

# The United States Drought Monitor Process: What is it and how can you participate?

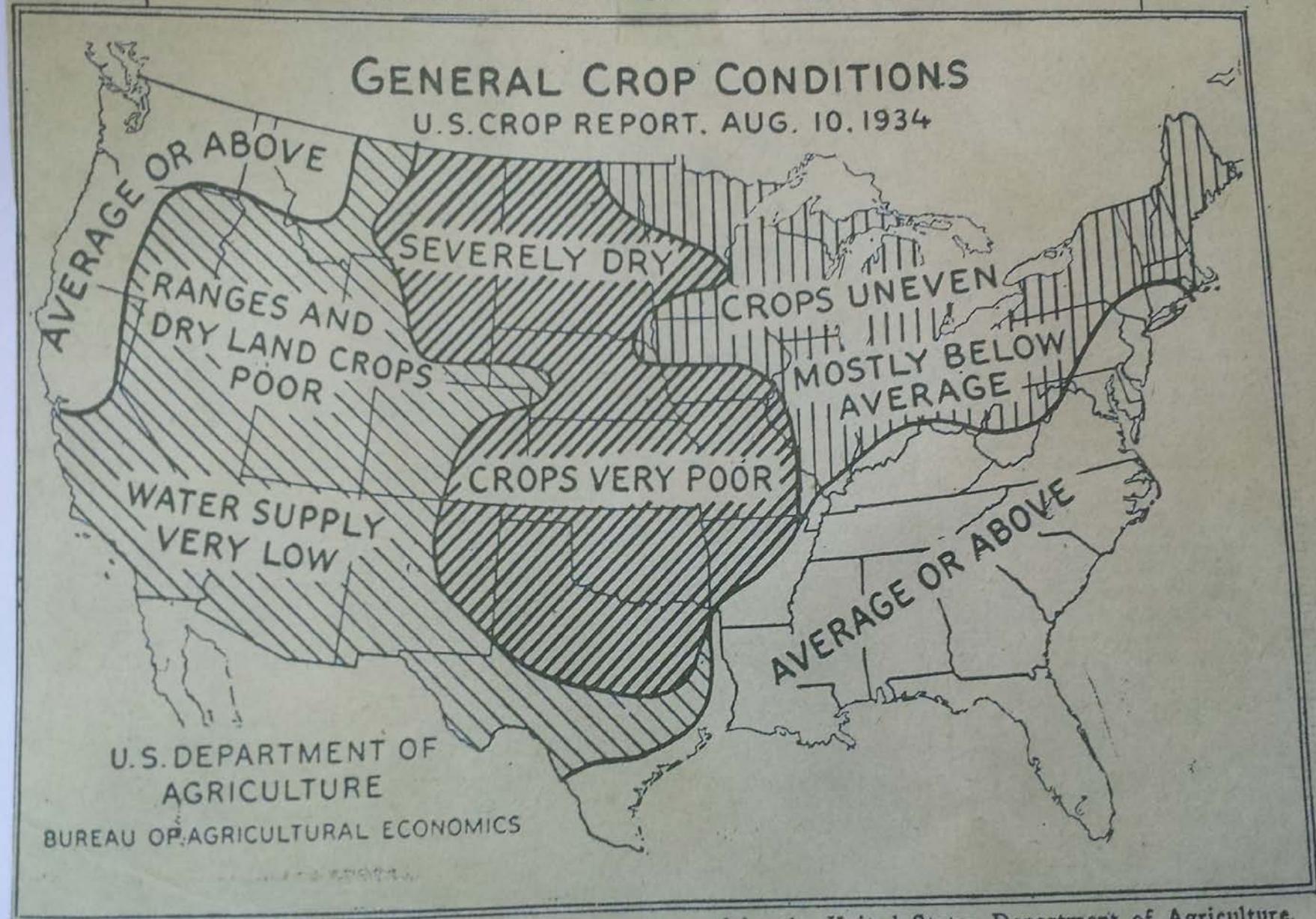
**Brian Fuchs**  
**National Drought Mitigation Center**  
**University of Nebraska-Lincoln**  
**School of Natural Resources**



CROP EXPERTS MAKE MAP OF DROUTH AREAS

GENERAL CROP CONDITIONS

U.S. CROP REPORT, AUG. 10, 1934



U.S. DEPARTMENT OF AGRICULTURE  
BUREAU OF AGRICULTURAL ECONOMICS

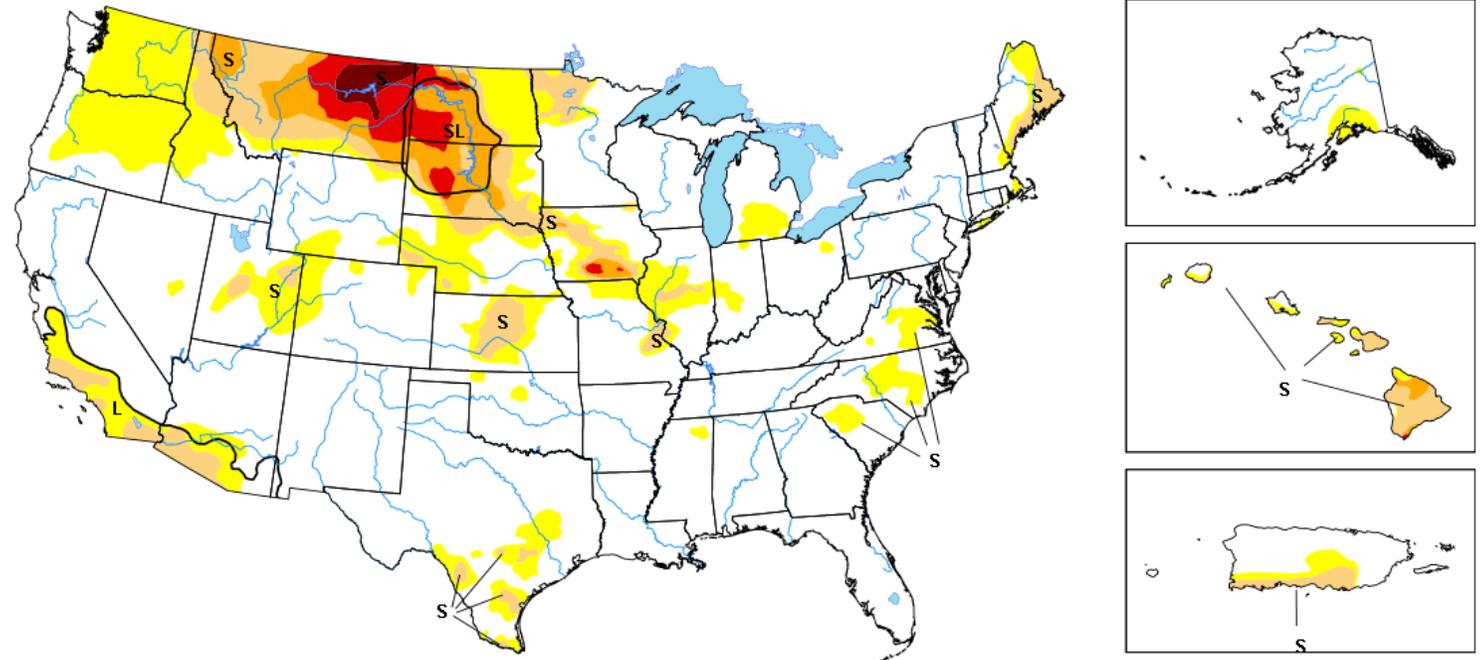
This chart, prepared by the United States Department of Agriculture, shows conditions in the different parts of the United States

# The United States Drought Monitor

- Hosted by the NDMC as part of a 3-way partnership with NOAA and USDA
- Over 12.5 million hits a year
- Used in several USDA programs
- Used by the IRS for tax deferrals
- Many others !

## Map for August 24, 2017

Data valid: August 22, 2017 | Author: [Chris Fenimore](#), NOAA/NESDIS/NCEI



The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

### Intensity and Impacts

None  
D0 (Abnormally Dry)  
D1 (Moderate Drought)

D2 (Severe Drought)  
D3 (Extreme Drought)  
D4 (Exceptional Drought)

~ Delineates dominant impacts

S - Short-Term impacts, typically less than 6 months (e.g. agriculture, grasslands)

L - Long-Term impacts, typically greater than 6 months (e.g. hydrology, ecology)

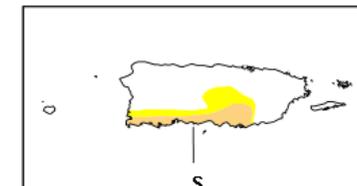
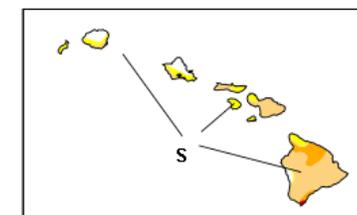
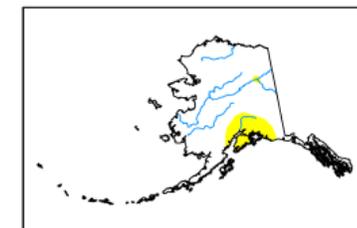
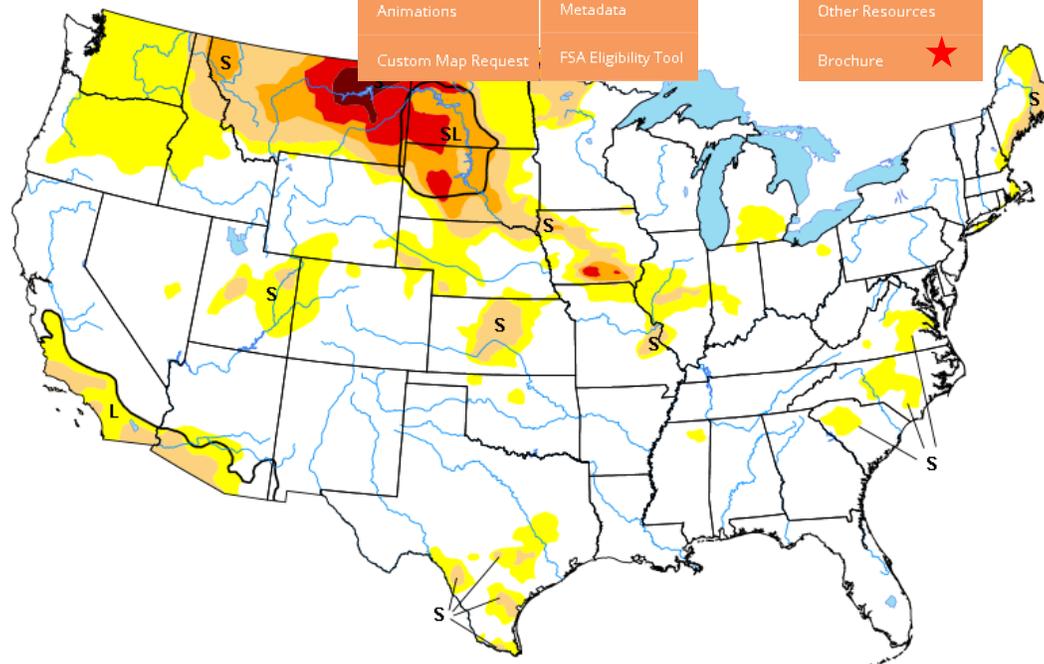
## The United States Drought Monitor

A summary narrative of changes made each week, by region, can be found in the **[“Drought Summary”](#)**

Map for August 24, 2017

Data valid: August 22, 2017 | Author: NCEI

- ★ [Compare Two Weeks](#)
- ★ [Time Series](#)
- ★ [Background](#)
- ★ [Comparison Slider](#)
- ★ [Data Tables](#)
- ★ [Contact Us](#)
- ★ [Map Archive](#)
- ★ [Data Download](#)
- ★ [Drought Classification](#)
- ★ [Change Maps](#)
- ★ [GIS Data](#)
- ★ [FAQ](#)
- ★ [Animations](#)
- ★ [Metadata](#)
- ★ [Other Resources](#)
- ★ [Custom Map Request](#)
- ★ [FSA Eligibility Tool](#)
- ★ [Brochure](#)



