DOCKETED	
Docket Number:	21-ESR-01
Project Title:	Energy System Reliability
TN #:	250187
Document Title:	Fire Year 2023 Outlook
Description:	5 - CalFire - Presentation
Filer:	Xieng Saephan
Organization:	California Department of Forestry & Fire Protection
Submitter Role:	Public Agency
Submission Date:	5/16/2023 5:02:30 PM
Docketed Date:	5/17/2023

Fire Year 2023 Outlook

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Four-month Significant Fire Potential

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May – August 2023 California Highlights

- The state slowly dries in May with small pulses of moisture in the first half of the month with temperatures remaining below normal in the north state with the marine layer influencing south coast areas strongly; temperatures slightly warmer than normal in Great Basin and desert regions

- Weather outlook for June and July suggest near normal temperatures and below normal precipitation patterns. The current ENSO index is near neutral with a transition to an El Niño 62% likely by July

Webpage Source: monthly_seasonal_outlook.pdf (nifc.gov)

Four-month Significant Fire Potential

May – August 2023 California Highlights

- Near to below normal number of offshore wind events through June
- The south coast and mountains can expect below normal large-fire potential with wind-driven grass-fueled fire events through August
- North state remains green with a robust green-up in herbaceous and shrubs making flammable alignments unlikely through July as record snowpack levels melt and keep hydrologic systems charged

Webpage Source: monthly_seasonal_outlook.pdf (nifc.gov)

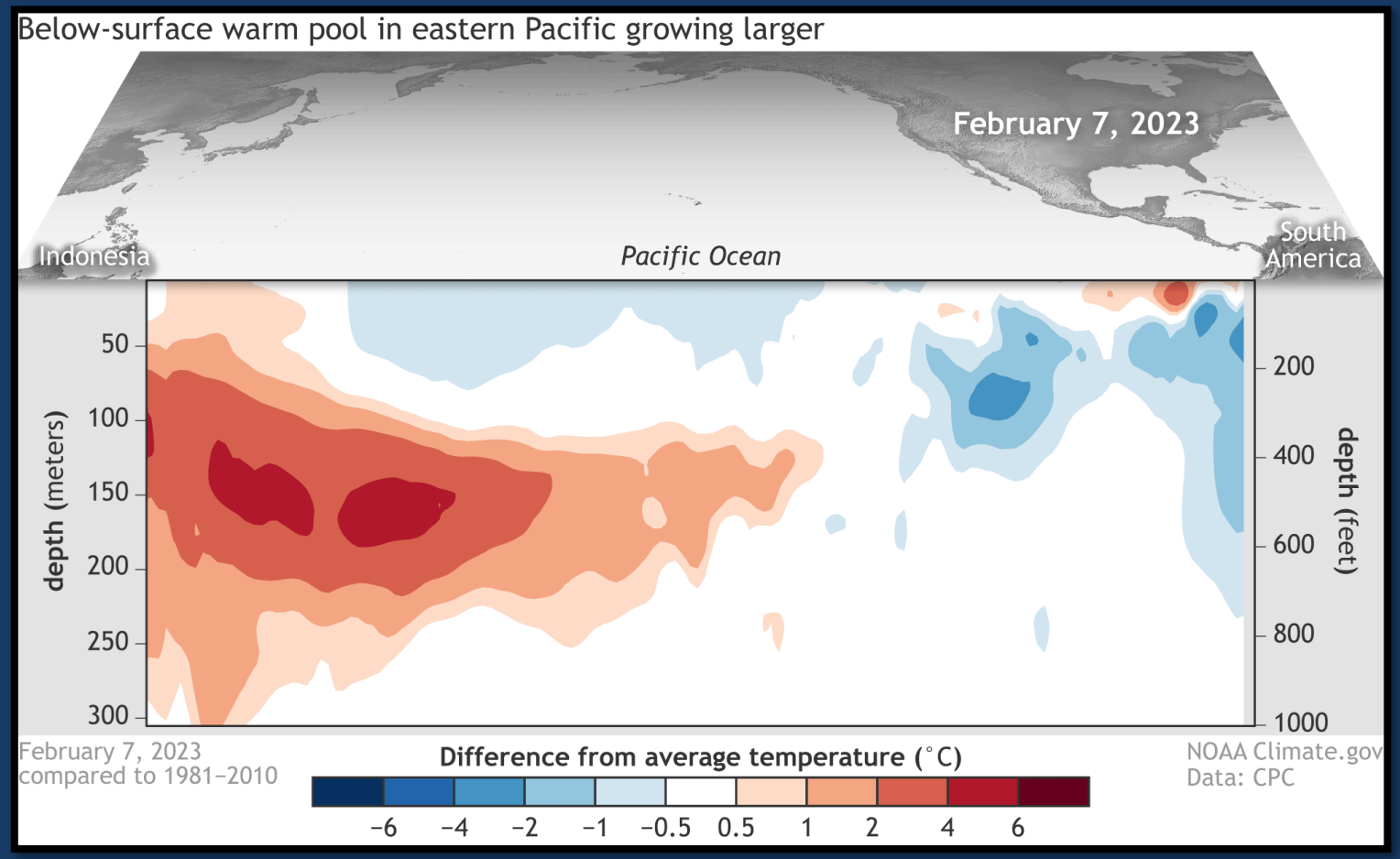
Four-month Significant Fire Potential

May – August 2023 California Highlights

- Desert, Great Basin, and Modoc Plateau will have potential flammable alignments in July and August
- Mountain regions will be below normal fire potential with alpine areas under the influence of lingering snowpack well into August
- An early El Niño arrival could lead to higher temperatures, greater lightning potential, and make all the above moot

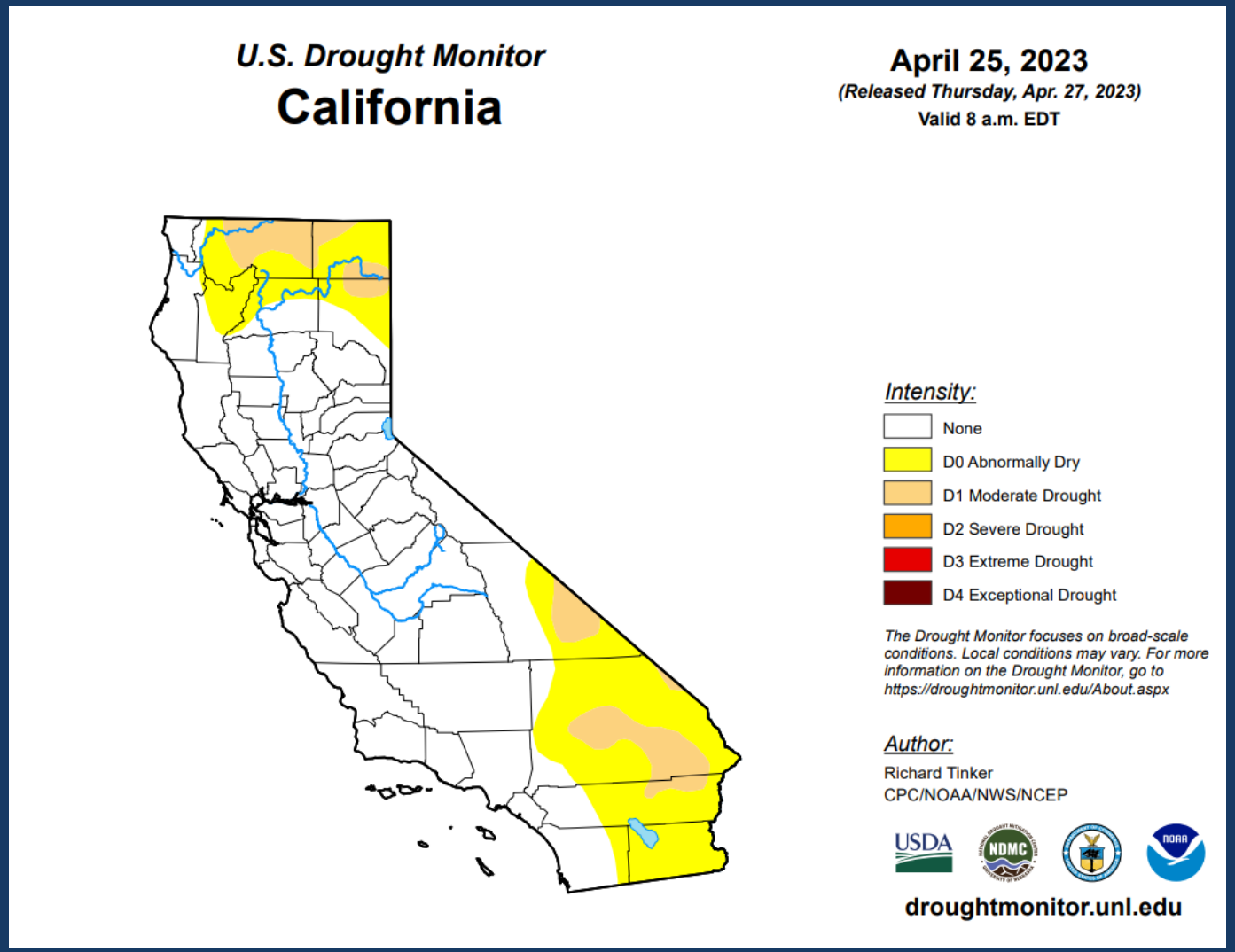
Webpage Source: monthly_seasonal_outlook.pdf (nifc.gov)

