



# NATIONAL FUELS & FIRE DANGER BRIEFING

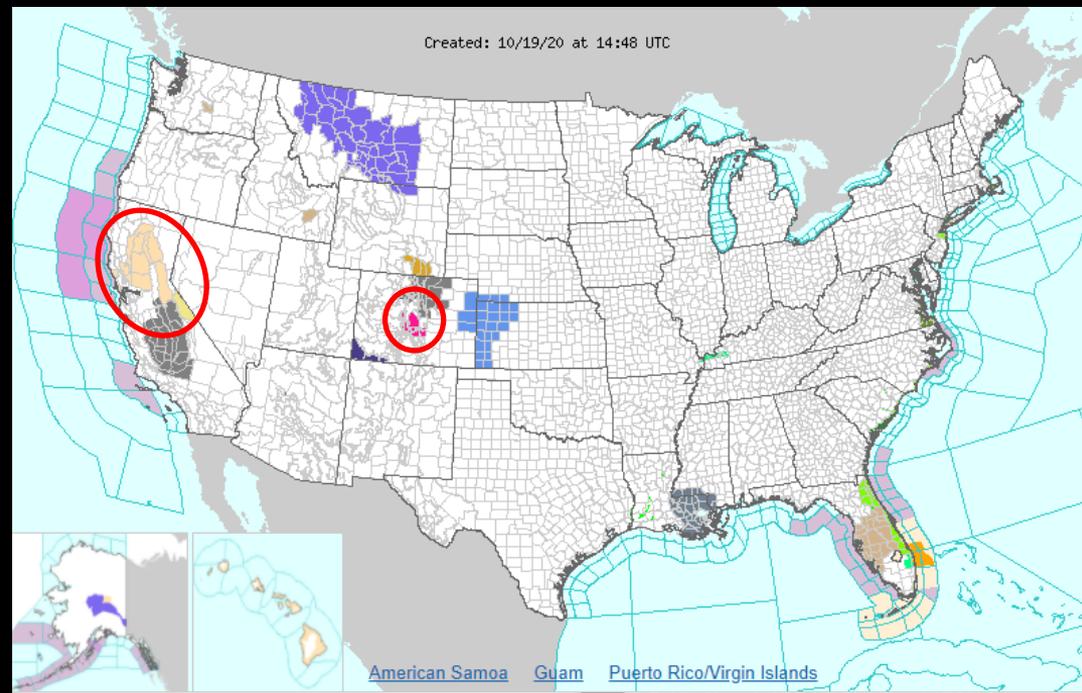
PREDICTIVE SERVICES 



10/19/2020

# Fire Weather Advisories

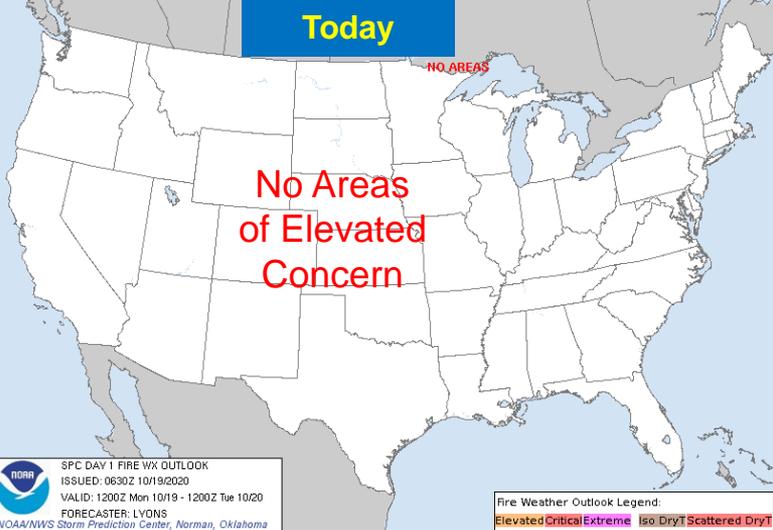
Created: 10/19/20 at 14:48 UTC



Click on the map above for detailed alerts or   [Public Alerts in XML/CAP v1.1 and ATOM Formats](#)

- |                       |                         |                         |                           |
|-----------------------|-------------------------|-------------------------|---------------------------|
| High Wind Warning     | Winter Weather Advisory | Rip Current Statement   | Coastal Flood Statement   |
| Coastal Flood Warning | Coastal Flood Advisory  | Beach Hazards Statement | Special Weather Statement |
| Flood Warning         | Small Craft Advisory    | Gale Watch              | Fire Weather Watch        |
| Gale Warning          | Lake Wind Advisory      | Hazardous Seas Watch    | Air Quality Alert         |
| Freeze Warning        | Frost Advisory          |                         |                           |

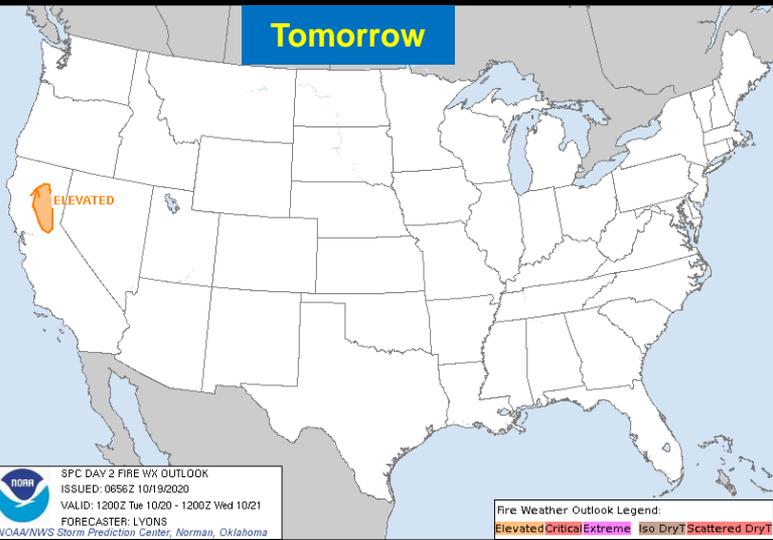
## Today



SPC DAY 1 FIRE WX OUTLOOK  
ISSUED: 0630Z 10/19/2020  
VALID: 1200Z Mon 10/19 - 1200Z Tue 10/20  
FORECASTER: LYONS  
NOAA/NWS Storm Prediction Center, Norman, Oklahoma

Fire Weather Outlook Legend:  
Elevated Critical Extreme Iso Dry T Scattered Dry T

## Tomorrow



SPC DAY 2 FIRE WX OUTLOOK  
ISSUED: 0656Z 10/19/2020  
VALID: 1200Z Tue 10/20 - 1200Z Wed 10/21  
FORECASTER: LYONS  
NOAA/NWS Storm Prediction Center, Norman, Oklahoma

Fire Weather Outlook Legend:  
Elevated Critical Extreme Iso Dry T Scattered Dry T

# 10/19/2020

[← Link](#)

[↑ Link](#)