The data cutoff for Drought Monitor maps is each Tuesday at 8 a.m. EDT. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

### Intensity and Impacts

- |                       |                          |  |
|-----------------------|--------------------------|--|
| None                  | D2 (Severe Drought)      | Delineates dominant impacts  |
| D0 (Abnormally Dry)   | D3 (Extreme Drought)     | <b>S</b> - Short-Term impacts, typically less than 6 months (e.g. agriculture, grasslands) |
| D1 (Moderate Drought) | D4 (Exceptional Drought) | <b>L</b> - Long-Term impacts, typically greater than 6 months (e.g. hydrology, ecology)    |

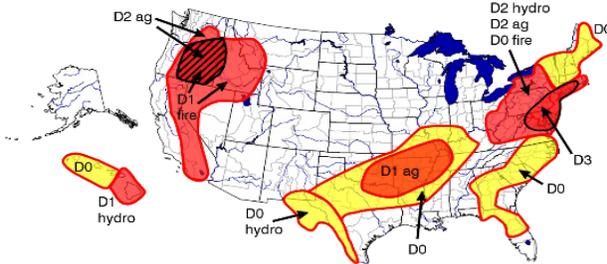
# The U.S. Drought Monitor

Since 1999, NOAA (CPC, NCEI, WRCC), USDA, and the NDMC in an EQUAL Partnership

have produced a weekly composite drought map -- the U.S. Drought Monitor -- with input from numerous federal and non-federal agencies

- **11** current authors, 2 legacy authors, 1 author in training
- **Western Region Climate Center** on board 2008
- **Incorporate** relevant information and products from all entities (and levels of government) dealing with drought (RCC's, SC's, federal/state agencies, etc.) **(450+ experts)**

August 3, 1999  
**Experimental U.S. Drought Monitor**

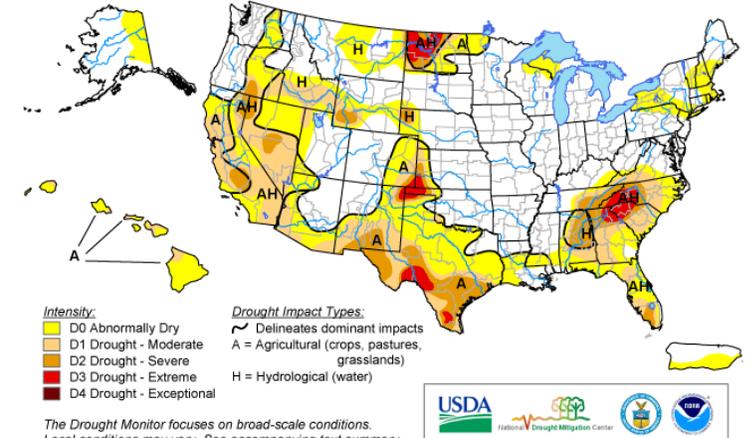


"Drought" means moisture shortages leading to damaged crops or pastures, high wildfire risk, or water shortages. The map is based on information from many sources, including both satellite and surface data, and it focuses on widespread drought. Local conditions may vary.

**Yellow (D0)** = Drought Watch Area (abnormally dry but not full drought status)  
**Red (D1-D4)** = Current drought ranging in severity from standard (D1) to severe (D2-D3) to extreme (D4)  
 Crosshatching ( ) = Overlapping drought type areas  
 Drought type: Used when impacts differ  
 Ag = agricultural (crops, grasslands)  
 Fire = forestry (wildfire potential)  
 Hydro = hydrological (rivers, wells, reservoirs)  
 Plus (+) = Forecast to intensify  
 Minus (-) = Forecast to diminish



**U.S. Drought Monitor** June 10, 2008  
Valid 8 a.m. EDT



**Intensity:**  
 Yellow D0 Abnormally Dry  
 Orange D1 Drought - Moderate  
 Red D2 Drought - Severe  
 Dark Red D3 Drought - Extreme  
 Black D4 Drought - Exceptional

**Drought Impact Types:**  
 ~ Delineates dominant impacts  
 A = Agricultural (crops, pastures, grasslands)  
 H = Hydrological (water)

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

<http://drought.unl.edu/dm>

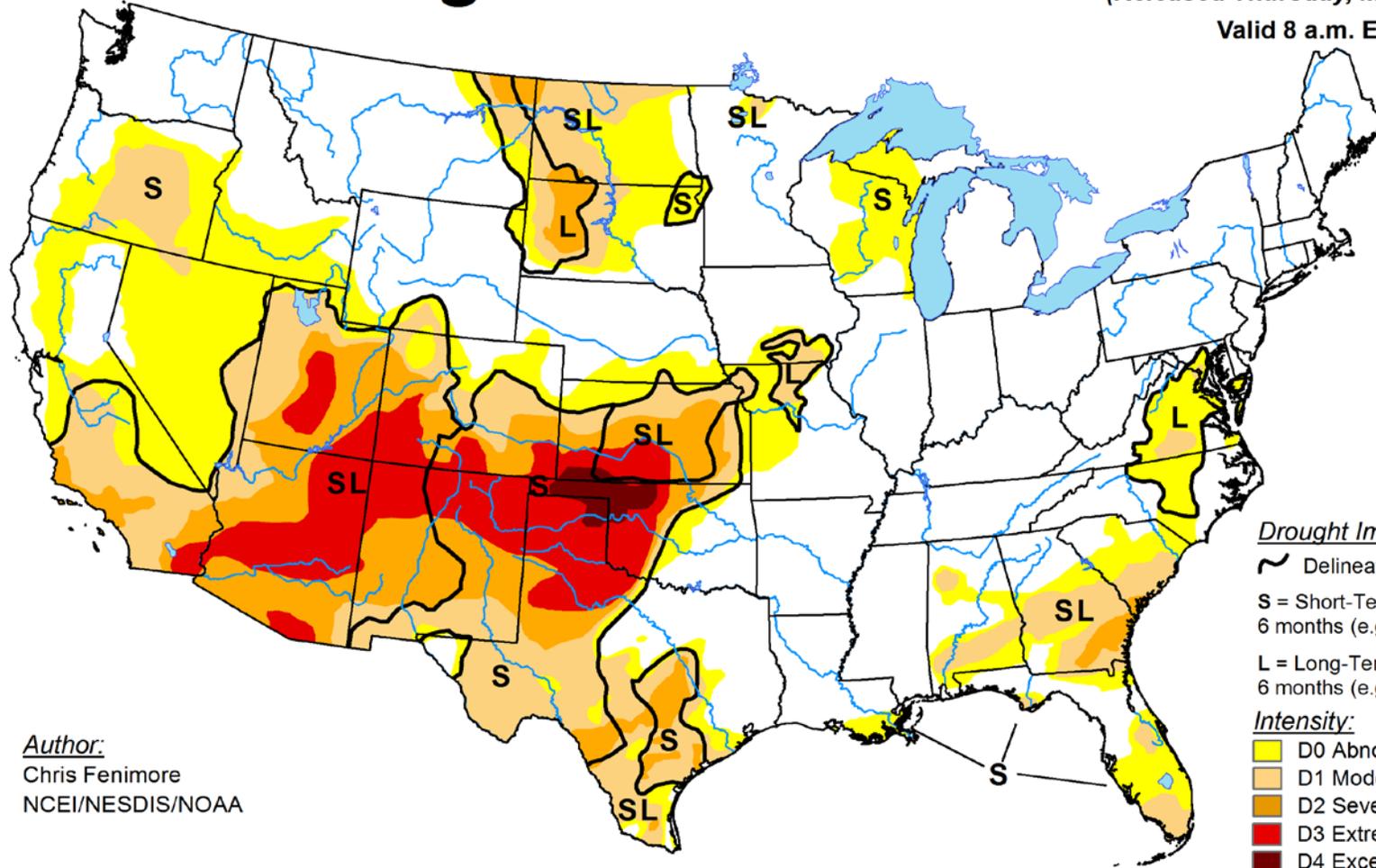


Released Thursday, June 12, 2008  
Author: Mark Svoboda, National Drought Mitigation Center

# U.S. Drought Monitor

March 27, 2018  
(Released Thursday, Mar. 29, 2018)

Valid 8 a.m. EDT

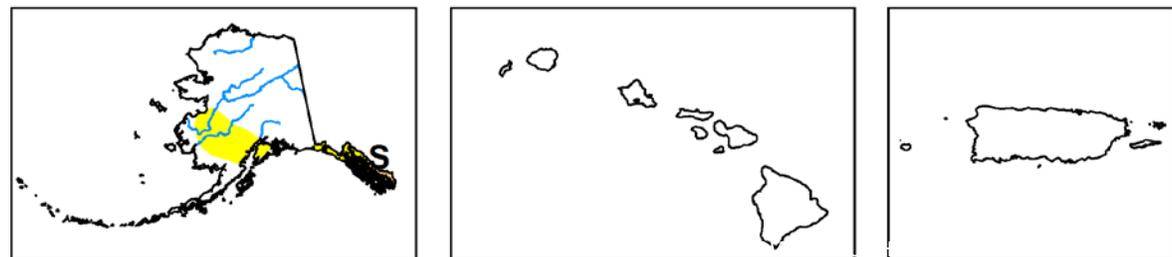


Timescales of potential impacts delineated

- Drought Impact Types:
- ~ Delineates dominant impacts
  - S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
  - L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
- Intensity:
- D0 Abnormally Dry
  - D1 Moderate Drought
  - D2 Severe Drought
  - D3 Extreme Drought
  - D4 Exceptional Drought

Author:  
Chris Fenimore  
NCEI/NESDIS/NOAA

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



<http://droughtmonitor.unl.edu/>

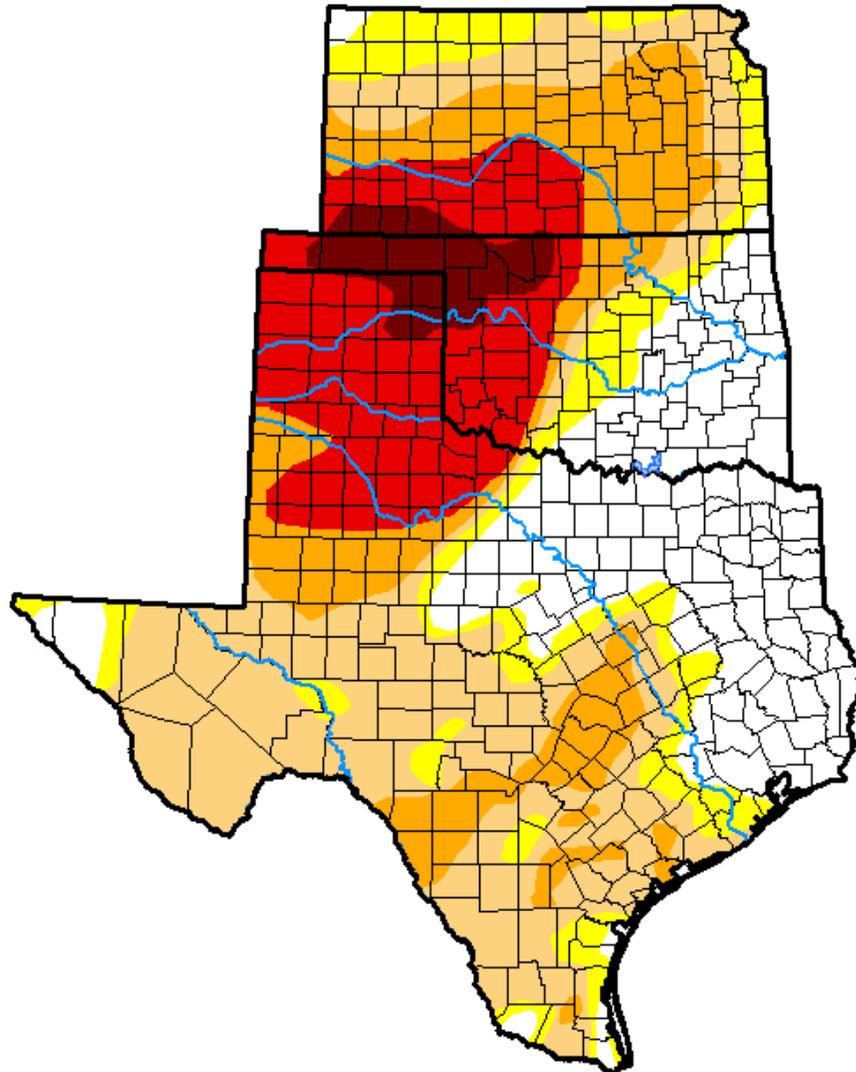
5 levels of intensity on the map, 4 are considered drought, 1 is not

