

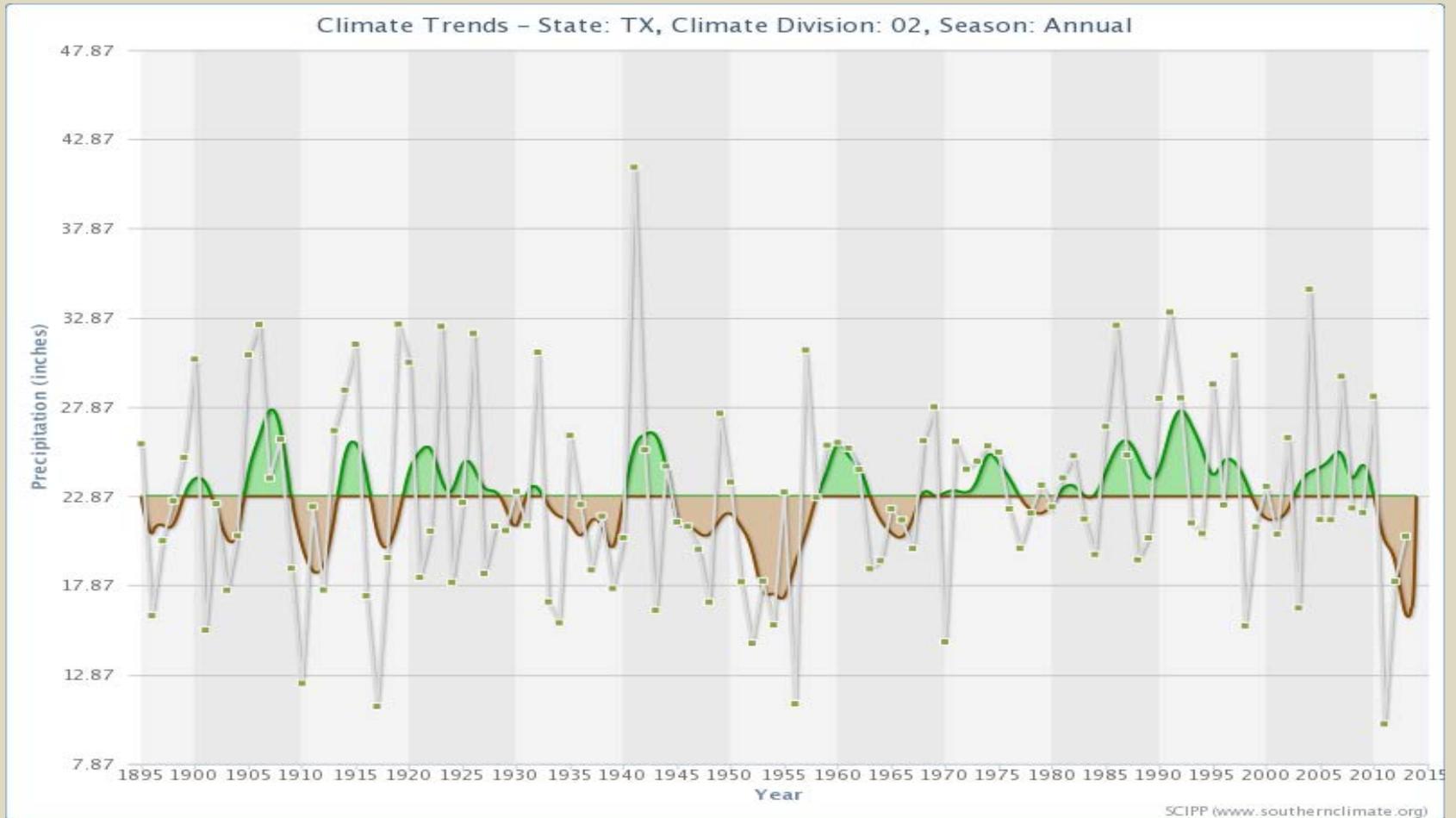
Drought Planning

Why Plan for Drought



- Drought is inevitable
 - Droughts lasting 3-5 years are not that uncommon
- Pre-drought action shapes choices
 - Increased flexibility and healthy resources minimizes loss
- Early responses are effective responses
 - The longer you wait, the fewer choices you have
- Drought creeps up on you
 - Decision points helps limit surprise