Weather Discussion: El Niño



- The El Niño-Southern Oscillation (ENSO) is in a neutral position, trending to an El Niño pattern
- Affects jet stream flow and how the Subtropical Ridge builds which controls monsoon flow
- Late summer lightning activity potential

Weather Discussion: Drought Monitor



- Drought conditions have improved with the most populous regions experiencing none
- Siskiyou and Modoc counties continue with moderate drought conditions
- Mojave & Colorado deserts are dry

Weather & Fuels Discussion: Storm Damage

- Increased fuel loading induced by low snow levels and heavier snow loads on drought-weakened trees
- Impacts to access roads where mass wasting and culvert failure could delay Initial Attack from gaining access to ignition area

Fuels Discussion: Increased Fuel Loading

- Wind damage, snow breakage, and residual mortality snags from previous years will only add to heavy fuel loading

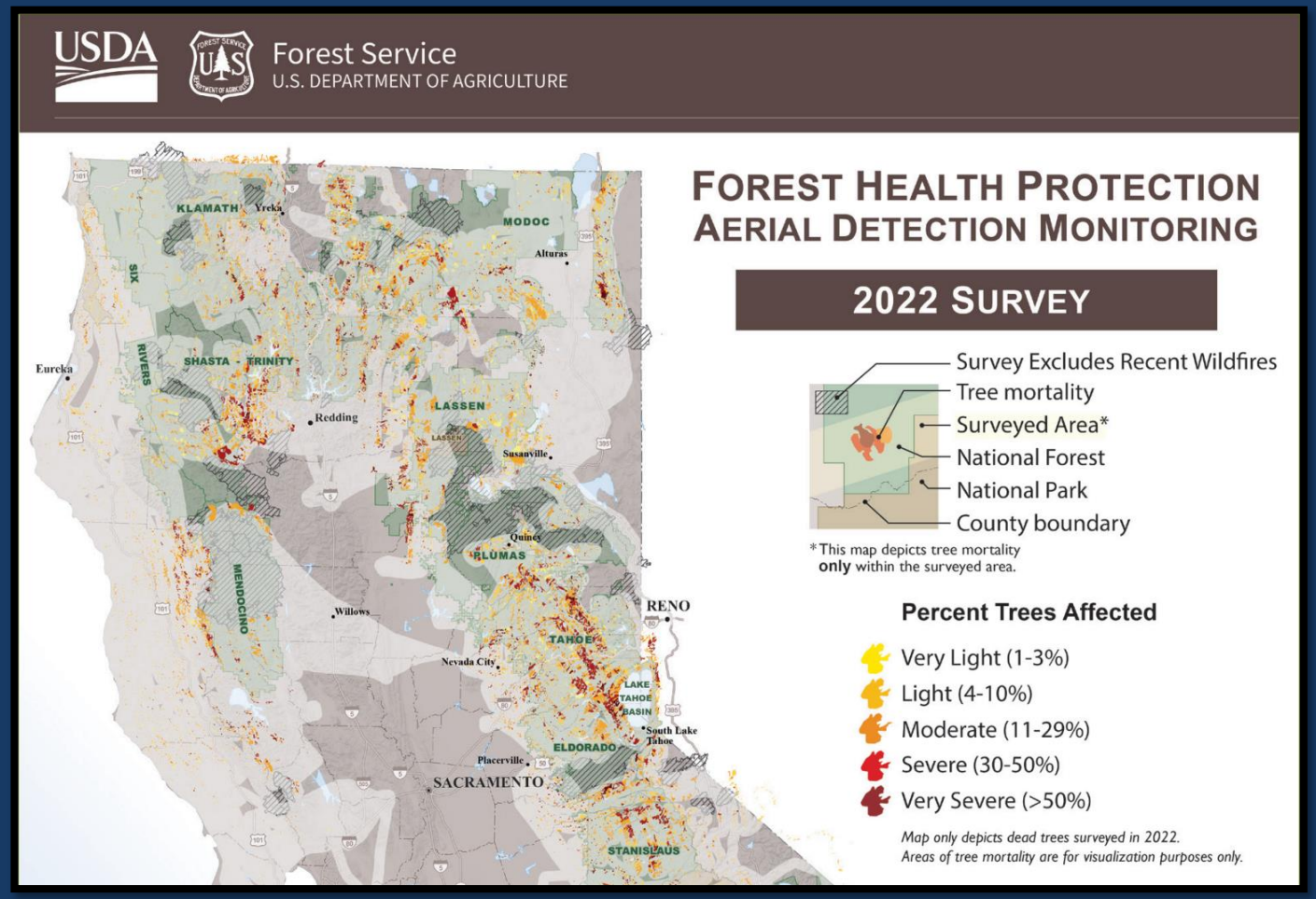
Weather & Fuels Discussion: Storm Damage

- Snowpack conceals the full scope of impacts to forest roads throughout state
- Snow melt runoff will exacerbate the damage