*Intensity:*

-  D0 Abnormally Dry } Not Drought
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

4 Drought intensities

*U.S. Drought Monitor*  
**USDA Southern Plains  
 Climate Hub**



**March 27, 2018**  
*(Released Thursday, Mar. 29, 2018)*  
 Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	23.81	76.19	64.84	36.14	19.55	3.98
<b>Last Week</b> <i>03-20-2018</i>	22.83	77.17	63.09	34.60	19.24	1.43
<b>3 Months Ago</b> <i>12-26-2017</i>	23.61	76.39	40.10	8.27	0.07	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	21.20	78.80	40.69	11.99	0.07	0.00
<b>Start of Water Year</b> <i>09-26-2017</i>	67.42	32.58	4.77	0.29	0.00	0.00
<b>One Year Ago</b> <i>03-28-2017</i>	38.09	61.91	26.98	8.07	0.61	0.00

*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

*Author:*

Chris Fenimore  
 NCEI/NESDIS/NOAA



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor Class Change Maps

*At various time-scales of:*

*1 week*

*4 weeks*

*8 weeks*

*12 weeks*

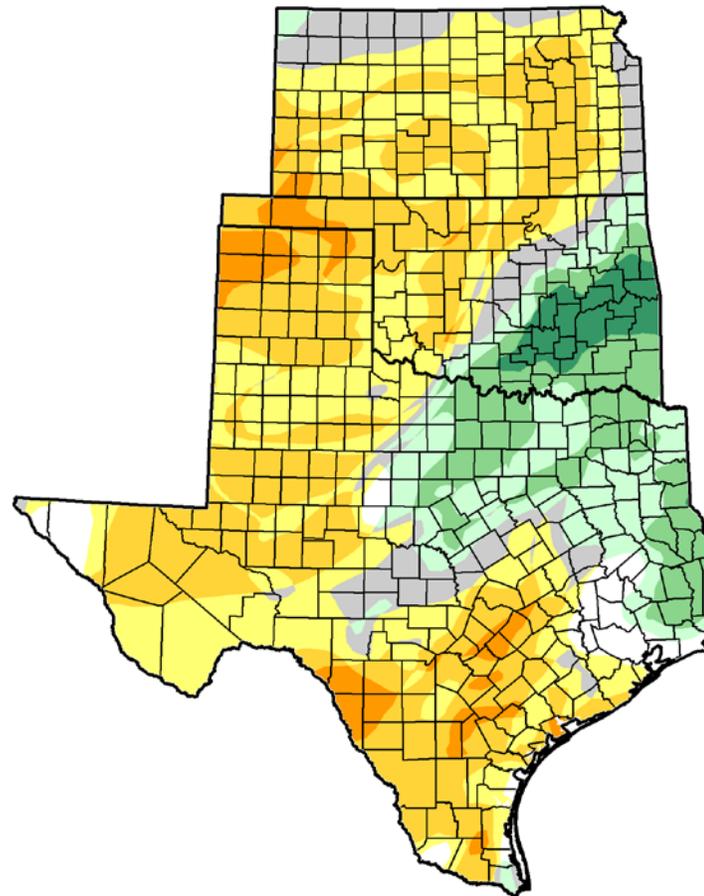
*24 weeks*

*1 year*

*Calendar year*

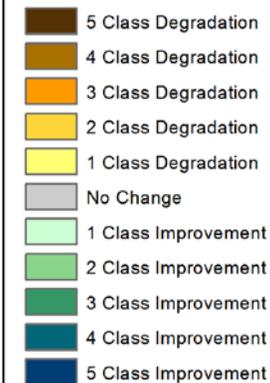
*Water year*

## U.S. Drought Monitor Class Change - USDA Southern Plains Climate Hub 3 Months

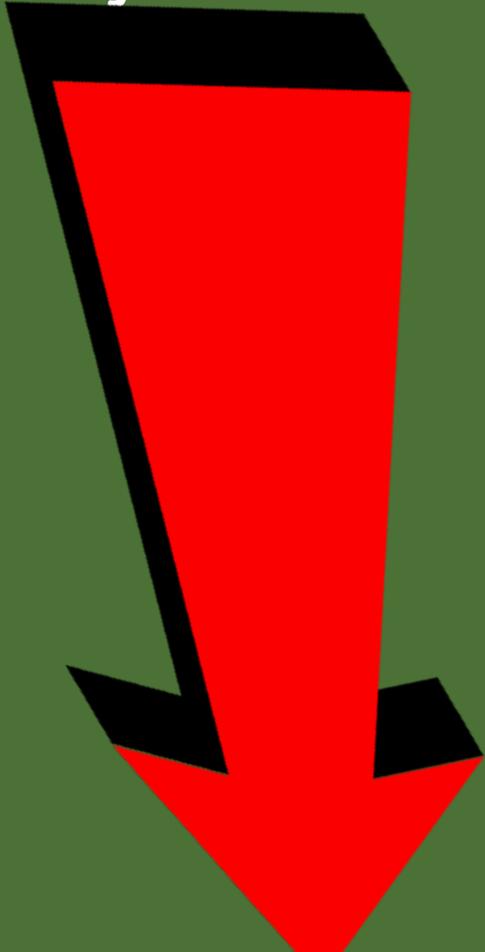


**March 27, 2018  
compared to  
January 2, 2018**

<http://droughtmonitor.unl.edu>



# U.S. Drought Monitor Objectives



- Assessment of **current** conditions and **current** impacts
- The U.S. Drought Monitor is **NOT** a model
  - The map is made manually each week based off the previous map
- The U.S. Drought Monitor is **NOT** interpreting just precipitation
- The U.S. Drought Monitor is **NOT** a forecast or drought declaration
  - Can be used by decision makers in this way though
- Identifying **impacts**
  - “**S**” short-term impacts, “**L**” long-term impacts or “**SL**” for a combination of both
  - “**S**”-6 month time scales or less, “**L**”-greater than 6 month time scales
- Incorporate **local expert** input
  - Accomplished via email and impact reports
  - Validation of Objective Indicators
- Authors try to be as **objective** as possible (using the percentiles methodology) and the **“Convergence of evidence”** approach
  - The physical data and indicators **must** support the depiction on the map
  - Impact data validates physical data

# U.S. Drought Monitor Approach

## “Convergence of Evidence”

- Many types of drought “information” can be collectively analyzed
  - ***Determining if the majority of information is ‘converging’ (telling the same story)*** about the accuracy, or inaccuracy, of the drought as depicted by the U.S. Drought Monitor
- Authors need to ***look at 100% of the data, BUT don’t believe in any one piece of data input 100%*** in making a decision...
- ***Multiple indicators and many types of information are part of the analysis***
  - These data will identify different climatic and hydrologic parameters which are needed to understand the complete picture of a drought indicator’s performance and how they interact in each part of the country
- ***Impacts are the “ground truth”***, yet aren’t monitored to the extent which other data are....**you can’t measure what you don’t monitor!**

# Percentiles and the U.S. Drought Monitor

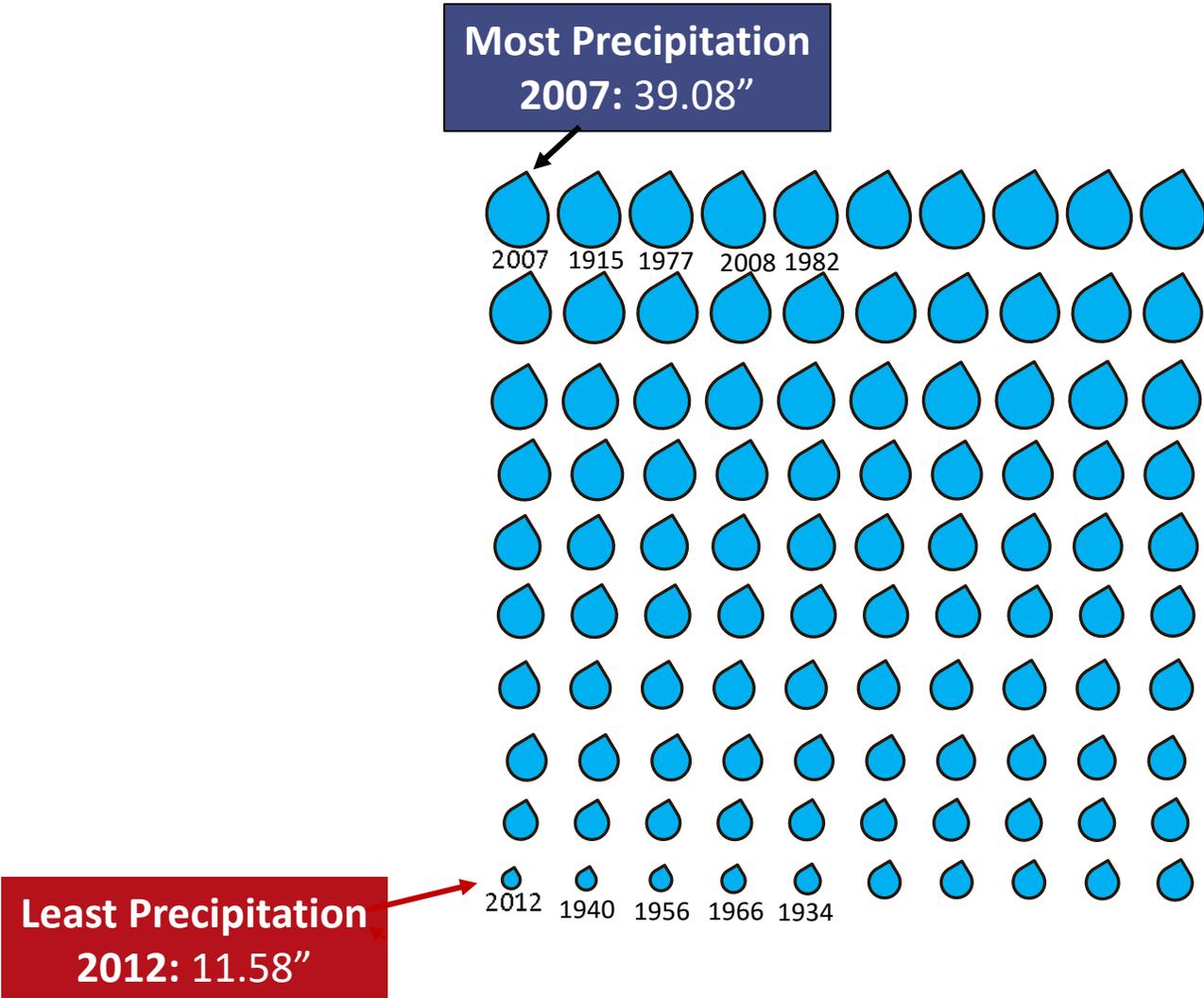
## Advantages of percentiles:

