United States Department of Agriculture

NRCS

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

Weekly Report - Snowpack / Drought Monitor Update **Date: 28 March 2013**

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Temperature: SNOTEL and ACIS 7-day temperature anomaly ending 27 March shows a cooler week on average across the West with the exception of warmer departures from normal over the Sierra Nevada Mountains and across Arizona (Fig. 1a). ACIS 7-day average temperature anomalies show the greatest positive temperature departures over southern California (>+5°F). The greatest negative departures occur over northeastern Montana (<-20°F) (Fig. 1b). Since the beginning of March, warmer temperatures have dominated much of the Southern Tier States west of the Continental Divide. The coldest region is confined over northeastern Montana (Fig. 1c).

Precipitation: ACIS 7-day average precipitation amounts for the period ending March 27 show the heaviest precipitation confined to the highest elevations across the Northern Tier States of the West (Fig. 2a). Heavy snows that fell over the northeastern Plains of Colorado, reflected in Fig. 2b, were over 400 percent of the average weekly precipitation for this time of year. SNOTEL month to date precipitation percent of normal pattern for March shows significant variability across the West. Thus far, the West has experienced a dry month (Fig. 2c), with the exception of surplus moisture over the Northernmost Cascades, northern part of Montana and near average amounts over parts of Wyoming and Colorado. For the 2013 Water Year that began on 1 October 2012, the pattern continues to resemble La Niña (e.g., wetter Northern Tier) (Fig. 2d).

Snow: The 7-day snow depth changes for the week show an early spring storm delivering snowfalls over the Colorado Rockies. Elsewhere, a noticeable decrease in snow cover has occurred over the Cascades and Sierra (Fig. 3a). Current Snow-Water Equivalent (SWE) shows the Washington Cascades and north-central drainage in Montana as having a surplus of SWE in the West this Water Year. The Northern Rockies, Upper Snake Drainage, and Northern Oregon Cascades have closer to normal conditions. For the remainder of the West, deficits prevail. The surplus value over central Arizona reflects delayed snowmelt, since peak snowpack usually occurs in mid-March. (Fig. 3b).

The following **Weather and Drought Summary** is provided by this week's NDMC Author: Anthony Artusa, NOAA/NWS/NCEP/Climate Prediction Center:

"During the past week, heavy precipitation (2 inches or greater) fell over much of the Southeast, portions of the Pacific Northwest coastal ranges and Cascades, and the California Sierras. Moderate precipitation (0.5-2.0 inches) was widespread across the Northeast and mid-Atlantic regions, the Ohio Valley, the central Mississippi Valley, parts of the central Great Plains, the northern Rockies, the Northwest and northern California. Light precipitation (up to a half-inch) was reported elsewhere in the contiguous U.S., and little if any precipitation was observed across the Southwest. Storm activity initially affected the East, followed by several storm systems which moved across the West, the southern Great Plains, the southeastern and Mid-Atlantic States, and ultimately parts of the Northeast. Several inches of snow accumulated in the Washington, D.C. area on Monday, March 25th, which is unusually late in the season for such an event".

The Rockies: "In Montana, relatively minor adjustments were made to the depiction, with a slight expansion of abnormal dryness (D0) over southwestern and western portions of the state, which is consistent with relatively light precipitation and slightly below normal stream flows.

Minor improvements were rendered to the drought depiction in eastern and south-central sections of Colorado. These were based on above-average precipitation since March 1st, and also on some improvement in winter wheat conditions. The Upper Colorado River Basin (UCRB) will be monitored over the next few weeks, as this is a critical time for snowpack. Warmer temperatures and low snowfall accumulations could result in quickly deteriorating drought conditions, while colder temperatures and higher snow totals could help in minimizing impacts. No adjustments were made to the drought depiction in this area this week, pending further assessment of peak snowpack timing and melting conditions".

The West: "As of March 27th, the basin-wide Snow Water Content (SWC) from SNOTEL locations across the West was generally 50-75 percent of average across southern Oregon, northern Nevada and the Sierras, and parts of northern New Mexico, and 75-90 percent of average across much of Colorado, Utah, and southwestern Wyoming. SWC values were near average over much of the interior Northwest and northern Rockies, and 110-125 percent of average over the Washington Cascades.

In southwestern Oregon, abnormal dryness (D0) was expanded to include Josephine, Jackson, and Curry Counties. Despite a wet November and December, precipitation deficits of about 10 inches have mounted over the past 90-days. Crater Lake snowpack is down to 63 percent of normal, and stream flows are averaging below normal. Medford, Oregon, is experiencing its driest (or close to driest) calendar year-to-date so far. One concern in particular is the increased risk of unusually early-in-the-season wildfires.

Northern California has also experienced a significant lack of precipitation this winter, after a wet start to the season. Accordingly, areas not in abnormal dryness or drought in northern California were downgraded to D0 conditions. Should these deficits persist well into the spring, the growth of forage will be hampered, and rangelands will be adversely affected. Reservoirs appear to be in good shape, but spring runoff is expected to be below normal. Temperatures have averaged above-normal so far this month, leading to early irrigation demands".

A comprehensive narrative describing drought conditions for the nation can be found at the end of this document.

Drought Impacts Definitions

The possible impacts associated with **D4 (S, L)** drought include widespread crop/pasture losses and shortages of water in reservoirs, streams, and wells creating water emergencies. The possible impacts associated with **D3 (S, L)** drought include major crop/pasture losses and widespread water shortages or restrictions. Possible impacts from **D2 (S, L)** drought are focused on water shortages, water restrictions imposed, and crop or pasture losses. The possible impacts associated with **D1 (S, L)** drought are focused on water shortages developing in streams, reservoirs, or wells, and some damage to crops and pastures (Figs. 4 through 4c).

Soil Moisture

Soil moisture (Fig. 5) is simulated by the VIC macroscale hydrologic model. The detailed, physically-based VIC model is driven by observed daily precipitation and temperature maxima

and minima from approximately 2130 stations, selected for reporting reliably in real-time and for having records of longer than 45 years (and various other criteria). Another good resource can be found at: http://www.emc.ncep.noaa.gov/mmb/nldas/drought/.

Soil Climate Analysis Network (SCAN)

Figure 6 provides supplemental data on soil conditions (moisture and temperatures at various depths from 2 inches up to 40 inches. For more information about SCAN see brochure.

U.S. Historical Streamflow

This map (Fig. 7) 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. During winter months, this situation frequently arises due to ice effects. The data used to produce this map are provisional and have not been reviewed or edited. They may be subject to significant change.

State Activities

State government drought activities can be tracked at the following URL: http://drought.unl.edu/mitigate/mitigate.htm. 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 - http://www.wcc.nrcs.usda.gov/cgibin/bor.pl. Additional information describing the products available from the Drought Monitor can be found at the following URLs: http://drought.unl.edu/dm/ and http://www.drought.gov.

For More Information

The National Water and Climate Center (NWCC) Homepage provides the latest available snowpack and water supply information. Please visit us at http://www.wcc.nrcs.usda.gov. This document is available from the following location on the NWCC homepage - http://www.wcc.nrcs.usda.gov/water/drought/wdr.pl. Reports from 2007 are available online while ones from 2001-2006 can be acquired 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

