Fuels and Fire Behavior Advisory

Southwest Geographic Area
White Mtns/Gila Region and South-Central NM Mtns
May 16, 2025

Subject: Extreme drought conditions from eastern Arizona along the Continental Divide through the Gila Region to the South-Central New Mexico Mountains coupled with minimal winter precipitation has led to Energy Release Component (ERC) values and fuel moistures, both live and dead, consistent with peak fire season values 4-5 weeks earlier than typical.

Discussion: The winter of 2024-2025 had one of the lowest snowpacks on record for the southern tier of the Southwest geographic area. The snow water equivalent across the area of concern was at or below the minimum snow water equivalent measured over the past 30 years.

Current live and dead fuel moistures are similar to those expected during the peak of fire season in mid-June, 4 weeks early. Expectations for fire behavior include rapid transition from surface fuels to single and group torching in Ponderosa Pine and Mixed Conifer timber stands. Rapid rates of spread have been observed in areas of heavier fine fuel loading in burn scars. The Greer Fire recently made 5 miles of forward progress in the initial burn period through the Wallow Fire scar. Live fuel moistures taken in the brush indicate major drought stress, making them a more likely source of spotting. Mixed conifer and Ponderosa pine stand show similar indications of drought stress and are likely to contribute to increased spotting potential. Single digit fuel moistures for 1000 hr. fuels will contribute to resistance to control, particularly with direct attack.

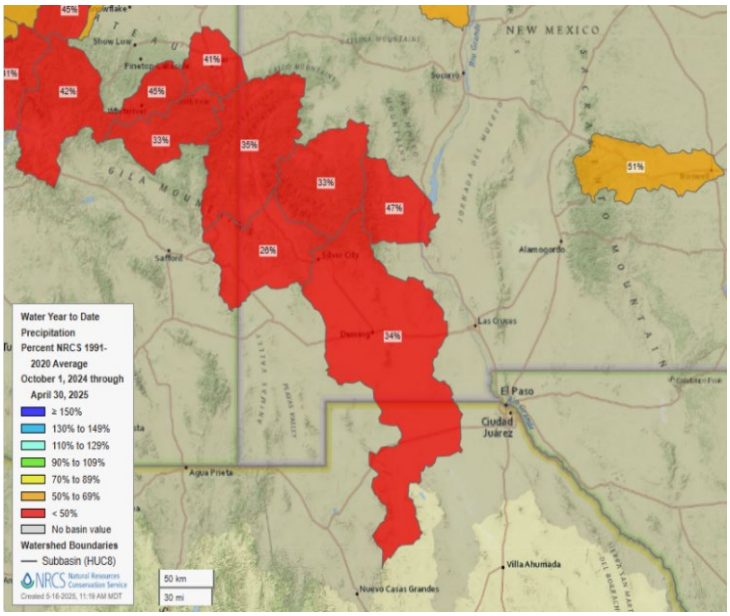

Figure 1: Sum of all precipitation compared to 1991-2020 average from October 1st, 2024, through April 30th, 2025, in the SW southern tier river basins.

Rank	Years	SWE (in.)
1	2025	1.1
2	2018, 2021	2.1
3	2000	2.2
4	2014	3.2
5	1996	3.3
6	2006	3.4
7	2002	4.2
8	2005	4.4
9	1990	4.5
10	2022	5.2
11	2011	5.3

Table 1: Maximum Snow Water Equivalent (SWE), per Year Mt. Baldy (Period of Record 1982 – 2025)

Difference from normal conditions: The White Mountains, Gila Region and Sacramento Mountains saw one of the driest winters on record with respect to Snow Water Equivalent. As of May 1st, The Little Colorado Basin stands at 59% of expected precipitation for the months of October through April. The Salt and Gila basins stand just over 1/3 of the expected precipitation for the same period. Drought conditions have expanded across the entire area of concern ranging from severe to exceptional drought. The peak snow water equivalent in the Upper Gila Basin for the winter of 2024-25 was below lowest 10th percentile over the past 30 years. ERC values since January have trended at or above maximum values recorded since 2015. Current ERC values are above

the 90th percentile. These values would generally occur during the final weeks of June during the historical peak of fire season in the area of concern. The lack of snowpack and residual moisture in the area of concern has left the high elevations much drier than normal.