- Can be applied to any parameter used in the drought analysis
- Can be used for indicators of any length of data record
- Puts drought in historical perspective:

**How many occurrences in a given period of time**

D4: Exceptional Drought		( <i>1<sup>st</sup>-2<sup>nd</sup></i> percentile)
D3: Extreme Drought		( <i>3<sup>rd</sup>-5<sup>th</sup></i> percentile)
D2: Severe Drought		( <i>6<sup>th</sup>-10<sup>th</sup></i> percentile)
D1: Moderate Drought		( <i>11<sup>th</sup>-20<sup>th</sup></i> percentile)
D0: Abnormally Dry		( <i>21<sup>st</sup>-30<sup>th</sup></i> percentile)

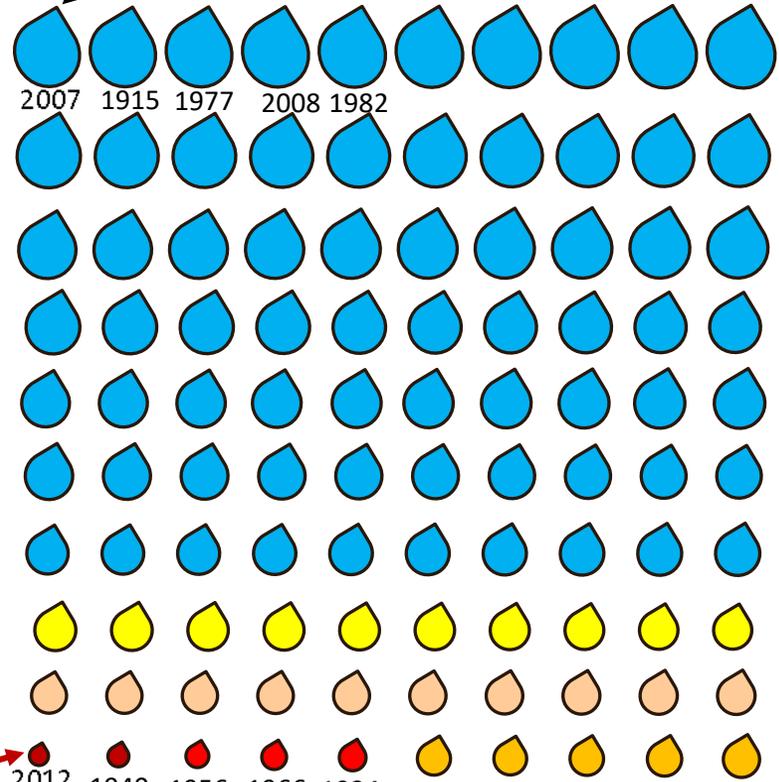
What are percentiles?



# What are percentiles?

Percentile			
D0	Abnormally Dry	21-30	
D1	Moderate Drought	11-20	
D2	Severe Drought	6-10	
D3	Extreme Drought	3 - 5	
D4	Exceptional Drought	1 - 2	

**Most Precipitation**  
2007: 39.08"

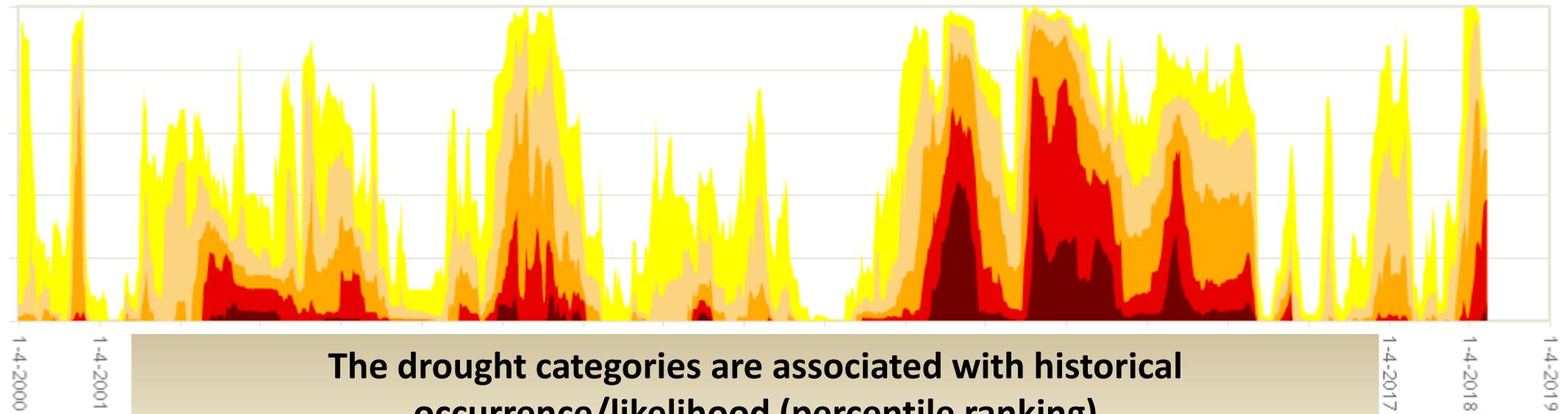


Near Normal  
31-100  
Percentile

**Least Precipitation**  
2012: 11.58"

1 - 2 percentile

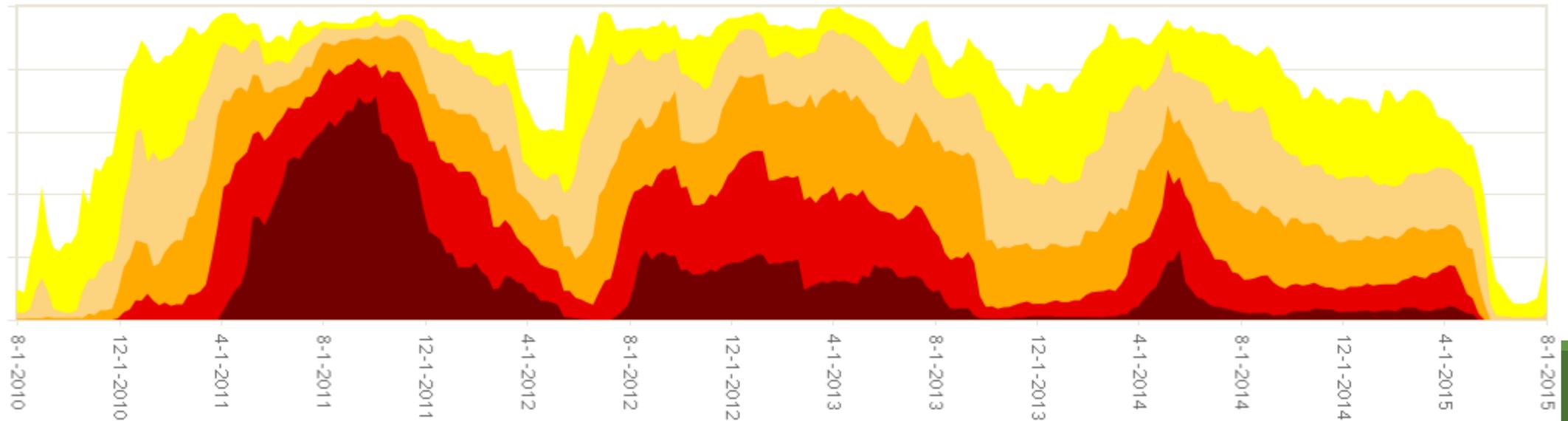
11 (Arkansas-White-Red) Percent Area



The drought categories are associated with historical occurrence/likelihood (percentile ranking)

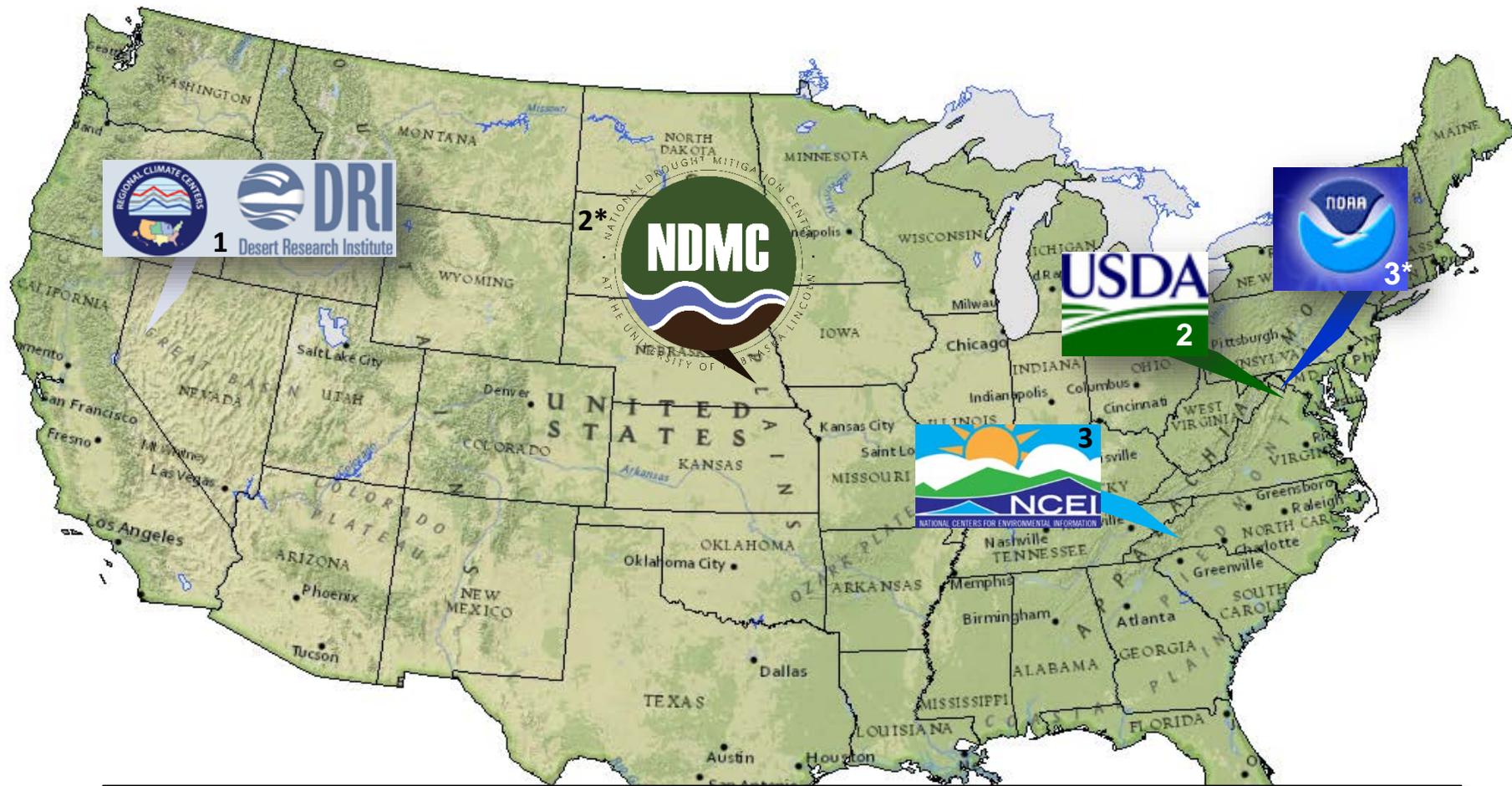
It is not anecdotal or subjective, like “It’s really, really dry!!” ...or, “I don’t remember it ever being this dry, we have to be D4!!”

Southern Plains Percent Area



How is all of this done?

