United States Department of Agriculture

Water and Climate Update

November 5, 2015

The Natural Resources Conservation Service produces this weekly report using data and products from the National Water and Climate Center and information provided by other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

Weekly Highlight: Winter snow accumulation begins

Photo courtesy Yosemite Conservancy

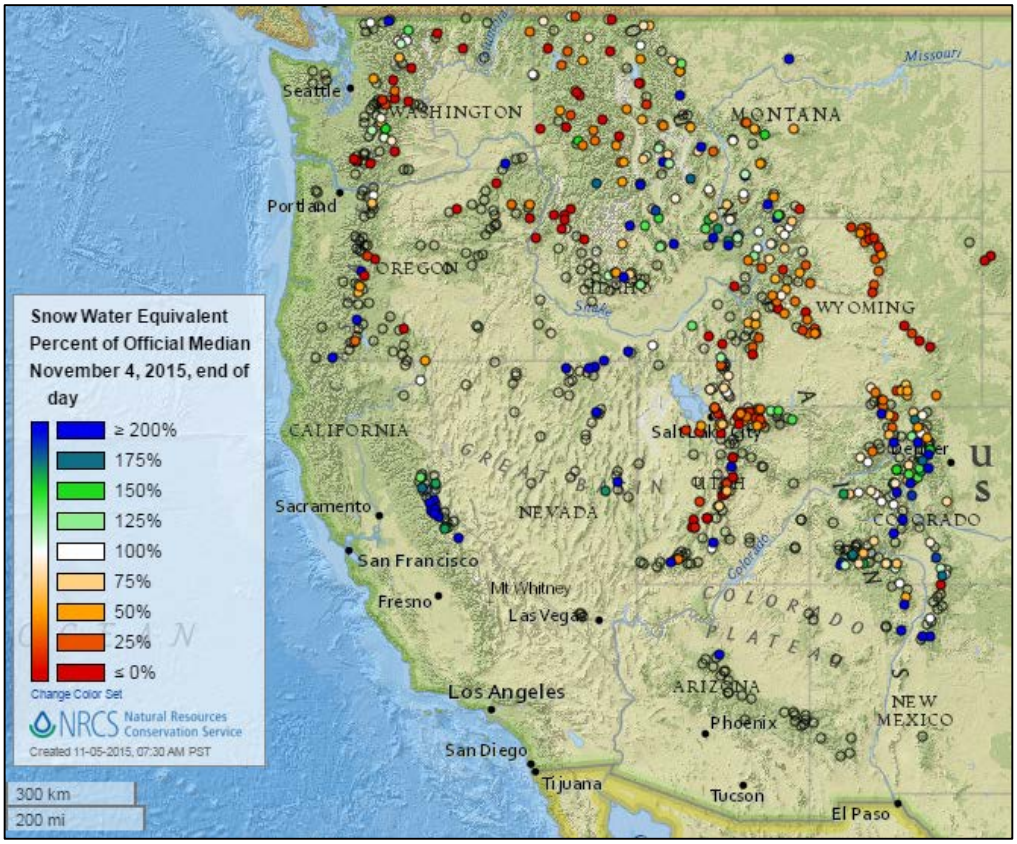
The annual winter snowpack is beginning to accumulate. Storms over the past week have left their mark on the western mountains and northern Plains as shown in the snow maps on the following pages.

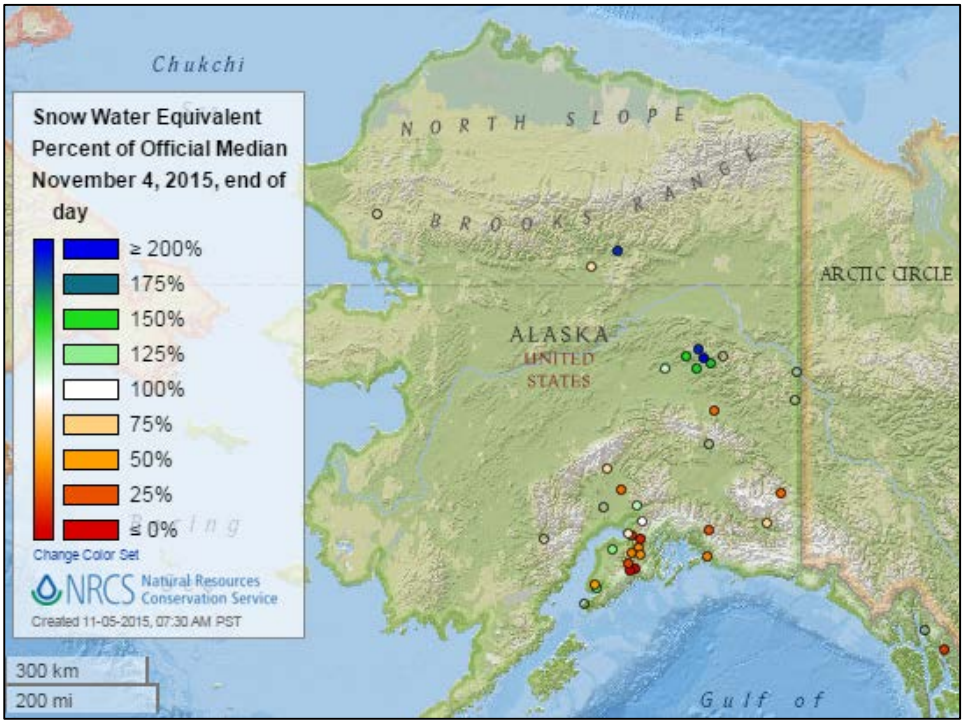
This photo shows conditions from the Sentinel Dome in Yosemite National Park on November 3, 2015.

Snow

Current Snow Water Equivalent, Western Mountain Sites (NRCS SNOTEL Network)

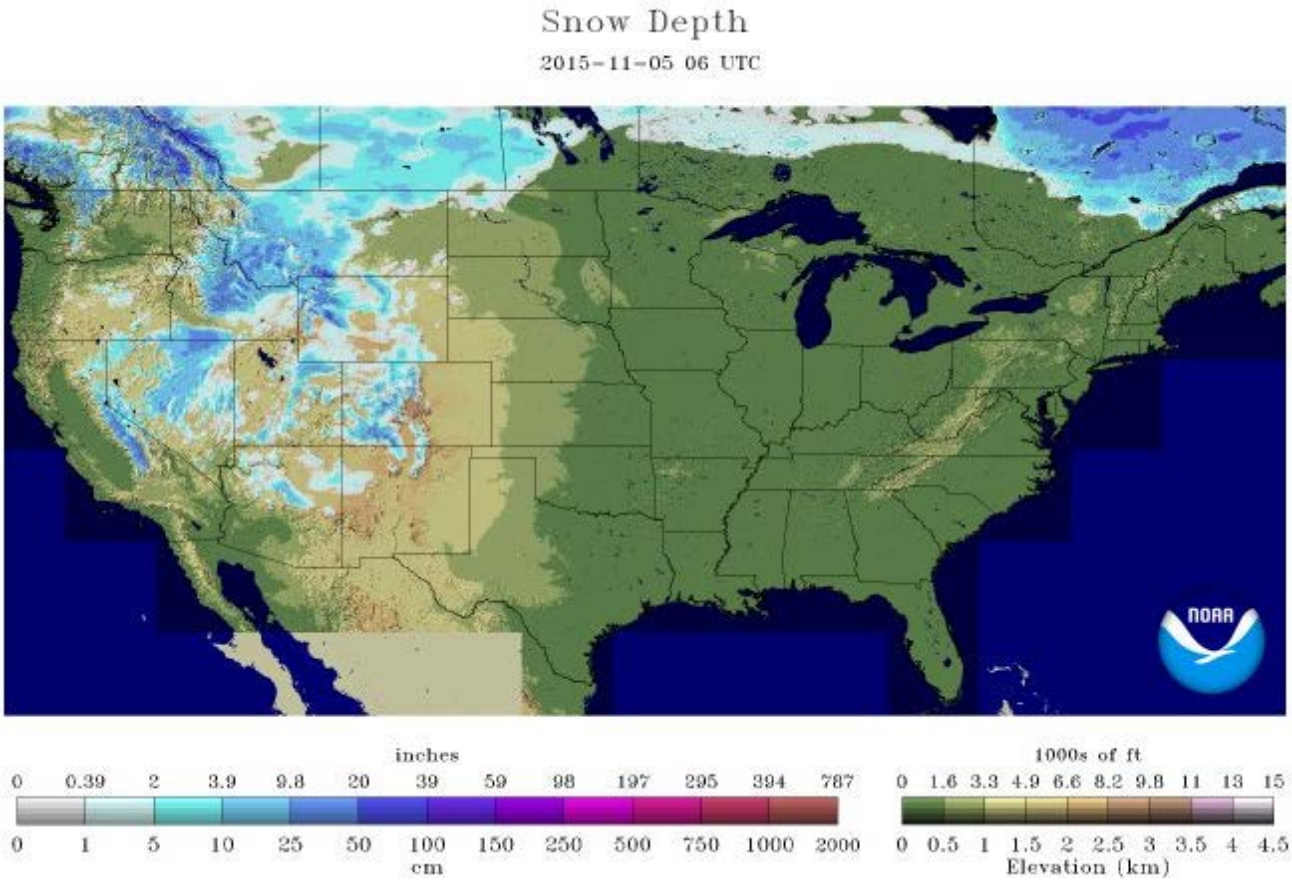
The current **snow water equivalent percent of median** map shows a few areas where snow has begun its winter accumulation. These areas include a few sites in the Cascades in Oregon and Washington, the Sierra in California, and the Rockies in Idaho, Montana, and Colorado. The actual amounts, however, are still small -- generally 2 inches or less.