Storm Damage

Source: Local emergency due to storm damage | Placer County, CA

Fuels Discussion: Tree Mortality in North State

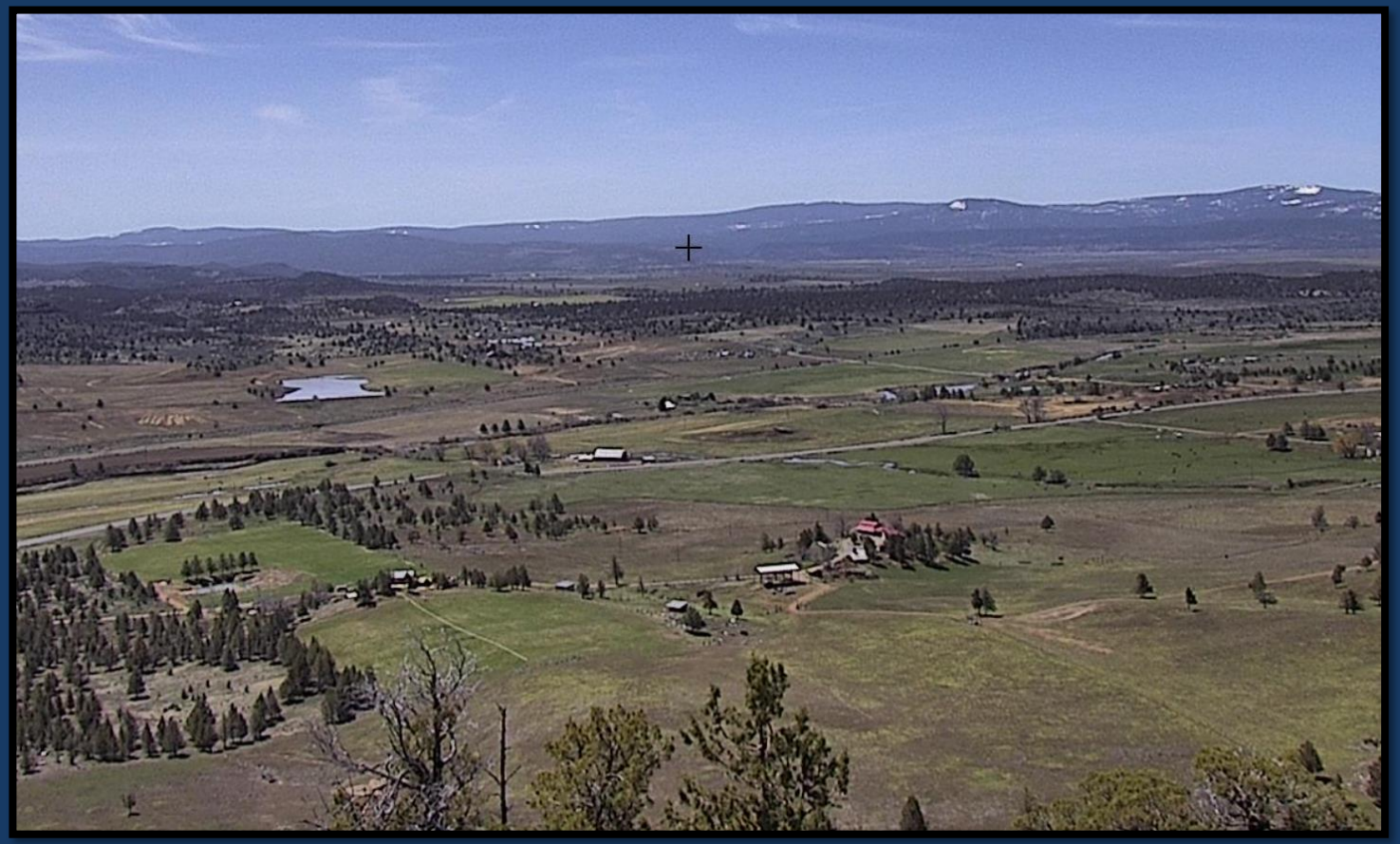


- Drought-induced tree mortality has reached the north state
- Primarily affecting *Abies* in Sierra/Cascade range
- Douglas-fir mortality in Siskiyou/Trinity region
- Snag risk – impacts to firefighters and infrastructure

Winter Storm Damage

Source: 2022 Aerial Survey Results: California (usda.gov)

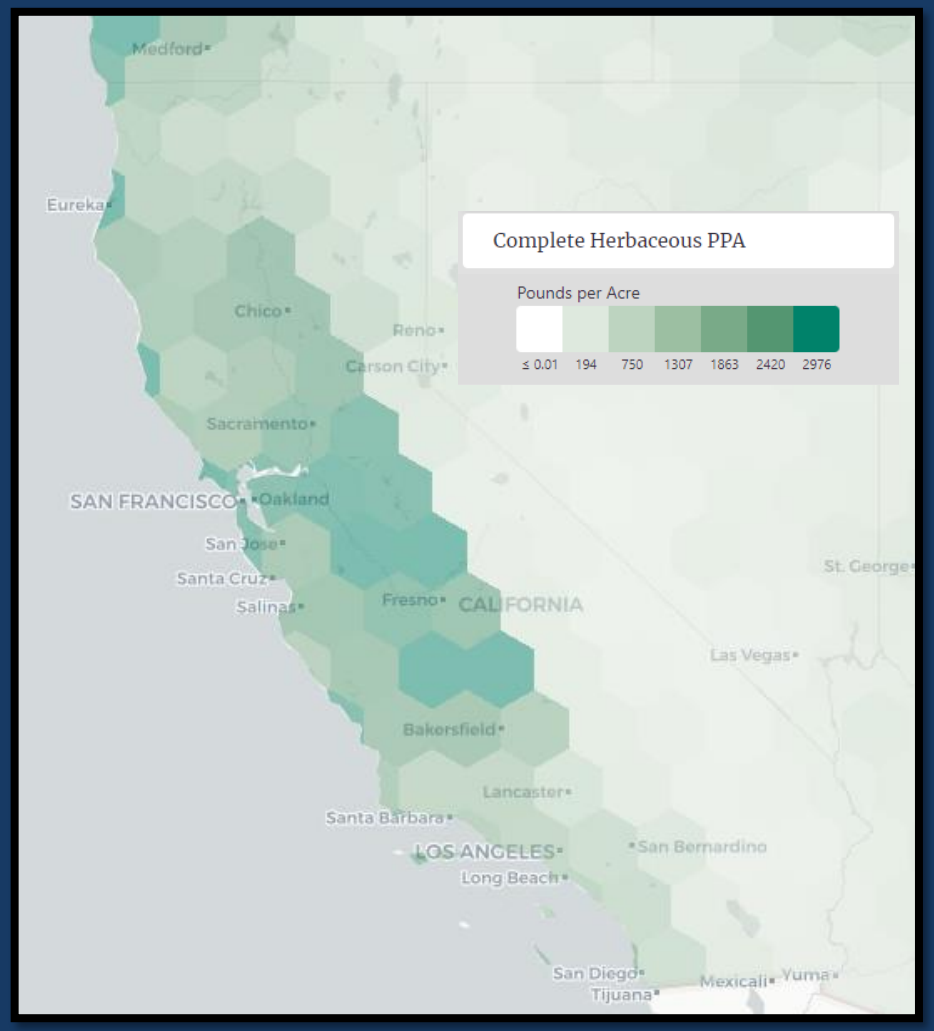
California Outlook



ALERTCalifornia: Devil's Garden-1, Modoc County, 26 April 2023

- Great Basin and Modoc Plateau areas are still affected by drier conditions and warrant higher alert levels for larger fire potential

Fuels Discussion: Drying Grasses



- Increased fuel loading from Spring flush of herbaceous material averaging a ton per acre through much of the “Golden Hills of California”
- Significant flash fuels combined with higher temperatures associated with El Niño: high fire potential <u>with wind events</u>