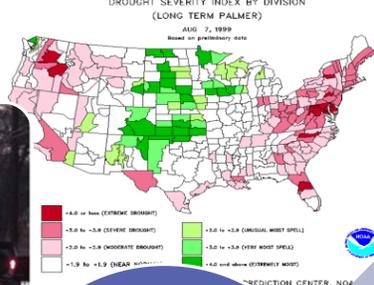




**Requirement: Authors must work at a regional or national “center”, government or academia/research**

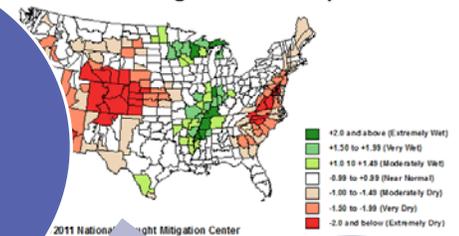
**There are currently 11\* authors, and all are volunteers**



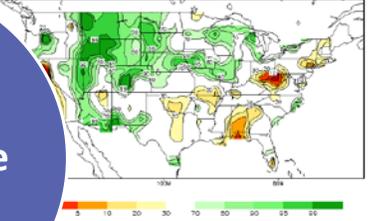


Indices:  
SPI/PDSI

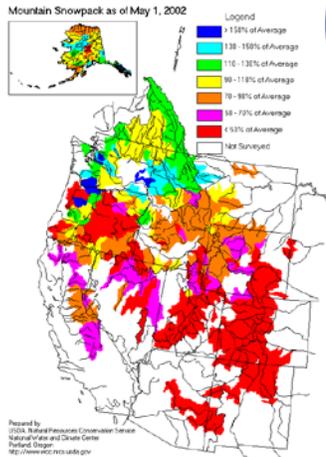
12-month SPI through the end of September 2002



Soil Moisture Ranking Percentile Last day of SEP, 2014



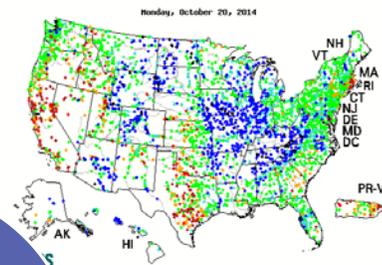
Precipitation  
and Snow



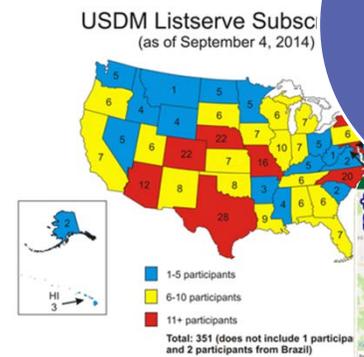
Most of the information analyzed each week falls into one of these categories.

Authors now use roughly **40-50 unique indicators** while creating the U.S. Drought Monitor map, but not all areas are represented equally by all pieces of data.

Soil Moisture



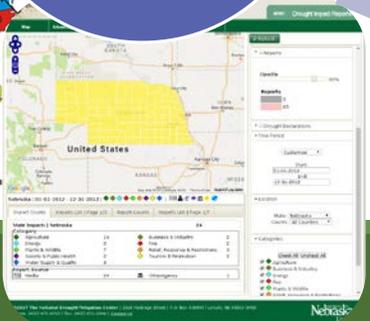
Expert Local  
Input and  
Impacts



Streamflow  
and  
Reservoirs



Remote  
Sensing



09 16 2013 15:39

# U.S. Drought Monitor

## Integrates Key Drought Indicators:

- Palmer Drought Index
- SPI
- SPEI
- KBDI
- Modeled Soil Moisture
  - NLDAS
- 7-14 Day Avg. Streamflow
- Precipitation Anomalies
- AHPS Precipitation
- Other data which are available

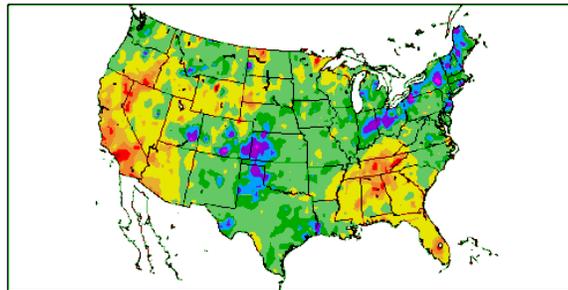
## Growing Season:

- Crop Moisture Index
- Sat. Veg. Health Index
- VegDRI/ESI/etc.
- Soil Moisture
- Mesonets
- State/Regional data

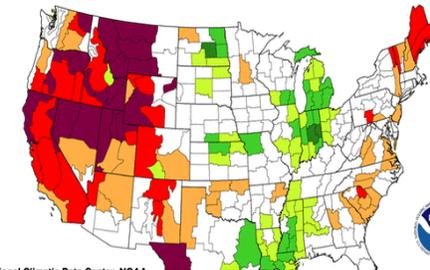
## In The West:

- SWSI
- Reservoir levels
- Snowpack (SNOTEL)
- SWE
- Streamflow

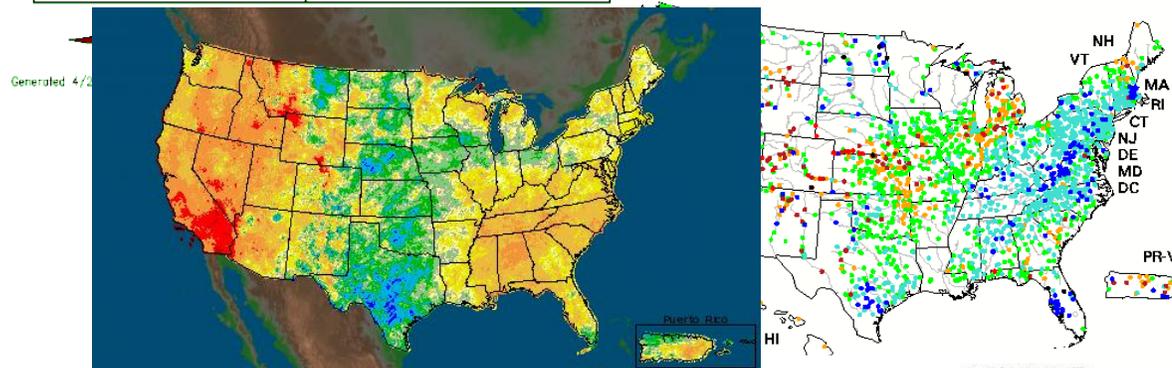
Water Year SPI  
10/1/2006 - 4/19/2007



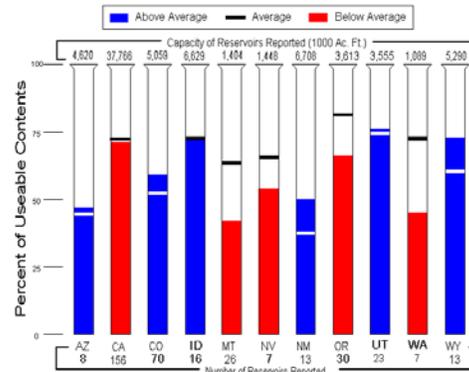
Palmer Drought Index  
Long-Term (Meteorological) Conditions  
October 21, 2001 - October 27, 2001



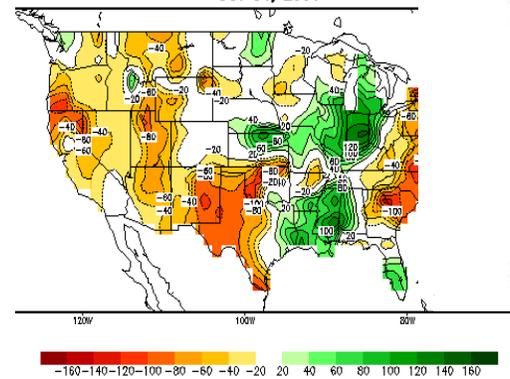
Sunday, December 22, 2002



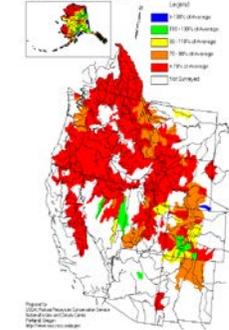
Reservoir Storage as of May 1, 2001



Calculated Soil Moisture Anomaly (mm)  
OCT 31, 2001



Mountain Snowpack as of May 1, 2001

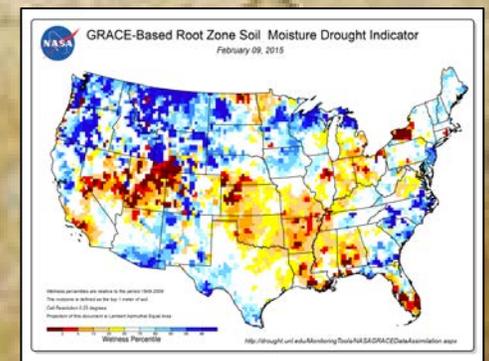
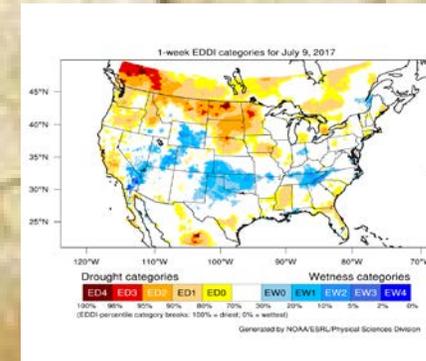
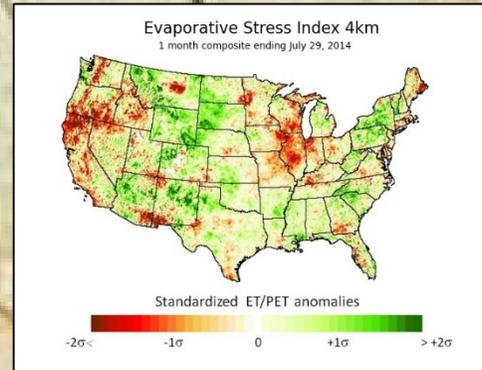
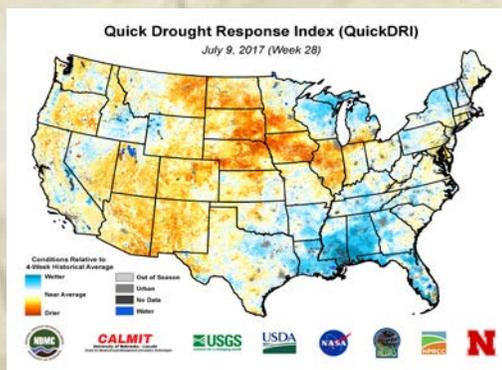
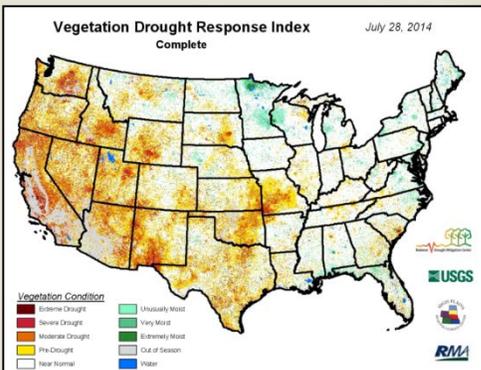
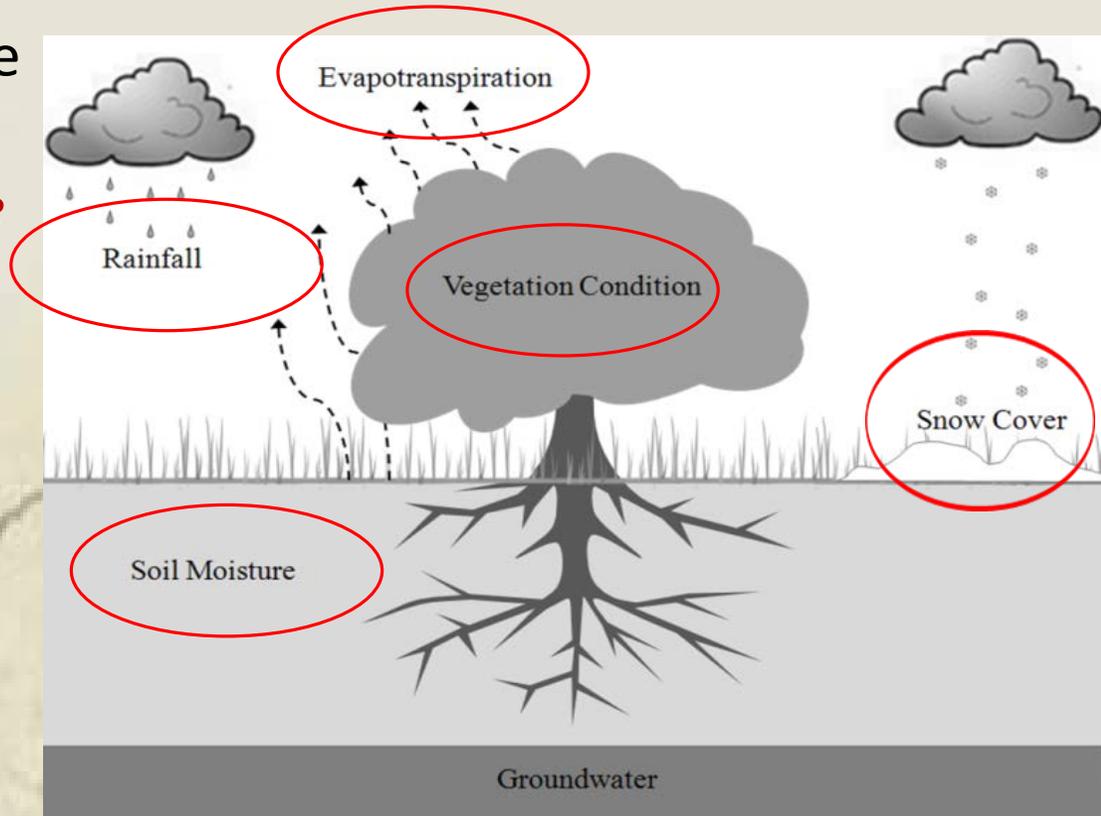