The current **snow water equivalent percent of median** map for Alaska also shows a number of sites that have begun accumulating snow, especially in the Interior. The actual amounts, though, are again small, generally 2 inches or less.

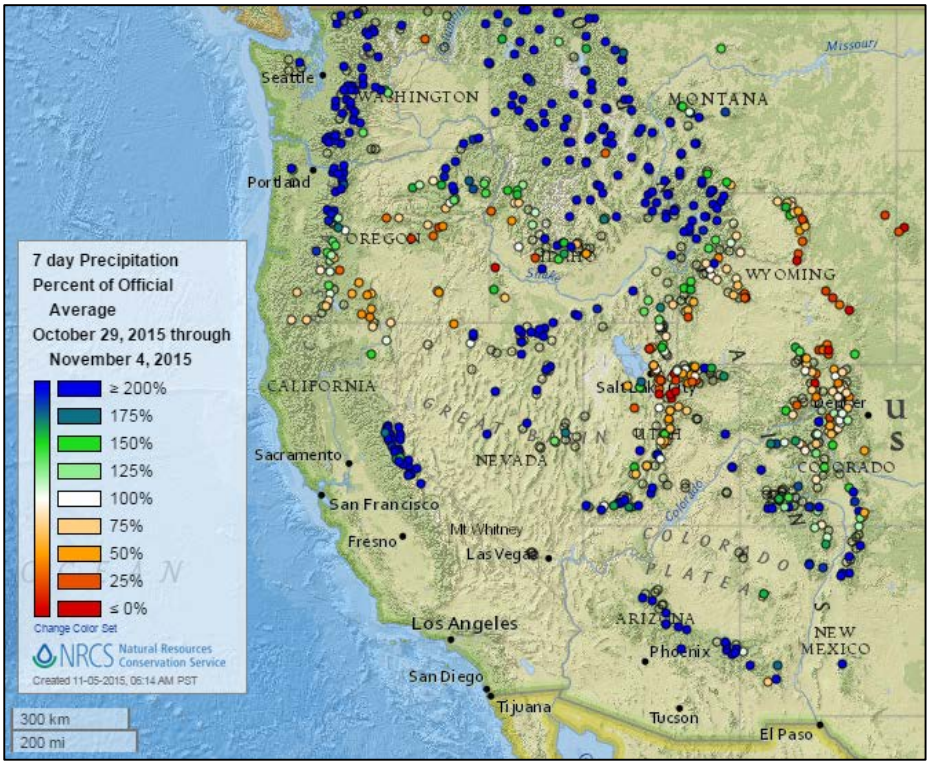
Current Snow Depth, National Weather Service (NWS) Networks



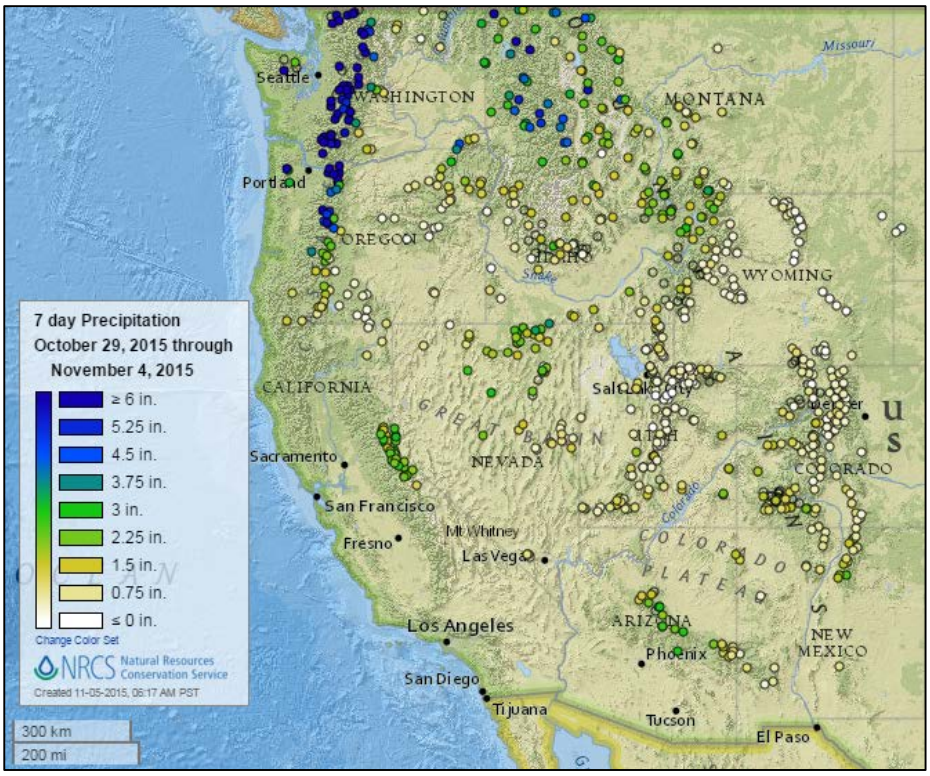
The current **snow depth** map for the continental U.S. shows areas of several inches of accumulation in the higher elevations of the western mountains and in the northern Great Plains.

Precipitation

Last 7 Days, Western Mountain Sites (NRCS SNOTEL Network)

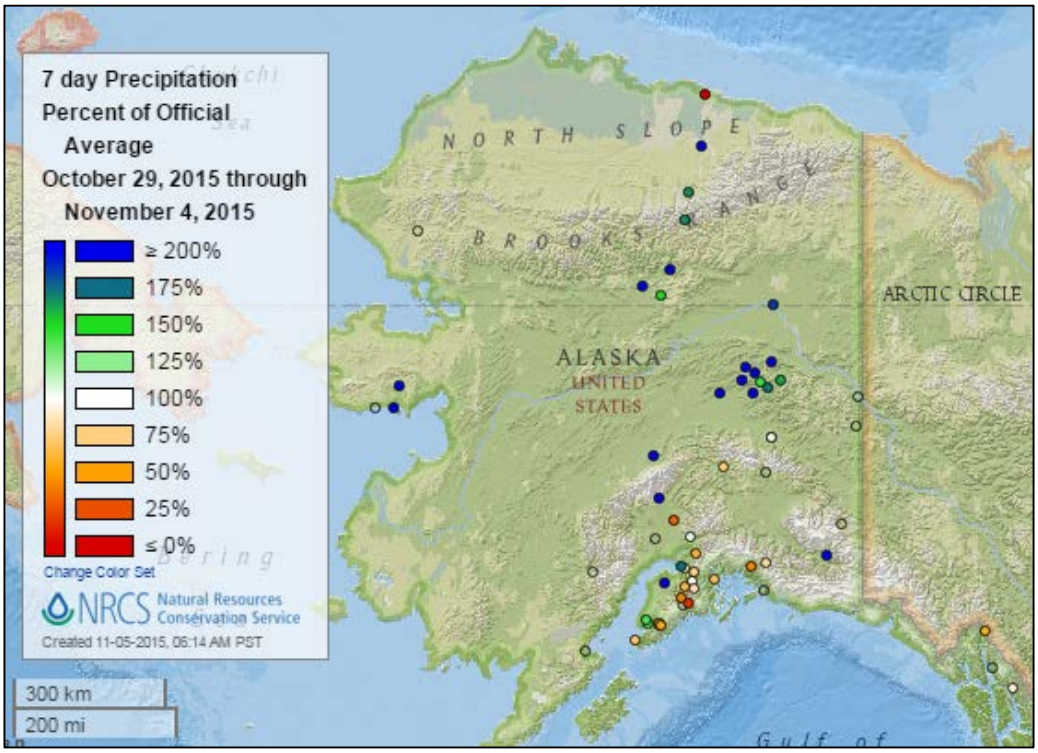


The 7-day **precipitation percent of average** map shows many areas of significant precipitation throughout the West. Only a few areas in Wyoming, Colorado, Utah, and eastern Oregon received less than average precipitation during the week.

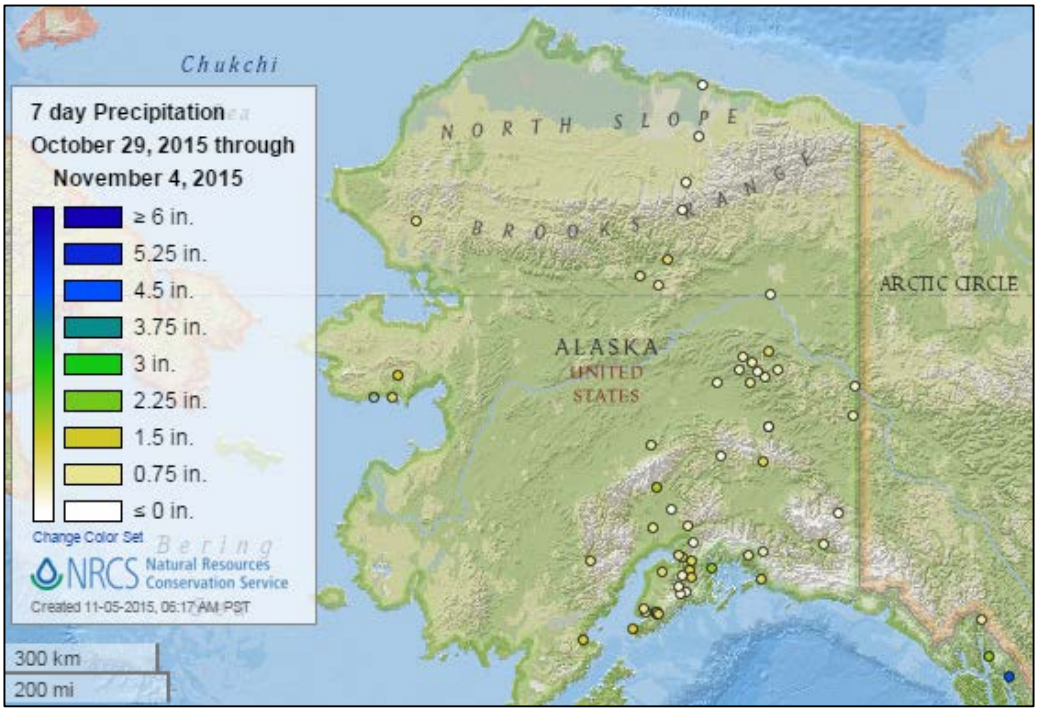


The **total precipitation** map shows many areas of 1 to 4 inches throughout the West. Most notable, however, are the Cascades of Washington and Oregon, where precipitation of 5 to 12 inches fell during the week.

