

PGE Fire Weather Forecasting

2021 OWEC Conference
Charlie Phillips
May 11, 2021




Why Monitor Fire Danger?

1. Monitor progression of existing fires
2. Monitor potential for new fires
3. Monitor for conditions that could contribute to rapid and uncontrollable fire growth
4. Monitor for severe smoke that could decrease temps/system load and increase risk of arcing on transmission lines
5. Monitor potential changes in Industrial Fire Precaution Levels (IFPLs)
6. Inform the declaring and rescinding of PGE fire season



Observation Resources

- Weather Station Data
 - Current Fires/Situation Reports
 - Fuel Conditions
 - Radar/Satellite/Lightning Maps
 - Mesoscale Analyses
 - Webcams
 - Social Media
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Forecasting Resources

- NWS Forecasts and “Forecast Discussions”
- NWCC/SPC Fire Outlooks
- Climate Prediction Center
- US Drought Monitor
- Weather/Smoke/Fuel Models



Daily Forecast Flow

Part 1: “Current Conditions”

- Summary of current weather/fires over PacNW and nationwide

Part 2: Short-Term Forecast

- Emphasize fire parameters (temps, humidity, winds, lightning, Haines Index, etc.) and progression of existing fires or potential for new fires

Part 3: Detailed 7-Day Outlooks

- PGE service territory 7-day forecast
- Northwest Interagency Coordination Center (NWCC) 7-day fire weather forecast
- Storm Prediction Center (SPC) 7-day fire forecast


Part 4: 2-Week Outlook

- 8-14 day Climate Prediction Center (CPC) forecast
- Long-range models

Part 5: Drought Update & Seasonal Fire/Weather Outlook

- US Drought Monitor
- Long Range CPC and National Interagency Fire Center (NIFC) Forecasts

Part 6: Fuels/active fires update

- NWCC Predictive Service Area (PSA) Fuel Conditions
 - National Sit Report
 - Inciweb Incident Information System
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Example Daily Fire Weather Presentation



