

Fuels and Fire Behavior Advisory

Front Range of Colorado and southeast Wyoming

Date Advisory Effective - August 1, 2024



Subject: The vigorous growing season of 2023 resulted in above normal fine fuel loading across the high plains and foothills of northern Colorado and southeastern Wyoming. The increased loading of fine fuel from the 2023 season combined with the curing of the 2024 herbaceous growth has combined to produce an abnormally high grass fuel loading, in areas below 8,000 feet.

Discussion: The increased grass fuel loading and continuity provides a fuel bed prone to rapid rates of spread. During the week of July 29, 2024, locations in northern Colorado have had a **continuous burn period** (relative humidity < 30% and temperature > 65 degrees) for 48 hours and longer. Wildfires burning in these fire environment conditions had continuous surface spread including active surface spread at night, with passive and active crown fire in the early morning hours - **without a critical wind**. The recent fires have been resistant to control. The concern is that this area is going into late summer and fall, which are normally dry and are more likely to have critical wind events occur (breakdown of the high pressure and downslope winds). When wind is added to this fire environment, we will experience dangerous fire behavior. Multiple counties are in fire restrictions with agencies in severity. Until multiple wetting rains produce significant changes in fuel conditions, expect similar fire behavior during period of hot, dry weather with or without critical winds.

Difference from normal conditions: In addition to the increased fine fuel loading, the horizontal continuity of fuels is allowing fire to exceed many of the natural fuel breaks that normally hinder fire spread. High temperatures have been 5 to 6 degrees above normal over the last week. Precipitation has been about 50 to 60 percent of normal over the last 3 months, with the last week seeing much of that same area running 20 to 50 percent of normal. The US Drought Monitor shows that the area affected by Moderate Drought (D1) and Severe Drought (D2) has significantly increased in this area.

Concerns to Firefighters and the Public:

- When fires occur during wind events, expect extreme to unprecedented fire growth and intensity. Cold front winds and downslope winds are critical fire environment winds for this area.
- Typical barriers to fire spread, like roadways, will be ineffective at stopping fire progression on windy days.
- Expect longer burn periods during hot, dry stretches with poor overnight recoveries.

Mitigation Measures:

- Prepare for the additional staffing and resources required by the increased workload from initial attack and mop-up.
- Wider than normal control lines may need to be constructed to reduce slop-overs from convective and radiant heating. Expect spotting as the fuel bed will be receptive, and probability of ignition (PIG) will be high.
- Suppression difficulty and resistance to control – be flexible with your suppression strategy as the fire may outpace traditional fire suppression tactics. Fire managers should be prepared to support periods of more frequent fire occurrence, as well as complex, long-duration incidents.
- Stay alert for abrupt changes in fire weather and be prepared to respond quickly; be able to respond to wind shifts and unanticipated changes in direction of spread.



Fire backing downhill and against the wind in above normal fine fuel loading (courtesy of USFS)