# Emerging Satellite-based Observations and Products

Over the past 10+ years, a number of satellite remote sensing-based tools and **products characterizing different parts of the hydrologic cycle that influence drought conditions** allowing new composite drought indicators to be developed.

## Examples

- Evaporative Stress Index (ESI)
- Quick Drought Response Index (QuickDRI)
- Evaporative Demand Drought Index (EDDI)
- GRACE soil moisture and groundwater anomalies
- Vegetation Drought Response Index (VegDRI)



# Regional and Local Feedback/Input Process

---

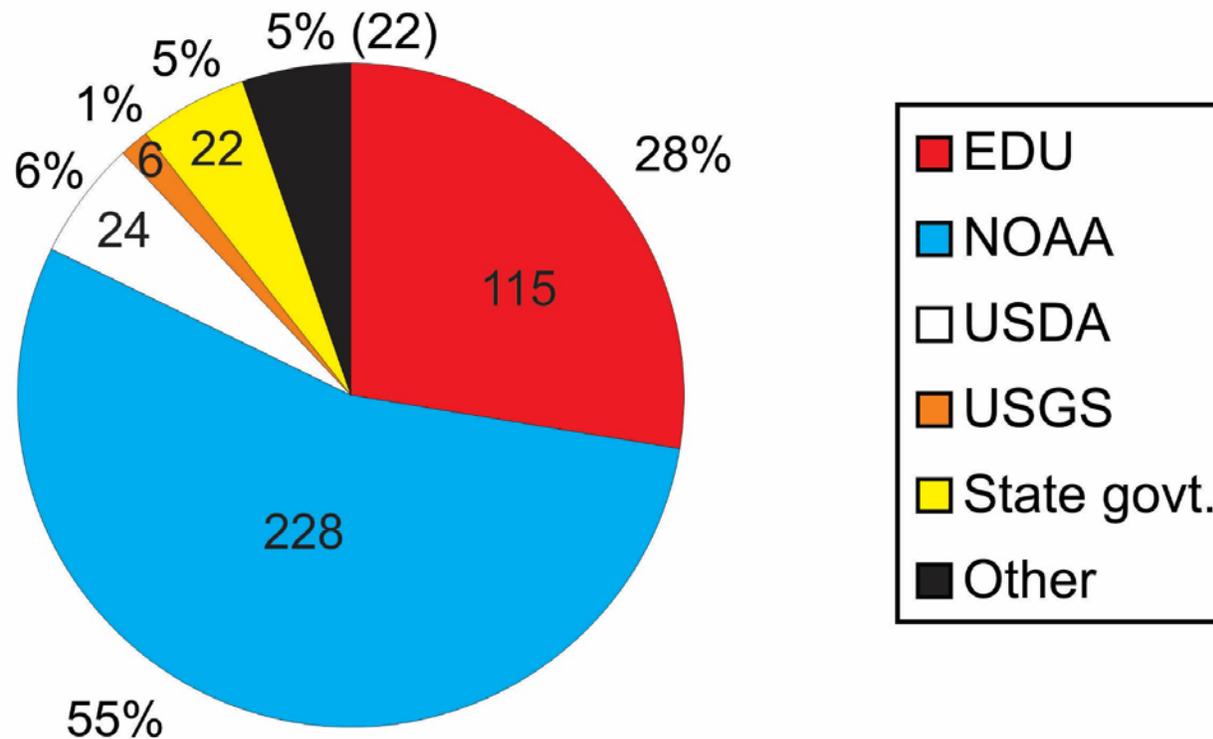
- Annual User **Feedback Forums** (USDM/NADM) since 2000
- Various webinars/telecons/reports/data/products
- **Regional Climate Centers** and NOAA **Regional Climate Service Directors and Coordinators along w/ Weather Forecast Offices (WFOs)**
- **State Climatologists**
- **USDA FSA/NRCS**
- **Native American Tribal input**
- **CoCoRaHS (impacts)**
- National Integrated Drought Information System (**NIDIS**) **Pilot RDEWS** basin webinars:
  - UCRB (Upper Colorado River Basin)
  - ACF (Apalachicola-Chattahoochee-Flint)
  - Southern Plains
  - MORB (Missouri River Basin)
  - California/Nevada
  - Pacific Northwest/Midwest (both coming online)
- **Drought Task Forces**: North Carolina, Hawaii, Oklahoma, Texas, New Mexico, Alabama, Florida, South Dakota, Kentucky, Arizona, Montana, and California

• **And MANY OTHERS !**

# How can you participate in the USDM Process?

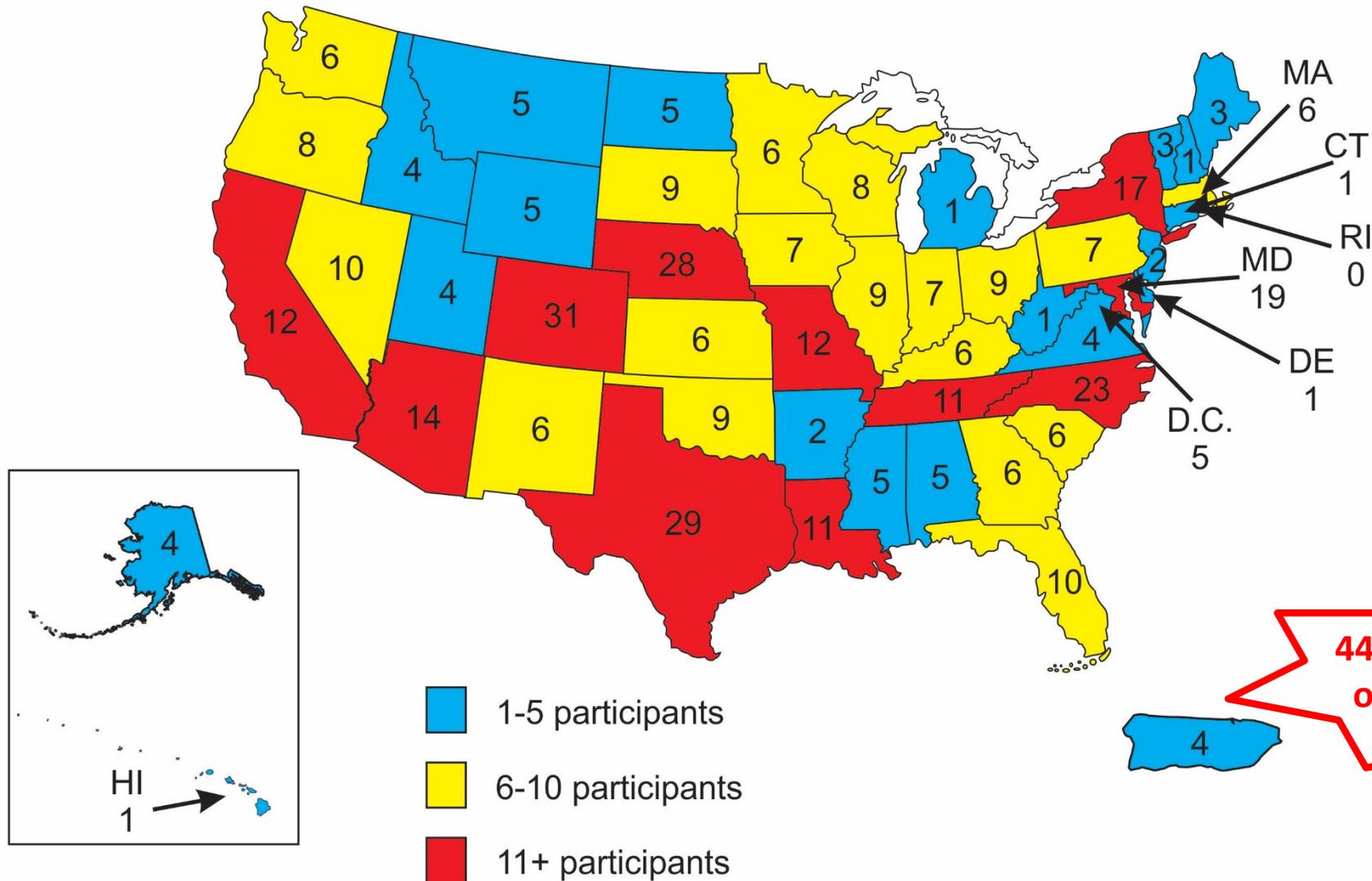
---

USDM Listserve Subscribers  
(as of August 30, 2017)



# USDM Listserve Subscribers

(as of August 30, 2017)



**442 Registered as of March 2018!**

**Total: 414 (does not include 1 participant from Canada and 2 participants from Brazil)**

# Some Examples of Decision Making and Policy Using the USDM

## *(Science before Policy)*

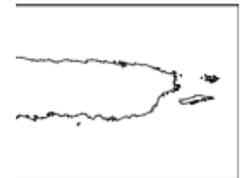
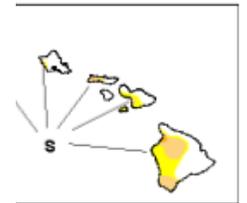
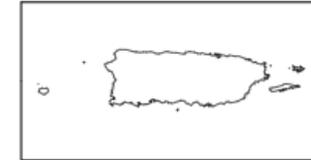
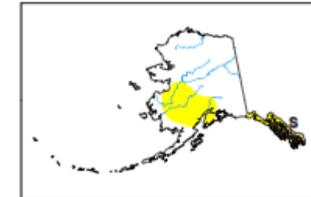
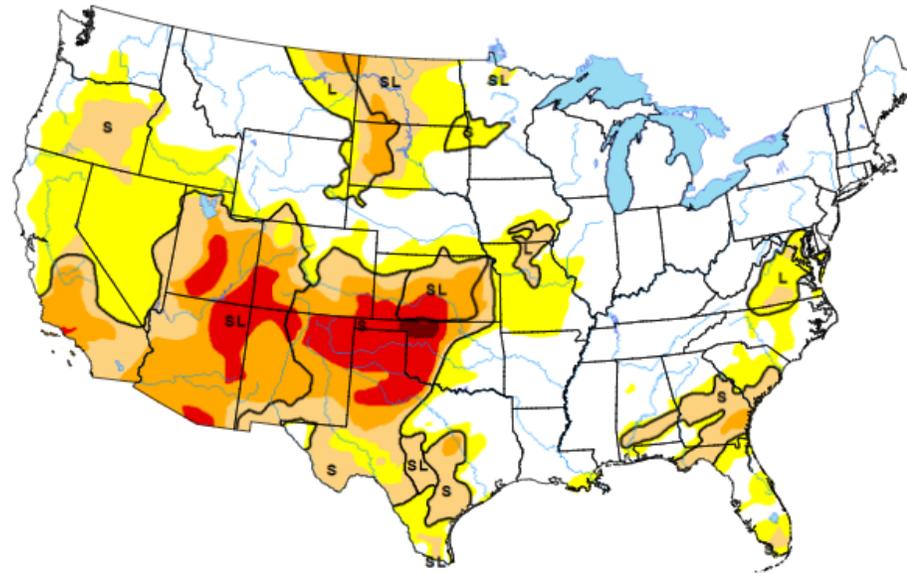
---