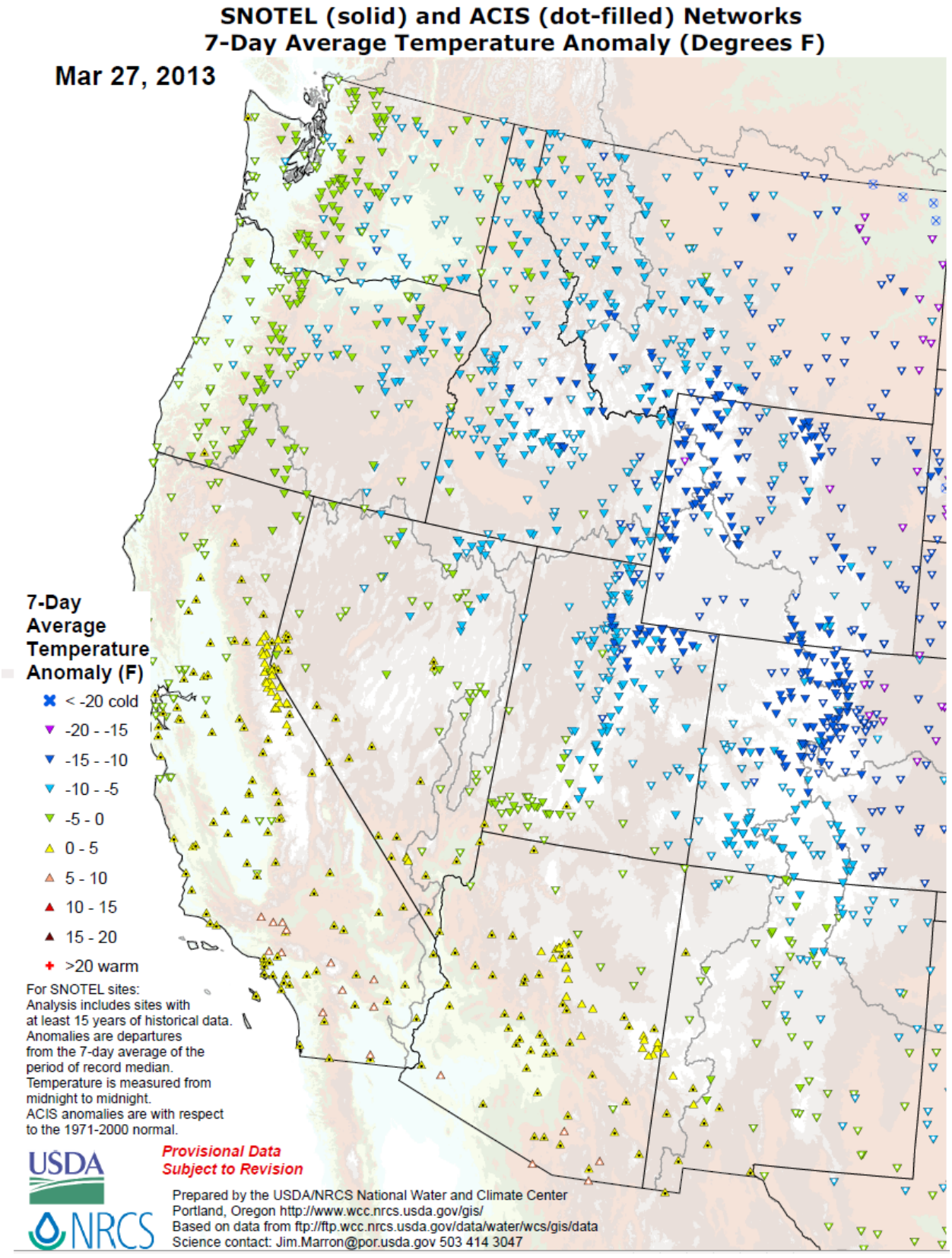


Fig. 1a: SNOTEL and ACIS 7-day temperature anomaly ending 27 March shows a cooler week on average across the West with the exception of warmer departures from normal over the Sierra Nevada Mountains and across Arizona.

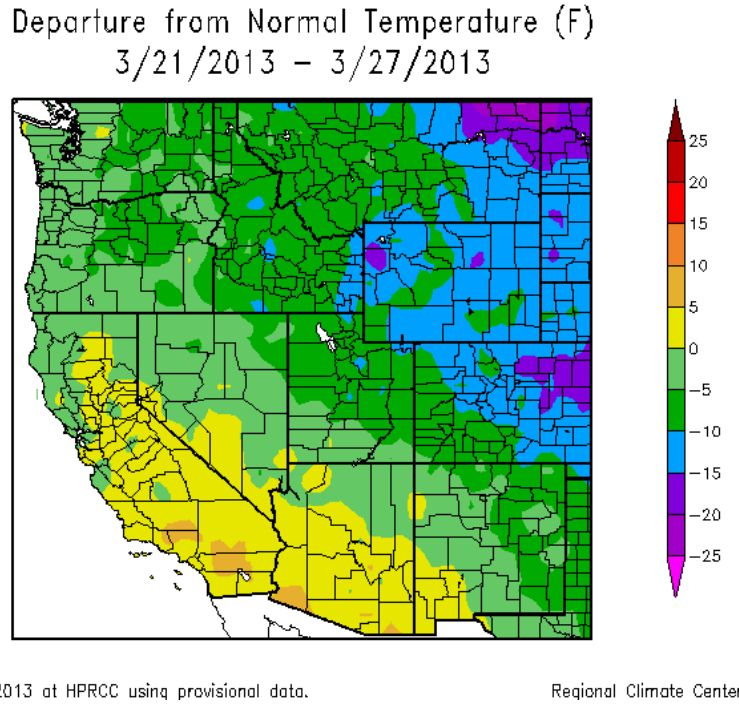


Fig. 1b: ACIS 7-day average temperature anomalies show the greatest positive temperature departures over southern California (>+5°F). The greatest negative departures occur over northeastern Montana (<-20°F). For more figures, see the Western Water Assessment's Intermountain West Climate Dashboard.

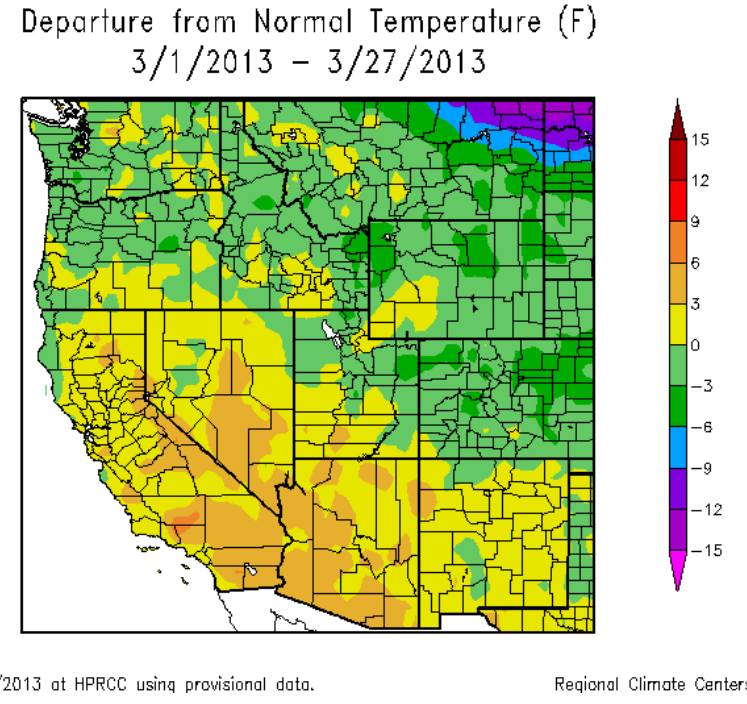
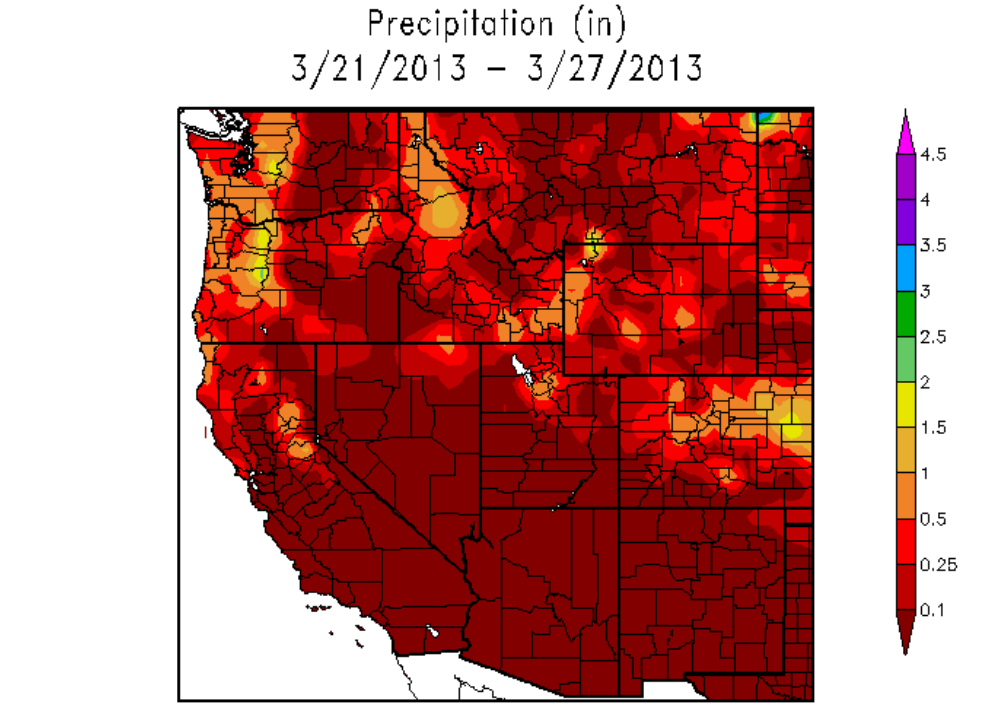


Fig. 1c: Since the beginning of March, warmer temperatures have dominated much of the Southern Tier States west of the Continental Divide. The coldest region is confined over northeastern Montana.



