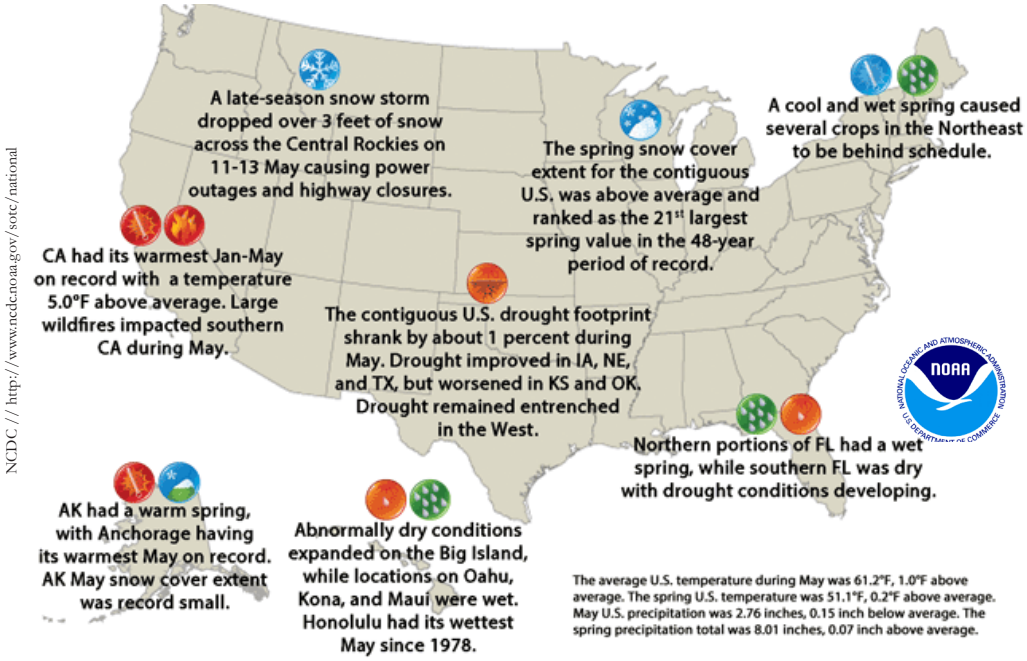
Quarterly Climate Impacts and Outlook

Western Region June 2014

Significant Events for March-May 2014



NCDC // http://www.ncdc.noaa.gov/sotc/national

March-May Highlights for the West

Dry conditions dominated the Southwest throughout spring

Drought expected to persist or intensify throughout Southwest, Oregon, and eastern Washington

Extreme April-May heatwaves in coastal areas; San Diego had warmest spring on record

The Cascades received above normal spring precipitation, boosting snowpack

Seattle recorded wettest spring on record at 16.77 inches

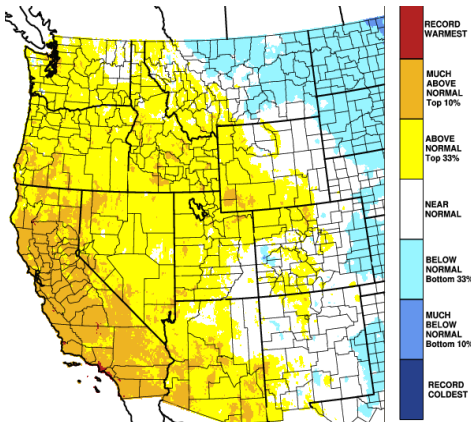
70% chance of El Nino conditions developing this summer

Central and Eastern Pacific hurricane season expected to be near or above normal

Regional Overview for March-May 2014

Mean Temperature Percentile

March-May 2014

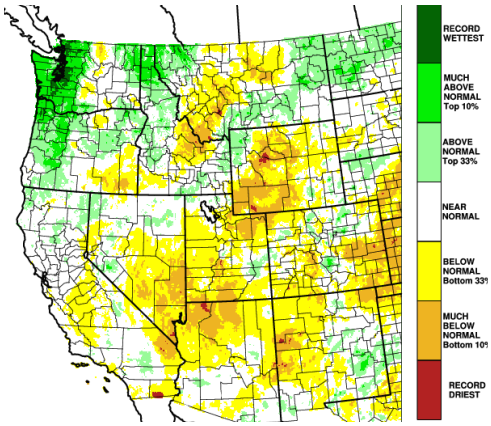


WRCC // http://www.wrcc.dri.edu/wwdt/

Warmer than normal temperatures dominated the West during spring due to strong high pressure centered over the coast. Many locations in California, Oregon, Nevada, and Arizona observed one of their top-10 warmest springs on record. Further east, the Rocky Mountain states stayed mostly on the cool side of the high pressure ridge and experienced more seasonal temperatures.

