

# August 2023 Weather Digest



# August 2023 Weather Summary

Much like July, August remained quite hot although the area was able to receive significantly more rainfall as the monsoon was more active. Average temperatures for the month ranged 3 to 6 degrees above normal. The first part of the month continued the hot trend of July, with temperatures way above normal. Along with this heat came numerous small wildfires. Though we were fortunate in avoiding any large burns, the existing fires still contributed to several smokey days around the Gila Wilderness. The last half of the month cooled back to near normal with considerable more clouds and areas of rain. Monsoon surges on the 13th-15th, and again on the 22nd-23rd, compliments of the remnants of TC Harold, brought the bulk of the month's rain.

Rainfall improved in August with most locations east of the Continental Divide near to above normal. Much of Otero and Hudspeth Counties were well above normal thanks to Harold. Unfortunately, August could not make up for the short falls of June and July. For the monsoon season through August most of the area remained 50-90% of normal.

# August 2023 Weather Summary

**Only Otero and Hudspeth Counties were near to slightly above normal for the season.**

**Looking ahead to September, temperatures and daylight continue the slow trend downward, reaching the half way mark on the Autumnal Equinox, occurring on the 23rd at 1249 am. The monsoon pattern typically ends around mid to late September, though we can always get tropical remains anytime of the month. The average high at El Paso on September 1 is 92 degrees, falling to 85 degrees on the last day of the month. Daylight on the first of the month is 12 hours, 48 minutes and shrinks to 11 hours, 53 minutes of daylight on the final day of the month. Our September full moon, popularly known as the Harvest Moon, occurs on the 29th. Our new moon takes place on the 14th.**

**Aug 5 Smoke near Lake Roberts**



**Aug 5 Turkey Fire**



**Aug 5 Smoke near Lake Roberts**



**Aug 12 West Mountain Fire**



US62/180 MONTANA AT LP 375

# Aug 7 Dust at El Paso



08/07/2023 07:11:31 PM

# Aug 7 Dust at El Paso



# Aug 7 Dust at El Paso Airport



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**Aug 7 Lightning in the Gila**



**Aug 7 Lightning in the Gila**



**Aug 7 Lightning in the Gila**



**Aug 8 Lightning in the Gila**



**Aug 8 Lightning in the Gila**



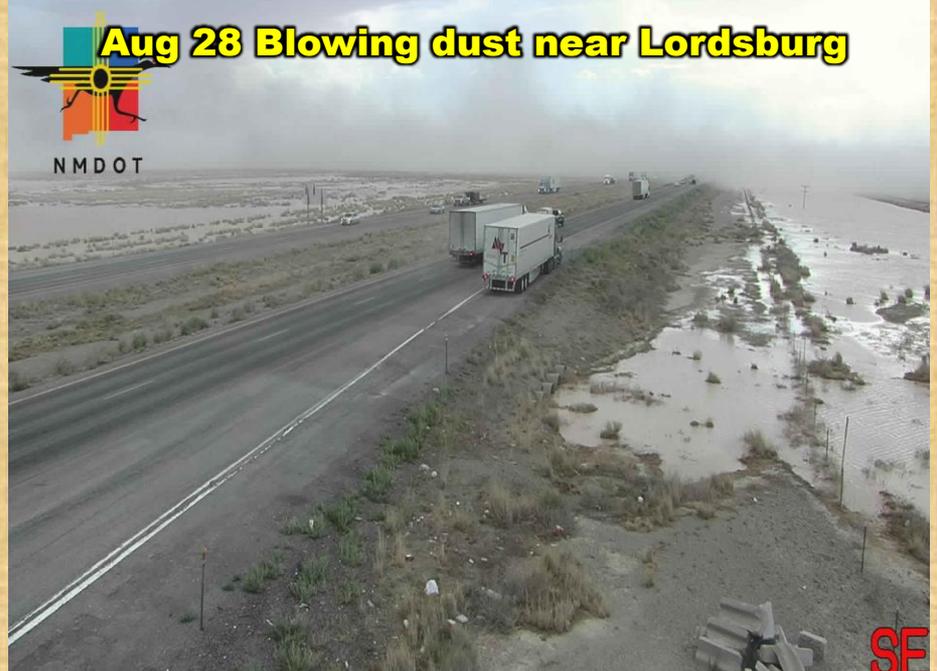
**Aug 11 Lightning over the Black Range**