Concerns to Firefighters and the Public:

- Most fuel types and species will ignite readily, exhibiting aggressive rates of spread with potential for long-range spotting.
- Short and mid-range spotting in fine fuels is likely with wind gusts, fire whirls, and frequent dust devils creating spotting potential greater than ½ mile in all fuel types.
- Rates of spread are more likely to exceed production of initial attack resources
- Due to persistent drought, well known water sources may not exist or have limited availability for suppression purposes. Therefore, requiring longer turnaround time to alternate sources of water.
- Aviation assets may be unavailable due to operational constraints with wind.
- Direct attack may not be feasible in many fuel types due to extreme fire behavior.
- The effectiveness of retardant may be limited due to spotting distance, canopy cover, wind and low relative humidity.

Mitigation Measures:

- Additional resources may be required on initial attack.
- Use indirect attack measures as necessary.
- Ensure you are planning well ahead of the fire.
- Use retardant to modify fire behavior and lower intensities (will not stop fire spread) but only if immediately followed up with firefighters and/or bucket drops.
- Consider aviation use in the early morning or late evening as water or retardant will be less effective during the peak burning period. Understand and practice sound decision making with the use of LCES, the Ten Standard Fire Orders, and the 18 Watchout Situations.
- Suppression operations such as ignitions and direct line construction will likely be more effective during morning and late evening hours.

Area of Concern: PSA SW08 White Mountains and Gila Region and SW12 South Central NM Mountains

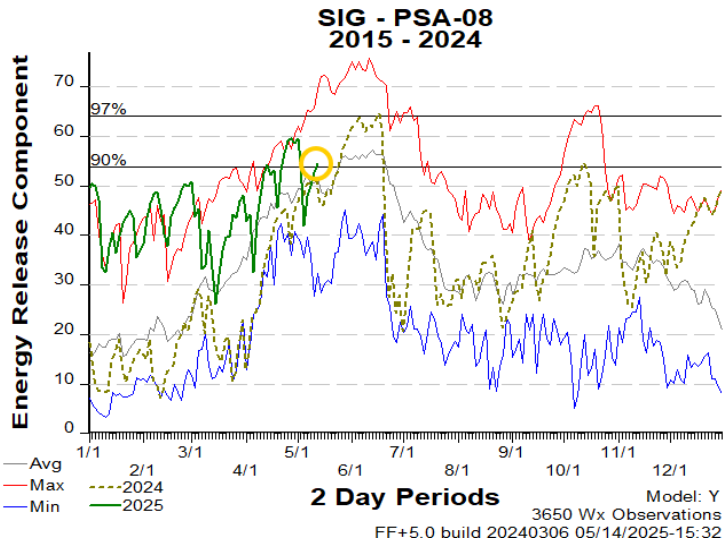

Figure 2: SW PSA08 White Mountains and Gila Region Energy Release Component (ERC) Chart from Southwest Coordination Center Website through 5/14/2025.

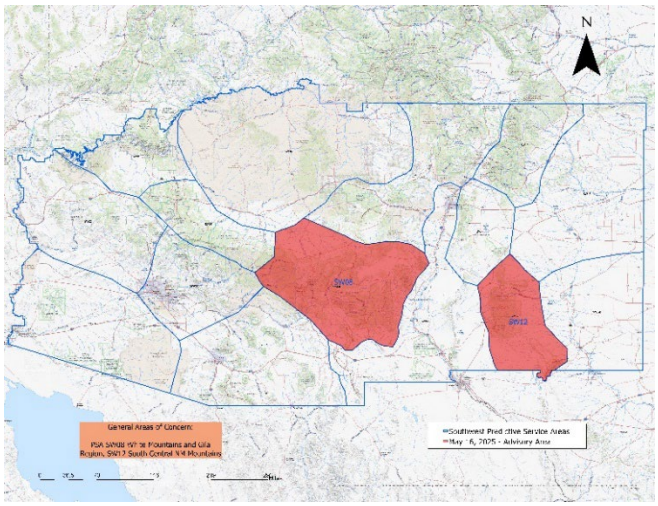

Figure 3: Fuels and Fire Behavior Advisory Area of Concern PSA SW08 and SW12.