Part 1: Current Conditions





Red Flag Warning

Through 6 pm Tuesday May 11th, 2021



Impacts

- Easier fire starts
- Potential for rapid spread of fire



Timing

- Today – Tuesday 6 PM

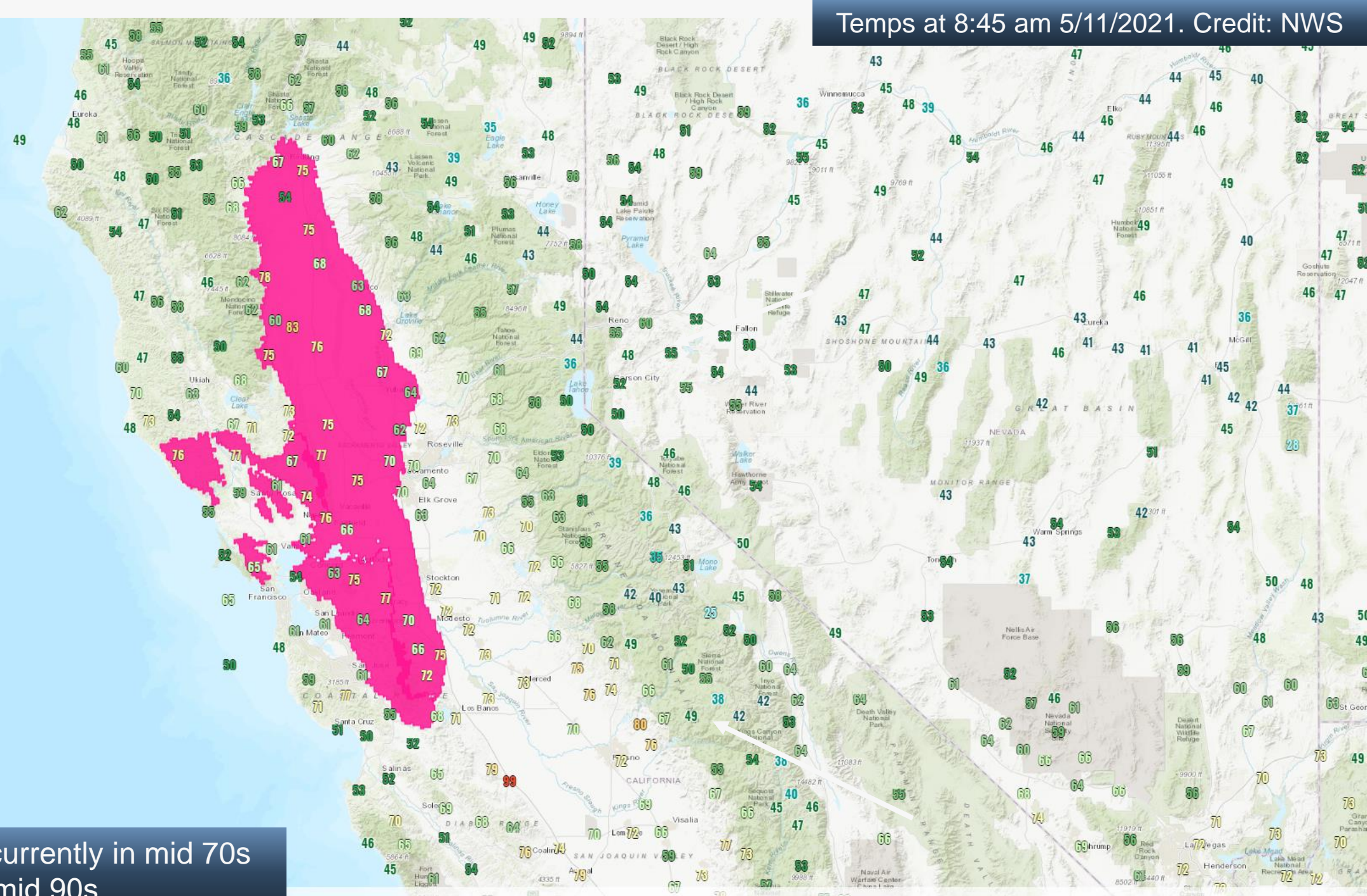


Winds & RH

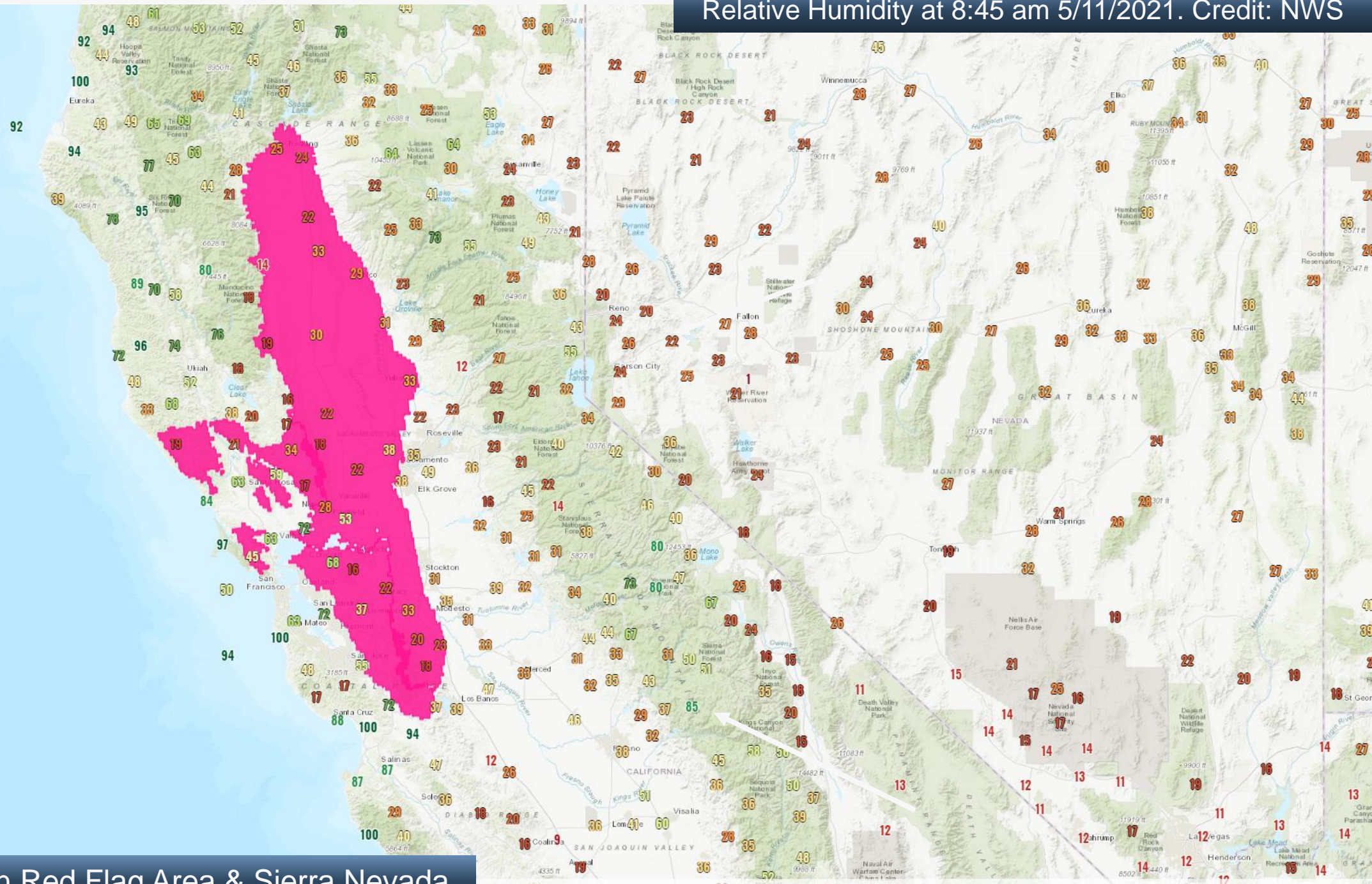
- North winds 10-20 mph, local gusts to 30 mph
- Minimum daytime humidity 5-15%

Red Flag Warning

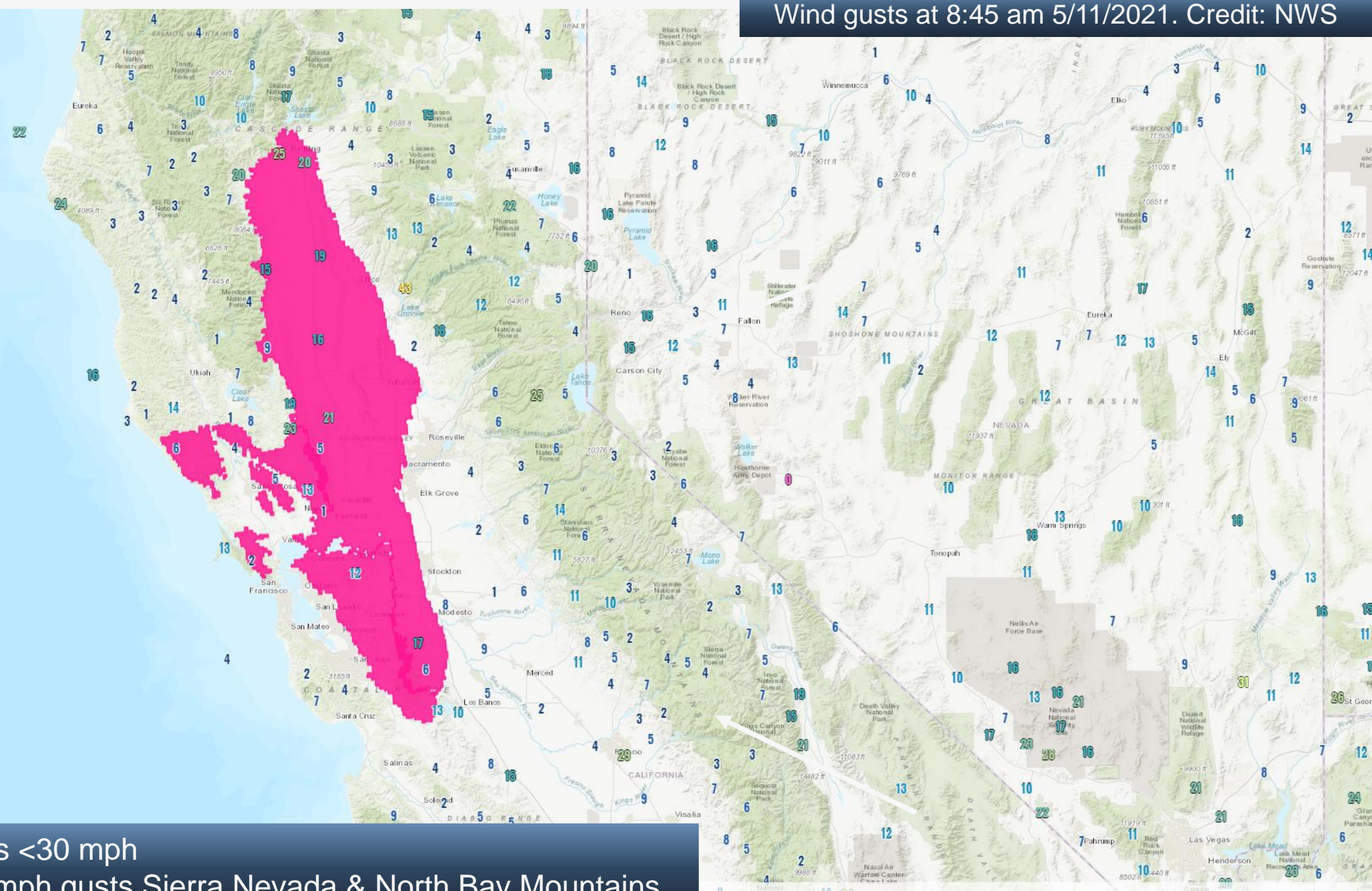




- Central Valley currently in mid 70s
- Today's highs: mid 90s



- RH of 15-30% in Red Flag Area & Sierra Nevada



- Most wind gusts <30 mph
- Isolated 40-50 mph gusts Sierra Nevada & North Bay Mountains