Fuels

Source: Fuelcast App

Fuels Discussion: Drying Grasses

ALERTCalifornia: Bealville-1, Kern County, April 25st, 2023

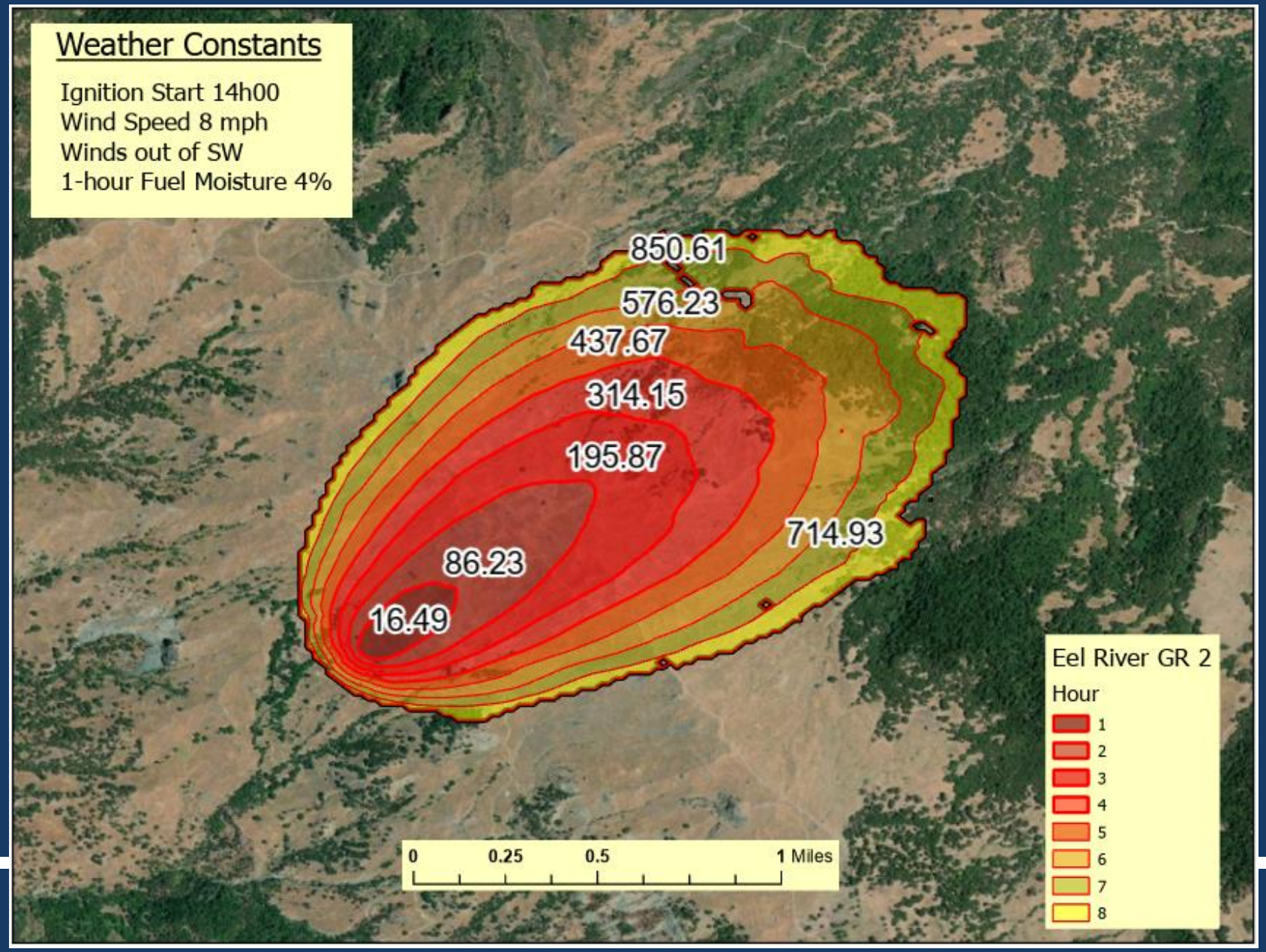
- Herbaceous materials are beginning to dry and cure on south-facing and level areas in the southern Central Valley

Fuels Discussion: Drying Grasses & Denser Loading

ALERTCalifornia: Bealville-1, Kern County, May 9th, 2023

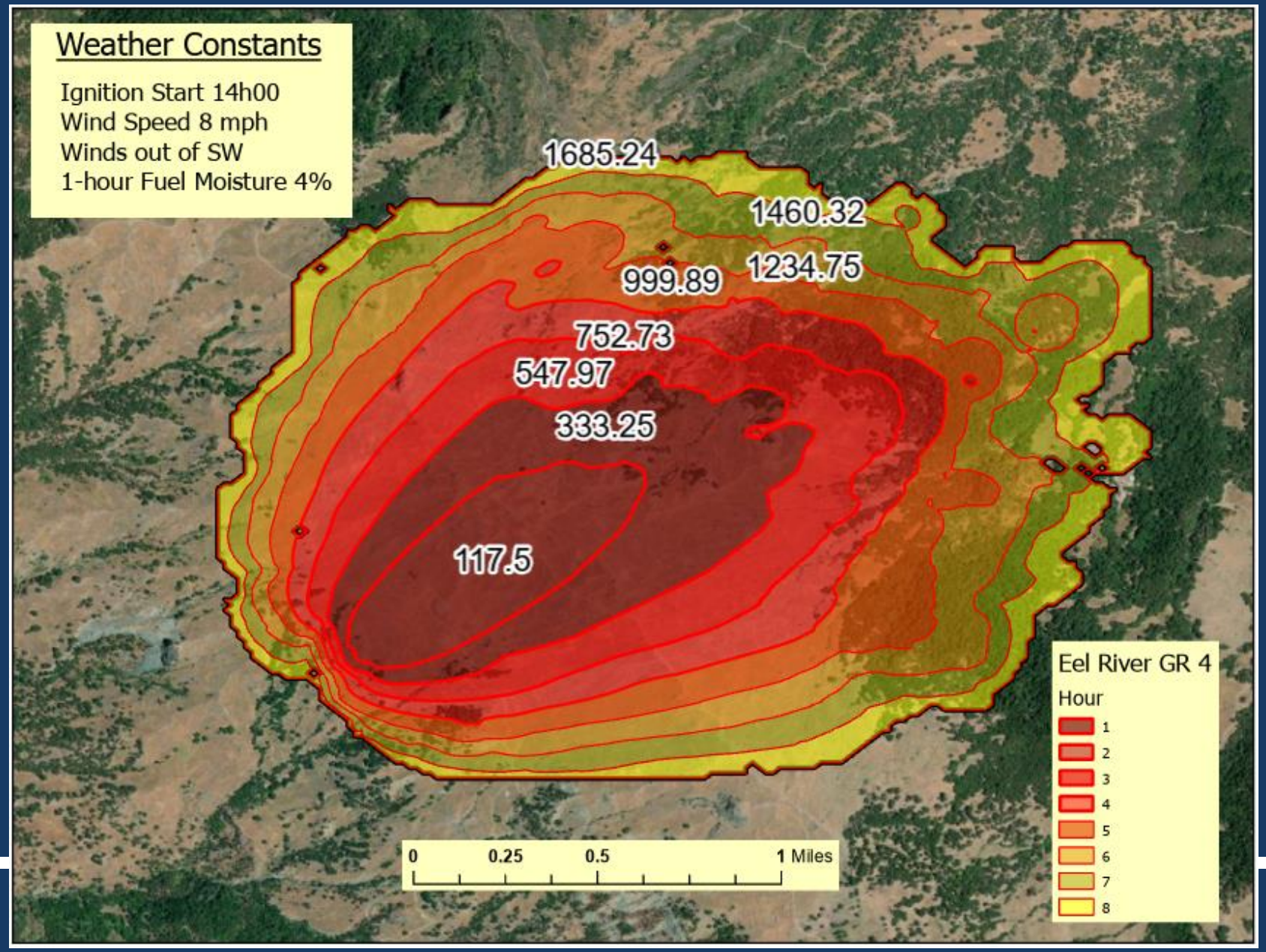
- Significant flush of herbaceous and increased loading that will skew fuel modeling
- Grass Model value upgraded in Fire Sims to reflect taller, fuller herbaceous biomass

Fuels Discussion: Fuels GR2 vs. GR4 Modelling



- Eel River serpentine grasslands modelled fire using standard GR2 fuels:
  850.6 acres

Fuels Discussion: Fuels GR2 vs. GR4 Modelling



- Eel River serpentine grasslands modelled fire replacing GR2 fuels with GR4 fuels: 1,685.2 acres

Fuels Discussion: Initial Attack Assessment Differences

2 - Moderate	
1h-Area (ac)	16.4
Average Slope (%)	25
Fire Behavior Index	2 - Moderate: Fire spreads rapidly presenting moderate resistance to control but can be countered with direct attack by firefighters.
Flame Length (ft)	3.48
ROS (ch/h)	20.06
Growth Potential Index	4 - Very Active: The fire has a very active potential due to its size and combination of potential growth in the next hour (if not contained).
1h-Perimeter (mi)	0.5
Area (a2/a1) (%)	426.4

