

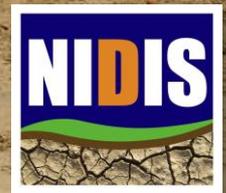
The National Integrated Drought Information System (NIDIS)

Moving the Nation from Reactive to Proactive Drought Risk Management

Mark Svoboda, Ph.D., Director (NIDIS Executive Council Member)
National Drought Mitigation Center
NOAA/NIDIS Drought Risk Management Research Center
University of Nebraska-Lincoln



NASA IDS: Seasonal Prediction of Hydro-Climatic Extremes for the GHA
3rd Participatory Workshop
Addis Ababa, Ethiopia, October 24-25, 2017



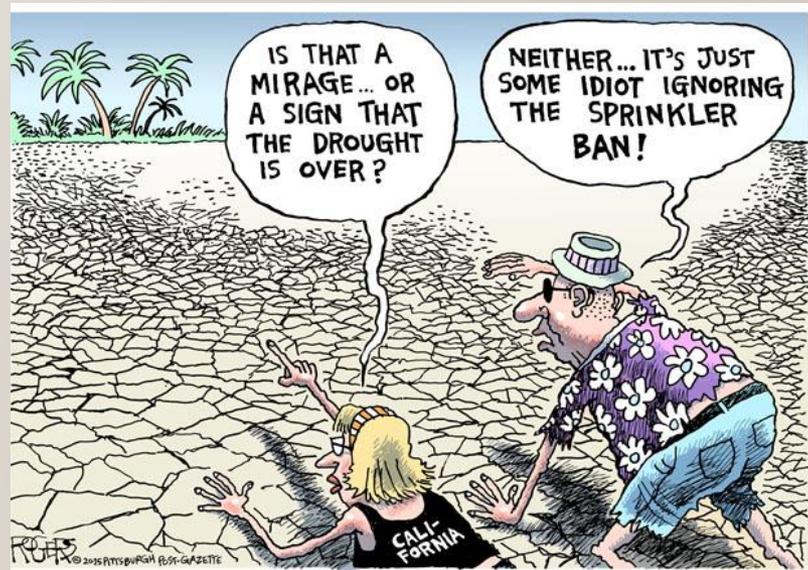
What is NIDIS?

NIDIS was authorized by Congress in 2006 with an interagency mandate to develop and provide a national drought early warning information system.



NIDIS Goals

- Foster leadership and networking among all sectors of the economy and services to monitor, forecast, plan for and cope with the impacts of drought
- Support drought research, including indicators, risk assessment and resilience, as well as assessment of past events
- Develop educational resources, interactive systems, and tools to promote sound decision making, drought awareness, and response



How NIDIS Came About

1996: Western Governors Association (WGA) advocates for change in how the U.S. prepares for and responds to drought.

2000: National Drought Policy Commission Report: Develop “an effective drought information delivery system.”

2006: NIDIS authorized by Congress with bipartisan support, signed into Public Law.

2012: 81% of the U.S. was at least abnormally dry, **\$30B** in damages

1996



2006



1998: National Drought Policy Act establishes an advisory commission on integrated, coordinated Federal drought policy.

2003: WGA and NOAA partner, supporting a team of scientists, policy makers, and resource managers to produce “Creating a Drought Early Warning System for the 21st Century.”

2014: NIDIS reauthorized by Congress with bipartisan support through FY18, signed into law.