Extended Droughts in Texas



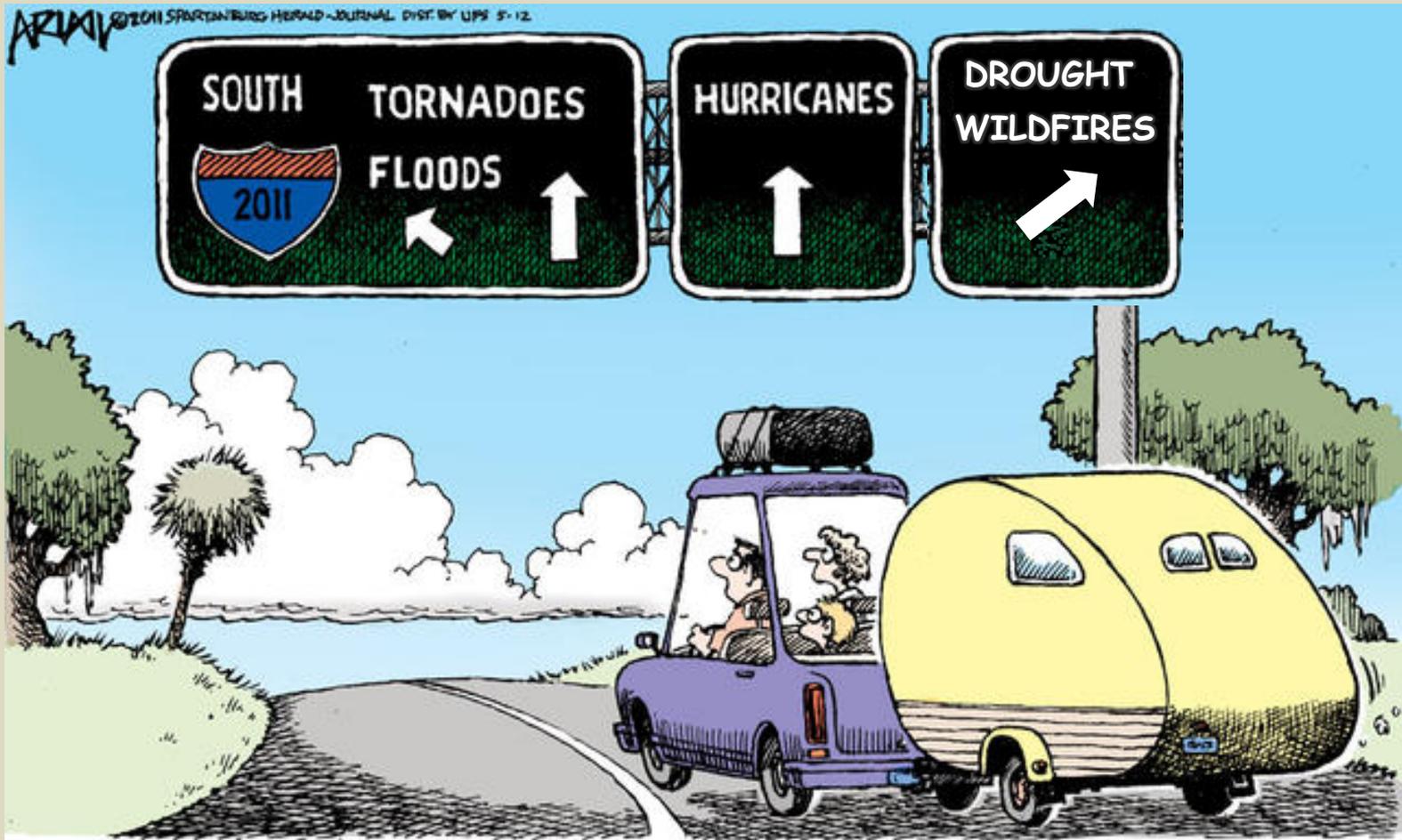
Drought Impacts Vary



- Few dry weeks – lawns start turning brown, crops show some stress
 - Agriculture, lawns affected
- Few dry months – crops begin to fail, pastures go dormant, trees drop leaves
 - Water restrictions, animal behavior
- Dry years – water supplies diminish, springs stop flowing
 - Water systems, erosion, economic systems
- Dry decade – land abandonment, social and economic failure