The Alaska **precipitation percent of average** map for the last seven days shows much of the Interior as above average and coastal areas as near or below average.



The Alaska **total precipitation** map shows that areas receiving precipitation generally had an inch or less, even though this was above average (as shown above).

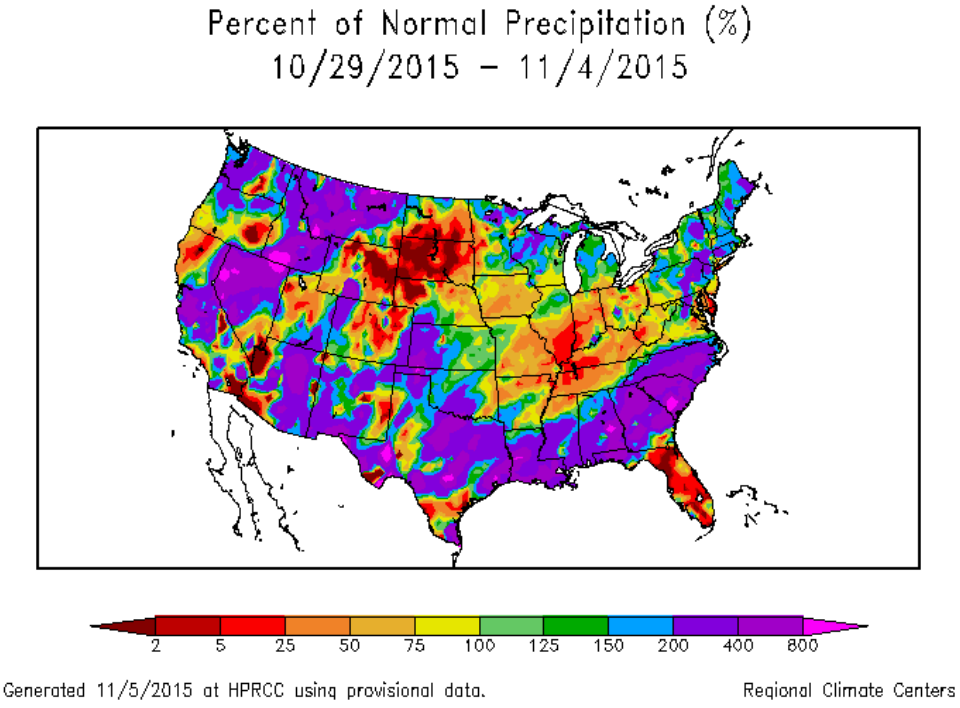


Last 7 Days, National Weather Service (NWS) Networks

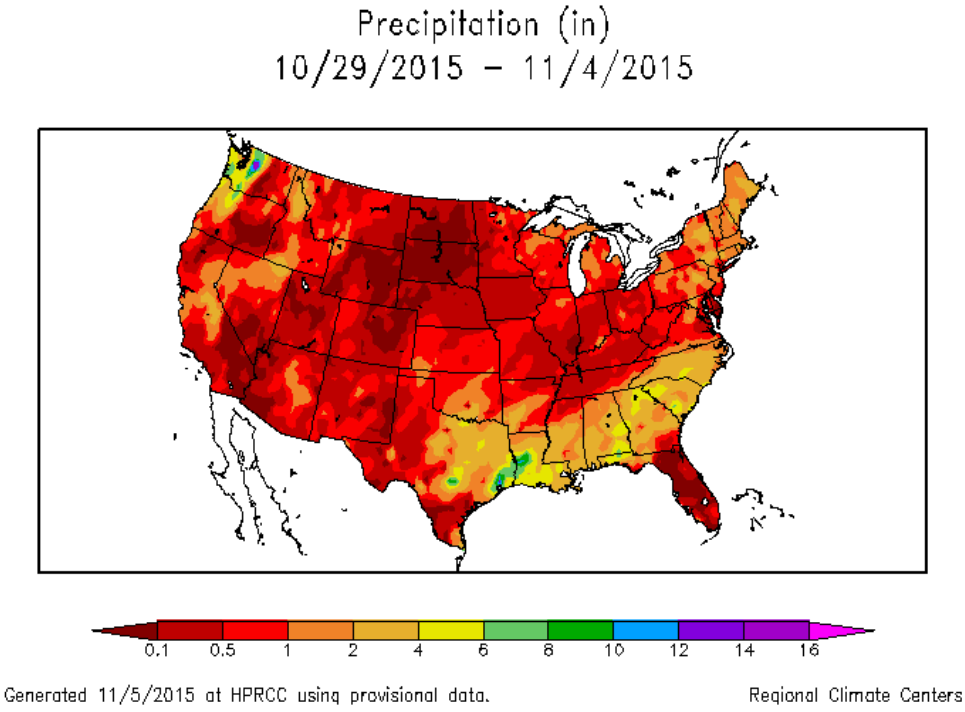
Source: Regional Climate Centers

The **percent of normal precipitation** map shows well above normal precipitation across large swaths of the West and the southern tier of states.

Areas in the northern Great Plains, parts of the Midwest, and Florida were below normal.

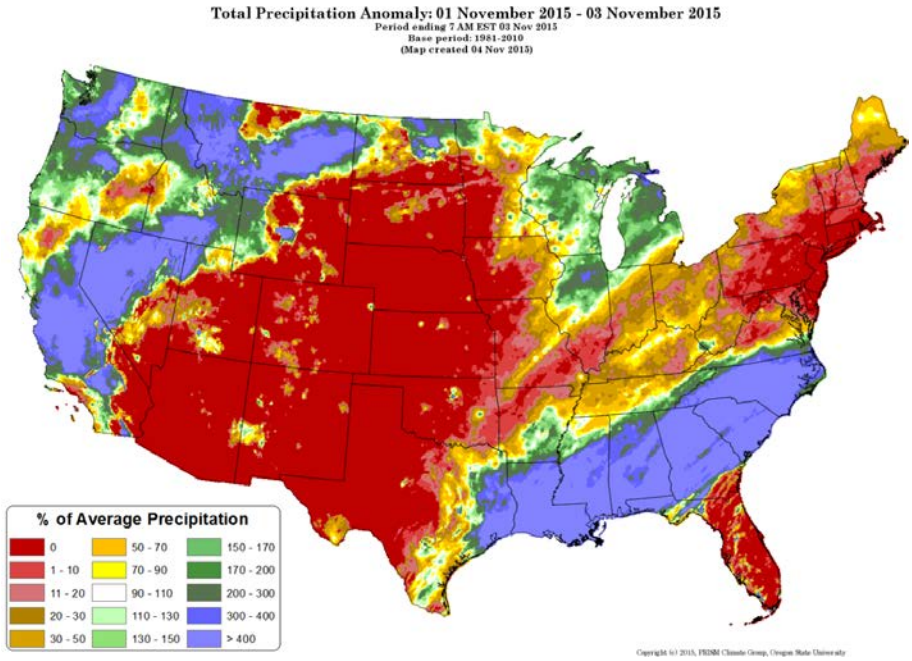


The **7-day total precipitation** map shows large amounts of precipitation falling in western Washington, northwestern Oregon, and the Southeast, particularly in Texas and Louisiana.

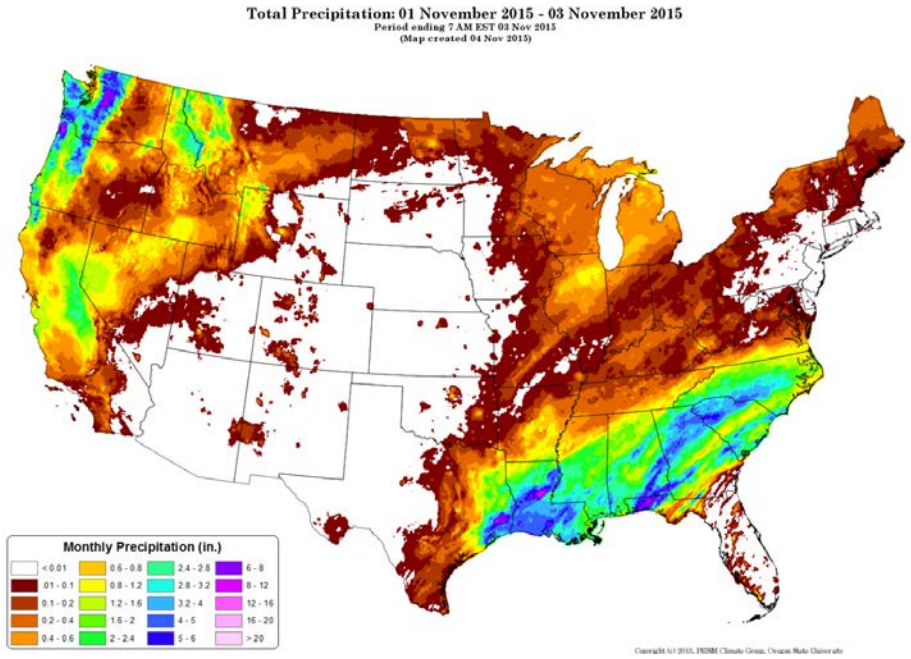


Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM



For the month of November to date, the national **precipitation percent of average** map again highlights areas of well above average precipitation in the West and the Southeast. The central and northeastern parts of the country, as well as Florida, have been drier than average.