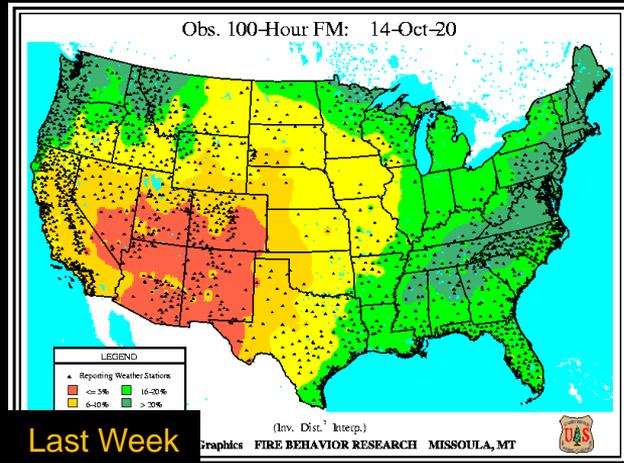
Sources: NWS; Storm Prediction Center

# 100-Hr Fuel Moisture

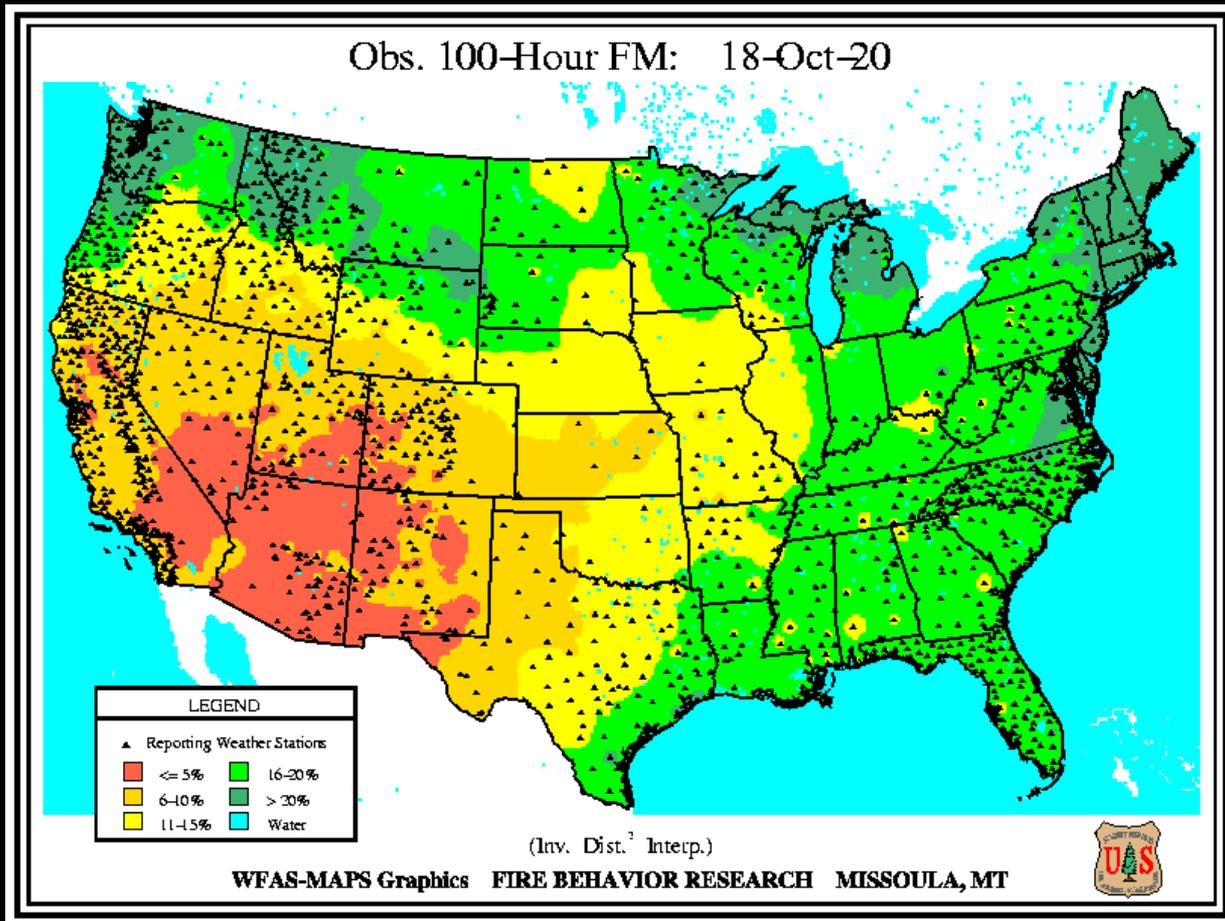
Aside from coastal PNW & N Great Plains, most areas saw drying in the large dead fuels this past week.

Out East, drying was especially notable in Appalachia.

In the West, areas of critically dry ( $\leq 5\%$ ) fuels resumed in CA; however, there was some minor improvement in NM & CO. Regardless, all areas in the SW quadrant of ConUS are in a drying trend now that will continue this week.



Last Week



10/19/2020

[Link](#)

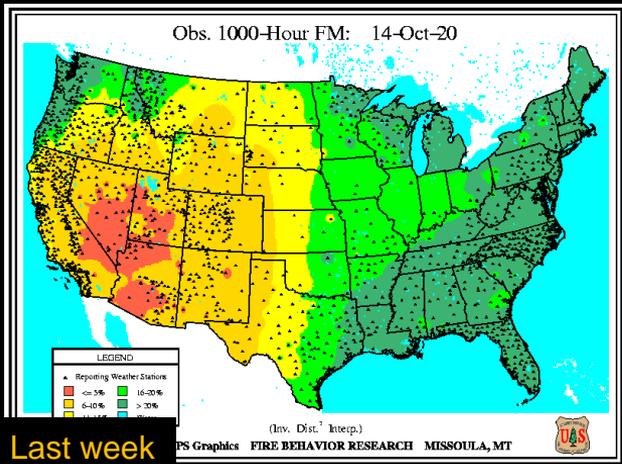
Source: Wildland Fire Assessment System (WFAS).

# 1000-Hr Fuel Moisture

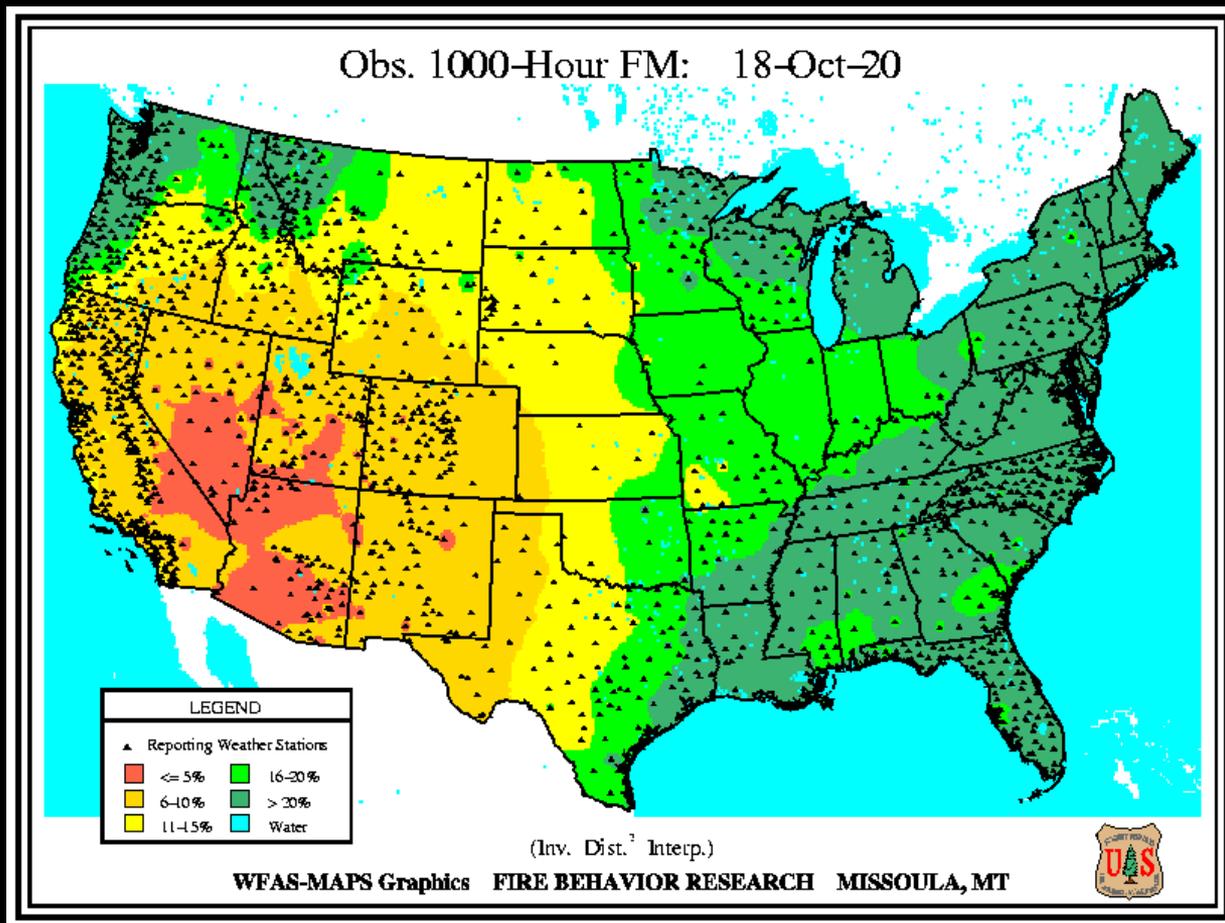
Not much change since last week.