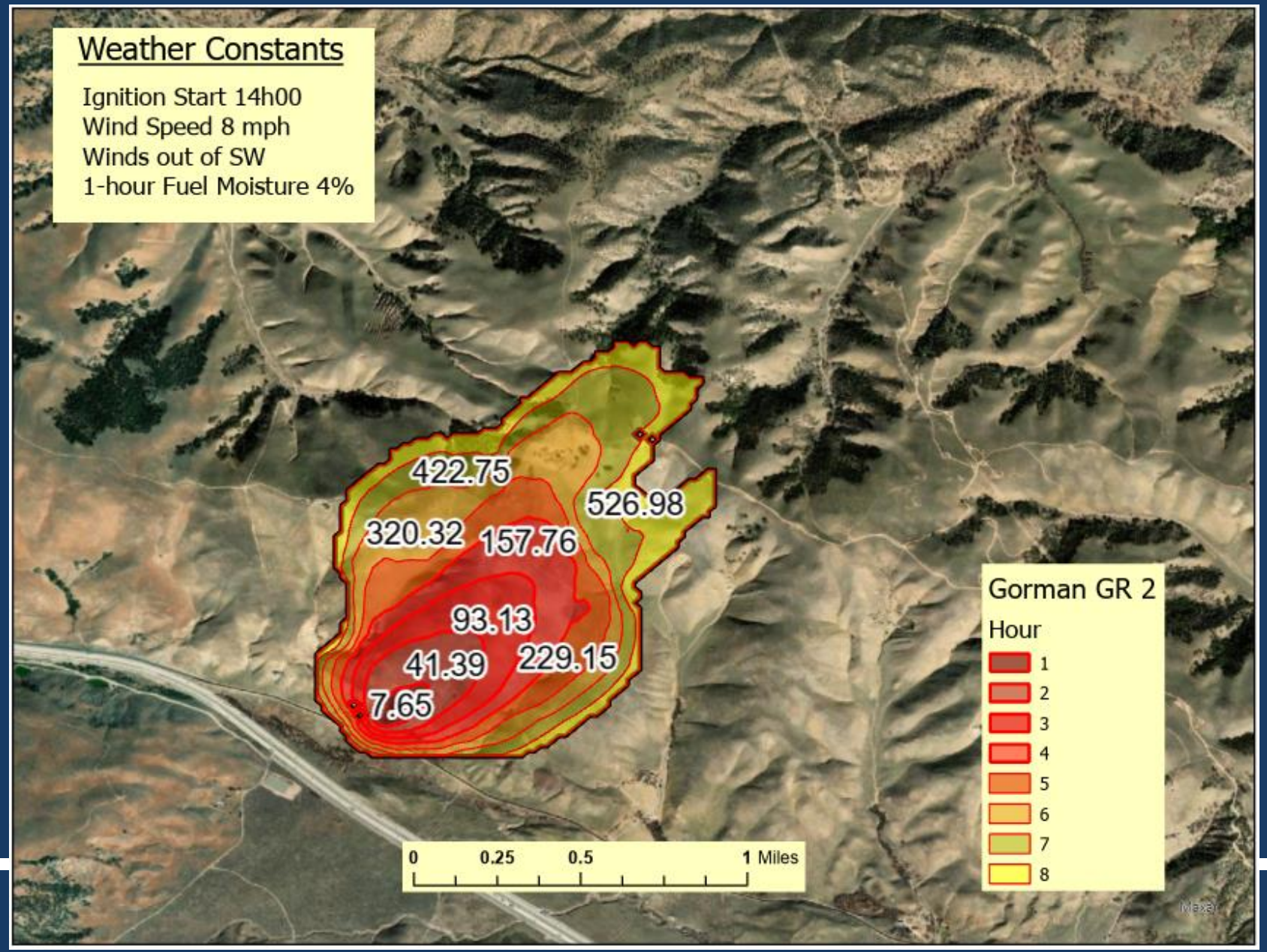
- GR2

4 - Very High	
1h-Area (ac)	117.2
Average Slope (%)	27
Fire Behavior Index	4 - Very High: Fire spreads very rapidly presenting extreme resistance to control. Indirect attack may be effective. Safety of firefighters in the area becomes a concern.
Flame Length (ft)	8.39
ROS (ch/h)	71
Growth Potential Index	5 - Extreme: The fire has an extreme potential due to its size and combination of potential growth in the next hour (if not contained).
1h-Perimeter (mi)	1.5
Area (a2/a1) (%)	183.9

- GR4

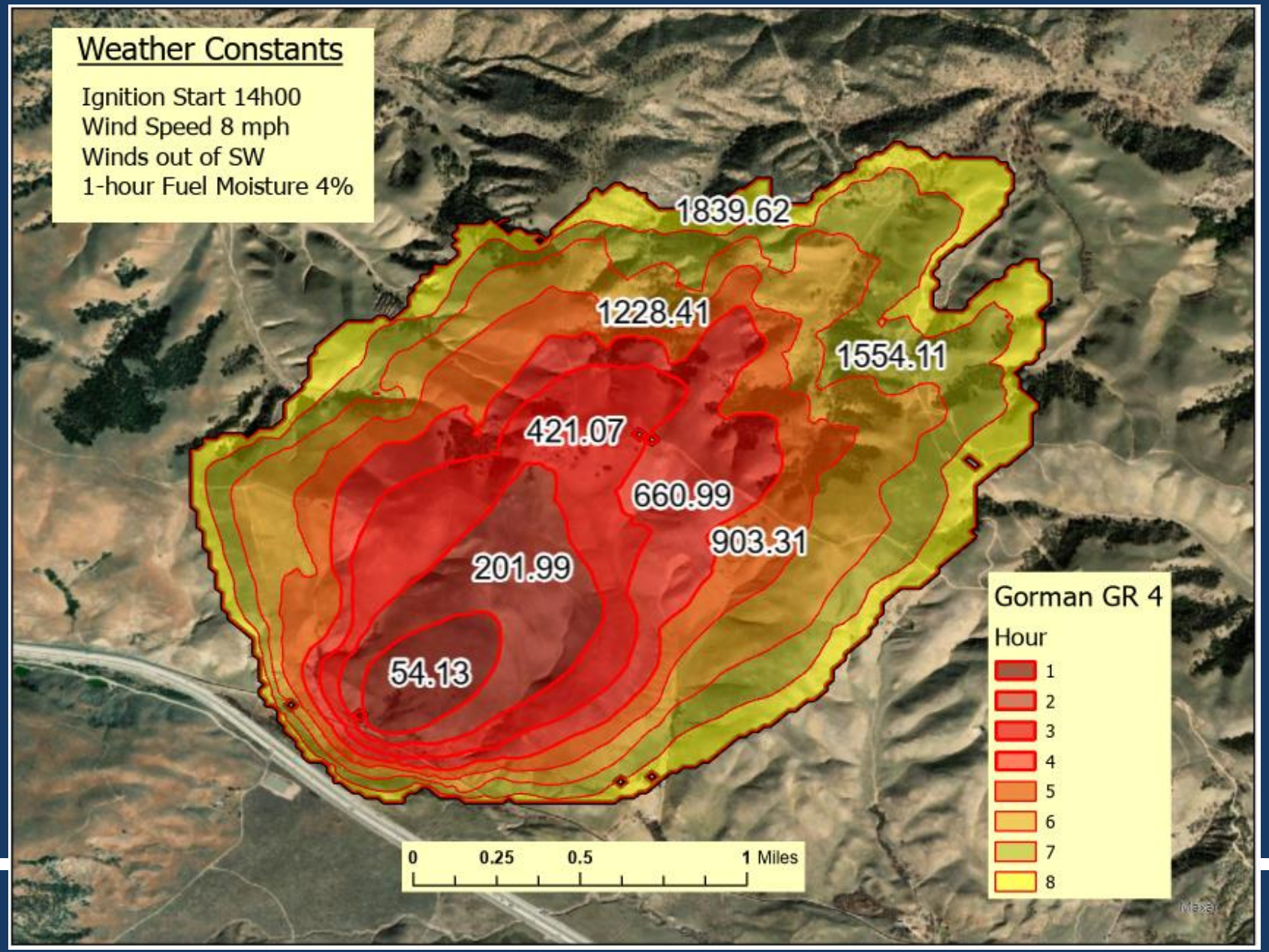
Source: Fuelcast App

Fuels Discussion: Fuels GR2 vs. GR4 Modelling



- Gorman Substation modelled fire using standard GR2 fuels: 527 acres

Fuels Discussion: Fuels GR2 vs. GR4 Modelling



- Gorman Substation modelled fire replacing GR2 fuels with GR4 fuels: 1,839.6 acres

