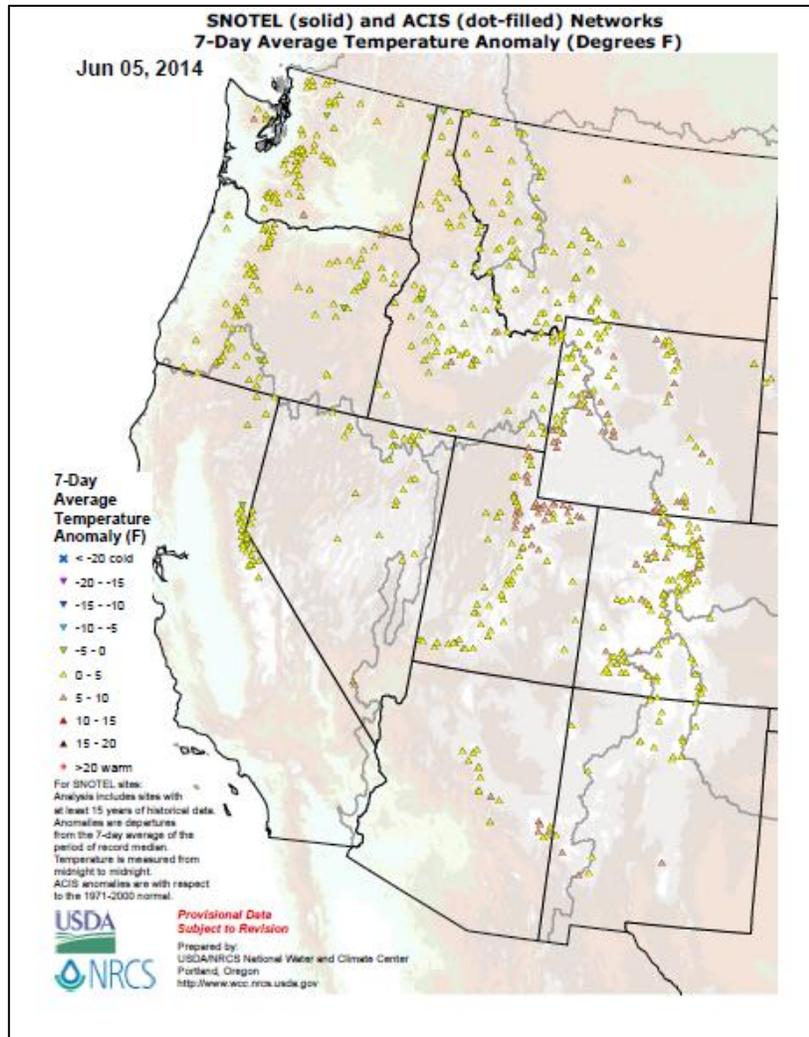




## Weekly Snowpack / Drought Monitor Update June 5, 2014

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### Temperature



[SNOTEL](#) and ACIS [7-day temperature anomaly](#) shows temperatures above normal over the central Rockies. Near normal temperatures prevailed over the rest of the West.

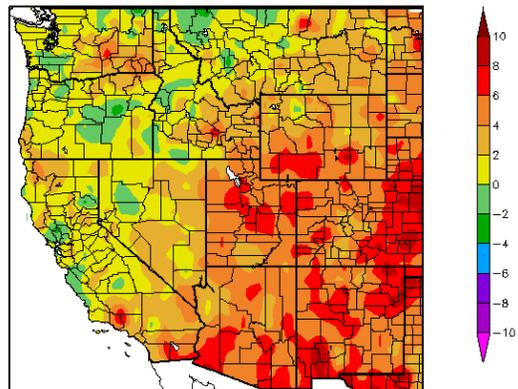
*Click on most maps in this report to enlarge and see latest available update.*

# Weekly Snowpack and Drought Monitor Update Report

ACIS 7-day average temperature anomalies, ending June 4, show the greatest negative temperature departures scattered over the Columbia Basin and California (<-4°F). The greatest positive temperature departures occurred in the Southwest and eastern Colorado (>+6°F).

Also, see [Dashboard](#) and the [Westwide Drought Tracker](#).

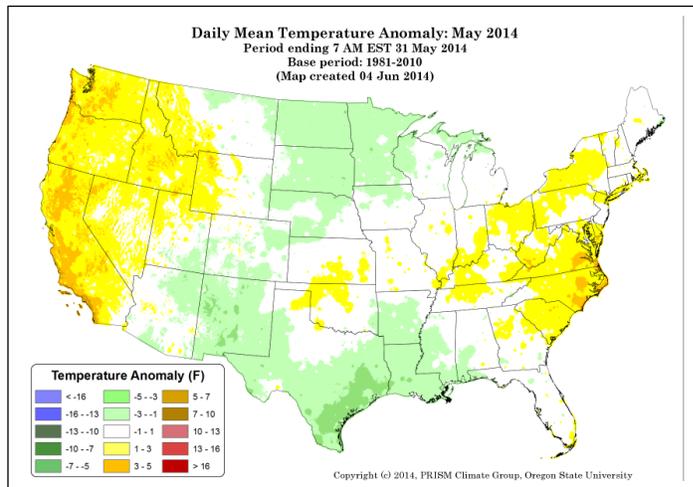
Departure from Normal Temperature (F)  
5/29/2014 - 6/4/2014



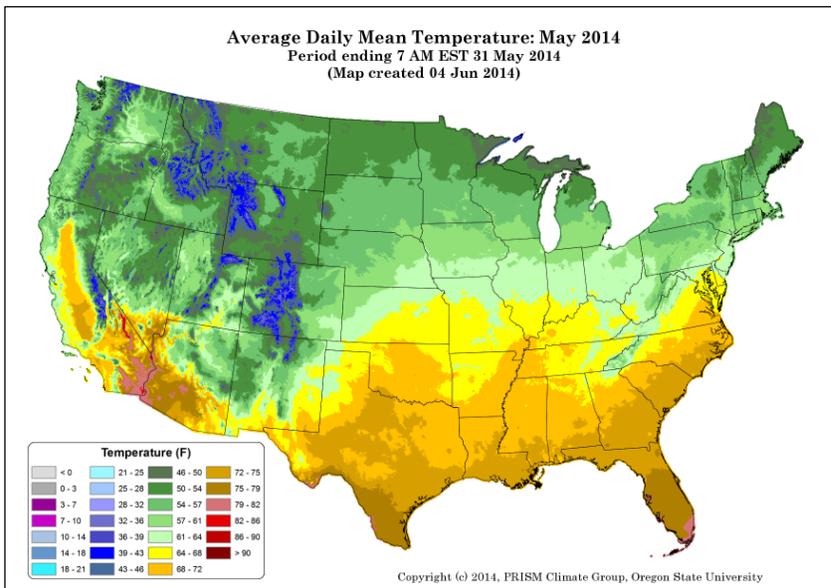
Generated 6/5/2014 at HPRDC using provisional data.

Regional Climate Centers

This preliminary [PRISM](#) temperature map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.



← During May 2014, the temperature anomaly [map](#) shows a cold pattern over the northern interior sections of the country, New Mexico, and southern Texas (<-5°F). Above normal temperatures dominated the coastal areas of California to Washington and over eastern North Carolina and Virginia (>+5°F).



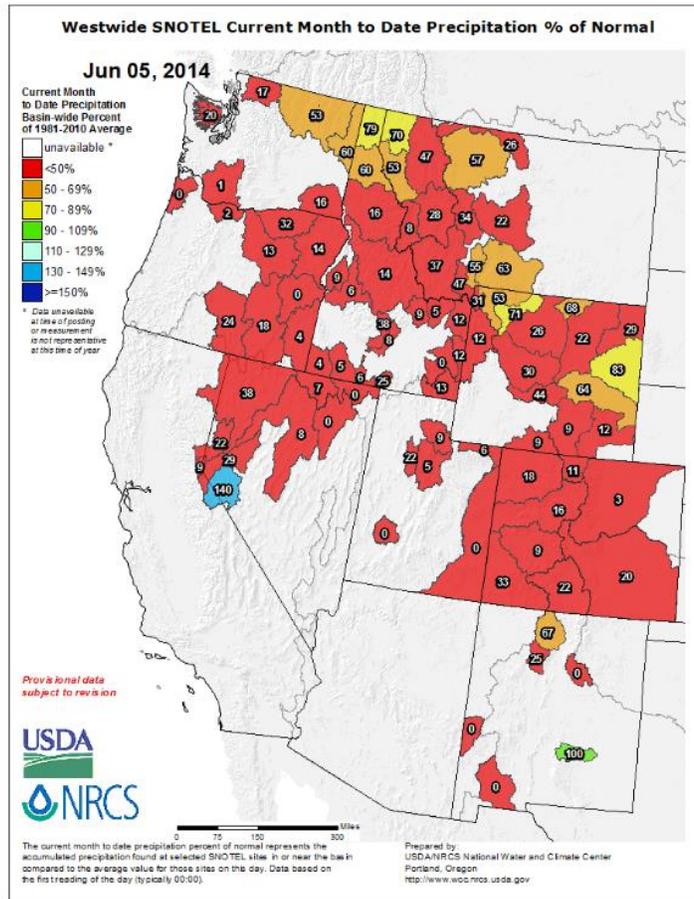
Forecasting the start of the spring snowmelt and subsequent runoff depends, in part, on when average temperatures warm to above freezing. Monitoring this type of [climate map](#) is a useful way to gauge when this onset is likely to occur.

# Weekly Snowpack and Drought Monitor Update Report

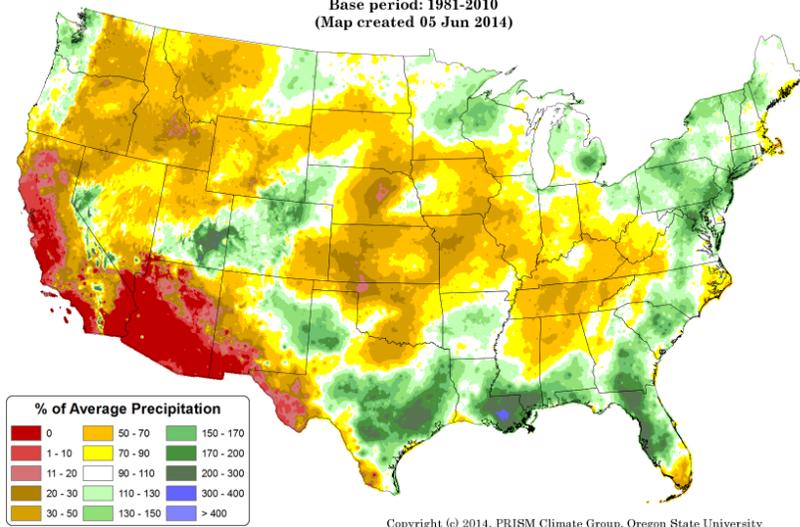
## Precipitation

The June 1 - 5 [SNOTEL](#) precipitation percent of normal map shows predominately deficit conditions over much of the West for the first few days of the month. The blue area in the Walker River Basin of Nevada is most likely in error.

