The National Integrated Drought Information System

Snowpack Monitoring for Streamflow Forecasting and Drought Planning Workshop

Lander, WY
August 27, 2015

Chad McNutt, NOAA/NIDIS
Casper, WY

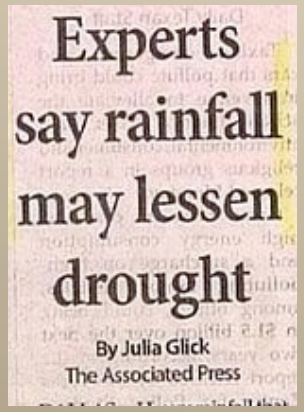
NIDIS Goals

- **Goals:**
  - Provide a better understanding of how and why droughts affect society, the economy and the environment.
  - Improve accessibility, dissemination and use of early warning information for drought risk management.
- How?
  - Build off of a network of Regional Drought Early Warning Systems (DEWS) to create a National Drought Early Warning System

NIDIS Regional Drought Early Warning Systems

What is 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


Experts say rainfall may lessen drought

By Julia Glick
The Associated Press

…..as with rainbows each person experiences their own drought

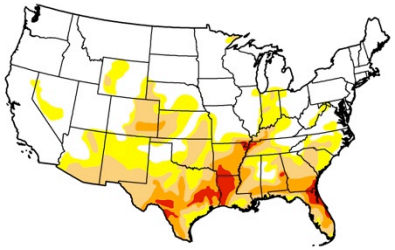
-Kelly Redmond

Components of Drought Early Warning Systems (DEWS)

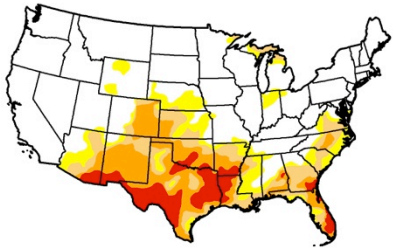
- Drought assessments
- Climate outlook forums
- Education and outreach webinars – risk management
- Engaging the preparedness community
- Builds capacity to utilize existing products