Fuels Discussion: Initial Attack Assessment Differences

1 - Low	
1h-Area (ac)	7.5
Average Slope (%)	42
Fire Behavior Index	2 - Moderate: Fire spreads rapidly presenting moderate resistance to control but can be countered with direct attack by firefighters.
Flame Length (ft)	3.05
ROS (ch/h)	15.28
Growth Potential Index	3 - Active: The fire has an active potential due to its size and combination of potential growth in the next hour (if not contained).
1h-Perimeter (mi)	0.3
Area (a2/a1) (%)	450

- GR2

3 - High	
1h-Area (ac)	54
Average Slope (%)	38
Fire Behavior Index	3 - High: Fire spreads very rapidly presenting substantial resistance to control. Direct attack with firefighters must be supplemented with equipment and/or air support.
Flame Length (ft)	6.32
ROS (ch/h)	37.6
Growth Potential Index	4 - Very Active: The fire has a very active potential due to its size and combination of potential growth in the next hour (if not contained).
1h-Perimeter (mi)	0.9
Area (a2/a1) (%)	273.6

- GR4

Source: Fuelcast App

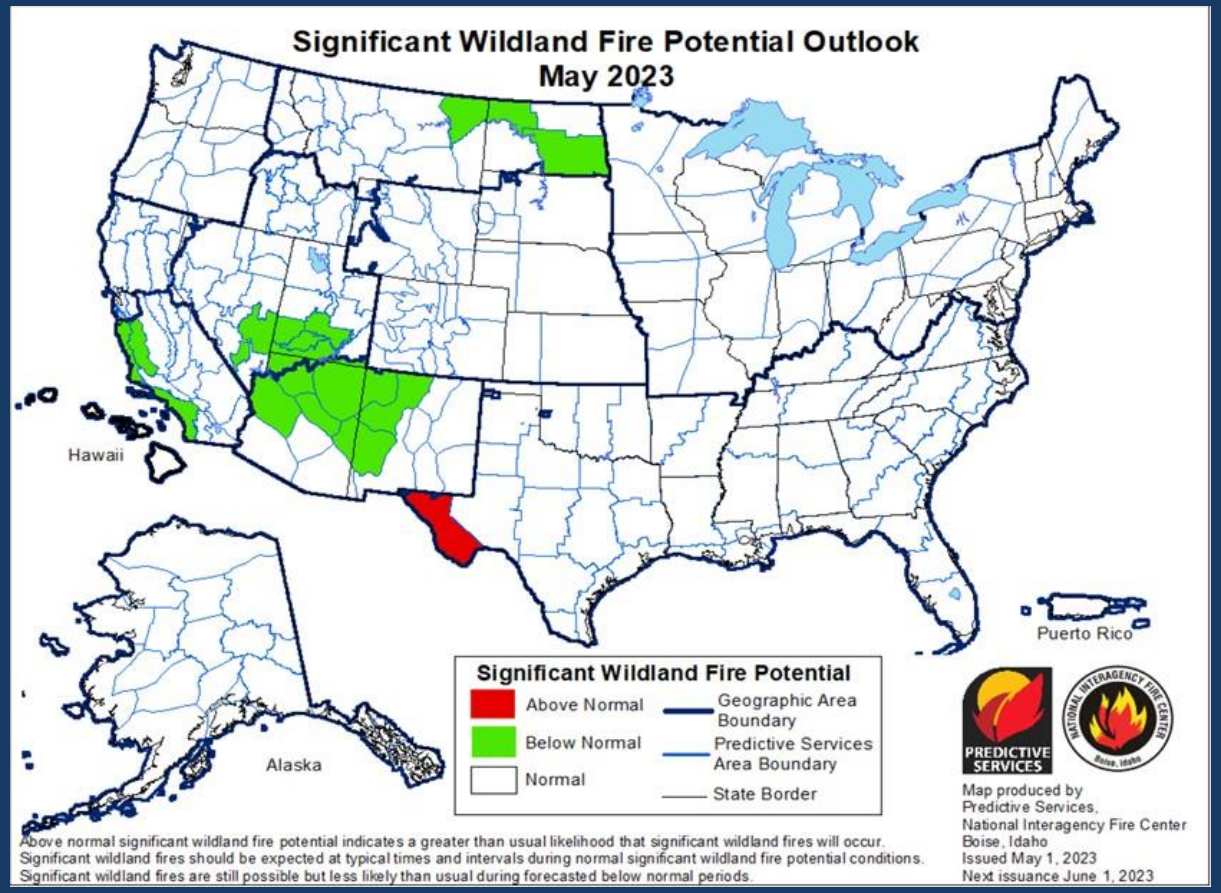
California 2023 Outlook: Déjà vu?

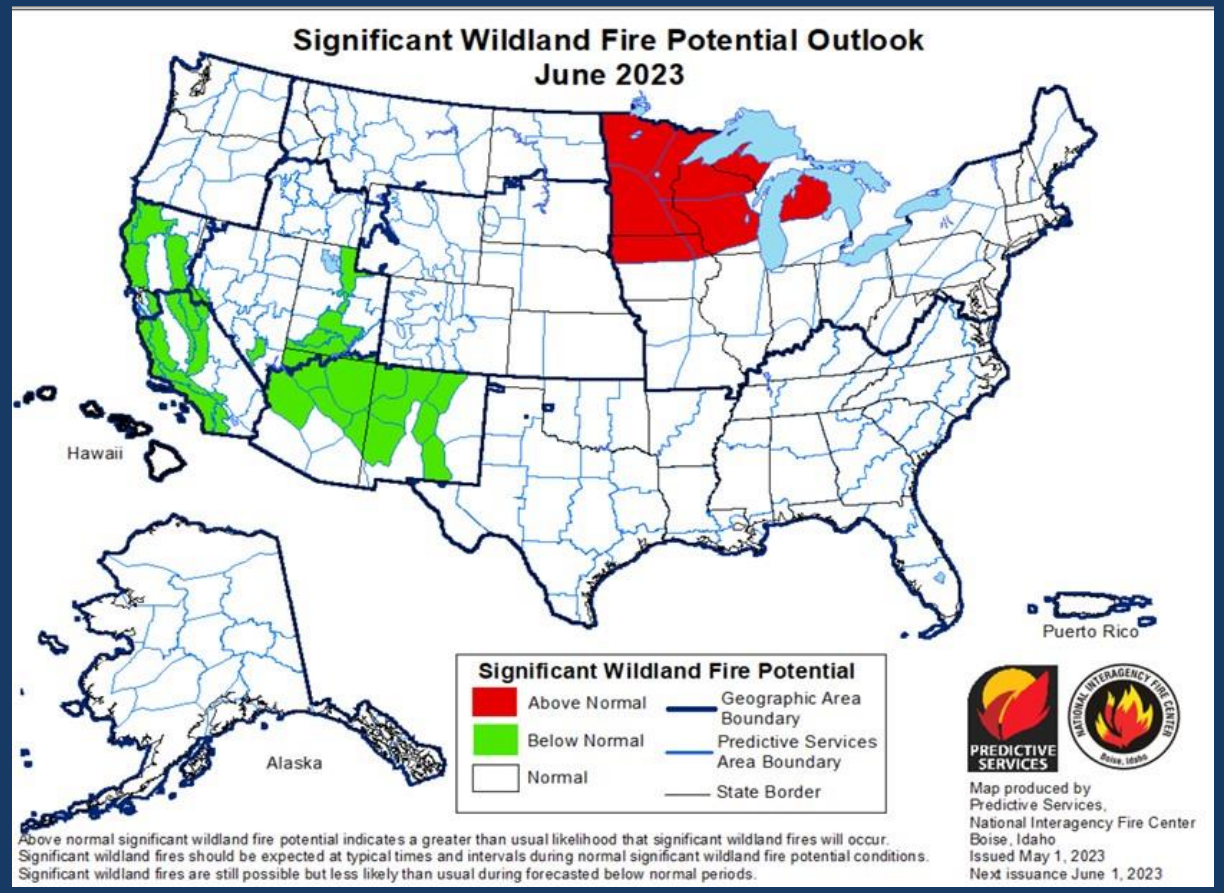
- The wet and snowy 2016/2017 winter was followed by robust wildfire activity in late 2017; will 2023 be a repeat?
- Potential is there, many factors will need to align once more