**Aug 11 Lightning near Pinos Altos**



**Aug 28 Blowing dust near Lordsburg**



**Aug 28 Flooding near Sacramento**



**Aug 28 Flooding near Sacramento**



**Aug 23 Rockslide near High Rolls,  
Sacramento Mtns**



I-10 LORDSBURG @ MM1

**Aug 30 Dust storm Lordsburg Playa**



**Aug 28 Gustnado El Paso**



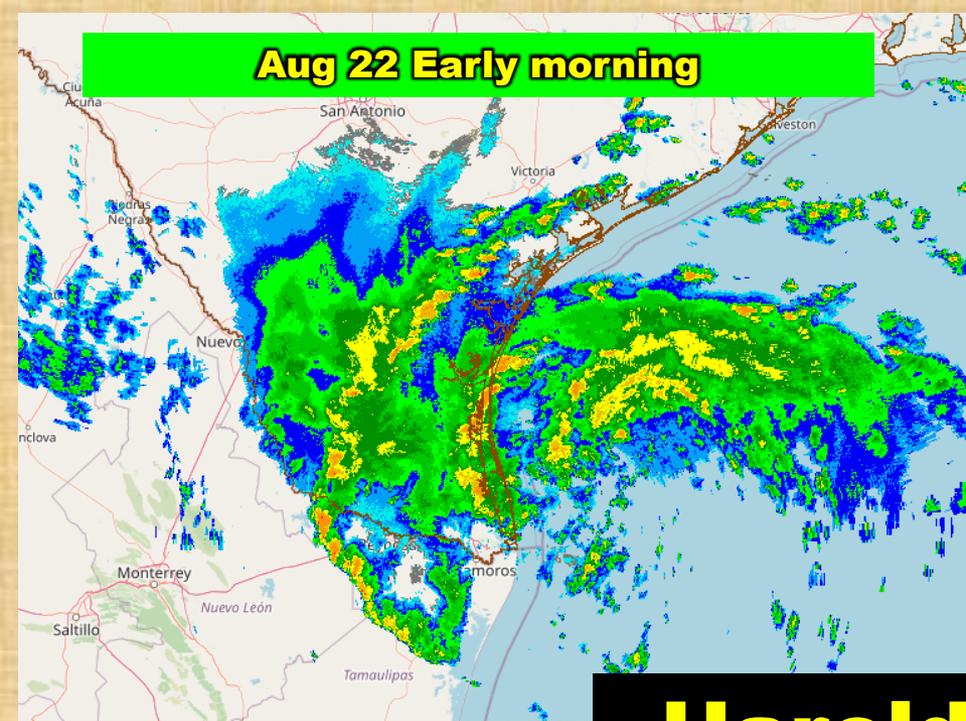