### *Policy:*

- **2008/2014 Farm Bill**
  - USDA Farm Service Agency, Natural Resources Conservation Service, Risk Management Agency
- **Internal Revenue Service**
  - Livestock tax deferral program
- **U.S. Department of Agriculture**
  - Secretarial ***"Fast Track"*** Drought Designations
- **NOAA National Weather Service**
  - Drought Information Statements
- **Environmental Protection Agency**
  - Water quality monitoring
- **Centers for Disease Control and Prevention**
  - Public health
- **Bureau of Land Management**
- **Several States use in their monitoring/plans**
- **Many others**

### Mapa para marzo 15, 2018

Datos válidos: marzo 13, 2018 | Autor: [Richard Tinker](#), NOAA/NWS/NCEP/CPC



El límite de datos para los mapas de Monitor de Sequía es cada martes a las 8 a.m. EDT. Los mapas, que se basan en el análisis de los datos, se publican cada jueves a las 8:30 am Hora del Este.

Thursday at 8:30 a.m.

### Intensidad e impactos

□ Ninguna

□ D0 (Anormalmente Seco)

□ D1 (Sequía moderada)

□ D2 (Sequía severa)

□ D3 (Sequía extrema)

□ D4 (Sequía excepcional)

~ - Delimita impactos dominantes

S - Período corto, típicamente menos de 6 meses (ej. agricultura, pastizales)

L - Período largo, típicamente más de 6 meses (e.g. hidrología, ecología)

agriculture, grasslands)

(e.g. hydrology, ecology)

### Descargar mapa

Mapa corriente: [PNG](#) [PDF](#) [JPG](#)

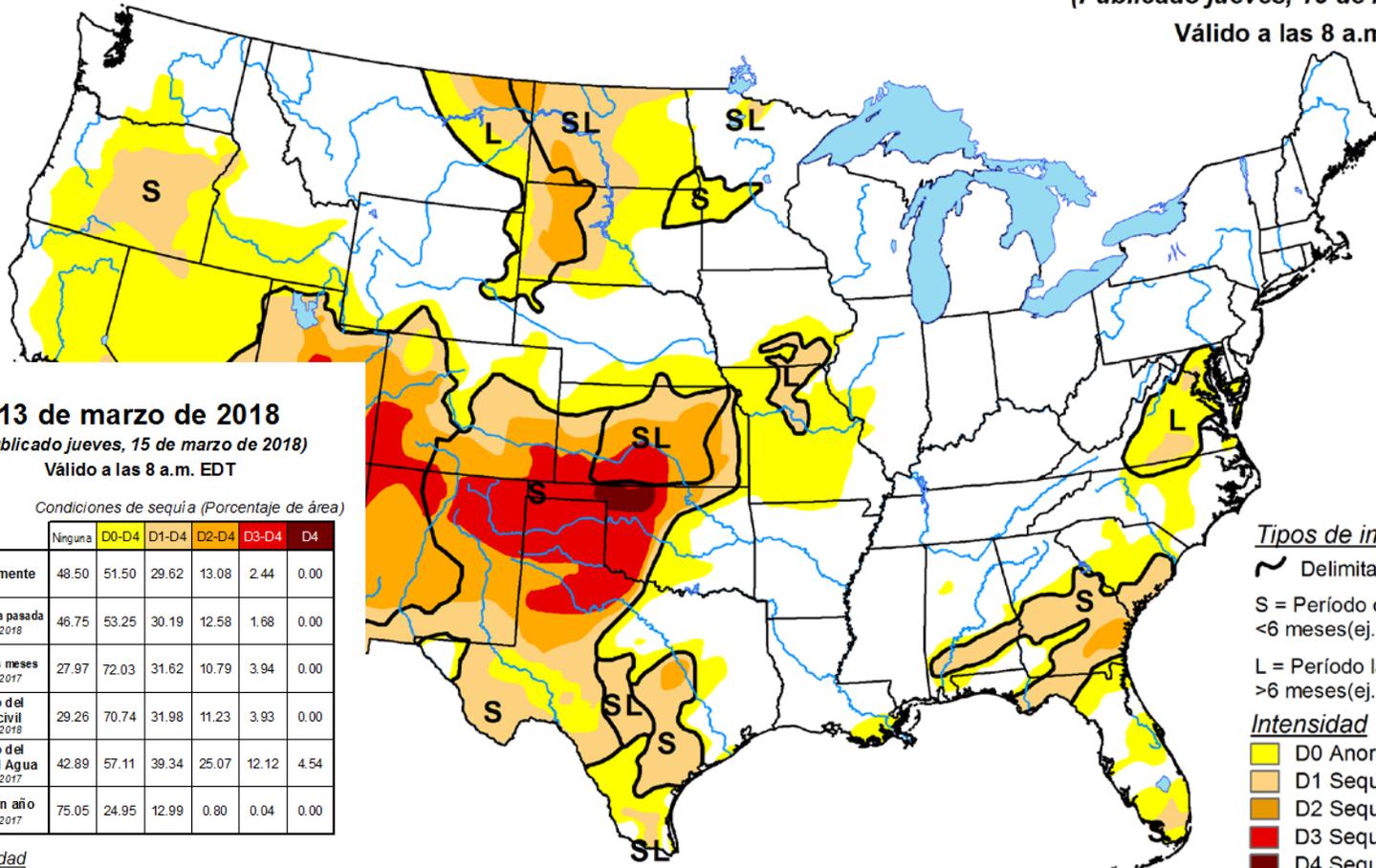
Mapa anterior: [PNG](#) [PDF](#) [JPG](#)

New USDM  
maps in Spanish

# Monitor de Sequía de los Estados Unidos marzo 13, 2018

(Publicado jueves, 15 de marzo de 2018)

Válido a las 8 a.m. EDT



**13 de marzo de 2018**  
(Publicado jueves, 15 de marzo de 2018)  
Válido a las 8 a.m. EDT

Condiciones de sequía (Porcentaje de área)

	Ninguna	D0-D4	D1-D4	D2-D4	D3-D4	D4
Actualmente	48.50	51.50	29.62	13.08	2.44	0.00
La semana pasada 03-06-2018	46.75	53.25	30.19	12.58	1.68	0.00
Hace tres meses 12-12-2017	27.97	72.03	31.62	10.79	3.94	0.00
Inicio del año civil 01-02-2018	29.26	70.74	31.98	11.23	3.93	0.00
Inicio del Año del Agua 09-26-2017	42.89	57.11	39.34	25.07	12.12	4.54
Hace un año 03-14-2017	75.05	24.95	12.99	0.80	0.04	0.00

**Intensidad**

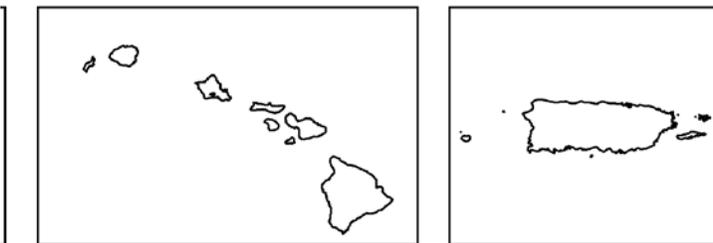
- D0 Anormalmente seco
- D1 Sequía moderada
- D2 Sequía severa
- D3 Sequía extrema
- D4 Sequía excepcional

El Monitor de Sequía analiza condiciones a gran escala, por lo que las condiciones locales pueden variar. Para una mejor interpretación se recomienda ver el texto anexo.

**Autor**  
Richard Tinker  
CPC/NOAA/NWS/NCEP



<http://droughtmonitor.unl.edu/>



**Tipos de impacto de la Sequía**

- ~ Delimita impactos dominantes
- S = Período corto, típicamente <6 meses (ej. agricultura, pastizales)
- L = Período largo, típicamente >6 meses (ej. hidrología, ecología)

- Intensidad**
- D0 Anormalmente seco
  - D1 Sequía moderada
  - D2 Sequía severa
  - D3 Sequía extrema
  - D4 Sequía excepcional

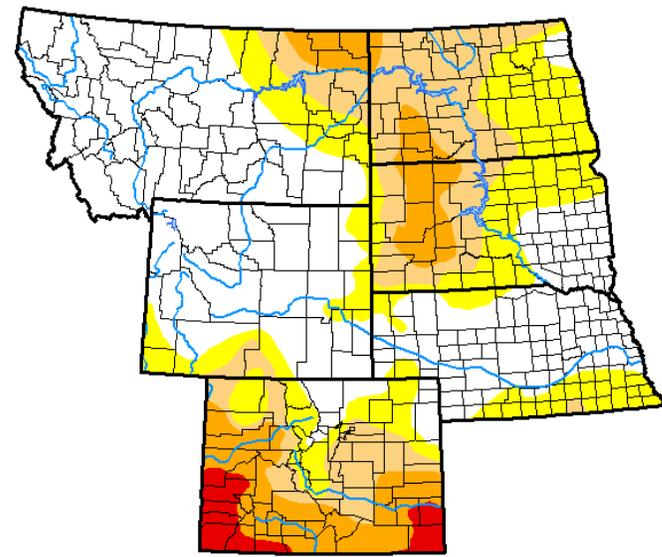
El Monitor de Sequía analiza condiciones a gran escala, por lo que las condiciones locales pueden variar. Para una mejor interpretación se recomienda ver el texto anexo.



<http://droughtmonitor.unl.edu/>

## New USDM maps in Spanish

### Monitor de Sequía de los Estados Unidos Centro Climático de las Llanuras del Norte del USDA



# What is next.....

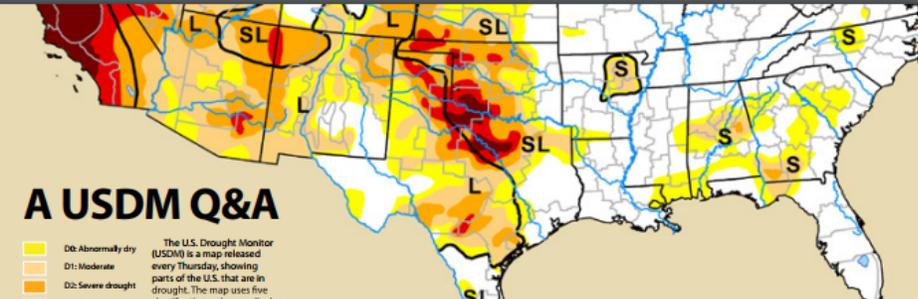
---

- ❖ Continue to work with partners on data sets/availability
- ❖ Transition to a ESRI based portal for the development of the weekly map
- ❖ USDAM tutorials
  - ❖ [http://drought.unl.edu/archive/Tutorials/USDAM\\_Tutorial/](http://drought.unl.edu/archive/Tutorials/USDAM_Tutorial/)
- ❖ Transition to operational “Objective Blends” based on gridded data
- ❖ New “potential impacts” tables being developed for each state based upon data collected in the Drought Impact Reporter (DIR)
- ❖ Expansion of the USDAM to the U.S. Virgin Islands (USVI) and the U.S. Affiliated Pacific Islands (USAPI)

# US Drought Monitor Brochure

<http://droughtmonitor.unl.edu/data/docs/USDMbrochure.pdf>

Also available in Spanish



## A USDM Q&A

**Legend:**  
 Yellow: D0: Abnormally dry  
 Orange: D1: Moderate  
 Red: D2: Severe drought  
 Dark Red: D3: Extreme drought  
 Black: D4: Exceptional

The U.S. Drought Monitor (USDM) is a map released every Thursday, showing parts of the U.S. that are in drought. The map uses five classifications: abnormally dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought: moderate (D1), severe (D2), extreme (D3) and exceptional (D4).

