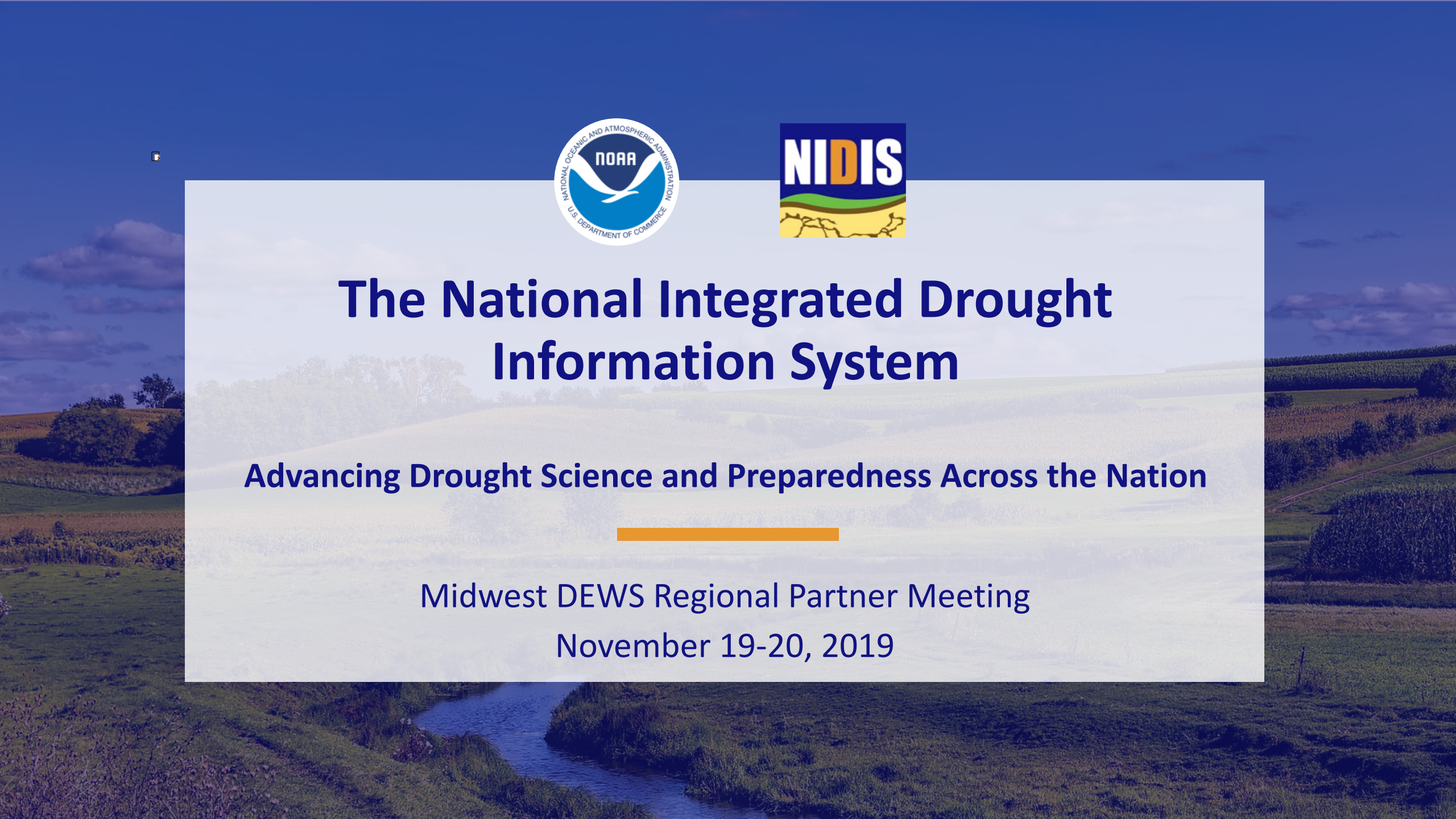


The National Integrated Drought Information System

Advancing Drought Science and Preparedness Across the Nation

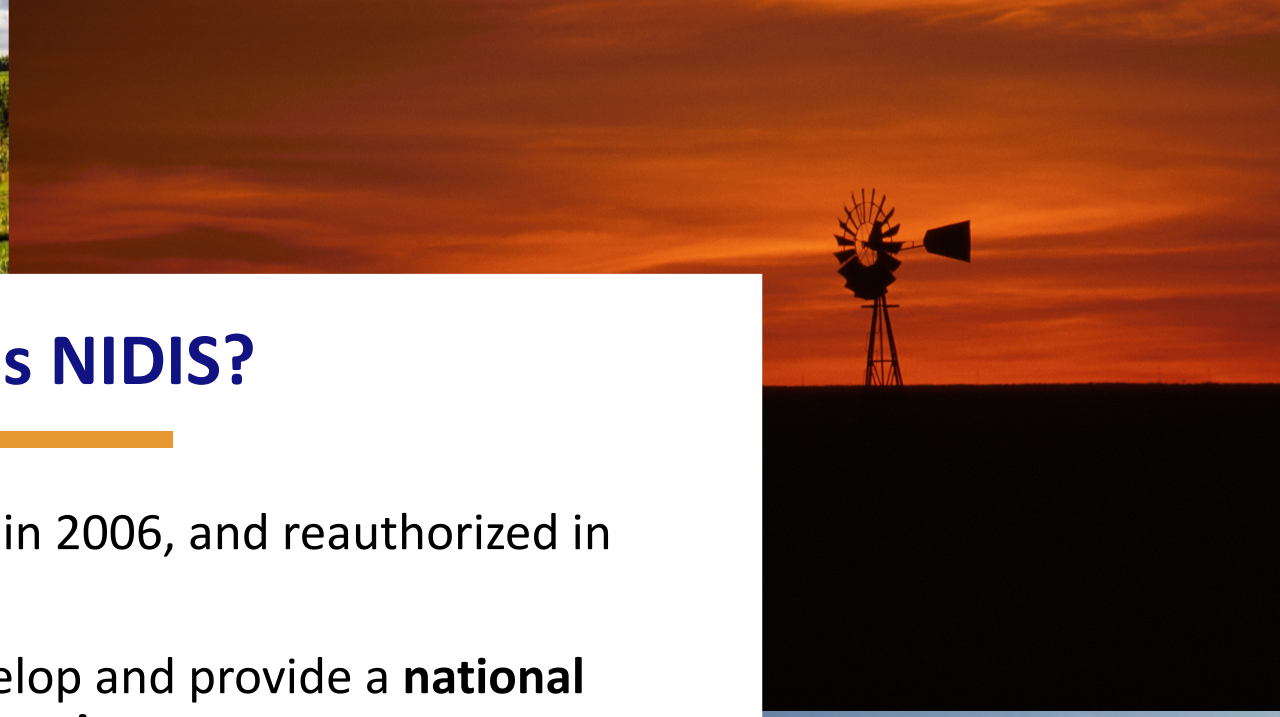
Midwest DEWS Regional Partner Meeting

November 19-20, 2019

NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM (NIDIS)

