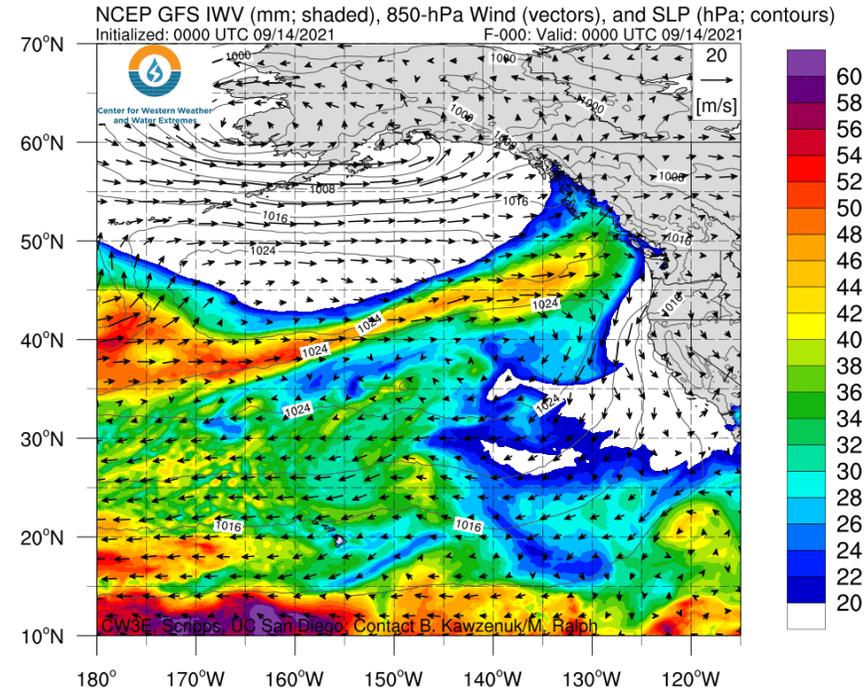
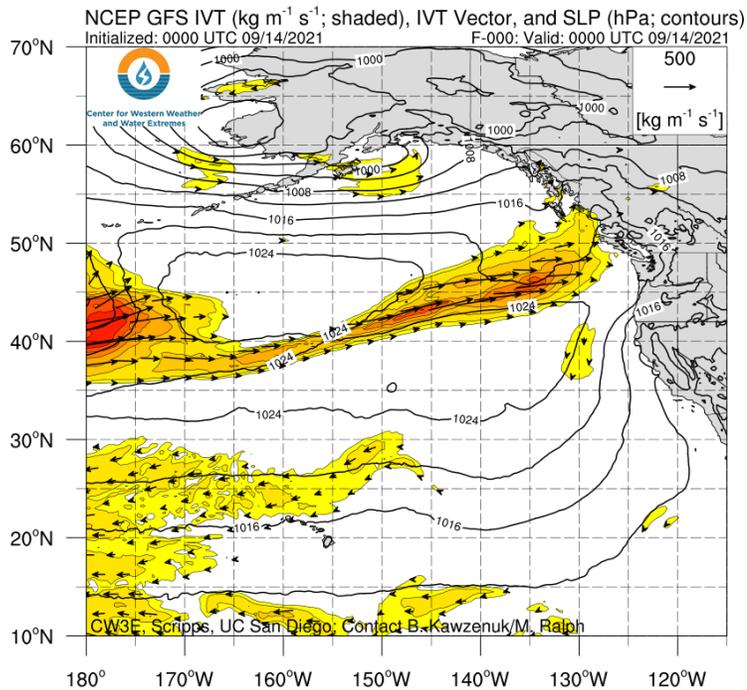


