, and all natural hazards.

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