Clouds will stay offshore today/tomorrow

Few low clouds SW WA

Red Flag Warnings in effect for Central Valley

Part 2: Short Term Forecast

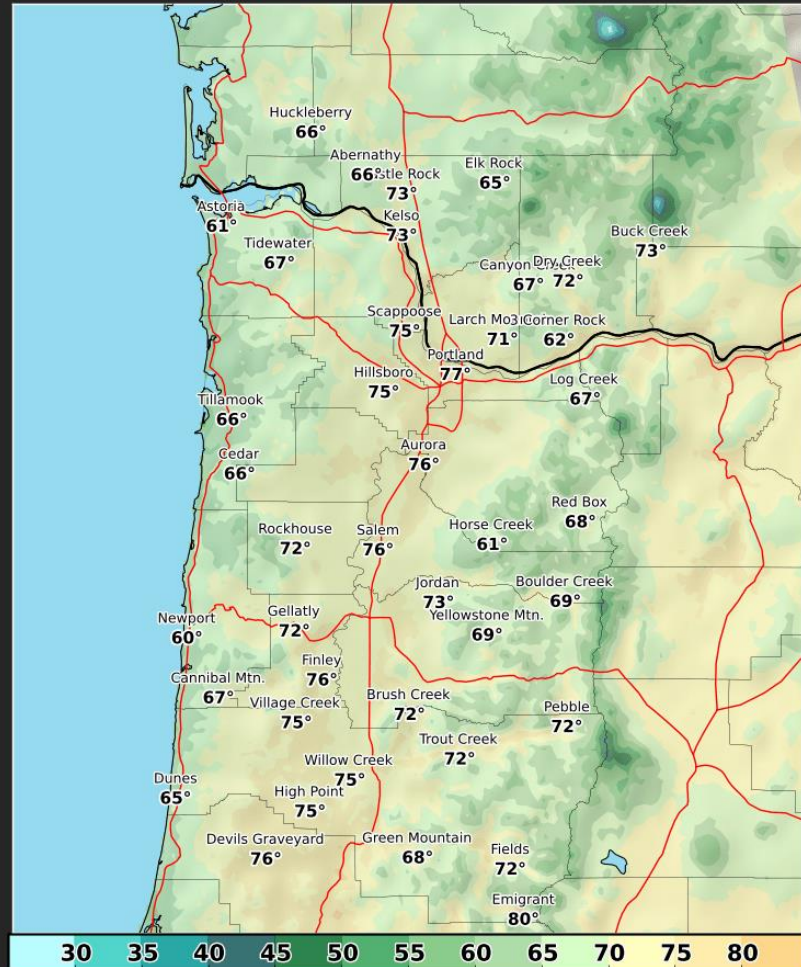


Tuesday Forecast: Mostly sunny & warmer-than-average.

- **Highs:** Upper 70s
- **Min humidity:** 25-35%
- **Max gusts:** <20 mph, northerly & onshore
- **Haines Index:** 4 North, 5 South

Tuesday Forecast High Temperatures

May 11, 2021



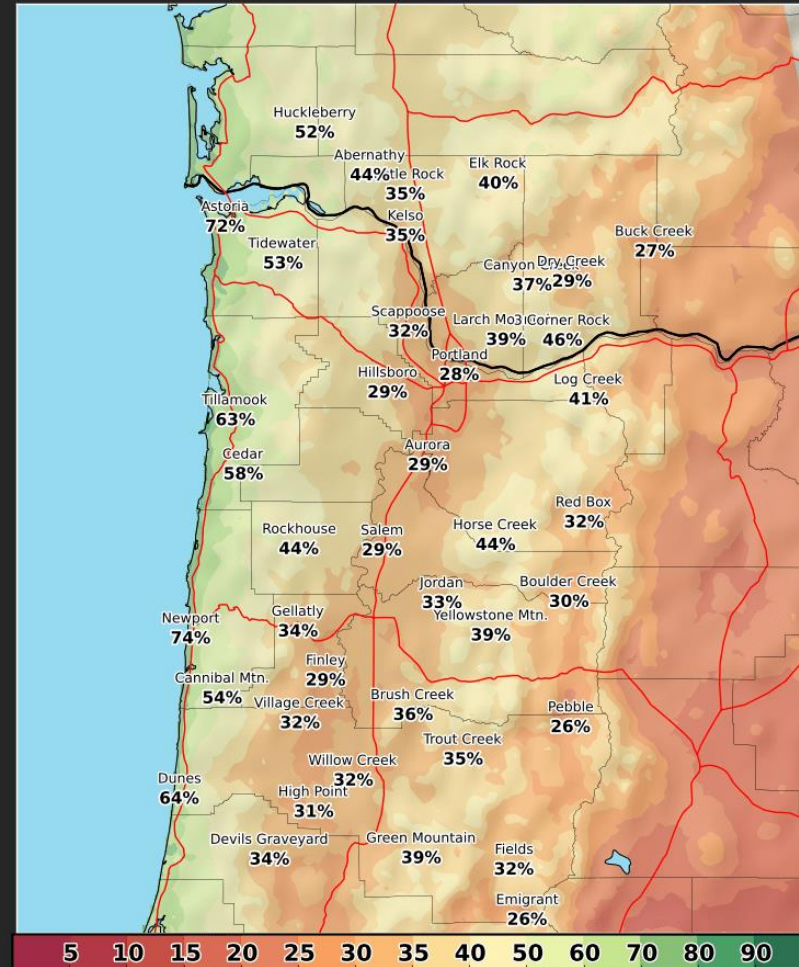
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Temperature (°F)

weather.gov/Portland

Tuesday Forecast Minimum RH

May 11, 2021



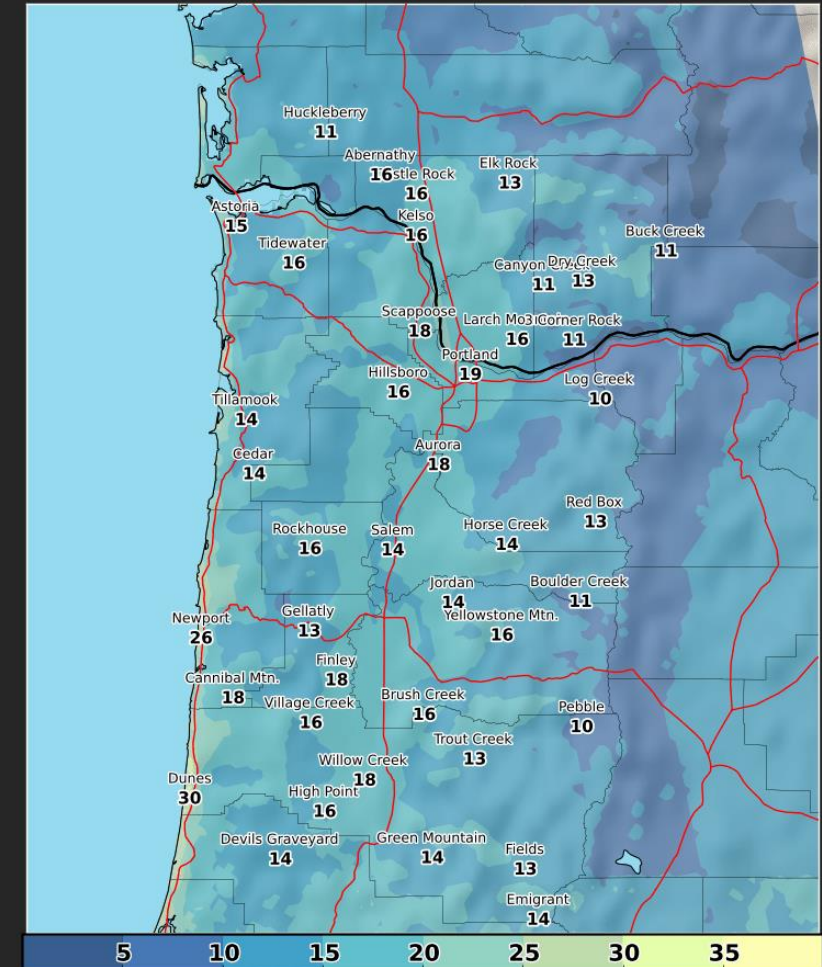
Created: 06:05 AM PDT 05/11/2021

RH (%)