Post Event Summary: 16–19 Sep 2021 AR

For California DWR's AR Program

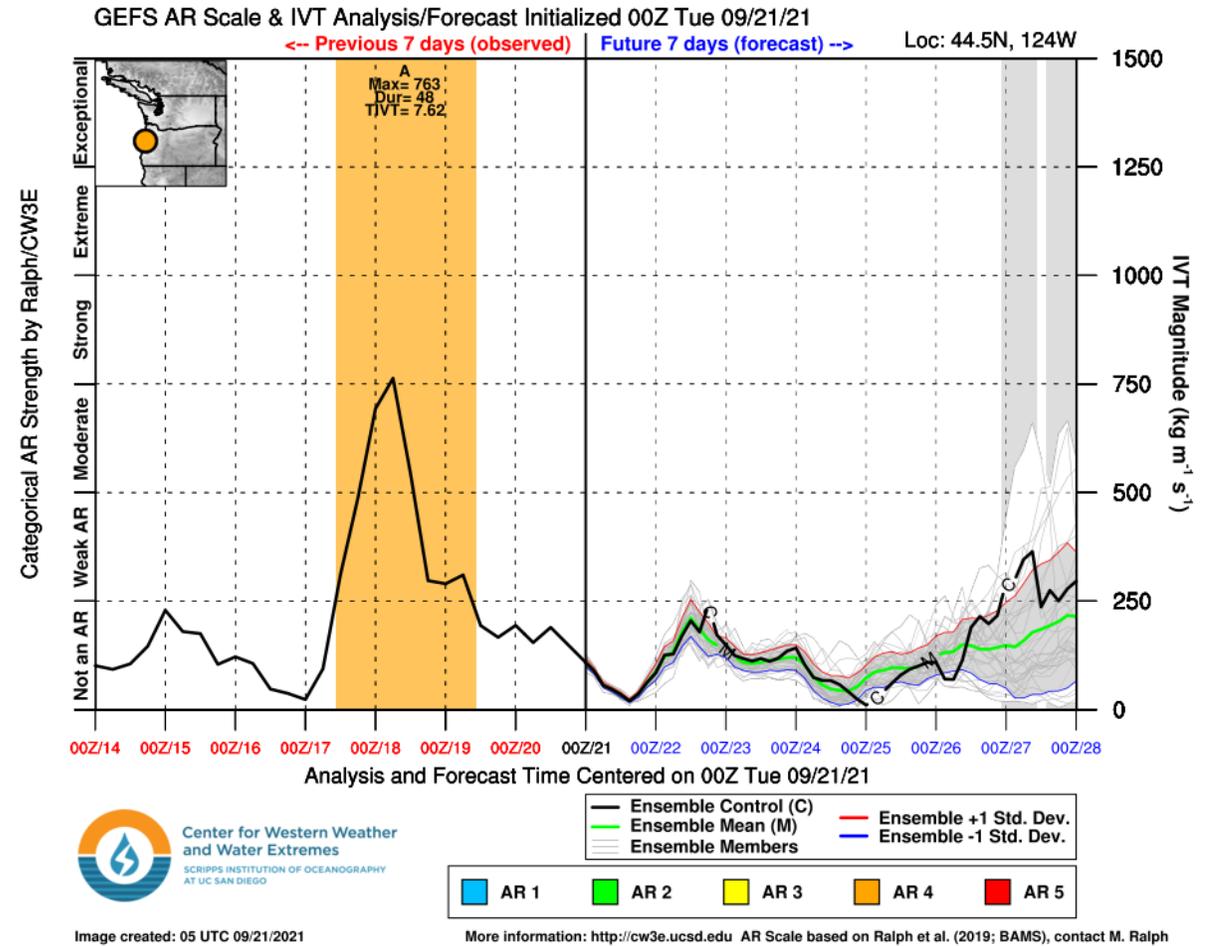
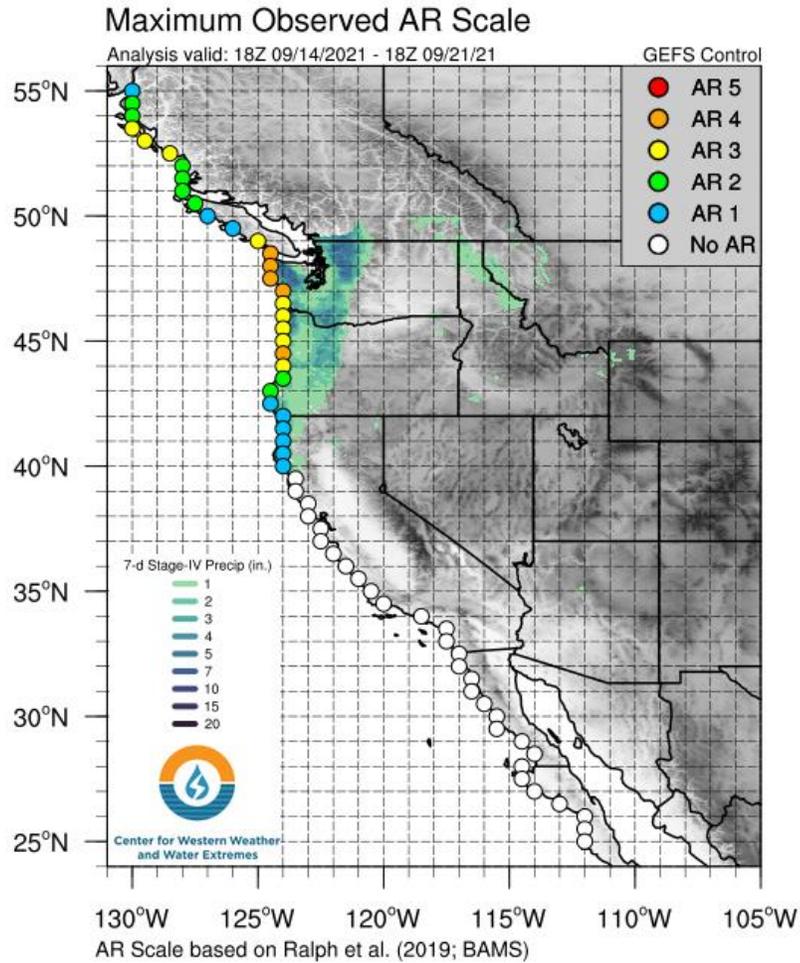
Atmospheric River Brings Much Needed Precipitation to the Pacific Northwest