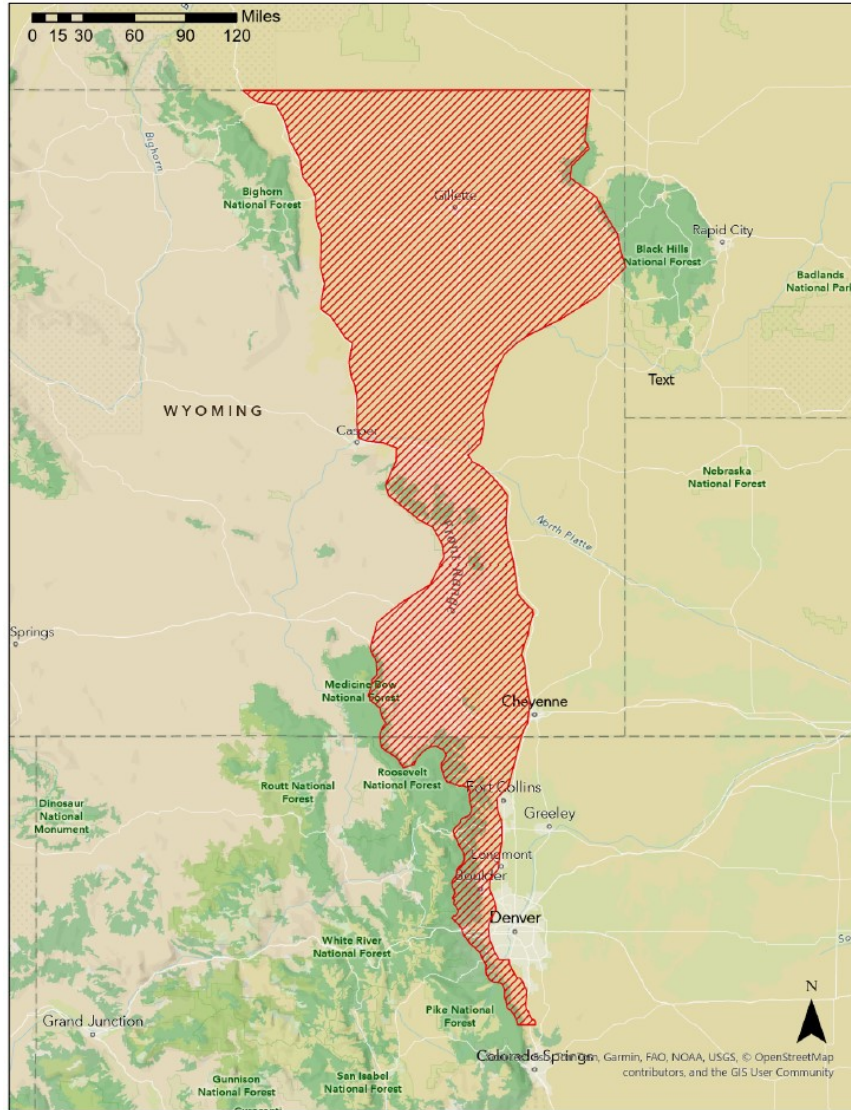
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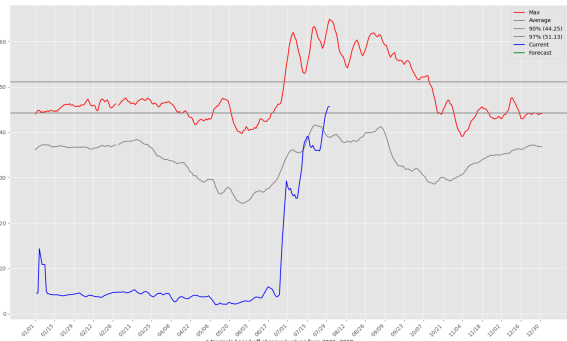
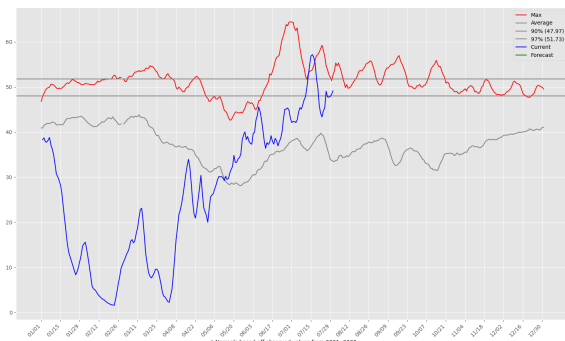


Area of Concern: The Front Range of Colorado. The Laramie Range, Laramie Valley, Cheyenne Ridge, and Powder River Basin in Wyoming.



RM12 - Northern Front Range Foothills - ERC
Valid Date: 07/31/2024

RM04 - Powder River Basin - ERC
Valid Date: 07/31/2024



Colorado Front Range ERCy Trends

Northeast Wyoming ERCy Trends

<https://gacc.nifc.gov/rmcc/nfdrs.php>