weather.gov/Portland

Tuesday Forecast Maximum Wind Gust

05/11/2021 02:00 PM - 05/11/2021 11:00 PM PDT



Created: 06:08 AM PDT 05/11/2021

Speed (MPH)

weather.gov/Portland

Part 3: Detailed 7-Day Outlook



7-Day Portland Forecast

NWRFC 10-Day Precip Forecast



Tuesday: 76/49

Sunny, warm.



Wednesday: 80/51

Sunny, slightly warmer.



Thursday: 77/50

Partly Cloudy.



Friday: 78/49

Mostly sunny



Saturday: 78/50

Mostly sunny



Sunday: 80/50

Mostly sunny



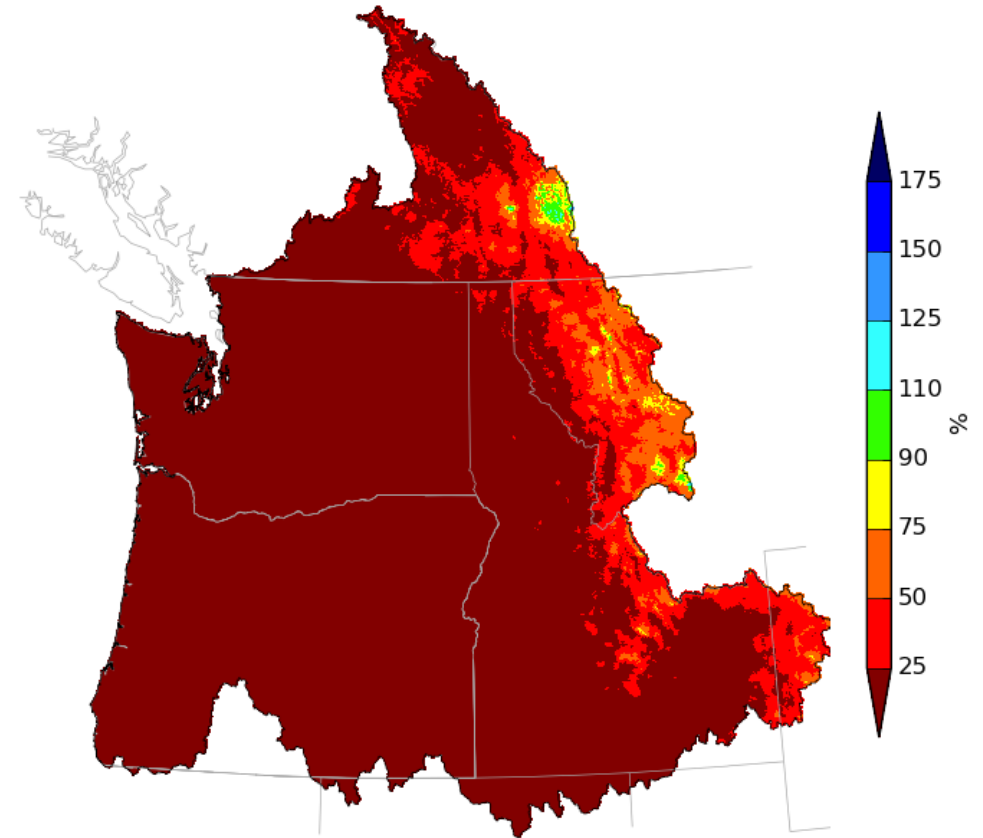
Monday: 71/50

Cooler, partly cloudy. Slight chance of showers but mostly dry.



Northwest River Forecast Center

10 Day QPF (Percent of Climatology), Ending 12Z, 05/20/21



Creation Time: Mon May 10 21:18:38 UTC 2021

Monday: 71/49/0.00''

Average: 68/48/0.08''

Sunrise/Sunset: 5:44 am/8:30 pm

PacNW Fire Outlook

Risk: **Minimal** **Normal** **Elevated** **High**

Pacific Northwest 7 Day Significant Fire Potential



Tuesday, 5/11/2021

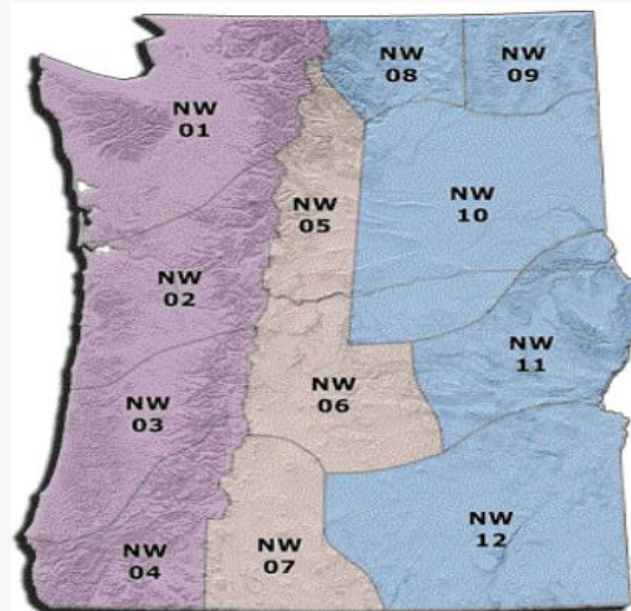
Predictive Service		Today	Wed	Thu	Fri	Sat	Sun	Mon
Areas	ytd							
NW01		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW02		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW03		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW04		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW05		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW06		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW07		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW08		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW09		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW10		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW11		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal
NW12		Minimal	Minimal	Minimal	Minimal	Minimal	Minimal	Minimal

Summary: Onshore flow & dry next 7+ days

- **West of Cascades:** Low fire danger
- **East of Cascades:** Low but increasing fire danger.
 - Moderate danger possible next Mon/Tue due to higher wind
- **Red Flag Conditions** not expected for PGE service territory next 7 days

Preparedness Level:

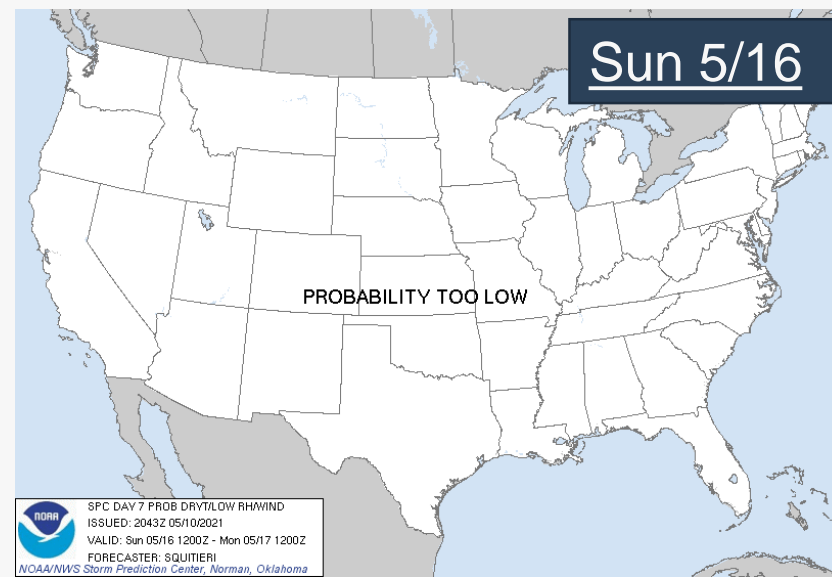
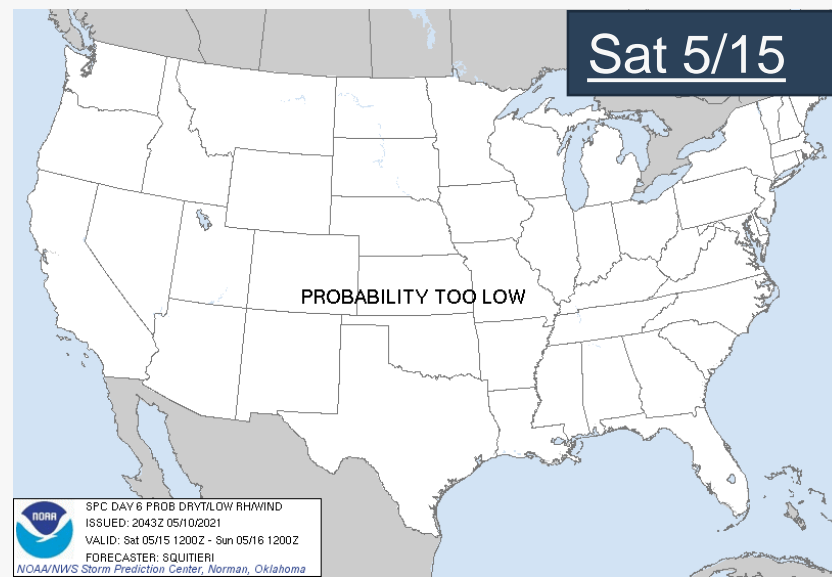
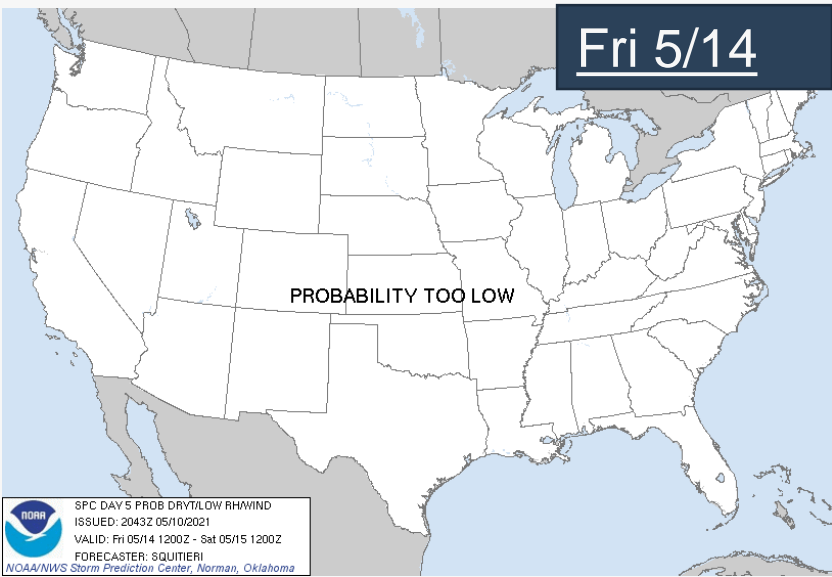
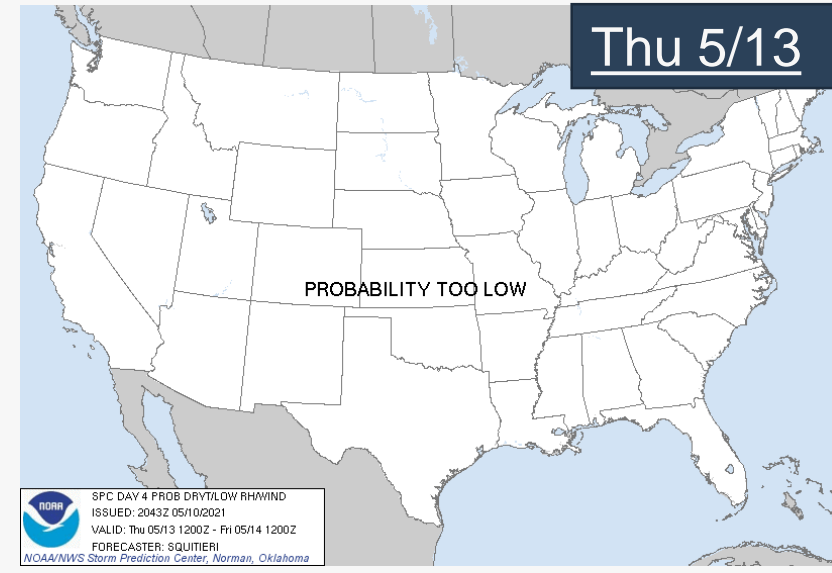
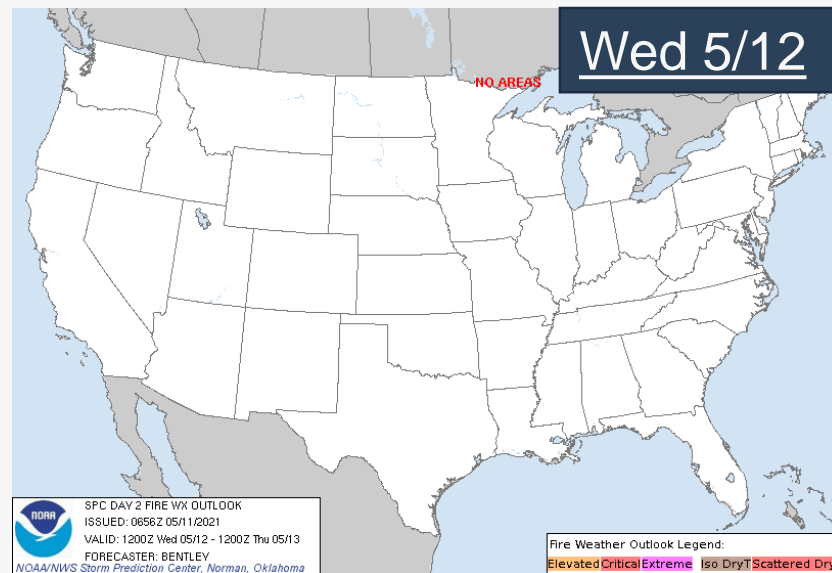
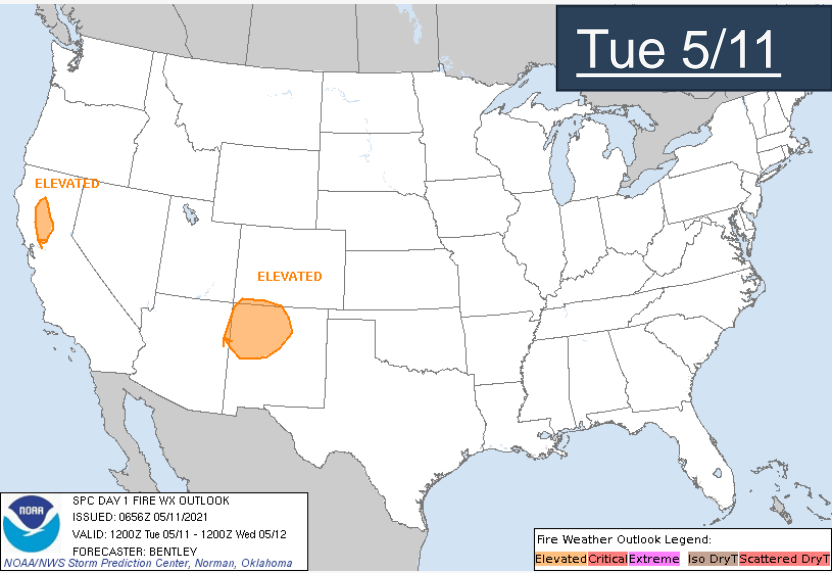
- Northwest: 1
- National: 2



