

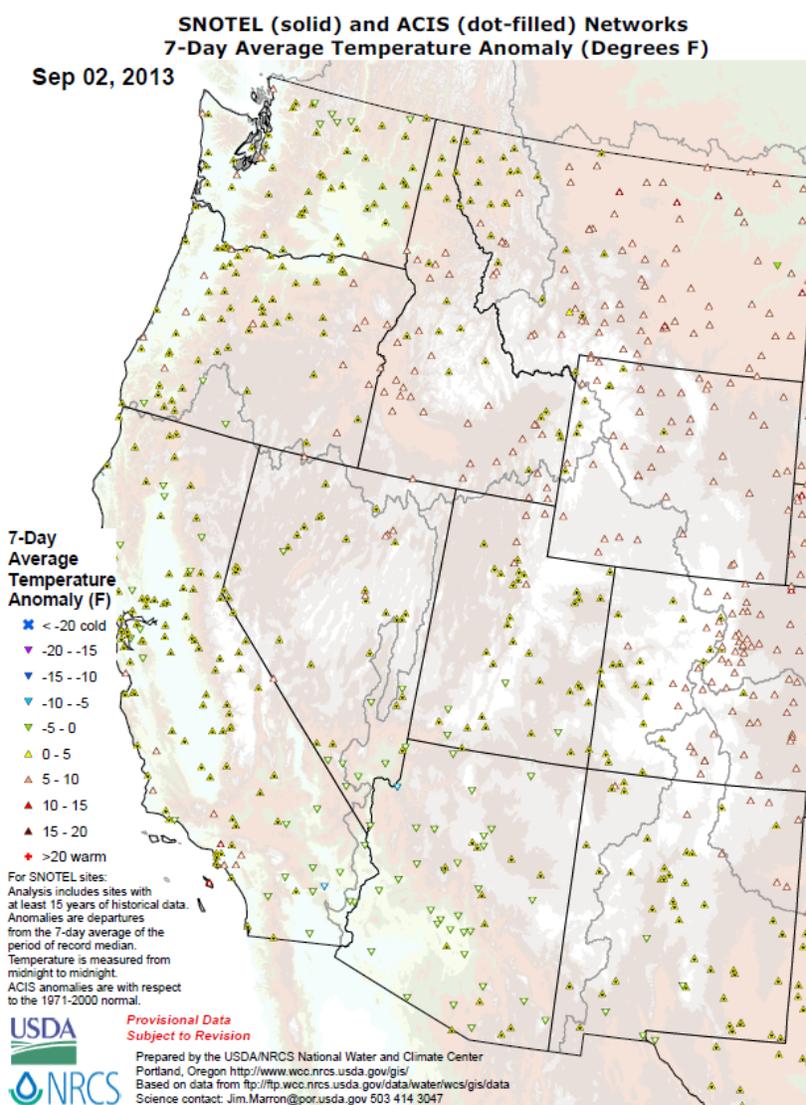


Natural Resources Conservation Service
 P.O. Box 2890
 Washington, D.C. 20013

Weekly Snowpack / Drought Monitor Update September 05, 2013

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Temperature



SNOTEL and ACIS [7-day temperature anomaly](#) map shows a warmer than average week across the western states; especially over the northern and eastern regions. Exceptions to this overall pattern are found over Arizona where monsoonal cloud cover kept temperatures below normal.

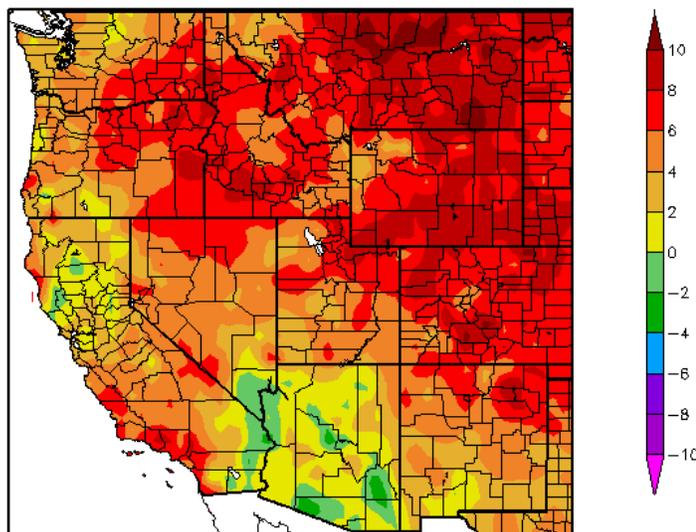
Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending September 4, show the greatest positive temperature departures were scattered across the northwest High Plains of Montana (>10°F). The coolest departures occurred over southern Arizona (>-2°F).

This map currently does not use SNOTEL data, but is expected to later this year.

For more figures, see the latest Western Water Assessment's Intermountain West Climate [Dashboard](#). See the [Westwide Drought Tracker](#).

Departure from Normal Temperature (F)
8/29/2013 – 9/4/2013



Generated 9/5/2013 at HPRCC using provisional data.

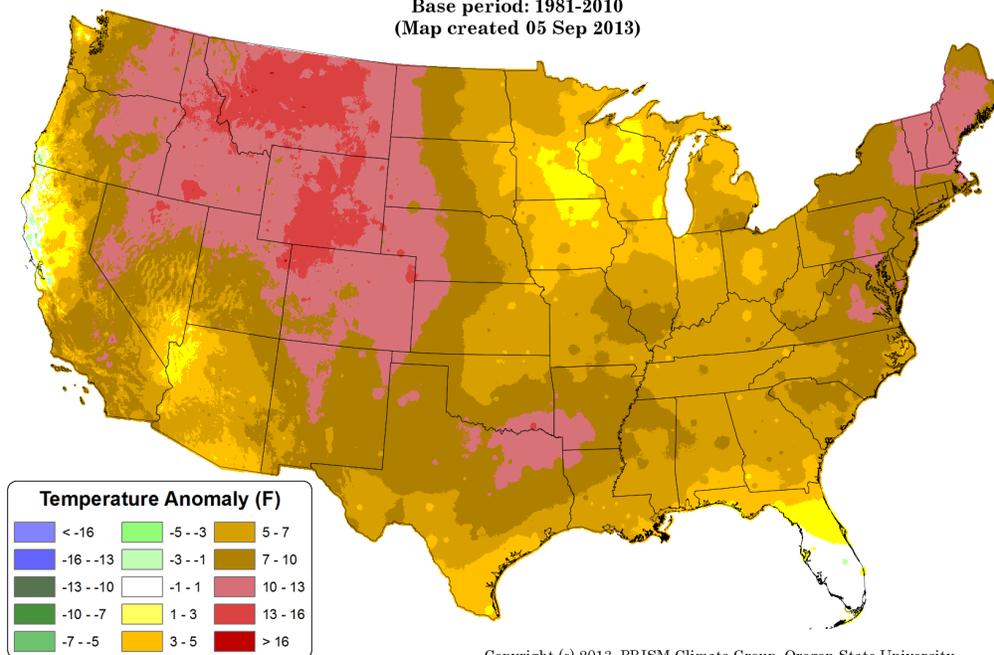
Regional Climate Centers

This preliminary [PRISM](#) temperature map, updated daily, will be available to the public starting around October 1.

Refer to the last page of this report for the August and June through August maps.

The map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.

Daily Mean Temperature Anomaly: 01 September 2013 - 04 September 2013
Period ending 7 AM EST 04 Sep 2013
Base period: 1981-2010
(Map created 05 Sep 2013)



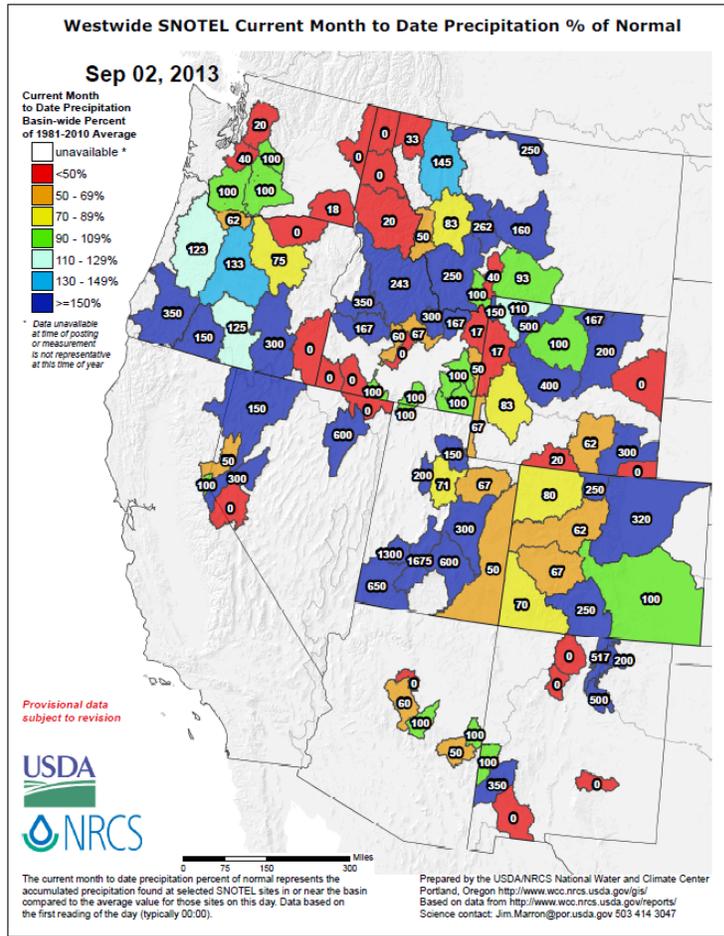
Copyright (c) 2013, PRISM Climate Group, Oregon State University

Thus far for September, temperatures have been considerably warmer than normal over most of the nation; especially over the northern Interior West, northern Texas, and New England. The only regions with near average temperatures are southern Florida and the north coast of California.

