Rocky Mountain Area 120 Day Large Fire Potential Outlook...Issued 10/1/19
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Considerations and October-January Fire Potential Outlook
Elevated fire risk indices continue as of late September across CO, especially in the central to southern front range areas. Minimal beneficial rainfall is predicted in the short term across the central to southern front range along with continued breezy and warm conditions at times. As a result, above average large fire risk is forecast to persist during the first half of October, then return closer to average by the second half of the month. Due to seasonal considerations, any new large fire activity in the above average area is predicted to be of relatively short duration and wind-driven. Elsewhere, below average large fire risk is forecast to continue during October across northeast WY, SD, and northern NE. Historically, wind driven large fire activity is not unusual across these northeast portions of the RMA during October; however, fire risk this year is likely diminished as a result of recent wet conditions, forecast opportunities for precipitation, and average temperature tendencies in short and long range forecasts.
Above average large fire potential is predicted during the first half of October in the central to southern front range, while below average fire risk is forecast across northeast WY, SD, and northern NE.
Average large fire risk is predicted across much of the RMA by the second half of October, with below average large fire potential continuing across northeast WY, SD, and northern NE.
Large fire potential is predicted in the average range during November-January across the RMA.
Energy Release Component (ERC) readings compared against the 2000-2018 May-Sep database taken as of 9/29/2019 (pink line) show WY, KS, and the Black Hills around historical minimums (blue line), with SD and NE significantly below average (gray line), and the greatest values considerably above average over CO, but below historical maximums (red line) for the time of year.
Energy Release Component (ERC) percentiles compared against the 2000-2018 May-Sep database taken as of 9/30/2019 indicate readings above the 90th percentile and above historical maximums for this time of year across the central-southern CO front range and central mountains. Conversely, well below average and/or near historical minimums across much of WY, SD, and northern NE.
After a somewhat average regime during July, temperatures in August cooled in the north and east, with warmer than average values expanding August-September most notably across CO and southwest KS.
In July a significantly drier than average pattern was noted in south-central KS, and locations west of the divide, mainly in the lower elevations.

In August the dry pattern continued west of the divide, and to a lesser extent in portions of the CO front range.

The dry pattern intensified in September across southern CO, and to a lesser extent northwest portions of the state.
Precipitation for the last 60 days was above average for a large portion of the RMA in the north and east, with deficits mainly in southern and western CO.
Precipitation for the last 90 days was above average for a large portion of the RMA in the north and east, with deficits in western CO, and to a lesser extent in southeast CO, southwest KS, and southwest WY.
The Drought Mitigation Center portrays drought continuing to emerge mainly west of the continental divide into southern CO and southwest KS.
El-Nino/La-Nina Forecast (El-Nino Southern Oscillation (ENSO))

CPC/IRI forecasts predict a neutral phase through the fall and winter (58%-65% probability neutral vs. 22%-29% el-nino).

Early-September 2019 CPC/IRI Official Probabilistic ENSO Forecasts

- ENSO state based on NINO3.4 SST Anomaly
- Neutral ENSO: -0.5 °C to 0.5 °C
Short term model forecast precipitation October 1st-16th indicates an active but somewhat dry and warm pattern during the first half of October, although temperatures on occasion will likely fall below average along with short duration precipitation events especially in the north and east in association with passing cold fronts. *Amounts in inches.
This long range outlook indicates average to above average temperatures through the fall and winter, with above average precipitation indications over northern portions of the RMA, and below average in the south.
The Climate Prediction Center shows a wetter than average fall and winter, especially east of the continental divide. Warmer than average temperatures are indicated mainly in the south portion of the RMA.
Rocky Mountain Area Fire History

Historically, a seasonal decrease in number of large fires and acres burned exhibits a gradual reduction in activity during the fall with yearly minimums by late November through January.
Fire activity across the eastern plains is shown to be significant historically during October in SD over central to western portions of the state; otherwise a lull in large fire activity typically occurs in KS and NE. The October-January period shows acres burned at a seasonal lull.
Rocky Mountain Area Fire History

Historical fire data 1992-2015 shows September fire activity decreasing as expected with the greatest concentration of large fires across the lower elevations of northern CO into eastern WY, central-western SD, and northwest NE.
Historical fire data 1992-2015 shows October fire activity continuing to decrease with the greatest concentration of large fires across the lower elevations of north-central CO into eastern WY, and central-western SD.
Historical fire data 1992-2015 shows November fire activity continuing to decrease with the greatest concentration of large fires across the Black Hills.
Above average large fire potential is predicted during the first half of October in the central to southern front range, while below average fire risk is forecast across northeast WY, SD, and northern NE.
Average large fire risk is predicted across much of the RMA by the second half of October, with below average large fire potential continuing across northeast WY, SD, and northern NE.
Large fire potential is predicted in the average range during November-January across the RMA.
Current Climatology
Warmer than average temperatures expanded during August and September most notably across CO and southwest KS. A dry pattern intensified from August to September across southern CO, and to a lesser extent northwest portions of the state. The Drought Mitigation Center portrays drought continuing to emerge mainly west of the continental divide into southern CO and southwest KS.

Fuels
Late September energy release component (ERC) percentiles indicate readings above the 90th percentile and above historical maximums for the time of year across the central-southern CO front range and central CO mountains. Conversely, well below average and/or near historical minimums exist across much of WY, SD, and northern NE. Otherwise, there is a robust grass crop in the lower elevations east of the divide, and fuel loading could increase during the fall after a seasonal wide-spread freeze occurs.

Weather Predictions
Short term model forecast precipitation for the first half of October indicates an active but somewhat dry and warm pattern, although temperatures on occasion will likely fall below average along with short duration precipitation events especially in the north and east portion of the RMA in association with passing cold fronts. The consensus of long range weather forecasts indicate wetter than average tendencies and near average temperatures in northern and eastern portions of the geographic area, with dry and warm indications mainly in southern and western CO.

Considerations and October-January Fire Potential Outlook
Elevated fire risk indices continue as of late September across CO, especially in the central to southern front range areas. Minimal beneficial rainfall is predicted in the short term across the central to southern front range along with continued breezy and warm conditions at times. As a result, above average large fire risk is forecast to persist during the first half of October, then return closer to average by the second half of the month. Due to seasonal considerations, any new large fire activity in the above average area is predicted to be of relatively short duration and wind-driven. Elsewhere, below average large fire risk is forecast to continue during October across northeast WY, SD, and northern NE. Historically, wind driven large fire activity is not unusual across these northeast portions of the RMA during October; however, fire risk this year is likely diminished as a result of recent wet conditions, forecast opportunities for precipitation, and average temperature tendencies in short and long range forecasts.