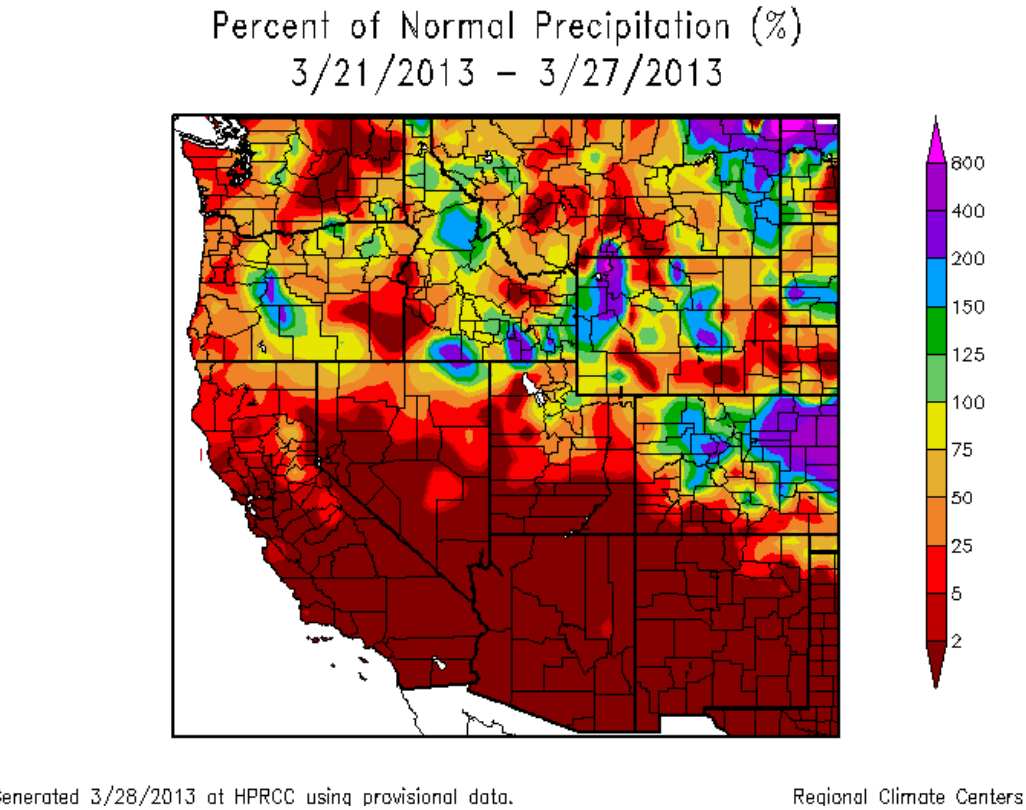


Fig. 2a and 2b: ACIS 7-day average precipitation amounts for the period ending March 27 show the heaviest precipitation confined to the highest elevations across the Northern Tier States of the West (Fig. 2a). Heavy snows that fell over the northeastern Plains of Colorado, reflected in Fig. 2b, were over 400 percent of the average weekly precipitation for this time of year.

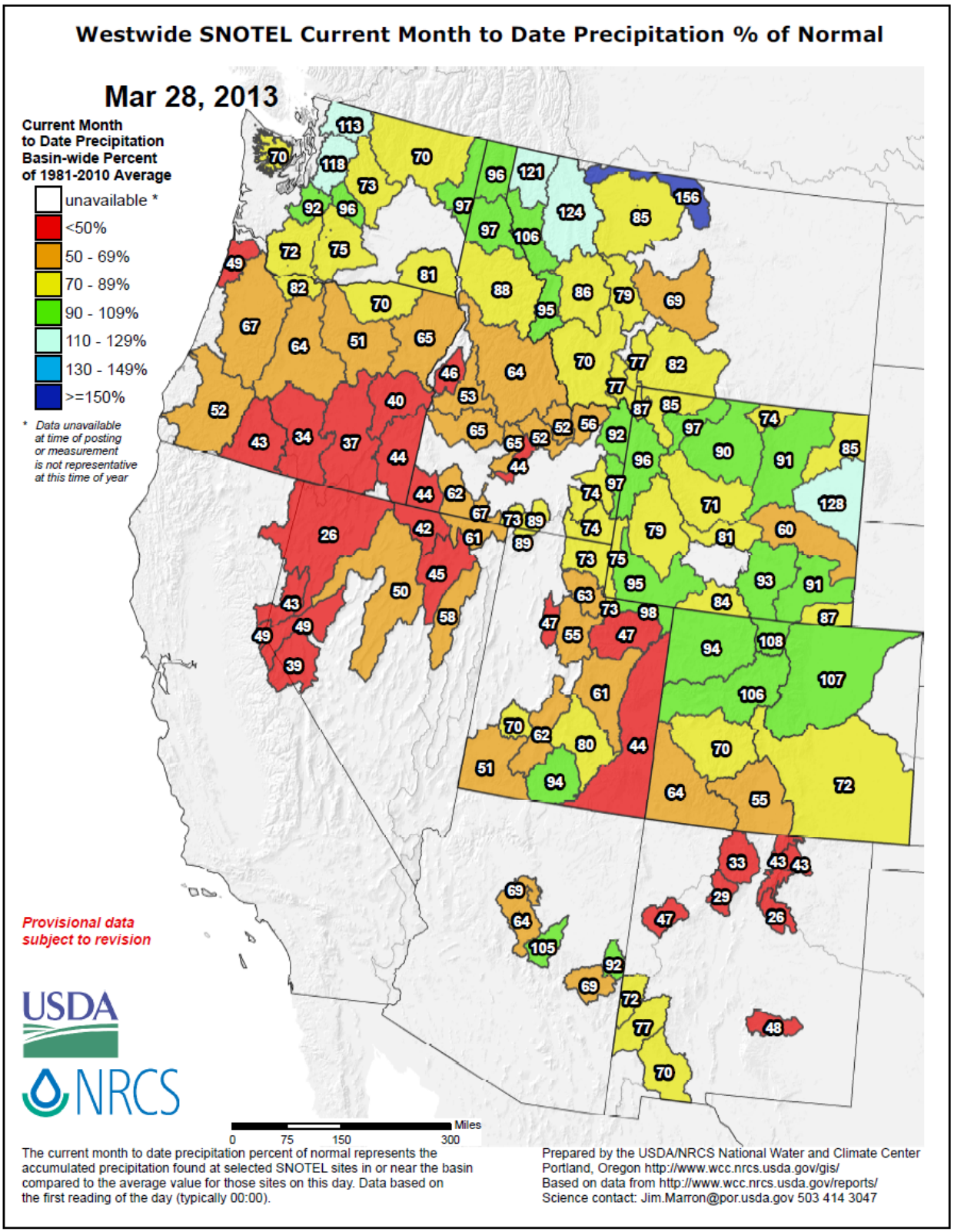


Fig. 2c: SNOTEL month to date precipitation percent of normal pattern for March shows significant variability across the West. With the exception of surplus moisture over the Northernmost Cascades, northern part of Montana and near average amounts over parts of Wyoming and Colorado. Thus far, the West has experienced a dry month.

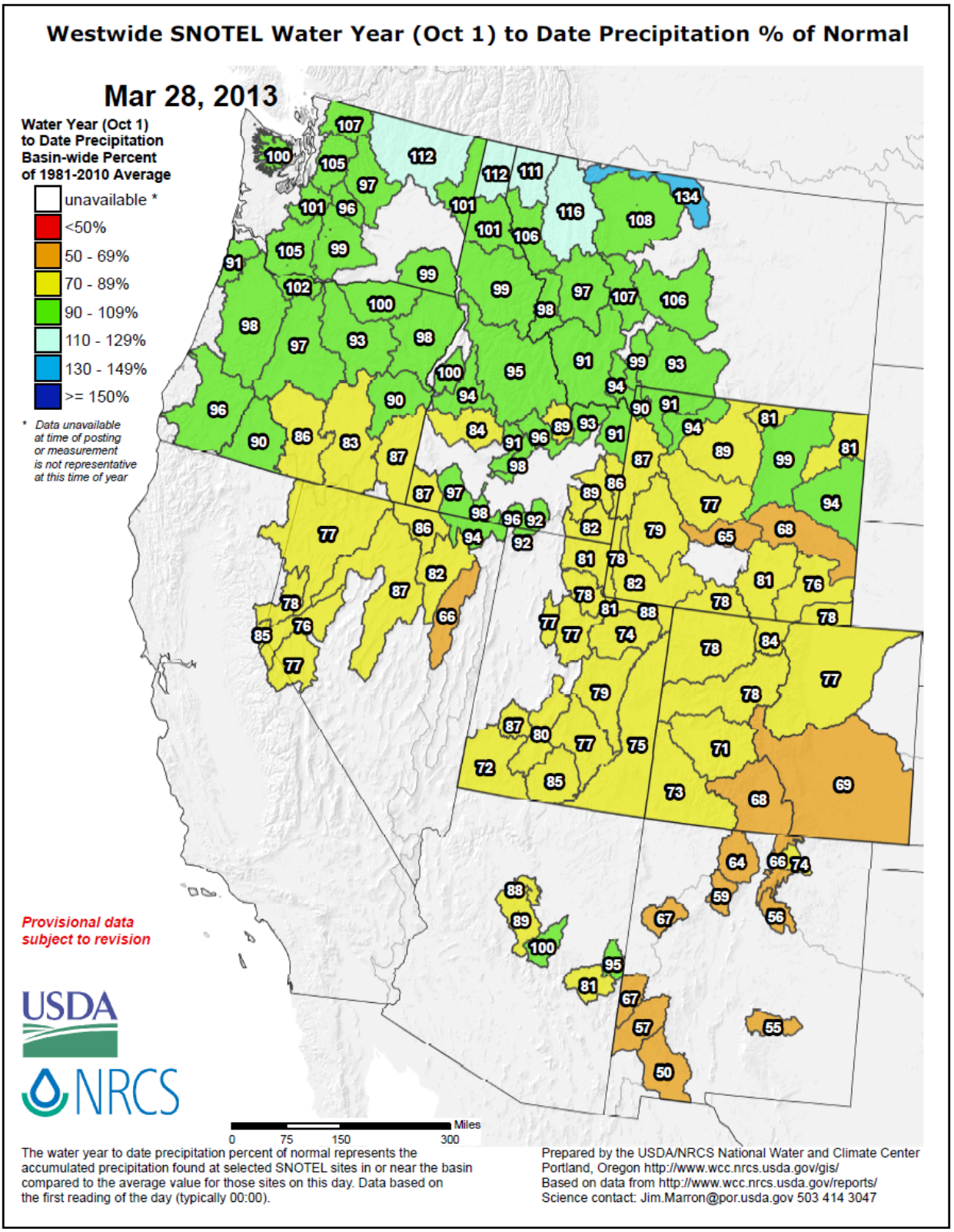


Fig. 2d: For the 2013 Water Year that began on 1 October 2012, the pattern continues to resemble La Niña (e.g., wetter Northern Tier). However, average precipitation does not always translate to average snow-water equivalent as noted in Fig. 3b. For additional information, daily reports by SNOTEL sites are available here.