Weekly Snowpack and Drought Monitor Update Report

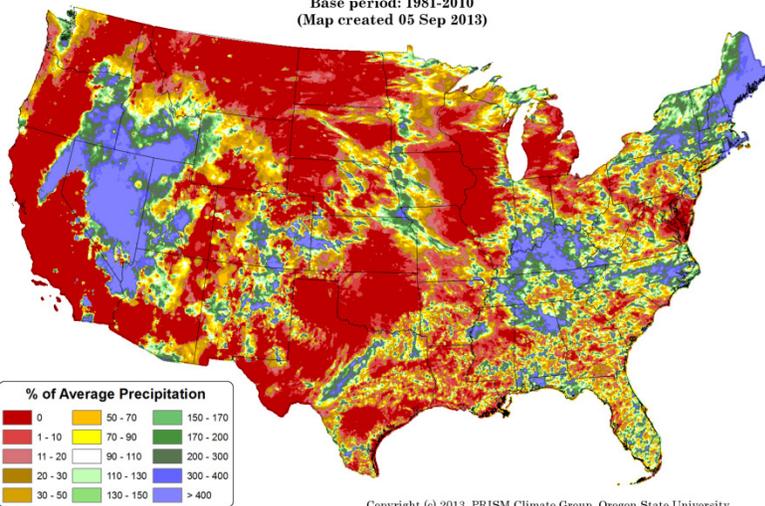
Precipitation

SNOTEL [month to date](#) precipitation percent of normal update map shows a random mix of showers, as would be expected with only two days of data.



[Click images for enlarged version](#)

Total Precipitation Anomaly: 01 September 2013 - 04 September 2013
 Period ending 7 AM EST 04 Sep 2013
 Base period: 1981-2010
 (Map created 05 Sep 2013)



September accumulated total precipitation through 7 a.m. on September 4 shows a rainfall pattern that has favored parts of the Great Basin, Front Range of the southern Rockies, the Tennessee River Valley, and much of New England. Drier conditions dominate over the remainder of the U.S.

Refer to the last page of this report for the August and June through August maps.

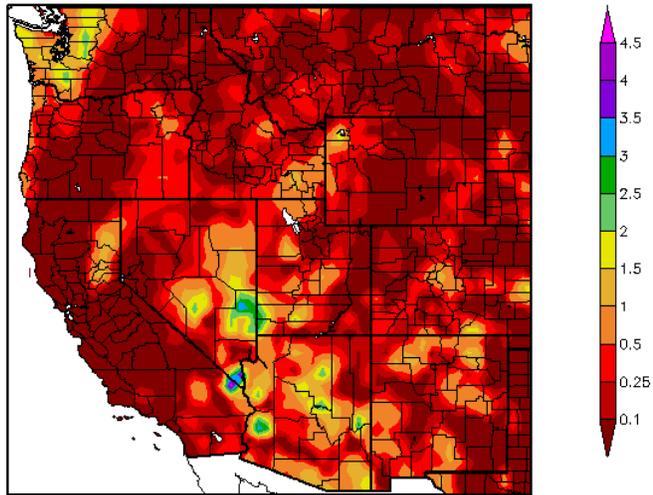
*This preliminary [PRISM](#) precipitation map will be available to the public starting around **October 1**. It contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.*

Weekly Snowpack and Drought Monitor Update Report

[ACIS 7-day](#) average precipitation amounts for the period ending September 4 show a weakening monsoon over the Southwest. The remainder of the West experienced their typically dry conditions for this time of year, although the Washington Cascades and Olympic Range saw some thunderstorm activity.

This map currently does not incorporate SNOTEL data, but is expected to later this year.

Precipitation (in)
8/29/2013 - 9/4/2013



Generated 9/5/2013 at HPRCC using provisional data.

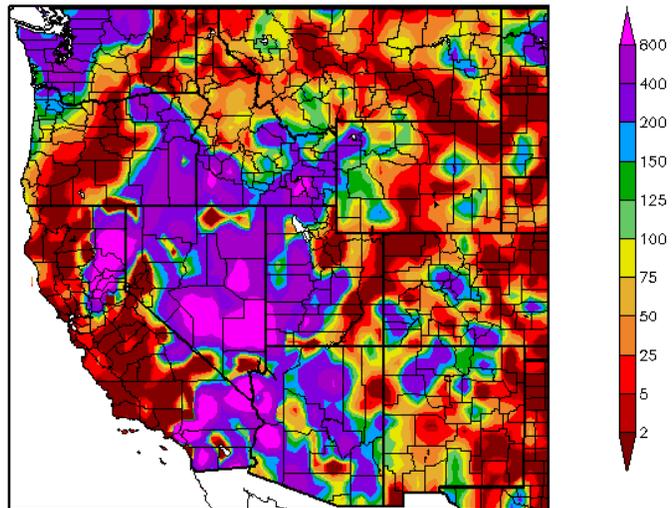
Regional Climate Centers

In this [map](#), unusual rains in normally dry regions for this time of year have resulted in totals exceeding four to eight times the normal weekly amounts.

An excellent summary of how the Southwest monsoon is proceeding in Arizona and New Mexico can be found at: [August 2013 Southwest Climate Outlook](#)

This map currently does not use SNOTEL data, but is expected to later this year.

Percent of Normal Precipitation (%)
8/29/2013 - 9/4/2013



Generated 9/5/2013 at HPRCC using provisional data.

Regional Climate Centers

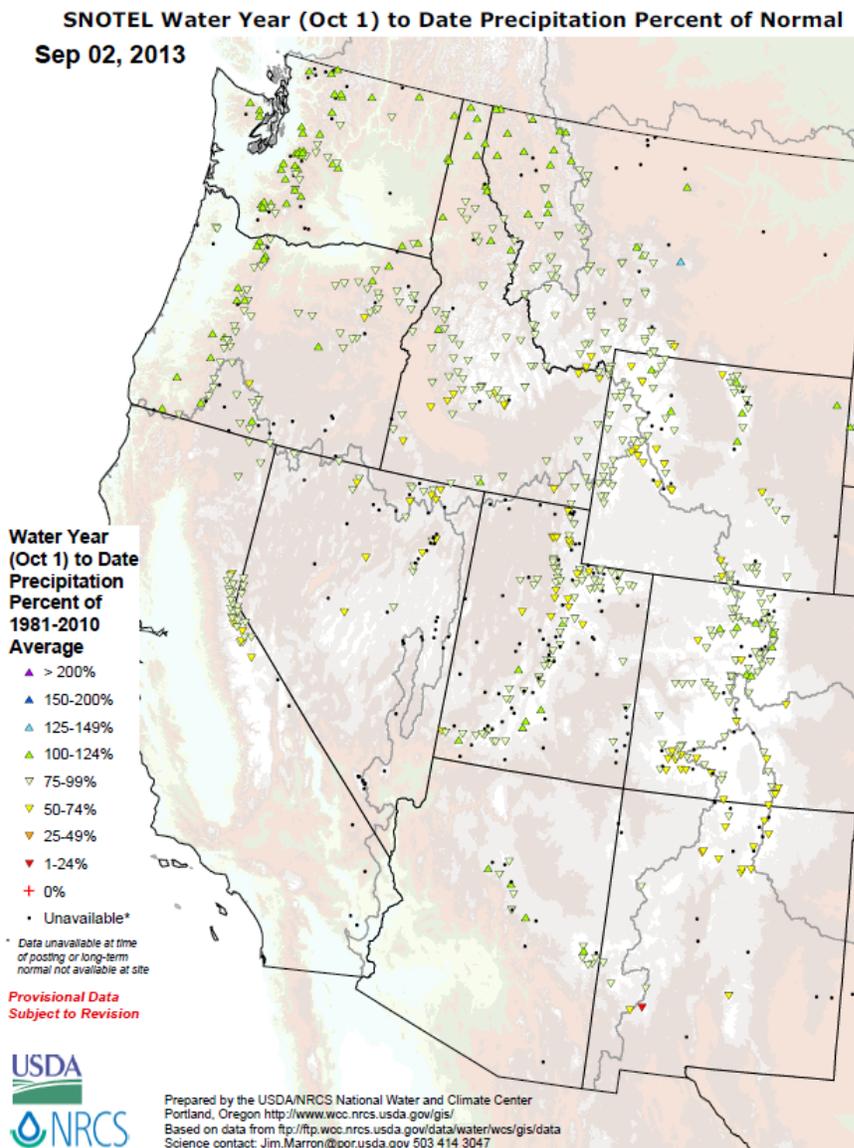
Weekly Snowpack and Drought Monitor Update Report

For the [2013 Water Year](#) that began on October 1, 2012, the pattern continues to resemble La Niña (i.e., wetter northern tier).

The impact of the Southwest Monsoon is apparent over Arizona, with near normal values. Despite good July rains over New Mexico, the precipitation deficit from earlier this year has still not improved very much.

For the remainder of this water year, values should not change significantly from this depiction.

For additional information, daily reports by SNOTEL site are available [here](#).



[Click image for larger version](#)

Weather and Drought Summary

Western Drought Summary – September 3, 2013

The following **Weather and Drought Summary** is provided by this week's NDMC Author: [David Miskus, NOAA/NWS/NCEP/CPC](#).

