



# NATIONAL FUELS & FIRE DANGER BRIEFING

PREDICTIVE SERVICES



09/14/2023

# About these National Fuels & Fire Danger Briefings...



PREDICTIVE SERVICES 



These briefings are prepared by the National Interagency Coordination Center's ([NICC](#)) Predictive Services staff and presented to the National Multi-agency Coordinating Group ([NMAC](#)). After presentation to NMAC, the most recent briefing is posted on NICC's [Fuels and Fire Danger webpage](#).

Frequency of issuance for these briefings depends on National Preparedness Level ([PL](#)) and NMAC's regular meeting schedule.

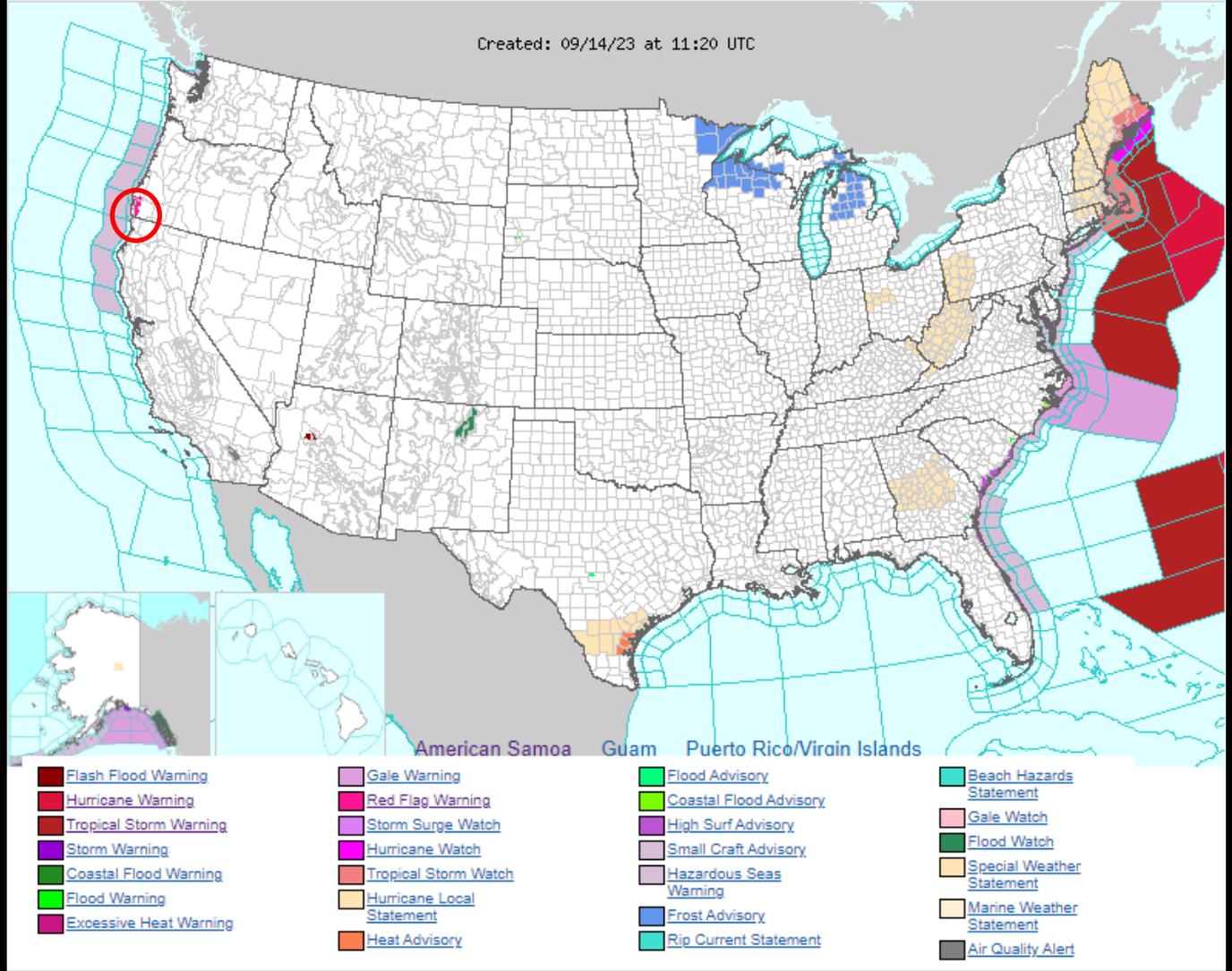
- PL1-PL2: Once per month
- PL3-PL5: Weekly (usually on Thursdays)

Because the target audience is NMAC and the material is presented as slides, the briefing content is often terse and assumes a high level of familiarity with the interagency coordination system and fire danger concepts. At the end of this document, following the briefing summary page, there are references that may be helpful for less familiar readers. These include a map of the Geographic Areas and a list of commonly-used abbreviations and acronyms.

# Fire Weather Advisories

← [Link](#)