- A strong atmospheric river (AR) made landfall over Washington and Oregon during 17th of September
- Portions of coastal Washington and Oregon experienced AR 3/AR 4 conditions (based on the Ralph et al. 2019 AR Scale)
- More than 5 inches of precipitation fell in parts of the Olympic Peninsula and North Cascades
- This precipitation fell while numerous large wildfires were burning across the Pacific Northwest and Northern California
- While this recent rain didn't end all current fire activity and the fire season it brought much need moisture to the fuels across the region



Event Summary: 16–19 Sep 2021

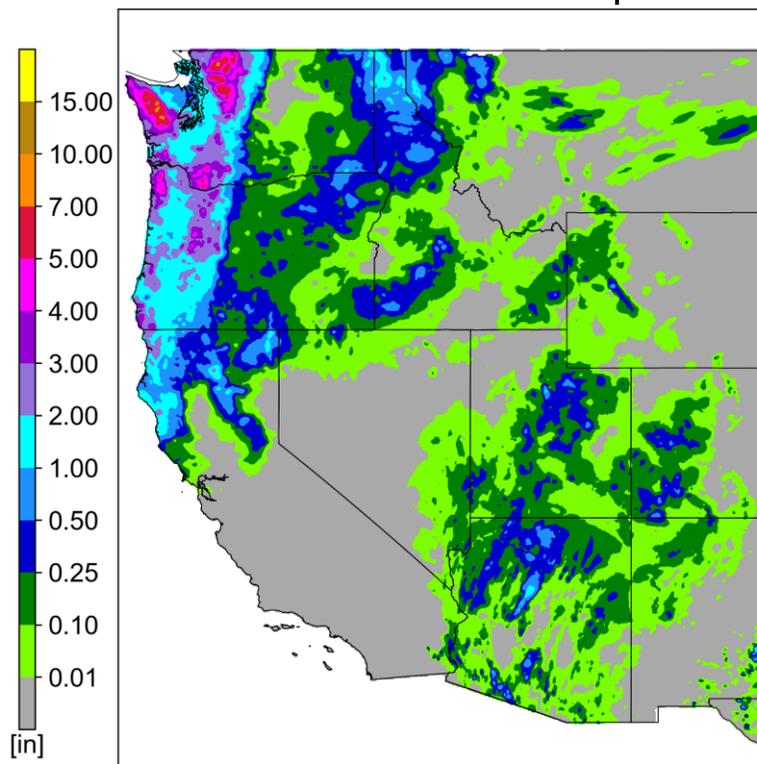
For California DWR's AR Program



- The AR brought AR 3 to AR 4 (Ralph et al. 2019) conditions to the Pacific Northwest Coast from central Oregon to the Olympic Peninsula
- One location along the Oregon Coast experienced a maximum IVT of $763 \text{ kg m}^{-1} \text{ s}^{-1}$ and a total duration of 48 hours, resulting in AR 4 conditions on the AR Scale