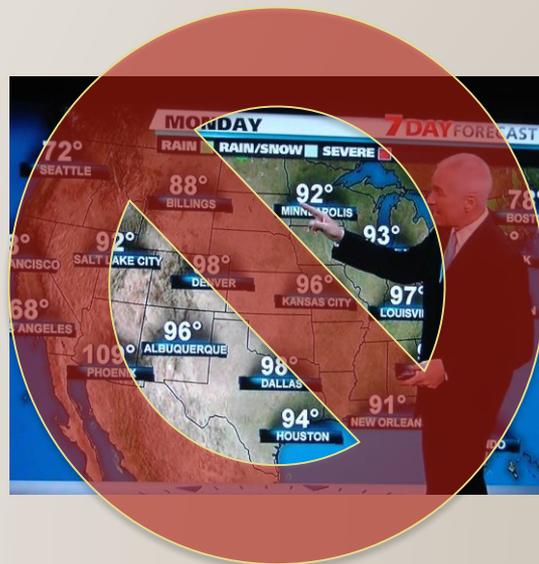
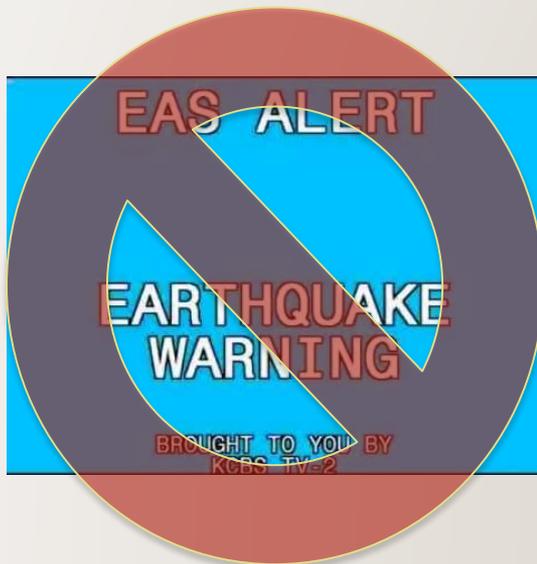


What is a Drought Early Warning System?

“A comprehensive system that collects and integrates information on the key indicators of drought in order *to make usable, reliable, and timely drought forecasts and assessments of drought.....*

...and *communicates drought forecasts, conditions, and impacts* on an ongoing basis to decision makers, the private sector, and the public.”