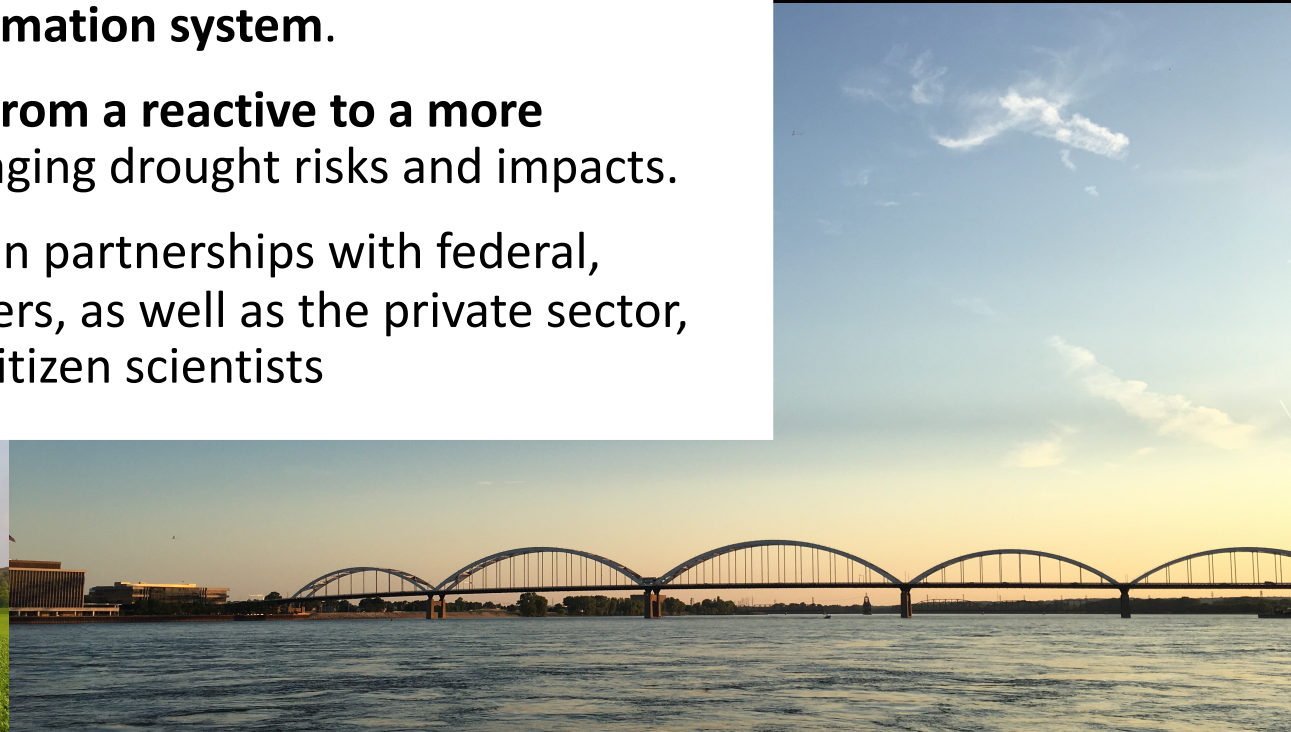
Overview

- What is NIDIS? What is a DEWS?
- National efforts that could inform work in the Midwest DEWS
- New research and applications for Midwest DEWS

What is NIDIS?

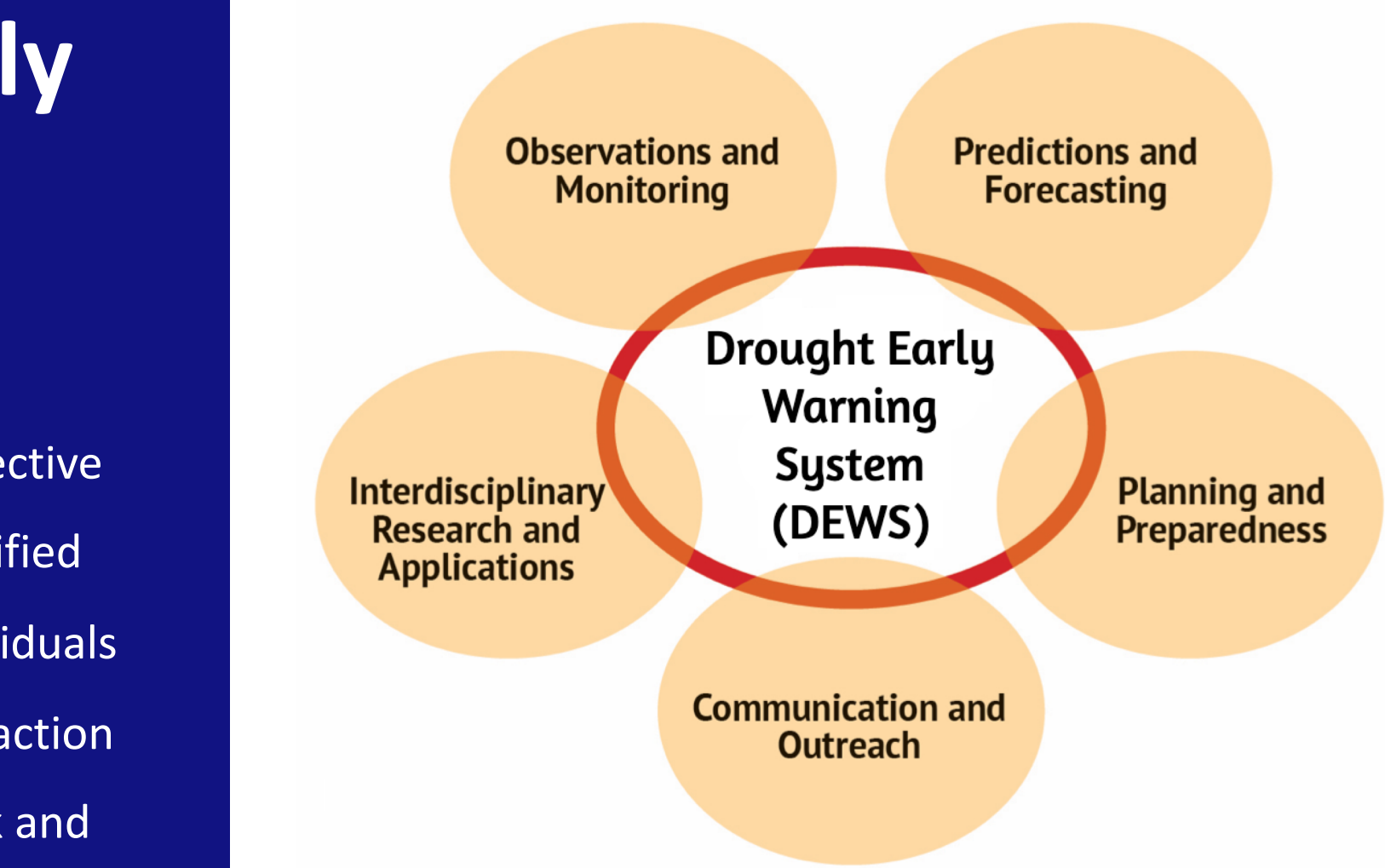
- First authorized by Congress in 2006, and reauthorized in 2014 and 2018.
- Interagency mandate to develop and provide a **national drought early warning information system**.
- Enable the Nation to move **from a reactive to a more proactive** approach to managing drought risks and impacts.
- Authorizes NIDIS to engage in partnerships with federal, state, tribal, and local partners, as well as the private sector, academic institutions, and citizen scientists