Weather Summary: “The week commenced with high pressure over the Southeast and storm systems traversing across the northern U.S. As the week progressed, the high pressure system traveled westward, settling over the south-central Plains while a trough of low pressure and associated cold front brought scattered showers and thunderstorms to the eastern third of the Nation. A weak frontal system generated scattered showers in the Pacific Northwest. In the Southwest, tropical moisture from Tropical Storm Juliette (which dissipated off central Baja California) helped to fuel the southwest monsoon in Arizona, Nevada, Utah, and southern Idaho. Decent showers also fell on parts of New Mexico and Colorado. Hit and miss showers also fell on parts of the northern Plains and upper Midwest, the central Great Plains, and south-central Texas. Unsettled weather and decent precipitation also affected most of Alaska, with many stations reporting weekly totals exceeding 2 inches in southwestern and south-central sections of the state. In contrast, little or no rain fell on most of California, Oregon, and eastern Washington, parts of the Plains, most of the Mississippi Valley, and much of Hawaii. Weekly temperatures averaged well above normal (6 to 10 degF) across much of the contiguous U.S., with the exception of seasonable readings in the desert

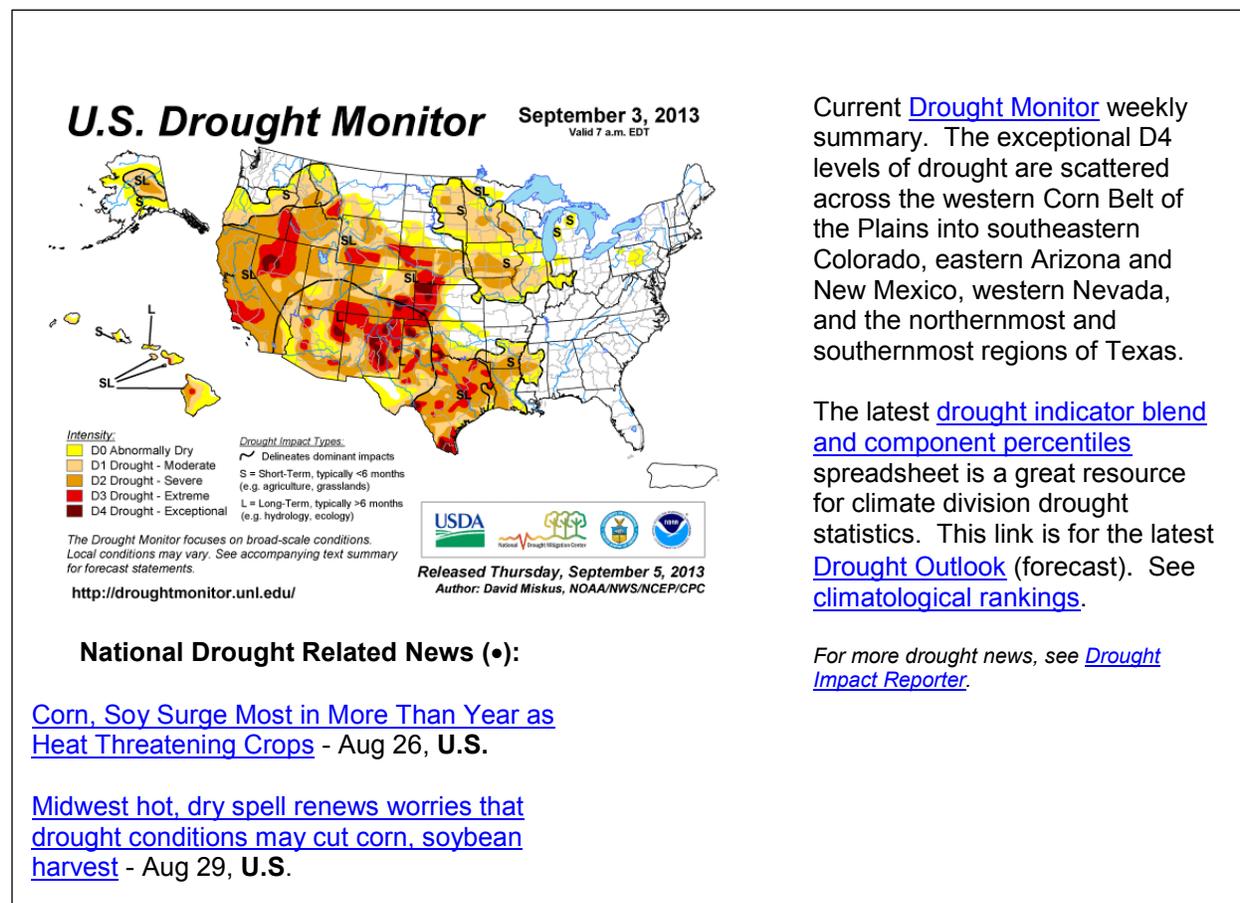
Weekly Snowpack and Drought Monitor Update Report

Southwest and Southeast. Highs topped triple-digits in the southern two-thirds of the Plains, southern Iowa and northern Missouri.”

The Southwest: “A continued robust summer monsoon, aided by a northward fetch of moisture from former Tropical Storms Juliette and Kiko (both dissipated west of central Baja California), produced widespread showers and thundershowers to much of Arizona, New Mexico, Nevada, Utah, and northward into parts of the West (Idaho, Wyoming, and Colorado). Numerous locations in southern Nevada and Arizona measured over 2 inches of rain, while 1 to 2 inches were common in central Nevada, western and central New Mexico, central Utah, and most of Arizona. Although short-term shortages have been greatly eased or eliminated, long-term deficits still lingered. To accommodate the long-term impacts, only slight improvements were made where the greatest rains fell and the long-term deficits (180-days) were noticeably reduced. For example, enough rain has fallen during the past 6-months in western New Mexico and southwestern Texas that surpluses have accumulated, hence the D2 to D1 and D0 to nothing upgrade, respectively. Similarly in south-central Nevada, D3 and D2 was improved where there was heavy weekly rains and the 180-day deficits were noticeably diminished. The same holds true in western and central Arizona where D2 and D1 were decreased. On Sep. 2, even many USGS stream flow gauges in western New Mexico, central Arizona, southern Nevada, and southwestern Utah flowed at the 90th percentile at 1- and 7-days. The Impacts line was redrawn to depict improved short-term conditions from the robust monsoon, making the long-term (hydrologic) effects causing most of the negative impacts.”

The West: “Moderate to heavy (1 to 3 inches) rains fell on the Pacific Northwest Coast, effectively eliminating the D0(S) in western Washington. Southwest monsoonal showers also spread northward into southeastern Idaho, central Colorado, and southeastern Wyoming, dropping enough rain (1 to 2.5 inches) to improve D2 to D1 in southeastern Idaho, and 1-category improvement of parts of the D3 and D2 areas in southeastern Wyoming. In addition, 180-day surpluses were present, justifying an upgrade from D1 to D0. Elsewhere, little or no rain fell, and conditions were kept status-quo. An exception was made in north-central Oregon (D0 and D1) where a re-assessment of 90- to 180-day deficiencies were made. The data and products yielded a surplus at those time periods, hence the D1 was improved to D0 (eastern Wheeler county) and D0 removed (from Wasco, Jefferson, Sherman, and western Wheeler counties).”

A comprehensive narrative describing drought conditions for the nation can be found toward the end of this document. For drought impacts definitions for the figures below, click [here](#).



Weekly Snowpack and Drought Monitor Update Report

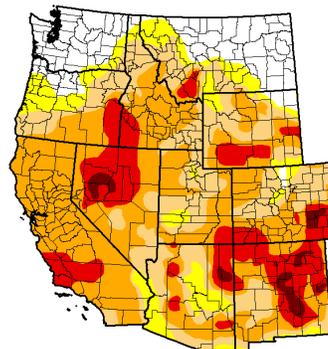
Drought Management Resources (✓):

- ✓ Drought Monitor for the [Western States](#)
- ✓ Drought Impact Reporter for [New Mexico](#)
- ✓ [California Data Exchange Center & Flood Management](#)
- ✓ [NIDIS Upper Colorado River Regional Drought Earlier Warning System](#)

- **News Stories:**
- [Water: Supplies come 'down to the wire' in much of state](#) – Aug 28, **California**
- [Cattle Ranching Walloped by Persistent Drought](#) - Aug 26, **Southeastern Colorado**
- [Drought Derails Nevada Alfalfa Crop](#) - Aug 27, **Nevada**
- [Tourism flaming out as Yosemite wildfire still rages](#) - Aug 30, **California**
- [Klamath drought kills thousands of refuge waterfowl](#) - Aug 29, **Tule Lake Nation Wildlife Refuge near Tule Lake, California**
- [During severe drought, local producers looking to conserve](#) - Aug 25, **Southwestern Montana**

U.S. Drought Monitor West

September 3, 2013
(Released Thursday, Sep. 5, 2013)
Valid 7 a.m. EST



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	16.15	60.01	19.15	12.28	14.01	1.35
Last Week (08/27/2013 map)	15.39	60.81	17.09	12.74	11.96	2.01
3 Months Ago (06/04/2013 map)	16.44	53.98	23.09	16.71	14.05	5.33
Start of Calendar Year (01/01/2013 map)	16.39	60.01	19.15	12.28	14.01	2.15
Start of Water Year (09/25/2012 map)	16.15	60.00	17.16	12.65	14.00	1.77
One Year Ago (08/28/2012 map)	15.01	58.33	19.27	14.37	13.01	1.01

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.