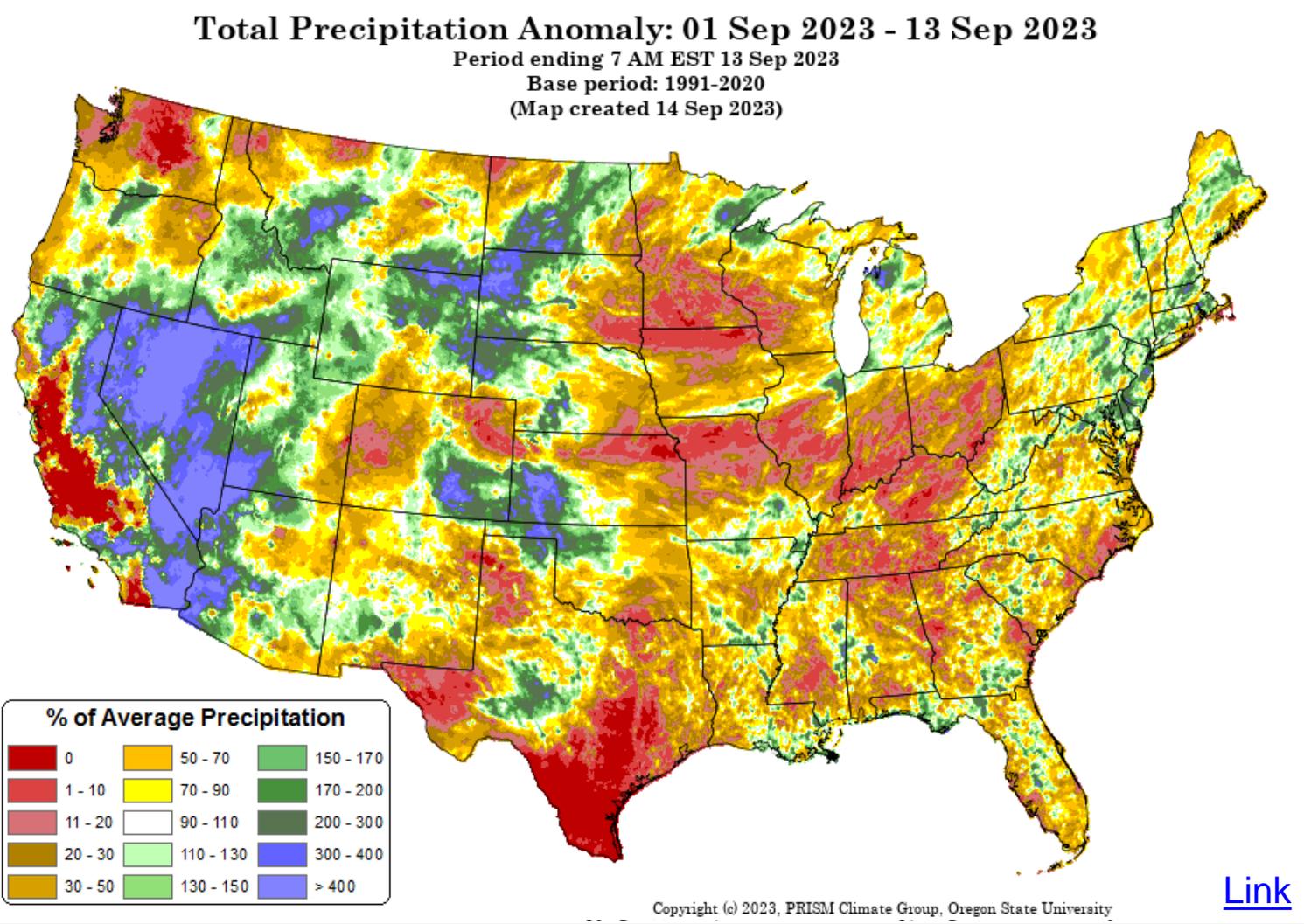
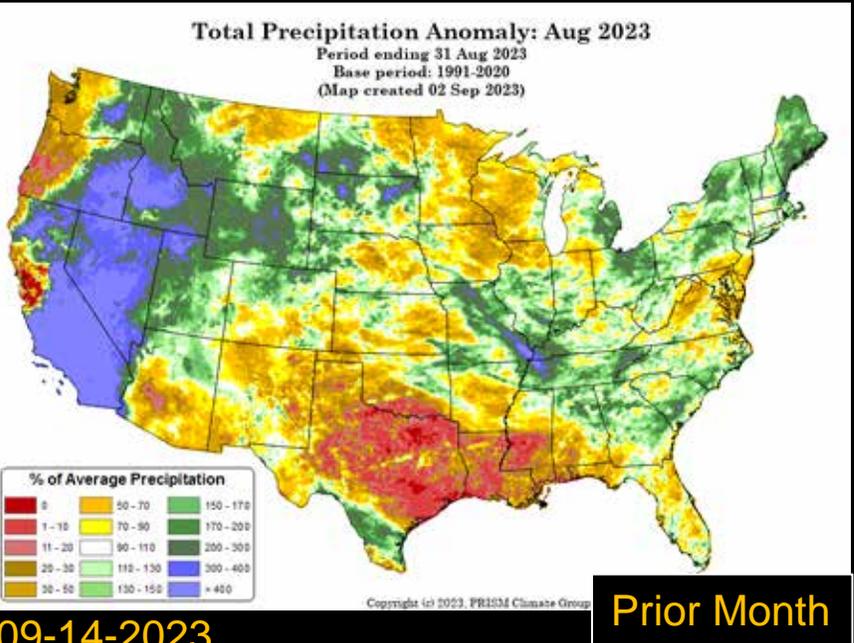
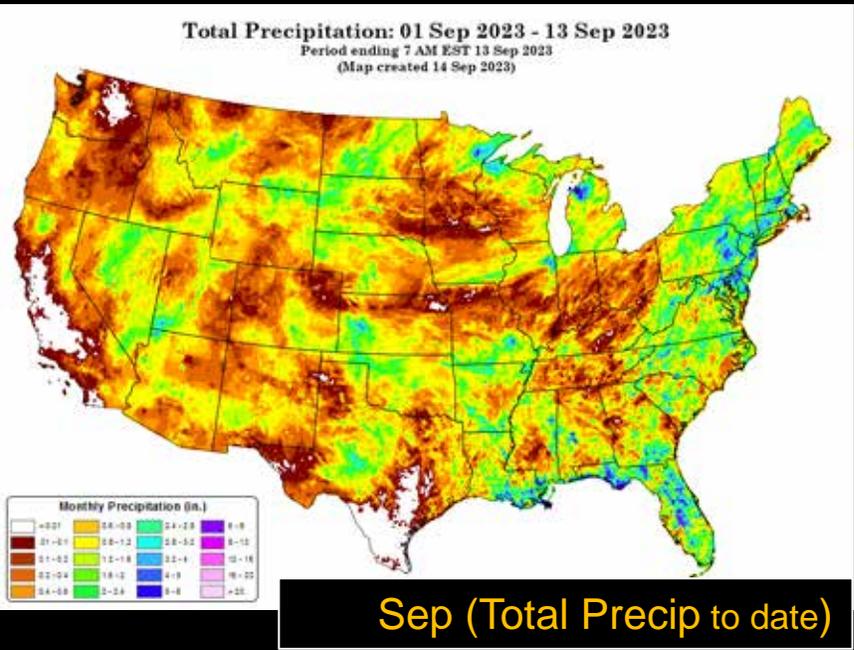
↓ [Link](#)



Continuing a welcomed trend, the Storm Prediction Center has no areas highlighted for fire weather concerns. However, there is a small area in SW OR where a RFW is in effect for east winds and low RH. The East Coast & New England have several classes of advisories relating to Hurricane Lee.

→ [Link](#)

# Monthly Precipitation (to date)



At the midpoint of September, anomalously dry areas include previously highlighted areas – notably Texas & parts of surrounding states. But, new dry spots have arisen in parts of the Midwest, northern High Plains, and sections of Atlantic Coastal Plain. In addition, drying has returned to most of the West, outside the footprint of the monsoon’s (final?) push through the Desert Southwest & Great Basin.