APPROACH

Drought Early Warning

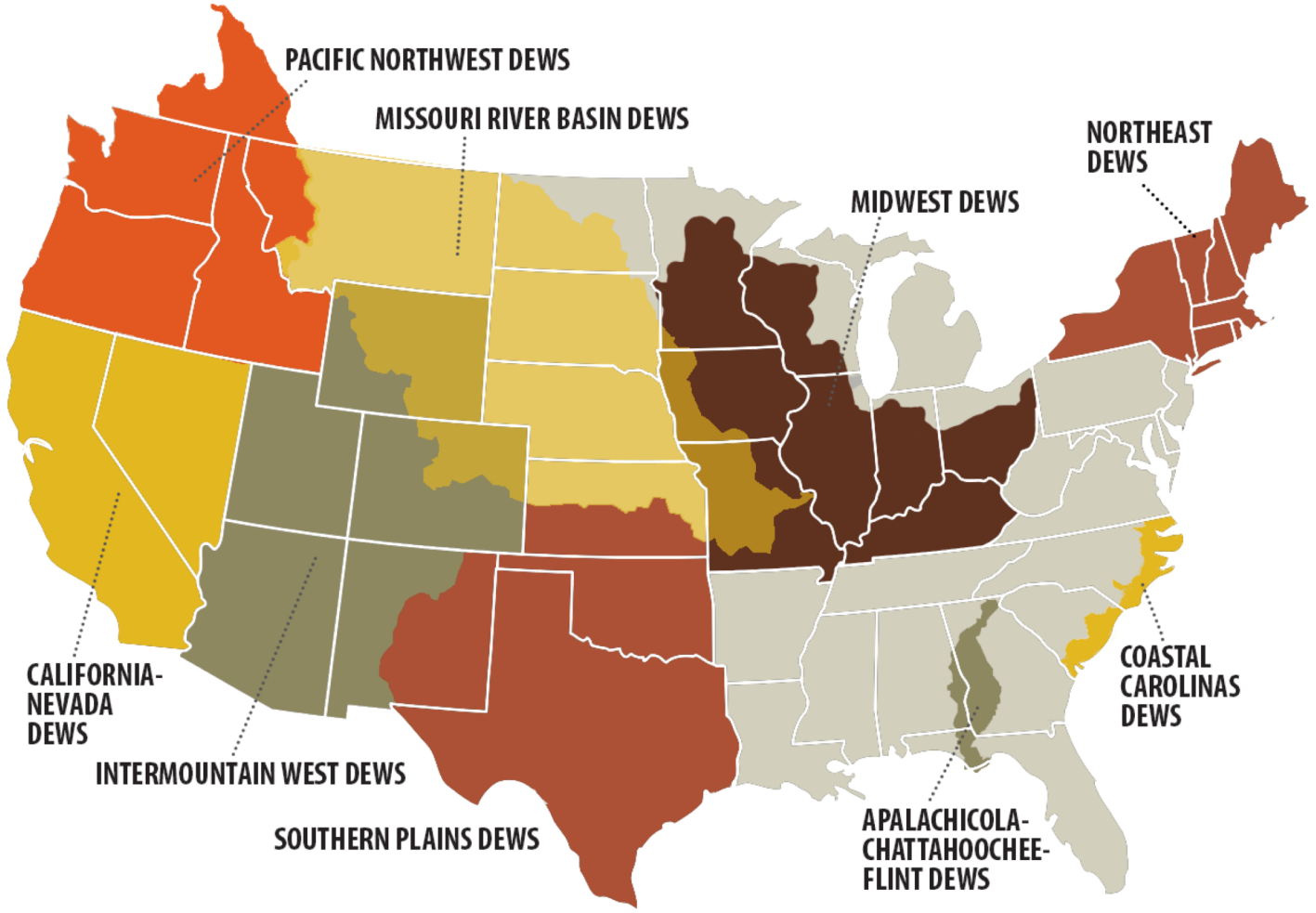
"Provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response."