Minimal	- The Overall Fire Environment suggests a very low risk for Large fires (less than 1% chance)
Normal	- The Overall Fire Environment suggests a <u>normal</u> risk for large fires (1 - 4% chance)
Elevated	- The Overall Fire Environment suggests a moderately high risk for large fires (5 - 19% chance)
High Risk	The risk for large fire(s) is very high (≥ 20%) Triggers: 1. ⚡ (Significant Lightning) 2. BEN (Critical Burn Environment)

Nationwide Fire Outlook

- Elevated risk over New Mexico & Central Valley today
- Below-average risk Wed-Sun



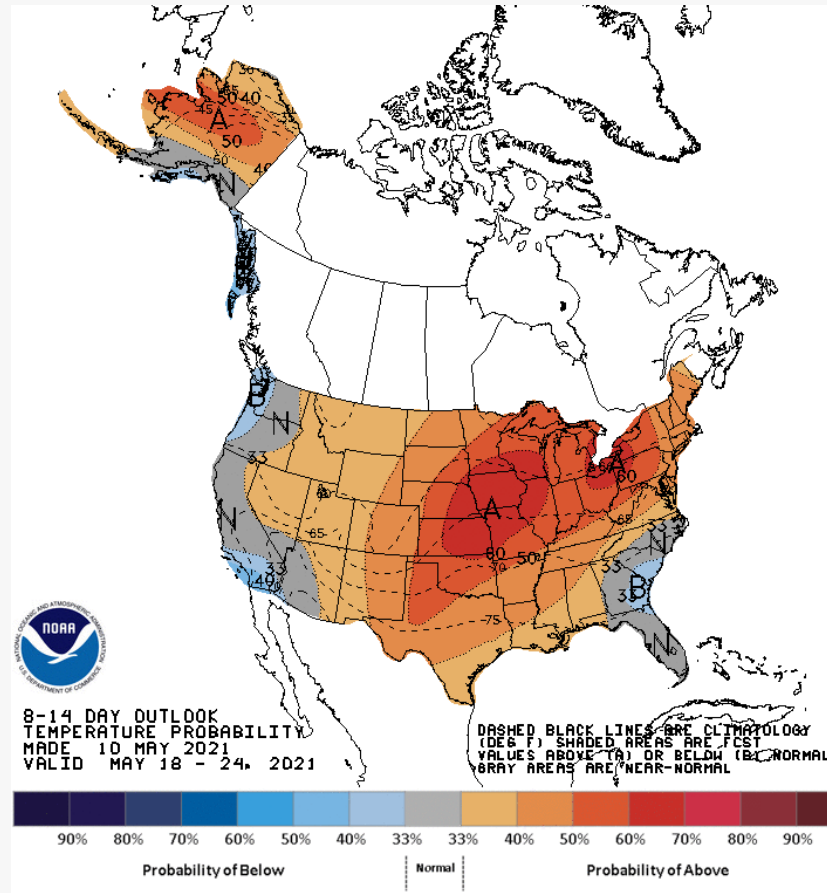
Part 4: 2 Week Outlook



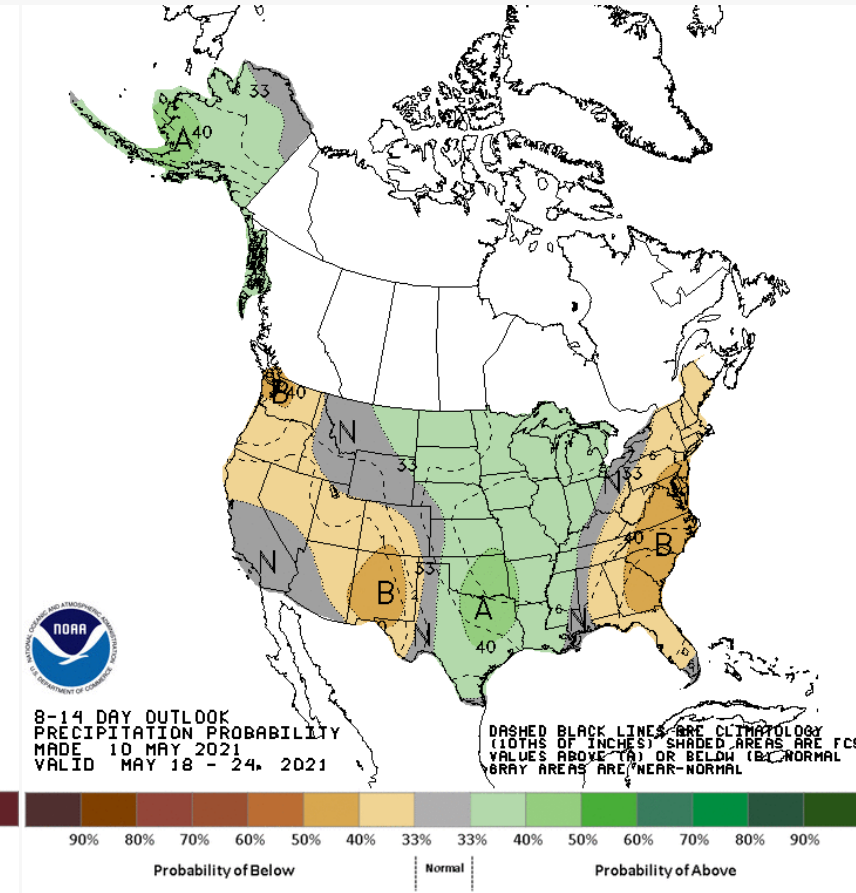
Long Term

1. Warm for West this week with ridging
2. Cool/breezy next Mon-Tue as trough moves inland.
3. Avg temps/wind next Wed onward as trough weakens.
4. Much drier-than-average next 10+ days