Similar to 100-hr fuels, large fuels in all areas of SW ConUS were drying last week, and that will continue this week as well.

These fuels are contributing to extreme fire behavior and delay controlling LFs in the West. It will take much more than a few days of mild weather to see lasting improvement.



Last week



10/19/2020

[Link](#)

Source: Wildland Fire Assessment System (WFAS).

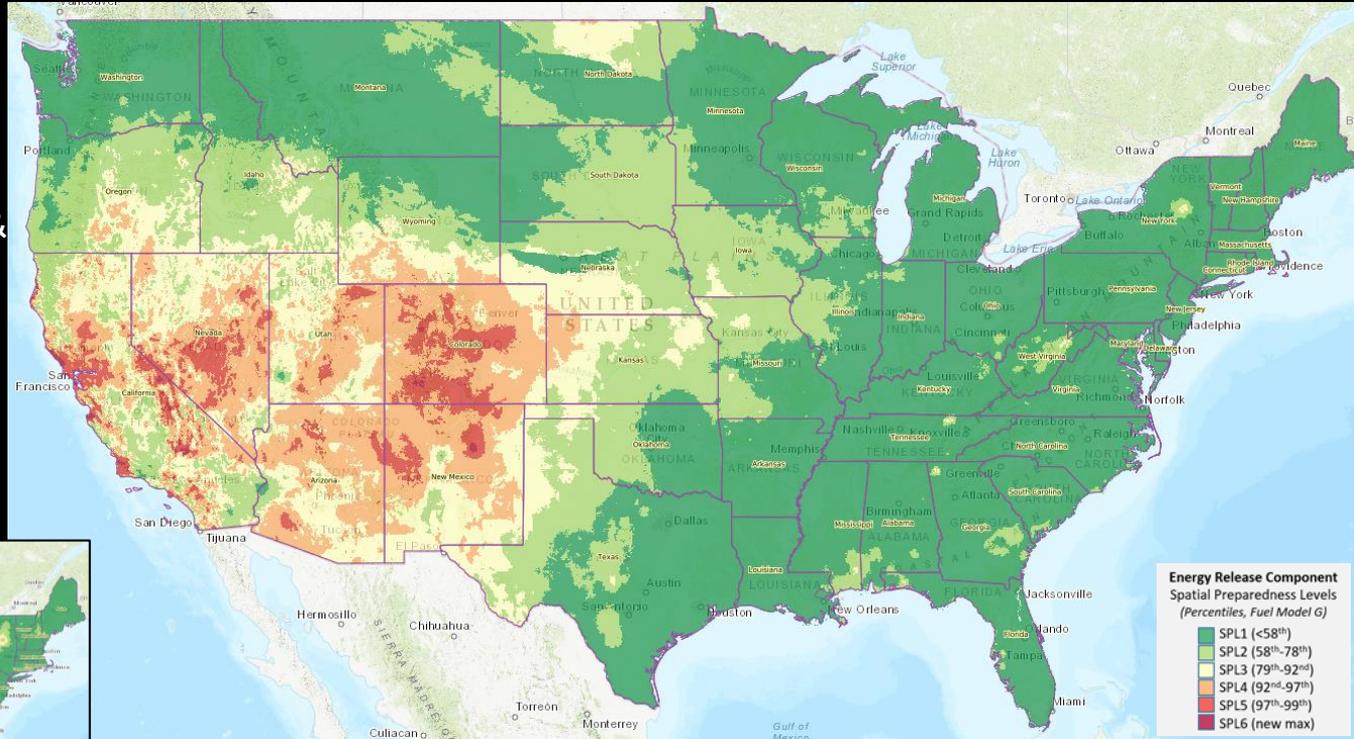
# Energy Release Component (Percentiles, Model G)

Focus continues on the SW quadrant of ConUS, where ERCs remain unseasonably high.

Nearly all PSAs in CO, UT, NV, NM, & AZ are setting new max ERC values for this time of year.

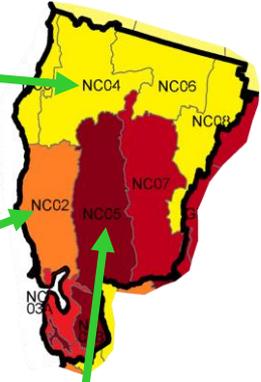
In CA, the S Coast, Peninsular & Transverse Ranges, & Sierra PSAs are also setting new maxima.

Almost all PSAs in SW ConUS are holding static or trending up.