**What agencies or organizations are responsible for the USDM?**  
 The Drought Monitor has been a team effort since its implementation in 1999, produced jointly by the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln, the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Department of Agriculture (USDA). The NDMC hosts the web home of the USDM and the associated data, and provides the map and data to NOAA, USDA and other agencies. It is freely available to the public, media and anyone else, via the web at <http://droughtmonitor.unl.edu/>.

**Who uses it, and what do they do with it?**  
 The USDA uses the USDM to trigger disaster declarations and eligibility for low-interest loans. The Farm Service Agency uses it to help determine eligibility for their Livestock Forage Program (LFP), and the Internal Revenue Service uses it for tax deferral on forced livestock sales due to drought. State, local, tribal and basin-level decision makers use it to trigger drought responses, ideally along with other more local indicators of drought.

**How does drought affect the country?**  
 Drought is a normal part of the climate cycle. It is a slow-moving hazard, which causes people to underestimate the damage it can do, but losses from drought are as substantial as those from hurricanes, tornados and other faster-moving disasters. Drought causes losses to agriculture, affects domestic water supply, energy production, public health, and wildlife, and contributes to wildfire, to name a few of its effects. No single federal agency is in charge of water or drought policy; response and mitigation fall to an assortment of federal authorities. The USDA leads response efforts; NOAA, through the National Integrated Drought Information System (NIDIS, online at [drought.gov](http://drought.gov)), leads monitoring; agencies such as the U.S. Geological Survey and NASA contribute data; and the Environmental Protection Agency regulates water quality. The National Drought Resilience Partnership, launched in the aftermath of widespread drought in 2012, is an effort to unify federal drought response and policy. Drought response efforts, planning, and water law vary from state to state.

**How do we know when we're in a drought?**  
 Recognizing drought before it intensifies can reduce impacts and save money. How you recognize it depends on how it affects you. Traditional ways to measure drought are by comparing observed precipitation with what's normal (climatologic), by comparing soil moisture and crop conditions with what's normal (agricultural), or by looking at how much water is contained in snow, the level or flow rate of moving water, water in reservoirs, or groundwater levels (hydrologic). NDMC recommends that decision makers adopt an operational definition of drought for their own circumstances, incorporating local data such as grazing conditions or streamflow at a nearby gauge.

**Who draws the map?**  
 Eleven authors, from the NDMC, NOAA and USDA, create the map. They take turns, usually two weeks at a time.

**How do they figure out where drought is and how bad it is?**  
 This is what makes the U.S. Drought Monitor unique. It is not a model. The USDM relies on experts to synthesize the best available data from multiple sources and work with local observers to localize the information as much as possible. Numeric inputs are many: the Palmer Drought Severity Index, the Standardized Precipitation Index, and other climatological inputs; the Keetch-Byram Drought Index for fire, satellite-based assessments of vegetation health, and various indicators of soil moisture from data assimilation systems and other models; and hydrologic data, particularly in the West, such as the Surface Water Supply Index and snowpack. The agencies listed are a snapshot of all of those involved. Drought.gov has links to many of these sources, where you can view the types of information that help the author create the map.

**What is the process?**  
**Thursday, Friday and over the weekend:** Warmup. The author of the next week's map starts coming up to speed on the indicators, areas that are changing and any issues of concern that have carried over from the prior week(s).  
**Close of business Monday:** The author emails a first draft of the map to the 350 observers across the country.  
**8 a.m. Eastern time Tuesday:** Data cutoff. Condition changes after this point in time do not affect the map to be released two days later on Thursday.  
**Tuesday:** The author fields reactions from dozens of email messages, several conference calls and other helpful contacts. Draft 2 of the map incorporates much of this information.  
**Wednesday:** Author sends out a near-final draft of the map to the observers by lunchtime for review. A final map goes out by late afternoon to ensure there are no errors. Then the author writes a narrative for each region, highlighting the past week's weather, impacts and changes to the map. Before the author can go home, final files must be at the NDMC for processing.  
**8:30 a.m. Eastern time Thursday:** The map is released.

**Do you ever release the map early?**  
 The map is released early the week of Thanksgiving and other weeks when federal holidays affect the production schedule. Otherwise the authors stick to the schedule.

**What is the U.S. Drought Monitor?**  
 Maybe you've seen it in the media: that map of the U.S. painted with blobs of yellow, orange and red. It shows drought -- but how do we know which colors go where? Who decides? What does it mean for you?

**Get involved!**  
 Want to contribute your observations to the USDM process? Here are some ways:  
 1) Talk to your state climatologist. You can find his or her name at the American Association of State Climatologists ([www.aastclimate.org](http://www.aastclimate.org)).  
 2) Email [droughtmonitor@unl.edu](mailto:droughtmonitor@unl.edu).  
 3) Use the contact form on [drought.gov](http://drought.gov/drought/contact) (<http://drought.gov/drought/contact>).  
 4) Become a CoCoRaHS observer ([www.cocorahs.org](http://www.cocorahs.org)) and submit drought reports along with daily precipitation observations.  
 5) Submit reports, rain or shine, to the Drought Impact Reporter (DIR, at <http://droughtreporter.unl.edu>) at regular intervals -- annually, seasonally, or monthly, as feasible. Reports submitted directly to the DIR can include photos, and we recommend a systematic technique such as using photo points to document range condition. For how-to information, please see [Tracking Drought Impacts on Rangeland](http://drought.unl.edu/anclan/Overview/TrackingDroughtImpacts.aspx) (<http://drought.unl.edu/anclan/Overview/TrackingDroughtImpacts.aspx>) or information on submitting condition reports, found on the DIR site.

**Email:** [DroughtMonitor@unl.edu](mailto:DroughtMonitor@unl.edu)  
**Call:** 402-472-6707  
**National Drought Mitigation Center**  
 P.O. Box 830988, Lincoln, NE 68583-0988

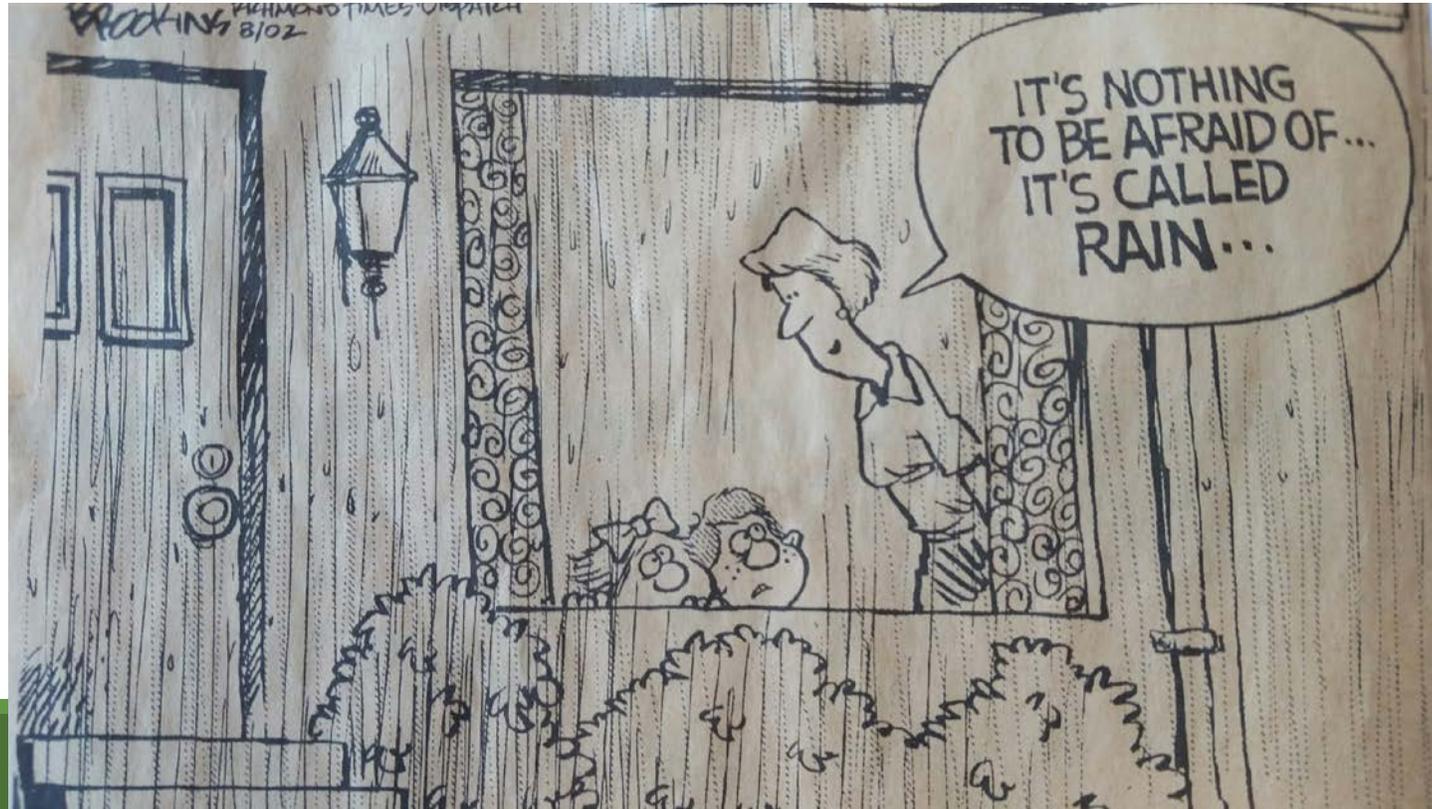
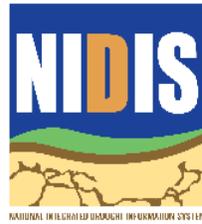
**Logos:** NIDIS, NOAA, USDA, National Drought Mitigation Center

**URL:** [HTTP://DROUGHTMONITOR.UNL.EDU/](http://droughtmonitor.unl.edu/)

**Bottom Map:** Shows the USDM map from Oct. 23, 2014, with black lines indicating short- and long-term drought areas. 'S' indicates short-term drought and 'L' indicates long-term drought.

**Caption:** These maps show the U.S. Drought Monitor published Thursday, Oct. 23, 2014, using data from Oct. 14-21. The black lines define areas of short- and long-term drought, indicated by the letters "S" and "L." In general, short-term drought is a recent

# OUR PARTNERS



# Any Questions ?



DROUGHT.UNL.EDU

e | [ndmc@unl.edu](mailto:ndmc@unl.edu)

 /NationalDroughtMitigationCenter

 @droughtcenter

**Brian Fuchs**  
**[bfuchs2@unl.edu](mailto:bfuchs2@unl.edu)**  
**402-472-6775**

National Drought Mitigation Center  
School of Natural Resources  
University of Nebraska-Lincoln