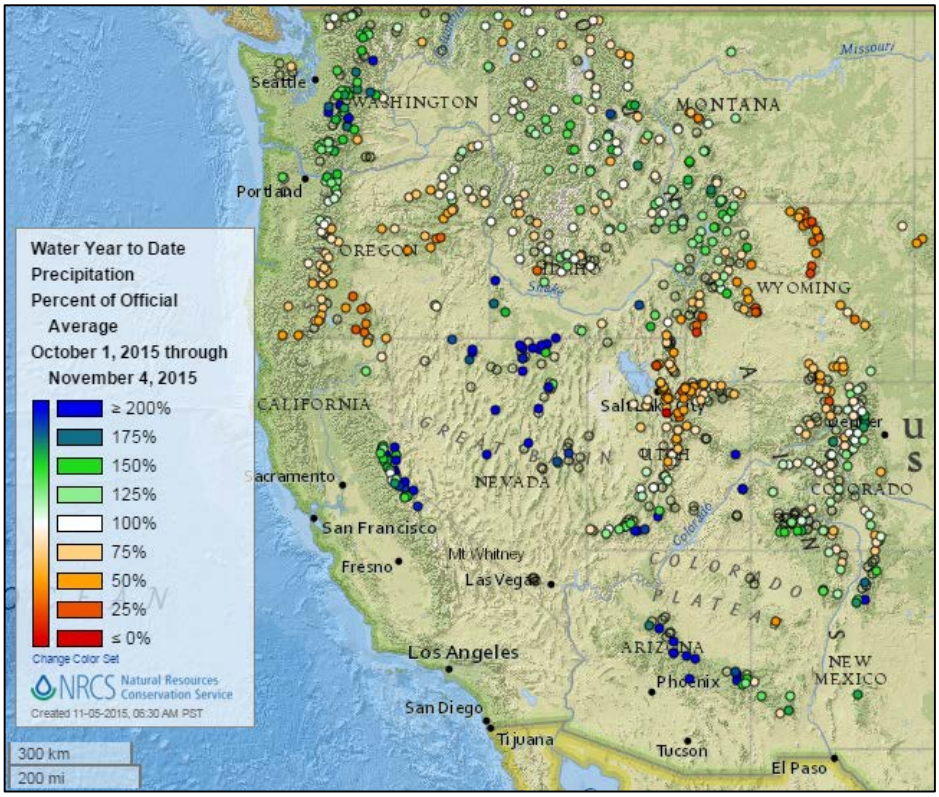


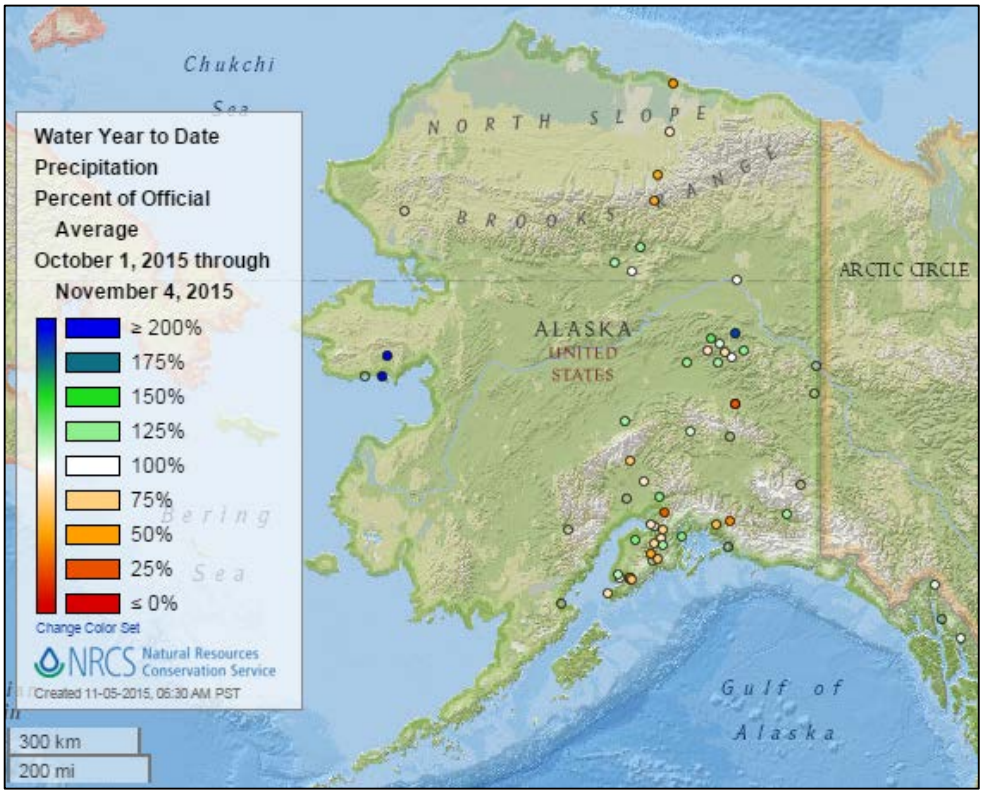
The November month-to-date **total precipitation map** shows large amounts in the Pacific Northwest and the Southeast, with lesser amounts or zero precipitation elsewhere.

Water Year-to-Date, Western Mountain Sites (NRCS SNOTEL Network)

For the **2016 Water Year** that began on October 1, 2015, many areas are getting a good start on precipitation accumulation, with near or above average amounts.

Areas not following this pattern include southeastern Oregon, eastern Wyoming, and northern Utah.





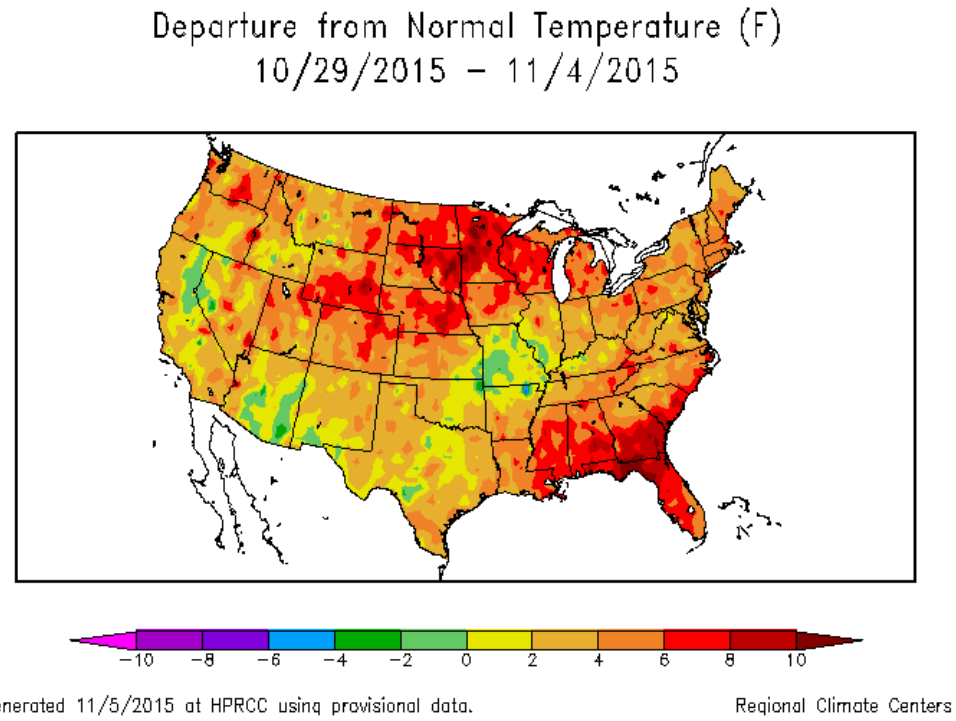
The Alaska water year-to-date **precipitation percent of average** map shows a mixture of above, near, and below average sites throughout the state.

Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

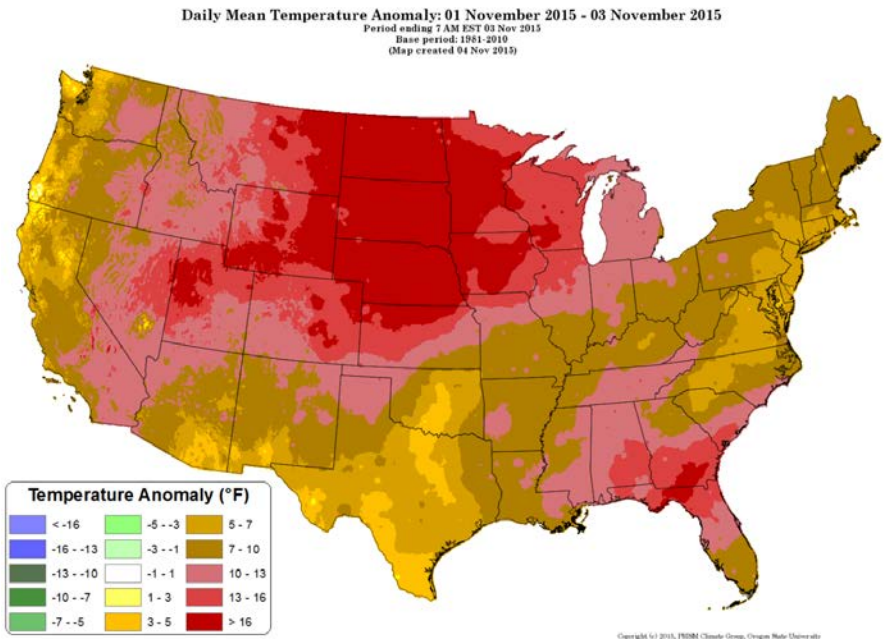
The map of the **average temperature anomalies** for the past week shows only a few areas below average, including parts of California, Nevada, Arizona, and Missouri. Otherwise, most of the country experienced above average temperatures.



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

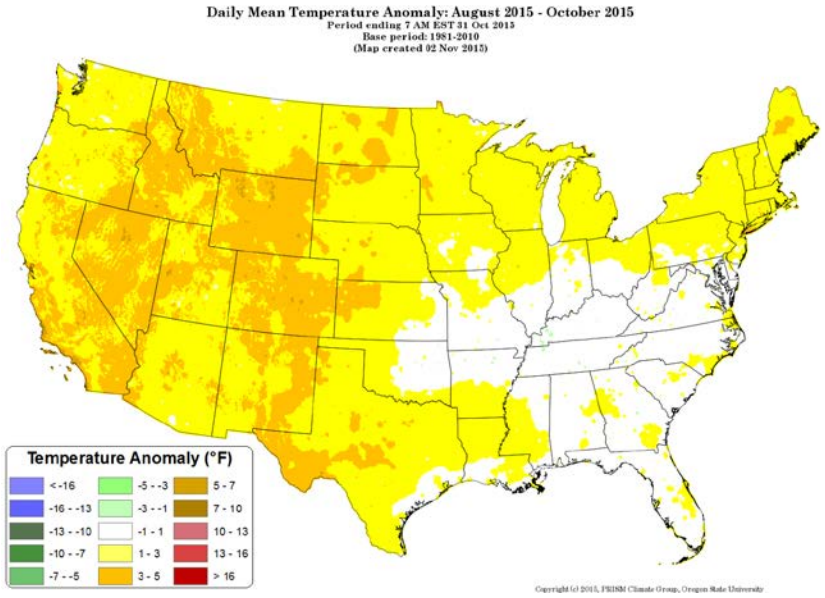
Source: PRISM

For November 2015, the national **daily mean temperature anomaly** map shows above normal temperatures throughout the country. Especially warm temperatures were observed in the northern Plains and in some areas of the Southeast.



Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

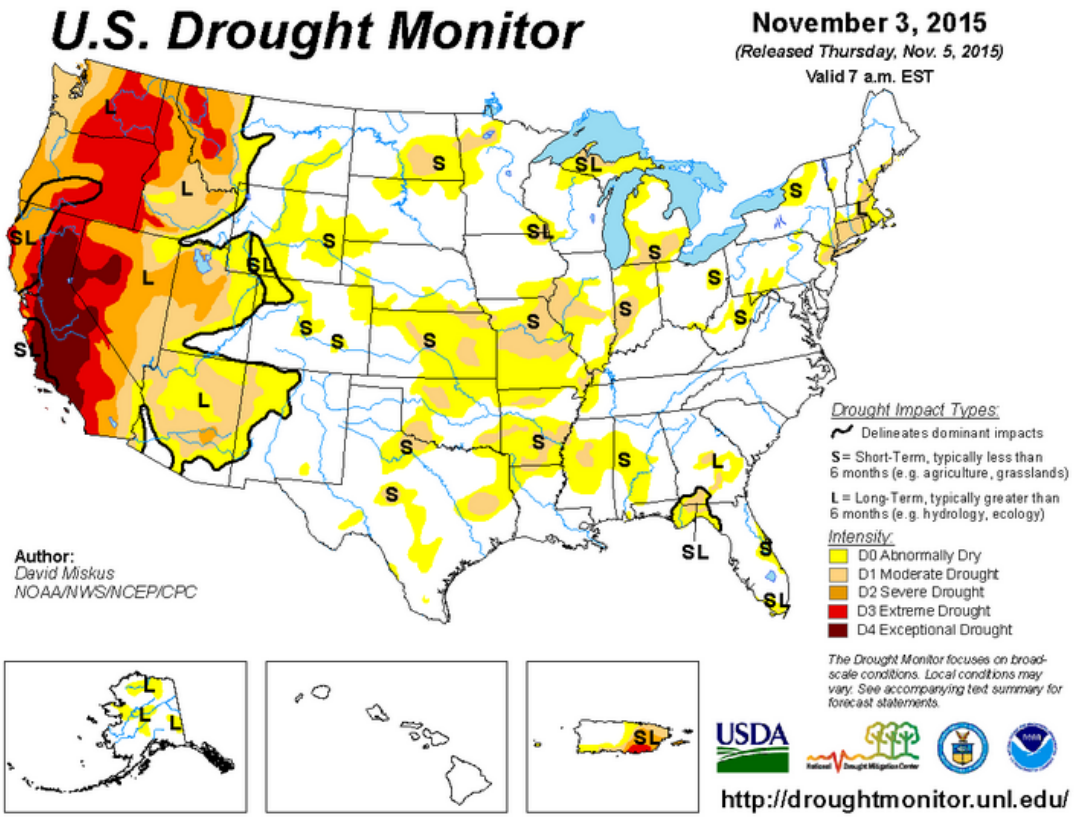


The August through October national **daily mean temperature anomaly** map shows all of the U.S. being near normal or somewhat warmer than normal.

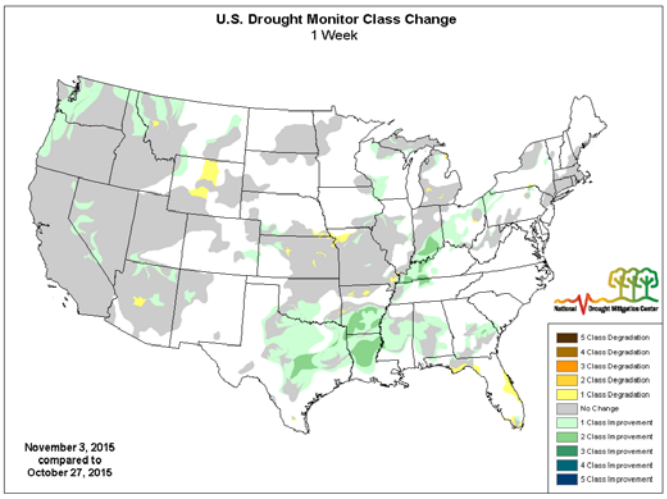
Drought

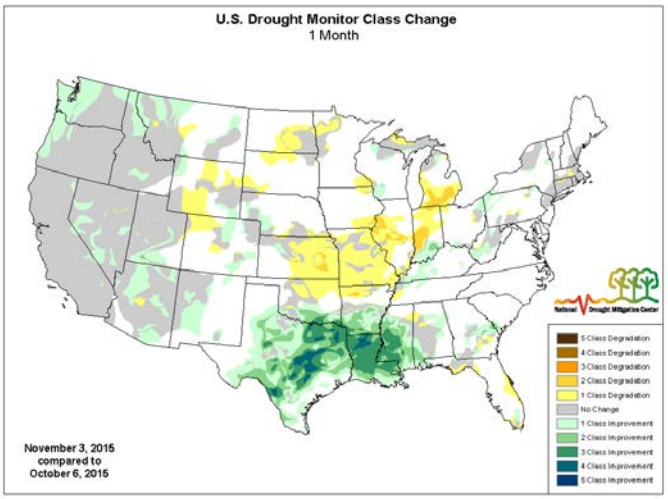
U.S. Drought Portal Comprehensive drought resource

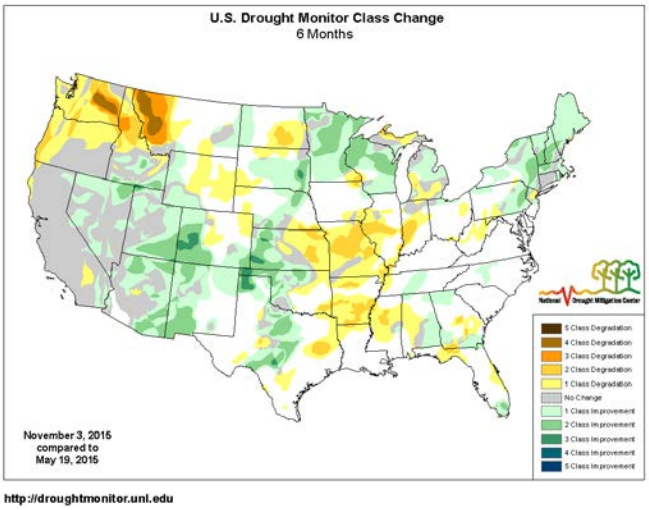
U.S. Drought Monitor See map below. Drought continues along the West Coast. Total area in drought has declined sharply over the past few weeks. See related article from the National Drought Mitigation Center.