**Aug 23 Clouds over the Franklin Mts**



**Aug 25 Storm over El Paso**



**Aug 22 Early morning**

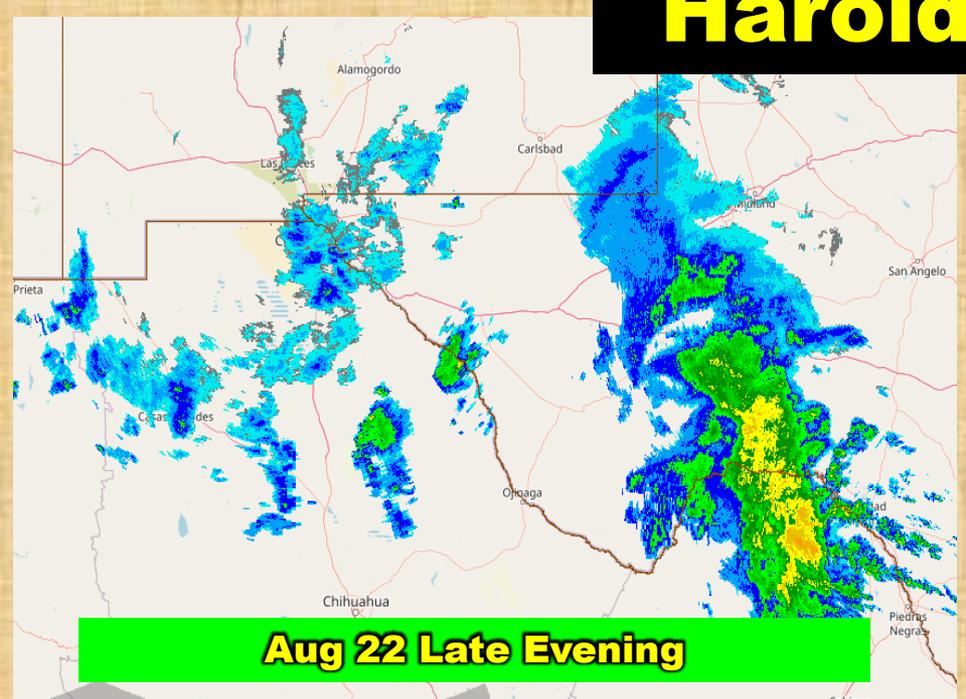


**Aug 22 Afternoon**

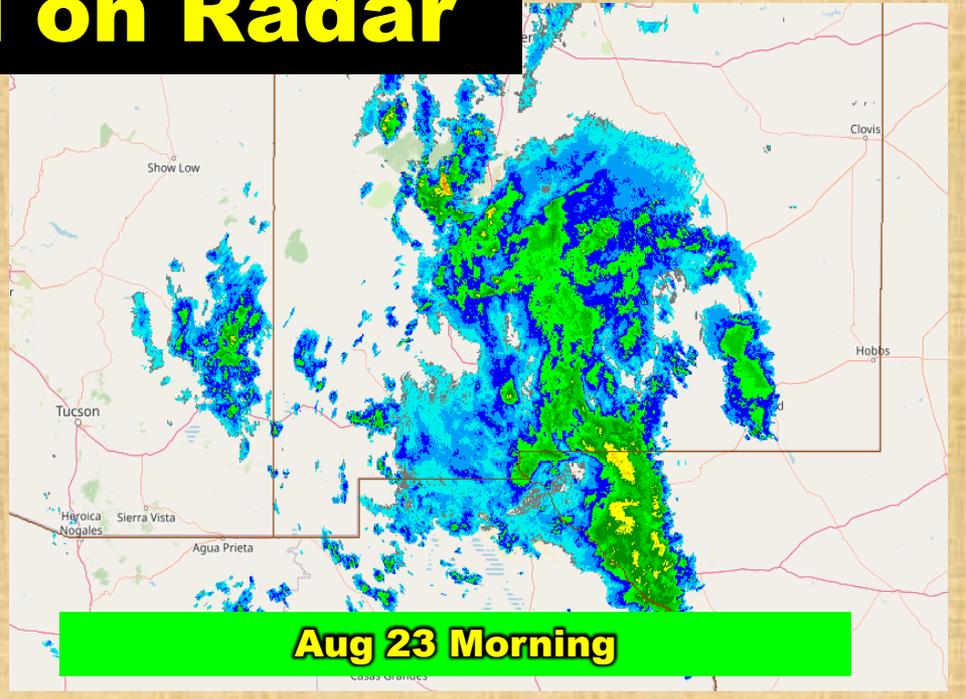


**Harold on Radar**

**Aug 22 Late Evening**



**Aug 23 Morning**



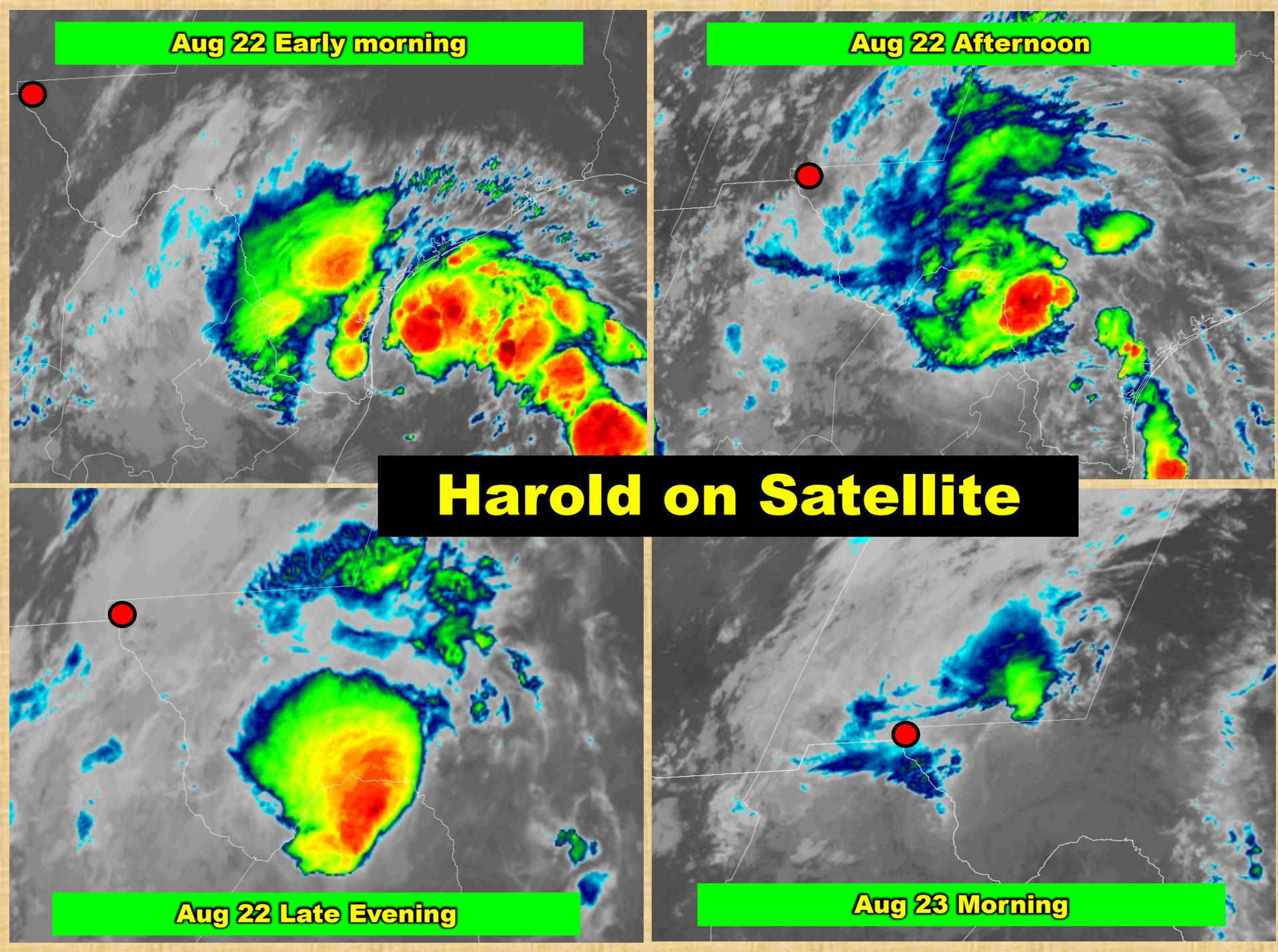