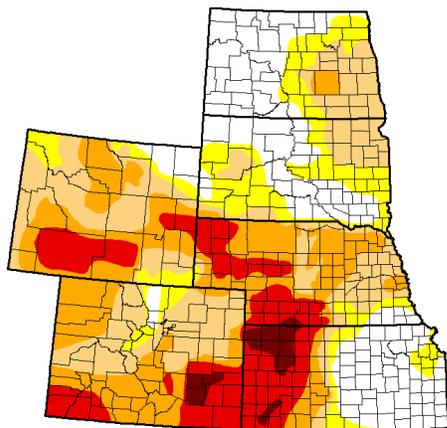
Author:
David Miskus
NOAA/NWS/NCEP/CI/CPC

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

Note that there was some improvement in D2-D4 conditions this past week due in part to the continuation of the SW Monsoon. **Note new and improved look to the drought maps.**

U.S. Drought Monitor High Plains

September 3, 2013
(Released Thursday, Sep. 5, 2013)
Valid 7 a.m. EST



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:
David Miskus
NOAA/NWS/NCEP/CI/CPC

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

Region with D-4 Exceptional Drought

- ✓ [Kansas Drought Update.](#)
- [Dry August doing damage to crops](#) - Aug 26, **Aberdeen, South Dakota**

High Plains

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	23.60	76.40	63.14	38.49	16.25	2.16
Last Week (08/27/2013 map)	21.61	78.39	64.04	39.00	16.58	2.05
3 Months Ago (06/04/2013 map)	18.13	81.87	69.02	46.22	19.48	7.48
Start of Calendar Year (01/01/2013 map)	1.54	98.46	93.01	86.20	60.25	26.99
Start of Water Year (09/25/2012 map)	0.00	100.00	98.91	83.80	61.28	24.35
One Year Ago (08/28/2012 map)	1.25	98.75	88.07	79.12	54.19	14.97

No significant change during this past week.

Region with D-4 Exceptional Drought

- ✓ Texas Drought [Website.](#)
- ✓ [Texas Reservoirs.](#)
- [Cotton Glut Expands to Record as Hanes Profit Gains: Commodities](#) - Aug 29, **Texas**
- [Tiny travelers forced to rely almost entirely on humans along migration route](#) - Aug 25, **Central Texas**
- [Lake levels declined further](#) - Aug 26, **Wichita Falls, Texas**

U.S. Drought Monitor Texas

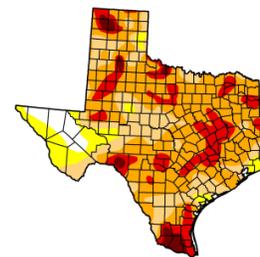
September 3, 2013
Valid 7 a.m. EST

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.14	85.86	87.09	84.83	19.74	2.94
Last Week (08/27/2013 map)	2.82	97.18	87.88	86.12	19.34	2.74
3 Months Ago (06/04/2013 map)	4.66	95.34	87.38	89.59	33.12	16.47
Start of Calendar Year (01/01/2013 map)	3.04	96.96	87.00	85.39	35.03	11.95
Start of Water Year (09/25/2012 map)	9.13	90.87	78.73	57.41	24.91	5.18
One Year Ago (08/28/2012 map)	10.21	89.79	72.49	39.55	14.87	3.21

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

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

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

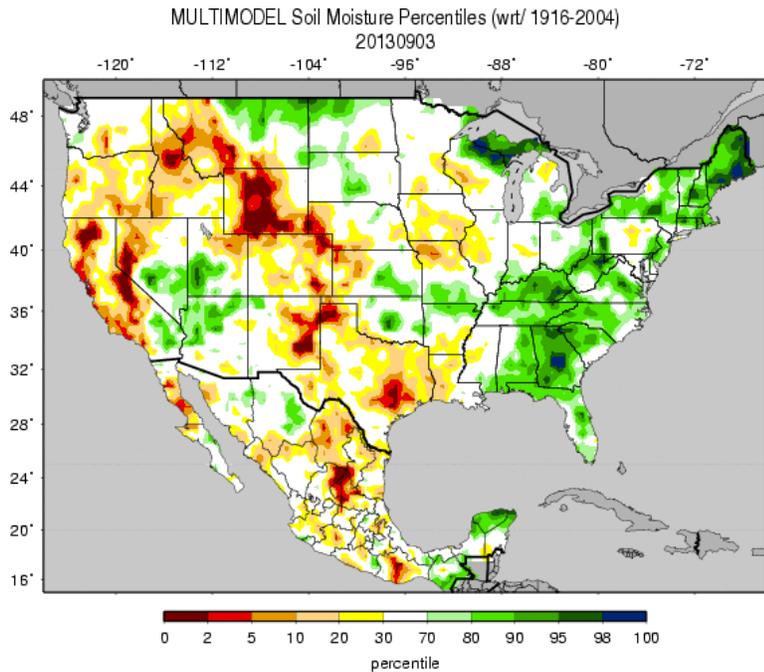


USDA
 Released Thursday, September 5, 2013
 National Drought Mitigation Center,

Note slight improvements during this past week.

Weekly Snowpack and Drought Monitor Update Report

Soil Moisture



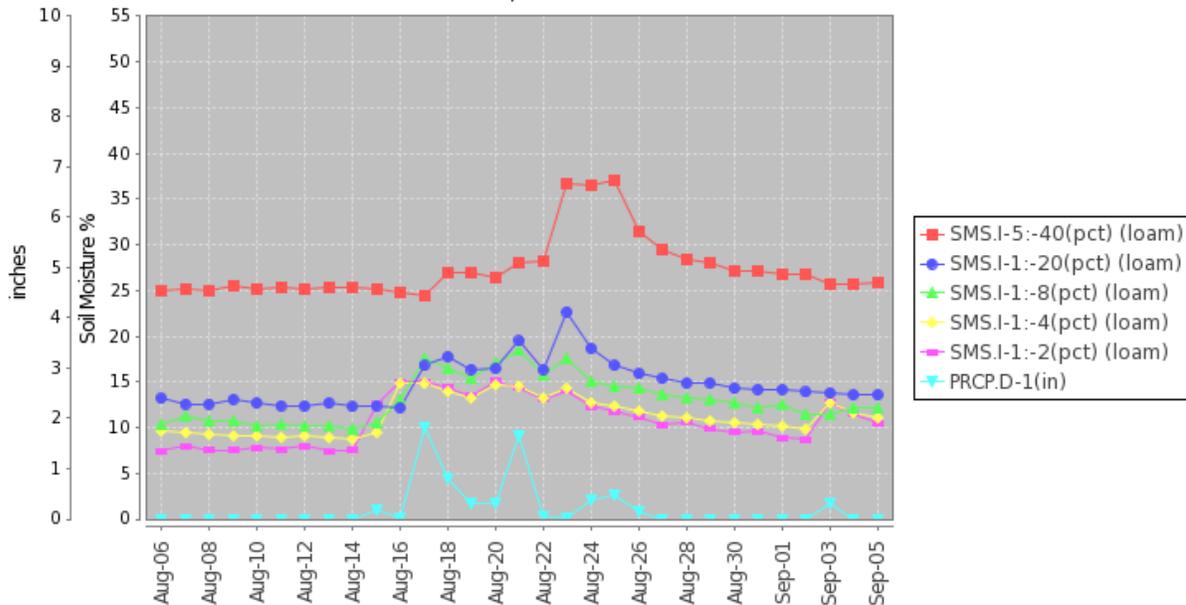
Soil moisture ranking in [percentile](#) as of September 3 shows considerable dryness over Wyoming, the western Great Basin, and northern California. Excess moisture is noted over northern Wisconsin and over much of the Southeast and New England.

Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#); [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought Monitor](#); [Soil Moisture](#).

[Soil Health-unlock your farm's potential](#)

Soil Climate Analysis Network ([SCAN](#))

Station (2027) MONTH=2013-08-06 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision as of Thu Sep 05 08:07:37 PDT 2013



This NRCS resource shows a site over southern Georgia. Recent rains have helped boost soil moisture at all levels.

Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#); [North American Soil Moisture Network](#). [Monthly Wild Fire Forecast Report](#).

Weekly Snowpack and Drought Monitor Update Report

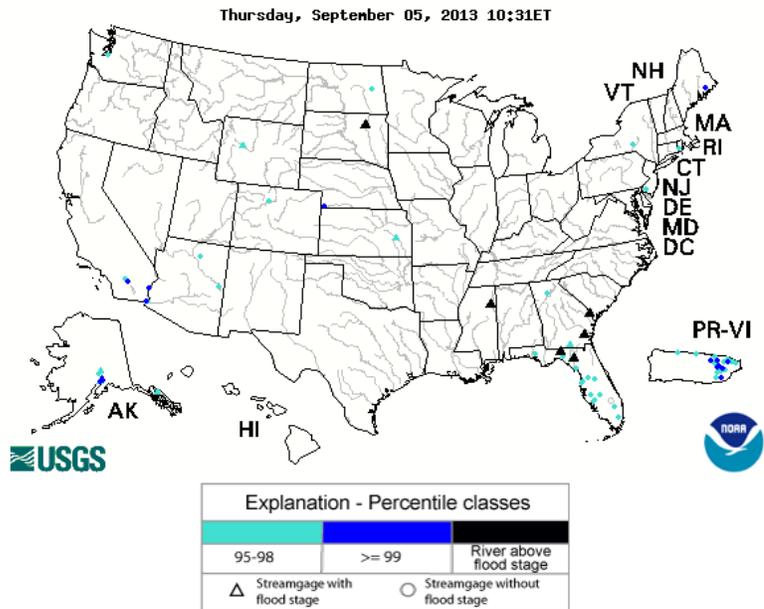
U.S. Historical Streamflow

Flood and high water conditions as of September 5 show widespread flooding confined to Florida and eastern Georgia.

