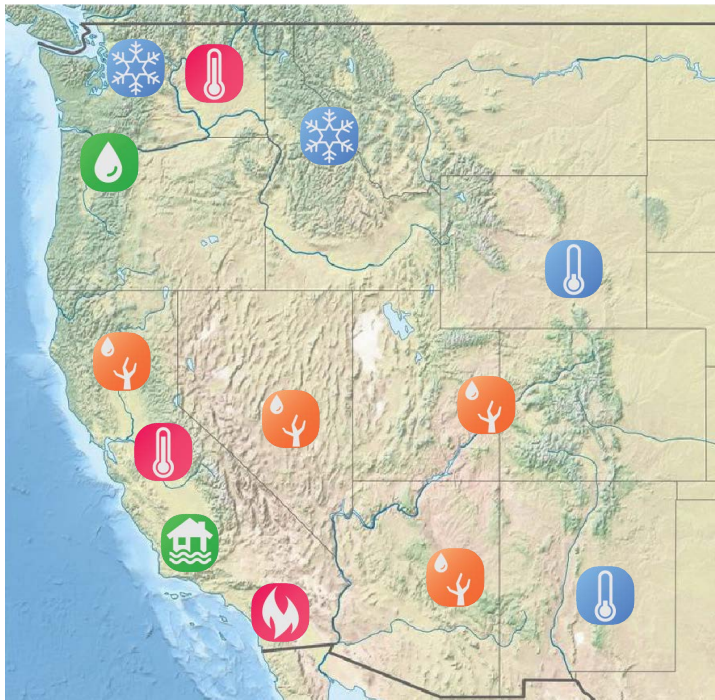


Significant Events for Dec-Jan-Feb 2021

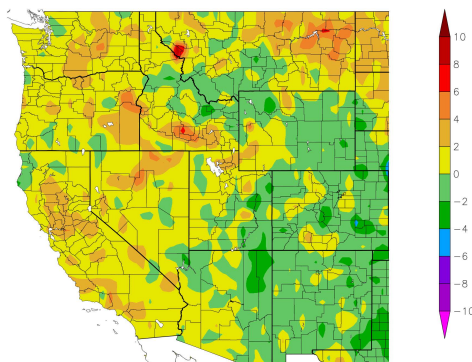


Dec-Jan-Feb Highlights

- Above normal temperatures in CA, NV, WA, OR, MT, and ID
- Near-to-below normal temperatures in WY, CO, AZ and NM
- Frequent atmospheric rivers in Jan and Feb brought drought relief to parts of WA, OR, and far northwest CA
- Late January atmospheric river brought heavy rain, flooding, and washed out roads in southern CA
- Drought intensified in southern CA, NV, and MT due to below normal precipitation
- Well-below normal end of winter snowpack in southern Sierra Nevada, UT, and western CO
- High winds fueled numerous wildfires in southern CA in early December
- La Niña conditions present and favored to transition to ENSO-neutral during Spring

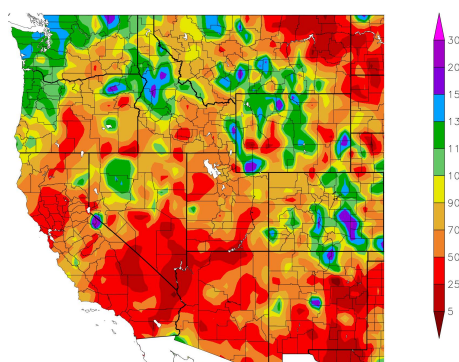
Regional Overview for Dec-Jan-Feb 2021

Mean Temperature Departures (F)
Dec-Jan-Feb 2021



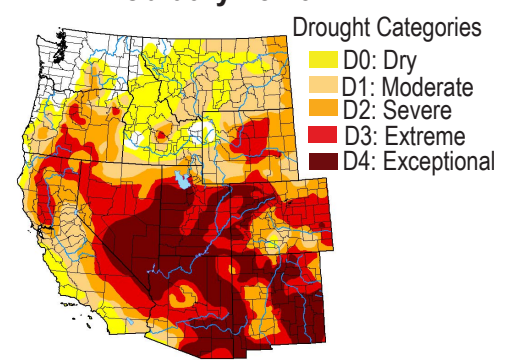
Winter temperatures were well above normal in southern CA and slightly above normal in all of NV, WA, and OR. Near or slightly below normal temperatures were found in parts of NM, AZ, UT, CO, WY, MT, and ID. MT had its 5th warmest Dec and 9th warmest Jan on record. At the statewide level no records, warm or cold, were observed for individual winter months.