**Aug 22 Early morning**

**Aug 22 Afternoon**

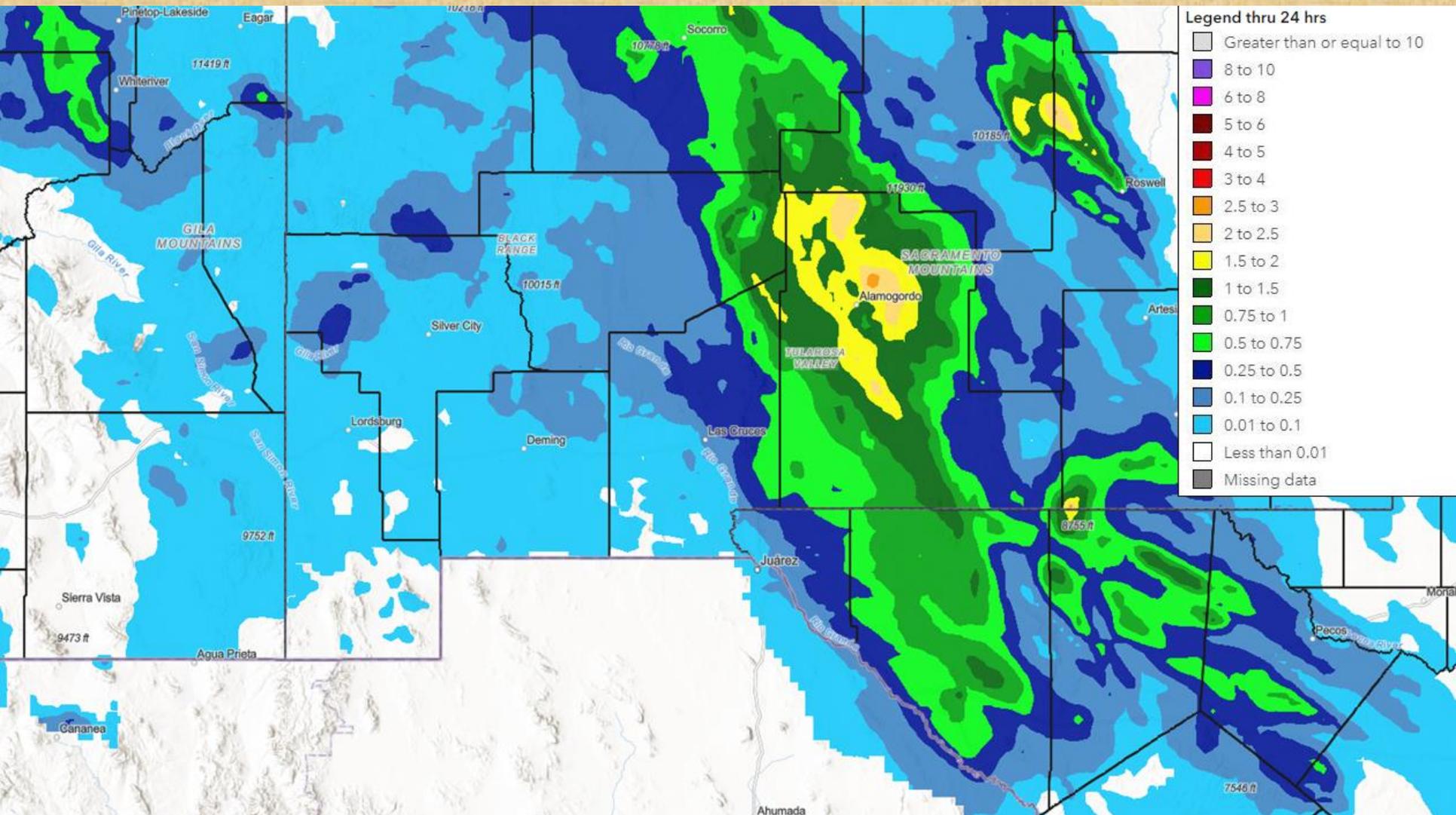
# Harold on Satellite

**Aug 22 Late Evening**

**Aug 23 Morning**



# Total rainfall from the remnants of TC Harold Aug 22-23



# **ENSO Alert System Status: El Niño Advisory is in Effect**

## **ENSO