Remainder of 2023 Outlook

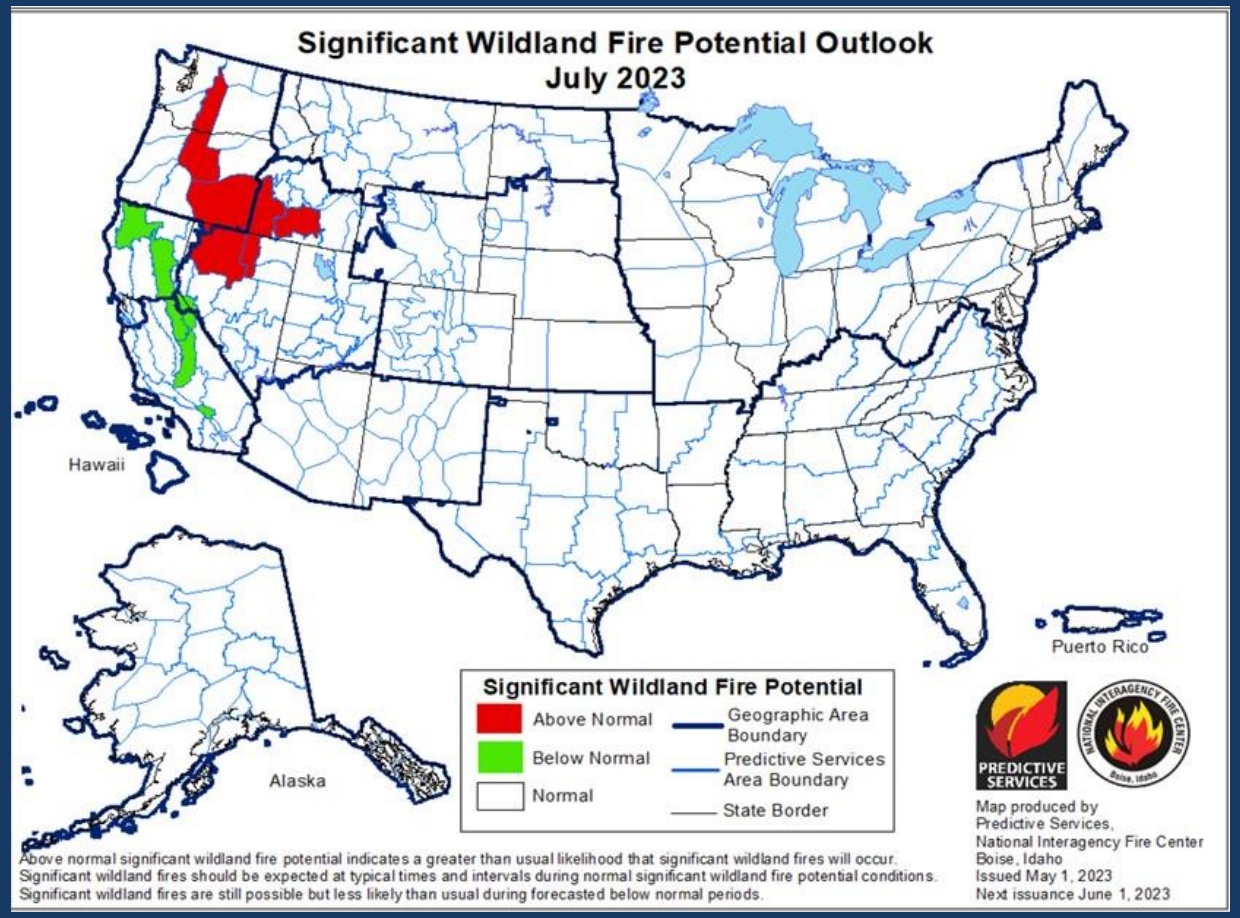
Source: [2017 California Wildfires (nationalgeographic.org)]

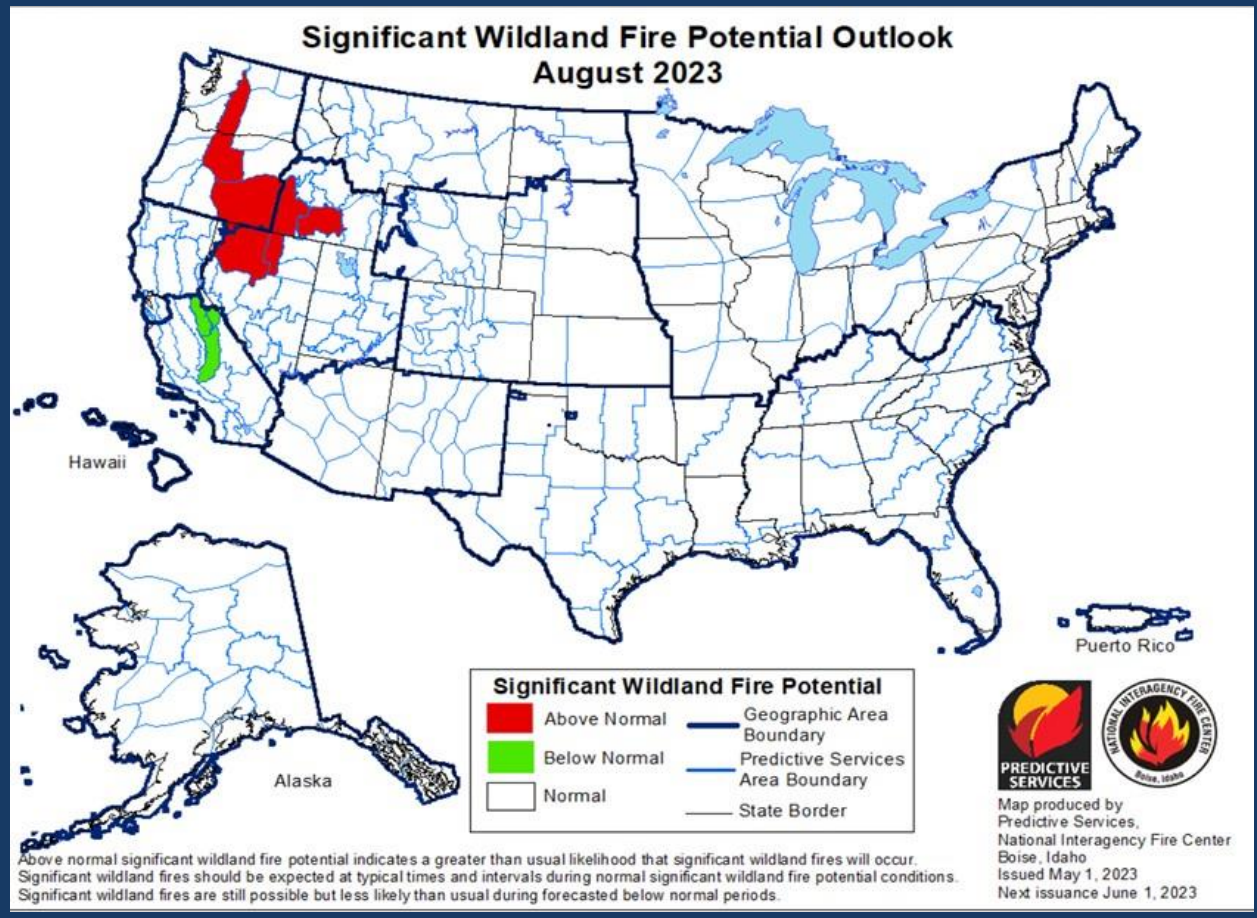
Northwest Region Four-month Significant Fire Potential