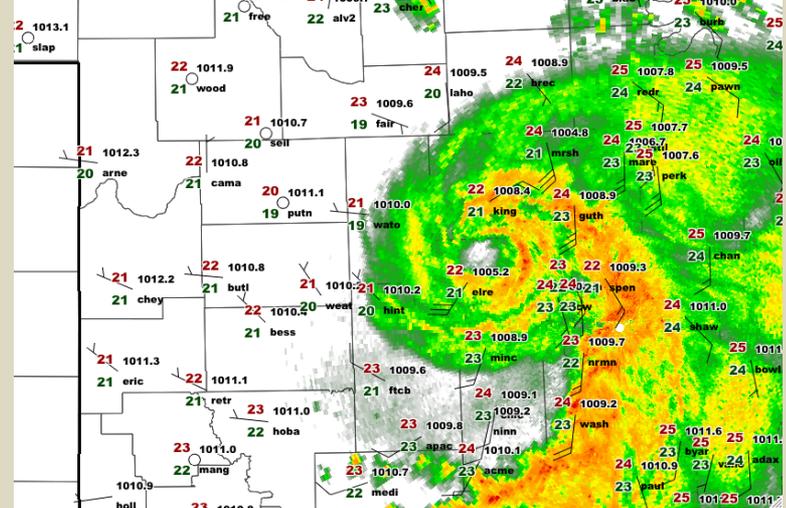
The Rodney Dangerfield of Hazards



Events Change Quickly



2006: Billion-Dollar Drought



2007: Record Floods

Drought Planning has been Reactive



**THE
HYDRO-ILLOGICAL
CYCLE**

What is in a Drought Plan?



- Vulnerability Analysis
- Response capacities – local, state, federal, tribal
- Roles and responsibilities
- Monitoring indices
- Communication
 - Who makes the call...
- Triggers
 - ...and when

Benefits of Drought Plans



Emphasizes mitigation & response

- Proactive
- Reduces economic, environmental, & social impacts



Improves coordination

- Between & within levels of government



Enhances early warning

- Integrated monitoring efforts
- Better information dissemination → builds public awareness



Involves stakeholders

- Consider multiple & competing interests
- Reduces conflicts between water users

Mitigation & Response Programs

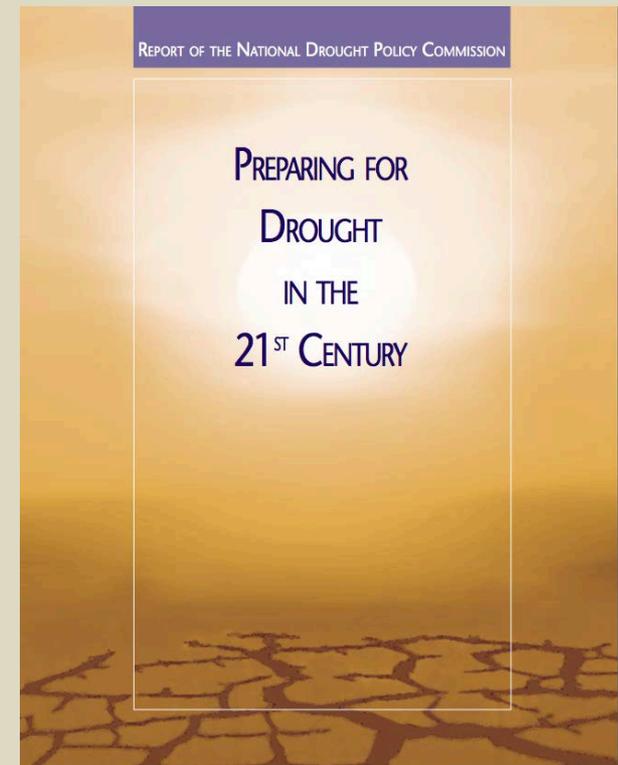


- Drought planning
- Improved monitoring / early warning
- Water supply augmentation
- Demand reduction/water conservation
- Public awareness/education programs
- Water use conflict resolution
- Legislation/policy changes
- Technical assistance on water management

National Drought Policy Commission



- Incorporate planning, implementation of plans and proactive mitigation measures, risk management, resource stewardship, environmental considerations, and public education as the key elements of effective national drought policy.
- Improve collaboration among scientists and managers to enhance the effectiveness of observation networks, monitoring, prediction, information delivery, and applied research and to foster public understanding of and preparedness for drought.
- Develop and incorporate comprehensive insurance and financial strategies into drought preparedness plans.
- Maintain a safety net of emergency relief that emphasizes sound stewardship of natural resources and self-help.
- Coordinate drought programs and response effectively, efficiently, and in a customer-oriented manner.