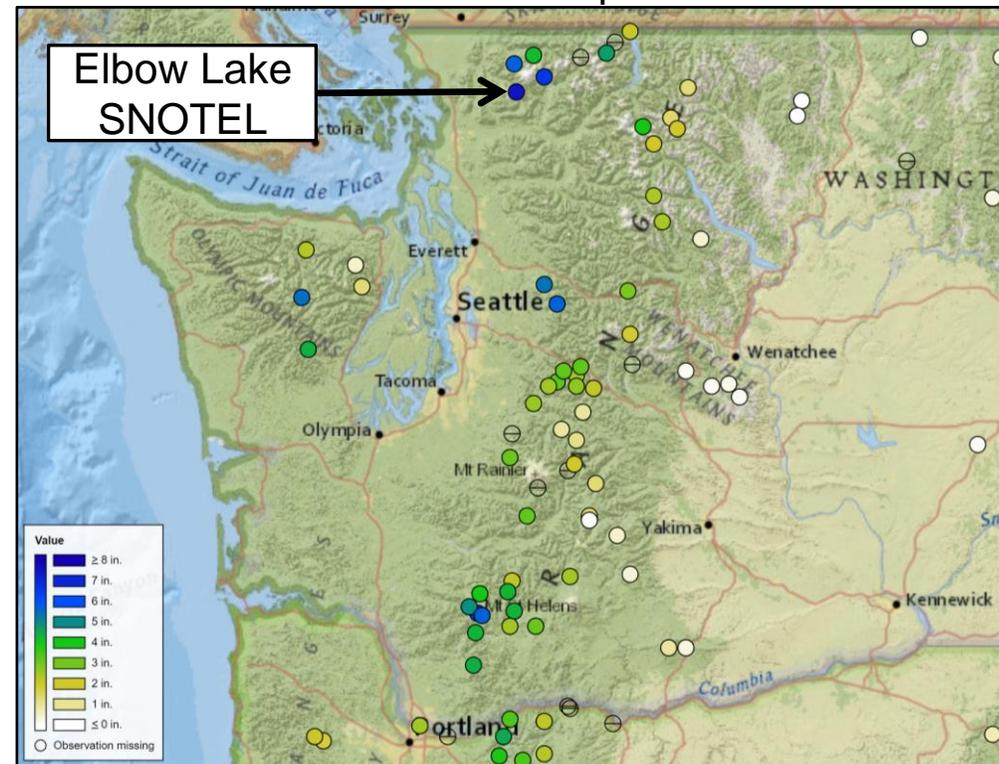
NCEP Stage IV 72-h QPE

Valid: 5 AM PT 16–19 Sep 2021



SNOTEL 3-day Observed Precipitation

Valid: 17–19 Sep 2021



Source: USDA NRCS NWCC, <https://www.nrcs.usda.gov/wps/portal/wcc/>

- This AR produced at least 1–3 inches of precipitation across western Washington, western Oregon, and far northwestern California
- The heaviest precipitation (> 5 inches) was observed in the Olympic Mountains and North Cascades
- Strong upslope moisture flux associated with this AR resulted in large orographic precipitation gradients
- Elbow Lake SNOTEL (elev: 3040 feet) recorded 7.5 inches of precipitation during a 3-day period (17–19 Sep)

