

Fuels and Fire Behavior Advisory

Idaho Panhandle and Montana

08/16/2017



Subject: Emerging drought and a continued warm and dry weather pattern has created extreme burning conditions throughout the Idaho Panhandle and the western half of Montana.

Discussion: The Idaho Panhandle and both western and central Montana are currently experiencing high levels of initial attack and large fire activity. Above normal fine fuel loadings due to above average winter and early spring precipitation, have also increased large fire activity in central Montana. Emerging drought, abundant heavy dead fuels, heavy dead fuel moistures below the 3rd percentile and ERC values trending above the 90th and 97th percentiles are fueling significant fire growth when fire weather thresholds are present.

Difference from normal conditions: **Of special concern is the high percentage of beetle killed timber in the mixed conifer stands.** This heavy dead loading is contributing to higher fire intensities resulting in increased resistance to control. Increasing rainfall deficits and emerging drought have dropped fuel moistures in the heavy dead or 1000 hour fuels to levels that are comparable to kiln dried lumber. The heavy dead fuels on the surface are increasing surface fire intensities and facilitating a quick transition from surface fire to canopy fire.

Energy Release Component (ERC) values showed a recent drop from the 97th to the 90th percentile due to light rain and increased surface moisture over a two day period. The rebound back to the 97th percentile will be quick. 97th percentile ERC values represent extreme fuel dryness in the landscape fuel beds. Extreme fuel dryness in high risk fuels such as the mixed conifer stands will support significant fire potential and large fire growth when critical and sometimes less than critical fire weather is present.

1000 hour fuel moistures from 8-12%

Live fuel moistures in mixed conifer species from 100-120%

Live herbaceous moisture is cured at lower elevations and transitioning to cured at higher elevations

Concerns to Firefighters and the Public: Expect existing fires and any new ignitions to exhibit a high resistance to control efforts even when fire weather conditions are below critical thresholds: **20' wind speed over 20 mph, RH less than 15%, Temperature over 85.** Moderate intensity surface fires are easily transitioning into canopy fuels producing frequent spot fires from both single and group tree torching. Active or running crown fires require steep slope, critical windspeed or an alignment of both wind and slope.

Significant fire activity or large fire growth potential is not dependent on the presence of critical fire weather. Fire weather below normal critical thresholds can produce significant fires due to the extreme fuel dryness and above normal fuel loads in fine fuels and heavy dead fuels.

- Grass fuel load is significant. Anticipate rapid rates of spread in cured grasses with critical fire weather.
- Thunderstorms may produce strong, gusty winds that rapidly increase fire behavior.
- Assume that all fuels are available and will contribute to fire intensity.
- Plan for both short and long range spotting. All fuel beds will be receptive.

Mitigation Measures: Firefighters should have an expectation each day for the type of fire behavior they may encounter based on fuel dryness and fire weather conditions.

- Ensure all fire resources have LCES in place prior to engaging.
- Ensure a thorough size-up and tactical plan are in place before engaging.
- Modify tactics when fire behavior exceeds the capabilities of on the ground resources.

Area of Concern: Includes the western half of Montana and the Idaho Panhandle