Some areas in the Cascades and elsewhere are missing due to a network outage this morning.



**Total Precipitation Anomaly: May 2014**  
 Period ending 31 May 2014  
 Base period: 1981-2010  
 (Map created 05 Jun 2014)



← During May 2014, the [precipitation anomaly](#) pattern reveals surplus moisture scattered across the nation. Parts of the Southwest, including California, have seen little or no precipitation. Above normal precipitation is seen in Florida and along the Gulf Coast, New England, parts of the mid-Atlantic states, the northern Midwest, Texas, New Mexico, southeast Utah, and the coastal ranges in Washington and Oregon.

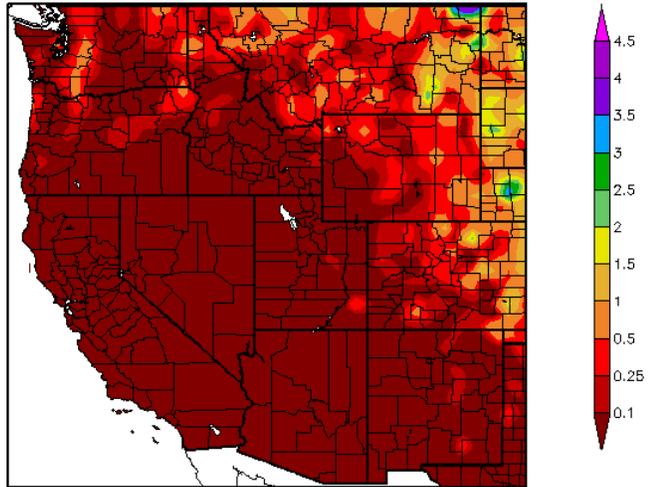
*This preliminary daily PRISM precipitation anomaly map contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.*

# Weekly Snowpack and Drought Monitor Update Report

The [ACIS 7-day](#) total precipitation map shows mainly dry conditions. Scattered thunderstorms are beginning to pop up in areas in the northern Great Plains.

Little, if any, precipitation occurred over vast areas of the West.

Precipitation (in)  
5/29/2014 - 6/4/2014



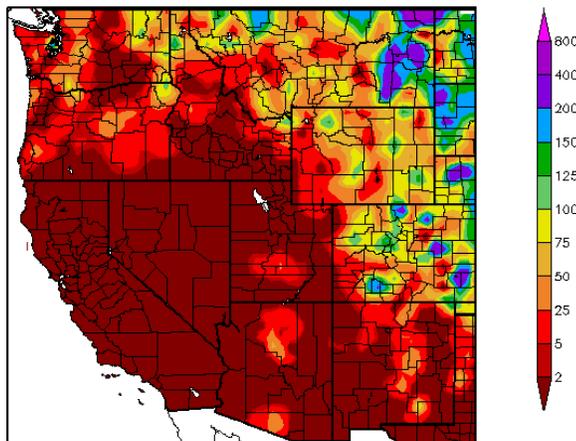
Generated 6/5/2014 at HPRCC using provisional data.

Regional Climate Centers

As would be expected based on the map above, this [map](#) reflects the heaviest precipitation falling across the central and northern Great Plains. Scattered thunderstorms across the West also are reflected as isolated high percentages.

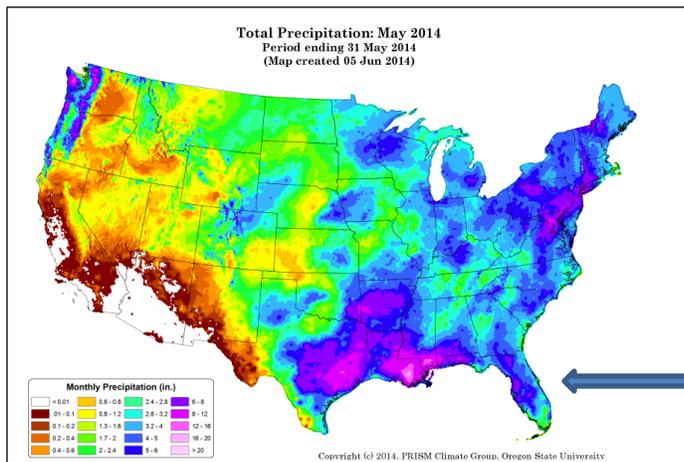
Percent of normal precipitation may be exaggerated in areas where the average for this period is near zero. →

Percent of Normal Precipitation (%)  
5/29/2014 - 6/4/2014



Generated 6/5/2014 at HPRCC using provisional data.

Regional Climate Centers



The May 2014 [total precipitation](#) map indicates no precipitation has fallen over Arizona to much of California. Texas and the Gulf Coast, the upper mid-Atlantic to New England, a few areas in the Midwest, and the western mountains in Oregon and Washington have had the highest totals.

See [Go Hydrology](#) for current and forecast conditions over southern Florida.

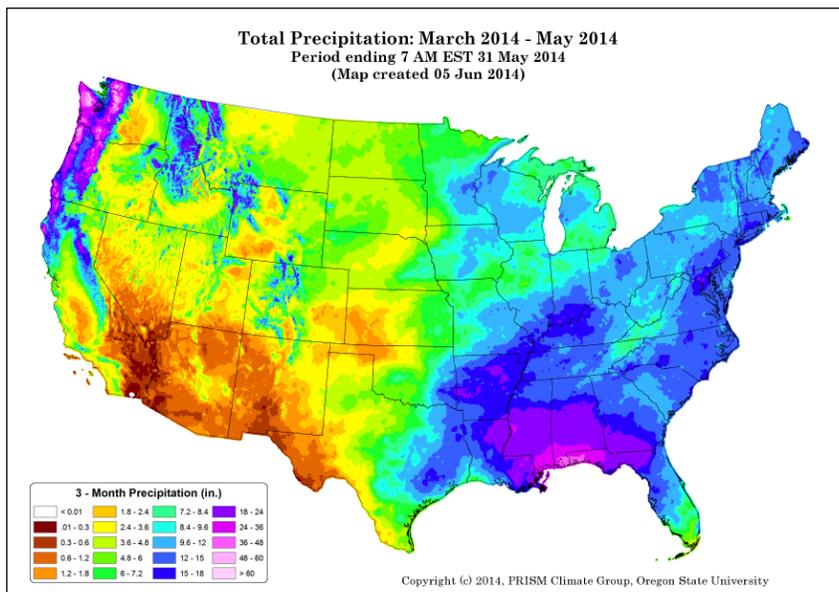
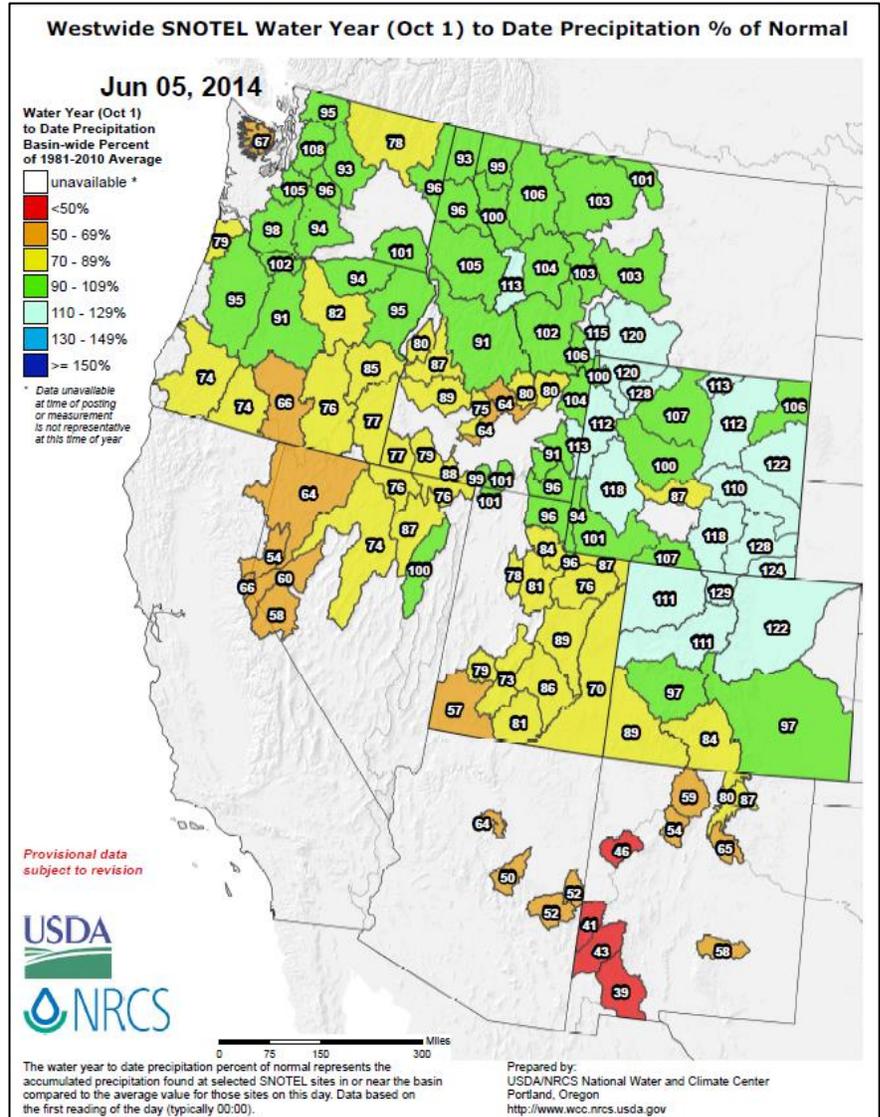
## Weekly Snowpack and Drought Monitor Update Report

For the [2014 Water Year](#) that began on October 1, 2013, only central Montana, most of Wyoming and northern Colorado are experiencing surpluses.