Drought Ready checklist

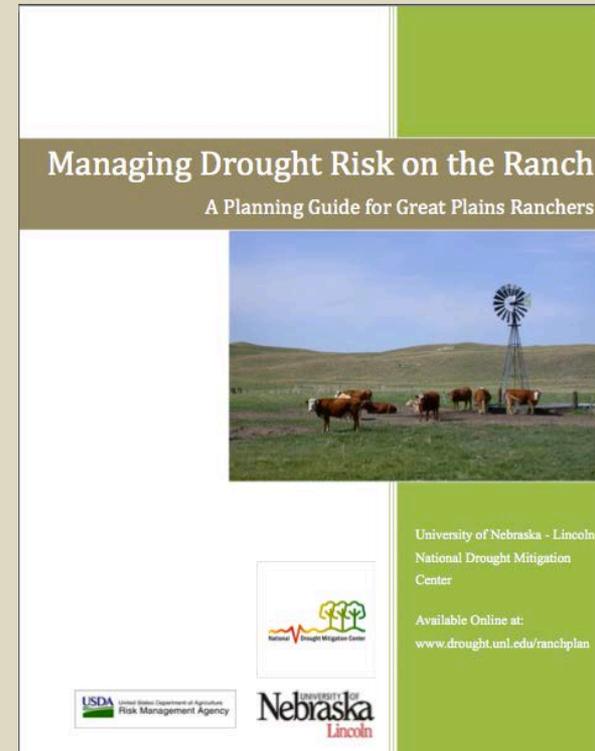


1. Getting Started
 - ✧ Identifying resources and forming leadership team
2. Information Gathering
 - ✧ water sources, climate, past droughts, and impacts
3. Monitoring
 - ✧ Determine indicators and appoint an authority
4. Communication
 - ✧ Develop materials and methods to inform community
5. Community Education & Outreach
 - ✧ Increase general awareness before a drought
6. Planning
 - ✧ Identify vulnerabilities and determine triggers and actions

Managing Drought Risk on the Ranch



- Prepare for drought by increasing the health of the overall operation and maximizing flexibility
- Write a Drought Plan that includes WHAT to do during drought and WHEN
- When conditions require it, implement the plan and don't second-guess it
- After drought, have a plan for restoring the health of all parts of the ranch operation
- Monitor how the drought plan works, and improve it as you learn



Plant Response to Rainfall



- Precipitation in the cool season determines forage more than warm season
- Months leading up to peak growing conditions are most critical (late spring – early summer)
- Delayed plant response when very dry soils (typically when less than 75% of normal over growing season)
- Excessive grazing during drought will further reduce yield, even if precipitation returns to normal
- Impacts are cumulative and increase rapidly

Ranch Drought Plan Components



1. Communication and Planning Partners
 - ✧ Trusted partners, including family, friends, neighbors, employees
2. Ranch Vision and Objectives
 - ✧ Once you know what you want to accomplish, can work scenarios
3. Strengths, Weaknesses, Opportunities and Threats
 - ✧ Assess both internal factors (what you can control) and anticipate external factors
4. Creating an Inventory of Ranch Resources
 - ✧ Precipitation patterns, range and forage, herd, water, finances, human resources
 - ✧ Can get assistance from NRCS, Extension, grazing organizations

Ranch Drought Plan Components



5. Identify critical dates for making decisions
 - ✧ Consider how forage responds to precipitation, both short-term and longer-term
6. Set a Monitoring Schedule
 - ✧ Use critical dates but also as conditions change (seasonally, annually, changes in operations)
7. Consider management strategies before, during, and after drought
 - ✧ Avoid overgrazing, identify in advance subsets of livestock to sell (if necessary), examine condition of forage before restocking
8. Conduct an ongoing review of the drought plan
 - ✧ Examine performance of targets, your operation, and inventory

Planning Resources



- Drought-Ready Communities
 - ✧ <http://drought.unl.edu/Planning/PlanningProcesses/DroughtReadyCommunities.aspx>
- Managing Drought Risk on the Ranch
 - ✧ <http://drought.unl.edu/ranchplan/Overview.aspx>
- NIDIS
 - ✧ <http://www.drought.gov>
- National Drought Mitigation Center
 - ✧ <http://drought.unl.edu/>

Thank You!

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In Partnership With:

NOAA Regional Integrated and Assessments (RISA)
National Integrated Drought Information System (NIDIS)
NOAA National Climatic Data Center (NCDC)
National Drought Mitigation Center (NDMC)