

Fuels and Fire Behavior Advisory

Southwest Area – Arizona & Far Western New Mexico

Valid: June 16th – 30th, 2021

Subject: Severe to exceptional drought accompanied by near record heat & very dry conditions is causing explosive fire behavior potential in available fuels.

Discussion: Multi-year drought conditions across the Southwest Area were worsened by the first failed monsoon in twenty years in 2020, which led to very low fuel moisture values and a lack of fine fuels growth leading into the 2021 fire season. However, 2019 was very wet with a robust monsoon season that produced an abundance of fine fuels and some of that remains as carryover. With near record June heat in place, the combined situation is one of near historically dry and flammable dead and live fuels worsened by pockets of above normal carryover fine fuels.

Difference from Normal Conditions: Severe to Exceptional drought; Numerous PSA's at or above 95th percentile Energy Release Components (ERCs); 1000-hr fuel moisture value in single digits and approaching historically low values; lowest reported live fuel moisture readings in brush; pockets of above normal fine fuels; extreme heat and 3-5 day periods where RH remains below 15% round the clock.

Concerns to Firefighters and the Public:

- Anticipate most fuel types and species to ignite readily, exhibit advanced rates of spread (outside of model parameters and experiential knowledge), and potentially explosive fuels/terrain plume-driven fire behavior with profuse long-range spotting.
- Increased likelihood of fire activity picking up earlier in the shift, then maintaining into and potentially throughout night shifts due to extremely dry fuels.
- Short and mid-range spotting in fine fuels is possible with wind gusts, fire whirls, and frequent dust devils creating spotting potential greater than ½ mile in all fuel types with a probability of ignition generally over 90% based on current weather.
- Increasing thunderstorm threat environment, with outflow winds an important factor (as well as lightning ignition threat)
- Plume dominated fire behavior likely with heavier fuels and favorable slope alignment.
- Fires more likely to exceed initial attack unless significant aerial and ground resources are used.
- Some historic water sources may not be available for suppression purposes.
- Aviation assets may be unavailable due to operational constraints with the heat.



Plume-driven blowup on the Telegraph Fire during the morning hours of Monday, June 14th, with near historically dry fuels under near record hot and dry conditions.

Mitigation Measures:

- Additional resources maybe required on initial attack.
- Direct attack may not be feasible in many circumstances and use of indirect attack measures may be necessary.
- Ensure you are planning well ahead of the fire.
- Expect long-range spotting of up to a ½ mile or more with well-developed columns.
- Retardant NOT effective unless immediately followed up with firefighters and/or bucket drops.
- Retardant is NOT limiting fire spread; but is modifying fire behavior and lowering intensities.

Area of Concern: All of Arizona into far western New Mexico.

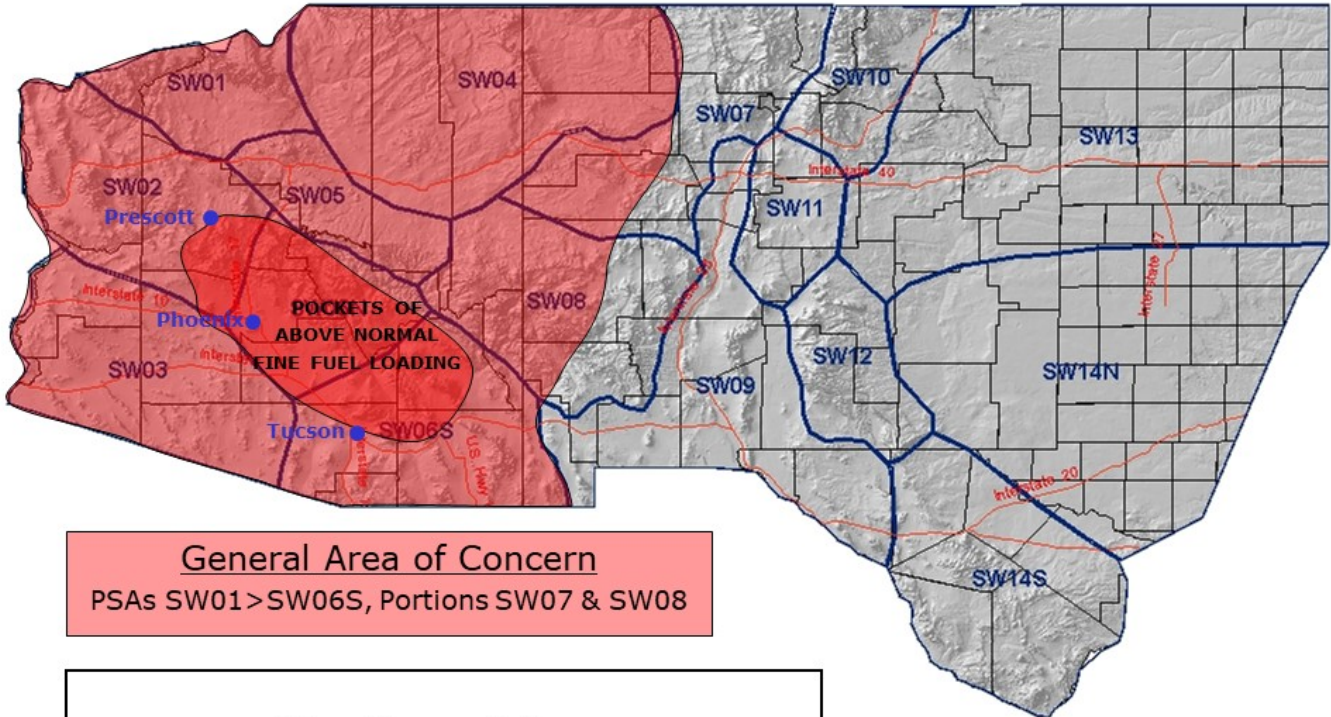
Issued By: Southwest Area Predictive Services and Decision Support



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General Area of Concern
PSAs SW01>SW06S, Portions SW07 & SW08

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