# Drought Status & Precipitation Outlook

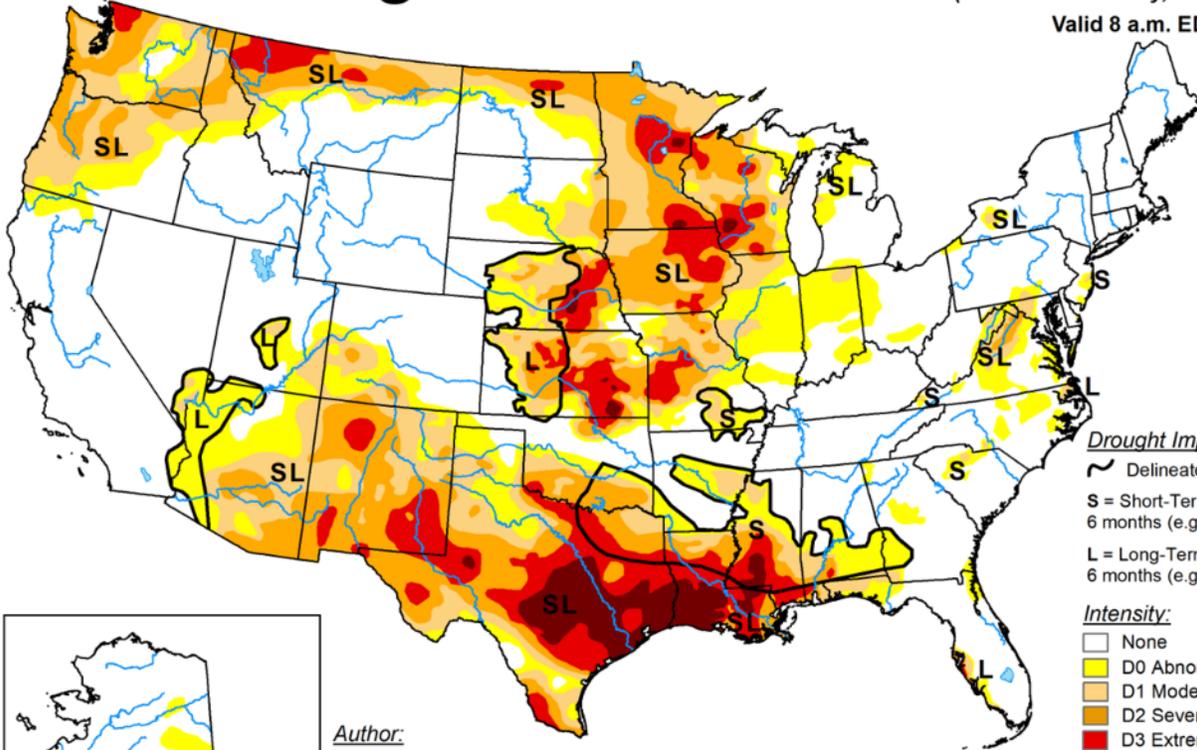
09-14-2023

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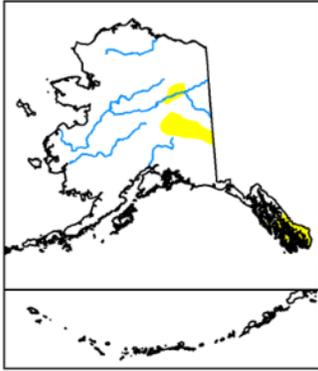
## U.S. Drought Monitor

September 12, 2023  
(Released Thursday, Sep. 14, 2023)  
Valid 8 a.m. EDT

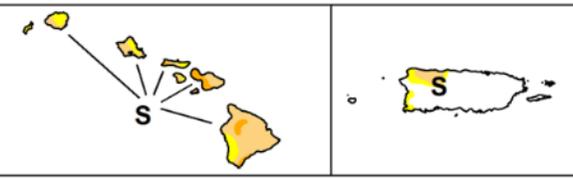


**Drought Impact Types:**  
 ~ Delineates dominant impacts  
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)  
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

**Intensity:**  
 □ None  
 □ D0 Abnormally Dry  
 □ D1 Moderate Drought  
 □ D2 Severe Drought  
 □ D3 Extreme Drought  
 □ D4 Exceptional Drought



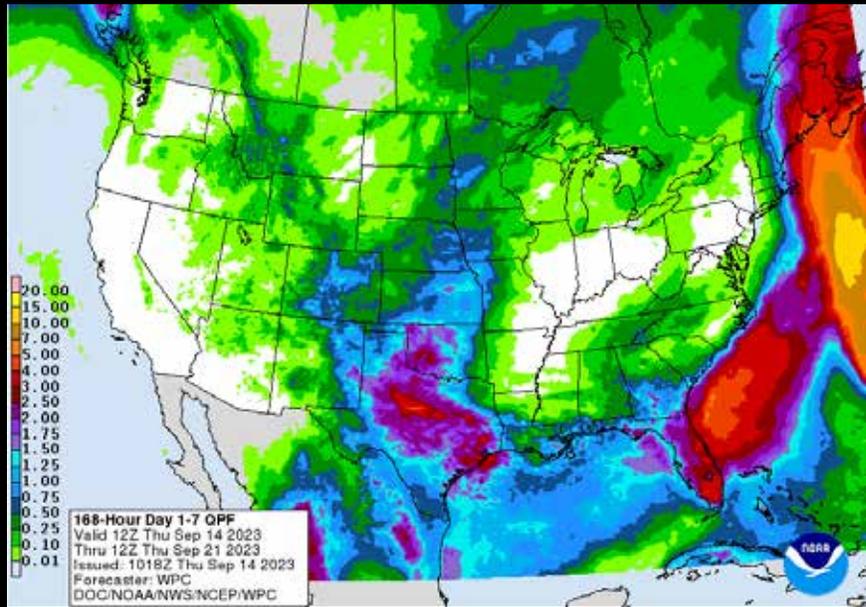
Author:  
Brad Pugh  
CPC/NOAA



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>



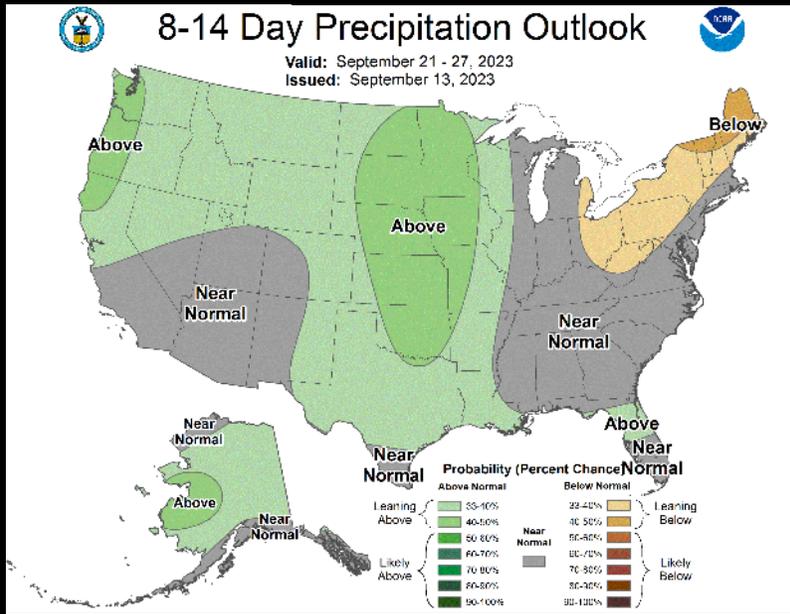
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



## 1-7 Day Precip Outlook

## 8-14 Day Precip Outlook

[Link→](#)