Intensification, Persistence, Improvement

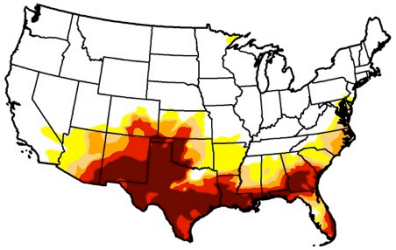
January 2011



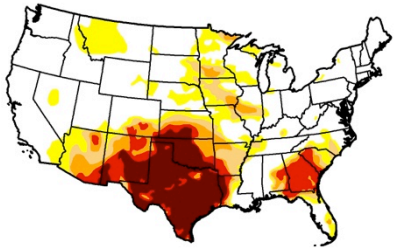
April 2011



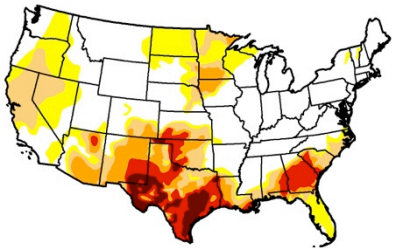
July 2011



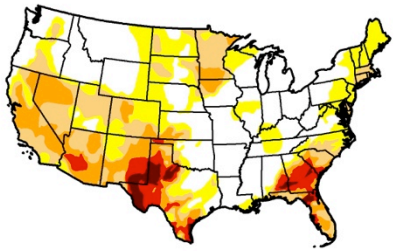
October 2011



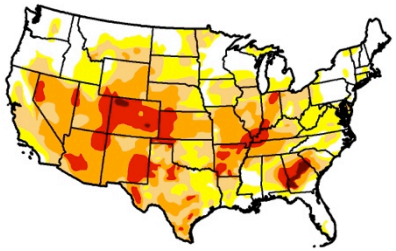
January 2012



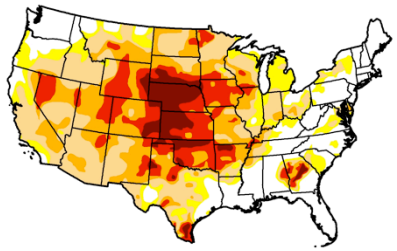
April 2012



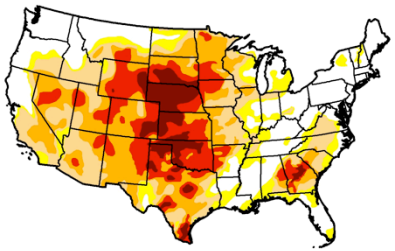
July 2012



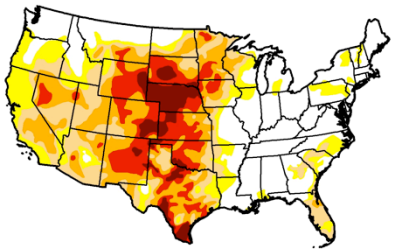
October 2012



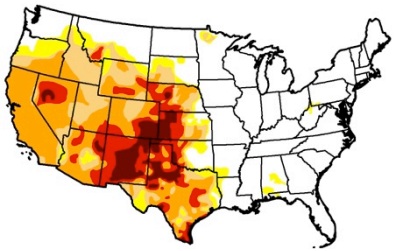
January 2013



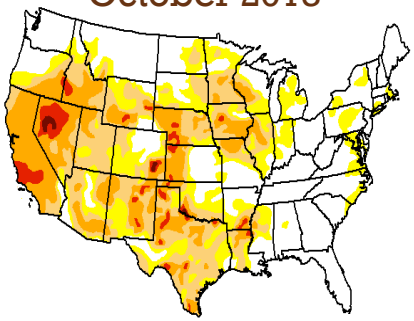
April 2013



July 2013



October 2013



Drought Assessment Groups

States

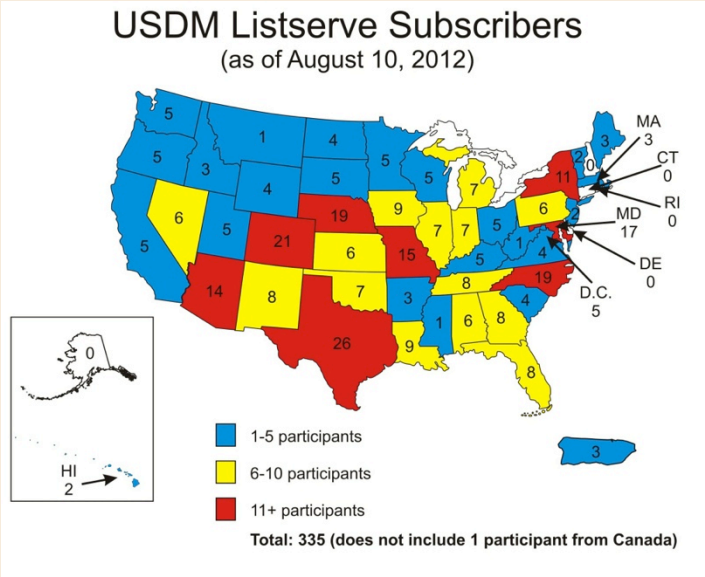
- Arizona
- Hawaii
- Texas
- New Mexico
- Alabama
- Colorado
- North Carolina
- Florida
- South Dakota
- Oklahoma