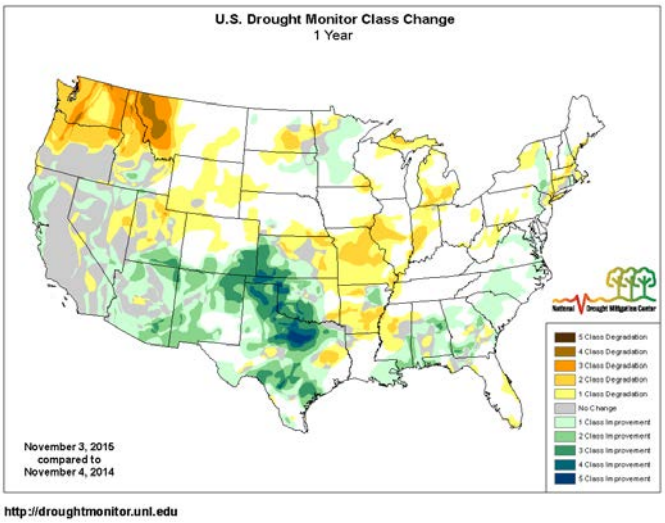


Changes in Drought Monitor Categories over Time









Conditions have improved in much of the country except the West Coast, where drought persists.

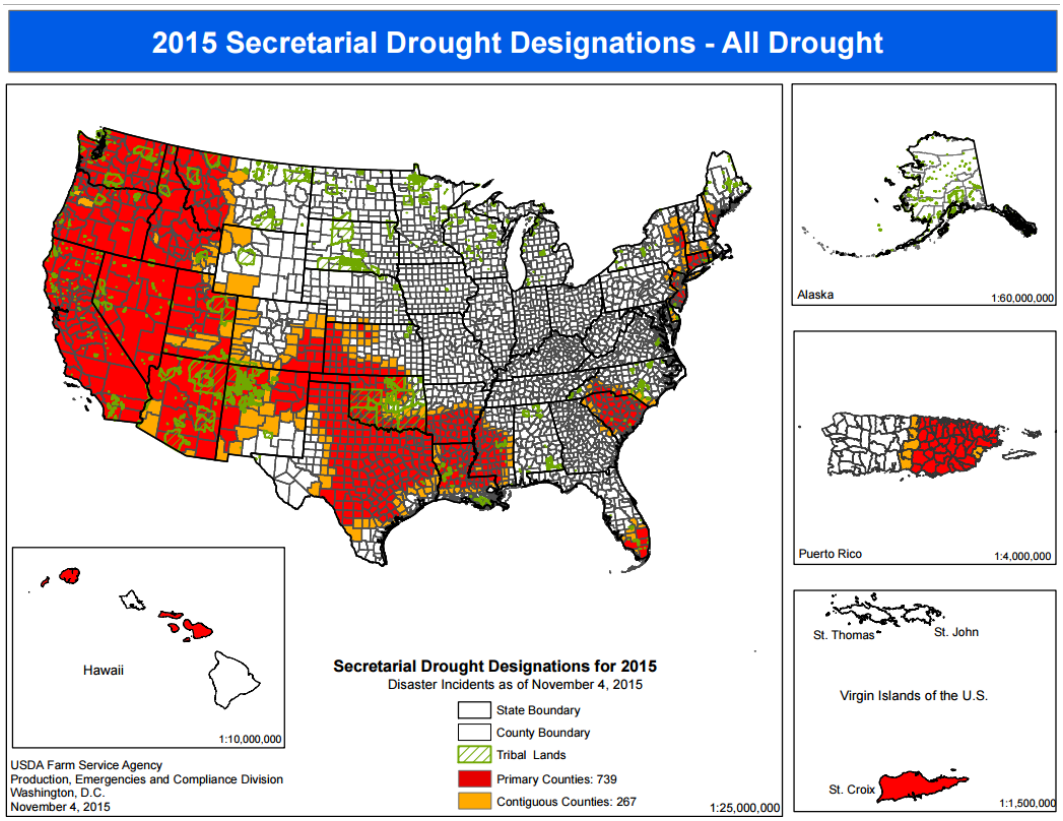
Current National Drought Summary, November 3, 2015

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

“A series of storm systems swept across the lower 48 States, generating wet weather that soaked many portions of the contiguous U.S., including a second round of heavy rains that provided drought improvement and relief to the southern Great Plains and Mississippi Delta. Unfortunately, the rains were accompanied by severe weather and flash flooding in Texas, including a record daily total of 14.99 inches at Austin (5.76 inches in one hour) on October 30, and an EF2 tornado in Floresville that damaged the high school. Additional dryness or drought relief from moderate to heavy rains (more than 2 inches) also occurred across most of the Southeast, west-central Corn Belt and western Great Lakes region, Ohio and Tennessee Valleys, much of the Atlantic Coast States, and the Pacific Northwest, northern Rockies, and Sierra Nevada. Heavy precipitation also fell on interior and northeastern Puerto Rico and along the southeastern Alaskan Panhandle. Weekly temperatures generally averaged above to much-above normal in the lower 48 States, with near to below-normal readings limited from the Southwest northeastward into the middle Mississippi Valley, and in interior New England.”

Detailed regional drought narratives for the week are here.

2015 USDA Drought Designations



Drought Designations as of November 4, 2015

USDA Disaster and Drought Information

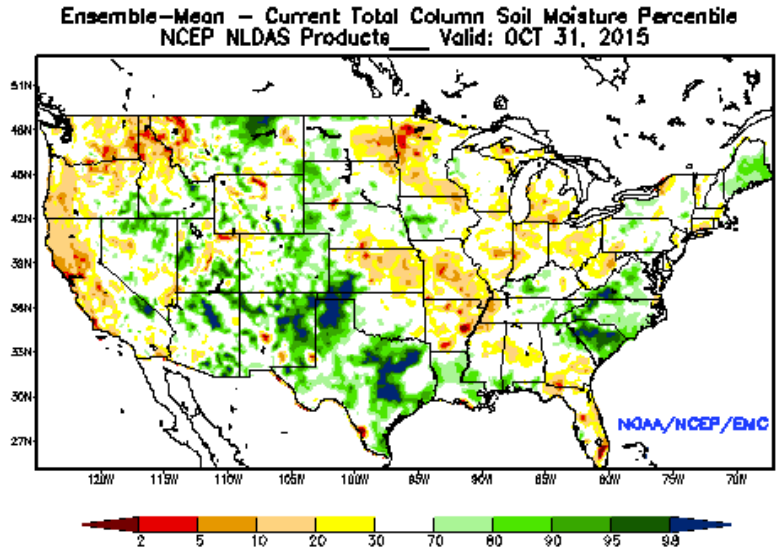
U.S. Population in Drought, Weekly Comparison

Highlighted Drought Resources

- Drought Impact Reporter
- Quarterly Regional Climate Impacts and Outlook
- U.S. Drought Portal Indicators and Monitoring

Other Climatic and Water Supply Indicators

Soil Moisture

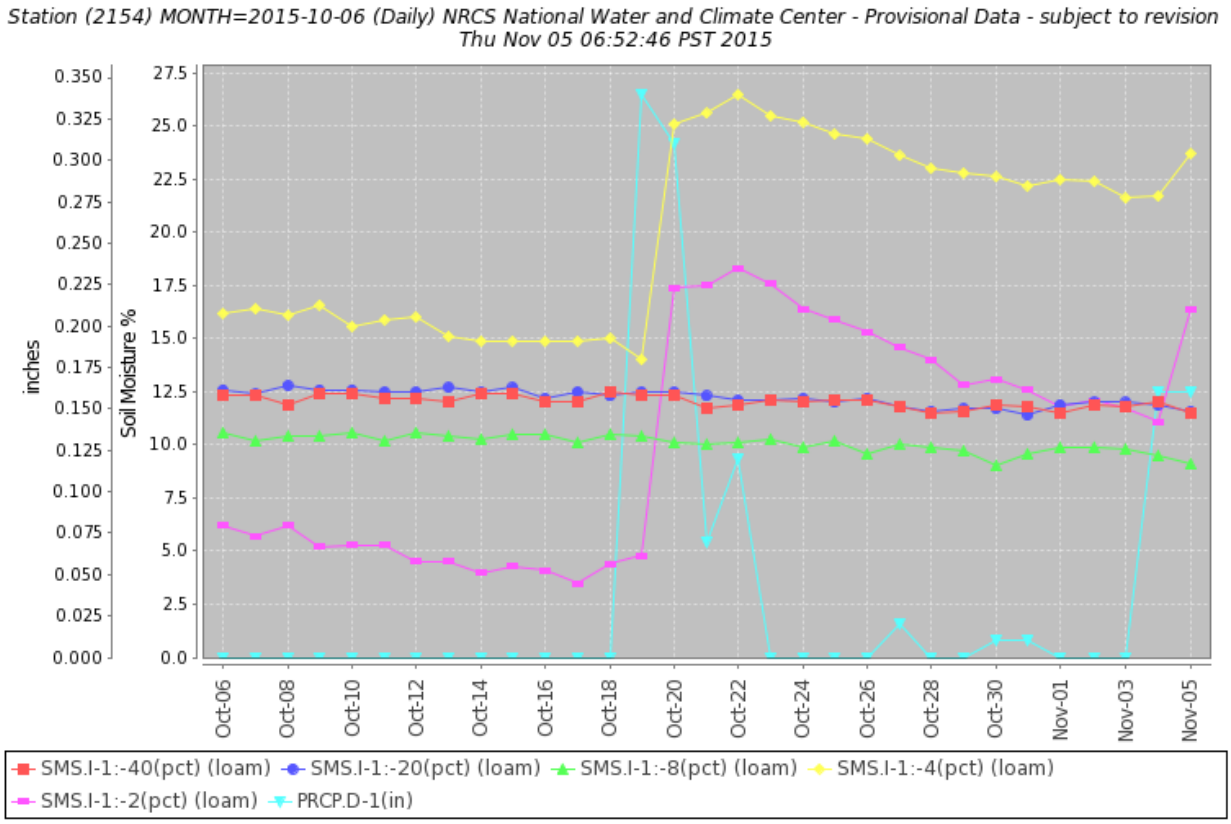


The modeled **soil moisture percentiles** as of October 31, 2015 show dryness in the far West and the Midwest.