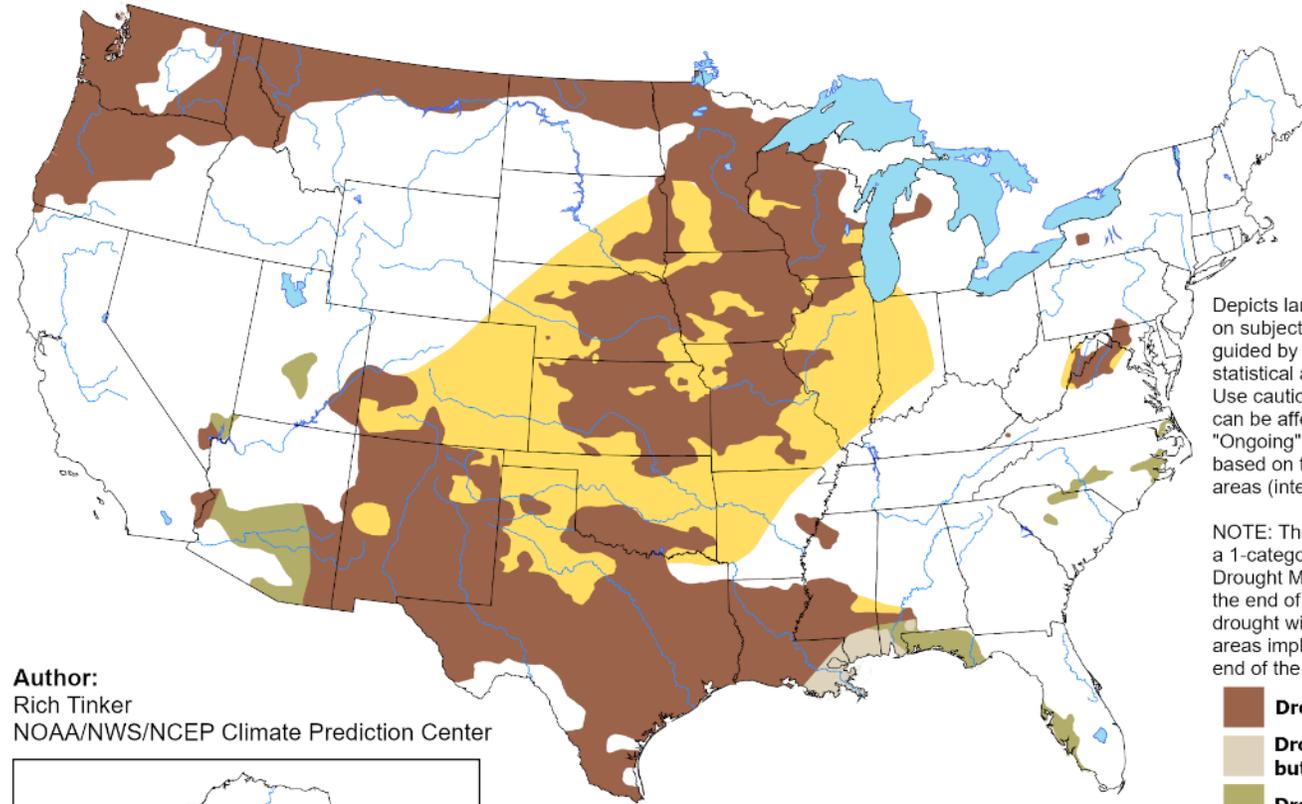


In comparison to last week, the Drought Monitor has not changed much - no significant areas of improvement but some drought expansion and worsening around the western Gulf Coast states. Forecasted precip over the next 7 days could bring some relief through the mid-section of CONUS. The following week's precip map looks favorable too; however, it could be 10+ days before any meaningful precip falls in the Northwest.

# U.S. Monthly Drought Outlook

## Drought Tendency During the Valid Period

Valid for September 2023  
Released August 31, 2023

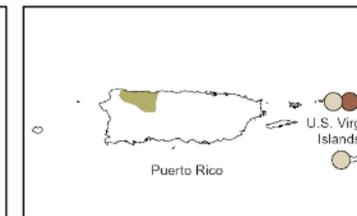
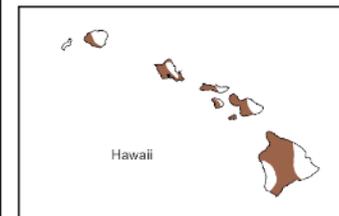


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

Author:  
Rich Tinker  
NOAA/NWS/NCEP Climate Prediction Center



<https://go.usa.gov/3eZGd>

# Monthly Drought Outlook

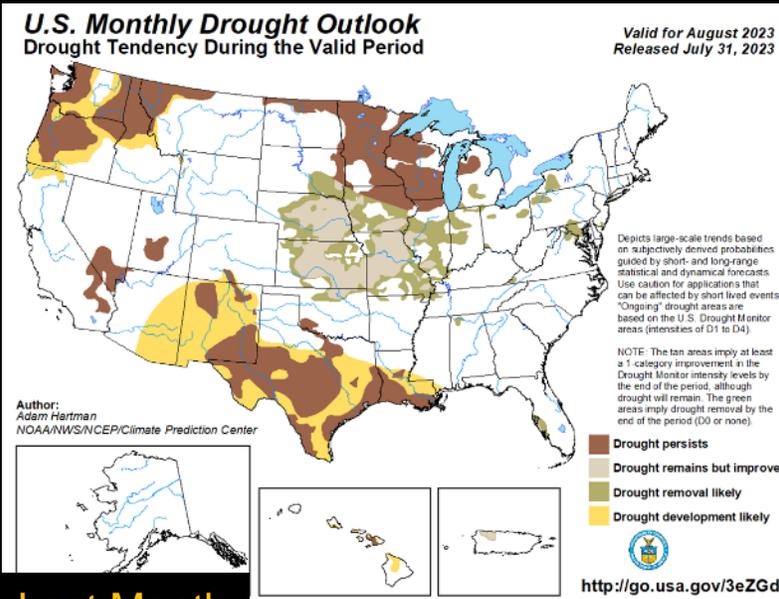
[Link](#)

09-01-2023

The newly-issued monthly drought map highlights expanding dryness in the southern and central Great Plains, elevating fire danger as we move into the fall fire season for most of the country's mid-section.

As is to be expected with El Niño, abnormally dry conditions will likely afflict the northernmost tier of states too.

Drought in Hawaii remains a concern, and the strengthening drought signal in the Mid-Atlantic region may also be noteworthy.



Last Month

<http://go.usa.gov/3eZGd>

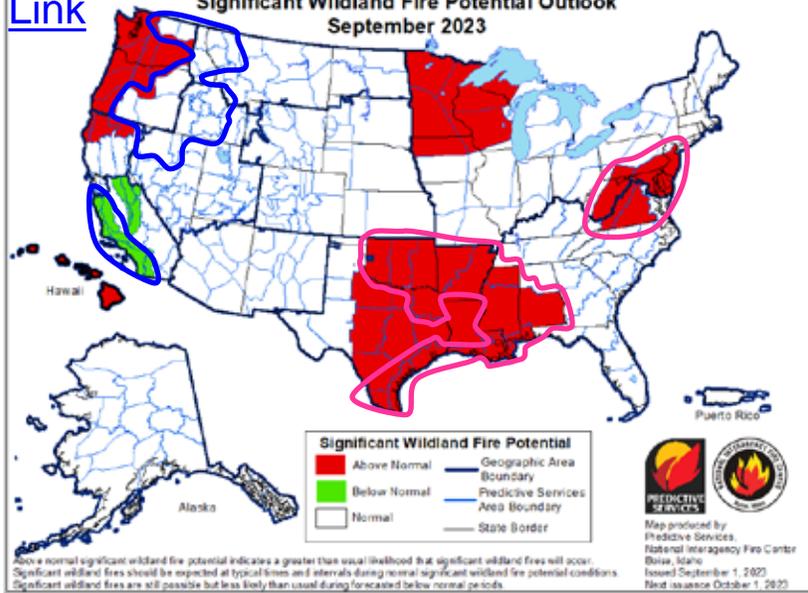
# Significant Fire Potential Outlooks

Note: Blue outlines were added here to denote areas with expected improvement (vs last month's outlooks for September). Pink denotes areas now expected to be drier.