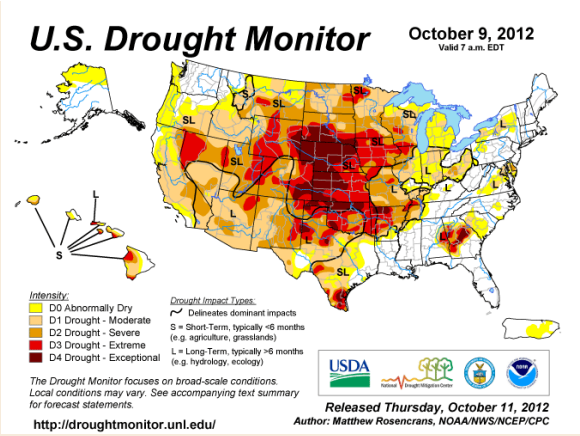
River Basins

- Upper Colorado
- Apalachicola-Chattahoochee-Flint

Tribes

- Navajo Nation





Northern Arapaho Tribe

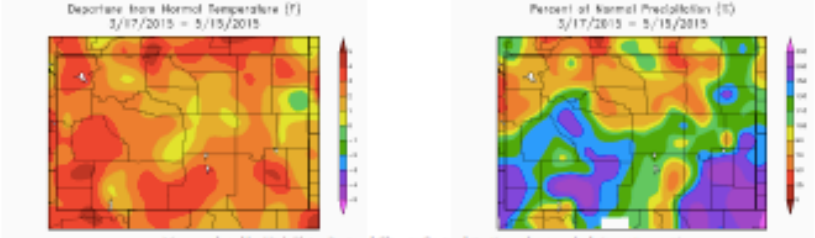
Wind River Indian Reservation Climate and Drought Summary

Early Spring Events & Early Summer Outlook 2015

EASTERN SHOSHONE TRIBE

Above Normal Temperatures and Variable Precipitation During Early Spring

The main story regarding climate conditions during the past couple of months in the Wind River Region is a continuance of above normal temperatures. Since mid-March, temperatures have been running about 2-3°F above normal for most of the reservation and 3-4°F above normal to the south and west of the reservation (see map below left). Temperatures have been above normal for this region since last fall, which continued into March and April as every station listed in the table at the top of page 2 reported above normal temperatures. In fact, combined March and April average temperatures ranked 6th warmest at Diversion Dam, 7th warmest at Lander, and 8th warmest at Riverton. The first half of May, however, has been running a bit cooler than normal in the Wind River Region. Precipitation during the past two months has varied across the area, as it has been wetter to the south and west and drier to the north and east (see map below right). During the months of March and April, precipitation was mostly near normal for stations in the region with the exception of Boysen Dam, which only received 66 percent of normal precipitation and ranked as the 15th driest for this period (see data table at the top of page 2).

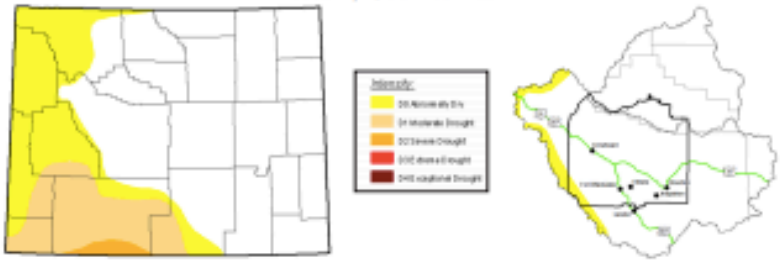


Maps produced by High Plains Regional Climate Center: http://www.hprcc.unl.edu/maps/current/

Abnormally Dry Conditions Noted In Parts Of The Wind River Region

The Wind River Region has been wet enough to stave off drought conditions during the past year, but growing precipitation deficits and long-term above normal temperatures to the south of the area have allowed drought to develop in southwestern Wyoming (see map below left). Moderate drought (D1) has been present in that area since mid-February, and a small pocket of severe drought (D2) was introduced by the Drought Monitor during late March. Dryness has expanded northward and eastward to include parts of the northern and western Wind River Basin and the southwest corner of the reservation, which are now in the abnormally dry (D0) Drought Monitor category (see map below right).

U.S. Drought Monitor of Wyoming (left) and the Wind River Indian Reservation and Surrounding Area (right) - May 12, 2015
Released May 14, 2015 Valid 8 a.m. EDT



The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC-UNL

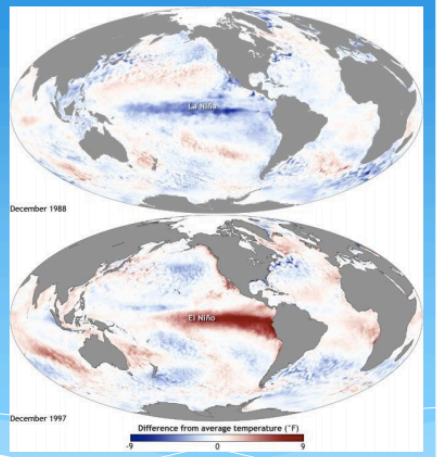
May 2015

Great Plains and Midwest Climate Outlook
August 20, 2015

Dr. Jim Angel
Illinois State Climatologist
Illinois State Water Survey
University of Illinois
jimangel@illinois.edu