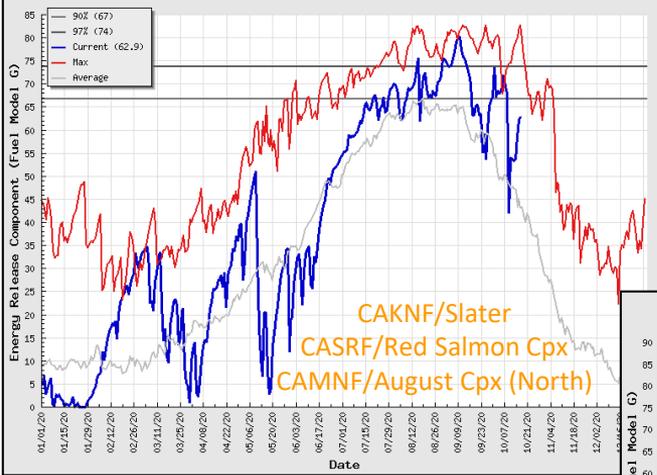


10/19/2020

# Northern California Energy Release Component

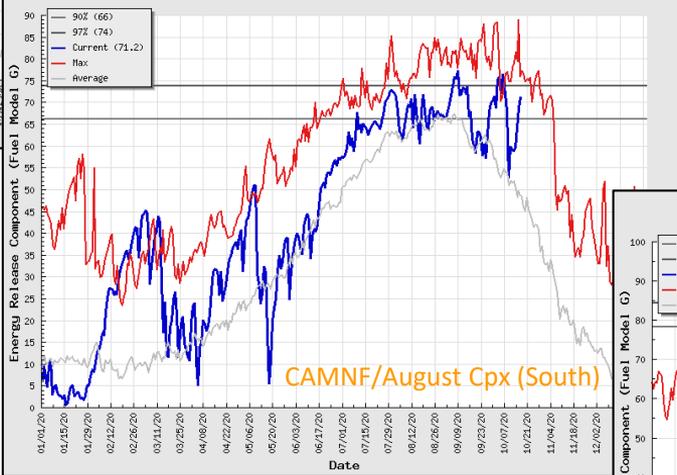


NC04 - Northwestern Mtn  
Valid Date: 17-Oct-2020



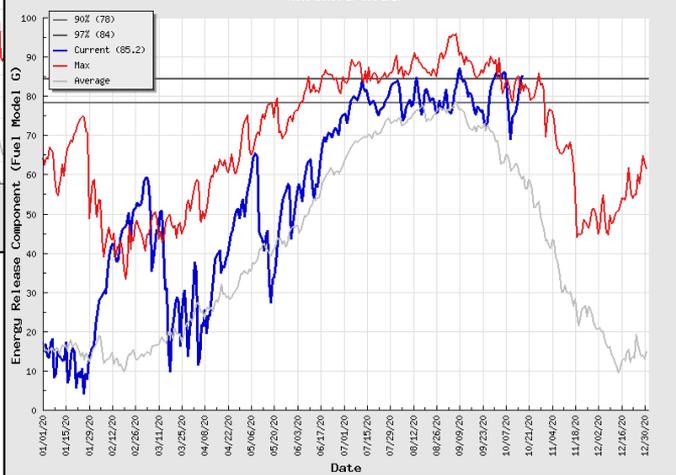
CAKNF/Slater  
CASRF/Red Salmon Cpx  
CAMNF/August Cpx (North)

NC02 - Mid Coast To Mendocino  
Valid Date: 17-Oct-2020



CAMNF/August Cpx (South)

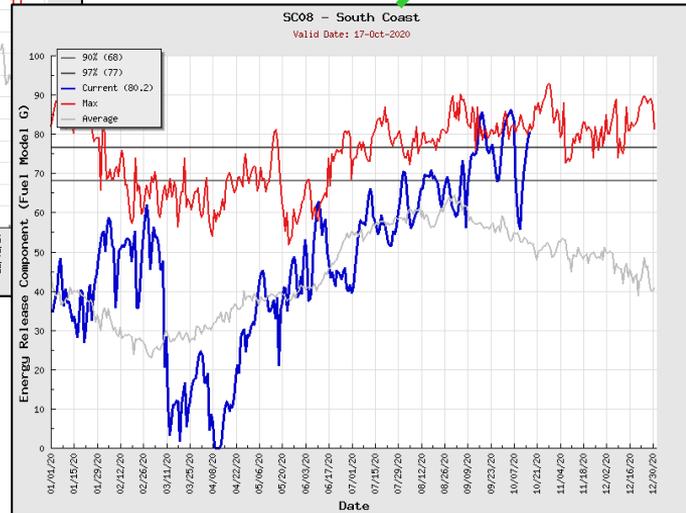
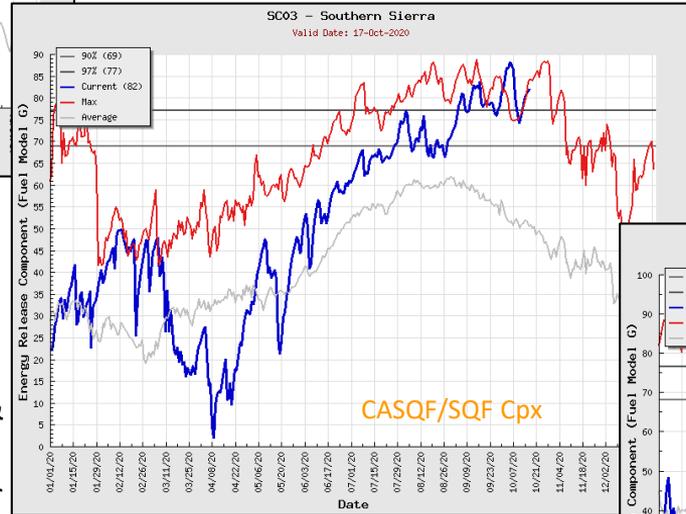
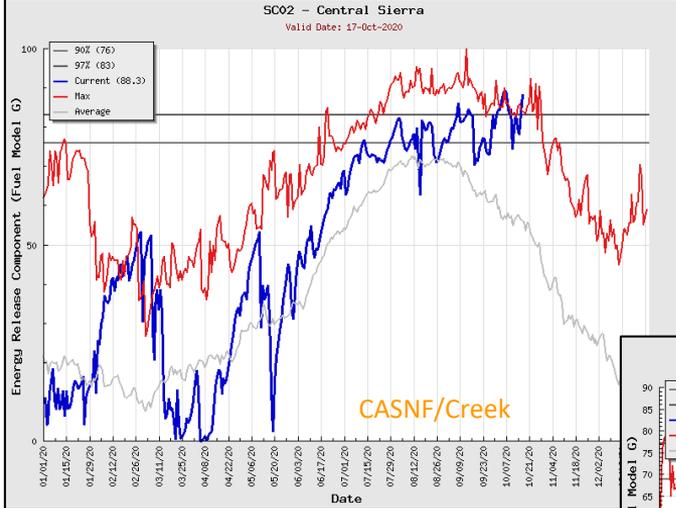
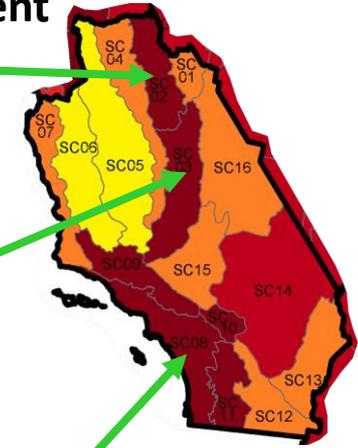
NC05 - Sac Valley/Foothills  
Valid Date: 17-Oct-2020



- All PSAs above average & trending up sharply
- Bay Area, Foothills, & N Sierra setting new daily maxima
- Foothills matching prior 2020 peak

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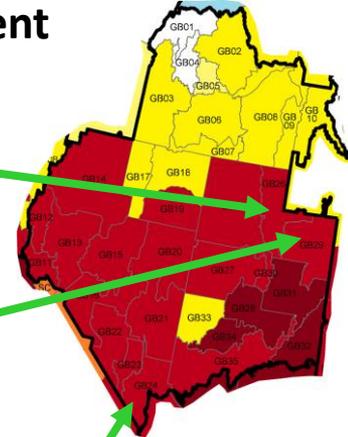
# Southern California Energy Release Component



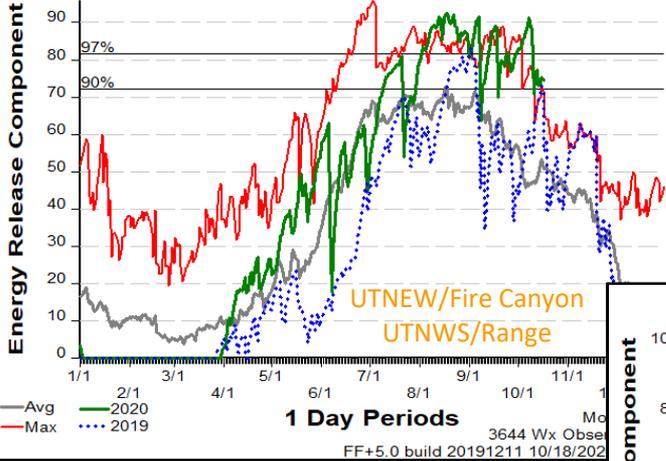
- All PSAs are above average (most above 90<sup>th</sup> percentile) & trending up
- C/S Sierra Mtns, S Coast, Transverse & Peninsular Ranges are matching historical maxima for this time of year
- For several PSAs, current values are similar to peak values earlier in the season