Event Summary: 16–19 Sep 2021

For California DWR's AR Program

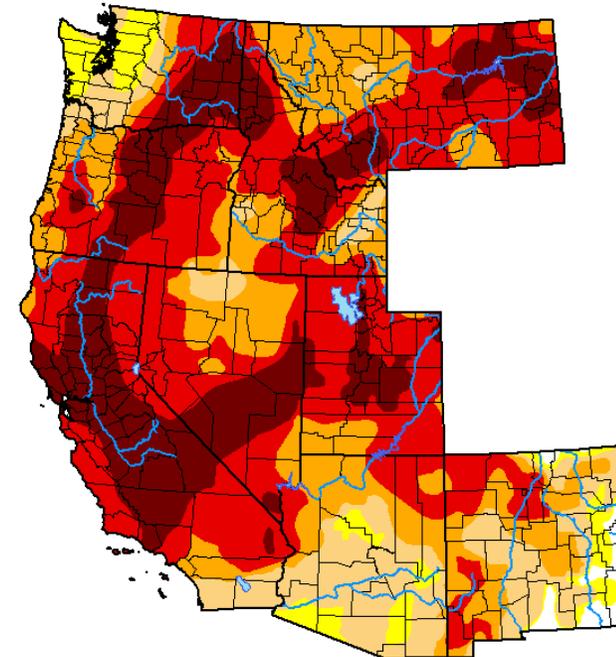
Station	3-day Precip	Sep Normal Precip	% of Sep Normal Precip
Medford, OR	1.07	0.48	223%
Vancouver, WA	2.93	1.43	205%
Roseburg, OR	1.61	0.85	189%
Scappoose, OR	2.59	1.47	176%
Portland, OR	2.52	1.52	166%
Crescent City, CA	1.76	1.10	160%
Aurora, OR	2.61	1.73	151%
Hillsboro, OR	2.04	1.38	148%
Eugene, OR	1.83	1.39	132%
Bonneville Dam, OR	3.36	2.62	128%
Bellingham, WA	2.16	2.01	107%
Troutdale, OR	1.94	1.85	105%
North Bend, OR	1.57	1.55	101%

Sources: NWS Seattle, <https://www.weather.gov/sew/> NWS Portland, <https://www.weather.gov/pqr/>
