

Southern Area

Fuels and Fire Behavior Advisory

Subject: Potential for passive and active crown fire behavior in timber and brush fuels in southeast and central Texas due to low fuel moisture values.

Discussion: Accumulating rainfall deficits since May in much of central and east Texas and a record setting June for heat and lack of rainfall has led to extremely low fuel moisture values. Record low live fuel moisture values in loblolly pine and yaupon have been recorded in the Southeast Texas area and the lost pine area around Bastrop.

Energy release component values are also at record high values and 1000-hr fuel moistures at record lows. Current ERC and 1000-hour values are more representative of late summer values and are rarely observed in early July which is the traditional beginning of the summer fire season.

Due to the critically low fuel moisture in surface and canopy fuels, surface fires in timber and brush fuels will quickly transition to passive and active crown fire. Short range spotting (100 feet) along the flanks and long range spotting (200 yards) at the head can occur.

Concerns to Firefighters and the Public:

- Traditional tractor plow tactics around the head of the fire may not be possible.
- Escape routes may be compromised due to spotting and high fire intensity along escape routes.
- Quick transition from surface fire to passive (torching) and active (running) crown fire can occur.
- Fire complexity can quickly transition from type 5 to type 4 to a type 3 complexity level.
- There is potential for reburn in needle cast 7-10 days following containment.
- Long range spotting from the head of fire will increase the difficulty of containment.
- Expect a very fast transition from passive to active crown fire in closed canopy (>60% closure) pine based on low live fuel moistures in pine.

Mitigation Measures:

- Indirect tactics that allow for long range spotting and high intensity head fires may have to be used earlier this year.
- Ensure firefighters have good anchor points – anchor and flank – watch for short range spotting on the flanks of fires.
- The use of tandom tractor plow operations may be needed when doing direct attack.
- The use of man-made and/or natural barriers should be used when possible to avoid putting fire fighters at risk.
- The use of suppression aircraft will likely be needed to cool the flanks and head of the fire, when using direct tactics.
- Aircraft may be the only option for lookouts in timber fuels where visibility from the ground is limited.

Area of Concern: See map below