Upper Missouri Basin Climate/Drought Early Warning Webinar: El Niño

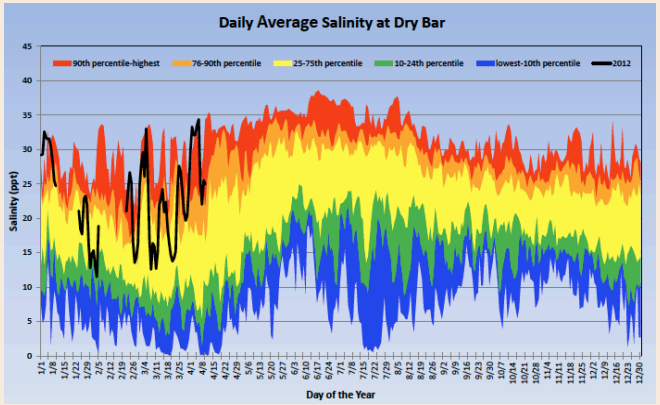
Dr. Dennis Todey
State Climatologist
South Dakota State Univ.
dennis.todey@sdstate.edu
605-688-5678



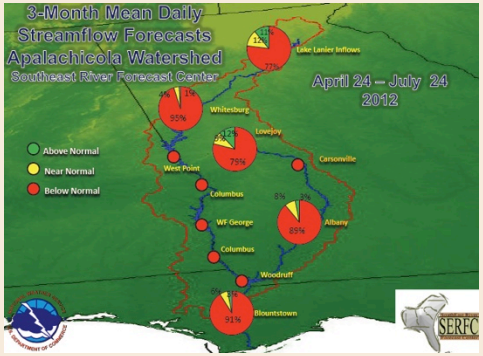
Sea Surface Temperatures – 1988 La Niña and 1998 El Niño

Interesting things about the webinars

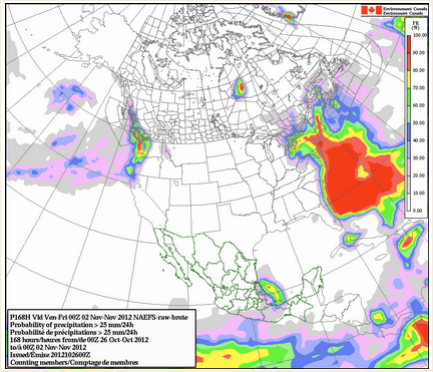
- Decision-makers get involved and participate in the discussion at limited cost. Hear other perspectives
- Interact directly with the experts
- Test new products; users provide direct feedback