Near average conditions dominated the northern half of the Cascades, the northern half of Idaho, northwestern-most Montana, the Lower Bear River in eastern Utah and southeast Idaho, and parts of the southern half of Colorado.

The largest deficits are centered over southern Oregon, western Nevada, southern and eastern Utah, Arizona, and New Mexico.

As the Water Year advances, it becomes more difficult for river basins to change bin categories.

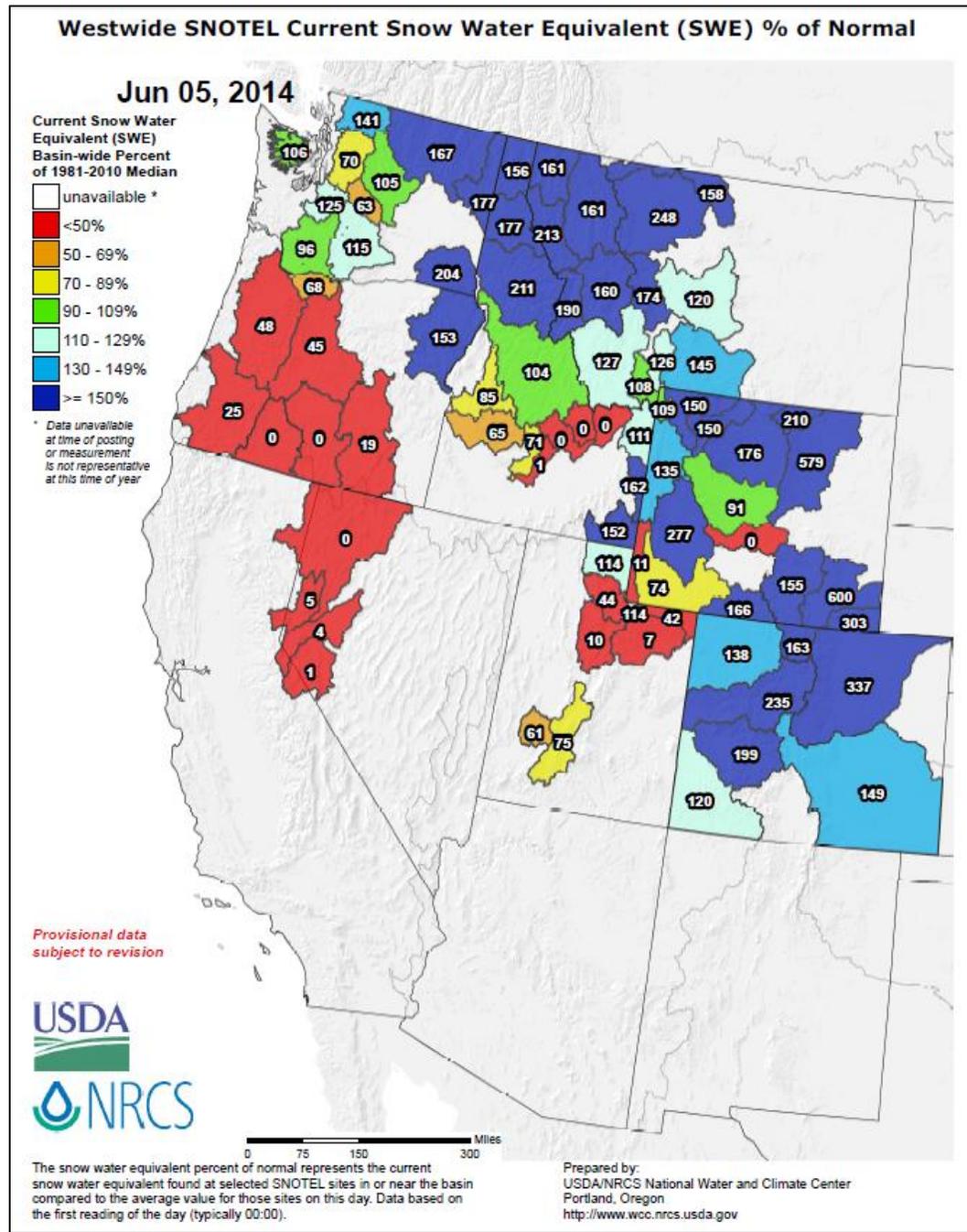


The three-month period (March - May) shows that the eastern half of the nation received precipitation in the range from 5 to greater than 24 inches.

On the other hand, parts of the West received totals less than three inches. The exceptions in the West are over the northern Rockies and Cascades, where totals exceeded 24 inches.

# Weekly Snowpack and Drought Monitor Update Report

## Snow



[Snow Water Equivalent](#) (SWE) percent of normal values at this time of year can be difficult to determine without reviewing actual values, since normal values are very low to zero in June. Generally the SWE is higher east of the Continental Divide and over the Columbia River drainage. During this time of year, the percent of normal snowpack can also increase without additional moisture if the melt is delayed by colder than normal temperatures. It should be noted that although the percent of normal SWE values exceed 100 percent in several river basins, this does not necessarily result in surplus snowmelt. However, cool temperatures can produce a slower snowmelt that helps resource managers better regulate water conveyance into and out of reservoirs.

The water supply forecasts issued by the [National Water and Climate Center](#) for the spring and summer months are [now available](#). See the latest: [National Snow Analysis](#) and [West-Wide Water Supply Forecast Tables](#).



# Weekly Snowpack and Drought Monitor Update Report

## Risk Management Web Resources

Drought Monitor for the [Western States](#)  
 Drought Impact Reporter for [New Mexico](#)  
[California Data Exchange Center](#) & [Flood Management Intermountain West Climate Dashboard](#)  
[Great Basin Dashboard](#)  
[California Sierra Nevada-related snow pack](#)

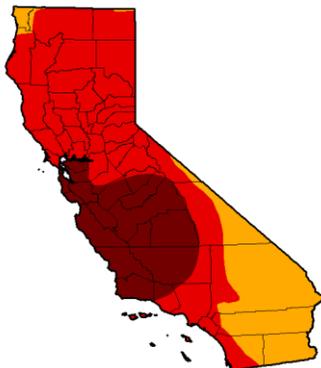
## U.S. Impacts during the past week

[Lake Powell on Utah/Arizona border](#). Lake Powell was at 42 percent of capacity on May 21 after 14 years of drought. – May 25  
[Drought Conditions Cause Concern Among Kansas Farmers](#) – May 25

[Click to enlarge maps](#)

## State with D-4 Exceptional Drought

### U.S. Drought Monitor California



**June 3, 2014**  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)						
	None	D0-D1	D2-D3	D4-D5	D6-D7	D8	D9
Current	0.00	100.00	100.00	100.00	76.66	24.77	
Last Week 5/27/14	0.00	100.00	100.00	100.00	76.66	24.77	
3 Months Ago 3/03/14	0.00	100.00	94.56	90.82	85.99	22.37	
Start of Calendar Year 01/01/14	2.61	97.39	94.25	87.53	27.59	0.00	
Start of Water Year 04/01/13	2.63	97.37	95.95	84.12	11.36	0.00	
One Year Ago 06/03/13	0.00	100.00	98.16	53.64	0.00	0.00	

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

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

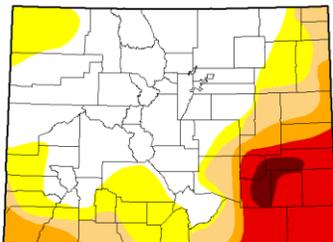
Author:  
 Richard Tinker  
 CPC/NOA/NWS/NCEP

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

No changes occurred this past week.

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Colorado



**June 3, 2014**  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)						
	None	D0-D1	D2-D3	D4-D5	D6-D7	D8	D9
Current	56.27	49.73	30.04	19.85	12.49	1.99	
Last Week 5/27/14	44.71	55.29	30.04	19.86	12.49	1.93	
3 Months Ago 3/03/14	27.67	72.33	22.33	13.54	4.23	1.47	
Start of Calendar Year 01/01/14	32.64	67.96	22.33	13.56	4.01	1.47	
Start of Water Year 04/01/13	24.91	75.09	37.88	12.01	4.01	1.47	
One Year Ago 06/03/13	0.00	100.00	93.19	72.32	26.51	15.64	

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

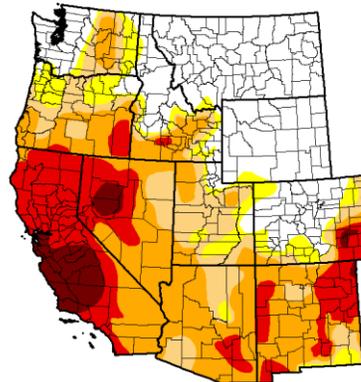
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
 Richard Tinker  
 CPC/NOA/NWS/NCEP

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

No changes have occurred this past week.

### U.S. Drought Monitor West



**June 3, 2014**  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)						
	None	D0-D1	D2-D3	D4-D5	D6-D7	D8	D9
Current	31.84	68.16	60.32	47.21	20.29	4.21	
Last Week 5/27/14	31.18	68.82	60.38	47.20	20.21	4.21	
3 Months Ago 3/03/14	22.79	77.21	59.41	41.01	15.27	3.61	
Start of Calendar Year 01/01/14	22.20	77.80	51.44	31.11	7.75	0.61	
Start of Water Year 04/01/13	25.25	74.75	58.98	34.18	5.57	0.61	
One Year Ago 06/03/13	16.44	83.56	72.00	46.70	14.65	5.98	

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

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

Author:  
 Richard Tinker  
 CPC/NOA/NWS/NCEP

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

No significant changes occurred this past week.