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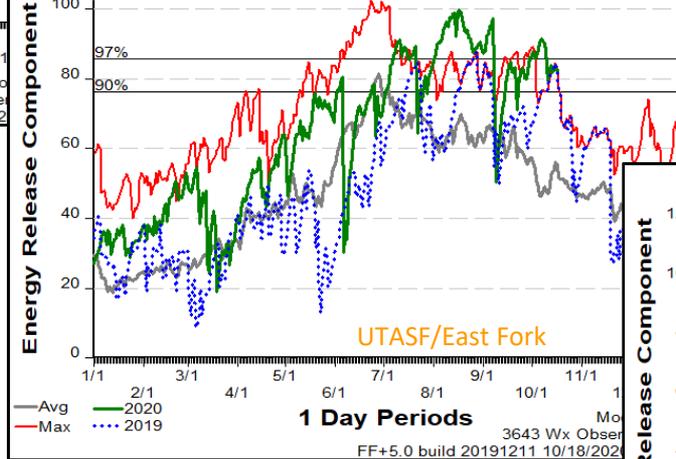
# Great Basin Energy Release Component



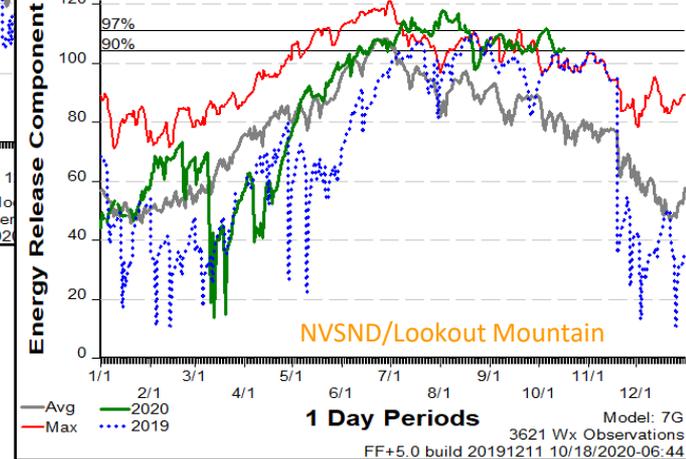
**SIG - GB26  
2010 - 2019**



**SIG - GB29  
2010 - 2019**



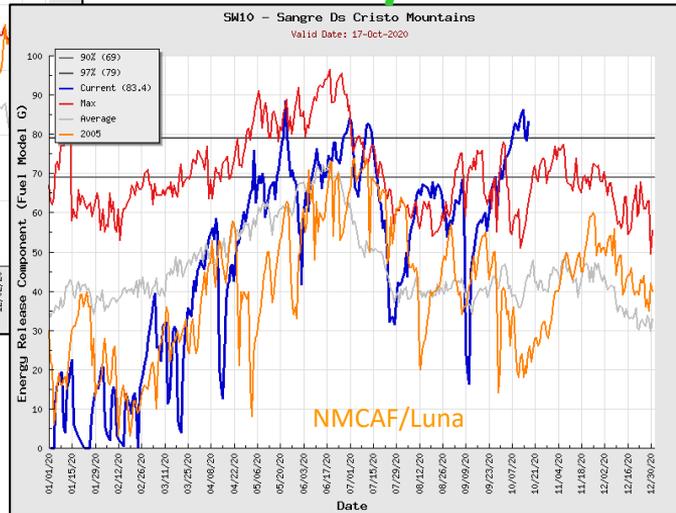
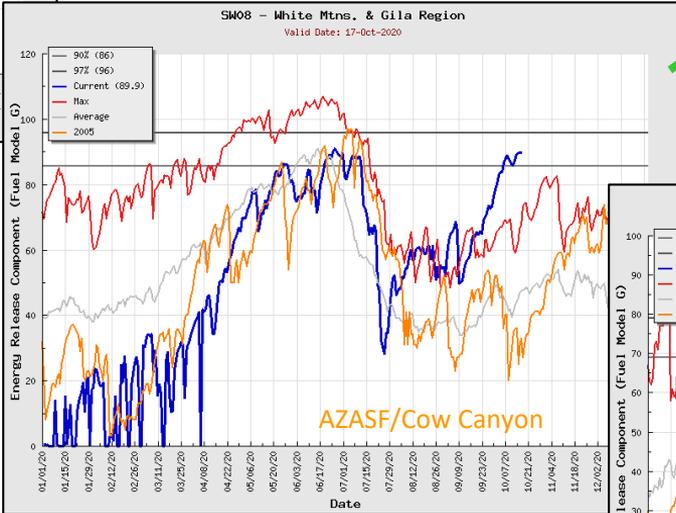
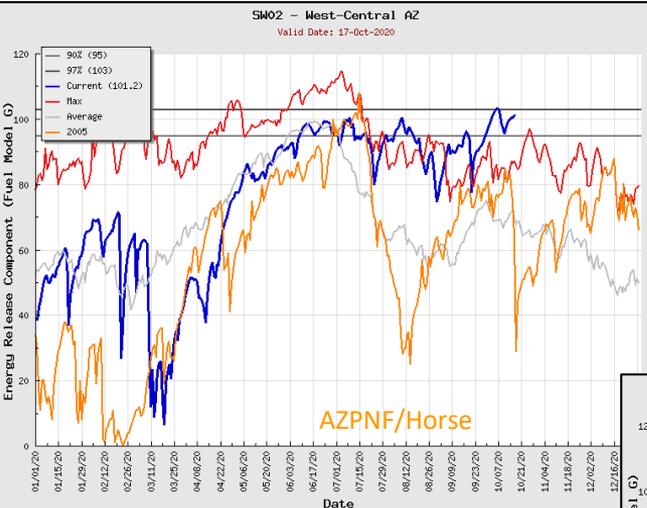
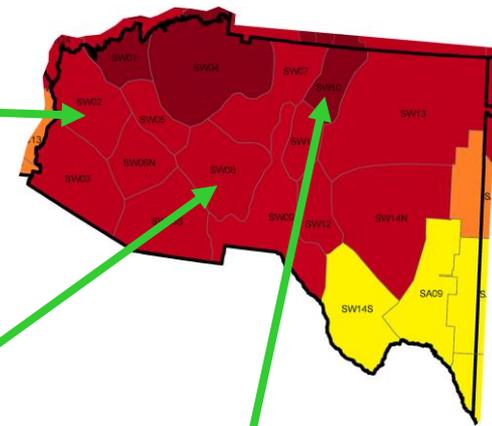
**SIG - GB24  
2010 - 2019**



- Most PSAs trended down recently
- ID PSAs still remain above average for this time of year
- Most NV & UT PSAs remained above 90<sup>th</sup> percentile; trending up again
- Numerous PSAs in NV & (esp) UT are matching historical maxima for this time of year
- Some PSAs have been setting new maxes continuously since June