Apalachicola National Research Reserve

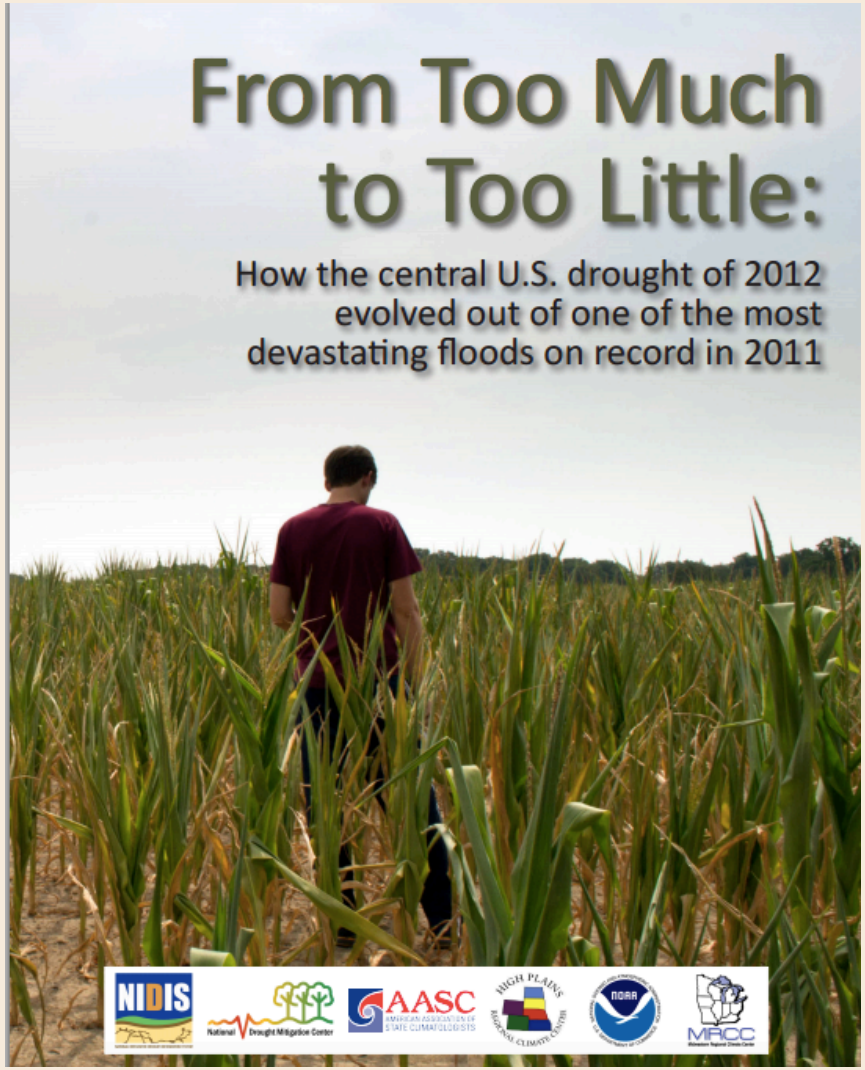


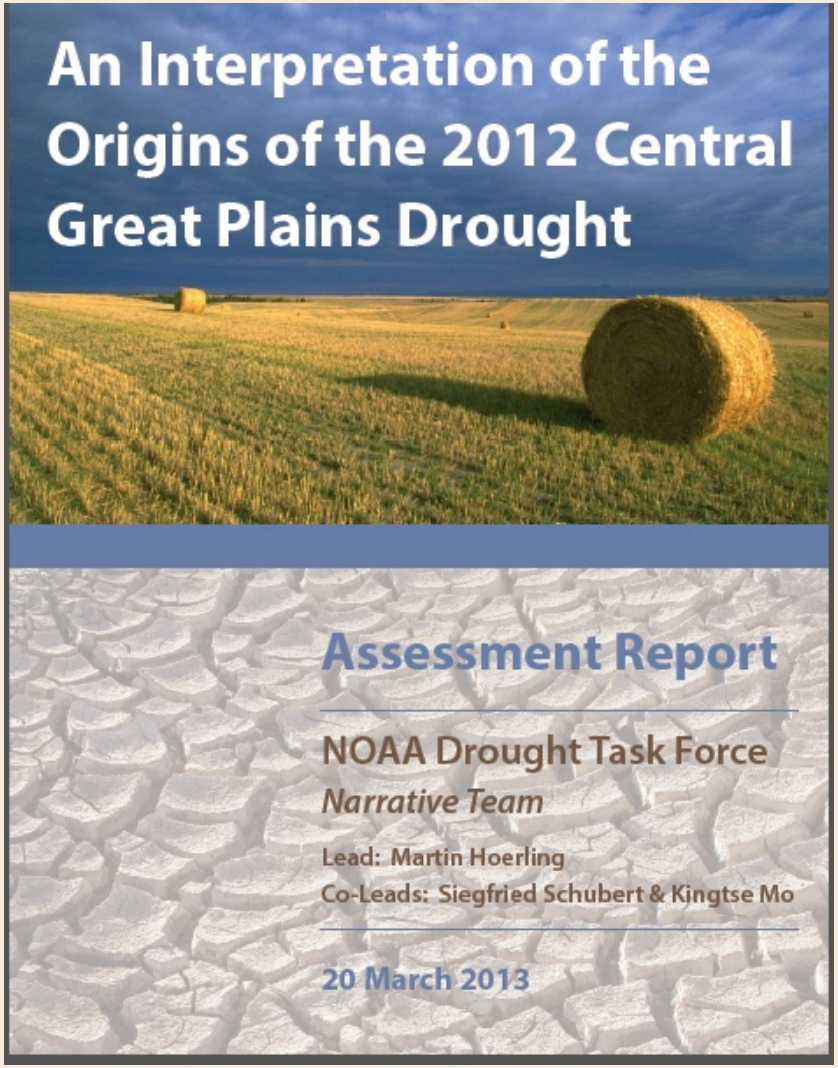
SE River Forecast Center-Streamflow forecast