REGIONS

Drought Early Warning Systems

A Drought Early Warning System (DEWS) utilizes new and existing networks of federal, tribal, state, local and academic partners to make climate and drought science accessible and useful for decision makers.



History of the Midwest DEWS

Meetings

- Launch: Feb 2016 (St. Louis, MO)
- Four regional workshops in Nov-Dec 2016
- Communications workshop in May 2018

Discussion of the current state of drought awareness, planning and capacity across the region to identify several gaps and needs.

Document prepared by the National Integrated Drought Information System (NIDIS) in partnership with key stakeholders in the region (Appendix C).

Strategize Effective Ways to Approach Complex Topics Across Regions

Drought & Human Health

Soil Moisture Monitoring

Economics of Drought

Drought & Human Health Linkages

2018-2020 Activities:

- Hold a 2019 Public Health Summit **(completed)**
- Host a series of regional drought & human health workshops
- Support research & communication of linkages
- **2020 NIDIS Drought & Public Health Strategy**

+Growing List of Partners

IMPROVING DROUGHT EARLY WARNING

National Soil Moisture Network (NSMN)

- Co-leading NSMN effort with USDA and other partners.
- NSMN Strategy: identifies a **roadmap forward** and resources needed for **implementing** a coordinated network.
- Hired NSMN Program Specialist to coordinate and implement Strategy.

Drought Trade Footprint Study of the Mississippi River

Goals of Multi-Year Study

- Understand the economic impact of drought on the Mississippi River corridor
- Assess impacts and opportunities for reducing risks to small communities.

Focus Areas

- Agricultural production
- Commercial navigation & transportation
- Manufacturing
- Recreation and tourism

MISSISSIPPI RIVER cities & towns initiative

USDA

NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION U.S. DEPARTMENT OF COMMERCE

