

Fuels and Fire Behavior Advisory

All of Alaska, excluding Coastal Areas and Panhandle

June 19, 2013



Subject: Record heat and dry fuels for much of Alaska producing record-setting fire spread potential and rapidly rising resistance to suppression efforts across boreal spruce and tussock tundra fuels.

Discussion: With at least a week of intense high pressure residing over the state, record heat and dry weather are producing rapid spread rates, crown fire behavior, and extended burn periods. Temperatures now commonly approaching 90°F are drying fuels with over 20 hours of sun.

Surface fuel moisture conditions are represented by the Fine Fuel Moisture Code (FFMC), with most locations reporting values well above 92, the threshold for rapid ignition and initial spread. Deeper drying has lagged a little with spring beginning in many areas around Memorial Day. But with this string of hot dry days since, even the Duff Moisture Codes (DMC) for locations across this advisory area are above 80. Many reported DMC levels are setting new daily records.

Fires that lay dormant for several days earlier in the month have awakened, producing impressive growth in the eastern interior and the southwest of the state across a variety of fuels. Black Spruce, Tussock Tundra, and even mixed spruce and hardwood are demonstrating daily spread of 5-10 miles under the extreme heat and moderate winds.

Anticipating that conditions will continue to build for the rest of June, modest changes in the pressure patterns should bring lightning ignitions and local wind events to reinforce the problem pattern.

Difference from normal conditions: A very stable air mass led to extreme high temperatures and low humidity statewide lasting over a week, which have heated and dried fuels to extreme levels. Normally, this time of year brings a more unstable air mass, with afternoon showers across the Interior that serve to somewhat moderate surface heating.

Concerns to Firefighters and the Public:

- Rapid Spread, Spotting Potential, and active Crown Fire that can compromise your current location and personal safety
- New ignitions from dry lightning
- Poor access for you and reinforcing resources
- As fire activity increases, smoke may become a concern, decreasing visibility and raising the risk for respiratory and cardiac health issues

Mitigation Measures:

- Monitor forecasts in areas of interest to you
- Ensure escape routes to adequate safety zones are known and understood by all involved
- Evaluate the effectiveness of response actions you are taking and disengage when necessary
- Maintain good communications within your group and to outside dispatch offices to be aware of forecasted changes.

Area of Concern: All of Alaska is of concern, except coastal areas, the North Slope, and the Panhandle. Areas of particularly high fire danger include the central and eastern Interior and the interior portions of Southwest Alaska.

Fuels and Fire Behavior Advisory

Central and Eastern Interior Alaska, including Copper River

July 1, 2013



Subject: Extended period of record heat through June in eastern Alaska and neighboring Yukon Territory has produced dry fuelbeds, rapid ignition, and intense burning under even light wind conditions.

Discussion: Buildup Index (BUI) values have risen rapidly throughout the month of June across the state, producing conditions well above thresholds for crown fire in spruce, intense burning in tundra fuels, and holdover fires that resist the effects of moderating weather. Highest values are well above the extreme threshold of 110. Fires across the central and eastern Interior have demonstrated growth in burn scars, mixed hardwood and spruce, and even in some hardwood litter fuels.

Though record heat is not expected for early July, ignition potential and spread rates are still very high with such dry fuels. Long burn periods and holdover fires continue to thwart control efforts. Transitions back to active fire behavior out of moderating conditions may be more abrupt than experienced earlier in the season.

Also with the pattern change, winds are more likely to be appearing in the forecasts, producing rapid spread, especially where reinforced by flashy fuels and exposure to slopes.

Difference from normal conditions: A very stable air mass led to extreme high temperatures and low humidity statewide that lasted through June, drying fuels to extreme levels. The central and northeastern Interior still have yet to see normal afternoon shower activity that serves to moderate fuels during these long summer days. Until some moisture begins to work its way into this part of the state, fuels will remain particularly dry.