Northwest Region Four-month Significant Fire Potential





Northwest Region Four-month Significant Fire Potential

May – August 2023 Oregon/Washington Highlights

- Outlooks through May and beyond continue to suggest a transition to warmer than usual conditions during Fire Season 2023.

- Normal (i.e. very low) risk of significant fires is expected over the Northwest Area until July and August when areas of central and southeast Oregon are expected to be above average potential for significant fires.

Webpage Source: monthly_seasonal_outlook.pdf (nifc.gov)

Great Basin Region Four-month Significant Fire Potential

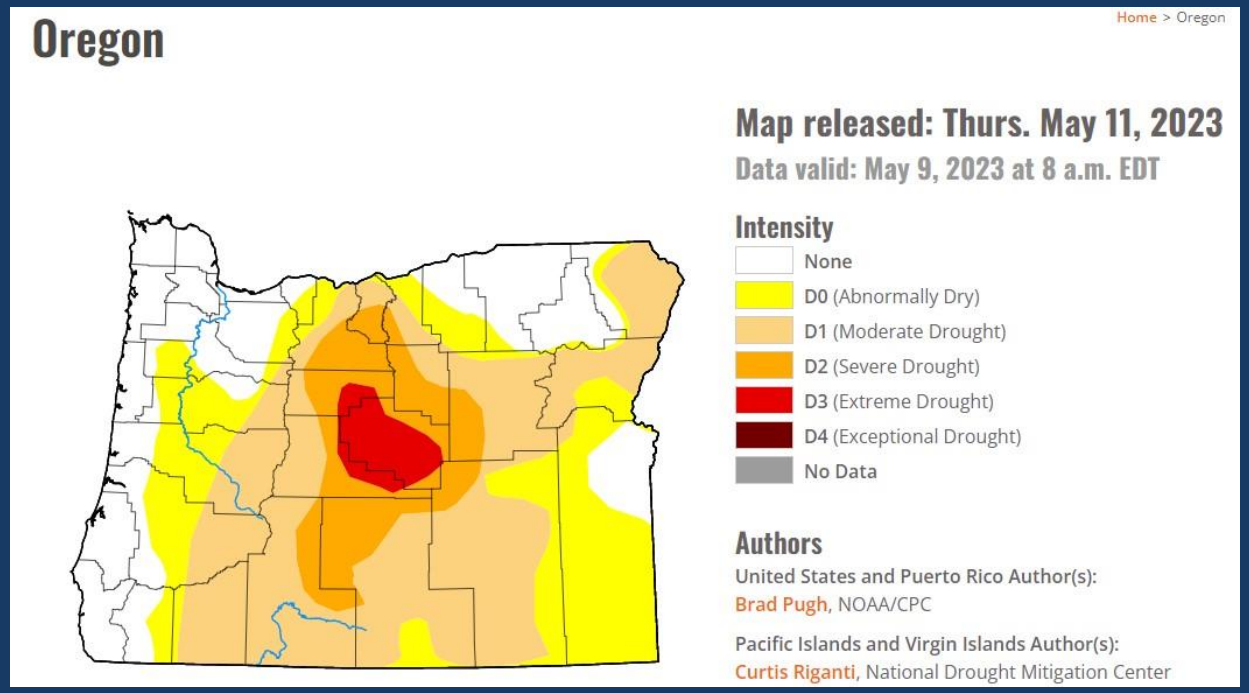
May – August 2023 Nevada Highlights

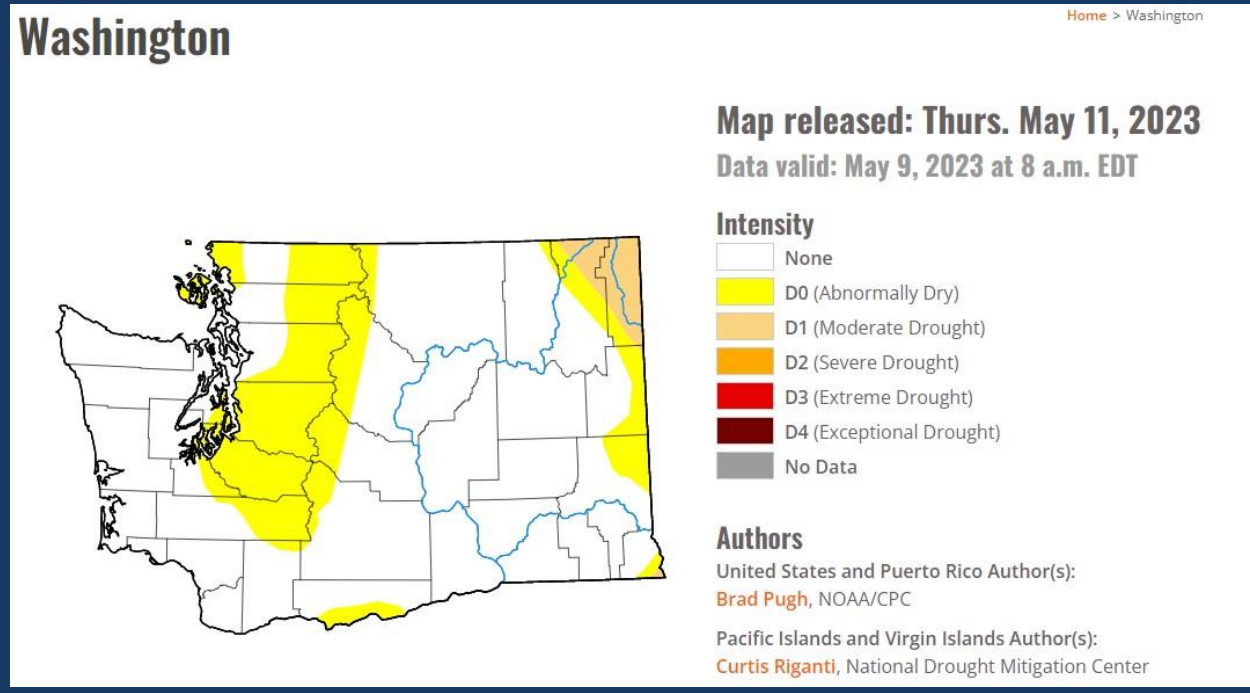
- Outlooks for May and June continue to reflect a normal fire risk model as the weather forecast calls for normal to cool conditions.

- As the weather model begins to warm and drier conditions in July and August the southern Idaho and northwest corner of Nevada will begin to reflect above normal fire potential with the remaining areas of the district remaining at normal risk

Webpage Source: monthly_seasonal_outlook.pdf (nifc.gov)

Weather Discussion: Drought Monitor





- Drought conditions will continue with forecasted below normal precipitation over the northwest
- Above normal temperatures are also forecasted

Wildfire Forecast & Threat Intelligence Integration Center

https://wftiic-calema.hub.arcgis.com/