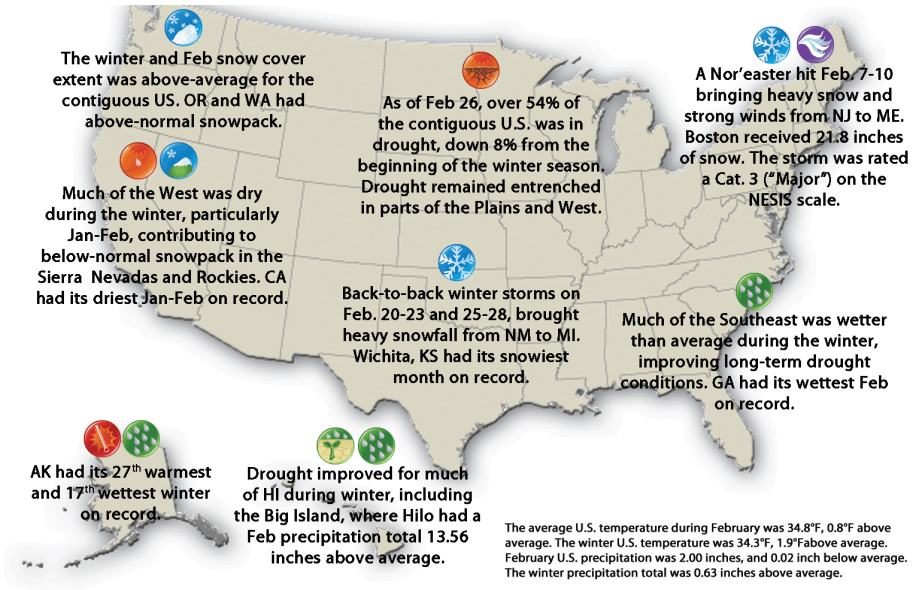
Quarterly Climate Impacts and Outlook

Western Region March 2013

Significant events for December 2012 - February 2013



Highlights for the West

Early December snowpack conditions in California were far above median, but decreased to below-median due to one of the driest January and February periods on record

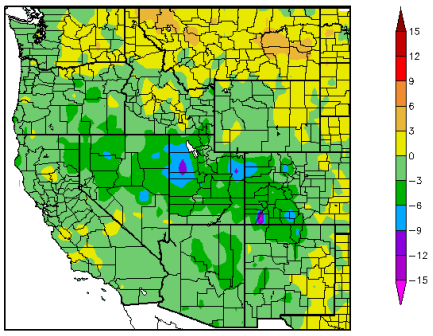
Southern Rockies snowpack is below-median for this time of year, and continues to decrease due to the lack of significant snowfall

Temperatures were below average for the lower two-thirds of the western US, but there were less extreme cold outbreaks than normal

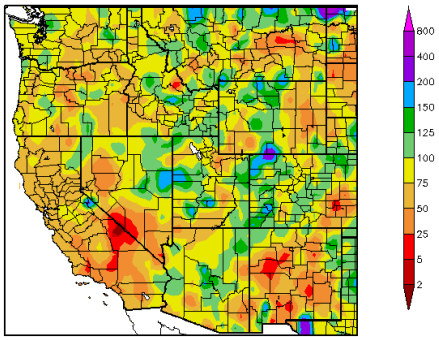
ENSO-neutral conditions continue, and are expected to persist into the summer, with sea surface temperatures near-average across the equatorial Pacific

Regional Overview for December 2012 - February 2013

Temperature and Precipitation Anomalies

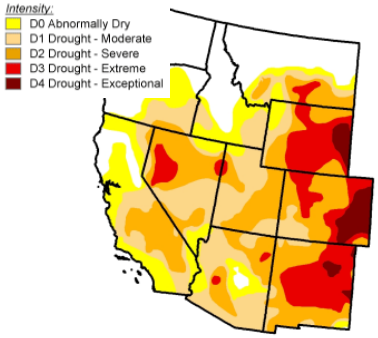


Departure from Normal Temperature (°F) for 12/1/2012 - 2/28/2013. The scale ranges from -15 to 15 °F.



Percent of Normal Precipitation for 12/1/2012 - 2/28/13. The scale ranges from 0 to 800%.

Drought



US Drought Monitor 3/21/2013

The temperature anomalies shown in the left panel indicate that most of the western US had below-normal temperatures (cold colors), with slightly warmer-than-normal temperatures in a band stretching across eastern Washington, northern Idaho, Montana, the Dakotas, and eastern Wyoming, Colorado and New Mexico.

Much of the western US received below to much below-normal precipitation. Parts of northern Montana, central Wyoming, the northeastern Great Basin and eastern Wyoming had above-normal precipitation while near-normal amounts fell over the Washington Cascades. *(Temperature and precipitation from the High Plains Regional Climate Center.)*

The US Drought Monitor shows abnormally dry to exceptional drought conditions across the southern two-thirds of the western US. (The Drought Monitor is a collaborative product from the USDA, NOAA and National Drought Mitigation Center www.droughtmonitor.unl.edu/monitor.html.)