## CA Drought Information Resources

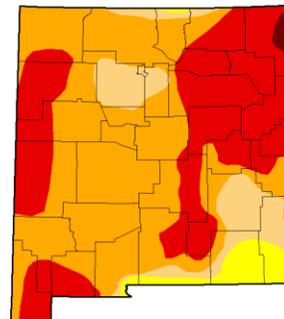
### Drought News from California

- [Amid drought, laws to track California's biggest water users ignored](#) – May 28
- [California drought: 19th-century laws give thousands of users free, unmonitored water](#) – May 27
- [California orders thousands of Sacramento Valley water users to stop pumping from streams](#) – May 29

## New Mexico News

- [Rains helped, but NM still in drought](#) – May 29
- [Drought continues to plague New Mexico onion growers](#) – May 28
- [Santa Fe restricts sale/use of dangerous fireworks](#) – May 29

### U.S. Drought Monitor New Mexico



**June 3, 2014**  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT

	Drought Conditions (Percent Area)						
	None	D0-D1	D2-D3	D4-D5	D6-D7	D8	D9
Current	0.00	100.00	95.59	84.65	35.57	0.89	
Last Week 5/27/14	0.00	99.91	95.59	84.50	35.64	0.89	
3 Months Ago 3/03/14	0.41	99.59	98.50	88.65	23.27	0.80	
Start of Calendar Year 01/01/14	0.39	99.61	75.21	32.68	3.96	0.00	
Start of Water Year 04/01/13	1.90	98.10	74.92	37.81	3.93	0.00	
One Year Ago 06/03/13	0.00	100.00	100.00	88.89	82.10	44.77	

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

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

Author:  
 Richard Tinker  
 CPC/NOA/NWS/NCEP

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

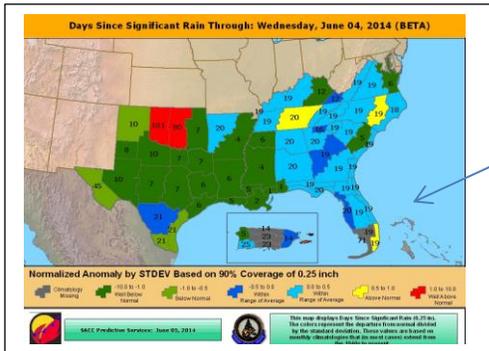
No changes have occurred this past week.

# Weekly Snowpack and Drought Monitor Update Report

## State with D-4 Exceptional Drought

Texas Drought [Website](#).  
[Texas Reservoirs](#).  
[Texas Drought Monitor Coordination Conference Call](#): on  
 Monday's 2:00 PM - 3:00 PM CST

[With drought comes downturn in hydroelectricity generation](#) – May 23  
[Rainfall likely to delay record-drought declaration](#) – May 28

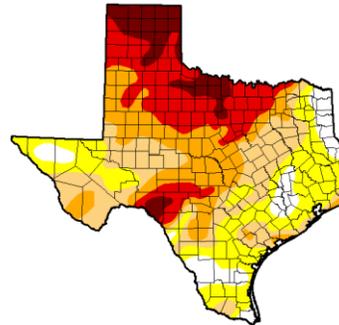


[Days since Significant Rain Summary](#)

## U.S. Drought Monitor Texas

June 3, 2014  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT

Drought Conditions (Percent Area)	None					
	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	8.65	91.35	88.20	46.31	27.01	8.66
Last Week (2014)	10.72	89.28	71.16	49.16	32.01	10.76
3 Months Ago (2014)	8.95	91.05	87.15	31.38	8.82	1.07
Start of Calendar Year (2014)	28.49	71.52	43.84	21.15	5.02	0.78
Start of Water Year (2013)	6.62	93.38	70.95	25.00	4.01	6.12
One Year Ago (2013)	4.66	95.34	87.38	59.59	33.12	16.47



**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: Richard Tinker  
 CPC/NDA/NWS/INCEP



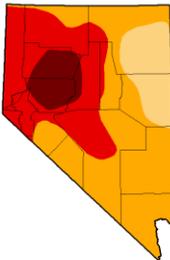
<http://droughtmonitor.unl.edu/>

A slight reduction in all drought categories occurred during the past week.

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Nevada

June 3, 2014  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)	None					
	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	0.00	100.00	100.00	87.03	36.73	0.24
Last Week (2014)	0.00	100.00	100.00	87.03	36.73	0.24
3 Months Ago (2014)	100.00	99.32	72.95	33.88	0.37	
Start of Calendar Year (2014)	0.00	98.91	81.91	26.91	0.21	
Start of Water Year (2013)	0.00	98.78	79.11	26.00	0.21	
One Year Ago (2013)	0.00	100.00	98.89	89.87	61.78	0.80

**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: Richard Tinker  
 CPC/NDA/NWS/INCEP



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

No changes have occurred during this past week.

[Nevada fire restrictions take effect earlier than usual](#) – May 29

- [Past 30 days precipitation totals](#)
- [Past 30 days precipitation percent of normal](#)
- [Calendar Year precipitation totals](#)
- [Calendar Year Precip percent of normal](#)
- [Short Crop ET](#)

## Related Area News

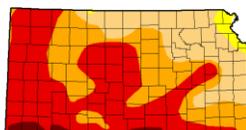
[2014 Kansas Drought Report and Summary](#)

[Already hurt by drought, state's wheat harvest rained out](#) – May 25

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Kansas

June 3, 2014  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)	None					
	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	0.00	98.61	87.95	75.45	41.14	2.98
Last Week (2014)	0.00	100.00	98.84	80.91	46.31	3.09
3 Months Ago (2014)	6.14	93.86	85.16	61.13	7.78	0.95
Start of Calendar Year (2014)	6.71	93.29	85.92	33.93	5.58	0.05
Start of Water Year (2013)	45.14	53.86	40.28	31.94	3.96	0.00
One Year Ago (2013)	3.23	96.77	75.53	64.97	42.88	

**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: Richard Tinker  
 CPC/NDA/NWS/INCEP



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

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Oklahoma

June 3, 2014  
 (Released Thursday, Jun. 5, 2014)  
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)	None					
	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Current	4.02	95.98	85.20	75.79	61.17	21.21
Last Week (2014)	5.78	94.22	79.94	73.26	55.04	26.41
3 Months Ago (2014)	0.78	99.22	62.55	28.06	13.07	2.40
Start of Calendar Year (2014)	50.84	49.16	38.17	18.99	4.84	2.40
Start of Water Year (2013)	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago (2013)	38.02	61.98	53.45	40.69	26.36	11.31

**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: Richard Tinker  
 CPC/NDA/NWS/INCEP

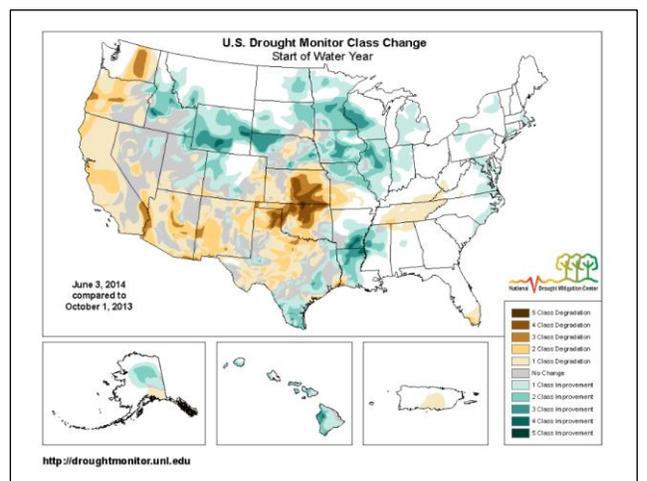
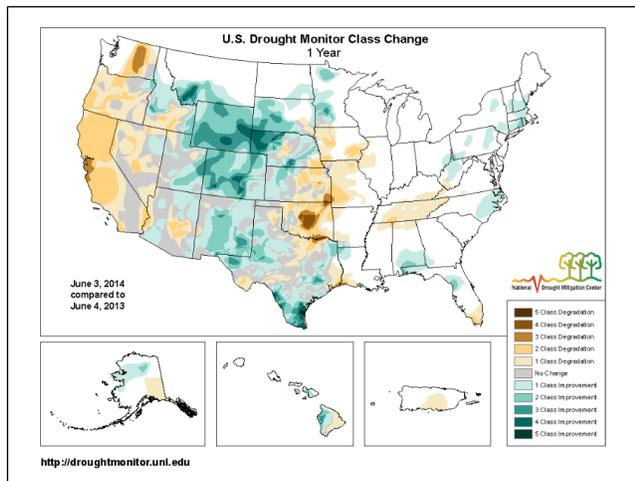
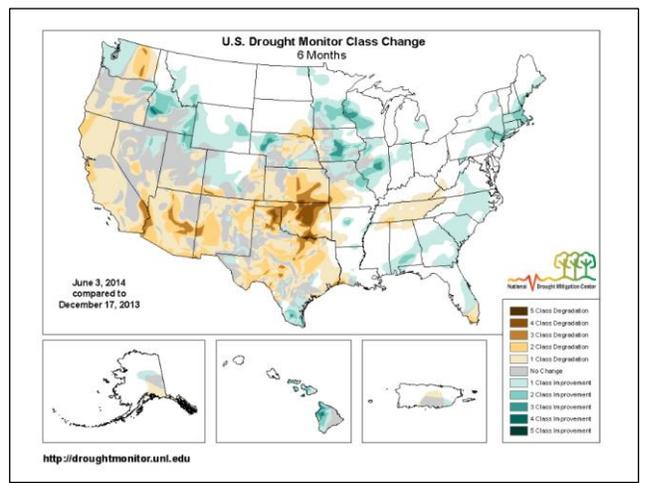
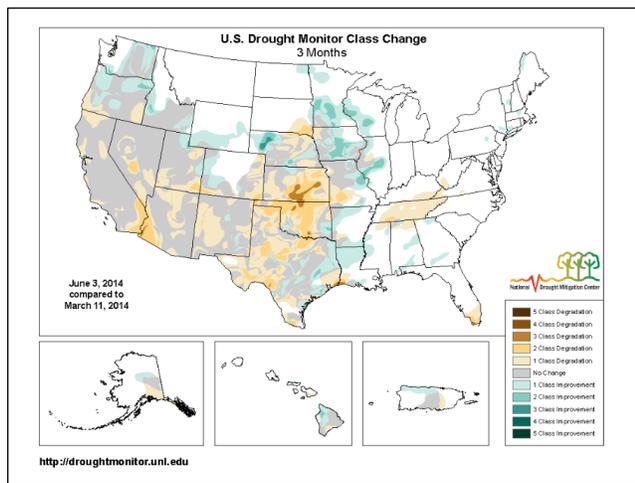
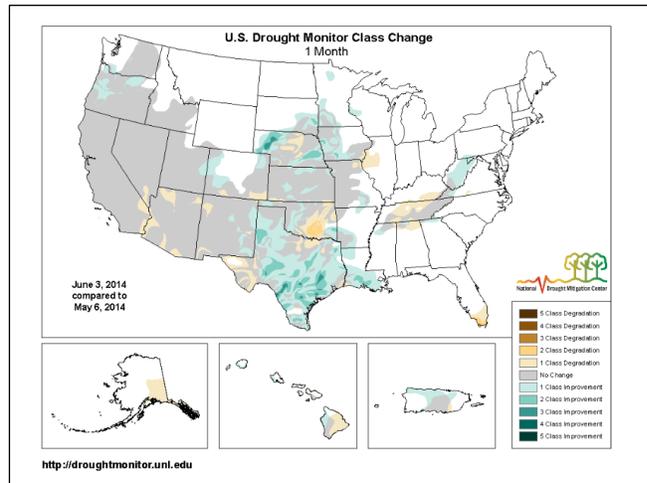
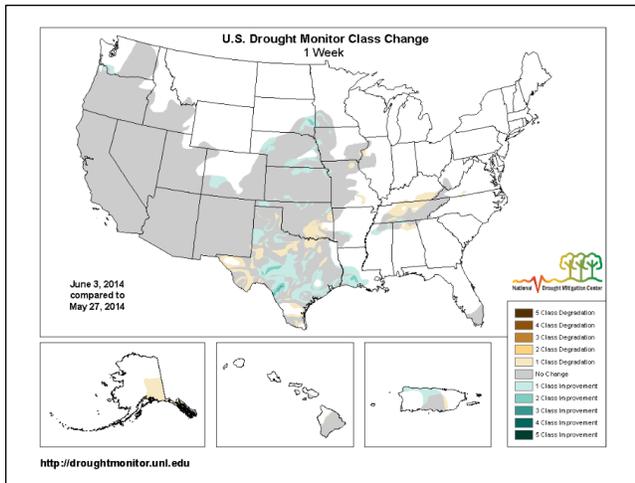