 NWS Medford, <https://www.weather.gov/mfr/> NWS Eureka, <https://www.weather.gov/eka/>

- Many stations in western Oregon received more rainfall in a 3-day period than the total normal monthly rainfall for September
- Portland, OR, set new daily precipitation records for 18 Sep (1.31 inches) and 19 Sep (1.14 inches)
- Despite this early-season storm, severe-to-exceptional drought conditions persist across most of the region

U.S. Drought Monitor West

September 21, 2021
 (Released Thursday, Sep. 23, 2021)
 Valid 8 a.m. EDT



Intensity:
 None
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

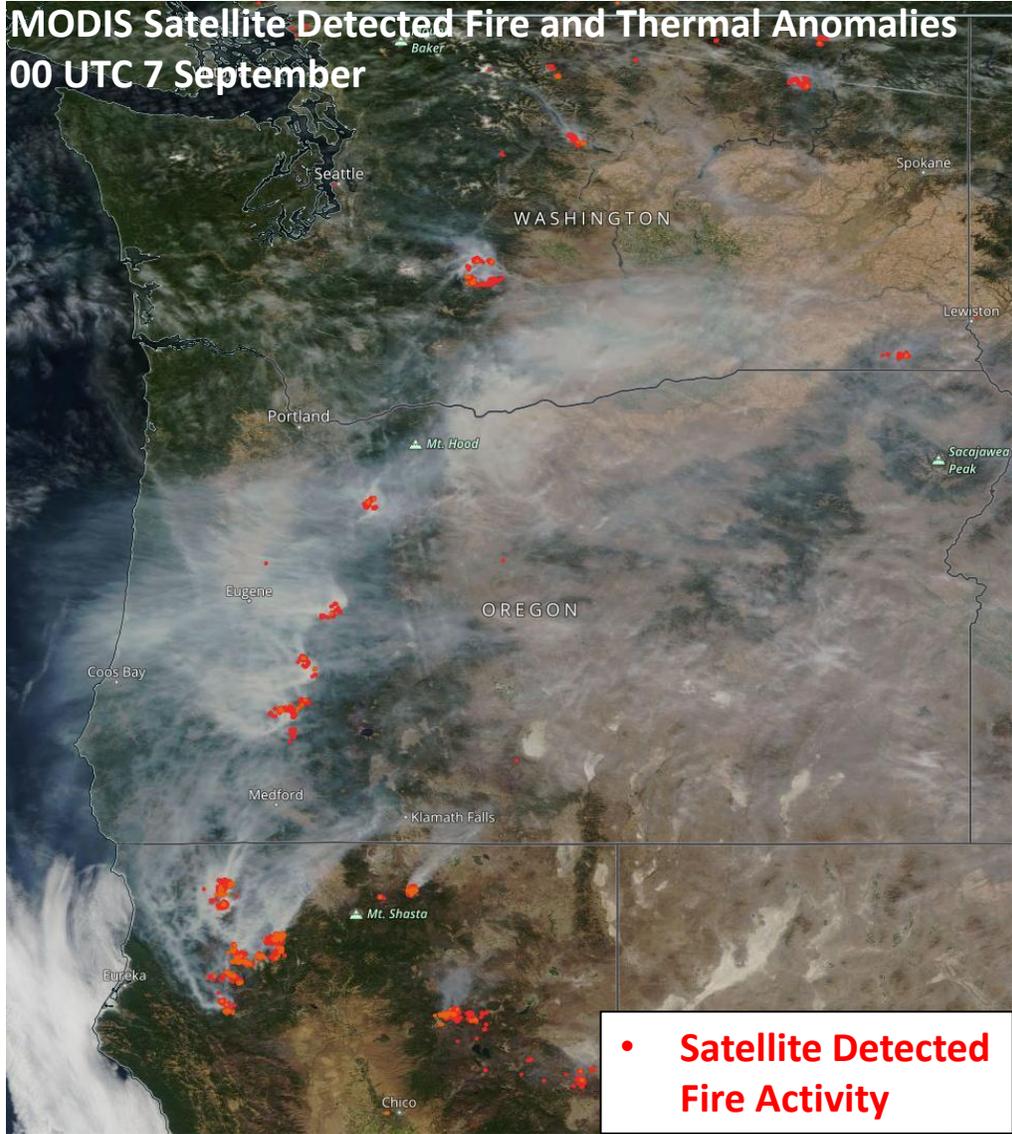
Author:
 Brad Rippey
 U.S. Department of Agriculture