Precipitation Percentile

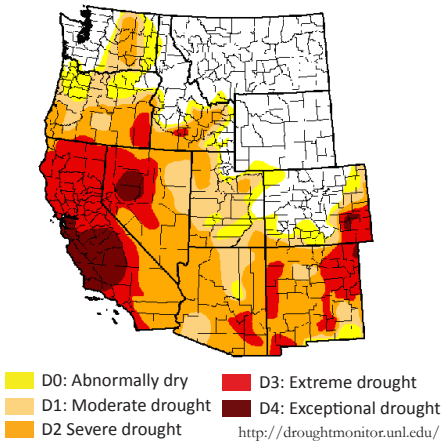
March-May 2014



Western parts of Washington and Oregon saw one of their wettest springs on record. Several spring storms brought precipitation to drought-stricken areas of California and the western Great Basin as well as eastern New Mexico, bringing these areas near to slightly above normal. Unfortunately, precipitation from these storms was not sufficient to break the persistent drought in these areas.

U.S. Drought Monitor

June 3, 2014



Despite spring precipitation, drought conditions worsened this season for many areas of the West. Expansion of extreme drought conditions was observed in southeastern Colorado, New Mexico, southern Arizona, western Nevada, and eastern Oregon. As of June 3, 100% of California, 87% of Nevada, 85% of New Mexico, 76% of Arizona, and 46% of Oregon were categorized as being in severe to exceptional drought.

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Regional Impacts for May-June 2014

Drought, Flooding and Water Resources

Reservoir storage is significantly below normal in Arizona, California, Nevada, Oregon, and New Mexico

Below normal summer streamflow expected for the Great Basin, Lower Colorado, Rio Grande, and southern Columbia basins while the Upper Colorado and Missouri anticipate above average flow

Heavy Feb-Mar precipitation contributed to a devastating landslide that killed 41 on March 22 near Oso, WA

Apr-Jul inflow to L. Powell expected to be 106% of normal

Agriculture and Fisheries

Drought impacting California's almond crop, USDA estimates crop may decline 2.5% or more this year

Northwest anticipating one of largest cherry crops on record and high demand as California's crop is expected to be well below normal

Run of 1.6 million chinook fall salmon forecast on Columbia River, could be largest run since records began in 1938

Positive PDO and looming El Nino indicate poor ocean conditions for salmon in winter 2014/15 as well as poor salmon returns in 2016/17

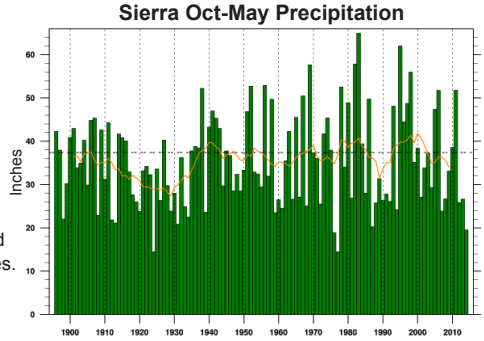
Fire

Several fires, fueled by Santa Ana winds, charred over 20,000 acres and 20 homes in San Diego County in April and May

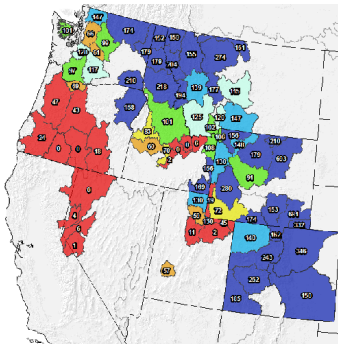
Many early season fires occurred in Arizona including May's 21,000 acre Slide Fire near Sedona

Sierra Oct-May Precipitation

Precipitation has been far below normal in the Sierra Nevada since WY 2011. The orange line denotes 11-year running mean. Lack of precipitation and snowpack have greatly impacted California and Nevada water resources.