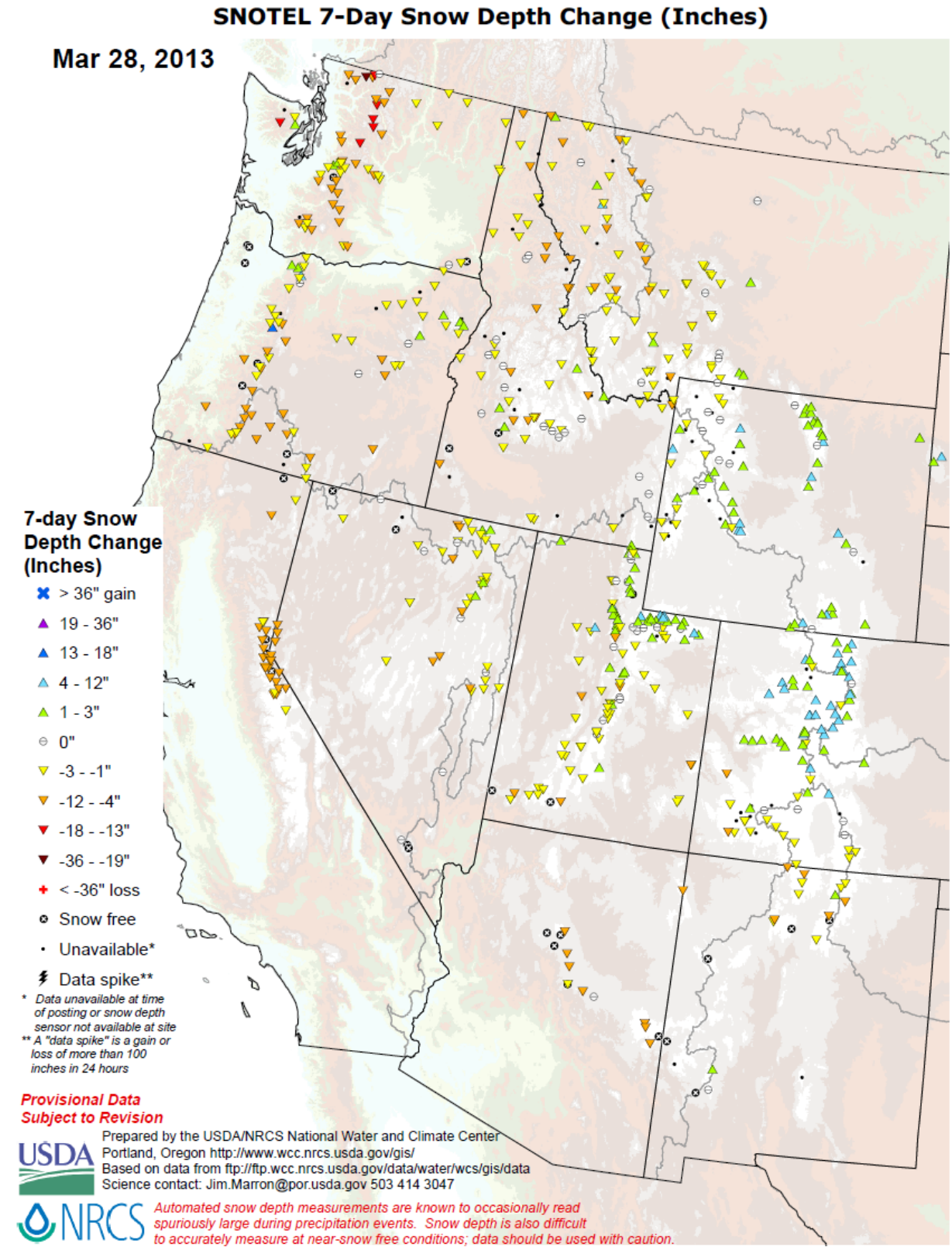


Fig. 3a: The 7-day snow depth changes for the week show an early spring storm delivering snowfalls over the Colorado Rockies. Elsewhere, a noticeable decrease in snow cover has occurred over the Cascades and Sierra.

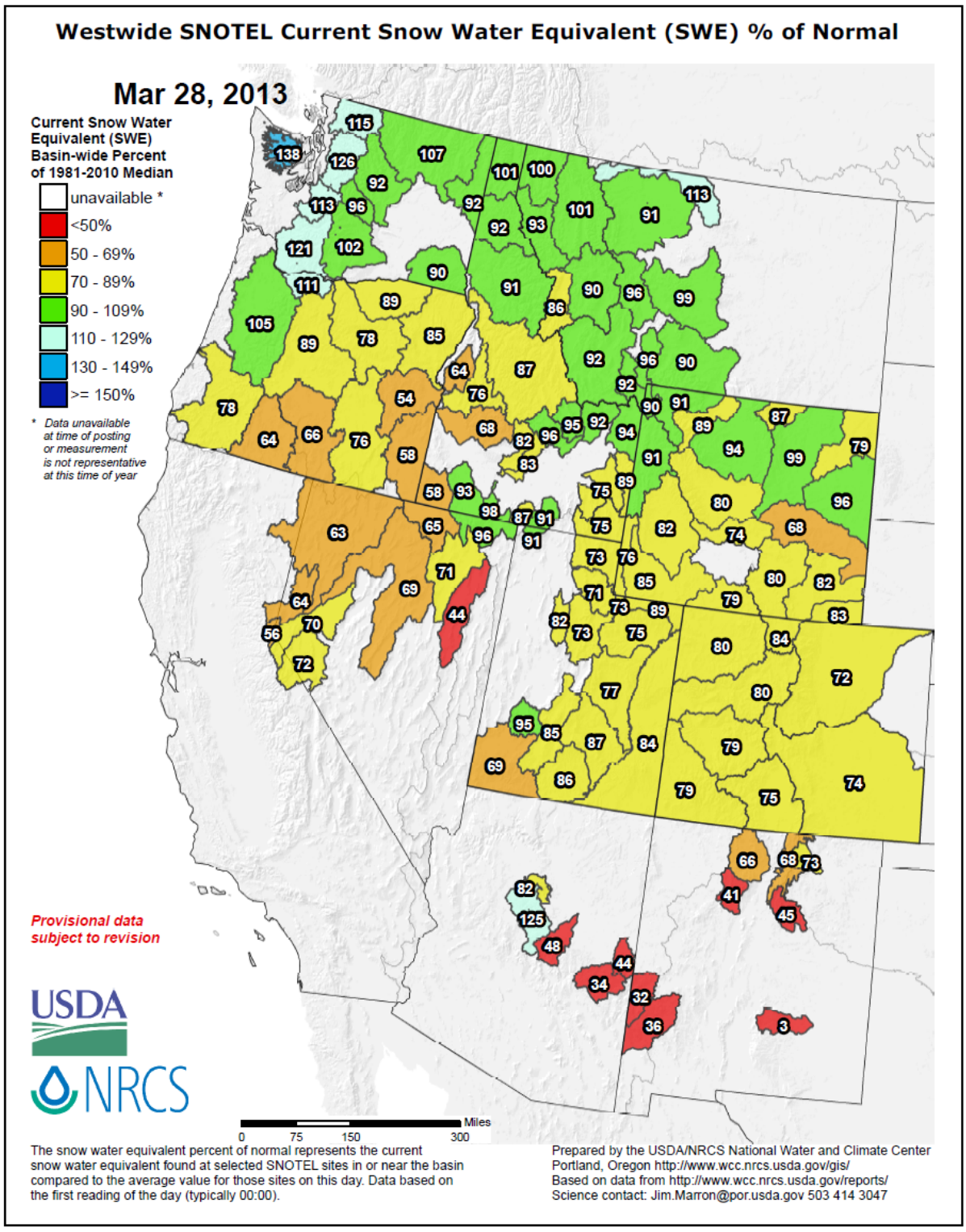


Fig. 3b: Snow-Water Equivalent (SWE): The Washington Cascades and north-central drainage in Montana have a surplus of SWE in the West for the 2013 Water Year. The Northern Rockies, Upper Snake Drainage, and Northern Oregon Cascades have closer to normal conditions. For the remainder of the West, deficits prevail. The surplus value over central Arizona reflects delayed snowmelt, since peak snowpack usually occurs in mid-March. A useful basin-by-basin assessment of SWE to date can be viewed by state here and here.