Contacts: Robert Webb (Robert.S.Webb@noaa.gov)
Carlee Brown (cbrown@westgov.org)
Kelly Redmond (Kelly Redmond@dri.edu)

Regional Impacts for December 2012 - February 2013

Climate and Weather

Despite an ENSO-neutral year, the atmosphere is behaving more like a La Niña winter, with above-normal precipitation north of latitude 41°N and below-normal precipitation south of 41°N

Drought, Flooding and Water Resources

As of February 28, 2013, the California Department of Water Resources estimated state water project will deliver only 40% of the requested amounts

The April to July flows into Lake Powell are forecast to be 47% of the long-term average

Natural Resources

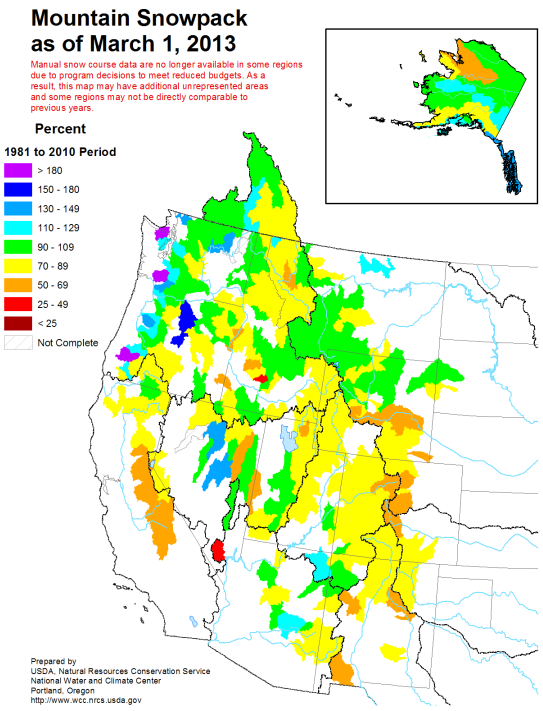
Increased upwelling early in the season may result in abundant food resources, and high survival, for juvenile salmon along the Washington and Oregon coasts

Agriculture

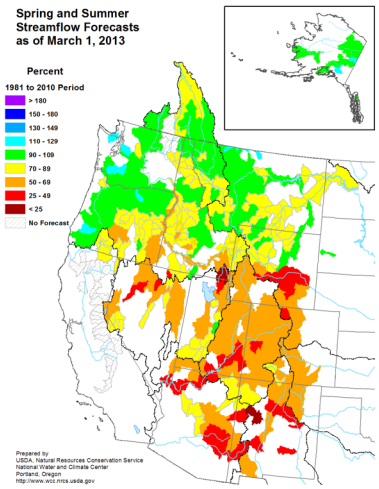
In the first crop progress report of 2013, the USDA National Agricultural Statistics Service rated 19% of Colorado winter wheat very poor, 32% poor, 37% fair, 11% good, and 1% excellent

Health

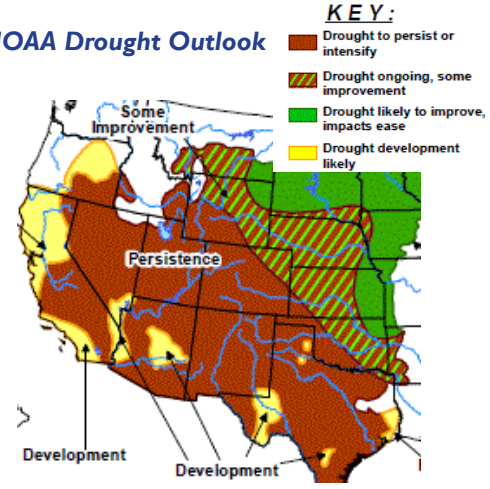
Two long stretches, a total of 22 days in January, under inversion conditions in the inter-mountain valleys of northern Utah led to significant periods of poor air quality



Regional Outlook for Spring 2013



NOAA Drought Outlook



Water supply, drought and wildfire outlook

USDA-NRCS seasonal water supply projections reflect the drought conditions covering the lower two-thirds of the western US, where drought conditions are expected to persist or develop in some areas. Dry fuels are expected to result in above-normal significant fire potential for central parts of the Southwest and mountains and foothills of southern California.

NOAA Seasonal Climate Outlook

Enhanced chances for above-normal temperatures in the Southwest, the Southern and Central Rockies, and for below-normal temperatures in the Pacific Northwest and Northern Rockies are expected.

Elevated chances for below-median precipitation over a large area of the western US, stretching from California and Oregon, across the Great Basin and the Central and Southern Rockies, are anticipated.

Western Region Partners

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
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/ESRL Physical Sciences Division
esrl.noaa.gov/psd
NOAA's Western Regional Collaboration Team
www.regions.noaa.gov/western/western_region_team.html
Western Water Assessment
colorado.edu
Climate Assessment for the Southwest
climas.arizona.edu
California Nevada Applications Program
meteora.ucsd.edu/cap
Climate Impacts Research Consortium
pnwclimate.org/resources
Colorado Basin River Forecast Center
www.cbrfc.noaa.gov
California Nevada River Forecast Center
www.cnrfc.noaa.gov
NOAA Fisheries Service - www.nmfs.noaa.gov
NWS Western Region's Climate Service
nws.noaa.gov/om/csd/index.php?section=programs#western
State Climatologists - stateclimate.org

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