<http://droughtmonitor.unl.edu/>

Slight increase has occurred in D3 and D4 during this past week.

# Weekly Snowpack and Drought Monitor Update Report

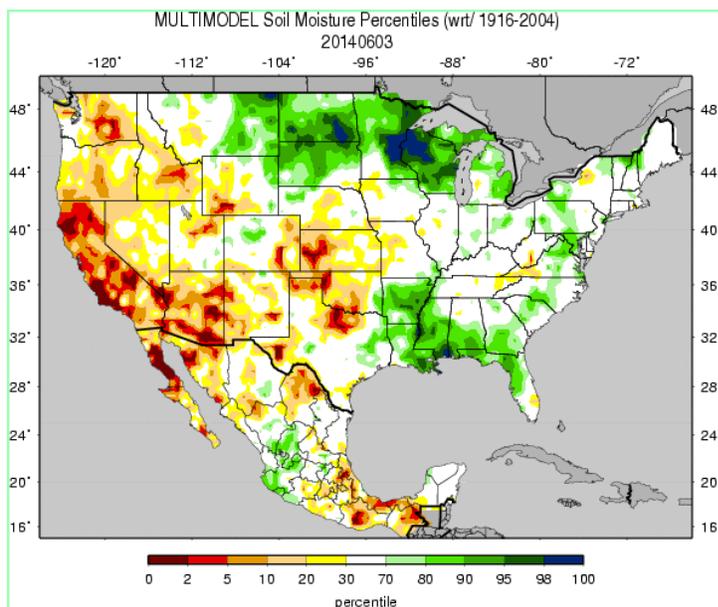
## Changes in Drought Monitor Categories (over various time periods)



Click on any of these maps to enlarge. Note how the conditions over the Rockies and northern Great Plains have improved between 6 to 12 months (middle right to lower left maps). However, also note that since the start of the 2014 Water Year last October, conditions over the middle and southern Great Plains have deteriorated significantly (lower right map).

# Weekly Snowpack and Drought Monitor Update Report

## Soil Moisture

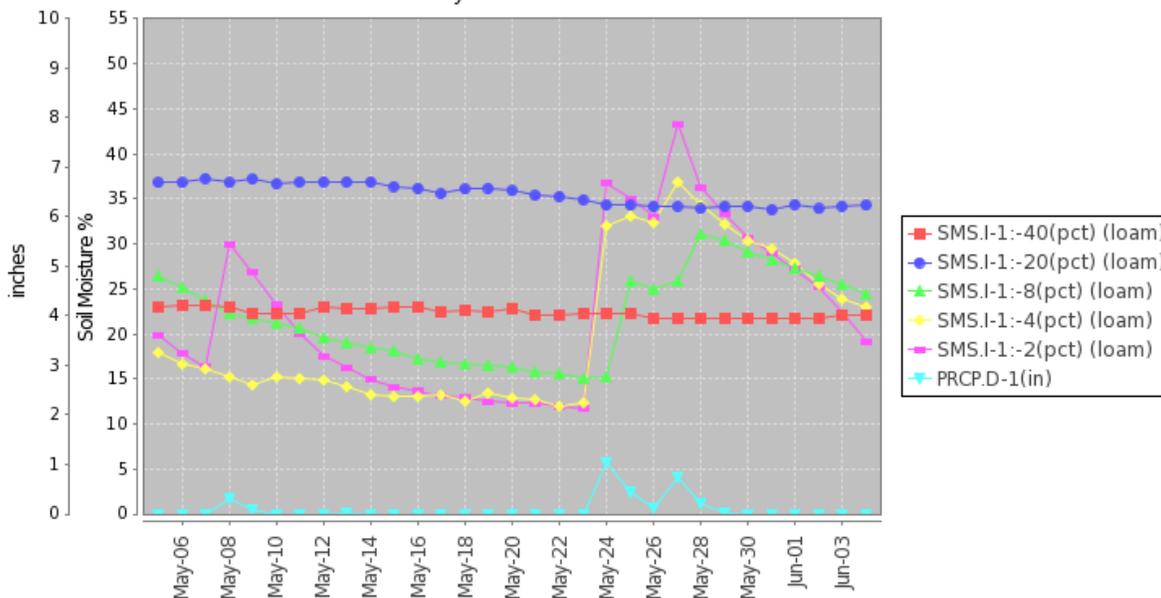


Soil moisture ranking in [percentile](#) as of June 3 shows dryness over central California, most of Arizona, and the south-central Great Plains. Moist soils dominated the southeastern Gulf Coast states, much of the Atlantic coast states, and from central Montana eastward, especially over the western Great Lakes.

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 Climate Analysis Network ([SCAN](#))

Station (2022) MONTH=2014-05-05 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Wed Jun 04 16:37:43 PDT 2014

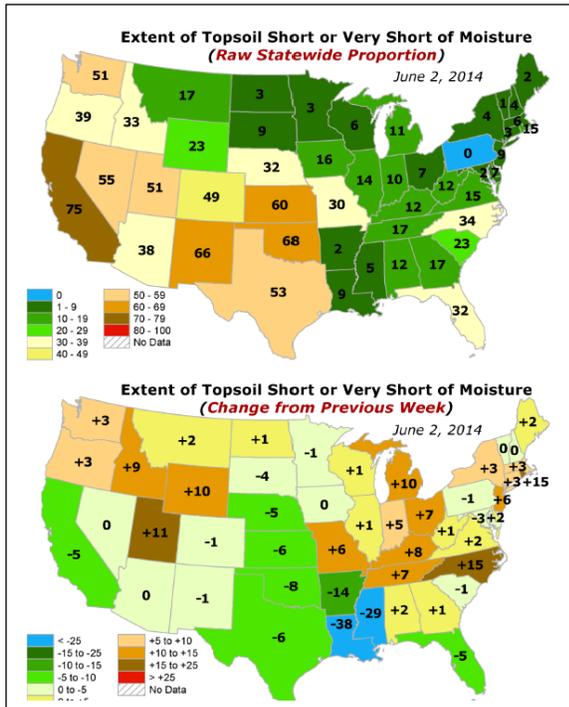


This NRCS resource shows soil moisture data at the [Fort Reno #1 SCAN site](#) located in central Oklahoma. Note the increases in soil moisture trend as a result of recent heavy rainfall (precipitation trace in light blue). The deeper soil sensor at 20 and 40 inches depth show no improvement, and upper levels are losing moisture during the current week of dry warm weather.

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](#).

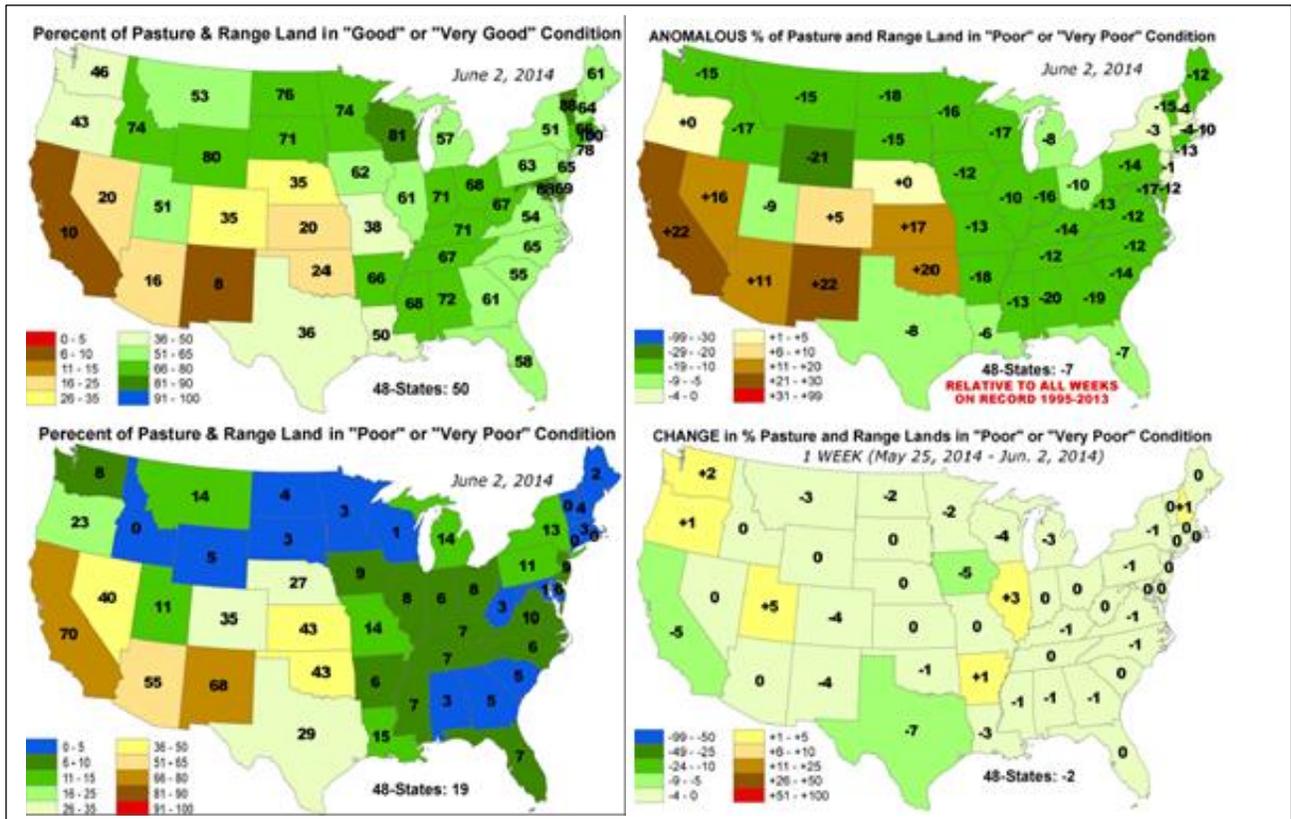
# Weekly Snowpack and Drought Monitor Update Report

