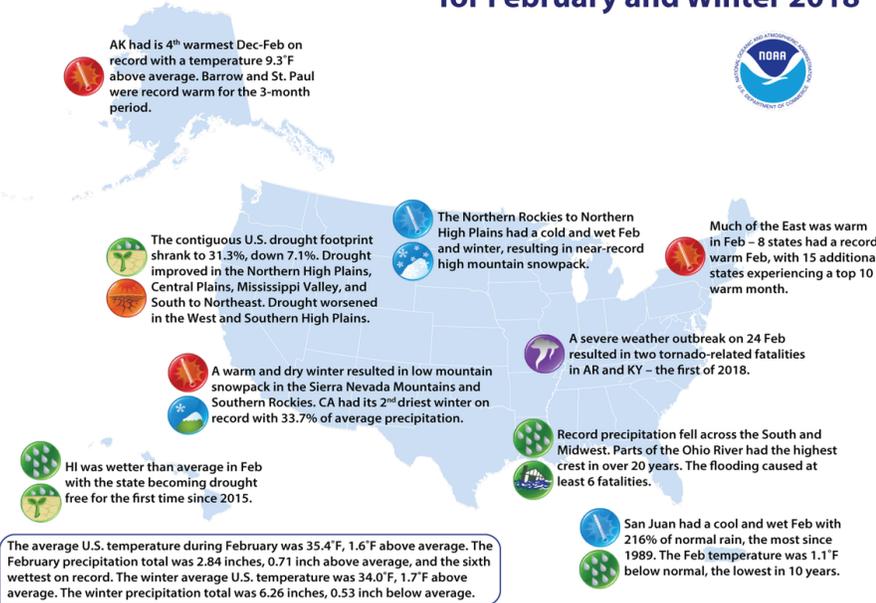




### Significant Events for December 2017-February 2018

#### U.S. Selected Significant Climate Anomalies and Events for February and Winter 2018



Please Note: Material provided in this map was compiled from NOAA's State of the Climate Reports. For more information please visit: <http://www.ncdc.noaa.gov/sotc>

#### Dec-Feb Highlights

Temperatures well above normal in Southwest: AZ, CA, NM, UT, NV all had top-10 warmest Dec-Feb on record

Dry conditions dominated Southwest as well: CA, NV, UT had bottom-10 driest Dec-Feb on record

N. Rockies, N. Cascades observed above normal snowpack, rest of West well below normal

Percent of West in drought increased from 25% in early Dec to 46% at end of Feb

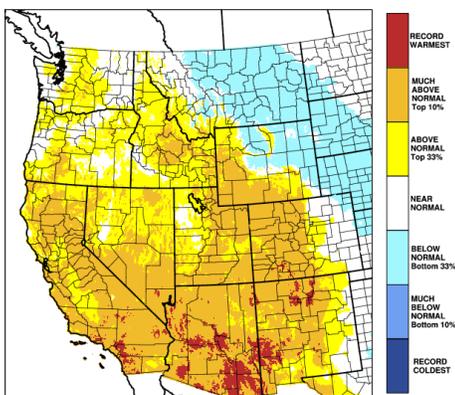
Wetter than normal conditions observed across Inland Northwest supported drought amelioration

Hazardous fire weather conditions extended into Dec in Southwest

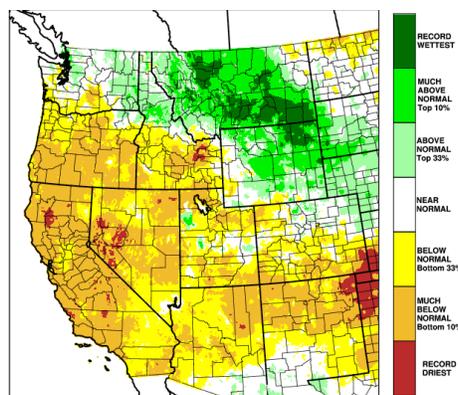
La Niña conditions likely to transition to ENSO neutral during spring season

### Regional Overview for December 2017-February 2018

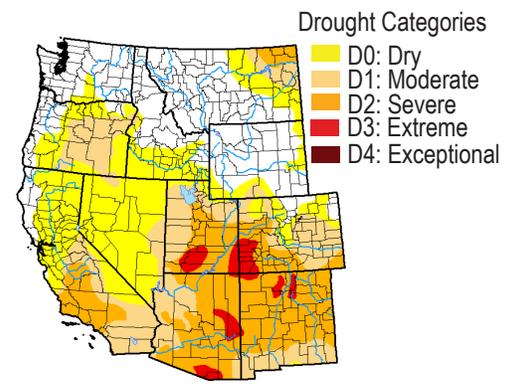
#### Mean Temperature Percentile Dec 2017-Feb 2018



#### Precipitation Percentile Dec 2017-Feb 2018



#### US Drought Monitor Feb 27 2018



Persistent high pressure was present over the Southwest much of the winter season, resulting in above normal temperatures. AZ recorded its second warmest winter on record, and CA its third warmest. Tucson, AZ observed its warmest winter on record (since 1946) at an average temperature of 58 F, 4.7 F above normal. Above normal temperatures exacerbated developing drought conditions. Across the northern tier of West, temperatures were near normal.

Wetter than normal weather dominated over the Inland Northwest this winter. In western MT, 25 SNOTEL sites set records for the largest February snowpack. High pressure kept storms to the north for much of the season such that the Southwest, OR, and southern ID were drier than normal. CA reported its second driest winter on record and NV and UT their 8th driest. Below normal snowpack was present across the Southwest.

Drought conditions improved in MT this winter season due to well above normal precipitation. Below normal precipitation and above normal temperatures in the Southwest prompted expansion of drought conditions. Nearly all of AZ (73%) and NM (78%) are now experiencing severe or worse drought. Conditions also degraded in southern CA, eastern OR. Abnormally dry conditions were introduced across N. CA and the Great Basin.