- NIDIS Public Law 109-430

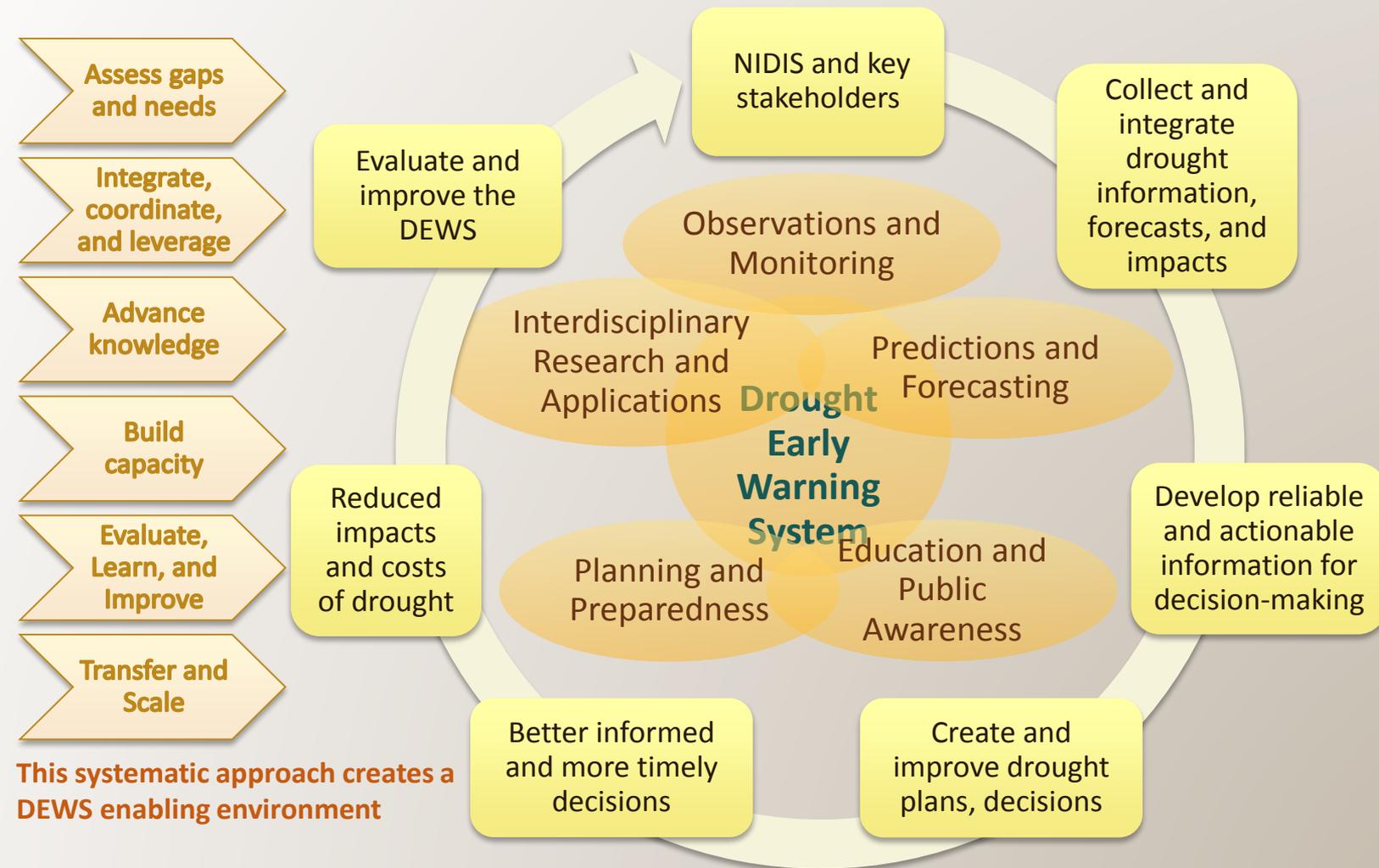


Better drought-related decisions lead to reduced impacts and costs.

- ✓ Coordinated Drought Observation and Monitoring Networks
- ✓ Better Prediction and Forecasting Capabilities
- ✓ Interdisciplinary Federal Research with Practical Applications
- ✓ Integrated Drought Planning and Preparedness
- ✓ Effective Outreach and Consistent Communication on Drought



Catalyzing a NIDIS Drought Early Warning System



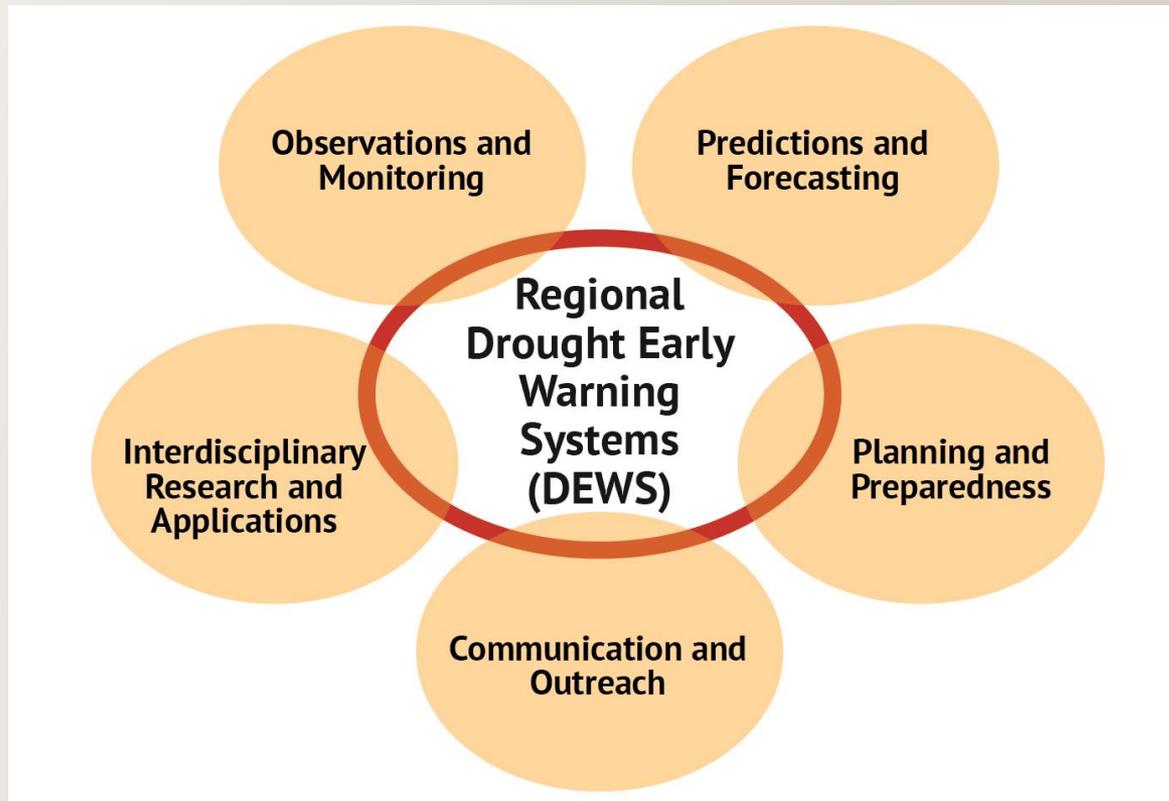
Components of a Drought Early Warning System

How?