WRCC // http://www.wrcc.dri.edu/monitor/cal-mon/



June 6 2014 Snow Water Equivalent % of Normal

Snowpack has nearly melted away in the Sierra Nevada and southern Cascades, while it is still plentiful in the Northern and Central Rockies. This is resulting in above normal runoff for rivers draining from this area.

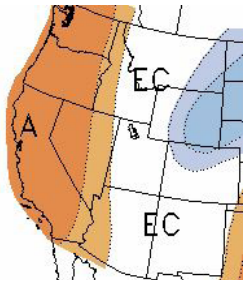
Produced by NRCS
June 6, 2014

Percent of 1981-2010 median

- >=150%
- 130-149%
- 110-129%
- 90-109%
- 70-89%
- 50-69%
- <50%

NRCS // http://www.wcc.nrcs.usda.gov/gis/snow.html

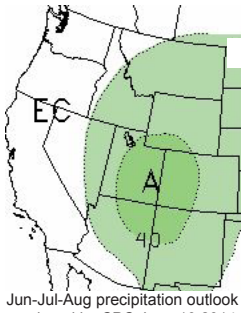
Regional Outlook for Jun-Jul-Aug 2014



Jun-Jul-Aug temperature outlook produced by CPC June 19 2014

A indicates above normal
B indicates below normal
N indicates normal
EC means equal chances for A, N or B

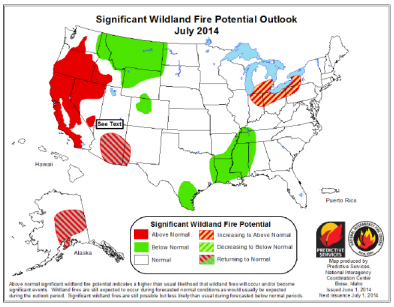
Numbers indicate percent chance of temperature in warmest one-third and of precipitation in wettest one-third



Jun-Jul-Aug precipitation outlook produced by CPC June 19 2014

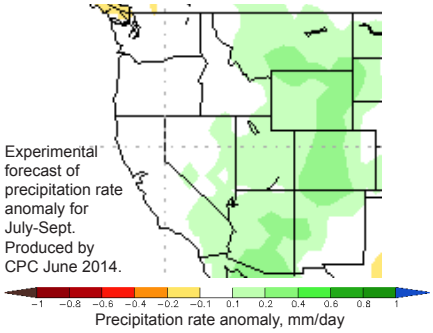
NOAA CPC Spring Seasonal Outlook

Temperatures in the coastal states and western Great Basin are expected to be above normal through the summer months. A cooler than normal summer is somewhat likely for the northern portion of the Great Plains region. Forecasts suggest increased chances of precipitation Four Corners region and throughout the Rocky Mountain states.



NIFC Wildfire Outlook

Fire potential above normal for much of California, the Great Basin, and Oregon. Fire potential decreasing in Arizona.



Experimental forecast of precipitation rate anomaly for July-Sept. Produced by CPC June 2014.

NMME Precipitation Forecast

The National Multi-Model Ensemble combines 8 different models run by climate research organizations. Jul-Sept wet in most of Rockies.

Western Regional Climate Center
wrcc.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
USDA/NRCS National Water and Climate Center - www.wcc.nrcs.usda.gov
National Interagency Fire Center
www.nifc.gov
DOI WaterSMART
www.usbr.gov/WaterSMART
NOAA's Western Regional Collaboration Team
www.regions.noaa.gov/western/western_region_team.html
Western Water Assessment
wwa.colorado.edu
Climate Assessment for the Southwest
climas.arizona.edu
California Nevada Applications Program
meteora.ucsd.edu/cnap
Climate Impacts Research Consortium
pnwclimate.org/resources
NWS River Forecast Centers
water.weather.gov/ahps/rfc/rfc.php
NOAA Fisheries Service
www.nmfs.noaa.gov/
NWS Western Region
www.wrh.noaa.gov/
State Climatologists - stateclimate.org

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