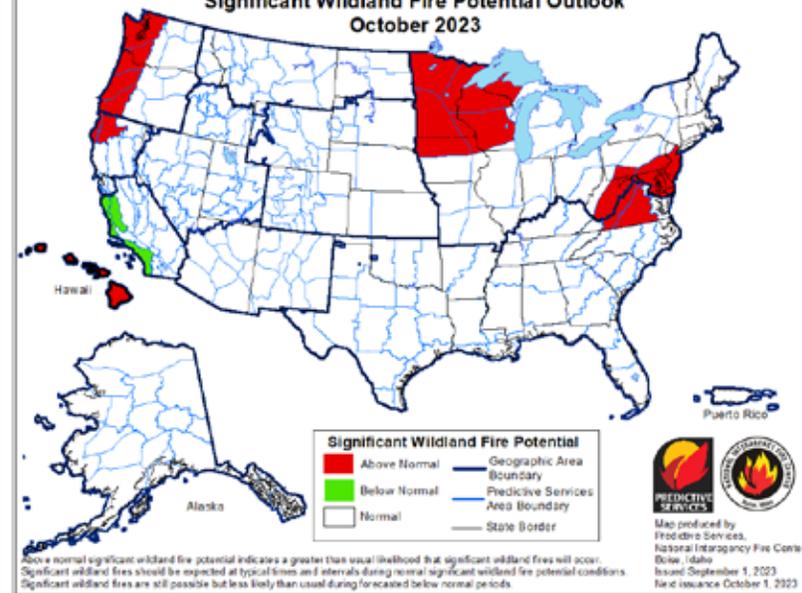
# Drought Outlooks

[Link](#)

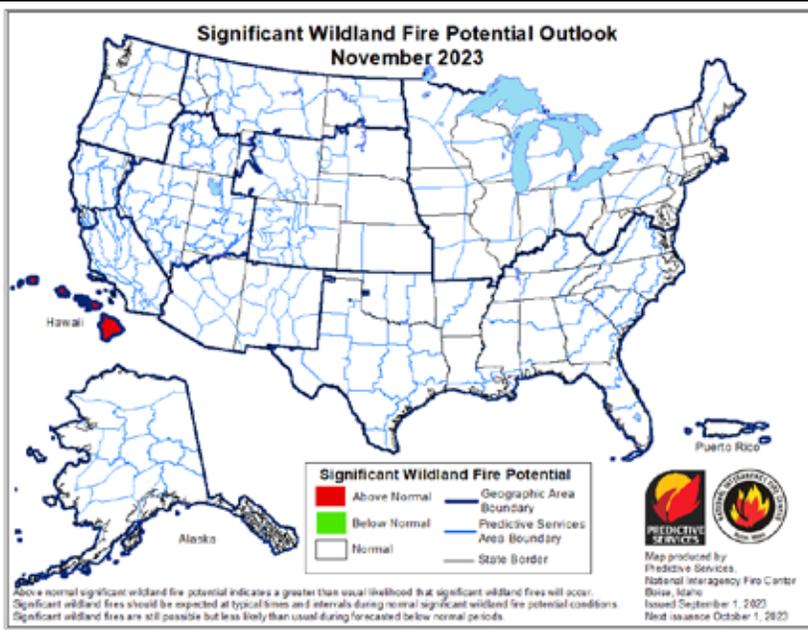
Significant Wildland Fire Potential Outlook  
September 2023



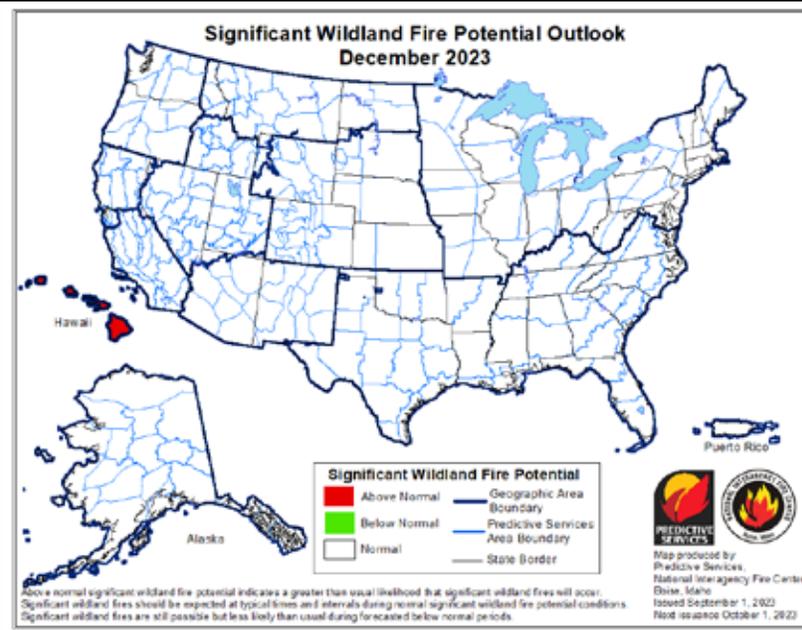
Significant Wildland Fire Potential Outlook  
October 2023



Significant Wildland Fire Potential Outlook  
November 2023



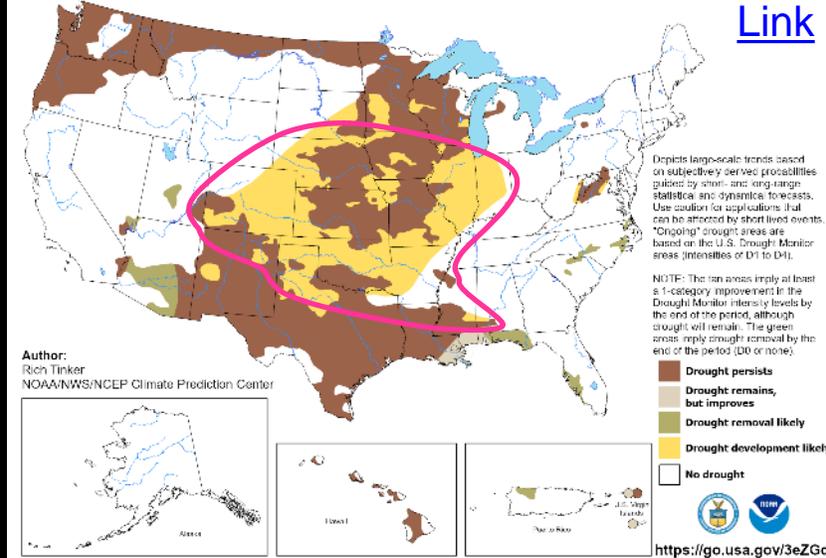
Significant Wildland Fire Potential Outlook  
December 2023



U.S. Monthly Drought Outlook  
Drought Tendency During the Valid Period

Valid for September 2023  
Released August 31, 2023

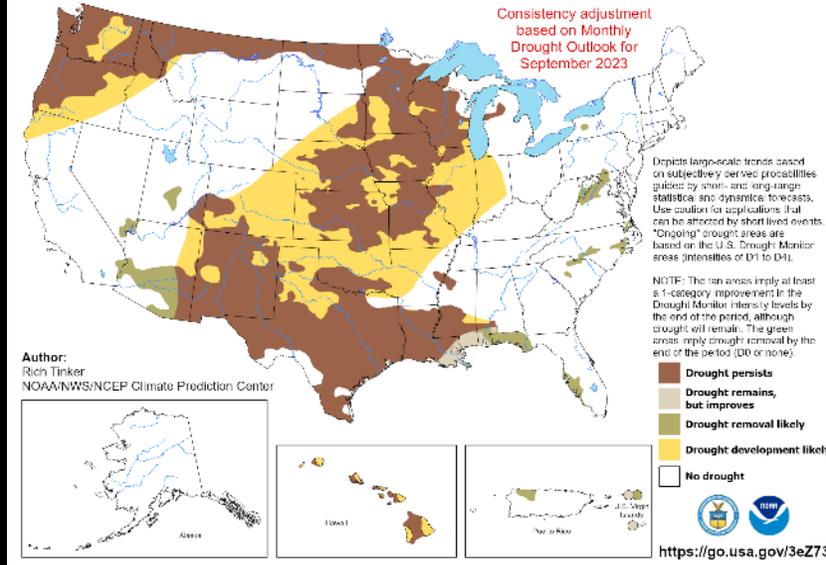
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U.S. Seasonal Drought Outlook  
Drought Tendency During the Valid Period