8-14 Day Temp Forecast



8-14 Day Precip Forecast



Part 5: Drought Update and Seasonal Outlook

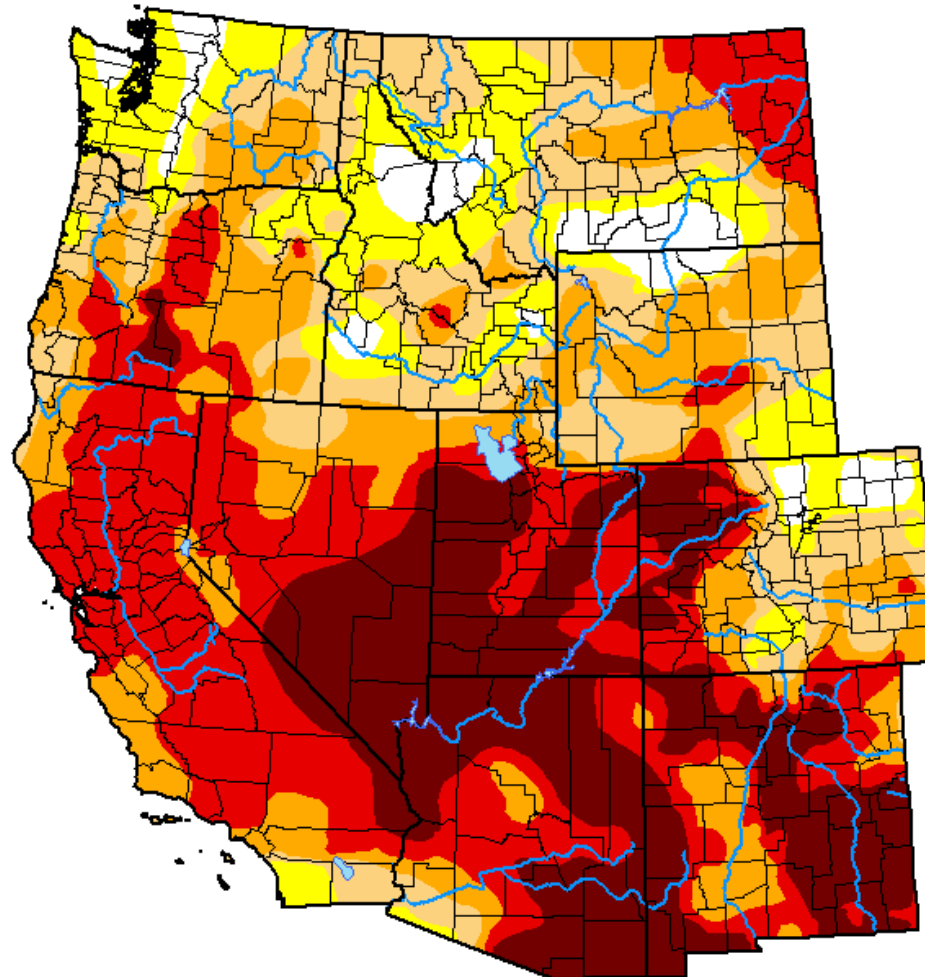


Drought Update

- Drought has worsened over most of West last 7 days
- South/Central Willamette Valley now in “Severe Drought”
- Bay Area now in “Extreme Drought”
- Drought is worst over Great Basin/4 Corners
- Drought is much worse now than May 2020

U.S. Drought Monitor West

May 4, 2021
(Released Thursday, May. 6, 2021)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.25	95.75	84.18	67.07	47.03	21.18
Last Week 04-27-2021	4.02	95.98	83.83	64.71	43.35	21.20
3 Months Ago 02-02-2021	6.75	93.25	79.73	63.73	45.19	21.03
Start of Calendar Year 12-29-2020	11.57	88.43	78.63	65.18	46.49	22.16
Start of Water Year 09-29-2020	8.51	91.49	76.07	54.55	33.11	2.31
One Year Ago 05-05-2020	44.69	55.31	34.13	13.47	2.06	0.00

Intensity:



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>

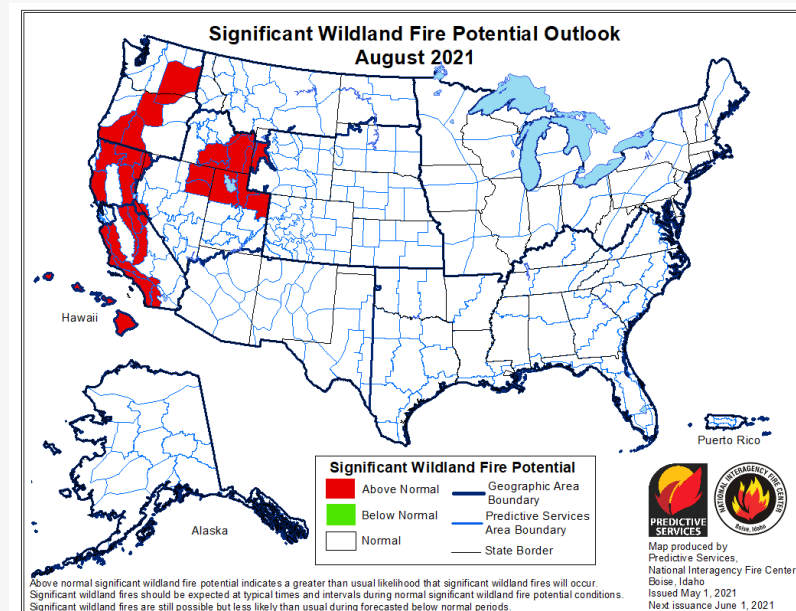
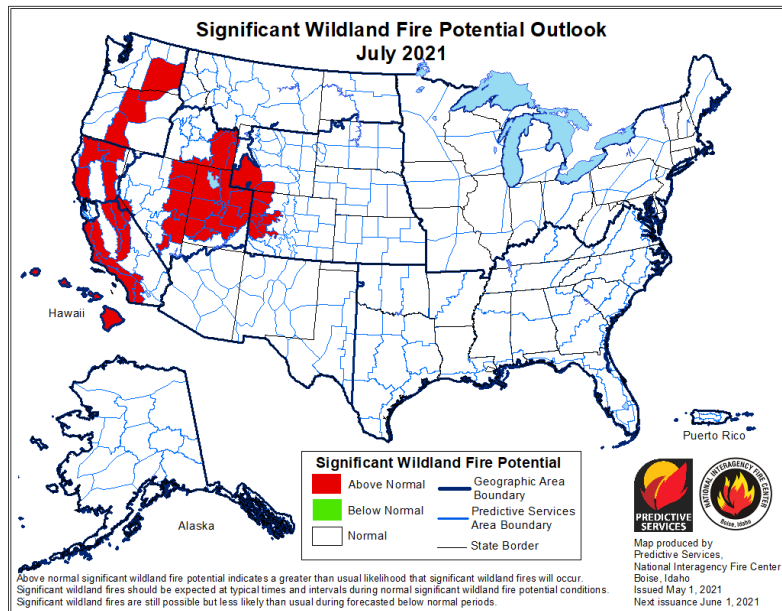
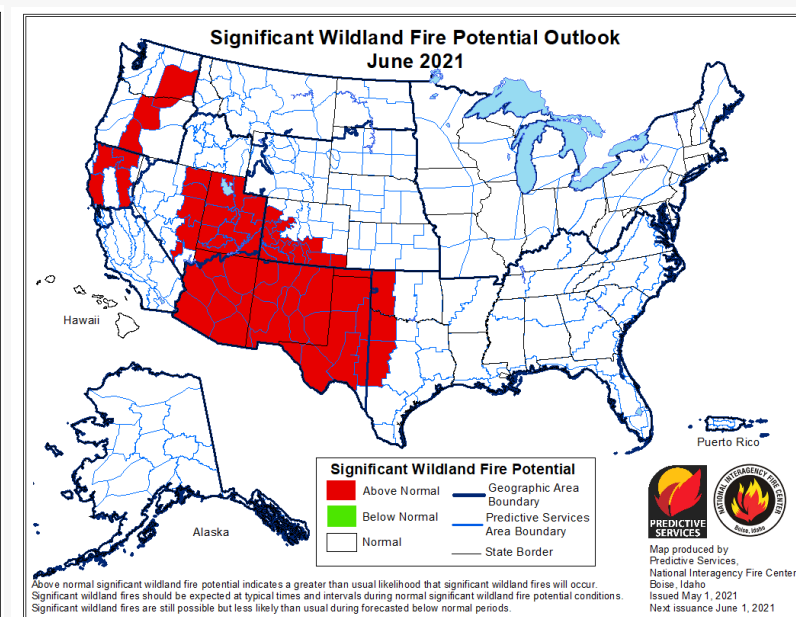
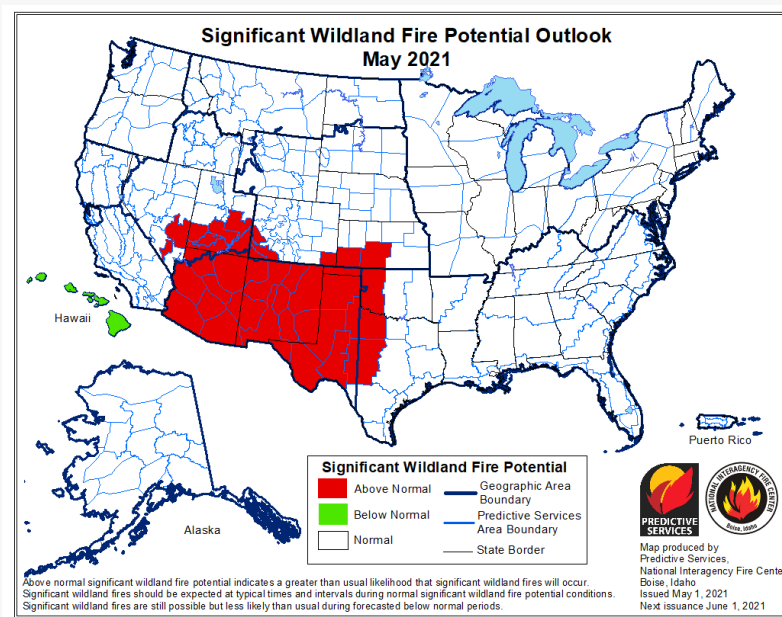
Author:

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Western Regional Climate Center



May–August 2021 Wildfire Outlook

- Slightly above-avg wildfire potential 4 Corners May & June
 - Sparse vegetation (due to drought) will help decrease danger
- Above-avg wildfire potential PacNW and CA June – August
 - Particularly high risk for CA forests
- Note: seasonal forecasts cannot predict individual fire *weather* events



Part 6: Fuels/Active Fires Update

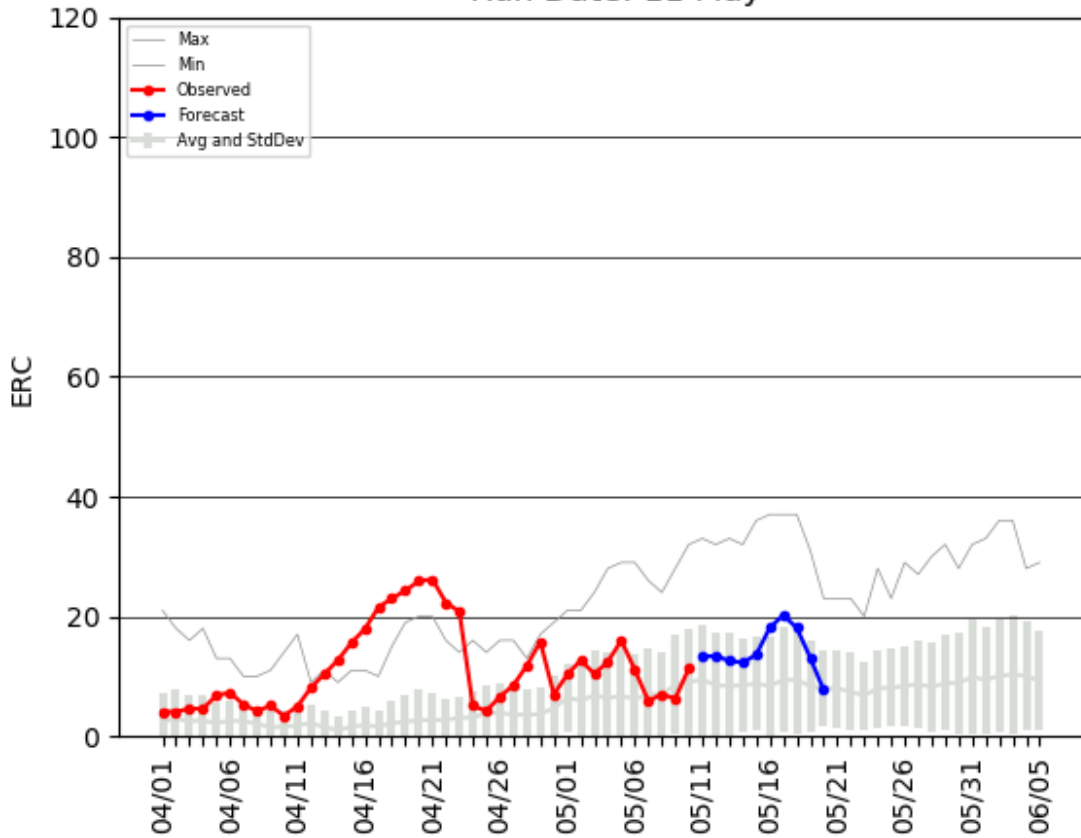


Current Energy Release Component (ERC)

Forecast: Increasing ERC through Mon 5/17. Increased fire danger east of Cascades with “dropoff” next week

NW Oregon (PSA 2) ERC – near avg

ERC-G for PSA NW02 for 2021
Run Date: 11 May



PacNW ERC – above avg

ERC-G for PSA All for 2021
Run Date: 11 May