Alert System**

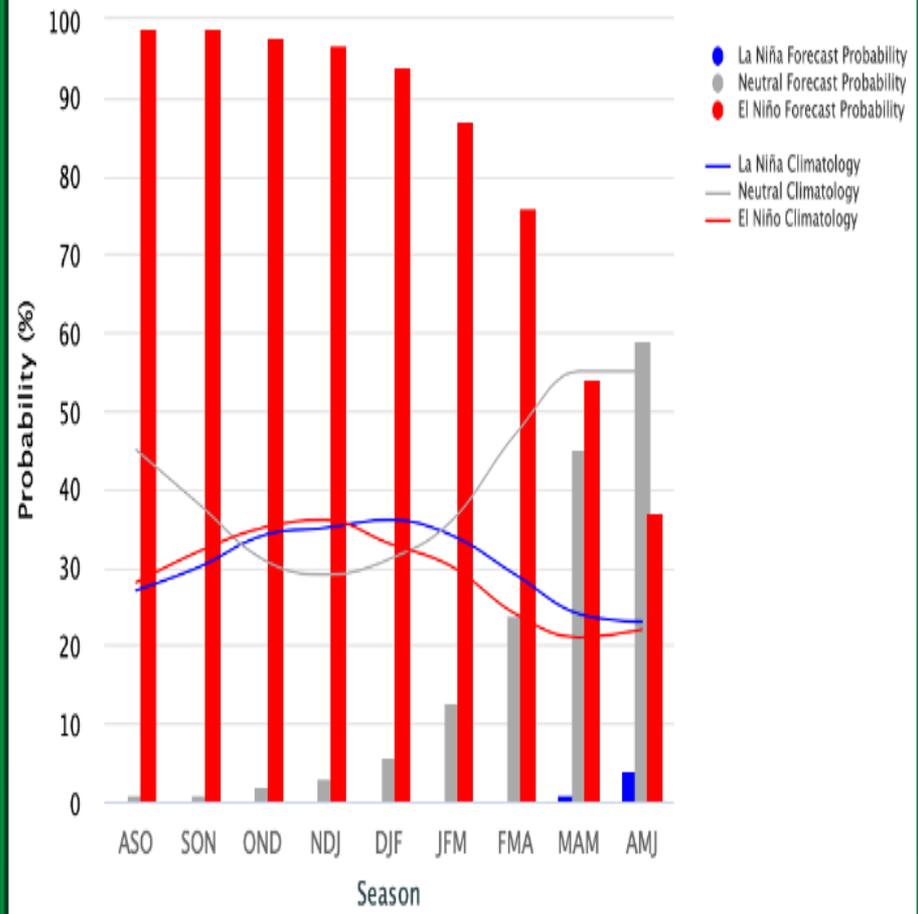
- **El Niño or La Niña Watch:** Issued when conditions are favorable for the development of El Niño or La Niña conditions in the next six months.
- **El Niño or La Niña Advisory:** Issued when El Niño or La Niña conditions are observed and expected to continue.