NIDIS NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

US Army Corps of Engineers®

INTERDISCIPLINARY RESEARCH AND APPLICATIONS

Characterizing Mississippi and Ohio River Valley Drought

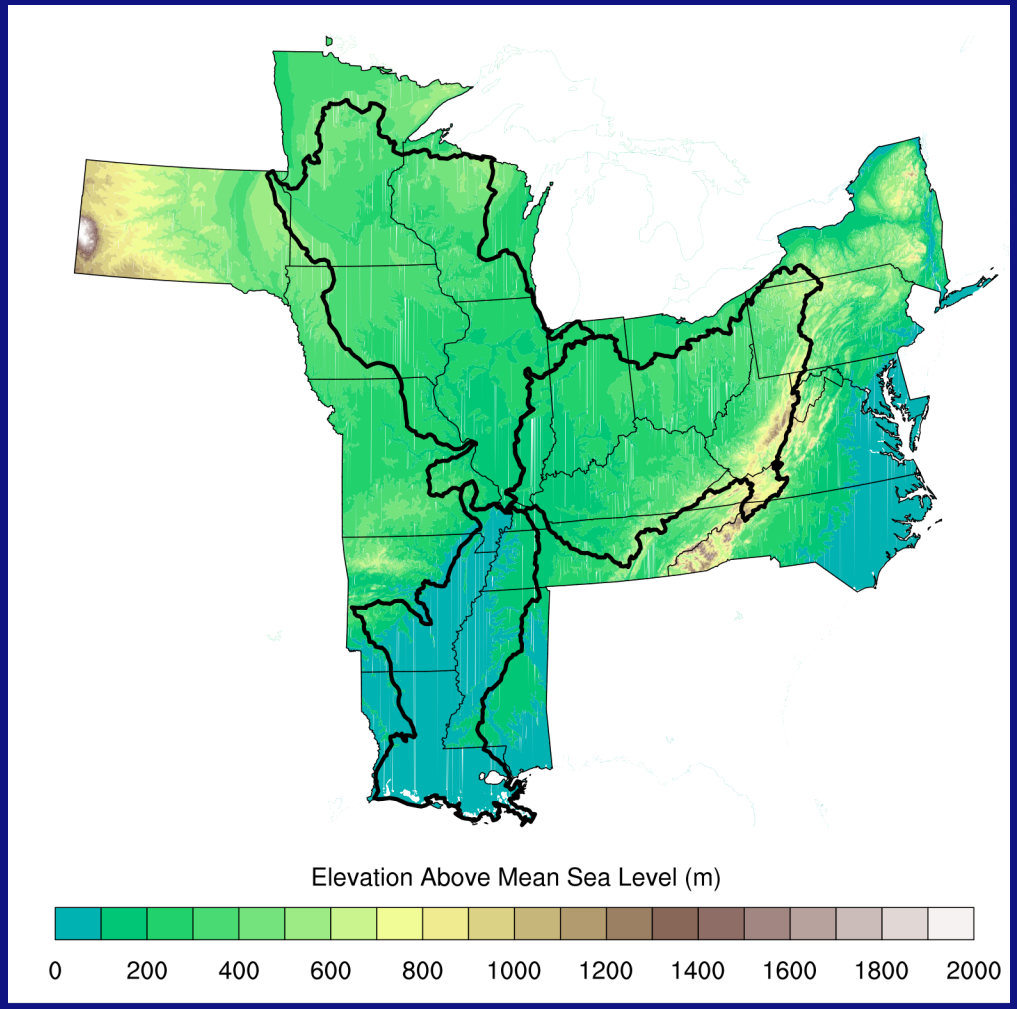
Objective

Better understand the characteristics and physical mechanisms of drought during its three phases: onset, persistence, and demise.