10/18/2020

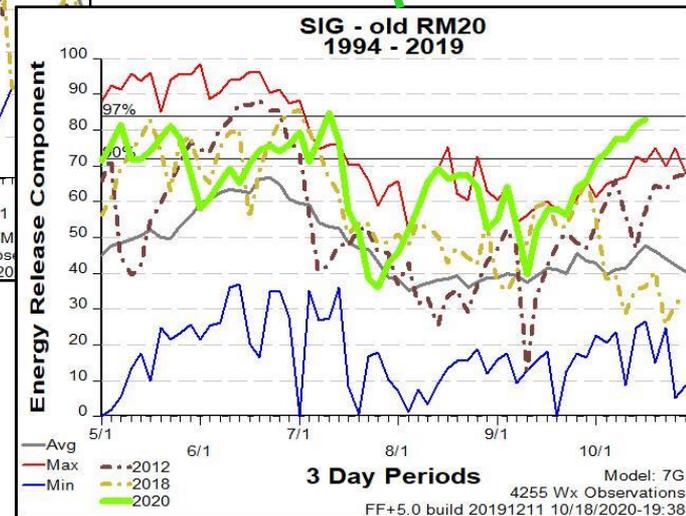
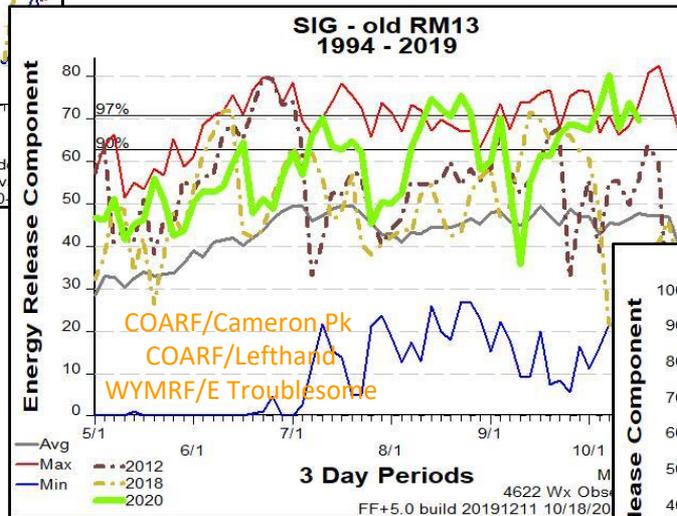
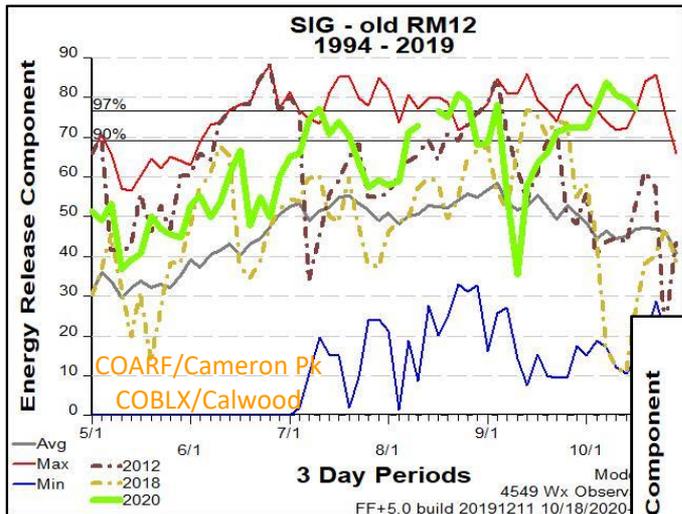
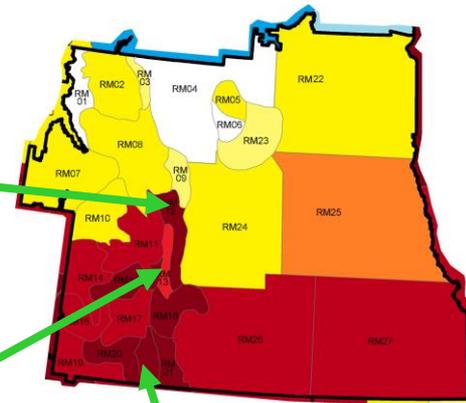
# Southwest Area Energy Release Component



- Most PSAs remain above the 90<sup>th</sup> percentile
- All PSAs in NM & AZ are significantly higher than prior historical maxima for this time of year
- For several PSAs, current ERCs are similar to 2005 peak (pre-monsoon season) values

10/18/2020

# Rocky Mountain Area Energy Release Component



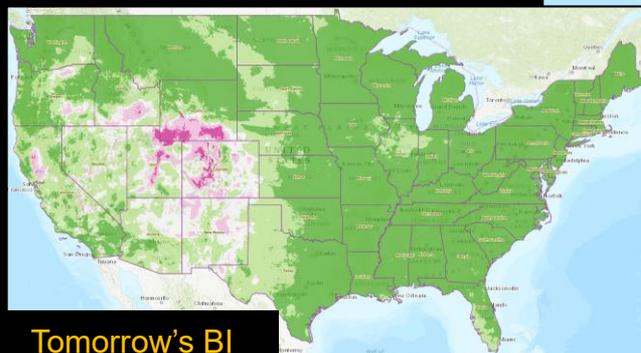
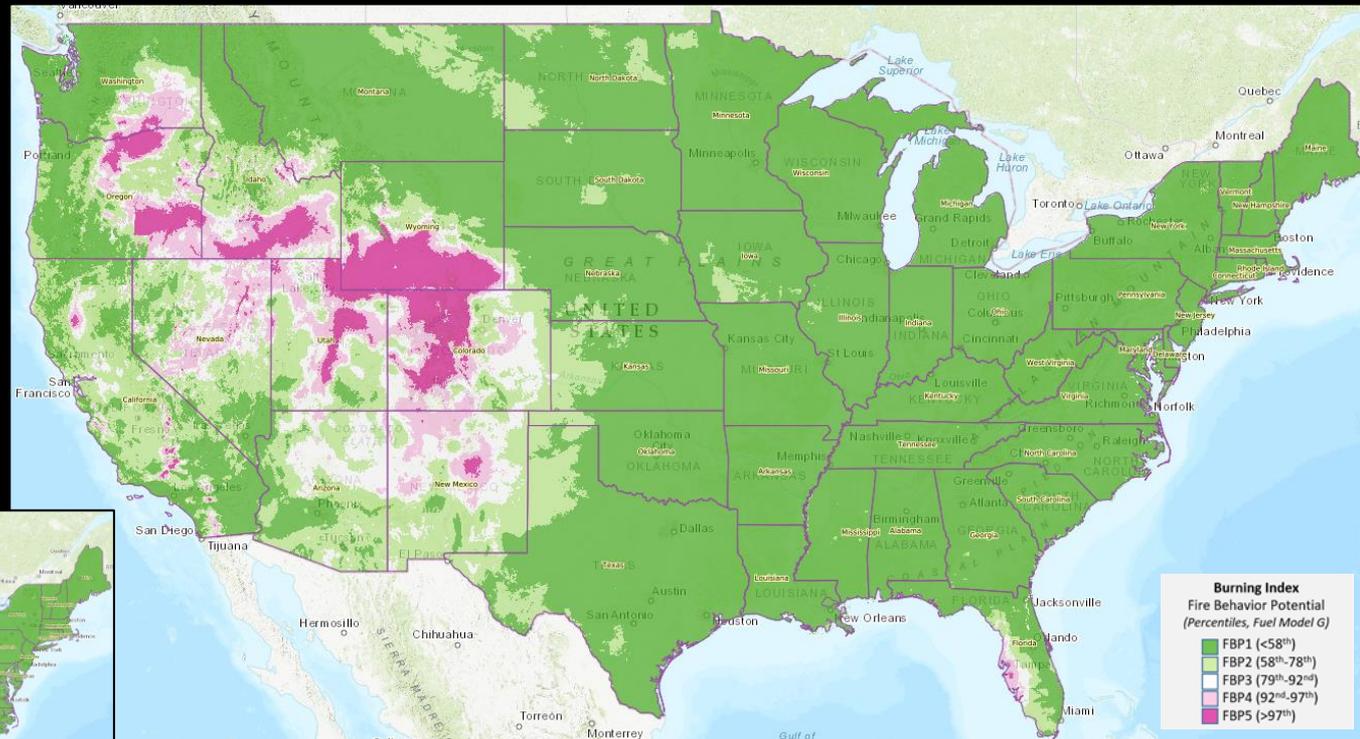
- Almost all PSAs in RM remain above average for this time of year
- Almost all of CO & KS are above 90<sup>th</sup> percentile, some still above 97<sup>th</sup>, & setting new maxima
- In S CO, current ERC is as high as it was in July (matching 2020's seasonal peak values)

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## Burning Index (Percentiles, Model G)

Breezy & dry conditions will continue to favor aggressive growth, possibly extreme fire behavior, in RM today. IA will be challenging for any new ignitions.