# ENSO Forecast

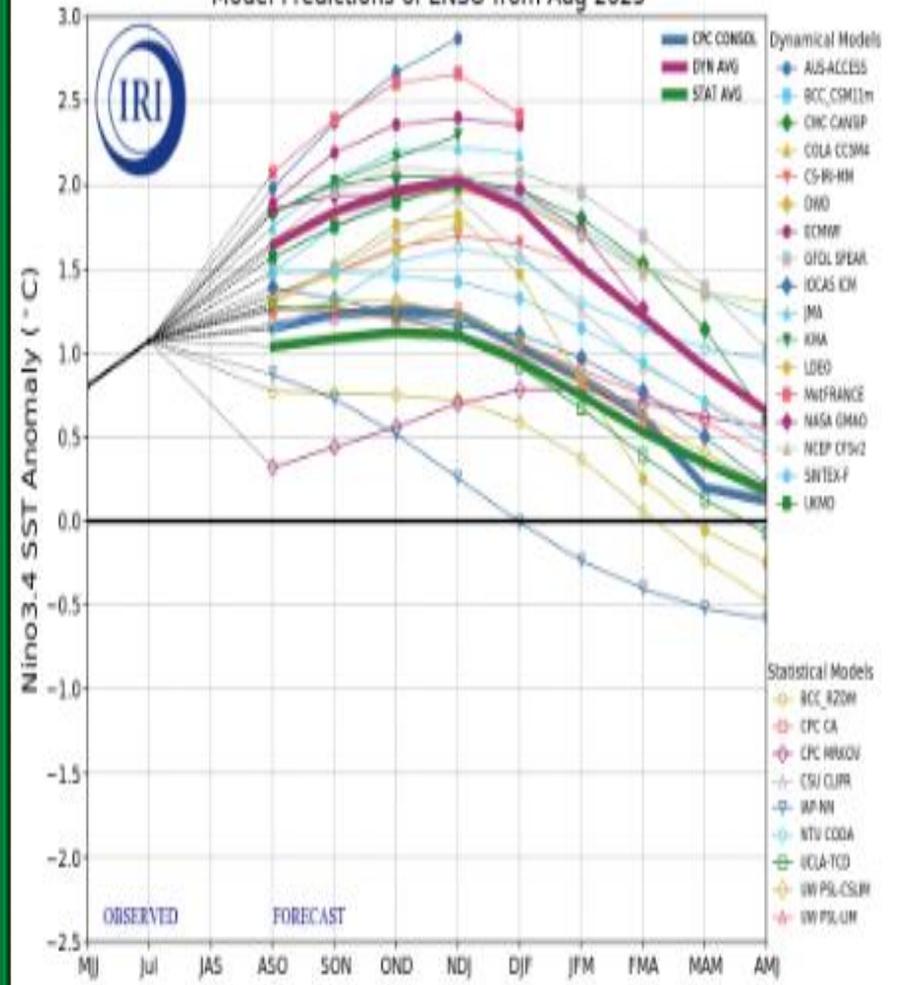
**ENSO is in El Niño status and is expected to increase in strength over the next several months. Expected to remain through at least the spring of 2024.**

Mid-August 2023 IRI Model-Based Probabilistic ENSO Forecasts

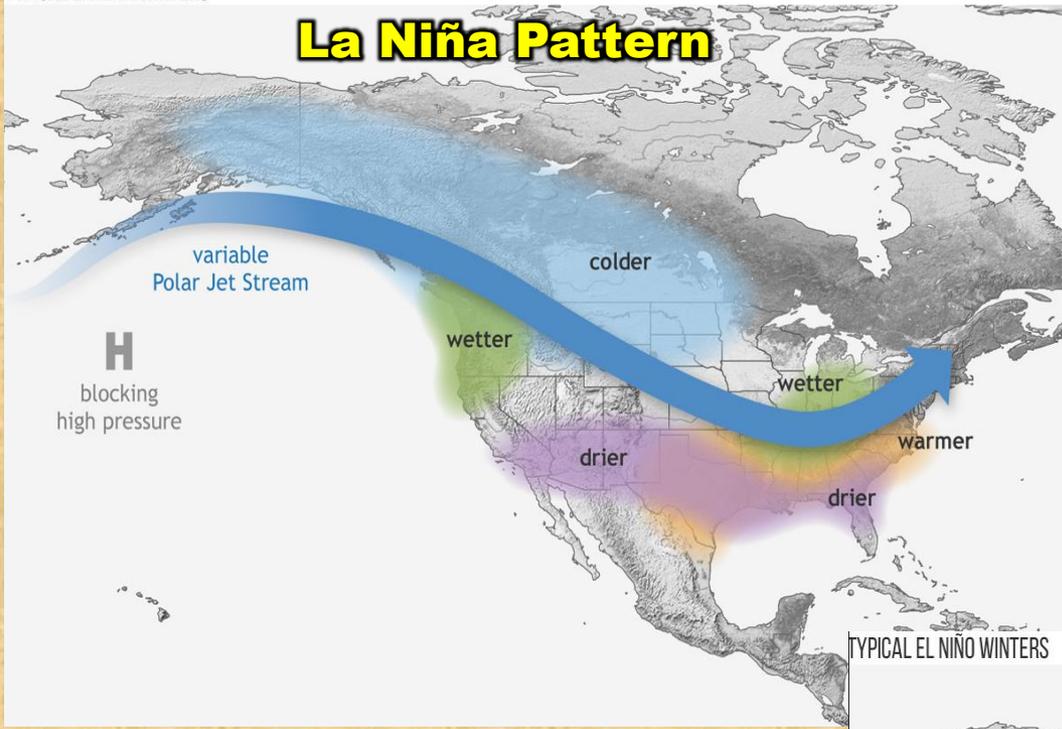
ENSO state based on NINO3.4 SST Anomaly Neutral ENSO: -0.5 °C to 0.5 °C