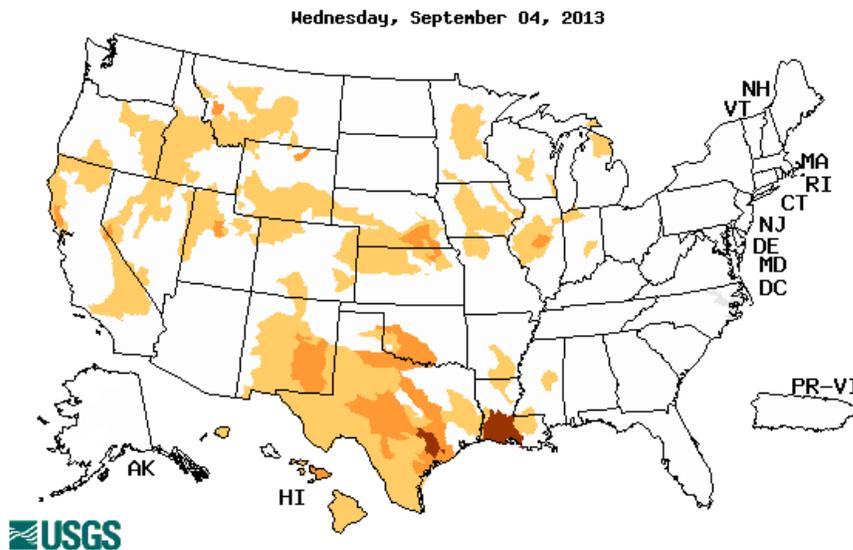
See the [USGS National Water Information System Mapper](#).

The "Flood and high flow" map shows the location of stream gages where the water level is currently at or above flood stage (depicted as a black triangle) or at high flow (depicted as blue circles) The high flow conditions are expressed as [percentiles](#) that compare the current (i.e., within the past several hours) instantaneous flow value to historical daily mean flow values for all days of the year. Please note that flood conditions may be more extensive than shown on the map because the National Weather Service (NWS) has not identified a flood stage (for flood forecasting purposes) at all USGS stream gages. Also, the NWS has determined flood stages for some non-USGS stream gages, which are not shown on the map. The most complete depiction of stream gages at or above flood stage is on the [NWS River Conditions Map](#).

Map of flood and high flow condition (United States)



Map of below normal 7-day average streamflow compared to historical streamflow for the day of year (United States)



Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

This map shows [the 7-day average streamflow conditions in hydrologic units](#) of the United States and Puerto Rico for the day of year. The colors represent 7-day average streamflow [percentiles](#) based on historical streamflow for the day of the year. Thus, the map shows conditions adjusted for this time of the year. Only stations having at least 30 years of record are used. Sub regions shaded gray indicate that insufficient data were available to compute a reliable 7-day average streamflow value.

Southeast Texas and southwest Louisiana are the only states experiencing severe hydrological drought this week.

Weekly Snowpack and Drought Monitor Update Report

Complete National Drought Summary

The following complete **Weather and Drought Summary** is provided by this week's NDMC Author:

Author: [David Miskus, NOAA/NWS/NCEP/CPC.](http://www.cpc.ncep.noaa.gov/products/forecasts/)

National Drought Summary -- September 3, 2013

The discussion in the Looking Ahead section is simply a description of what the official national guidance from the National Weather Service (NWS) National Centers for Environmental Prediction is depicting for current areas of dryness and drought. The NWS forecast products utilized include the HPC 5-day QPF and 5-day Mean Temperature progs, the 6-10 Day Outlooks of Temperature and Precipitation Probability, and the 8-14 Day Outlooks of Temperature and Precipitation Probability, valid as of late Wednesday afternoon of the USDM release week. The NWS forecast web page used for this section is: <http://www.cpc.ncep.noaa.gov/products/forecasts/>.

Weather Summary: “The week commenced with high pressure over the Southeast and storm systems traversing across the northern U.S. As the week progressed, the high pressure system traveled westward, settling over the south-central Plains while a trough of low pressure and associated cold front brought scattered showers and thunderstorms to the eastern third of the Nation. A weak frontal system generated scattered showers in the Pacific Northwest. In the Southwest, tropical moisture from Tropical Storm Juliette (which dissipated off central Baja California) helped to fuel the southwest monsoon in Arizona, Nevada, Utah, and southern Idaho. Decent showers also fell on parts of New Mexico and Colorado. Hit and miss showers also fell on parts of the northern Plains and upper Midwest, the central Great Plains, and south-central Texas. Unsettled weather and decent precipitation also affected most of Alaska, with many stations reporting weekly totals exceeding 2 inches in southwestern and south-central sections of the state. In contrast, little or no rain fell on most of California, Oregon, and eastern Washington, parts of the Plains, most of the Mississippi Valley, and much of Hawaii. Weekly temperatures averaged well above normal (6 to 10 degF) across much of the contiguous U.S., with the exception of seasonable readings in the desert Southwest and Southeast. Highs topped triple-digits in the southern two-thirds of the Plains, southern Iowa and northern Missouri.

The Northeast: Two to three inches of rain fell across northern Pennsylvania, erasing 60- and 90-day deficits and trimming the northern portion of last week's D0 area. Just to the south and northwest, however, less than 0.5 inches fell. With only 50-70% of normal precipitation occurring the past 2 months, 2 to 4 inch deficiencies have accumulated. Accordingly, the D0 area was adjusted southward, and a new D0 was added in northwestern Pennsylvania. Although stream flows have yet to be impacted by the short-term dryness, Pennsylvania pasture conditions rated poor or very poor increased by 6 points to 19%, according to USDA/NASS as of September 1. Other areas to watch for future short-term dryness include parts of New York state, Long Island, and Maryland.

The Midwest: Well above-normal temperatures (6 to 10 degF), continued lack of rain, and record to near-record low August rainfall in some areas has led to rapidly declining topsoil moisture conditions in parts of the Midwest. After such an ideal start to the growing season (March-June; polar opposite compared to last year), the past two months have been much drier than usual, with temperatures slowly increasing. The region from the eastern Dakotas southeastward into western Illinois (and slowly creeping eastward) has gone from nothing (not even D0) to D1-D2 since mid- to late July, aided by 25-50% of normal rainfall. Some portions in central Iowa and northern Missouri have measured between 5-25% of normal, with some stations in the latter area recording under 0.1” of rain during August. In Iowa, the state recorded its warmest week since July 2012, with highs topping 104F at Des Moines and Fort Madison on August 30. Statewide August rainfall ranked seventh driest among 141 years of records, and followed the ninth driest July. Many Iowa stations set new August records for dryness (Keokuk and Mount Pleasant 0; Burlington and Fort Madison Trace; Jefferson 0.04 in; Centerville 0.1 in; Iowa City 0.13 in; Marshalltown 0.17 in). In the eastern Dakotas, and from northwestern Minnesota into southwestern Wisconsin, only 5-25% of the normal August rain fell. With the addition of the excessive heat, crops and pastures conditions have begun to rapidly deteriorate. According to NASS/USDA (Sep. 1), the percent of corn/soybean/pastures rated very poor or poor were: Iowa 25/24/52; Wisconsin 24/23/56; Minnesota 14/14/45; Missouri 27/27/20; and Illinois 14/13/29. Even USGS stream flows have dropped into the below average (10-24) percentiles, with some gauges in southern Iowa below the tenth percentile. As a result, D2 expanded or was added in southern Iowa, western Illinois, and northern Missouri, in western Wisconsin, and central Minnesota. D1 increased into southwestern Wisconsin and central Illinois, with D0 added to parts of Indiana and southern Wisconsin. A few areas, however, received over 2 inches of rain, and some improvement was made – northeastern Minnesota, northern Wisconsin, northern Illinois, and southern Indiana.

The Lower Mississippi Valley: Little to no rain fell across the Delta (except in northwestern Mississippi), adding to growing short-term deficits over the past 90 days. With 50-75% of normal rainfall the past 3-months, precipitation shortages have reached 4 to 8 inches and locally to 12 inches. As a result, the D0-D2 areas crept eastward, with D2 reaching into central Mississippi where less than 50% has fallen since June 5. USGS stream flows have dropped below the tenth percentile in parts of central and western Louisiana. In northwestern Mississippi, however,

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1.5 to 2.5 inches of rain was enough to reduce short-term deficiencies and improve D2 to D1.

Northern and Central Great Plains: Most of the Dakotas reported light to moderate (0.5 to 1.5 inches) of rain, with a few spots in southern North Dakota and northern South Dakota measuring over 2 inches. The rains were enough to keep conditions status-quo, except where the heavier rains fell. In the latter case, D0 was alleviated along most of the western D0 edge of the Dakotas, with D1 to D0 in south-central North Dakota. A slight increase in D0 was made in extreme southeastern South Dakota where many days in the 90'sF have started to prematurely brown the crops. USGS stream flows are still near or above normal at most sites in the Dakotas. No changes were made in Nebraska and Kansas, except for a small 1-category improvement (D1 to D0; D0 to nothing) in extreme sections of southeast Nebraska, northeast Kansas, southwest Iowa, and northwest Missouri, where 1.5 to 3.2 inches fell.

Southern Great Plains: In Oklahoma and Texas, several weeks of mostly dry and warm weather (highs in the 100sF) have diminished the surplus rains from a wet and cool July (in both states) and a wet and cool early August (in Oklahoma). As a result, D0 returned across northern Oklahoma, while a 1-category downgrade occurred across southern Oklahoma as August was a no-show in the southern third of the state. In Texas, a band of light to moderate, with some locally heavy (>2 inches) rain, fell from near Del Rio northeastward into southeastern Oklahoma, and along the Gulf Coast. Some slight improvements were made where the heaviest totals occurred. In eastern Texas, little or no rain fell, and some deterioration was made.

