

# Quick Drought Response Index

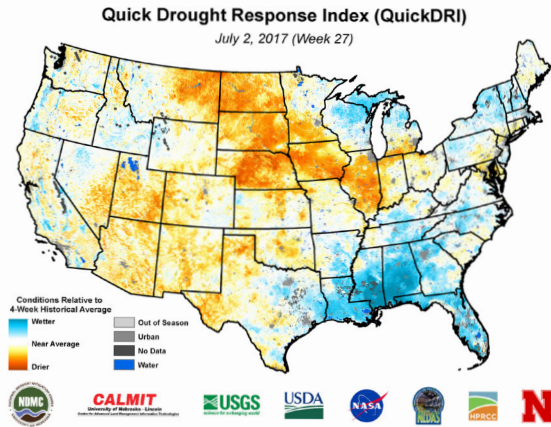
A SHORT-TERM DRYNESS INDICATOR

## WHAT IS QUICKDRI?

The Quick Drought Response Index (QuickDRI) is a shorter-term indicator of dryness. It is calculated through the analysis of satellite- and model-based observations of conditions that influence drought.

QuickDRI is designed to provide a snapshot of anomalously dry or wet conditions over the past 4 weeks and serves as an indicator of emerging or rapidly changing drought conditions.

The maps are updated weekly over the continental United States and have a 1-kilometer spatial resolution.

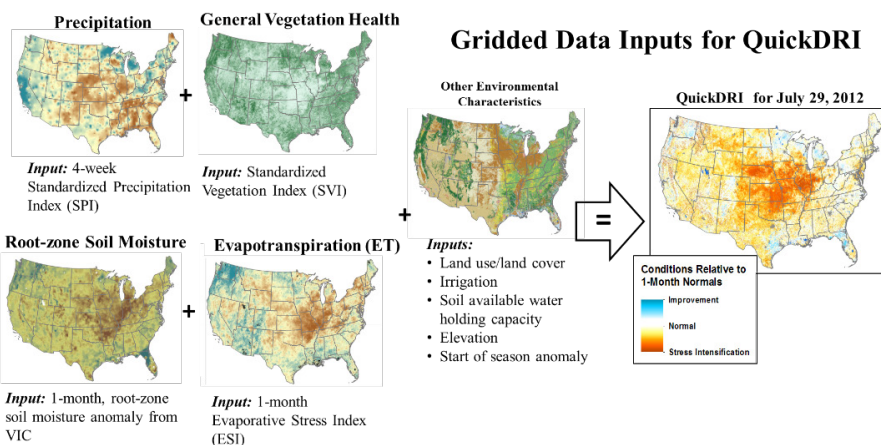


## WHY WAS IT DEVELOPED?

QuickDRI is designed to detect rapid-onset, “flash drought” events, which can have devastating economic impacts on the agricultural sector and can quickly change conditions during a drought. The index is an indicator of the landscape’s short-term dryness status that combines several hydrologic and vegetation-related indicators commonly-used for drought monitoring. QuickDRI leverages the unique information provided by each of these indicators into a single index that characterizes how

current conditions compare to historical average conditions on a continuous dryness scale spanning from drier to near average to wetter. The goal of QuickDRI is to serve as an alert for identifying areas of emerging and/or intensifying drought, as well as areas of improving drought conditions showing a wetter signal. Information on shorter-term dryness conditions can be used for a more timely early response to drought and the implementation of more effective drought mitigation actions.

## WHAT INFORMATION IS USED IN QUICKDRI?



QuickDRI is a composite index that combines:

- Station-based precipitation;
- Soil moisture;
- Evapotranspiration;
- Vegetation health; and
- Environmental landscape characteristics, such as soils, land use, land cover, and elevation.

Regression tree-based QuickDRI models are developed from the historical analysis of these variables, and then are applied weekly to assess the current dryness conditions across the continental United States.



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## QUICKDRI PRODUCTS

A historical time series of weekly QuickDRI maps have been produced dating back to 2000. QuickDRI data, maps and value-added products are freely available to the general public on our website: [quickdri.unl.edu](http://quickdri.unl.edu)

### ON THE QUICKDRI SITE:

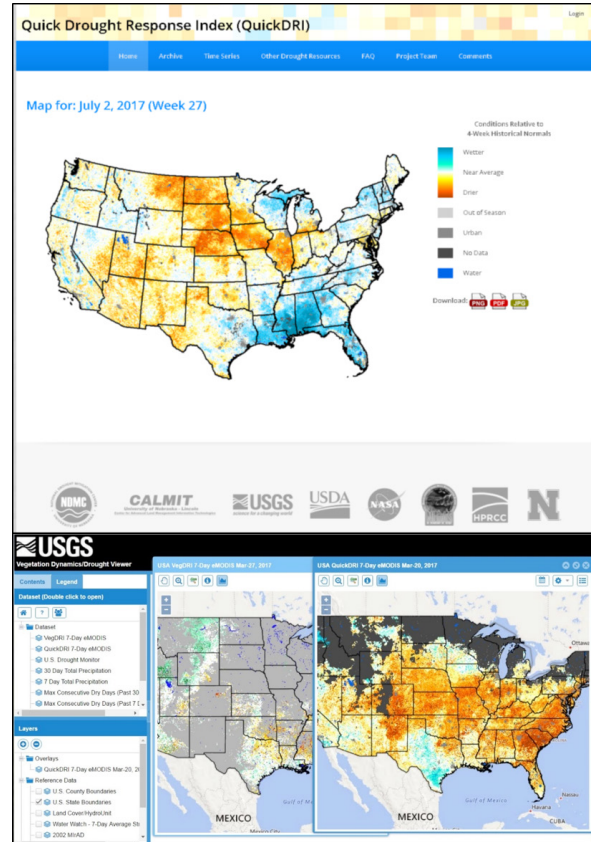
- Current national- and state-level maps, available in png, pdf, and jpg formats
- Archive of historical national and state maps
- Archive of historical 1-kilometer gridded QuickDRI data for continental United States
- Historical time-series and map animations
- Frequently Asked Questions
- Other drought monitoring tool resources to analyze in combination with the QuickDRI maps

### THROUGH THE USGS DROUGHT VIEWER:

- Dynamic map viewer that includes:
  - Pan and zoom options of QuickDRI map
  - Overlays and comparison with other drought indicator and other map data
    - ▷ U.S. Drought Monitor
    - ▷ Vegetation Drought Response Index
    - ▷ Precipitation and dry day summaries
    - ▷ Land use/land cover
    - ▷ Political boundaries
- Access to near real-time and recent historical gridded QuickDRI data

### APPLICATION EXAMPLES:

- Drought monitoring and early warning
- Crop and rangeland condition assessment
- Wildfire risk assessment



## CONTACT US

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## QUICKDRI PARTNERS

- Center for Advanced Land Management Information Technologies
- High Plains Regional Climate Center
- National Drought Mitigation Center
- U.S. Geological Survey Earth Resources Observation Science Center
- U.S. Department of Agriculture Agricultural Research Service
- National Aeronautics and Space Administration
- North American Land Data Assimilation System
- University of Nebraska-Lincoln