Starting this evening & into tomorrow, dry, breezy (E & N winds) conditions in ONC will likely return some LFs to active growth phase (BI map here somewhat under-represents that increase in fire potential).



[Link](#)

# Fuels and Fire Behavior Advisory 10/19/2020

## Great Basin

### E/S NV, UT, & AZ Strip

Revised on 10/9



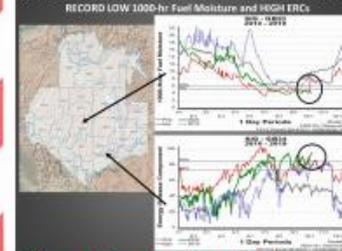
- Critically dry live and dead fuel moisture
  - Record low 100-hr & 1000-hr dead fuels
  - Abnormally dry shrub fuels (e.g. sagebrush <60%)
- Heavy fine fuel loading (200%+); carry-over fuels
- Continuous fuel bed
- Rapid ROS & spotting
- Ineffective fuel breaks, including burn scars
- Reduced retardant effectiveness
- Active burning at night
- Heat retention in large fuels & duff up to 20 days after ignition

## Fuels and Fire Behavior Advisory – Updated Oct 9, 2020

### Eastern and Southern Nevada into Utah and the AZ Strip

October 9<sup>th</sup> – 23<sup>rd</sup>, 2020

**Subject:** RECORD low 100-hr and 1000-hr fuel moisture and RECORD HIGH ERCs continues, along with carryover fine fuels in some areas exist across Eastern and Southern Nevada, into Utah and the Arizona Strip. These conditions will allow for unusual fire behavior for the time of year at all elevations.



**Discussion:** Extreme fire behavior has been observed on recent fires in Idaho, Nevada, and Utah. Sustained crowned runs have occurred in the PJ, mahogany, and fir stands, which also burned overnight. Fires in Nevada have observed retardant being minimally effective in heavier fuel models, sagebrush being fully consumed and resistant to control. Higher elevation and PJ fires, including the Woodhead, Grouse and Buck Fires, have observed extreme rates of spread because the fuel dryness has exacerbated the amount of available fuel. Fire runs of 27,000 acres in 2 days, with a 10 mile run the first burning period in sage and grass was observed on the Woodhead Fire.

**Difference from normal conditions:** Live sagebrush, 100-hr and 1000-hr fuel moisture are setting new RECORD lows for the time of year still for NV/UT/AZ. ERCs have increased again to well above RECORD levels as well. In many areas, these are the highest ERCs and lowest fuel moisture this entire fire season. Sagebrush live fuel moisture is trending below 60-70%, which is a significant contributor to fire spread in addition to the heavy dead fine fuels.

#### Concerns to Firefighters and the Public:

- Anticipate rapid rates-of-spread, even in the absence of slope and winds. **You can't run it!**
- Anticipate flashy fine fuels and sagebrush and piñon-juniper to ignite easily and exhibit **advanced rates of spread, elongated flaming fronts and increasing fire brands; expect more long range spotting.** Expect flame lengths greater than 9 ft in sage-grass fuels with spread rates of about 1 mph. In heavy brush/cheatgrass flame lengths of up to 32 ft with spread of up to 4-8 mph based on winds and relative humidity have been observed.
- Short and mid-range spotting in fine fuels is possible with wind gusts, fire whirls, and frequent dust devils creating spotting potential greater than 1/2 mile in grass / sage fuel types with a probability of ignition generally over 90% based on current weather. Fine fuel loadings are dense and continuous and will support extreme rates of spread regardless of fuel heights.
- Anticipate a matted grass component which can burn under retardant, increase rates of spread and increase resistance to control.
- Existing fuel breaks and recent burn scars may influence the direction and extent of fire spread, but in some cases those areas may also be considered available fuels based on the amount of cheatgrass present.

#### Mitigation Measures:

- Modify tactics to account for potential high rapid rates of spread and high resistance to control.
- Communicate retardant drop effectiveness and modify as necessary, higher coverage levels or altered tactics may be required.
- Park all vehicles in clean, cold black; avoid driving or parking in unburned fuels.
- Constantly re-evaluate LCES – Lookout(s) – Communication(s) – Escape Routes – Safety Zone(s).
- Monitor weather for thunderstorms that may produce strong outflow winds.
- Patrol fire lines often, particularly in areas without hard barriers such as roads, constructed fire line or dozer line.
- Consult the latest weather and fire danger information at <http://gacc.nffc.gov/gbcof/>.

**Area of Concern:** Areas of concern include Eastern and Southern Nevada into Western Utah and the AZ Strip at all elevations.

**Issued By:** Great Basin Coordination Center Predictive Services, Gina McGuire Palma (Meteorologist)

# Fuels and Fire Behavior Advisory 10/19/2020 Northern California

Revalidated on 10/15

Applies to entire N CA Geographic Area (9 PSAs)

Will persist until significant precipitation occurs

- Dry winter; low snowpack
- Wet spring; excessive fine fuel loading at lower elevations
  - 2019-2020 growing season: 4<sup>th</sup> highest yield in 40 years
  - 5 consecutive seasons of higher than normal yields
- Hot, dry summer pattern continues, resulting in:
  - Low RHs
  - Abnormally dry fuels
    - Some live brush samples at historic lows
  - Critical ERCs: >90<sup>th</sup> percentile, some at record highs
  - Breezy & Foehn winds
  - Lightning ignitions
  - Rapid rates of spread
  - Extreme fire behavior

## Fuels and Fire Behavior Advisory

Northern California Geographic Area

September 29, 2020

**Subject:** Dry offshore and northerly winds, followed by high temperatures will rapidly dry out fuels across Northern California. Extreme fire behavior and rapid to dangerous rates of spread has occurred during enhanced breezy periods accompanied with low humidity in areas clear of smoke. Extreme fire behavior will become more common as the fuel drying continues in September.

**Discussion:** Weeks of record temperatures during August and September, coupled with limited precipitation has expanded extreme to severe drought conditions across much of the Geographic Area. All indications show these drought conditions persisting through early October. Light precipitation that passed over the northern part of the region only lowered fire danger for a very brief period. Fires have recently shown or exhibited moderate to rapid rates of spread or generate extreme fire behavior when influence by winds. There is a high potential for extreme fire behavior to persist under a wider range of conditions as fuel continues to dry and gusty north to northeast foehn winds events become more frequent.

**Difference from normal conditions:** Winter precipitation was below to well below normal with 55% of normal mountain snowpack. Late spring moisture during the heart of the low-mid elevation growing season led to **above normal fine fuel loading**. Typical dry summer conditions coupled with above normal temperatures has dramatically effected fuel dryness and fire danger indices. ERC's will climb back up to between 90th to 97th percentile the next 2 weeks with some PSA's experiencing seasonal record values in temperatures. This time of year, live brush has typically low moisture levels due to normal seasonal drying but recently sampled live brush are at the historic lows for many sampling sites.