Above average soil moisture is notable in the Southwest, the southern Great Plains, the Carolinas, and Virginia.

University of Washington Experimental Modeled Soil Moisture

Soil Moisture Data: NRCS Soil Climate Analysis Network (SCAN)

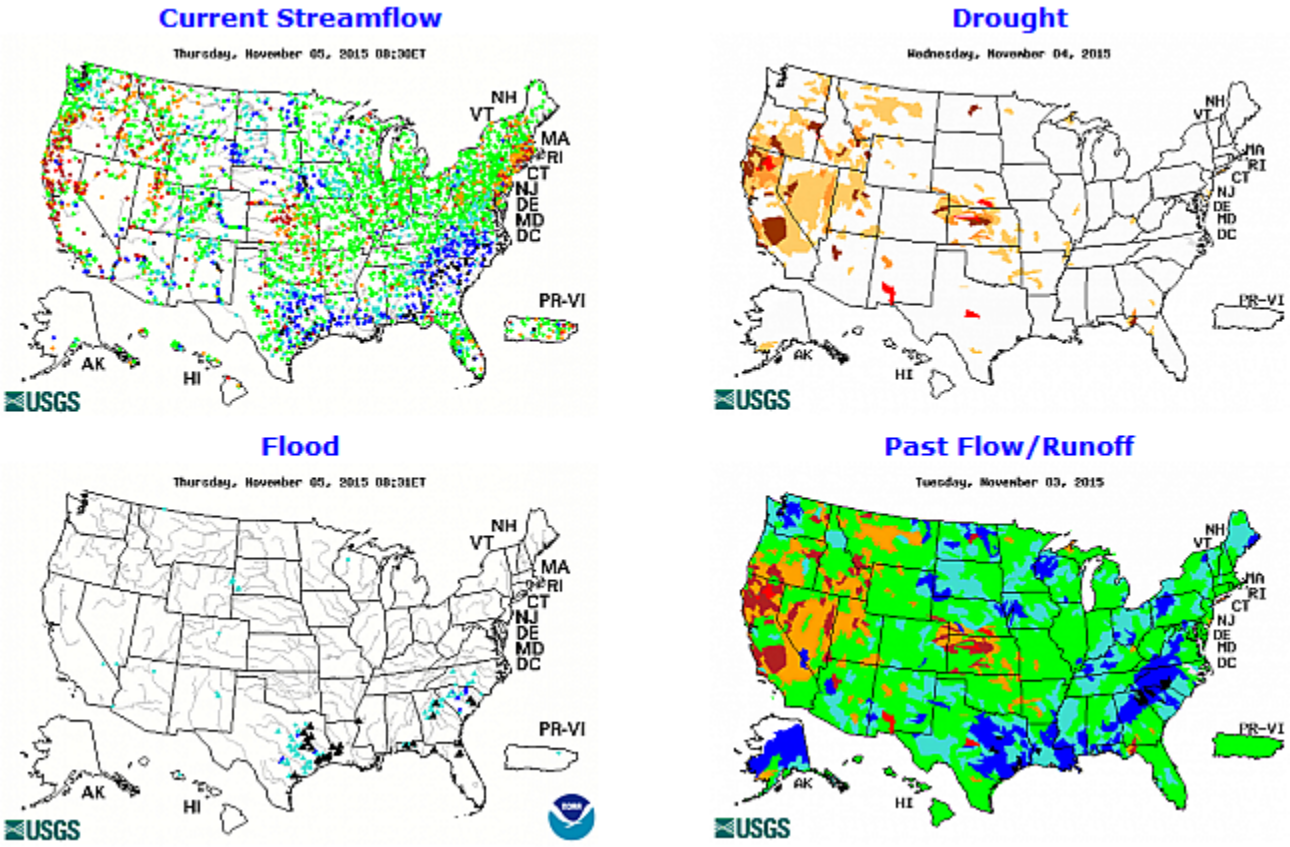


This graph shows soil moisture (2-, 4-, 8-, 20-, and 40-inch depth) and precipitation for the last 30 days at the Split Mountain (2154) SCAN site in eastern Utah. The precipitation from October 19-22 was reflected in the 2- and 4-inch depth sensors, but not in the deeper ones.

Soil Moisture Data Portals

CRN Soil Moisture
Texas A&M University North American Soil Moisture Database

Streamflow



Streamflow is notably high in the Southeast while remaining low in northern California.

From the USGS web site, select any individual map to enlarge and display a legend.

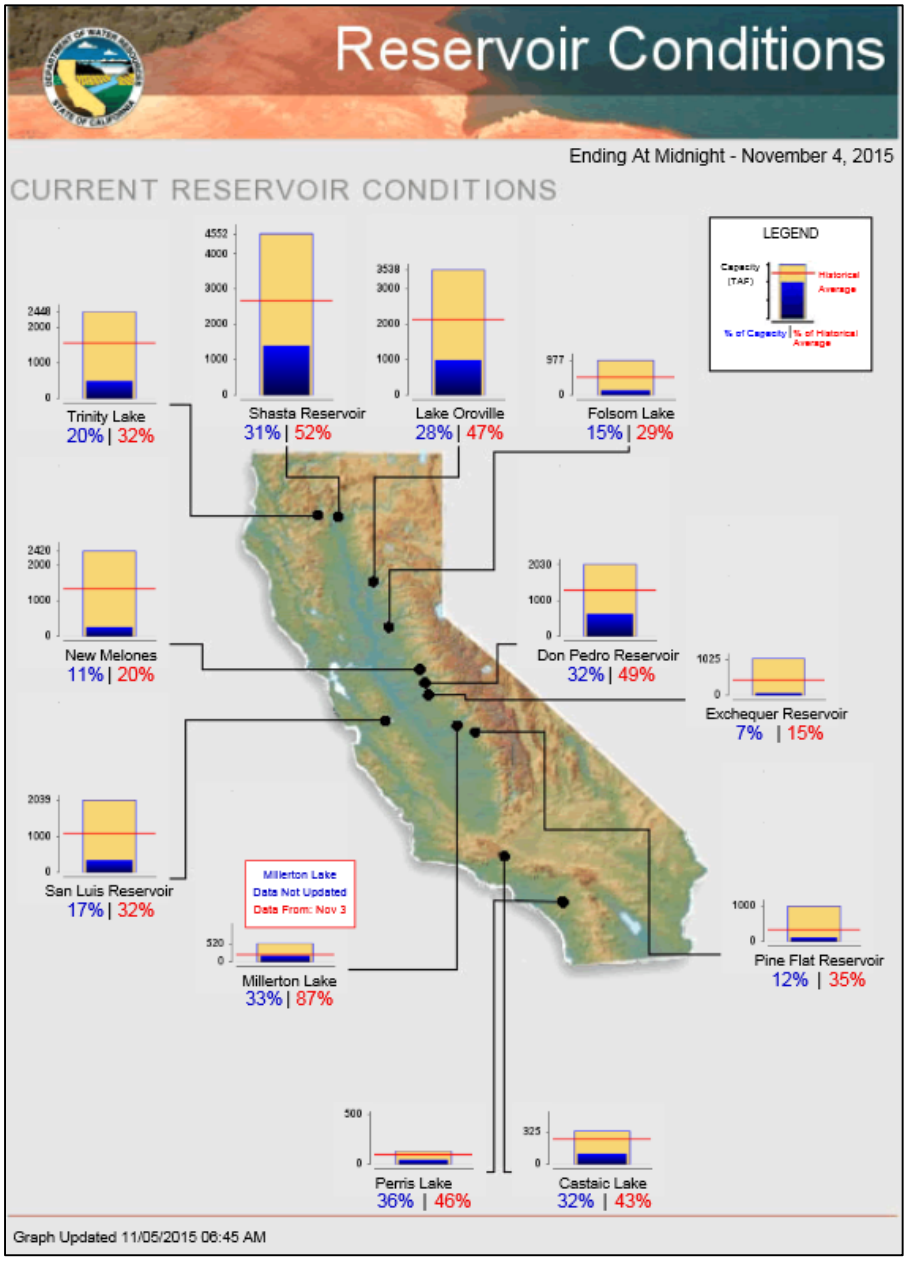
Current Reservoir Storage

National Water and Climate Center Reservoir Data

U.S. Bureau of Reclamation Hydromet Tea Cup Reservoir Depictions:

Upper Colorado
Pacific Northwest/Snake/Columbia
Sevier River Water, Utah
Upper Missouri, Kansas, Oklahoma, Texas