The Southwest: A continued robust summer monsoon, aided by a northward fetch of moisture from former Tropical Storms Juliette and Kiko (both dissipated west of central Baja California), produced widespread showers and thundershowers to much of Arizona, New Mexico, Nevada, Utah, and northward into parts of the West (Idaho, Wyoming, and Colorado). Numerous locations in southern Nevada and Arizona measured over 2 inches of rain, while 1 to 2 inches were common in central Nevada, western and central New Mexico, central Utah, and most of Arizona. Although short-term shortages have been greatly eased or eliminated, long-term deficits still lingered. To accommodate the long-term impacts, only slight improvements were made where the greatest rains fell and the long-term deficits (180-days) were noticeably reduced. For example, enough rain has fallen during the past 6-months in western New Mexico and southwestern Texas that surpluses have accumulated, hence the D2 to D1 and D0 to nothing upgrade, respectively. Similarly in south-central Nevada, D3 and D2 was improved where there was heavy weekly rains and the 180-day deficits were noticeably diminished. The same holds true in western and central Arizona where D2 and D1 were decreased. On Sep. 2, even many USGS stream flow gauges in western New Mexico, central Arizona, southern Nevada, and southwestern Utah flowed at the 90th percentile at 1- and 7-days. The Impacts line was redrawn to depict improved short-term conditions from the robust monsoon, making the long-term (hydrologic) effects causing most of the negative impacts.

The West: Moderate to heavy (1 to 3 inches) rains fell on the Pacific Northwest Coast, effectively eliminating the D0(S) in western Washington. Southwest monsoonal showers also spread northward into southeastern Idaho, central Colorado, and southeastern Wyoming, dropping enough rain (1 to 2.5 inches) to improve D2 to D1 in southeastern Idaho, and 1-category improvement of parts of the D3 and D2 areas in southeastern Wyoming. In addition, 180-day surpluses were present, justifying an upgrade from D1 to D0. Elsewhere, little or no rain fell, and conditions were kept status-quo. An exception was made in north-central Oregon (D0 and D1) where a re-assessment of 90- to 180-day deficiencies were made. The data and products yielded a surplus at those time periods, hence the D1 was improved to D0 (eastern Wheeler county) and D0 removed (from Wasco, Jefferson, Sherman, and western Wheeler counties).

Hawaii and Alaska: In Hawaii, the week started and ended dry as only a few Hawaiian stations measured any rain. During midweek, however, scattered showers fell across the windward slopes of the islands, although amounts were light. On Maui, the County Department of Water Supply declared a Drought Watch for Upcountry residents (central Maui) and asked for a voluntary ten percent reduction in water use. Very dry trade winds the past 3 weeks have greatly lowered the stream flow diversions from the northeast-facing slopes of Haleakala that feed reservoirs. Accordingly, D0 expanded across the rest of the island, and D1 pushed into central Maui's Upcountry. Elsewhere, conditions remained the same.

In Alaska, a stormy and unsettled week brought ample precipitation and subnormal temperatures to much of the state. One to 2.5 inches of precipitation was common at many locations across the southern half of the state, with 3 to 6 inches on the Kenai Peninsula and eastward to Cordova. In the central interior, 0.5 to 1.5 inches of precipitation fell. As a result, D0 was removed where the greatest totals occurred (southern portions), D1 was improved a category where over 2 inches fell, and D2 was improved along its southern edge where 1.5 to 3 inches was measured.

Looking Ahead: During September 4-9, rainfall is forecast to be along the borders of the contiguous U.S., namely in the Northwest, the Great Lakes region into New England, along the Gulf Coast (Texas to Florida), and in the

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Southwest. Unseasonable warmth is predicted for much of the country, but especially in the North-Central States.

For the ensuing 5 days (September 10-14, 2013), odds for above normal precipitation are greatest in the Southwest, Great Lakes region, Appalachians, and southeastern Alaska. Subnormal rainfall probabilities are highest in the Northwest, southern Plains and lower Mississippi Valley, coastal New England, and western Alaska. Temperatures are expected to be above normal in the western two-thirds of the U.S., Southeast, and southeastern Alaska.”

State Activities

[State government drought activities](#) can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate [SSWSF information](#). Additional information describing the [tools](#) available from the Drought Monitor can also be found at the [U.S. Drought Portal](#).

For More Information

The National Water and Climate Center (NWCC) [Homepage](#) provides the latest available snowpack and water supply information. This document is available [weekly](#). CONUS Snowpack and Drought Reports from 2007 are available online. Reports from 2001-2006 are available on request.

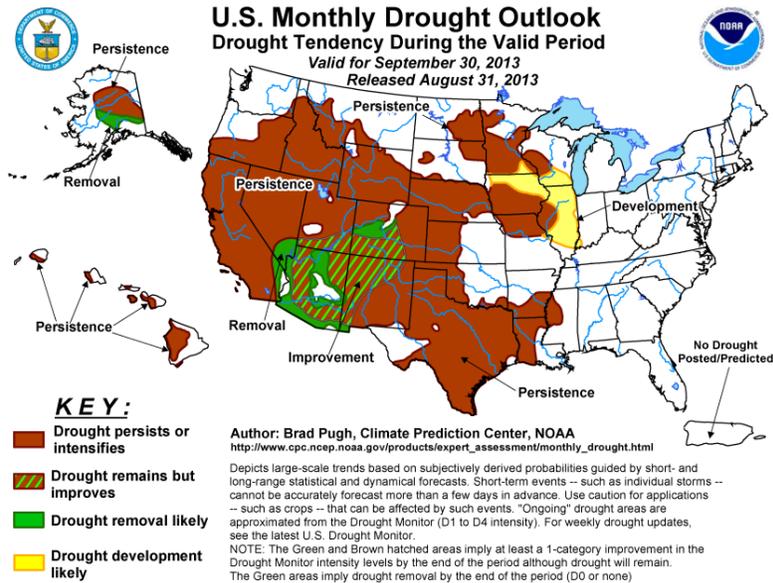
This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

Micheal L. Golden
Deputy Chief, Soil Science and Resource Assessment

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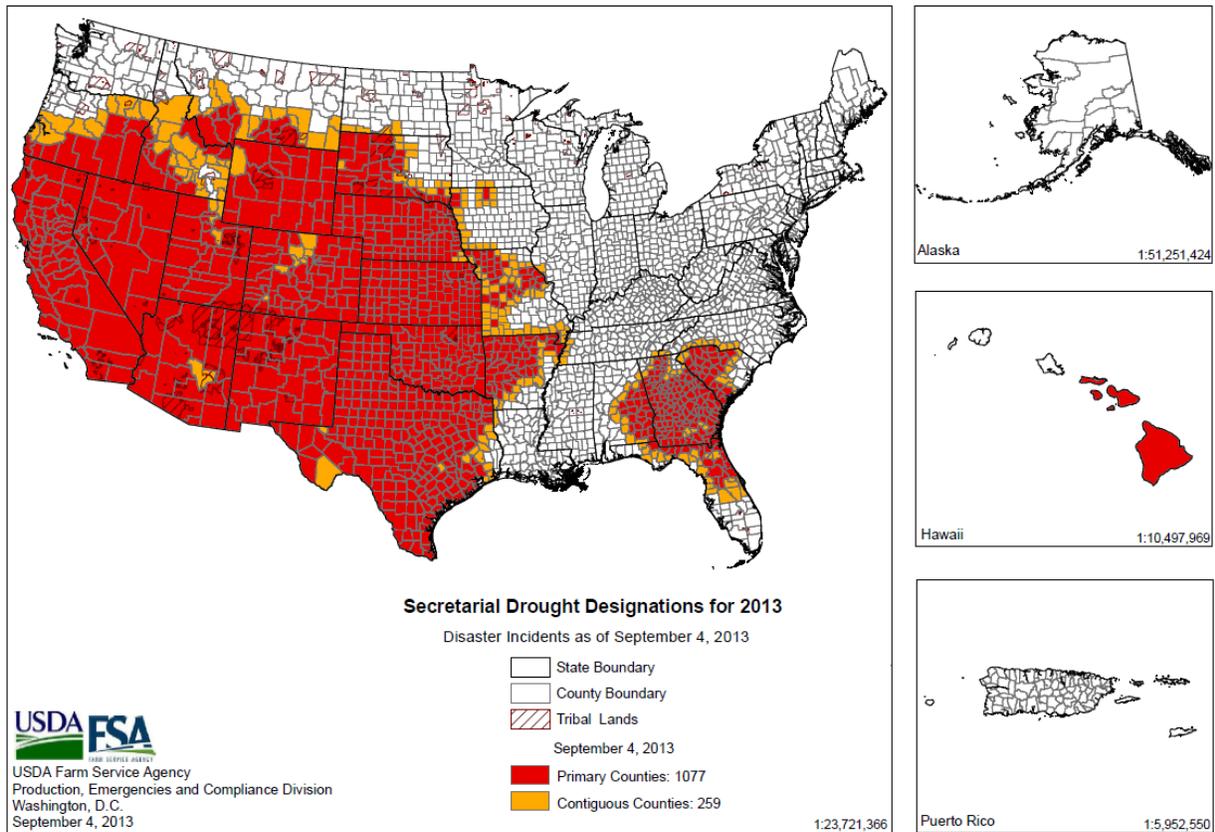
Drought Outlook (Forecast through November)



U.S. Monthly Drought Outlook for September shows:

- Expect improvements over southern Nevada, Arizona, northwestern New Mexico, and southern Colorado.
- Drought is expected to develop over northern Iowa, southern Wisconsin, and much of Illinois.
- Drought is expected to persist over much of the western Great Lakes States, the Western High Plains, and parts of the central and northern Rockies, the Great Basin, and California.