### Fuels – Low Elevation Grass Crop

#### Sierra Foothills Rangeland Forage Production Data

- 40 years of consistent data
- 2019-20 growing season 4<sup>th</sup> highest total
- 5 seasons of above normal in a row

Top 5 Growing Seasons	Pounds/Acre
2017-18	5514
1992-93	4696
1982-83	4630
2019-20	4420
2004-05	4410

For more information about the very unseasonable environmental conditions occurring, follow these links:

- [https://gacc.nifc.gov/oncc/fuels/FireDanger\\_BI.php](https://gacc.nifc.gov/oncc/fuels/FireDanger_BI.php)
- [https://gacc.nifc.gov/oncc/fuels/FireDanger\\_Erc.php](https://gacc.nifc.gov/oncc/fuels/FireDanger_Erc.php)
- [https://gacc.nifc.gov/oncc/fuels/FireDanger\\_Hundred.php](https://gacc.nifc.gov/oncc/fuels/FireDanger_Hundred.php)
- <https://vegdr1.unl.edu/Home/StateVegDRI.aspx?CA>
- [https://gacc.nifc.gov/oncc/fuels/FireDanger\\_Thousand.php](https://gacc.nifc.gov/oncc/fuels/FireDanger_Thousand.php)
- <https://www.esrl.noaa.gov/psd/eddi/>

#### Concerns to Firefighters and the Public:

- Cured fine fuel loading below 3,000' elevation is above normal, exhibiting very rapid fire spread.
- Firefighters should be prepared for potential extreme fire behavior and dangerous or otherwise rapid rates of spread at any time of day, especially during foehn wind events.
- The potential for extreme fire activity will likely continue until enough precipitation occurs to significantly increase and maintain higher fuel moisture readings for an extended period.
- Rapid rates of spread could have a significant impact on public safety and make evacuations difficult.

#### Mitigation Measures:

- All local and visiting firefighters need to remain aware of current and expected weather and burning conditions and consider such information while making strategic and tactical decisions.
- Employ LCES principles (Lookouts, Communications, Escape Routes, Safety Zones).
- Review current fire potential products from Predictive Services at <https://gacc.nifc.gov/oncc/predictive/weather/index.htm> or potential Red Flag conditions from the National Weather Service and weather at <https://www.wrth.noaa.gov/fire2/cafw/>.

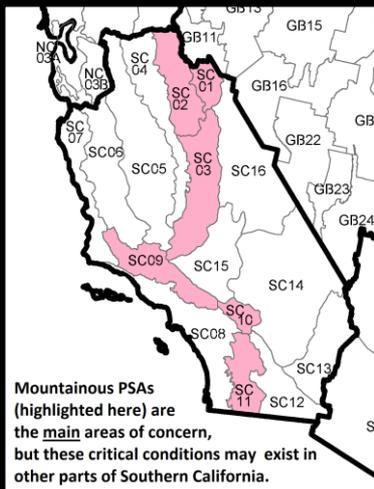
**Area of Concern:** All areas across Northern California could see very active fire behavior. The PSA numbers associated with those areas are NC01, NC02, NC03A, NC03B, NC04, NC05, NC06, NC07 and NC08.

# Fuels and Fire Behavior Advisory 10/19/2020

## Southern California

Revalidated on 10/15  
Primary concern: Mountain areas

- Hot, dry conditions this summer
  - Persistent high temps
  - Little to no precip (absence of monsoon & summer T-storms)
- Very dry fuels
  - Dead fuels  $\leq$  3rd percentile
  - Live fuels at 50-70% moisture content
- Significantly elevated fire danger and fire behavior potential
  - ERCs at critical levels ( $\geq$  97th percentile)
  - Rapid ROS, even without significant wind
  - Extreme fire behavior
- Predicted to sustain/worsen into Oct as high pressure suppresses any chances for significant precipitation



### Fuels and Fire Behavior Advisory

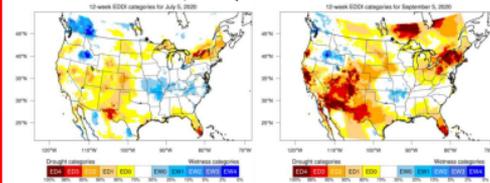
#### Southern California Geographic Area

September 11, 2020

**Subject:** Live and dead fuels are extremely dry across the mountain predictive service areas (PSAs). Extreme fire behavior and rapid rates of spread are occurring in these areas, even when winds are light. The chance for extreme fire behavior will increase over the next couple of months as winds increase and become more prevalent. Fire behavior will remain elevated across the mountains of southern and central California, until significant rainfall occurs.

**Discussion:** A progressive pattern brought near to slightly below normal temperatures from June through August 11<sup>th</sup> and fire activity was below normal. High pressure became strong and dominant from August 12<sup>th</sup> into September, bringing well above normal temperatures and very low humidities. Live and dead fuel moisture over the mountains are much lower than normal, due to the absence of monsoonal showers and thunderstorms, combined with very warm and dry conditions.

**Difference from normal conditions:** Rainfall was 50% to 70% of normal this year in the Sierras, while the rest of the mountainous areas in Southern California received slightly above normal rainfall. Due to hot and dry conditions and little to no rainfall this summer, the dead fuel moistures across all mountain areas are near or below the 3<sup>rd</sup> percentile and live fuel moistures are between 50% and 70%. ERC's are running near or above the 97<sup>th</sup> percentile. Computer models indicate high pressure will dominate through at least the end of October, so the potential for extreme fire behavior will increase.



#### Concerns to Firefighters and the Public:

- Firefighters need to be prepared for possible extreme fire behavior and dangerous rates of spread at any time of day, especially during foehn wind events.
- The potential for extreme fire activity will be likely to continue until enough precipitation occurs to significantly increase fuel moisture.
- Rapid rates of spread could have a significant impact on public safety and make evacuations difficult.

#### Mitigation Measures:

- All firefighters need to remain aware of current and expected weather and burning conditions.
- Employ LCES principles (Lookouts, Communications, Escape Routes, Safety Zones).
- Review current fire potential products from Predictive Services at: <https://gacc.nifc.gov/oscc/predictive/weather/index.htm>.
- Red Flag conditions from the National Weather Service and weather at: <https://www.wrh.noaa.gov/fire2/catfw/>.
- Monitor the Santa Ana Wildfire Threat index during the season at: <https://fsapps.nwcg.gov/psp/saw/>

**Area of Concern:** The mountains are the driest area in the region and are the main concern heading forward. The associated PSAs are SC01, SC02, SC03, SC09, SC10, and SC11.

# Fuels & Fire Danger Summary

10/19/2020

- **Main threat:** Potential for aggressive fire growth to continue/resume on LFs in CO & NM for the next few days, as breezy & dry conditions persist.
- CA: Activity on LFs has moderated; however, baseline fire danger conditions remain the same or are worsening (ERC, 100/1000HR). Onset of offshore & N/E winds will likely result in resumption of activity & growth starting tonight.
- RM, GB, & SW: Almost all areas continue to see record high ERCs for this time of year, and some have fire danger that matches peak values from July/August.
- EA: Larger WFs arising in the Ozarks, but fire potential will moderate significantly later this week with expected precipitation.
- **Significantly elevated/prolonged (historic) fire potential & resultant fire activity is likely to continue throughout CA, S GB, SW, & RM for the next several days, at a minimum. Gradual improvement is occurring due to seasonal changes in day length & cooler temps, but most areas are 3-6 weeks behind normal timelines for fire danger to moderate (or season-ending conditions). Prior anomalous years suggest 3 more weeks of elevated activity may be possible.**

# 9 GEOGRAPHIC AREAS & 10 COORDINATION CENTERS



- Alaska Area (AK)
- California Area (CA)
  - North Ops (NOps, ONC)
  - South Ops (SOps, OSC)
- Eastern Area (EA)
- Great Basin Area (GB)
- Northern Rockies Area (NR)
- Northwest Area (NW)
- Rocky Mountain Area (RM)
- Southern Area (SA)
- Southwest Area (SW)

# PARTNERING AGENCIES



Comments or questions?

Please contact  
Steve Larrabee at

[steven.larrabee@bia.gov](mailto:steven.larrabee@bia.gov)

or your local servicing  
Predictive Services Staff