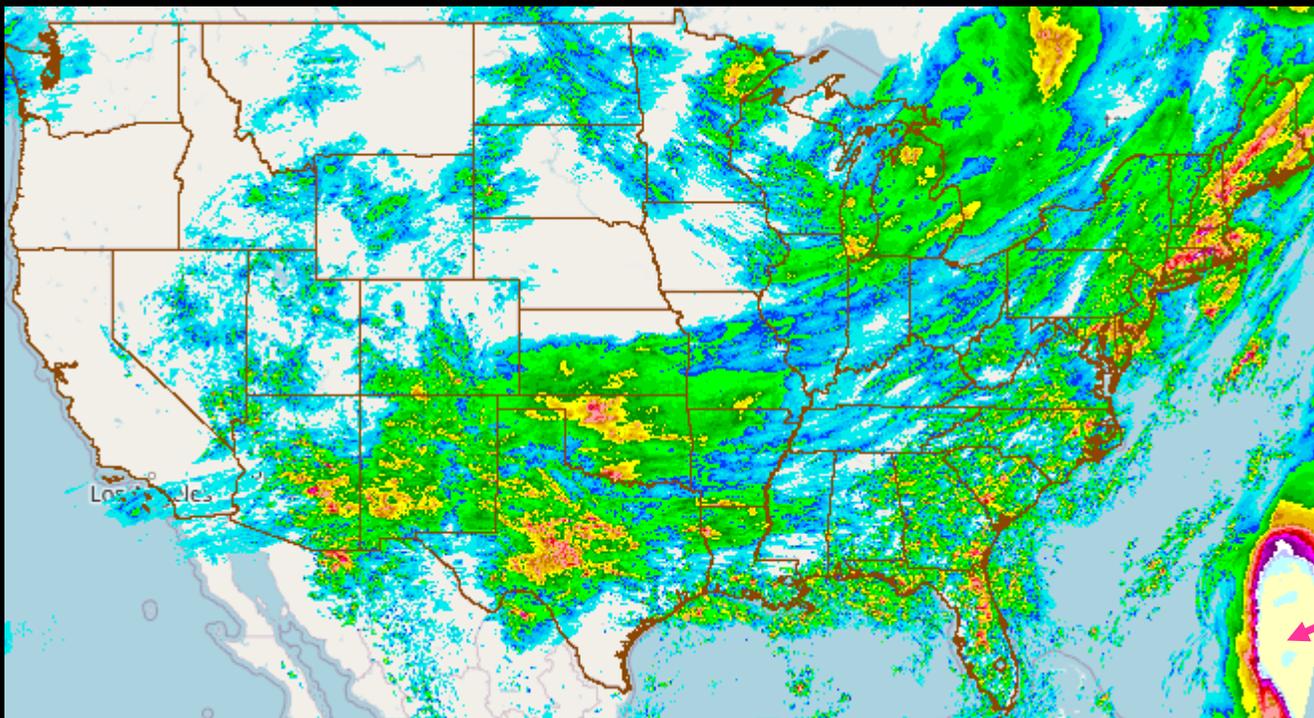
Valid for September 1 - November 30, 2023  
Released August 31, 2023

Consistency adjustment based on Monthly Drought Outlook for September 2023



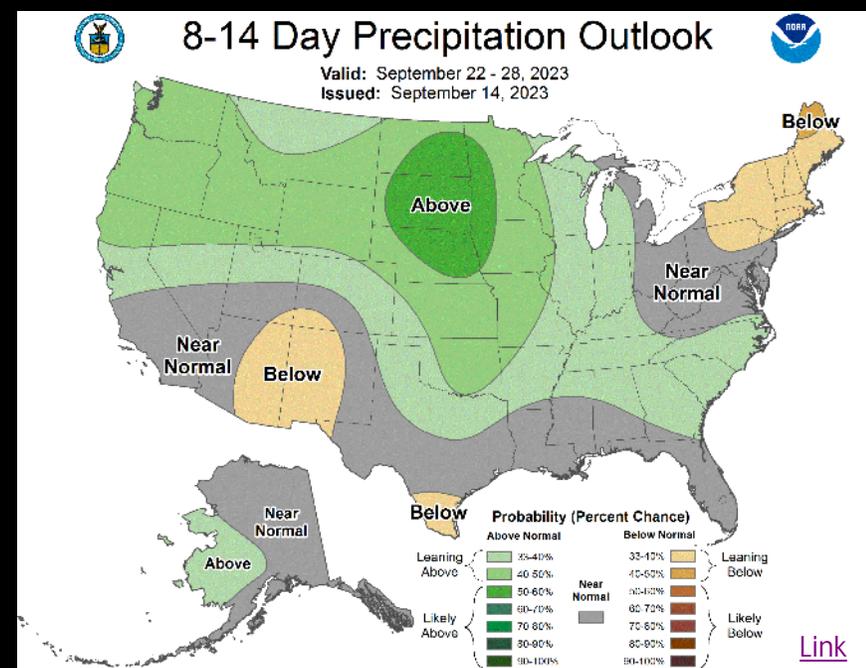
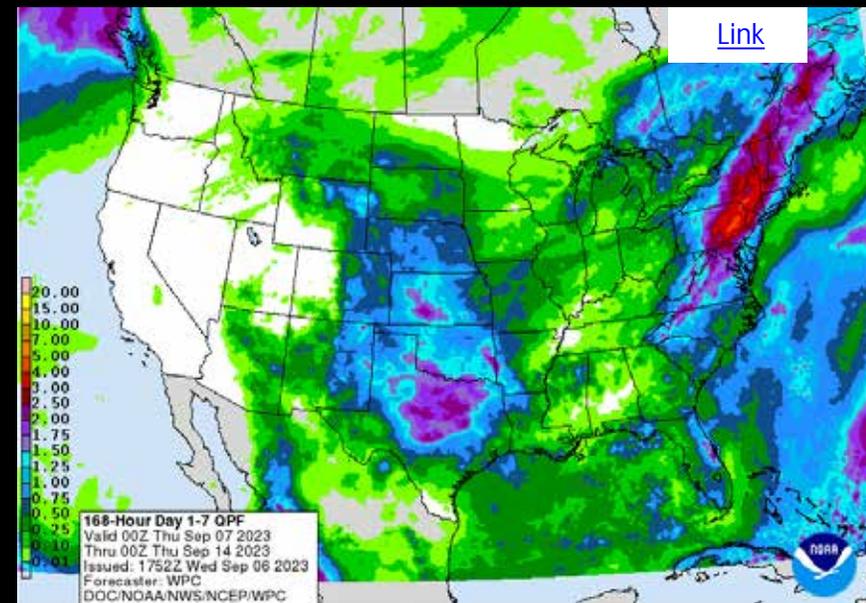
## Past 72 Hours Precip

(green or warmer hues = wetting rains;  $\geq 0.25"$ )



Hurricane Lee

## Forecasted Precip



Fuel moisture levels and fire danger largely mirror precip patterns. Now, most of the West has reverted to a drying trend, and ERCs are ascending to seasonal normal levels (and will again climb to above-normal levels in the coming days). In TX/LA/OK/AR/MS, good precip has finally brought some relief, but it remains to be seen whether that will be a long-lasting impact. Mid-Atlantic should bump back to normal or below normal fire danger, but we need to watch the Upper Midwest, which may remain dryer than surrounding areas

## Fuels and Fire Behavior Advisory

Central and East Texas, Southern Oklahoma, Far Southern Arkansas, Louisiana, Central and Southern Mississippi, Central and Southern Alabama and the Far Western Florida Panhandle  
Date Advisory Effective – August 31, 2023

**Subject:** Persistent, record-breaking heat and well below normal rainfall have led to flash drought development across the Southern Area this summer. This rapid drought onset and underlying dryness have unlocked the availability of large dead fuels and live canopy fuels for combustion over an expanding portion of the geographic area. These fuels are contributing to fire behavior that increases the resistance to control for wildfires burning in high-risk pine timber and oak/juniper fuel beds across the advisory area.