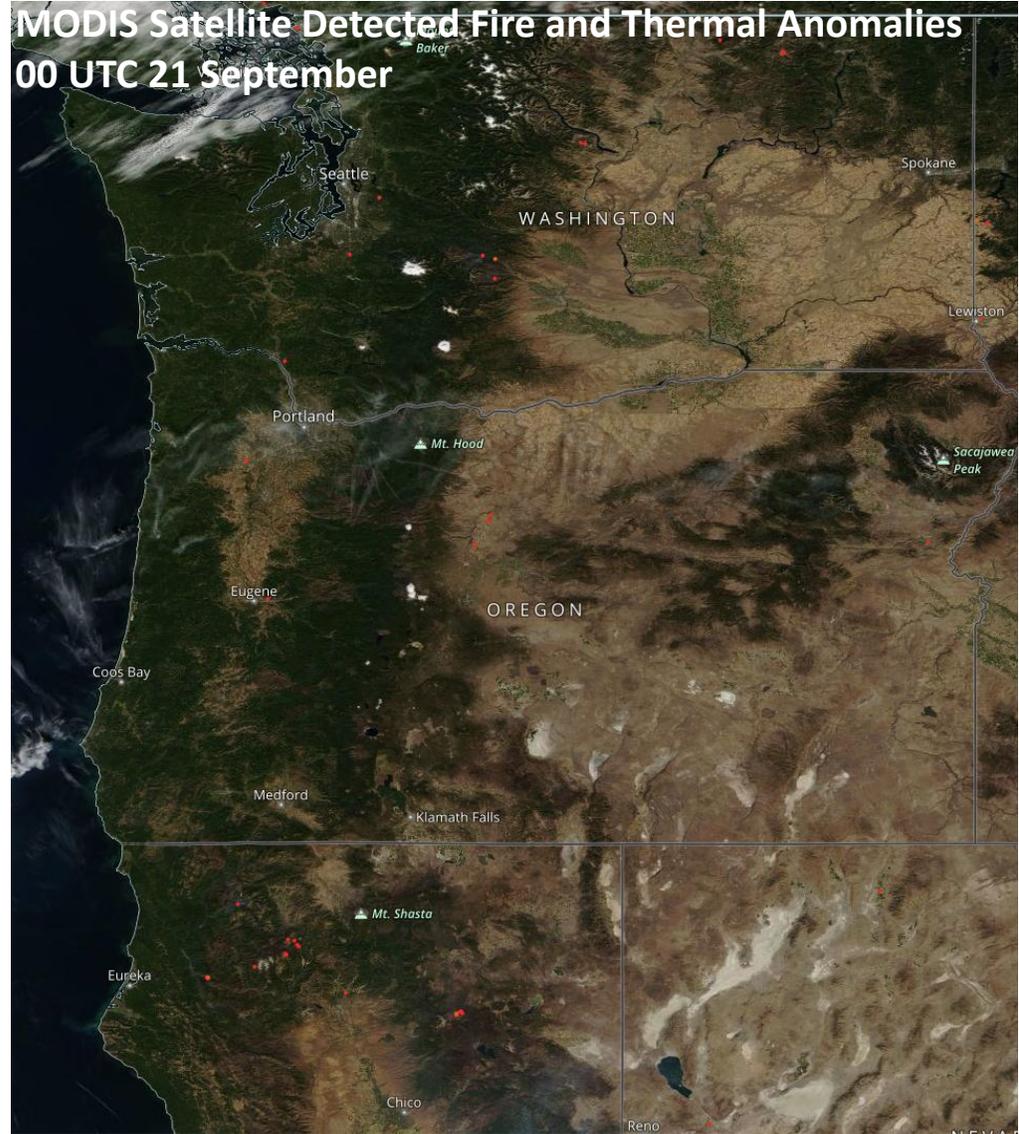
droughtmonitor.unl.edu

Event Summary: 16–19 Sep 2021

For California DWR's AR Program



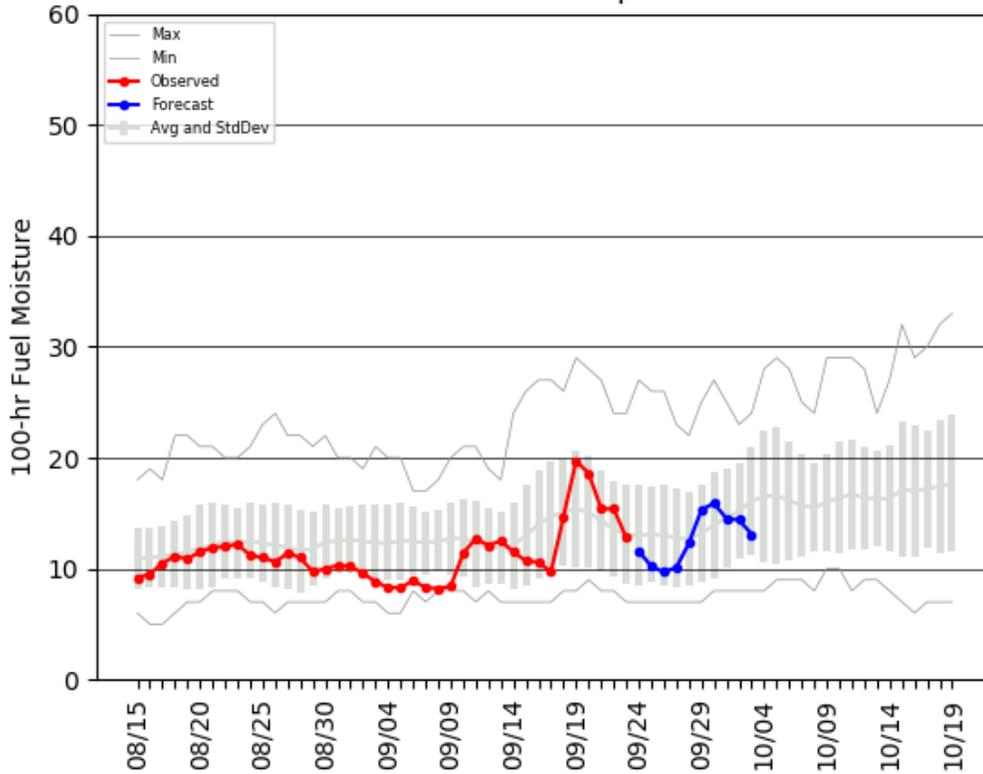
- Before this AR made landfall, there were numerous fires burning throughout the Northwest, producing large smoke plumes across the region
- While these ARs didn't completely end all the fires in Washington and Oregon, satellite detected fire activity decreased substantially and a majority of the smoke cleared by 21 September