California Reservoir Conditions



Short- and Long-Range Forecasts

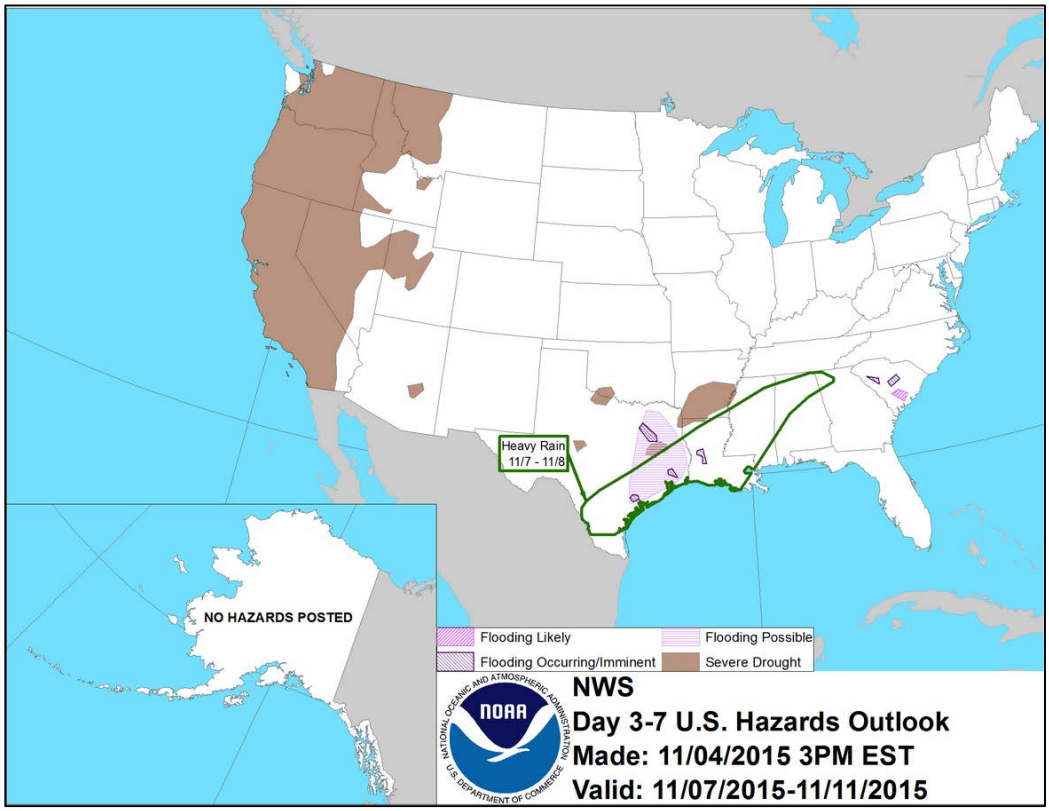
Agricultural Weather Highlights

Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB, Washington, D.C.

National Outlook, November 5, 2015: "A cold front currently crossing the nation's mid-section will reach the Southeast by Saturday. Locally severe thunderstorms will develop later today along the cold front and push eastward on Friday. Total rainfall associated with the cold front's passage could reach 2 to 4 inches in the western and central Gulf Coast States, leading to possible flooding, and 1 to 2 inches in the Southeast. Rainfall will be lighter, generally an inch or less, from the Midwest into the Northeast. Elsewhere, mostly dry weather will prevail from southern California to the southern Plains, but increasing storminess farther north could lead to 5-day precipitation totals of 1 to 3 inches in the Pacific Northwest and 1 to 2 inches in the northern Rockies. The NWS 6- to 10-day outlook for November 10 – 14 calls for the likelihood of above-normal temperatures from the Plains to the East Coast, while cooler-than-normal conditions will cover the West. Meanwhile, near- to above-normal precipitation can be expected nationwide, except for drier-than-normal weather in a narrow strip from northern and central California to the northern High Plains."

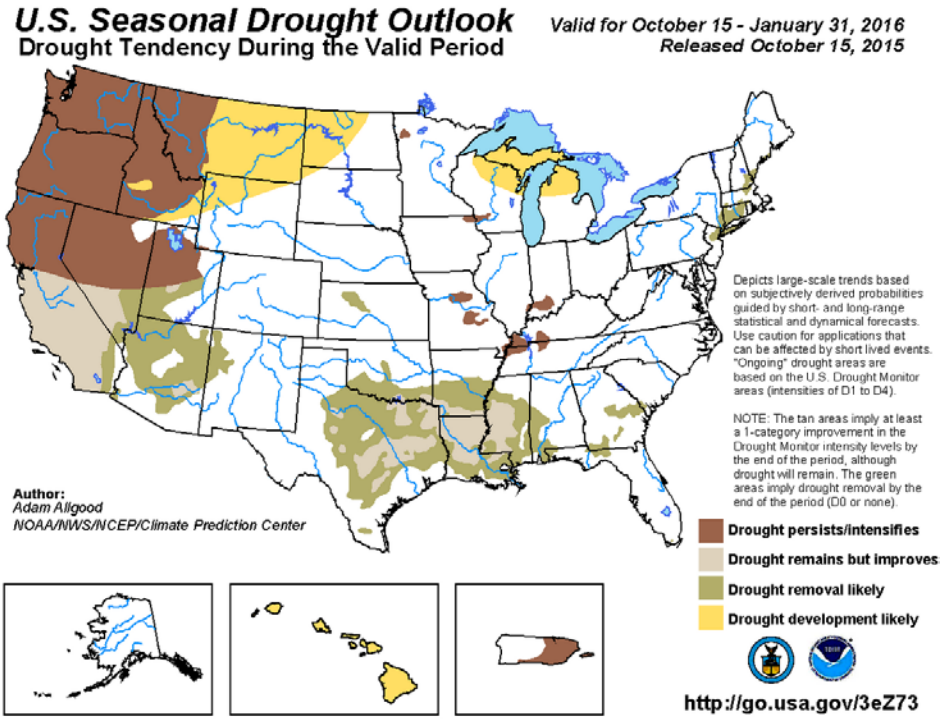
National Weather Hazards

The outlook for **weather hazards** over the next week includes more heavy rain and flooding expected in the western Gulf area and continued drought along the West Coast.



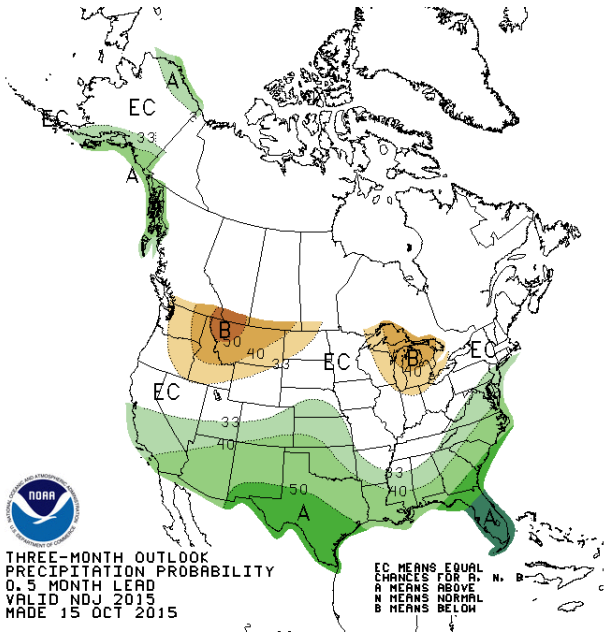
Seasonal Drought Outlook

During the next three months, **drought** will persist in the West and generally improve elsewhere.

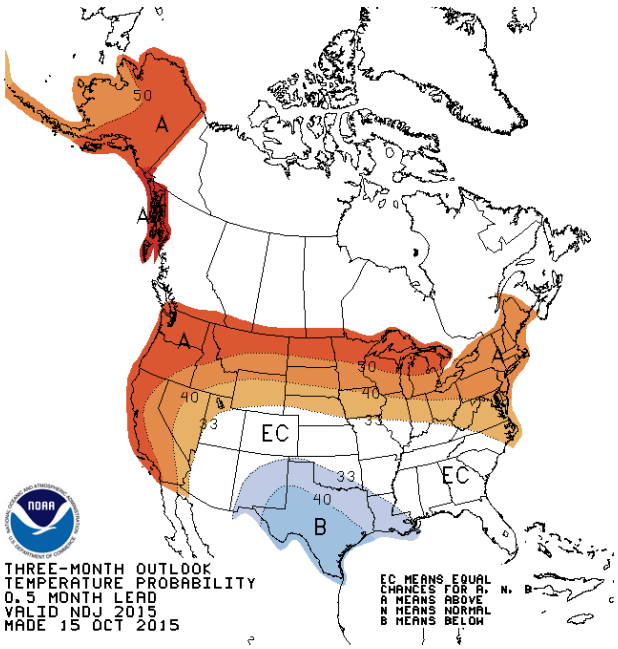


NWS Climate Prediction Center 3-Month Outlook

Precipitation



Temperature



Outlook Summary

NWS Climate Prediction Center:

"The November-December-January (NDJ) 2015 precipitation outlook indicates enhanced probabilities of above-median precipitation amounts for central and southern California, the Southwest, parts of the central and southern Plains, the lower Mississippi valley, the southeast northward to the Mid-Atlantic. Above-median precipitation amounts are also most likely for the southern and northern coasts of Alaska. Below-median precipitation amounts are most likely for parts of the Pacific Northwest, northern Rockies and Great Lakes."

"The November-December-January (NDJ) 2015 temperature outlook indicates enhanced probabilities of above-normal temperatures for the far West, across the northern contiguous U.S. to the Northeast, and southward to the Mid-Atlantic. Within the contiguous U.S., the chances of above-normal temperatures are greatest along the Pacific coast and along the northern tier from the Pacific Northwest to the Great Lakes with probabilities exceeding 50 percent. Below-normal temperatures are favored from New Mexico to Louisiana while above-normal temperatures are also most likely for Alaska."

More Information

The NRCS **National Water and Climate Center** publishes this weekly report. We welcome your feedback. If you have questions or comments, please **contact us**.