## Topsoil and Pasture & Rangeland Conditions



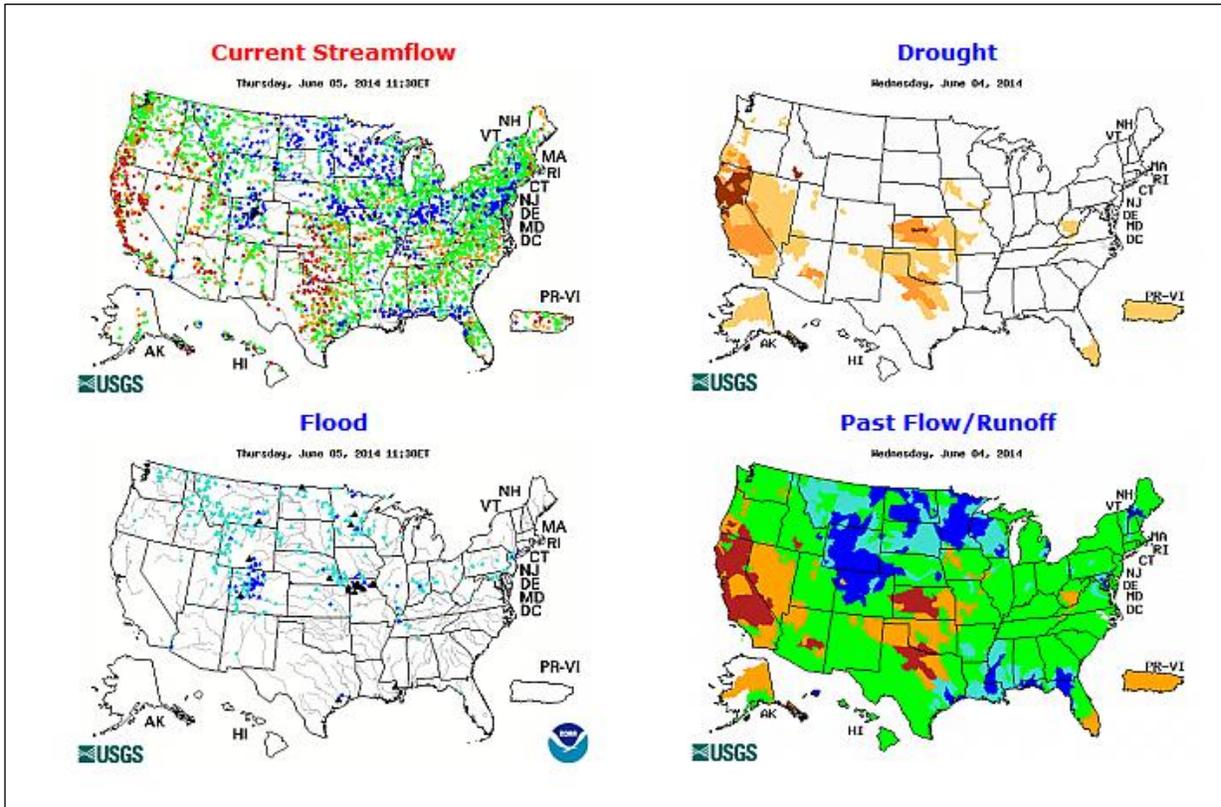
← Topsoils are exceptionally poor (top) over Kansas, new Mexico, California, and Oklahoma, with values representing more than 60 percent worse conditions than the median for this time of year (bottom panel). These areas did show some improvement over the past week. Low values over Washington are suspect, considering pasture and rangeland conditions are significantly better (below). Locations such as Georgia and Florida have seen abundant moisture with topsoils exceeding 50 percent above the May 25 median.

Much of the states east of the Mississippi River, are doing well, as noted below. These conditions also extend across the northern Great Plains and northern Rockies. Pasture and rangelands are stressed over California, the Great Basin, the Southwest, and the southern half of the Great Plains. Conditions have remained about the same over this past week.



# Weekly Snowpack and Drought Monitor Update Report

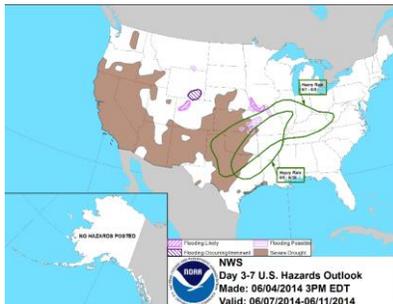
## Streamflow



Streams are high over the Missouri River Basin, northern Colorado, and the upper Ohio Valley and northeast (left maps). Some flooding is occurring over parts of western Montana, northern Colorado, some tributaries of the Platte and Grand Rivers in Missouri, and a few locations along the gulf coast (lower left map).

[Click maps to enlarge and update](#)

### [Weather hazards](#)



Heavy rains are expected over the central U.S. during the next several days.

## National Long Range Outlook



During the next three months, there is a risk of flooding in a few places over the Red River Valley in North Dakota, the upper Midwest, the middle Mississippi River Valley and west-central Florida. Currently, **2** gauges have a greater than 50% chance to experience major flooding; **12** gauges for moderate flooding; **34** gauges for minor flooding.

These numbers represent a slight change since last week.

## Weekly Snowpack and Drought Monitor Update Report

### [National Drought Summary for June 3, 2014](#)

Prepared by: Drought Monitor Author: Rich Tinker, NOAA/NWS/NCEP/CPC

**“Southern Virginia:** D0 was introduced where rainfall was 1 to 3 inches below normal for the past 30 days, and slightly below normal for the last 3 months.

**South Florida:** Moderate to locally heavy rain fell on much of the western half of the dry region, and more sparsely in the eastern half. Between 3 and 5 inches doused a few locales in far southern and southwestern Florida. However, heavy rains were not widespread, and the D0 and D1 areas are unchanged from last week.

**The Tennessee Valley and southern Appalachians:** Moderate rains in northwest Mississippi (1.5 to 3.5 inches) ended the region’s abnormal dryness, though 90-day totals remained 2 to 3 inches below normal in part of the region. In the remainder of the area, from west Tennessee and north Mississippi eastward through the southern and central Appalachians, only isolated sites reported more than 2 inches of rain, and most locales recorded only a few tenths of an inch.

This prompted significant D0 expansion in western and northern Tennessee and adjacent Kentucky, and in parts of northeast Alabama. Sharp short-term deficits (generally less than half of normal for the past month) prompted expansion into these areas. Near where Mississippi, Alabama, and Tennessee meet, the D1 area was reconfigured slightly to cover areas reporting 5 to 8 inches less rainfall than normal for the past 90 days. Deficits date back as far as 6 months from south-central Tennessee and northern Alabama southwestward into northeast Mississippi, where totals have been 2 to 6 inches below normal (slightly more in the D1 area).

**The Midwest:** In the area from central Missouri northward across north-central and northeast Missouri, southeast Iowa, and part of northwestern Illinois, light to locally moderate rain was the rule, most locations recorded 0.25 to slightly over 1.0 inch, with isolated totals up to 2 inches reported in southern and eastern Iowa. On the other hand, little or none fell on a small swath from west-central Illinois westward into extreme southeast Iowa just north of Missouri, and in a larger area through much of central and interior southeast Missouri.

In most areas, the Drought Monitor assessment was unchanged, but there were spots of deterioration. A small area of D1 was brought into northeast Missouri where less than half of normal rainfall was recorded for the past 30 days, and 90-day deficits had climbed into the 4 to 7 inch range. Elsewhere there was a narrow swath of D0 expansion in southeast Missouri, some D0 and D1 expansion in a small part of northwest Illinois and adjacent Iowa, and some small areas of D1 retraction with the heaviest rains in south-central Iowa.

Large portions of both Missouri and Iowa currently report short or very short subsoil moisture (44% and 31% of those states, respectively) while deficient topsoil moisture is not as widespread (30% and 16%), according to the National Agricultural Statistics Service (NASS).

**Central and south-central Plains:** In the dry swath from South Dakota and Minnesota southward through Oklahoma, fairly widespread moderate to heavy rain fell on southeastern, central, and northern sections. Amounts generally topped 2 inches, with patches of 4 to 7 inch totals reported in southeast South Dakota and adjacent Minnesota, from east-central through northeastern Oklahoma and adjacent Kansas, and on the eastern tier of the Nebraska Peninsula. Spotty amounts over 2 inches were also reported in the Oklahoma Panhandle and southwestern Kansas, but otherwise, light precipitation at best fell from western Kansas and southeastern Colorado southeastward through roughly the southwestern half of Oklahoma, including most areas along the Red River.

## Weekly Snowpack and Drought Monitor Update Report

The broken pattern of precipitation made it difficult to justify large-scale improvements, but dryness in several areas eased up one category, specifically most of the areas that received over 4 inches of rain, and parts of the region from southeastern Nebraska southward into northwestern Kansas. In contrast, light precipitation of late in central and most of southern Oklahoma, including less than half of normal for the last 30 days in central and south-central Oklahoma, has pushed 90-day moisture deficits into the 4 to 8 inch range, prompting a significant eastward expansion of D1 to D3 conditions, most notably right along the Red River.

Winter wheat continued to suffer in the region, and prospects for improvement look bleak. NASS reported 62% of the crop in Kansas and 78% in Oklahoma was in poor or very poor condition. Nationally, 44% of the crop in the primary growing areas are in poor or very poor condition. Both the topsoil and subsoil are substantially short of moisture in many areas across the central Plains. Deficient topsoil moisture covers 55% of Nebraska, 60% of Kansas, and 68% of Oklahoma. Insufficient subsoil moisture is even more widespread, covering 75%, 75%, and 84% of these states, respectively. In parts of the central and south-central Plains, the impact designation was changed to "L" (primarily long-term) from "SL" (both long- and short-term). As a basic rule, areas with surpluses going as far back as 90 days were designated "L."