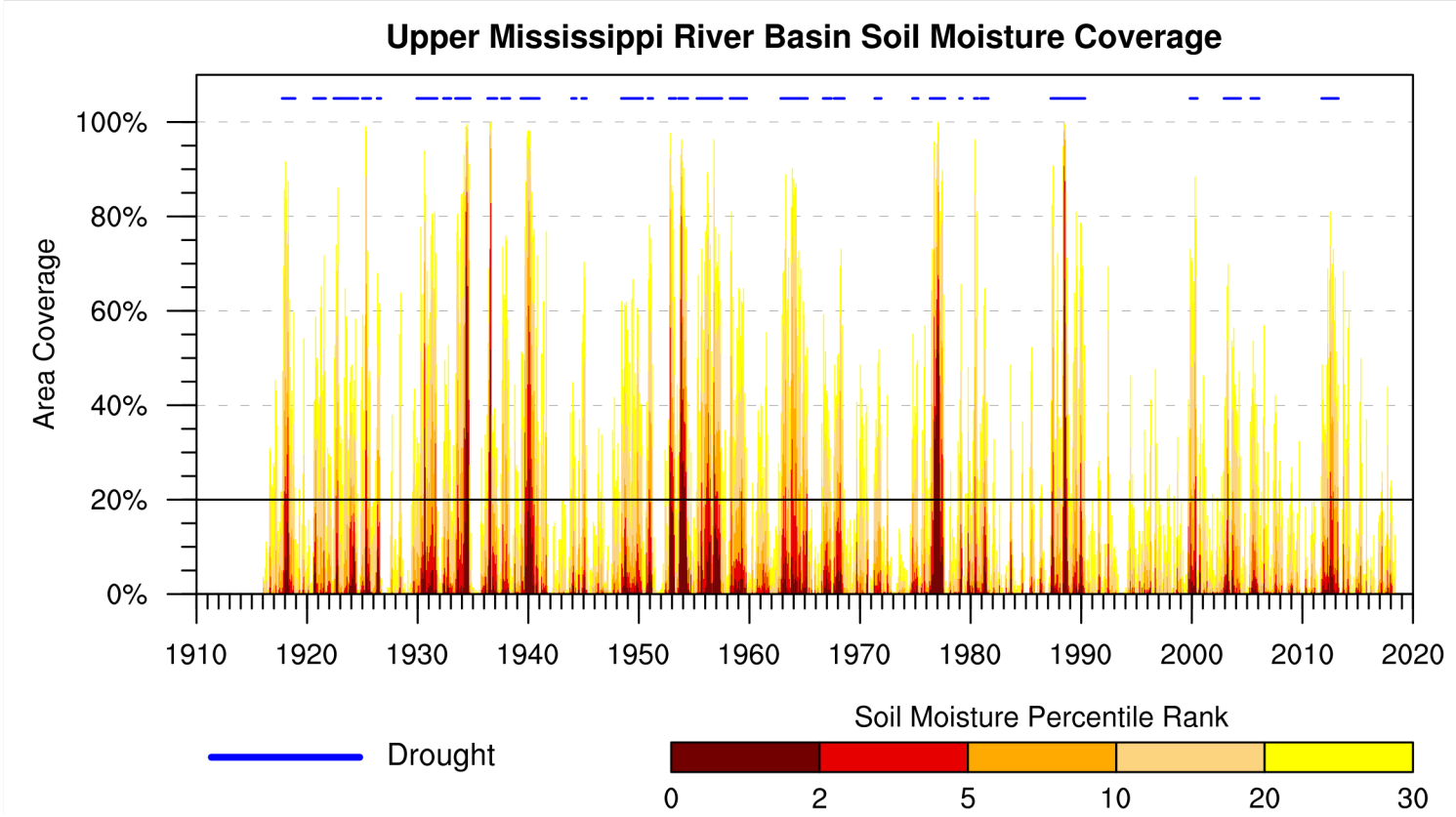
Outcome

Build a more complete understanding of drought in these basins to establish a foundation from which we can predict them with skill.

PI: Andy Hoell (NOAA) (Oct 2019-21)



Characterizing Mississippi and Ohio River Valley Drought



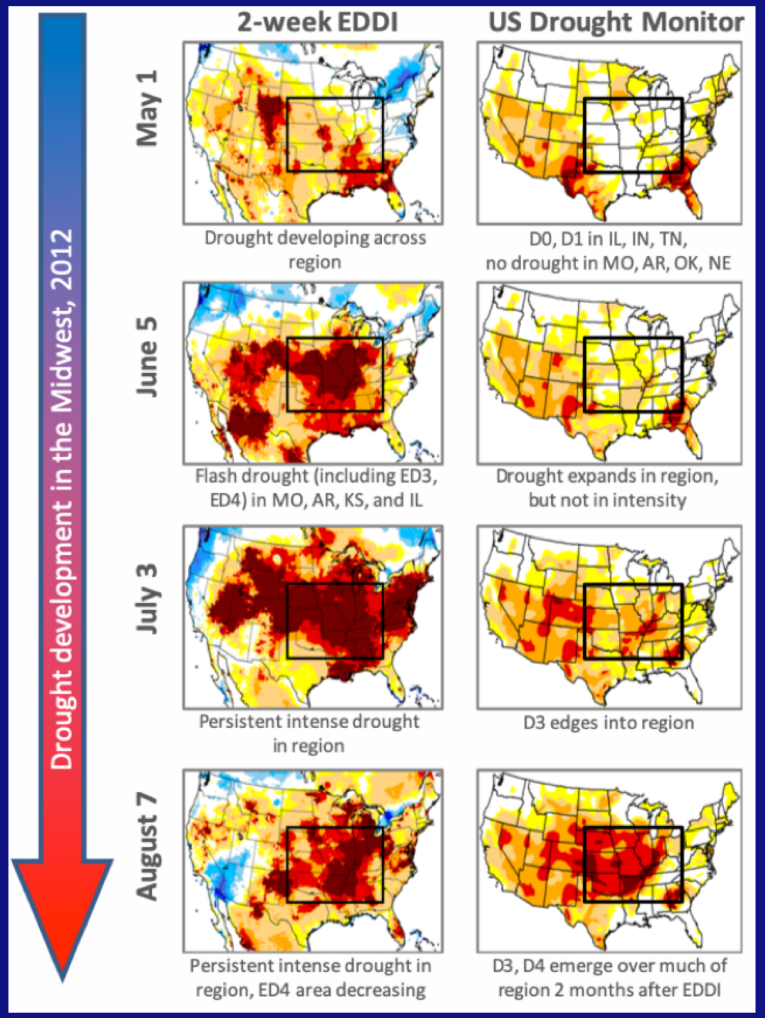
Scope and Tasks

Build a catalog of agricultural and hydrological droughts in observations and models.

Use the catalog of droughts to probe the physics, predictability and risk of certain behaviors during onset, persistence and demise, including how these aspects may change under anthropogenic forcing.