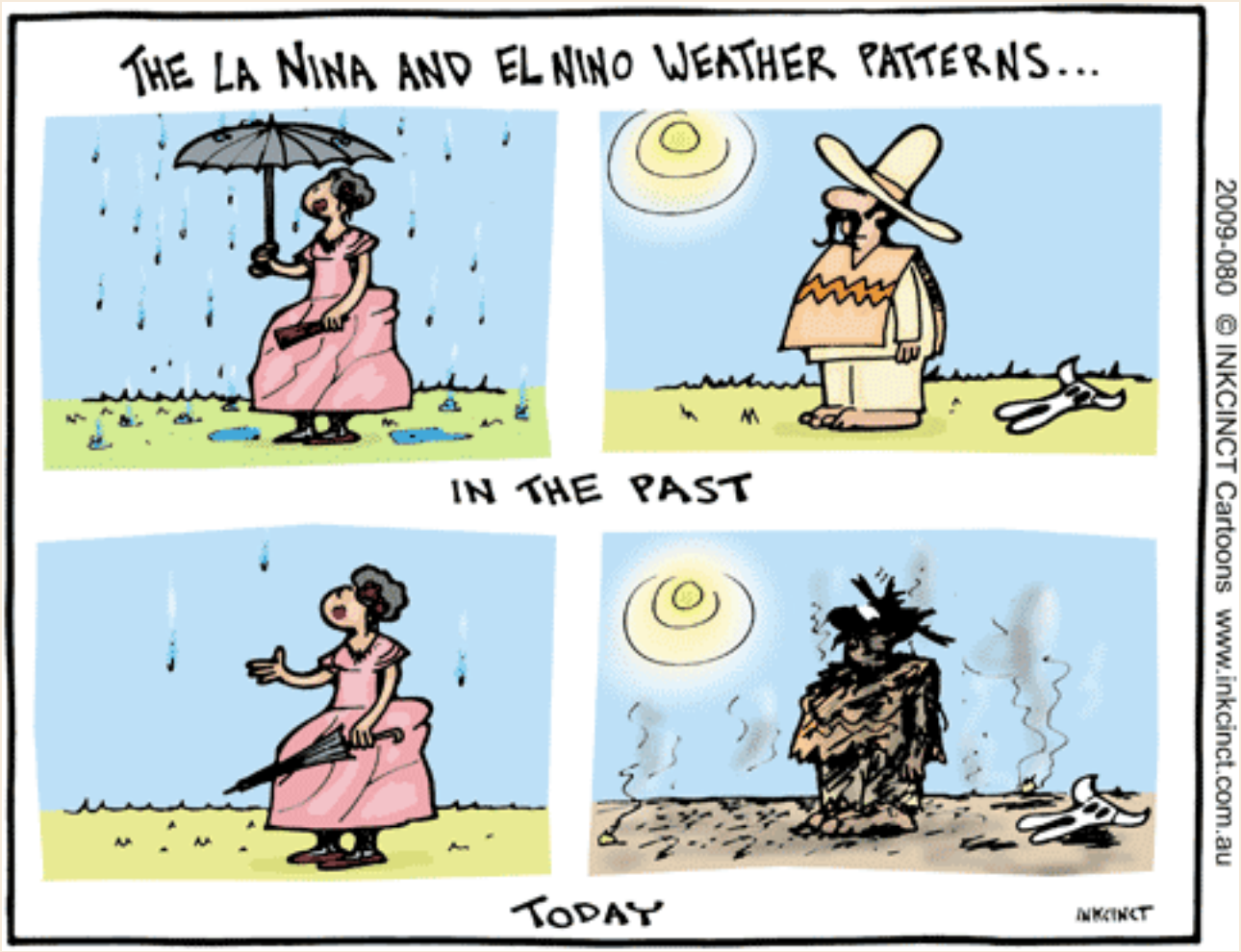
NAEFS

Assessments

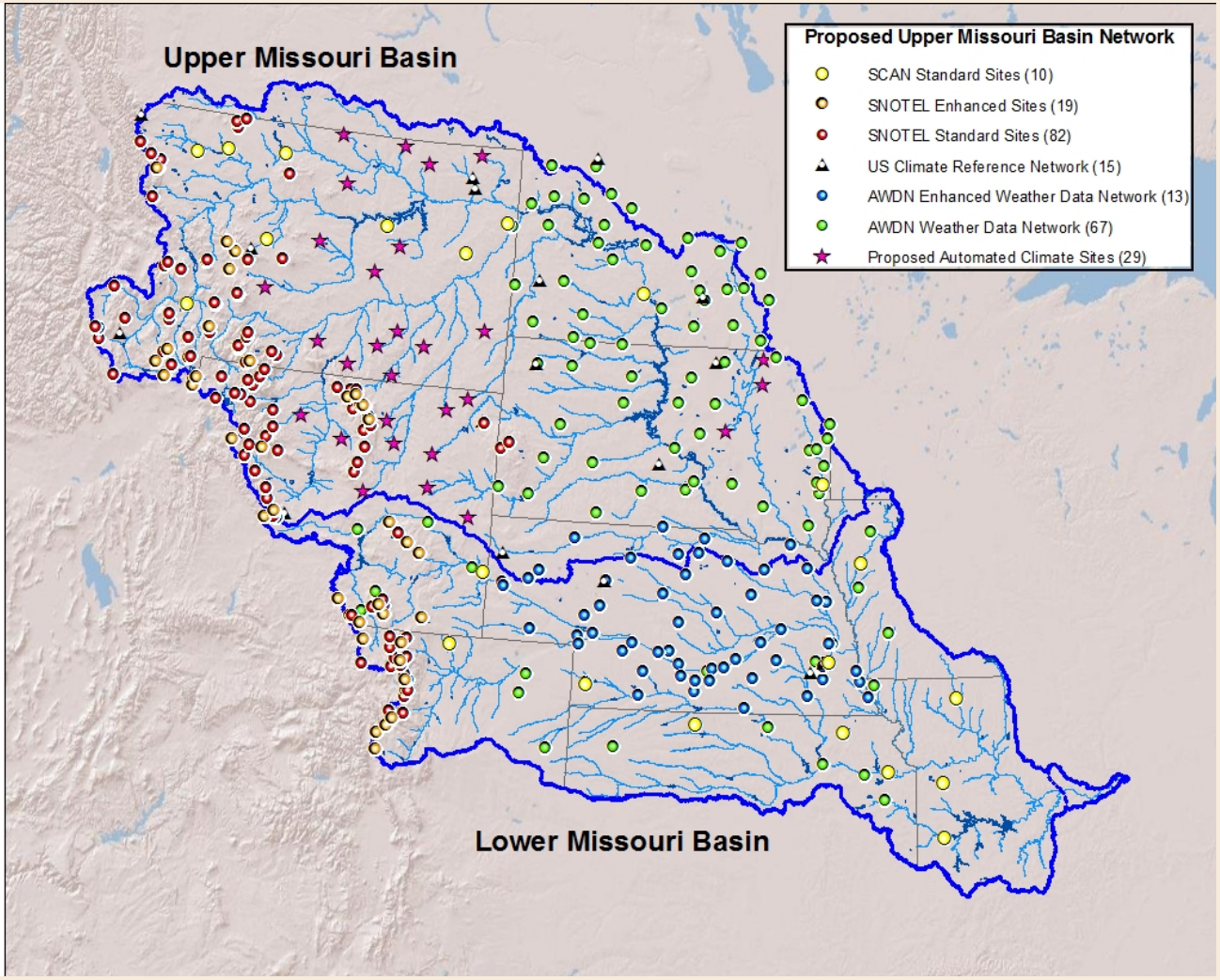