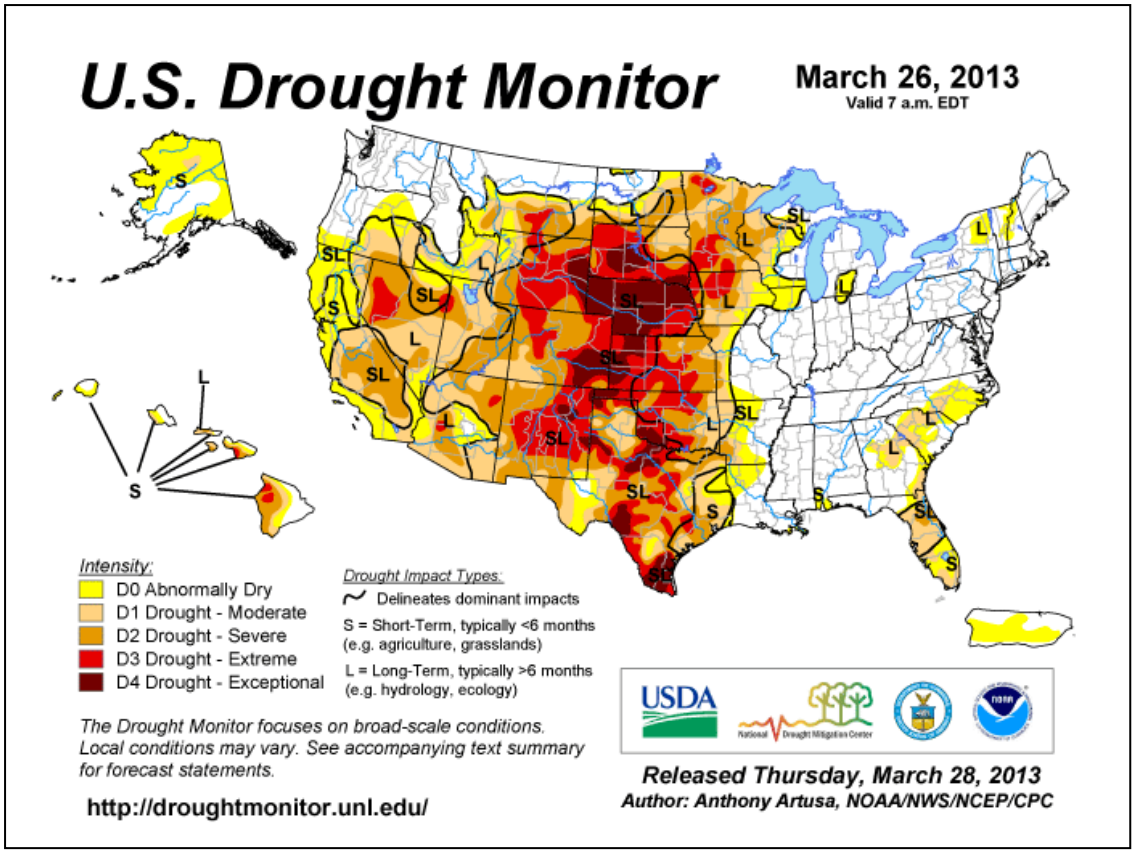


Fig. 4: Current Drought Monitor weekly summary. The exceptional D4 levels of drought are scattered across the western Corn Belt of the Plains into eastern Colorado, Wyoming, and New Mexico, and southward into Texas. For more drought news, see Drought Impact Reporter. Click for the latest statistics for California Reservoirs. The latest drought indicator blend and component percentiles spreadsheet is a great resource for climate division drought statistics. See Fig. 8 for the latest Drought Outlook (forecast).

For an interesting website on Lake Mead drought update, click here.

Agriculture

Corn: No room for error: March 18, **U.S.** U.S. corn exports are expected to be down about 50 percent this year since the demand for corn is high, leaving little to export, underscoring the need for a bountiful corn crop this year.

Drought and Crop Insurance Loss in 2012: March 19, **U.S.** This article includes a map of crop insurance loss ratios for the U.S. by county. The loss ratio is calculated by dividing the insurance payments by the total premium.

Drought impacts soybean protein content: March 15, **U.S.** Drought-affected soybeans had more oils and less protein than soybeans grown in a less extreme year.

Indiana drought causes record insurance payouts: March 12, **Indiana**. Crop insurance payments for corn, soybean and wheat losses in Indiana climbed to an all-time high of $1 billion. The previous high occurred in 2008 when farmers received $522 million in crop insurance payments. The average corn yield in the state in 2012 was 99 bushels per acre, which is nearly 40 percent below average. Roughly 75 percent of the corn crop was insured in 2012. Claims were still coming in, so the figure will rise further before the final tally is made for 2012.

Record crop insurance payout stirs subsidy debate: March 22, **U.S.** U.S crop insurance claims from 2012 have reached $15.91 billion with claims still being processed.

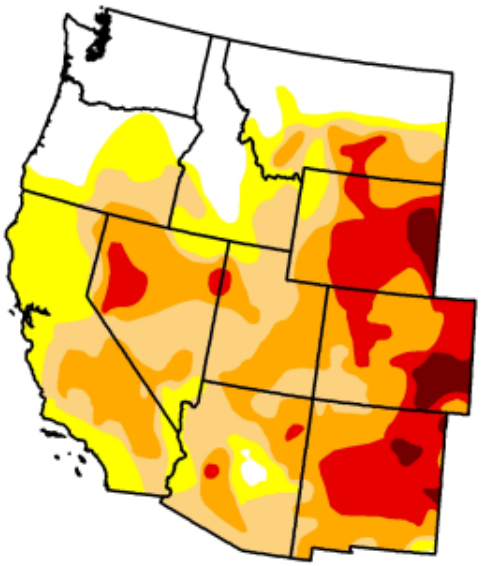
U.S. Drought Monitor

West

March 26, 2013
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	19.44	80.56	63.42	41.27	15.54	2.49
Last Week (03/19/2013 map)	22.56	77.44	63.05	41.15	15.72	3.13
3 Months Ago (12/25/2012 map)	24.28	75.72	69.42	45.80	18.83	2.15
Start of Calendar Year (01/01/2013 map)	24.39	75.61	69.31	45.04	18.01	2.15
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (03/20/2012 map)	38.04	61.96	47.33	22.70	3.39	0.94



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

Released Thursday, March 28, 2013
Anthony Artusa, NOAA/NWS/NCEP/Climate Prediction Center

Fig. 4a: Drought Monitor for the Western States with statistics over various time periods. A slight improvement in D4 has occurred this past week. See CLIMAS Southwest Climate Outlook.

In California, there are cooperative snow surveys made up of 35 or so utilities, water agencies, government agencies and the Department of Water Resources. The NRCS is one of the cooperating agencies. Through this cooperative, California has over 200 manual snow surveys and has a similar number of snow pillows. With this data they publish a Bulletin 120 every month from February through May which provides a forecast of April through July runoff. We provide daily snow reports through the California Data Exchange Center (which also posts the Bulletin 120 at

http://cdec.water.ca.gov/snow/bulletin120/index2.html) through the following links:

Current PAGE6 report: http://cdec.water.ca.gov/cgi-progs/snow/PAGE6
Current DLYSWEQ report: http://cdec.water.ca.gov/cgi-progs/snow/DLYSWEQ
Current Regional Snowpack Plots: http://cdec.water.ca.gov/cgi-progs/snow/PLOT_SWC
California also hosts a statewide water conditions page at:
http://cdec.water.ca.gov/water_cond.html which has links to precipitation, reservoir storage, snowpack, runoff, and summary reports.

For the latest USDA/NASS weekly agricultural report for California:

Also see USDA Agriculture Data:
U.S. Hay Production Map; U.S. Winter Wheat Map; NASS Statistics by States

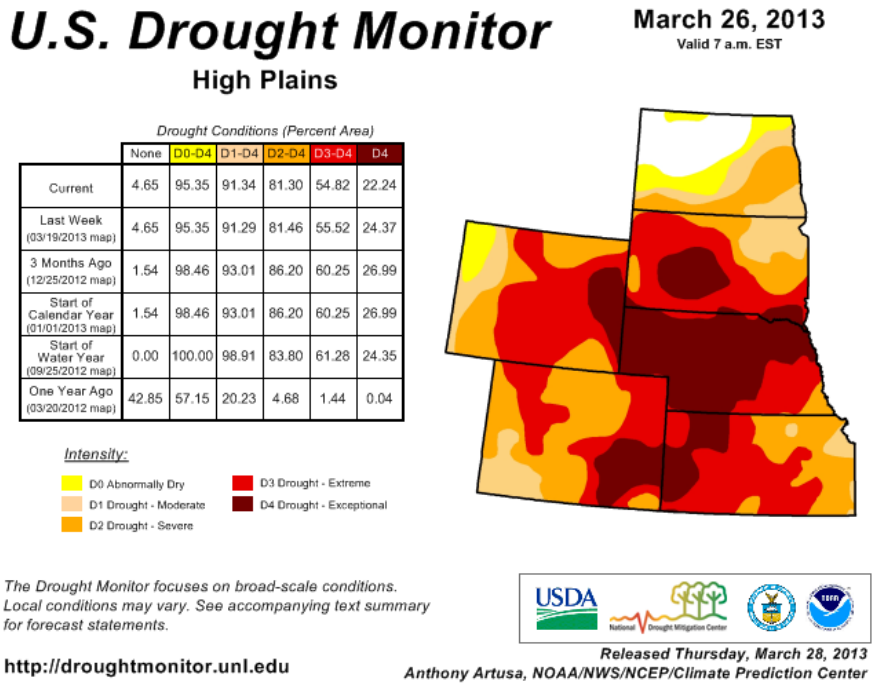


Fig. 4b: Drought Monitor for the High Plains with statistics over various time periods. Note slight improvement in D4 this week. See Kansas Drought Update.