Development of regional
Drought Early Warning Systems (DEWS)

What is Drought Early Warning?

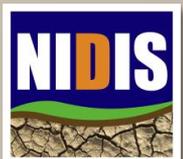
International Strategy for Disaster Reduction: “Provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response.”



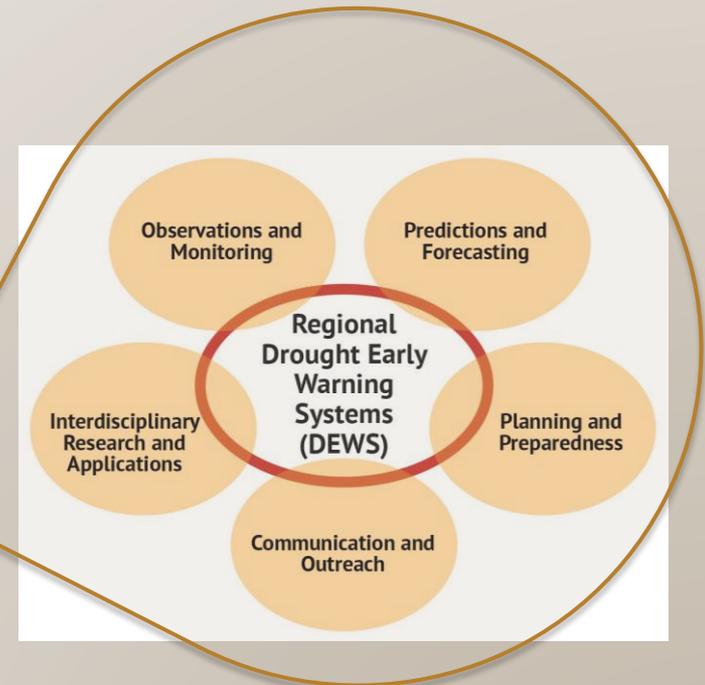
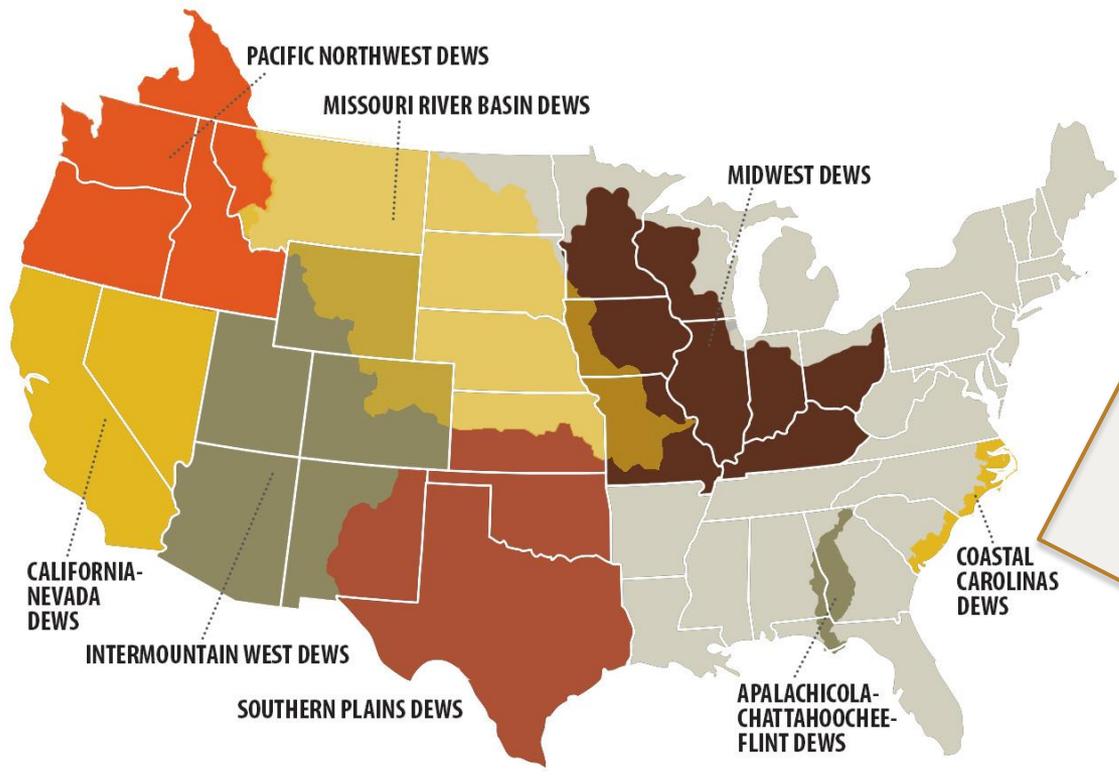
What is Drought Early Warning?