Concerns to Firefighters and the Public:

- Rapid spread, spotting potential, and active crown fire that can compromise your current location and personal safety
- New ignitions from dry lightning
- Poor access for you and reinforcing resources
- Smoke, decreasing visibility and raising the risk for respiratory and cardiac health issues

Mitigation Measures:

- Monitor forecasts in areas of interest to you
- Ensure escape routes to adequate safety zones are known and understood by all involved
- Evaluate the effectiveness of response actions you are taking and disengage when necessary
- Maintain good communications within your group and to outside dispatch offices to be aware of forecasted changes

Area of Concern: Central and eastern Interior Alaska, with a focus on the upper Yukon Valley, the middle Tanana River Valley, and the Copper River Valley.



Fuels and Fire Behavior Advisory

Cancelled

July 10, 2013



Subject: Cancel Fuels and Fire Behavior Advisory

Discussion: Recent rains have alleviated the extreme conditions across all areas.

Difference from normal conditions: Conditions are near normal to slightly above normal.

Concerns to Firefighters and the Public:

- Star alert for a return to drier conditions towards the weekend.

Mitigation Measures:

- Monitor forecasts in areas of interest to you
- Ensure escape routes to adequate safety zones are known and understood by all involved
- Evaluate the effectiveness of response actions you are taking and disengage when necessary
- Maintain good communications within your group and to outside dispatch offices to be aware of forecasted changes

Area of Concern: Central and eastern Interior Alaska, with a focus on the upper Yukon Valley and the middle Tanana River Valley.

Predictive Services AICC/Alaska Fire Service
Alden/Ziel

Fuels and Fire Behavior Advisory

Central & Eastern Interior of Alaska, including Copper River Basin



August 9, 2013

Subject: Record heat and dry fuels for much of central and eastern Interior Alaska continues to produce record-setting fire spread potential and high resistance to suppression efforts across boreal spruce and tussock tundra fuels.

Discussion: Alaska has experienced an extremely hot and dry summer across most of the state. After record setting heat waves for much of June and July, some moderation has occurred in the south and west. However, the central and eastern Interior has received virtually no precipitation in the last couple of weeks, at a time of year when a season-ending event such as a broad southwest flow regime usually brings wetting rains statewide. Instead, high pressure over Canada and low pressure over the Bering Sea are keeping a strong southerly Chinook flow over the Alaska Range. This has created an extremely dry air mass over the central and eastern Interior. The associated wind events are finding receptive fuels around ongoing fires, producing rapid spread rates, crown fire behavior and extended burn periods in those areas.

The forecast models currently show no changes to the pattern in the next ten days that will bring any relief in the form of precipitation to the Interior part of the state. Southerly flow gradually gives way to high pressure building back into Alaska from over Canada. Though this will decrease the Chinook winds, it could lead to lightning activity, and thus potential for new natural starts. More importantly, seasonal severity will continue to build, with Buildup Index (BUI) and Drought Code (DC) both having reached levels that indicate intense surface fires that resist control and deep burning severity.

Difference from normal conditions: By this time of the season, Alaska has usually been exposed to a broad southwest flow over the entire state. This flow pattern brings wetting rains to all of the state. This year, that pattern has not emerged, and is not in any of the forecast models for the next two weeks. Additionally, the patterns that have setup have brought very limited rainfall to the Interior, depriving the region of even the usually scattered afternoon showers and thunderstorms.

Concerns to Firefighters and the Public:

- Rapid Spread, Spotting Potential, and active Crown Fire that can compromise your current location and personal safety
- Poor access for you and reinforcing resources
- With high fire activity, smoke will be a concern, decreasing visibility and raising the risk for respiratory and cardiac health issues

Mitigation Measures:

- Monitor forecasts in areas of interest to you
- Ensure escape routes to adequate safety zones are known and understood by all involved
- Evaluate the effectiveness of response actions you are taking and disengage when necessary
- Maintain good communications within your group and to outside dispatch offices to be aware of forecasted changes.

Area of Concern: The central and eastern Interior of Alaska, including the Copper River Basin, with heightened focus on the Upper Yukon Valley and Middle to Upper Tanana Valley.