INTERDISCIPLINARY RESEARCH AND APPLICATIONS

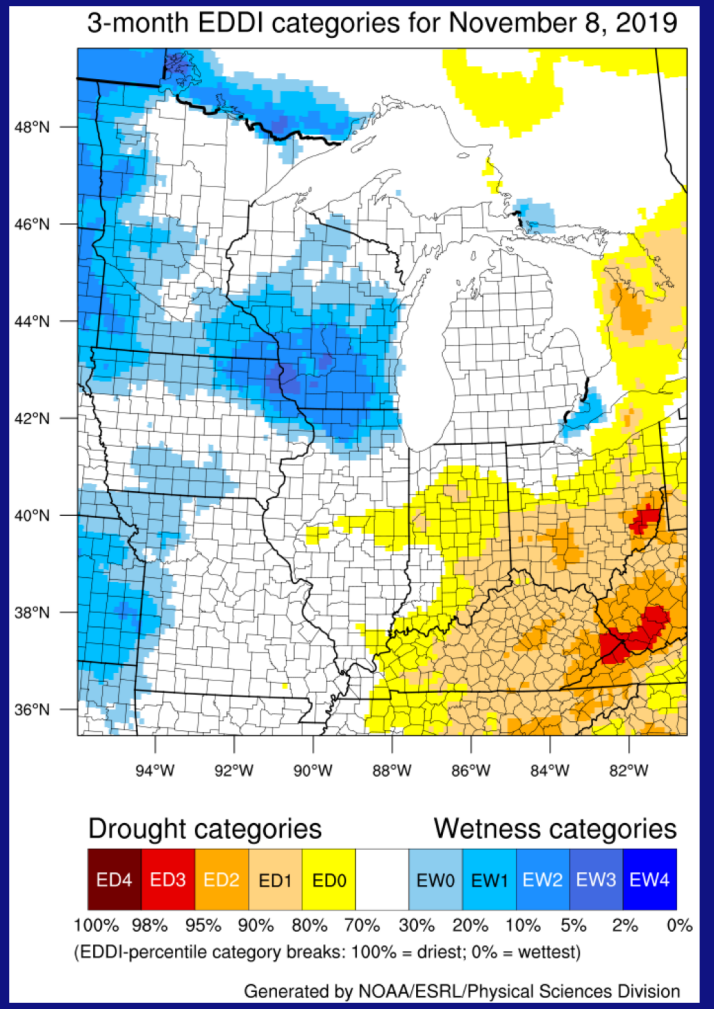
Improving Drought Monitoring and Early Warning Using EDDI



Evaporative Drought Demand Index (EDDI)

- EDDI has ability to provide earlier warning to drought/flash drought
- 2-week map signaled drought weeks ahead of US Drought Monitor in 2012

EDDI is available daily at 1- to 12-week and 1- to 12-month timescales, to capture different drying dynamics.



INTERDISCIPLINARY RESEARCH AND APPLICATIONS

Improving Drought Monitoring and Early Warning Using EDDI

Objectives

- Quantify EDDI's early warning skill in various sectors across Midwest DEWS
- Develop a regional flash drought detection metric

Outcome

- Information provided via Midwest DEWS network on EDDI's early warning capabilities
- Flash-drought detection maps for Midwest

PI: Mike Hobbins (Univ of CO) (Oct 2019-21)

Thank You!

molly.woloszyn@noaa.gov

@DroughtGov

Midwest DEWS Strategic Plan 2018-2019

Priorities

Integrate impacts, data, management practices and research into drought planning.

Enhance drought observations and data availability.

Improve drought early warning and communication capacity.

Foster stakeholder collaboration, coordination and relationship building.

Midwest DEWS Strategic Plan Flash Review

Goals of Flash Review

- Update on the progress of some activities in the Strategic Plan
- For you to provide input on the activities…
  - What do you like?
  - Any suggestions for improvement?
  - New ideas and/or partners to include?

Updating 2018-19 Strategic Plan

- *If outdated*: transition findings from this meeting into new Regional Implementation Plan
- *If majority remains relevant*: continue current SP for one more year with minor revisions

Midwest DEWS Strategic Plan Flash Review

Logistics

- 8 tables – groups of 4-5 will rotate through the tables. You'll have roughly 9 minutes at each table.
- Each table highlights 1 or 2 activities in the Strategic Plan.
- A helper will be at each table to answer your questions and/or discuss the activity with you!