**Discussion:** A persistent upper-level high pressure ridge produced the hottest June-to-August period on record from parts of Texas eastwards along the Gulf Coast, while hot and dry conditions have recently led to a rapid increase in abnormal dryness for adjacent areas farther to the north and east. Relentless 100-degree temperatures have contributed to an increase in fuel availability, which is resulting in very high fire intensities. Recent scattered rainfall may temporarily ease fuel dryness locally, but the return of abnormally hot and dry conditions is expected to accelerate moisture loss heading into September. Widespread, drought-busting rainfall is not currently anticipated through at least mid-September.

**Difference from normal conditions:** The footprint of Energy Release Component (ERC) values above the 90<sup>th</sup> percentile is forecast to expand as hot and dry conditions return to the advisory area. ERC-G in the TAMFS Southeast Texas PSA is trending above the 97<sup>th</sup> percentile and continues to track above the 16-year historical maximum. A drier, post-frontal air mass and the return of very hot temperatures is forecast to dry out fuels and increase ERC values in the areas of concern during much of the first half of September. Fire weather thresholds required to produce crown fire in high-risk timber and brush fuels are much lower with the fuel dryness indicated by 90<sup>th</sup>-percentile-or-greater ERCs. 100-degree temperatures, winds near 15 mph, and relative humidity (RH) near 25% in oak/juniper fuels near and west of I-35 and at or below 35% in pine-dominant or coastal fuels east of I-35 have been fire weather triggers. Established large fires in high risk fuels, such as Tiger Island in Louisiana, have burned intensely through the night despite RH recovery above 80%.

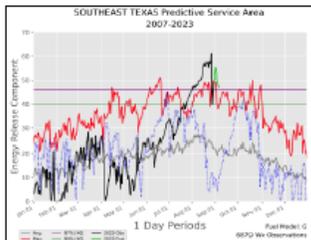
### Concerns to Firefighters and the Public:

- Extreme fire line intensity is to be expected during both initial attack and extended attack.
- Typical barriers to fire spread, like roadways, rivers, and hardwood river bottoms cannot be relied upon to stop fire progression.
- Active fire behavior may extend into the overnight hours during periods of poor RH recovery.
- Spotting up to ¼ of a mile away has routinely been reported on the majority of recent fires, including small initial attack fires.
- Reburn of scorched needle cast in pine is now common during the days or weeks after suppression of small initial attack fires.
- Roots burning underground may result in green trees falling.
- Critical fire weather may be associated with but is not limited to: compressional warming in unstable pre-frontal environments, dry cold fronts, subsidence adjacent tropical cyclones, sea breeze fronts and erratic winds associated with outflow from nearby thunderstorms.

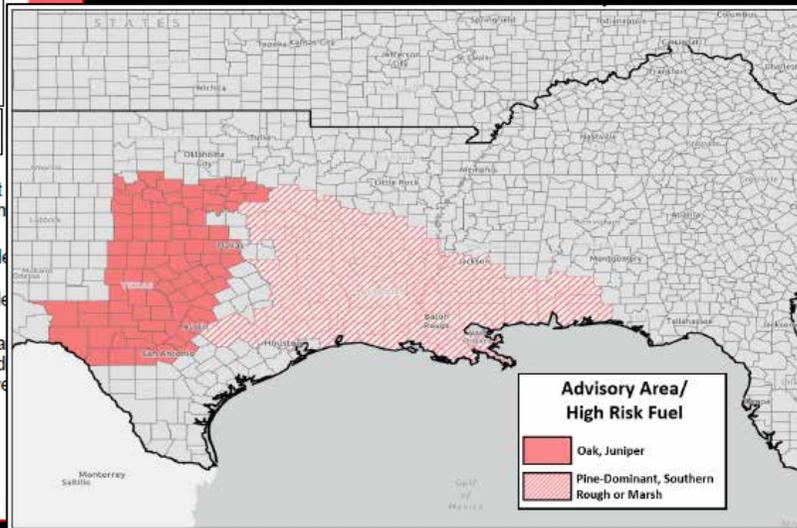
### Mitigation Measures:

- Fire managers should be prepared to support periods of more frequent fire occurrence as well as complex long-duration incidents.
- Firefighters should anticipate constructing wider than normal control lines, with dozers and grade (maintainers) working in tandem with engine support.
- Recent observations indicate large-diameter surface fuels and ground fuels are burning more readily a holding heat longer due to low 1000-hr fuel moisture and underlying drought. The time and effort need for mop up will continue to increase as these fuels hold heat, especially with the forecast of continued very hot and mostly dry conditions.

Issued By: Southern Area Predictive Services in coordination with state and federal partners.



ERC-G in Southeast Texas is forecast to remain above the 97<sup>th</sup> percentile this week.



# One Fuels & Fire Behavior Advisory in Effect

## 8/31 – Expanded F&FBA for Southern GACC

- Replaces separate prior F&FBAs for C/E TX & LA
- Expanded farther W in C TX and N into S OK & S AR
- Affected fuel types still includes pine-dominated Southern forests, but now more areas of oak/juniper woodland, Gulf-coast marshes, & Southern rough
- Record heat/drought = highly flammable fuels
- Mild, short-term improvement possible but reverting to hot/dry/windy for next couple weeks or longer
- Need extra aircraft, heavy equipment, engines

### Extreme fire behavior possible:

- Ladder fuels à crown fire
- Longer burn periods
- Frequent/distant spotting
- Burning roots; falling trees
- Rekindle/reburn potential
- Need wider control lines
- Difficult to control/mop-up