Model Predictions of ENSO from Aug 2023

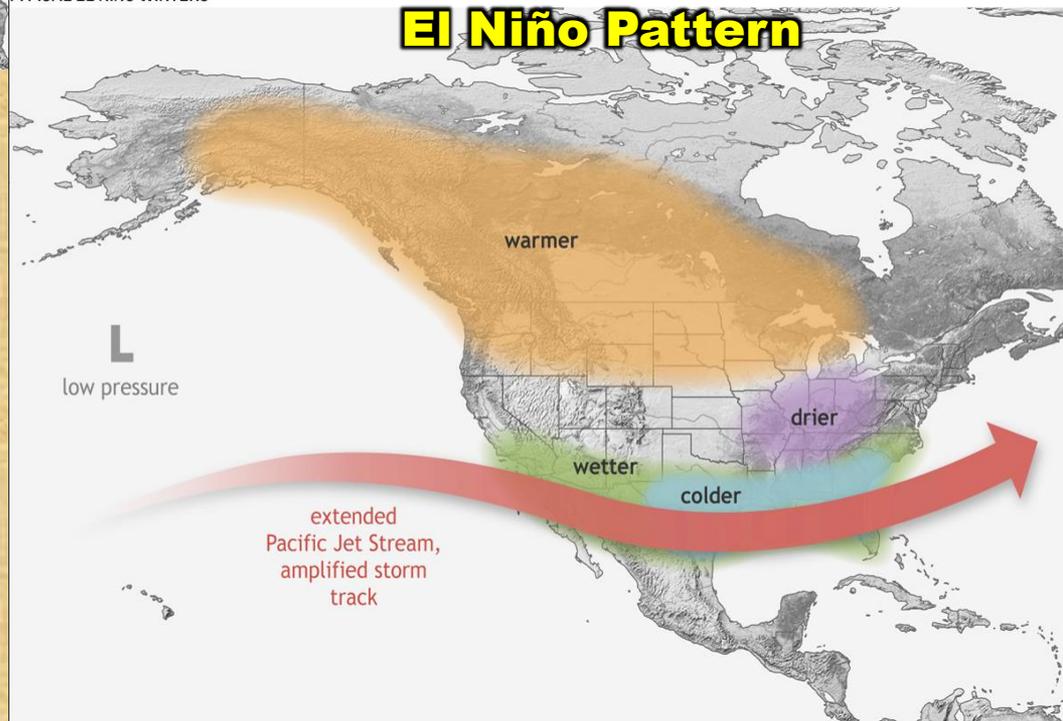


# La Niña Pattern



With a La Niña pattern, a ridge of high pressure tends to build off the west coast of the U.S., blocking most of our Pacific winter storm systems. These storms tend to end up moving across the northern Plains and down to the southeastern part of the country. Of course it is important to remember that these patterns are only what typically happens and are not guaranteed to occur.