## Regional Impacts for December 2017-February 2018

### Fire

Over two dozen wildfires started in Dec in southern CA, most during persistent Santa Ana winds at start of month  
December's Thomas Fire became CA's largest on record at over 280,000 acres; 1063 structures were destroyed

### Drought, Flooding and Water Resources

A post-fire debris flow on the Thomas Fire burn area killed 21 people and destroyed over 100 homes in Montecito, CA  
L. Powell inflow forecast for Apr-July currently 47% of average  
Navajo Nation issued drought declaration in late Feb  
On Jan 9, Las Vegas, NV, experienced its wettest January day on record, causing flooding and transportation impacts  
Mudslide north of Seattle, WA on Feb 4 closed passenger train service

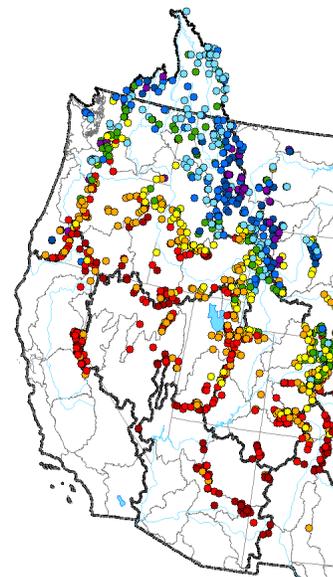
Five people buried, one killed in avalanche on Feb 25 following heavy snow near Mirror Lake, WA Cascades

### Agriculture, Wildlife, and Health

In CA Central Valley, Feb hard freeze impacted almonds, early-blooming stone fruits; losses are being evaluated  
Monarch butterfly wintering in southern CA at 5-year low; warm weather, fire, smoke may be cause for decline  
Persistent temperature inversions led to periods of unhealthy air quality this winter in Salt Lake City, UT

### Below normal snowpack in much of western US

March 1 snowpack was generally <50% of normal in the Sierra Nevada and <75% of normal in the southern Cascades, southern Rockies, and Great Basin ranges. Low snowpack has raised drought concerns for areas relying on spring snowmelt runoff for water resources. However, after the wet winter of 2016/17, many reservoirs in CA and the Colorado Basin have sufficient carryover to mitigate impacts (though storage in L. Mead/L. Powell remains low). Below normal snowpack has impacted winter recreation. Some ski resorts in affected areas scaled back operations or failed to open. Small and/or low elevation resorts were most impacted. Retail spending at resorts and in resort towns was down in many areas due to lack of visitation.



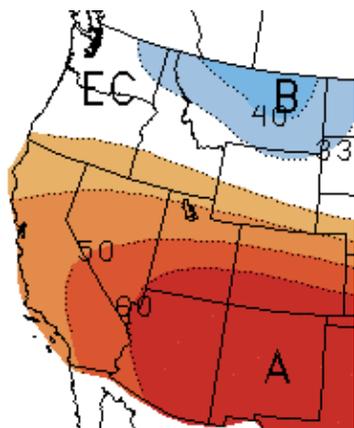
**Snowpack Percent of 1981-2010 Median**

- >180%
- 150-180%
- 130-149%
- 110-129%
- 90-109%
- 70-89%
- 50-69%
- 25-49%
- <25%

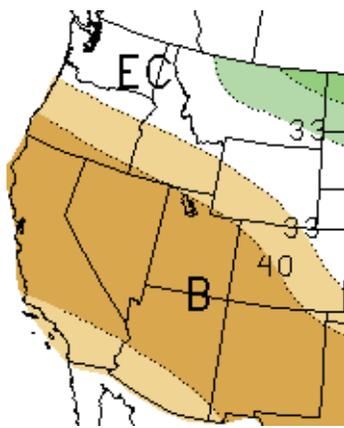
Source: NRCS

## Regional Outlook for Apr-May-Jun 2018

### CPC Temperature Outlook



### CPC Precipitation Outlook



A = Above normal B = Below normal EC = Equal chances. Numbers indicate percent chance of temperatures in warmest/coolest one-third and precipitation in wettest/driest one-third.

CPC outlooks suggest a 33-60% chance of above normal temperatures and 33-40% chance of below normal precipitation across much of the West during the Apr-June season. Equal chances of above, below, or near normal temperature and precipitation are present across much of the northern tier of the West, with cooler/wetter than normal conditions slightly favored in portions of Montana. The favored conditions in these outlooks reflect weak and/or residual La Niña influence. Model projections currently favor La Niña conditions to weaken during spring and transition to ENSO-neutral, and suggest persistence of ENSO-neutral conditions through the summer and autumn seasons.

## Western Region Partners

- Western Regional Climate Center**  
wrccl.dri.edu
- National Integrated Drought Information System (NIDIS) - drought.gov**
- Western Governors' Association**  
westgov.org
- Western States Water Council**  
westgov.org/wswc
- NOAA/ESRL Physical Sciences Division**  
esrl.noaa.gov/psd
- NOAA Climate Prediction Center**  
www.cpc.ncep.noaa.gov
- National Centers for Envir. Info. (NCEI)**  
www.ncdc.noaa.gov
- USDA/NRCS National Water and Climate Center - www.wcc.nrcs.usda.gov**
- National Interagency Fire Center**  
www.nifc.gov
- Western Water Assessment**  
wwa.colorado.edu
- Climate Assessment for the Southwest**  
climas.arizona.edu
- California Nevada Applications Program**  
cnap.ucsd.edu
- Climate Impacts Research Consortium**  
pnwclimate.org/resources
- NWS Western Region Forecast Offices**  
www.wrfl.noaa.gov/