# Fuels & Fire Danger Summary

09/14/2023

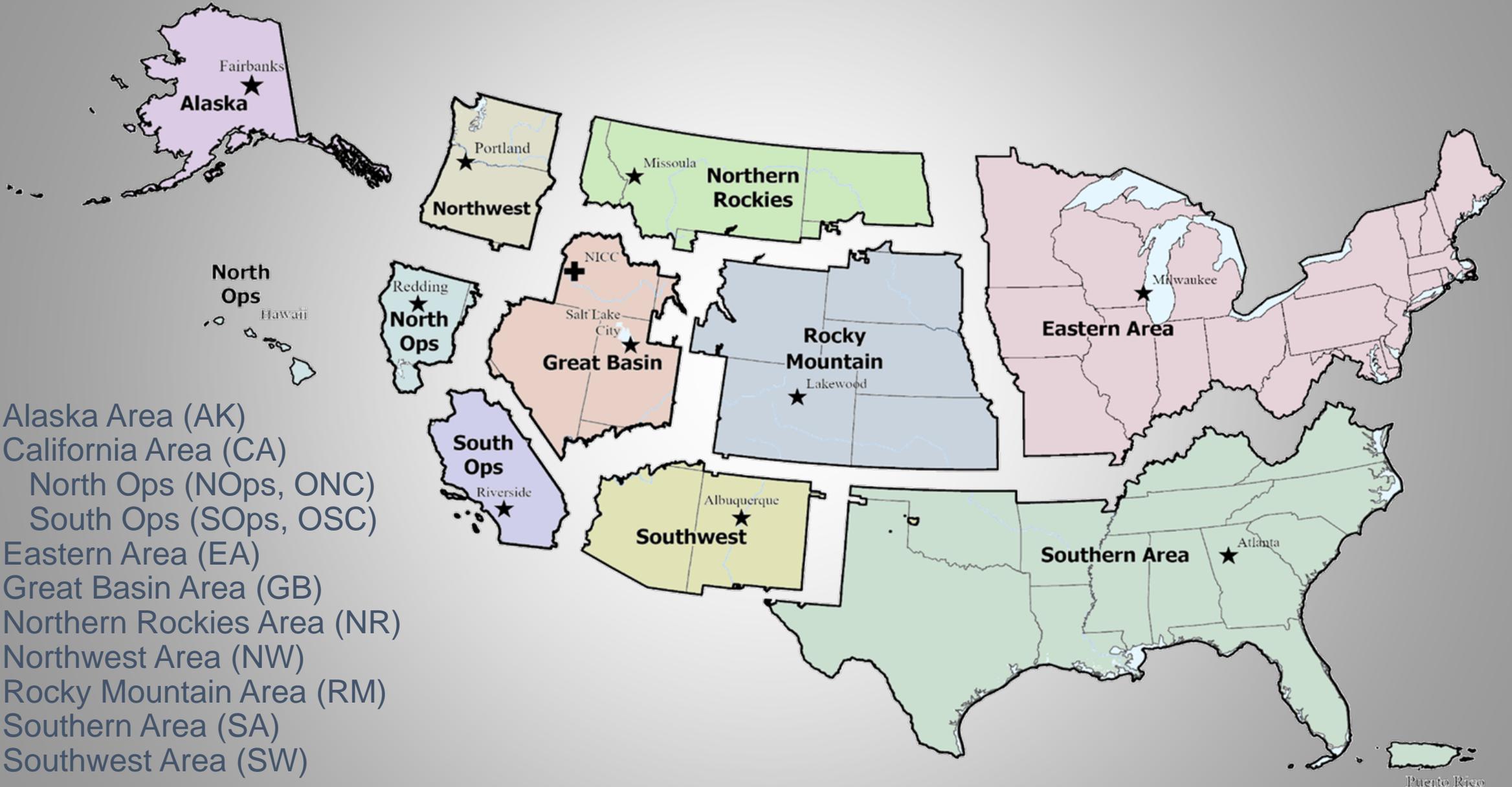
- **Main threat:** Drying trend continues across most of the West. Fire danger (ERC-y) in ONC & NW remains lower than normal for this time of year, but existing fires are growing more active each day and could see aggressive growth with forecasted east winds.
- SA: Improving conditions with recent and forecast rain & cooler temps in western Gulf Coast & adjacent states. Beneficial effects depend on precip amounts & duration (generally, spottier further to the east). Greening resuming in some fuels.
- SA's multi-state Fuels & Fire Behavior Advisory: Conditions currently are NOT extreme, but decision to rescind or modify has been deferred for a couple days to assess precip.
- EA: Short-term concern in Mid-Atlantic, where fuels are dry, due to winds as Hurricane Lee heads toward New England. Parts of the Upper Midwest (notably, WI, S MN) are drier than surrounding areas and may not see much beneficial precip.
- **Fall outlook:** Timely precip in the Gulf Coast states & Southern Plains helpful but may not be enough to restore to seasonal normal conditions. Other Areas look good – normal to below normal fire potential now – but trending up again in Greater Northwest & northern High Plains.

Comments or questions?

Please contact  
Steve Larrabee at  
[steven.larrabee@bia.gov](mailto:steven.larrabee@bia.gov)  
or your local servicing  
Predictive Services Staff



# 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)

# Abbreviations & Acronyms

100-hr	Dead woody fuel moisture for 100-hour timelag size class
1000-hr	Dead woody fuel moisture for 1000-hour timelag size class
BI	Burning Index (an NFDRS output)
BUI	Buildup Index (a CFFDRS output)
CFFDRS	Canadian Forest Fire Danger Rating System
DFM	Dead Fuel Moisture content
EDDI	Evaporative Demand Drought Index
ERC	Energy Release Component (an NFDRS output)
F&FBA	Fuels & Fire Behavior Advisory
F&FD	Fuels and Fire Danger
FD	Fire Danger
FEMS	Fire Environment Mapping System
FFMC	Fire Fuel Moisture Code (a CFFDRS output)
FM	Fuel Model (or Fuel Moisture - see also DFM & LFM)
FWW	Fire Weather Watch
GACC	Geographic Area Coordination Center
GOES	Geostationary Operational Environmental Satellite Network
IA	Initial Attack
ICS-209	Incident Status Summary (large fire report)
IMSR	National Incident Management Situation Report
IMT	Incident Management Team
ISI	Initial Spread Index (a CFFDRS output)

# Commonly Used in These Briefings

KBDI	Keetch-Byram Drought Index
LF, LFs	Large Fires (aka Significant Fires)
LFM	Live Fuel Moisture content
MODIS	Moderate Resolution Imaging Spectroradiometer (satellite-based thermal detection)
NDVI	Normalized Difference Vegetation Index
NFDRS	National Fire Danger Rating System
NICC	National Interagency Coordination Center
NMAC	National Multi-Agency Coordinating Group
NWS	National Weather Service
PL	Preparedness Level
PSA	Predictive Service Area
RAWS	Remote Automated Weather Station
RFW	Red Flag Warning
RH	Relative Humidity
SFDI	Severe Fire Danger Index (derived from BI & ERC percentiles)
SIG	Special Interest Group (a grouping of RAWS)
SPC	NOAA Storm Prediction Center
VIIRS	Visible Infrared Imaging Radiometer Suite (satellite-based thermal detection)
WFAS	Wildland Fire Assessment System
WFDSS	Wildland Fire Decision Support System
WIMS	Weather Information Management System

# PARTNERING AGENCIES



## Fire Management Agencies and Partners

- Bureau of Indian Affairs ([BIA](#))
- Bureau of Land Management ([BLM](#))
- Bureau of Reclamation ([BOR](#))
- Federal Emergency Management Agency ([FEMA](#))
- US Fish & Wildlife Service ([FWS](#))
- National Association of State Foresters ([NASF](#))
- National Park Service ([NPS](#))
- National Weather Service ([NWS](#))
- DOI Office of Wildland Fire ([OWF](#))
- US Fire Administration ([USFA](#))
- US Forest Service ([USFS](#))

## Interagency Coordination & Management Groups

- Geographic Area Coordination Centers ([GACCs](#))
- National Interagency Coordination Center ([NICC](#))
- National Interagency Fire Center ([NIFC](#))
- National Multi-Agency Coordinating Group ([NMAC](#))
- National Wildland Fire Coordinating Group ([NWCG](#))