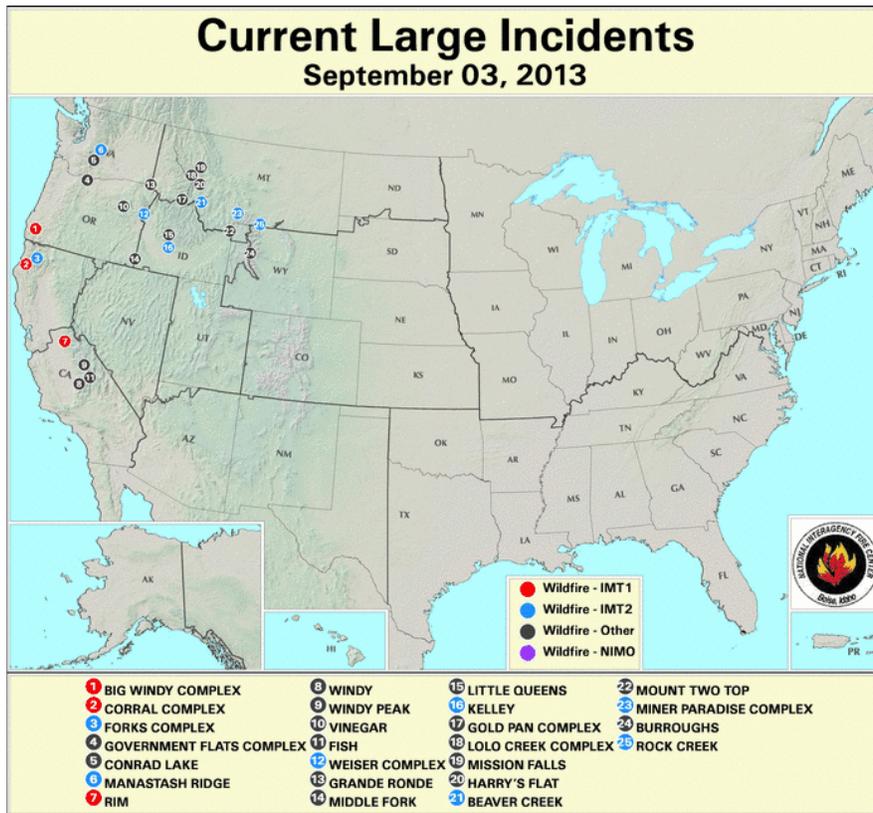
2013 Secretarial Drought Designations - All Drought



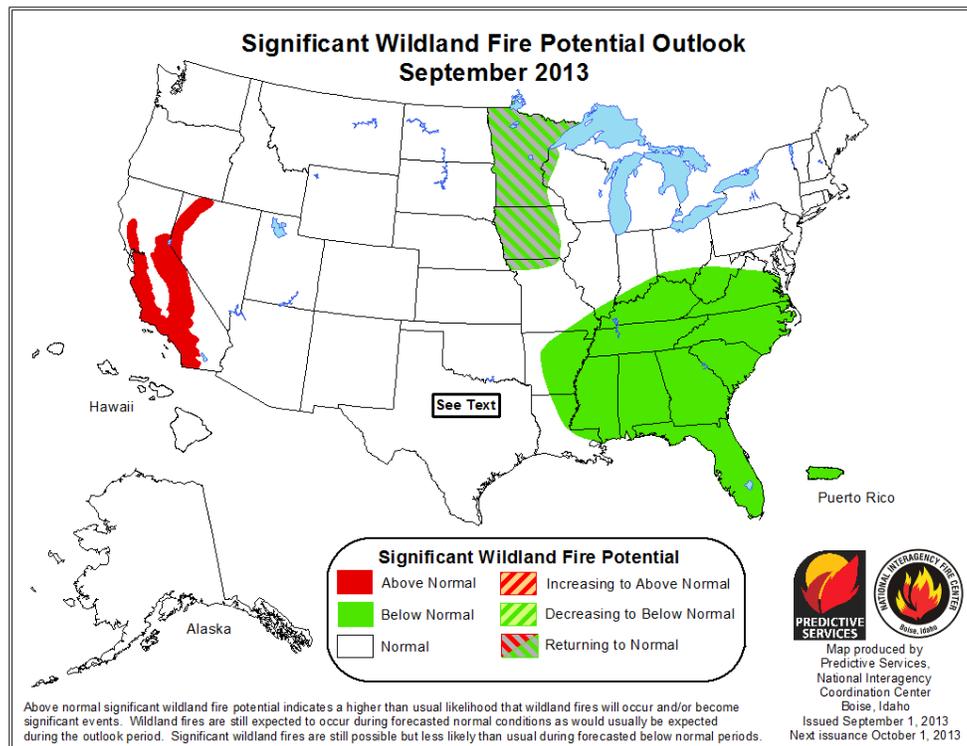
Refer to USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#). Read about the new [USDA Regional Climate Hubs](#).

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Supplemental Drought Information



The [Information Incident System](#) shows the most recent fires and their status across the U.S.



During September, the greatest wildfire threat is expected over much of California and northwestern Nevada. Improving conditions are anticipated over Minnesota and Iowa. Low threat is forecast for much of the southeast corner of the country.

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Noteworthy topics in the news this week:

Agriculture

- The hot, dry summer has turned to flash drought for parts of the Midwest, leading to reduced corn and soybean production. An early freeze would spell trouble for late planted crops after the cool, wet spring.
- Corn in Iowa did not fare so well this summer, according to the ProFarmer Midwest Crop Tour. The crop is immature, needs more growing degree days and will need to be dried this fall.
- Texas cotton production was down by 18 percent, due to drought damage.
- A survey of drought-affected areas in the Midwest in 2012 found that crops planted following cover crops produced 11 percent higher corn and 14 percent higher soybean yields.

Water

- River and lake levels in Iowa were dipping down to 2012 levels, prompting the Department of Natural Resources to warn people about safety over the Labor Day weekend.
- Water supplies were tight in southwestern Montana, leading to restrictions on the Gallatin River and looming restrictions for even senior water rights holders of the Willow Creek Reservoir. The Jefferson River and numerous other rivers closed to fishing.
- Lakes providing Wichita Falls, Texas with water contained an average of 33.1 percent of capacity and were nearing historic lows.

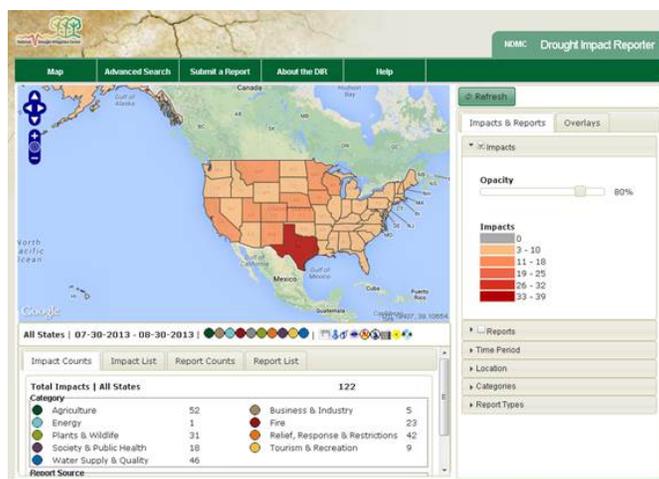
Wildlife in California, Iowa

- Roughly nine thousand ducks died from avian botulism at the Tule Lake National Wildlife Refuge near Tule Lake, California, due to overcrowding, which facilitates the spread of disease. The nearby Lower Klamath National Wildlife Refuge was nearly dry because water shortages in the Klamath Basin meant that the refuge received no water this summer, leading the ducks to congregate at Tule Lake marshes.
- A pond in Gateway Park in Marengo, Iowa was the scene of a fish kill involving thousands of fish after the level of the Iowa River dropped, cutting off the pond from the river.

Barge operators on Mississippi River

- Businesses that rely on the Mississippi River have begun to include protective clauses in their shipping contracts, constructing flood-resistant features at ports and aiming to generate new revenue streams for lean years when weather causes financial losses.

There were nearly 4,000 drought-related articles this week as hot, dry weather in the Midwest sparked concern about the corn and soybean crops and wildfires continued to burn in the West.



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Supplemental AG-related Drought Information

The following data are provided by Brad Rippey, USDA Meteorologist, Office of the Chief Economist, World Agricultural Outlook Board). Also see: <http://snr-0563.unl.edu/Outgoing/US-Maps.ppt>

Highlights for the drought-monitoring period ending 7 am EDT on September 3 include:

- Overall U.S. moderate to exceptional (D1 to D4) drought coverage was virtually unchanged (up 0.05 percentage point) at 50.09%. Until last week, drought had not covered more than half of the contiguous U.S. since April 9, 2013.

- On September 3, exceptional drought (D4) was affecting 1.25% of the continental U.S., down 0.07 percentage point from a week ago to the smallest area since July 17, 2012.

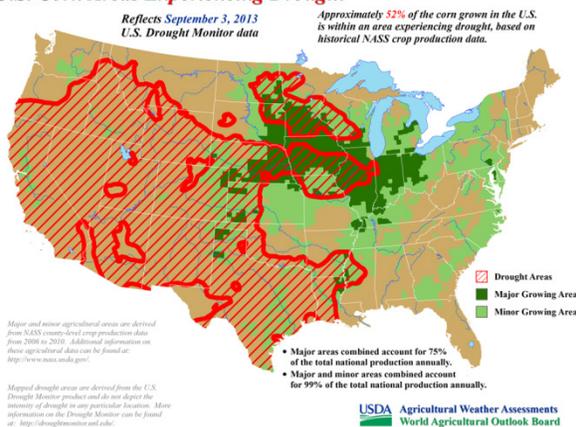
- Hot, mostly dry weather in the Corn Belt led to further increases in drought coverage. According to the U.S. Drought Monitor Website, drought coverage in the nine-state Midwestern region increased from 8 to 29% during the 2-week period ending September 3. Drought currently covers from one-third to two-thirds of Iowa (63%), Minnesota (53%), Illinois (39%), and Wisconsin (35%).