Event Summary: 16–19 Sep 2021

For California DWR's AR Program

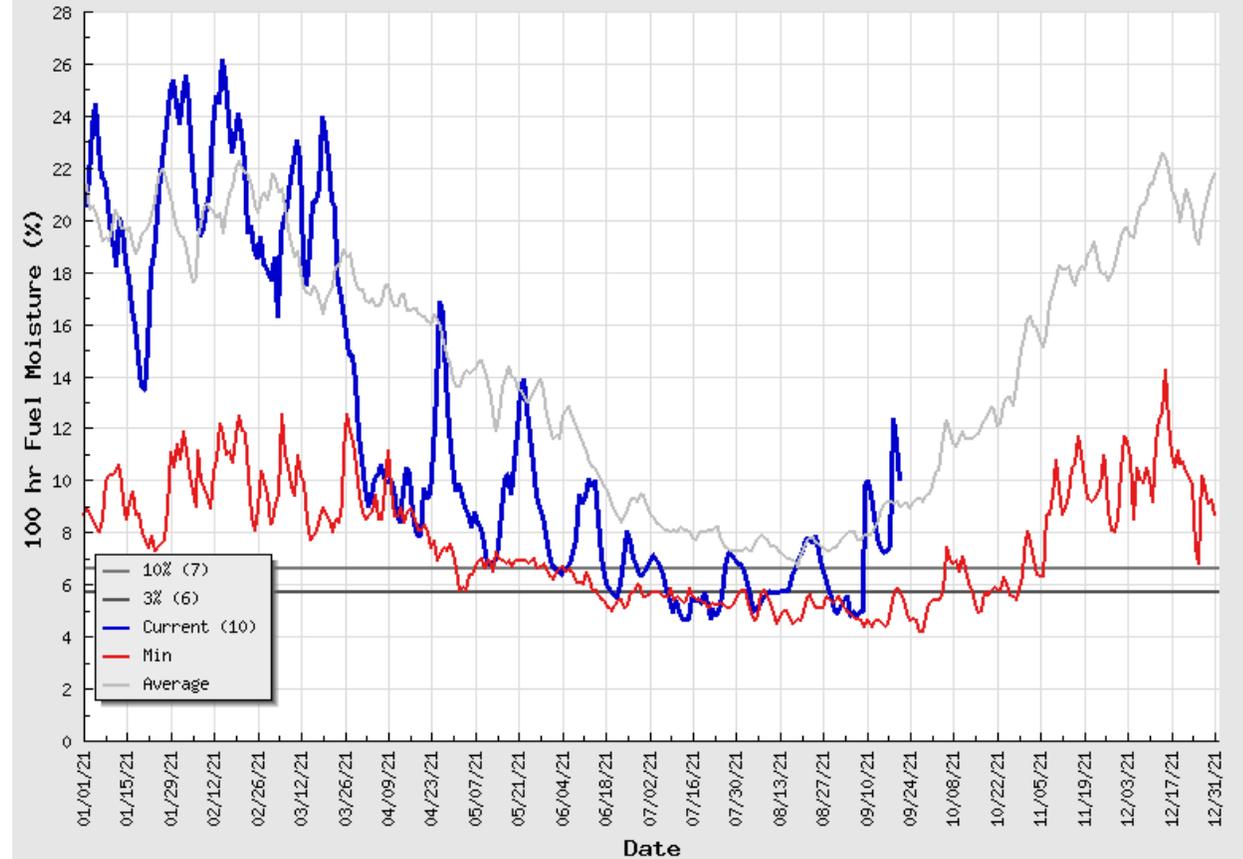
100-hr Fuel Moisture for PSA NW04 for 2021
Run Date: 24 September



Source: <https://gacc.nifc.gov/oscc/fuelsFireDanger.php>

NC07 – Northern Sierras

Valid Date: 21-Sep-2021



- These ARs produced precipitation that provided moisture to dead fuels in Oregon and the Northern Sierra, helping to tamp fire activity for the time being
- While both regions saw a large spike in fuel moisture to above average, there is still potential for additional fire activity over the coming weeks, especially over Northern California*