**Texas and adjacent southern Plains:** It was a wet week across eastern Texas and the northeastern half of the Texas Gulf Coast and adjacent Louisiana. Rainfall totals exceeded 2 inches throughout this region, and were much greater in some areas. Totals of 4 to locally over 8 inches were measured in a large part of southwestern Louisiana away from the immediate coast, and amounts of 3 to 7 inches, with isolated higher amounts, were common along the immediate Texas Gulf Coast. The Drought Monitor classification was improved in most areas receiving over 3 inches of rain, with small areas of 2-category improvement introduced where the heaviest rains fell in southwestern Louisiana. In stark contrast, most of the central and western two-thirds of Texas was dry, with only scattered reports of a few tenths of an inch of rain at best. However, significant rainfall deficits on the 90-day time scale are limited to parts of western and northern Texas due to the heavy rain that fell on a large part of the interior last week. Fairly broad swaths of Texas were reclassified as "L" rather than "SL" as a result. Some new tools for (among other things) Texas drought assessment have been available starting this week. After analyzing the information they provided, almost the entire state was redrawn, though Drought Monitor change was limited to 1 category in most of the state. Exceptions included some of the wet areas in the east, and a re-evaluated area in west-central Texas which received significantly more relief than previously indicated.

Despite recent rains in some areas, crops continue to struggle and soil moisture shortages cover a large proportion of the state, subsoil moisture more so than topsoil. Last week, 64% of Texas winter wheat was in poor or very poor conditions, as were 33% of Texas oats. Deficient topsoil covers more than half the state (53%), and short subsoil moisture is even more widespread (62%).

**The southern Rockies, Intermountain West, and West Coast:** In the dry areas from the eastern Rockies westward to the Pacific Ocean, measurable rain was limited to parts of the New Mexico Rockies, western Oregon, and western and northern Washington. However, normal precipitation is relatively low in most of this region, thus deficits grow slowly, and drought intensifies in like fashion. The dry week kept short-term precipitation amounts low through most of the region (though not markedly below normal in many areas), with 30-day totals under 0.25 inch reported in much of central and east Washington and Oregon, and from southern Idaho and the Oregon/California border southeastward through the desert Southwest, the lower elevations of Utah, Arizona, and the western half of New Mexico.

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Light precipitation and low normals mean little change moisture shortages and , analogously, in the Drought Monitor. D0 was pulled away from part of central Colorado where 1.5 to 3.5 inches of rain fell in the last 30 days, and there was D1 elimination and some D0 reduction in northwestern most Oregon and adjacent Washington.

**Alaska, Hawaii, and Puerto Rico:** A large swath of Alaska, roughly the southeastern quarter and the Panhandle, has been affected by dryness the past four months, significant enough to introduce D0 across this large area. Streamflows, commercial fishing, and hydroelectric power generation are suffering in some areas. The lack of rain has meant a lack of lightning-induced wildfires across the state's interior, but conditions are favorable for fire development and quick expansion. One fire that did start, the Funny River fire on the Kenai Peninsula, has scorched almost 303 square miles and is the largest wildfire ever recorded on the Peninsula. Over the last 30 days, precipitation has increased and was near or above normal in the southern and northwestern Panhandle, on part of the Kenai Peninsula, and in a swath from central Alaska to the south-central coast. However, impacts continue to plague the southern Panhandle, so D0 was maintained.

Some slight adjustments were made to the D0 areas in Hawaii. Abnormal dryness was removed from west Lanai, where May rains were well above normal. Conversely, May dryness prompted some D0 expansion in west Maui.

Parts of western and north-central Puerto Rico reported significant rain last week. At least an inch fell on north-central and northwestern parts of the island, with totals reaching 3 to 6 inches in a large part of the northeastern quarter of the island. These rains brought 30-day totals to over 6 inches, with much of sizeable area in the north-central and northwest of the island reporting 10 to locally 20 inches of rain.

As a result, 30-day totals climbed to near or above normal in the northwestern, the north-central, and some central parts of the island, whence D0 was removed. However, interior sections of the southern half of the island remain 2 to 6 inches drier than normal since early March, and D0 was maintained in these areas. D0 was expanded slightly eastward from central Puerto Rico into an area where 4 to 6 inch deficits have accumulated in the last 90 days.

**Looking Ahead:** *Moderate to very heavy rain is expected across large parts of the dry areas in the central and south-central Plains, the Tennessee Valley, and the southern Appalachians during June 5 – 9, 2014. Generally 1.5 to 3.5 inches are forecast across the entire dry area from north Mississippi and west Tennessee eastward through the southern Appalachians. Farther west, precipitation may be heavier and even more widespread. Amounts near or over 2 inches are anticipated from western Nebraska, Kansas, southern Iowa, Missouri, and western Illinois southward through the northern half of Arkansas, almost all of Oklahoma, and the north-central and eastern Panhandle portions of Texas. The heaviest amounts, ranging from 3.0 to 5.5 inches, are expected in the southwestern half of Missouri, central and eastern Kansas, central and northeastern Oklahoma, and adjacent Arkansas. Elsewhere, the forecast is for 0.5 to 1.5 inch of rain in south Florida and south-central Virginia, plus most of the High Plains, northern Great Plains, upper Midwest, southern Arkansas, central and northeast Texas, and the west half of the Texas Panhandle. South of this area, anywhere from a few hundredths of an inch to near 0.5 inch is forecast in west-central, southern, and eastern Texas as well as Louisiana and southern Mississippi, with amounts expected to decrease going southward to the Gulf of Mexico and Mexico. In sharp contrast, areas from the eastern Rockies westward to the Pacific Ocean are likely to get no measurable rainfall.*

*The ensuing 5 days (June 10 – 14, 2014) features enhanced chances for above-normal rainfall across the dry area in the southern Appalachians, Tennessee Valley, and upper Southeast once again. The odds also favor surplus rainfall in the lower Mississippi Valley, east Texas, and from eastern Nebraska and most of Iowa northward through the dry areas in the northern Plains. On the other hand, most of the High Plains, the southwestern Great Plains, the eastern tier of the Rockies, central and northern Utah, the northern half of the Intermountain West, central and northern California, and all but the northernmost tier of the Pacific Northwest seem more likely to end up drier than normal for the period. Across the D0 area in Alaska, the odds don't favor unusually wet or dry weather along the south-central coast, but odds lean toward above-normal precipitation in the rest of that region.*

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## Weekly Snowpack and Drought Monitor Update Report

### 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](#).

### 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.

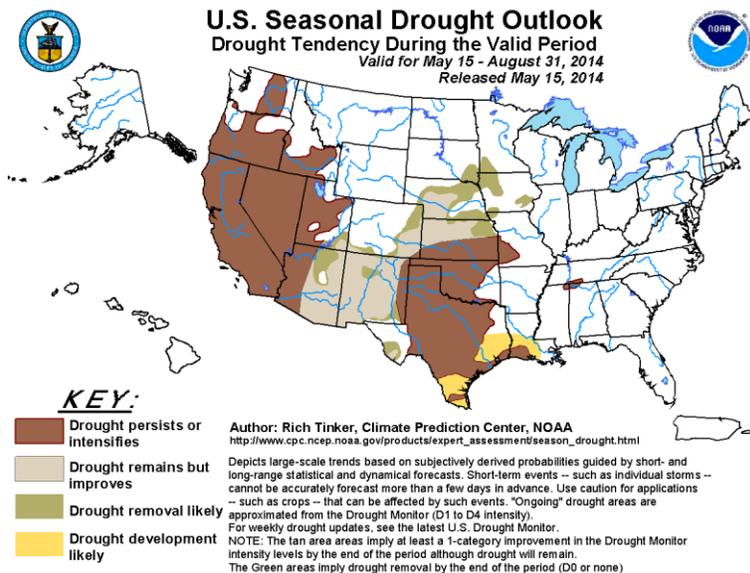
/s/

David W. Smith  
Acting Deputy Chief, Soil Science and Resource Assessment

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# Weekly Snowpack and Drought Monitor Update Report

## Supplemental Drought Information



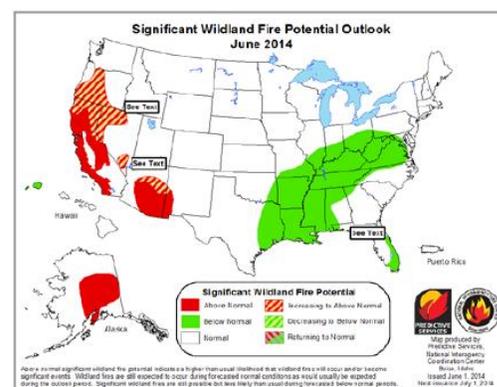
### June

- Above normal fire potential will expand to include northern California, Nevada, and much of Oregon. Most of Alaska will continue to see above normal significant fire potential.

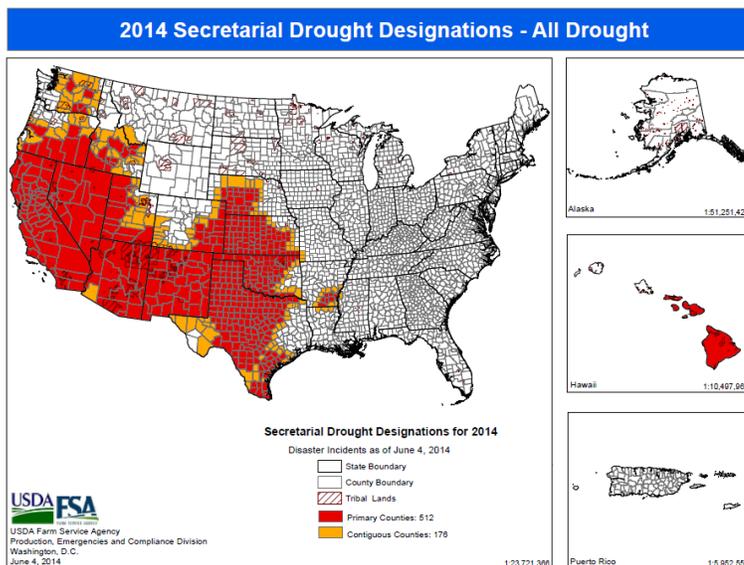
- Below normal fire potential will continue over the lower and mid-Mississippi, Tennessee and Ohio Valleys.