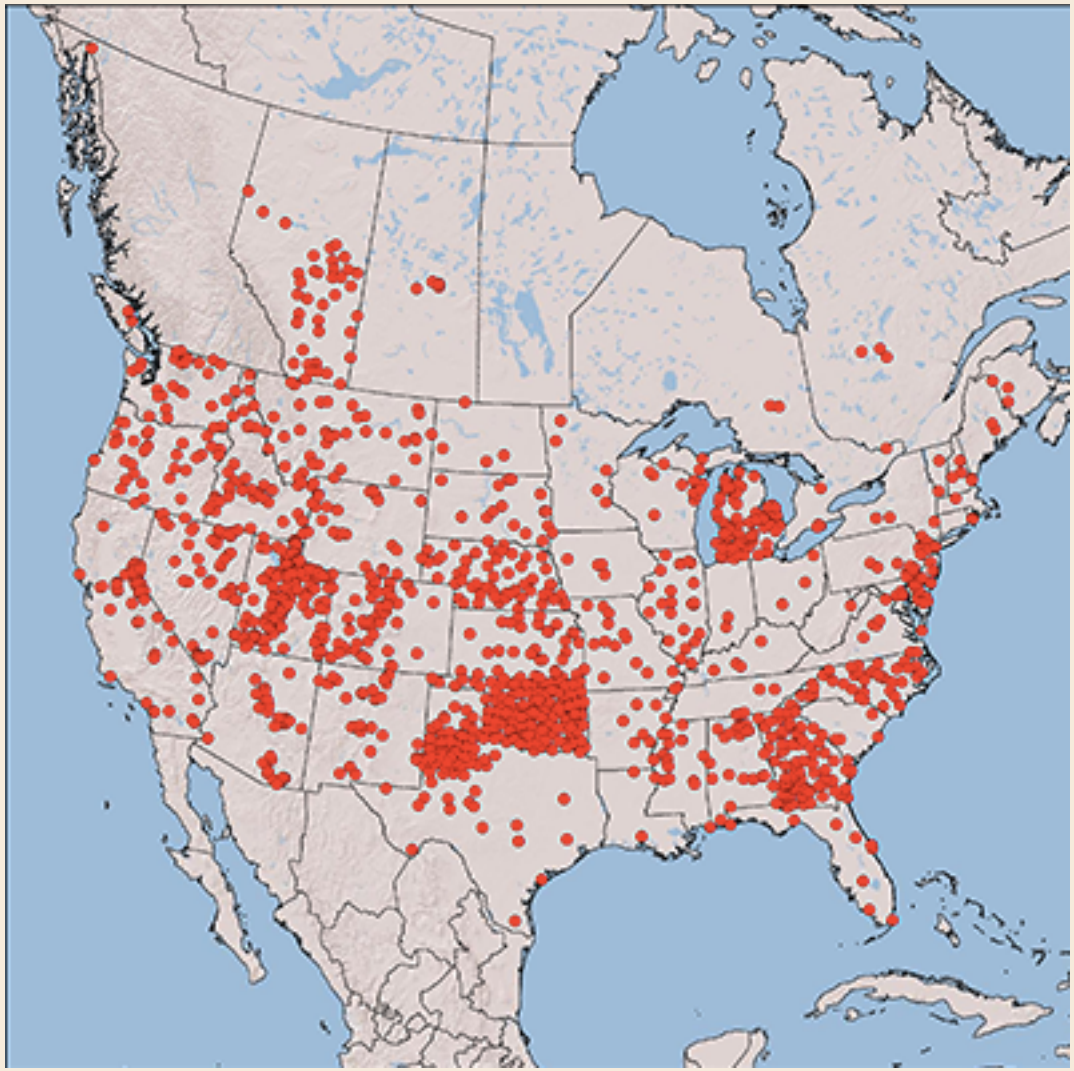
MR Niño Assessment



Expanded Plains Snow and Soil Condition Network



National Soil Moisture Network



Thanks