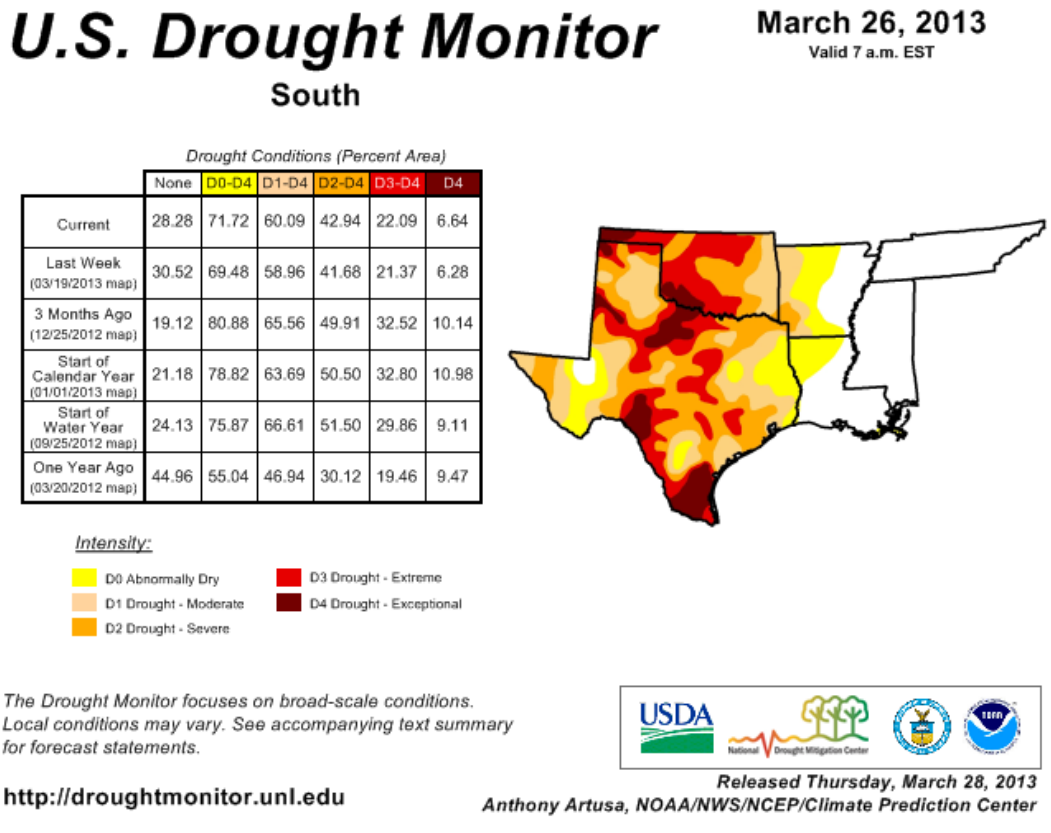
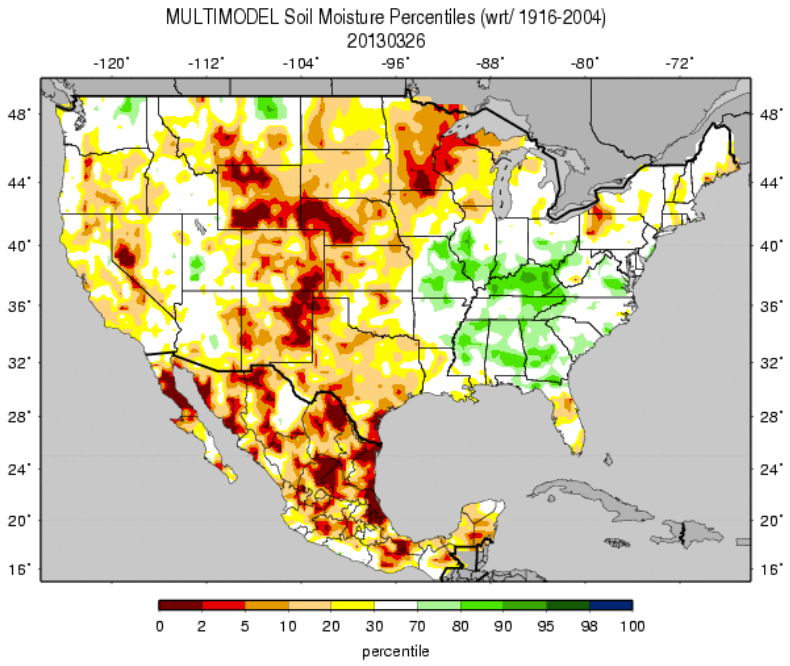


Fig. 4c: Drought Monitor for the South-Central Region with statistics over various time periods. Note a slight uptick in D4 this week. Check out the Texas Drought Website. See Texas Reservoirs.



Figs. 5: Soil moisture ranking in [percentile](#) as of 26 March shows dryness over the Western High Plains and much of the Rockies. Moist conditions are noted over Kentucky and adjacent states during the past week while dryness persists over Minnesota and western Wisconsin. *Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#);*

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

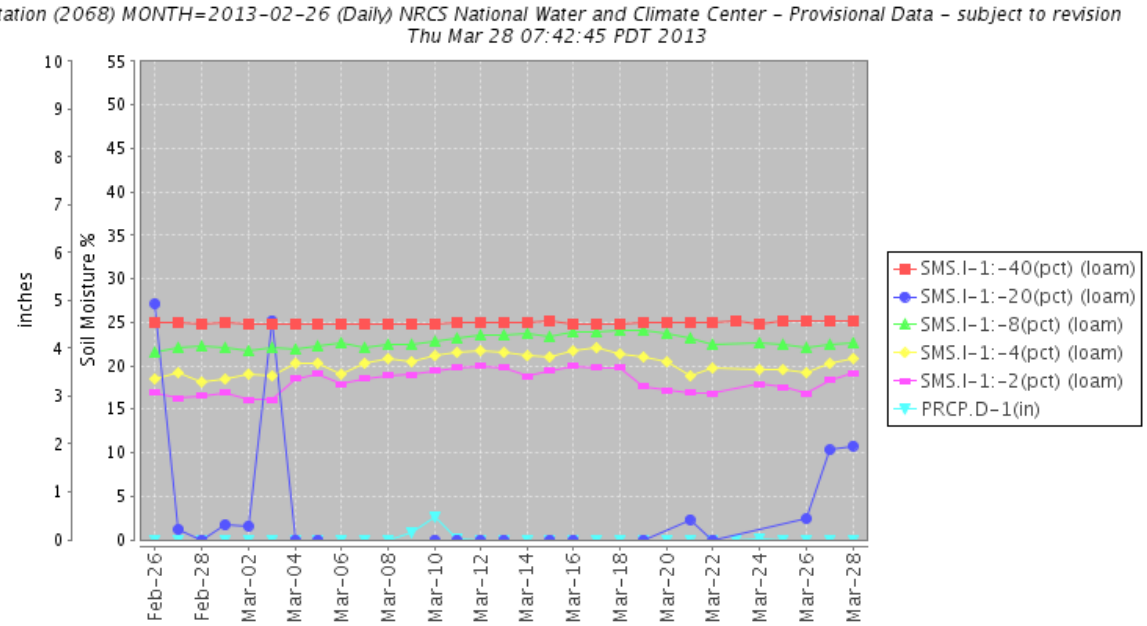


Fig. 6: This NRCS resource shows a site over [western Iowa](#) with high soil moisture values at all levels. Note the heavy precipitation occurring during the past few days. *Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#);*