The idea behind a Drought Early Warning System is that by establishing a network of key partners and stakeholders in a region, decision makers and citizens can take ***a systematic approach to better coordinating and integrating efforts in drought monitoring and forecasting, and in planning and preparing for drought.***

This regional approach allows for ***responsiveness to particular geographic and hydrologic circumstances***, as well as specific stakeholder needs in that region.



NIDIS Regional Drought Early Warning Systems (DEWS)



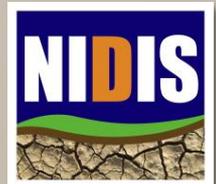
Objectives of a Regional Drought Early Warning Information System

- Provide a forum for a diverse group of federal, tribal, state, and local stakeholders that represent the water and land resource management communities, to strategize and develop appropriate, relevant, useful and readily available drought, climate, weather and water-related information.
- Develop an understanding of the existing observation and monitoring networks, data, tools, research and other planning and mitigation resources available for a DEWS.
- Identify the economic sector-specific and geographic needs for future monitoring, prediction, planning and information resources.



Research-based integrated information systems bring together:

- **Partnerships:** networks of practitioners
- **Earth System Observations** and prediction capabilities
- **Public and Private Sectors**, to map decision-making
- **Capacity and Coordination:** integrate research, observations, and assessments into early warning information on critical transitions and response capacity
- **Consistency over time:** overcome impediments by maintaining efforts, measuring successes, and making adjustments



NIDIS can help decision makers:

- **Access networks** – professionals across sectors and regions
- **Access science** – better forecasts, applied where relevant in decision-making
- **Assess the impacts of drought** to improve response and preparedness
- **Plan for or mitigate water shortages caused by drought** through risk-based drought management planning that incorporates forecasting into operating rules
- **Understand how groundwater and surface water are responding to drought**
- **Advance public awareness and clarity on drought risk**



U.S. Drought Portal

www.drought.gov

The screenshot displays the U.S. Drought Portal homepage. At the top, it features the National Integrated Drought Information System (NIDIS) logo and the text 'Drought.gov U.S. Drought Portal'. A navigation menu includes 'Home', 'Data, Maps & Tools', 'Regions', 'Research', 'Resources', 'What is NIDIS?', 'News', 'Calendar', and 'Contact Us'. A search bar is located in the top right corner.

Where is drought this week?

As of June 21-27, 2017, drought (D1-D4) is impacting:

- 7.8%** of the US and 8.0% of the lower 48 states.
- 16.1 million** people in the U.S. and 16.0 in the lower 48 states.

All substantial precipitation over the past week fell over the eastern half and southern portion of the United States. Tropical Storm Cindy played a large role. The storm made landfall near the Louisiana-Texas border on June 22, bringing heavy rains and subsequent flooding to parts of the South and the Ohio Valley. Dry areas in the path of Cindy saw immediate improvements, as reflected on this week's drought map. Heat and lack of rain dominated from the West to the central and south central U.S., with temperatures rising into the 90s, 100s, and even into the 120s in some areas, with many temperature records broken. This led to some quickly deteriorating conditions across the heart of the country. Although temperatures were well below normal in the Northern Plains from the 23rd through the 27th, this did not help conditions; unfortunately there was little to no accompanying rain.

New tools help visualize the future of drought
If we don't get any rain for the rest of the month, what are the chances the drought will get better? The Drought Termination and Amelioration tools can help you... [Read the article](#)

Regional outlooks summarize drought conditions, impacts, what's ahead
Read the latest regional reports on climate and drought impacts, with an overview of forecast conditions for the first half of 2017. [Read the article](#)

Forecast Rodeo in full swing
Eight teams are vying for up to \$800,000 in prizes by demonstrating their sub-seasonal forecasting skill in this real-time competition. [Read the article](#)

How is Drought Affecting your Neighborhood?
Enter your zip code for current conditions:



Contact: Mark Svoboda, Director, NDMC
msvoboda2@unl.edu

