

A USDM Q&A



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.

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.stateclimate.org).
- 2) Email 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) 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/ranchplan/Overview/TrackingDroughtImpacts.aspx) (<http://drought.unl.edu/ranchplan/Overview/TrackingDroughtImpacts.aspx>) or information on submitting condition reports, found on the DIR site.

Email: DroughtMonitor@unl.edu

Call: 402-472-6707

National Drought Mitigation Center
P.O. Box 830988, Lincoln, NE 68583-0988



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

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?

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

How does drought affect the country?

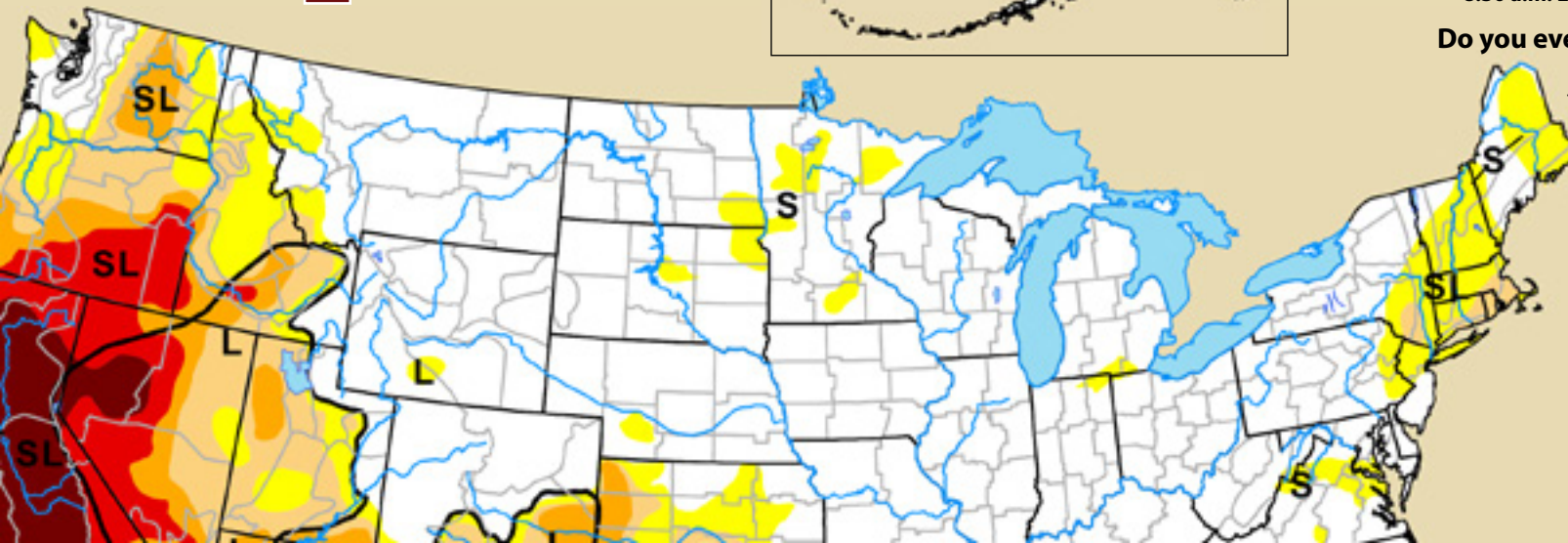
Drought is a normal part of the climate cycle. It is a slow-moving hazard, which causes people to underestimate the damage it can do, but losses from drought are as substantial as those from hurricanes, tornados and other faster-moving disasters. Drought causes losses to agriculture; affects domestic 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), 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?

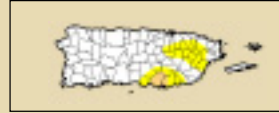
Recognizing drought before it intensifies can reduce impacts and save money. How you recognize it depends on how it affects you. Traditional ways to measure drought are by comparing observed precipitation with what's normal (climatologic), by comparing soil moisture and crop conditions with what's normal (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.

	D0: Abnormally dry		D2: Severe drought
	D1: Moderate		D3: Extreme drought
			D4: Exceptional



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 Keech-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.



The USDM also reflects impacts, particularly information generated through a network of more than 350 observers across the country, including state climatologists, National Weather Service staff, Extension agents, and hydrologists. Local experts provide vital reporting of impacts, which help create the most accurate classifications on the map, particularly in areas with less monitoring capacity, such as Hawaii, Alaska and Puerto Rico.

Bear in mind that recognizing emerging drought, or knowing whether drought is over, entails understanding what is normal for a given location or season, and considering longer time frames. If an area has been in drought for a while, it typically takes more than one or two rains to end it, although one rain may be all that is needed to awaken dormant vegetation or spur crop growth.

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.

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 development, within the past six months, and long-term drought has gone on longer than six months. The weekly update includes Hawaii, Alaska and Puerto Rico.