Precipitation % of Normal
Dec-Jan-Feb 2021



Much of the West saw below normal precipitation throughout the winter. Less than 25% of normal was observed in parts of southern NV and CA, NM, AZ, UT, and northeast MT. Persistent storminess in January and February brought above normal precipitation to OR and WA along the coast and into the Cascades while the lee side of the Cascades remained drier than normal.

US Drought Monitor
February 23 2021



At the end of the winter season, 79% of the West was experiencing moderate or worse drought conditions with large areas of exceptional drought (20%). The Four Corners states, NV, and CA, all show some area of exceptional drought. Much of WA is drought free with the exception of an area east of the Cascades where severe drought persists.

Regional Impacts for Dec-Jan-Feb 2021

Drought, Water Resources

Water supply impacts likely again in the Lower Colorado as Lake Powell is 37% of capacity after 51% of normal inflow for February and Apr-Jul forecasted inflow of 47% of normal.

At the end of February snow water equivalent was at 109% of median in the Pacific Northwest, 81% in California, 76% in the Great Basin, 82% in the Upper CO and 49% in the Lower CO.

Extreme Snowfall

Mammoth Mountain, CA received over 100 inches of snowfall in just three days during a late January atmospheric river event.

Jackson Hole Ski Area, WY received 194 inches of snow in February which tied the record for snowiest February that occurred in 2019.

Spring Arrives Early

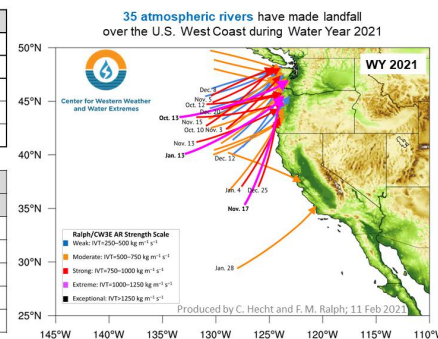
Spring "leaf out" of trees and shrubs began several days to weeks early in parts of CA, NV, and AZ due to warm temperatures.

Atmospheric Rivers Bring Major Impacts Along West Coast

Water Year 2021 Landfalling Atmospheric Rivers: Oct-Feb Summary

AR Strength	AR Count
Weak	8
Moderate	13
Strong	11
Extreme	3
Exceptional	0

Regions Impacted by Each AR	
State/Region	AR Conditions
Washington	33
Oregon	34
Northern CA	20
Central CA	9
Southern CA	14

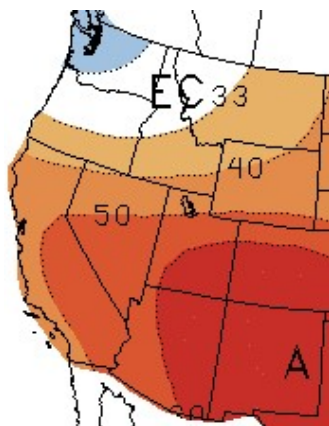


*Arrows are placed on the map where each AR was strongest over the coast

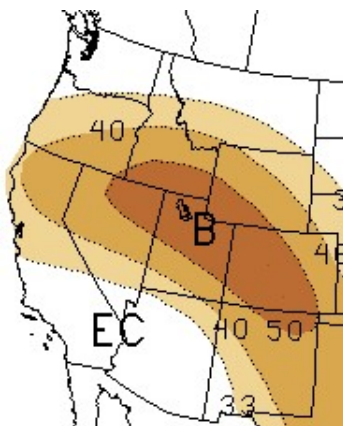
The majority of the atmospheric rivers during this winter made landfall in the Pacific Northwest coast with an AR4 (Extreme) arriving on the northern OR coast on Jan 13. These storms were mostly beneficial for the region bringing drought relief and plentiful snowpack to the Cascades. ARs were nearly absent along the CA coast leading to drying and increased drought over the Southwest. However, the Jan 28 AR was highly impactful for So. CA causing a landslide near Big Sur that closed Hwy. 1. The 3-day precipitation total at Big Sur was 13.38 inches and nearly 30% of the annual average precipitation.

Regional Outlook for Apr-May-Jun 2021

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. Map produced March 18, 2021

Above-normal temperatures are expected everywhere for Apr-Jun except for part of the Pacific Northwest. The highest probabilities (60%-70%) for above-normal temperatures are in the Four Corners with lower probabilities (33-50%) as you go northwest. Below-normal precipitation is expected for Oregon, northern California, Nevada, Utah, Colorado, Wyoming, New Mexico, and much of Idaho. Equal chances of above or below normal precipitation expected for southern California, Arizona, Washington, northern Idaho, and northern Montana.

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
 NOAA/ESRL Physical Sciences Division
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 Western Water Assessment
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