[Drought](#) is expected to persist over much of the West and southern Great Plains. Improvements are expected from the Southwest to the central Great Plains.

Also see: [National Significant Wildland Fire Potential Outlook](#) (updated on the first of each month) contains a content summary of the previous month's conditions.



June Forecast



Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

Read about the new [USDA Regional Climate Hubs](#).

New useful resource: [NASS Quick Stats](#)

## Additional Maps

U.S. Maps PowerPoint presentation can be found at: <http://dmcommunity.unl.edu/maps/US-Maps.ppt>.

The regional zooms of ACIS station data percent-of-normal precipitation can be found at: <http://dmcommunity.unl.edu/maps/All-CONUS-ACIS-PNP.pptx>.

## Weekly Snowpack and Drought Monitor Update Report

### Supplemental Drought-Agriculture News

Download [archived](#) "U.S. Crops in Drought" files

The following is a collection of drought-related news stories from the past seven days or so. Impact information from these articles is entered into the [Drought Impact Reporter](#). A number of these articles will also be posted on the [Drought Headlines](#) page at the NDMC website. The list is compiled by Denise D. Gutzmer, Drought Impact Specialist, and National Drought Mitigation Center.

#### Water supplies

##### California

The California Water Resources Board ordered 2,648 Sacramento Valley water agencies and users with junior water rights issued after 1914 to stop withdrawing water from the American, Feather and Yuba rivers and numerous streams. Those affected are mainly farmers and large irrigation districts, but the city of Sacramento also must stop taking water from the Sacramento River because the city has junior water rights, although it has senior water rights for the American River. Similar water cuts were last ordered in 1977.

Senior water rights holders may be affected by curtailments in coming weeks as water supplies dwindle over the summer, but some senior water rights holders have already refused to allow restrictions to their water rights and will make no allowances for wildlife and urban health and safety needs. They vow to wage a "water war" rather than share their water.

##### Lake Powell on Utah/Arizona border

Lake Powell was at 42 percent of capacity on May 21 after 14 years of drought. Boat ramps were still useable, but were shallow with some sudden drop-offs. Low water levels revealed landmarks submerged since the construction of the Glen Canyon Dam, such as the Cathedral in the Desert and the Rock Creek Canyon. A quagga mussel infestation was also discovered, due to receding water levels.

##### New Mexico

Growers in the Arch Hurley Conservancy District in eastern New Mexico have not received any water from the 2011 through the 2013 growing seasons, due to drought. Rain fall in the autumn of 2013 will allow irrigators to receive one-fifth of a full allocation this year. The lack of irrigation water has meant economic hardship for the Tucumcari area since farmers have had little income from cotton, alfalfa and milo.

##### Central Texas

Rainfall has boosted lakes Travis and Buchanan by about 60,000 acre-feet and has postponed the need for the Lower Colorado River Authority to make a record drought declaration.

##### Fire restrictions

##### Nevada

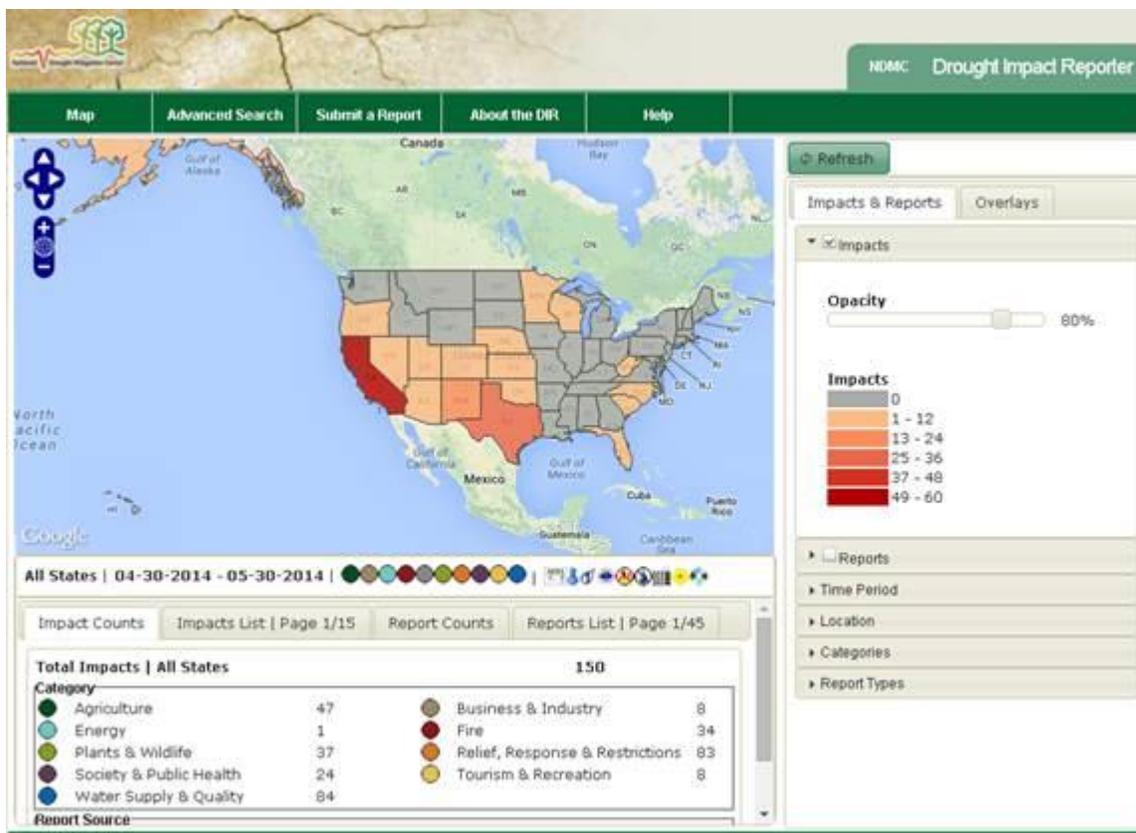
Fire restrictions for western Nevada took effect on May 30, a month early, as years of drought increase the fire danger.

##### Santa Fe, New Mexico

The Santa Fe City Council approved restrictions on the sale and use of fireworks within the city and prohibited other fire hazard activities due to severe and extreme drought conditions in the area.

After years of drought in both California and Texas, water concerns were the biggest issues for those states."

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### Tea Cup reservoir depictions:

- <http://www.usbr.gov/uc/water/basin/> ← Upper Colorado
- [http://www.usbr.gov/uc/wcao/water/basin/tc\\_gr.html](http://www.usbr.gov/uc/wcao/water/basin/tc_gr.html); ← Upper Snake
- <http://www.usbr.gov/pn/hydromet/burtea.html> ← Upper Colorado
- [http://www.usbr.gov/uc/water/basin/tc\\_cr.html](http://www.usbr.gov/uc/water/basin/tc_cr.html) ← Upper Colorado
- <http://www.usbr.gov/pn/hydromet/select.html> ← Pacific Northwest
- <http://www.sevierriver.org/reservoirs/teacup-diagram-of-reservoirs/> ← Sevier River Water (UT)

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NWCC's Surface Water Supply Index (SWSI) maps are located [here](#).

### Supplemental Information for the Week

#### Monthly analysis of drought's effects on agriculture

by Brad Rippey, Meteorologist, Office of the Chief Economist, U.S. Department of Agriculture

"- During the four-week period ending on June 3, 2014, contiguous U.S. drought coverage declined 2.74 percentage points to 37.32%. Coverage reached its year-to-date peak of 40.06% on May 6, but subsequent rainfall across portions of the nation's mid-section has slightly reduced drought's imprint.

- Nevertheless, drought still covers a substantial portion of the central and southern Plains and the western U.S. On June 3, the highest level of drought—D4, or exceptional drought—was noted in portions of California (25%), Oklahoma (21%), Texas (9%), Nevada (8%), Kansas (2%), and Colorado (2%). California also led the nation with 77% coverage of extreme to exceptional drought (D3 to D4).

- In addition, California topped the U.S. with 70% of its rangeland and pastures rated in very poor to poor condition on June 1, according to USDA. Following California were New Mexico (68% very poor to poor), Arizona (55%), Kansas (43%), Oklahoma (43%), and Nevada (40%). According to the latest

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“agriculture in drought” statistics, based on the June 3 Drought Monitor, 29% of the domestic hay acreage and 43% of the U.S. cattle inventory were located in a drought-affected area.

- The nation’s winter wheat crop continued to suffer from the effects of drought, a harsh winter, and several spring freezes. Based on the “agriculture in drought” statistics, 51% of the winter wheat production area was within an area experiencing drought on June 3. Nearly half (44%) of the U.S. winter wheat was rated in very poor to poor condition by USDA on June 1, paced by Oklahoma (78% very poor to poor), Texas (64%), and Kansas (62%). During the last two decades, only the drought-affected 2005-06 crop was rated lower overall at this time of year. On June 4, 2006, U.S. winter wheat was rated 48% very poor to poor.

- Lingering drought in the western Corn Belt remained a concern with respect to pastures and summer crops. On June 3, drought covered 16% of the soybean area and 22% of the corn area. On June 1, Missouri (38% good to excellent) was the only state from the Mississippi Valley to the East Coast with less than half of its pastures rated in good to excellent condition. However, USDA’s first corn condition report of the year noted that 76% of the crop was rated in good to excellent condition—well above the early-June five-year average of 69%.

- Weather outlook: During the next several days, impressive rains will continue across the nation’s mid-section in the form of heavy showers and locally severe thunderstorms. Five-day rainfall totals should reach at least 2 to 6 inches or more from portions of the central and southern Plains into the lower Ohio Valley. However, there will be a sharp western edge to the rainfall shield, with only light precipitation expected in much of western Texas and dry conditions forecast to continue west of the Rockies. In addition, heat will persist in the West, while a fairly impressive surge of cool air will reach the northern Plains on Friday and encompass the remainder of the Plains and Midwest by early next week.

**PLEASE NOTE:** The next issuance of this emailed drought update will be Thursday, July 3, 2014, unless conditions warrant an earlier release. The “U.S. Crops in Drought” products will still be produced on a weekly basis, and can be viewed at:

<http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf>

Archived “U.S. Crops in Drought” files can be downloaded at:

<http://drought.unl.edu/Planning/Impacts/USAginDroughtArchive.aspx>”

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