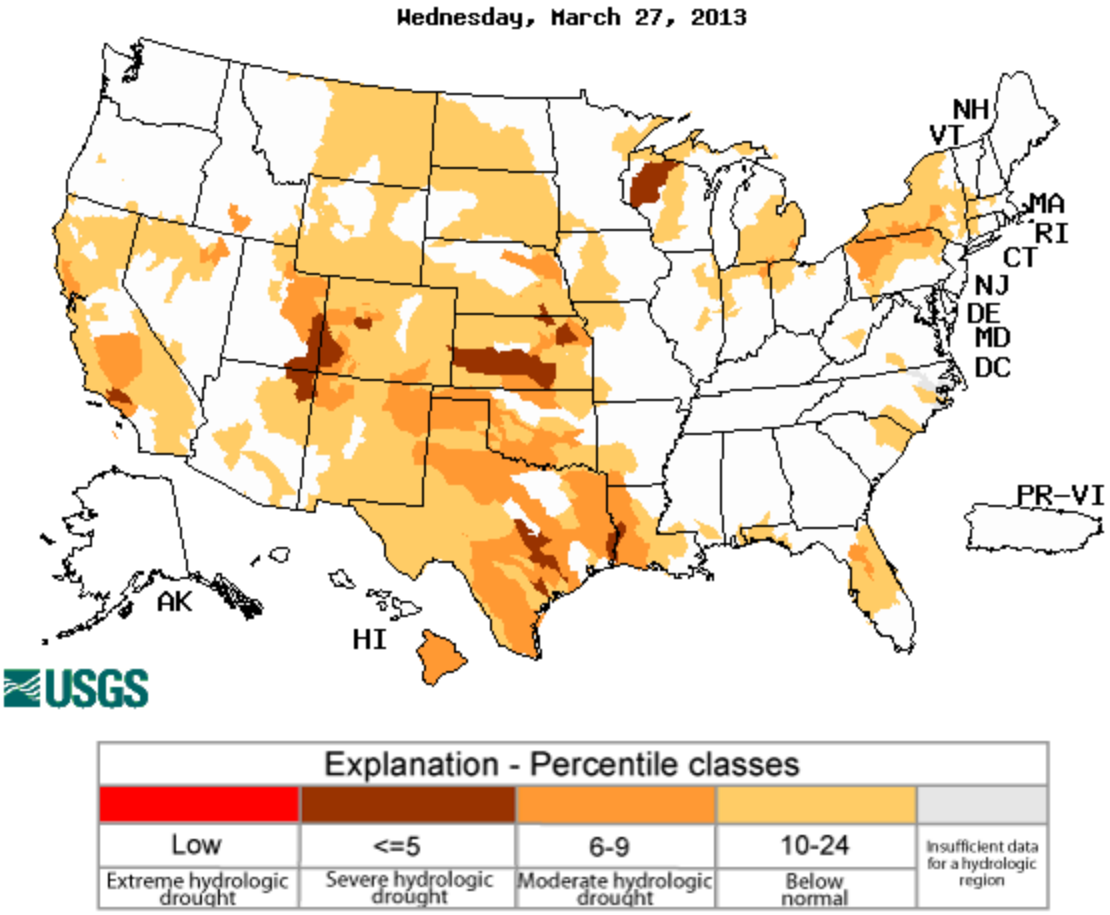


Fig. 7: Map of below normal 7-day average streamflow compared to historical streamflow for the day of the year. Severe conditions exist over southeastern and northern Texas, Four Corners Region, central Kansas, western Wisconsin, and now over southern California. As with soil moisture, streamflow data can be severely compromised by prolonged freezing temperatures. See the USGS National Water Information System Mapper.

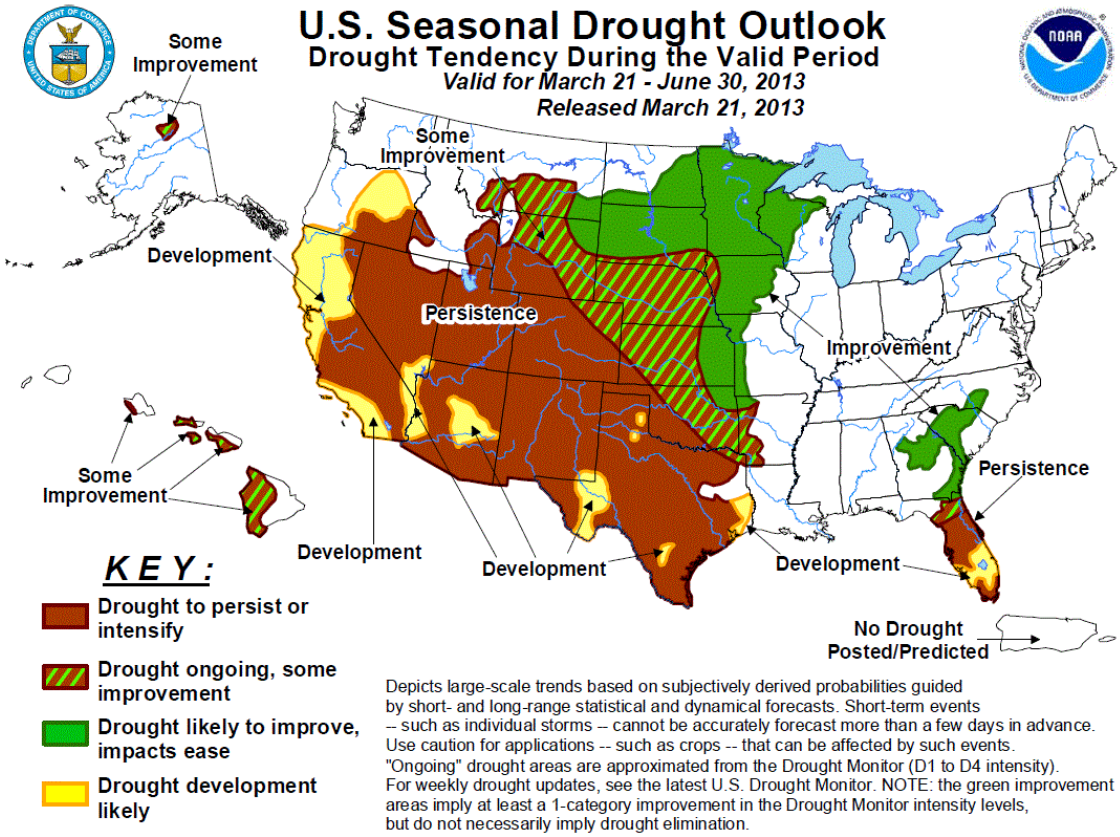
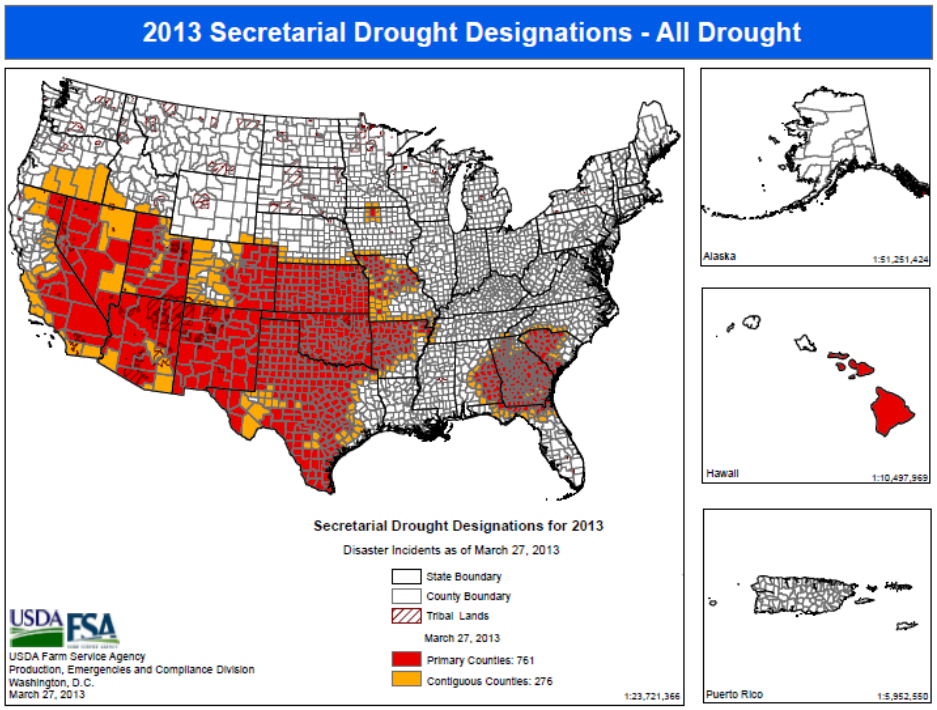


Fig. 8: U.S. Seasonal Drought Outlook updated, 21 March.



See USDA Drought Assistance website.

See National Sustainable Agriculture Information Service

National Drought Summary provided by the National Drought Mitigation Center -- Drought Author: Anthony Artusa, NOAA/NWS/NCEP/Climate Prediction Center

National Drought Summary -- March 26, 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: During the past week, heavy precipitation (2 inches or greater) fell over much of the Southeast, portions of the Pacific Northwest coastal ranges and Cascades, and the California Sierras. Moderate precipitation (0.5-2.0 inches) was widespread across the Northeast and mid-Atlantic regions, the Ohio Valley, the central Mississippi Valley, parts of the central Great Plains, the northern Rockies, the Northwest and northern California. Light precipitation (up to a half-inch) was reported elsewhere in the contiguous U.S., and little if any precipitation was observed across the Southwest. Storm activity initially affected the East, followed by several storm systems which moved across the West, the southern Great Plains, the southeastern and Mid-Atlantic States, and ultimately parts of the Northeast. Several inches of snow accumulated in the Washington, D.C. area on Monday, March 25th, which is unusually late in the season for such an event.

The Northeast and Mid-Atlantic: About a half-inch of precipitation fell over the drought areas in the Northeast, which was enough to offset additional degradation for at least another week. Stream flows are close to normal for much of this region, except for northern Pennsylvania and adjacent portions of New York, where stream flow values are running between the 5th and 10th percentiles of the historical record. No changes were rendered to the drought depiction across this area.