- The portion of the U.S. corn production area in drought increased from 45 to 52% during the week ending September 3. Soybeans in drought also increased in the last week, from 38 to 42%. Corn and soybeans in drought bottomed out in July at 17 and 8%, respectively. Meanwhile, hay in drought was unchanged at 39%, but cattle in drought increased one percentage point to 53%.

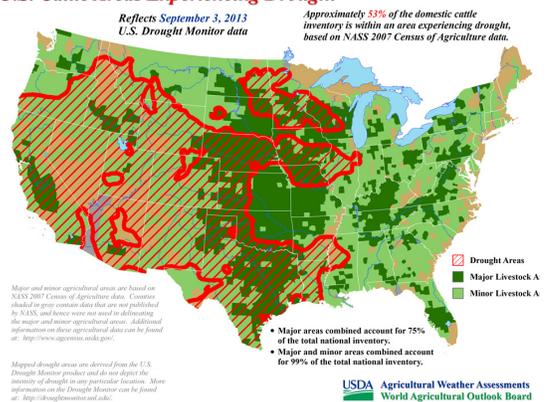
- Given that U.S. producers planted an estimated 97.4 million acres of corn and 77.2 million acres of soybeans in 2013, current drought figures suggest that more than 50 million acres (nearly 80,000 square miles) of corn and some 32 million acres (more than 50,000 square miles) of soybeans are presently being affected by drought. According to USDA, nearly one-sixth of the U.S. corn (16%) and soybeans (15%) were rated in very poor to poor condition on September 1. A year ago, near the height of the Drought of 2012, very poor to poor ratings stood at 52% of the corn and 37% of the soybeans.

- Weather outlook: Late-season heat will continue to dominate the nation's mid-section into next week. The core area of heat will affect the northern and central Plains and the upper Midwest, where temperatures should average 10 to 20°F above normal during the next 5 days. In contrast, the passage of a pair of cold fronts will result in cool conditions from the lower Great Lakes States into the Northeast. Cooler air will also briefly spread inland across the Pacific Northwest. Meanwhile, 5-day rainfall totals could locally reach 1 to 3 inches from the Pacific Northwest to the northern High Plains. Totals of 1 to 2 inches will be possible in the Southwest, Florida, and coastal Texas, but only light showers can be expected in the Midwest. Dry weather will continue across the southern Plains.

U.S. Corn Areas Experiencing Drought



U.S. Cattle Areas Experiencing Drought



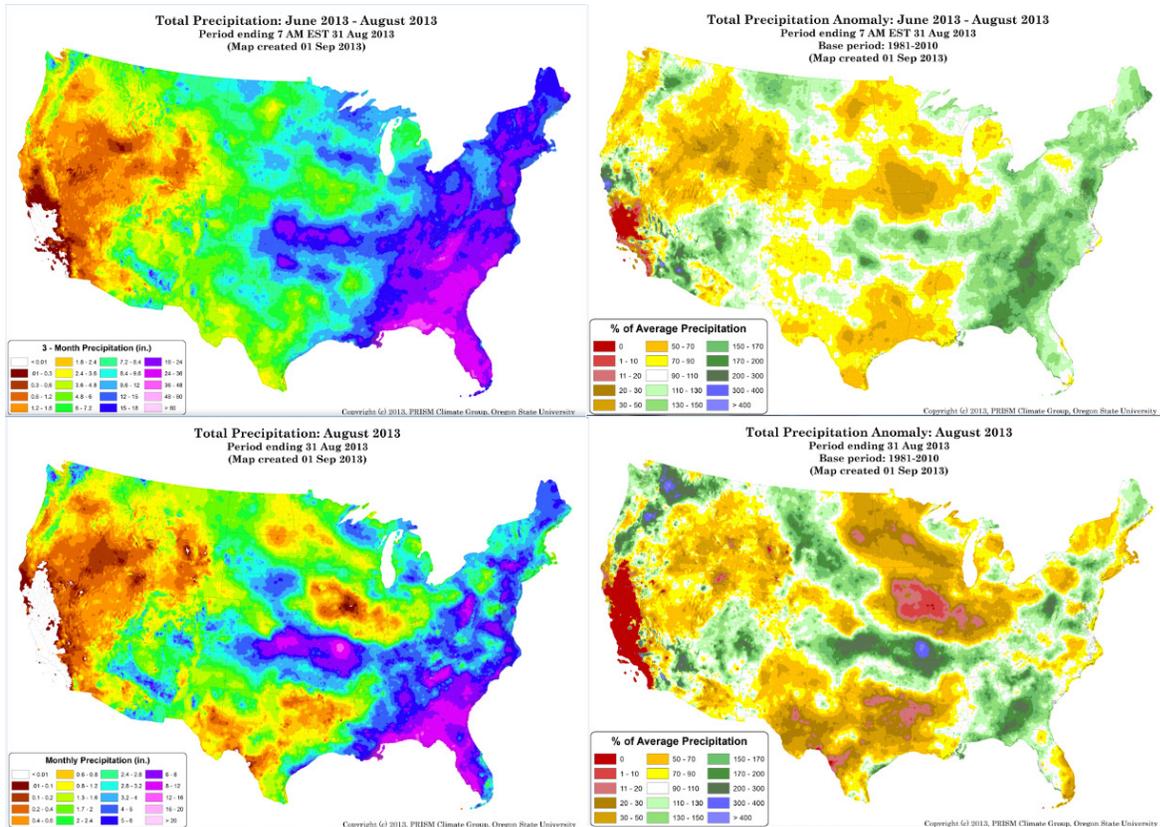
These maps are not clickable

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August Southwest Climate Podcast: Monsoon Report

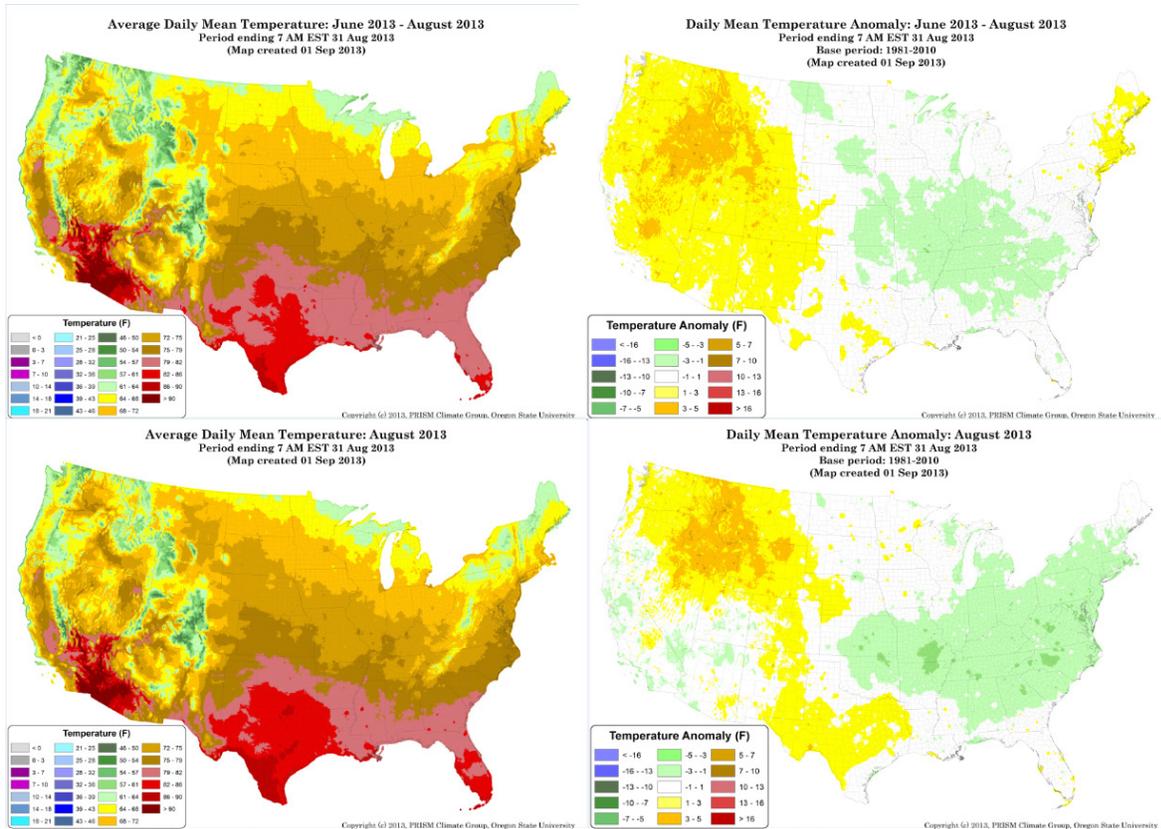
Tune into the Southwest Climate Podcast on [iTunes](#) or via the [Southwest Climate Change Network](#).

- Summarizing the spatial and temporal variability of the monsoon
- Monsoon rains effect on drought
- A peek at the climate of upcoming seasons



Preliminary PRISM data for June-August and August total precipitation and anomaly.

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Preliminary PRISM data for June-August and August average temperature and anomaly.