The Southeast: During the past 7-days, the Advanced Hydrologic Prediction System (AHPS) reported moderate to heavy rains (0.5 – 4.5 inches) across Georgia, most of Alabama and South Carolina, and northern and central Florida. This widespread soaking resulted in a 1-category improvement in drought conditions across Georgia, the eastern Panhandle of Florida, and portions of South Carolina. Severe weather (mostly strong winds and large hail) was also reported across the Florida Panhandle over the weekend. In east-central Alabama, the lingering area of abnormal dryness (D0) was removed from Chambers County.

In Georgia, all severe drought (D2) has been removed because of the heavy rainfall. Severe drought has been ongoing across portions of the state since September 21, 2010. As recently as January 29, 2013, 82.4 percent of Georgia was in severe drought or worse. Since that time, Georgia experienced its wettest February statewide, and March has also been wet. The National Agriculture Statistics Service (NASS) Georgia Field Office reported 4.2 days suitable for fieldwork for the week ending March 24th. Statewide Topsoil Moisture was rated as 1-percent very short, 2-percent short, 58-

percent adequate, and 39-percent surplus. Subsoil Moisture was rated at 1-percent very short, 10-percent short, 68-percent adequate, and 21-percent surplus. High temperatures ranged from the low 50's to the low 80's, and nighttime low temperatures ranged from the low 30's to the low 60's.

In eastern North Carolina, a cool and increasingly dry pattern prompted expansion of D0 conditions, and the removal of D0 over the extreme southeastern counties of Brunswick and New Hanover.

The Midwest: Moderate precipitation (0.4-1.0 inch) fell over western and central Missouri and southeastern Iowa during the past week, prompting a reduction in coverage of abnormal dryness (D0). Temperatures continue to be below normal across the region. Missouri is experiencing its coldest March in at least 17 years. For the most part, vegetation remains dormant and evaporative rates have been kept to a minimum. Over the past few weeks, there has been adequate soil moisture infiltration, as opposed to areas farther north where frozen soils exist from several inches to several feet in depth (for example, east-central Iowa and southwestern Wisconsin).

Lower Mississippi Valley/Delta region: Significant precipitation deficits (AHPS PNP values ranging from 50-90 percent of normal rainfall during the past 3 months) have accumulated over northwestern Louisiana. Stream flows in this region are below normal. As a result, D0 conditions were expanded across this area.

The Great Plains: In Texas, another relatively dry week resulted in various small-scale adjustments to the drought depiction. Six-month DNPs (Departure from Normal Precipitation) are on the order of 8-16 inches in much of eastern Texas. In southeastern portions of the Panhandle (Donley County), the Greenbelt Lake reservoir dropped to 12 percent of capacity. In addition, only about 6 inches of snow accumulated in this region from a recent blizzard, which is not nearly enough to satisfy water supply concerns. In the Oklahoma Panhandle (Cimarron County) the town of Kenton has recorded 100 consecutive days without at least a quarter-inch of precipitation. Cool temperatures have at least helped to offset the impacts from current drought conditions. In Kansas, moderate precipitation (0.5-2.0 inches) supported a 1-category upgrade for northwestern, northeastern and east-central portions of the state. In western and central South Dakota, relatively minor adjustments (both improvement and degradation) were made to the depiction.

The Rockies: In Montana, relatively minor adjustments were made to the depiction, with a slight expansion of abnormal dryness (D0) over southwestern and western portions of the state, which is consistent with relatively light precipitation and slightly below normal stream flows.

Minor improvements were rendered to the drought depiction in eastern and south-central sections of Colorado. These were based on above-average precipitation since March 1st, and also on some improvement in winter wheat conditions. The Upper Colorado River Basin (UCRB) will be monitored over the next few weeks, as this is a critical time for snowpack. Warmer temperatures and low snowfall accumulations could result in quickly deteriorating drought conditions, while colder temperatures and higher snow totals could help in minimizing impacts. No adjustments were made to the drought

depiction in this area this week, pending further assessment of peak snowpack timing and melting conditions.

The West: As of March 27th, the basin-wide Snow Water Content (SWC) from SNOTEL locations across the West was generally 50-75 percent of average across southern Oregon, northern Nevada and the Sierras, and parts of northern New Mexico, and 75-90 percent of average across much of Colorado, Utah, and southwestern Wyoming. SWC values were near average over much of the interior Northwest and northern Rockies, and 110-125 percent of average over the Washington Cascades.

In southwestern Oregon, abnormal dryness (D0) was expanded to include Josephine, Jackson, and Curry Counties. Despite a wet November and December, precipitation deficits of about 10 inches have mounted over the past 90-days. Crater Lake snowpack is down to 63 percent of normal, and stream flows are averaging below normal. Medford, Oregon, is experiencing its driest (or close to driest) calendar year-to-date so far. One concern in particular is the increased risk of unusually early-in-the-season wildfires.

Northern California has also experienced a significant lack of precipitation this winter, after a wet start to the season. Accordingly, areas not in abnormal dryness or drought in northern California were downgraded to D0 conditions. Should these deficits persist well into the spring, the growth of forage will be hampered, and rangelands will be adversely affected. Reservoirs appear to be in good shape, but spring runoff is expected to be below normal. Temperatures have averaged above-normal so far this month, leading to early irrigation demands.

Hawaii, Alaska, and Puerto Rico: In Hawaii, 1-2 inches of rain fell during this past week across parts of Oahu and Kauai. Between a half-inch and an inch of rain was reported over central Molokai and southern portions of the Big Island. No changes were made to the Hawaiian depiction this week, pending reassessment of conditions next week. In Alaska, the only areas to report a half-inch or greater of precipitation were near Anchorage (from the Kenai Peninsula northward to the Mat-Su Valley), and the Panhandle region. Most of these amounts ranged from 0.5-2.0 inches. Comparable amounts of precipitation fell over western and central Puerto Rico as well during this past week. Accordingly, no modifications were rendered to the drought depiction in either Alaska or Puerto Rico.

Looking Ahead: During the next 5 days (March 28-April 1, 2013) a broad band of precipitation (0.5-2.0 inches) is expected from the interior Southeast westward across Arkansas and eastern Oklahoma. Though most of this precipitation will fall on drought-free areas, the western portions (Arkansas and eastern Oklahoma) could certainly benefit from this rainfall. Elsewhere, the predicted precipitation amounts (generally around a half-inch) across the eastern half of the contiguous U.S. may be enough to offset additional degradation. Little if any precipitation is anticipated across a large portion of the High Plains, the central and southern Rockies, the Southwest, and the Florida peninsula.

Dryness Categories

D0 ... Abnormally Dry ... used for areas showing dryness but not yet in drought, or for

areas recovering from drought.

Drought Intensity Categories
D1 ... Moderate Drought
D2 ... Severe Drought
D3 ... Extreme Drought
D4 ... Exceptional Drought

Drought or Dryness Types
S ... Short-Term, typically <6 months (e.g. agricultural, grasslands)
L ... Long-Term, typically >6 months (e.g. hydrology, ecology)

Updated March 27, 2013

More Drought Highlights

Water Supply & Quality in the News
Antero Reservoir slated for draining
March 17, **Denver, Colorado**. Denver Water announced that water from Antero Reservoir will be transferred to Eleven Mile and Cheesman reservoirs beginning on May 1 to reduce evaporation losses by an expected 4,000 acre-feet.

Area lake levels lower than a year ago; officials discussing plans
March 16, **Texas**. Water levels fell during the winter, a time when surface water supplies refill a bit, to the point that some reservoirs are at their lowest levels in more than 20 years.

In the city: Water supply challenges lead to restrictions
March 17, **Fort Collins, Colorado**. Response Level 1 water restrictions begin on April 1 in Fort Collins, limiting lawn watering to twice weekly. The restrictions were implemented because Fort Collins' two primary water sources, the Poudre River and the Colorado-Big Thompson Project (CBT) via Horsetooth Reservoir, have been compromised. It is unclear how much water from the Poudre River can be treated for use in 2013 since the water was contaminated with ash, charred soil and debris from wildfires that burned in the region last year. CBT water from Horsetooth Reservoir may be the city's main source in 2013, but water allocations will not be known until mid-April and may be reduced, due to low snowpack. Continuing drought could reduce water supplies from both water sources, which each usually provide about 50 percent of the city's water needs. Denver update.

New Mexico's water crisis forces tough choice for Carlsbad Irrigation District
March 19, **Southern New Mexico**. The Carlsbad Irrigation District (CID) may issue a priority water call to force the closure of agricultural wells in north Eddy County and Chaves County in the Pecos Valley Artesian Conservancy District to leave more water for farmers in the CID. Managers for both irrigation districts agree that a priority call will likely give little to no additional water to farmers in the CID.

U.S. waits for Mexico water response expected Friday
March 20, **Southern Texas**. The 1944 Guadalupe Water Treaty allows Mexico 2 ½ years to pay up on its water debt, but some communities in extreme south Texas need the water immediately since some of them already have emergency water restrictions in place, due to low flow in the Rio Grande River.

Water crisis in the Lower Rio Grande Valley
March 18, **Southern tip of Texas**. Many of the irrigation districts in the Lower Rio Grande Valley have enough water for one or two irrigations, but three districts have cautioned their municipals customers that water will likely run out in April or May, stated an AgriLife Extension irrigation engineer in College Station.