# El Niño Pattern



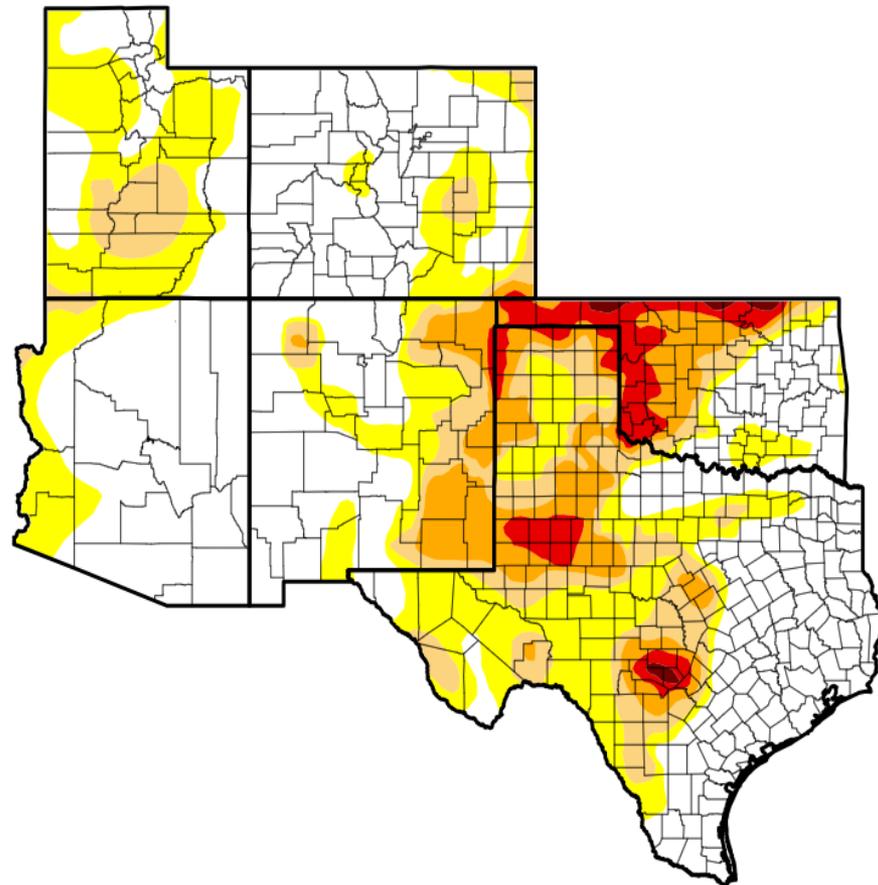
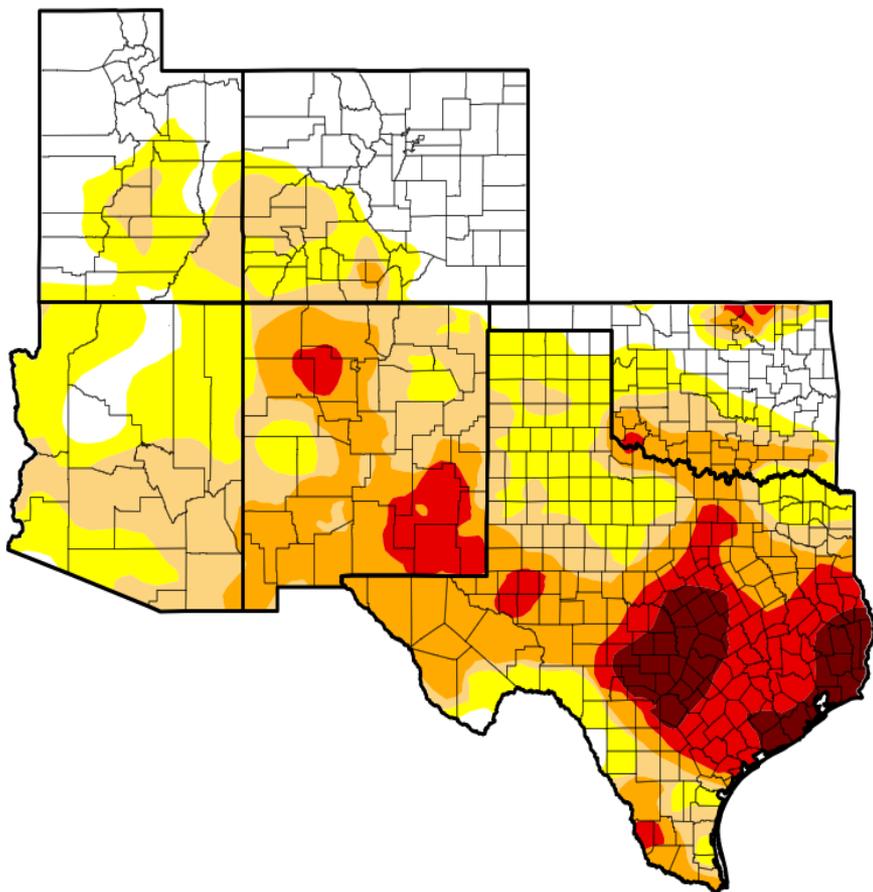
With El Niño, we often see the opposite pattern where the eastern Pacific ridge of high pressure is often weak or non-existent, allowing winter storms to sweep across the southern U.S. This typically will give the southwestern U.S. above normal precipitation.

# Current drought conditions and 3 month change

- Abnormally Dry – D0
- Moderate Drought – D1
- Severe Drought – D2
- Extreme Drought – D3
- Exceptional – D4

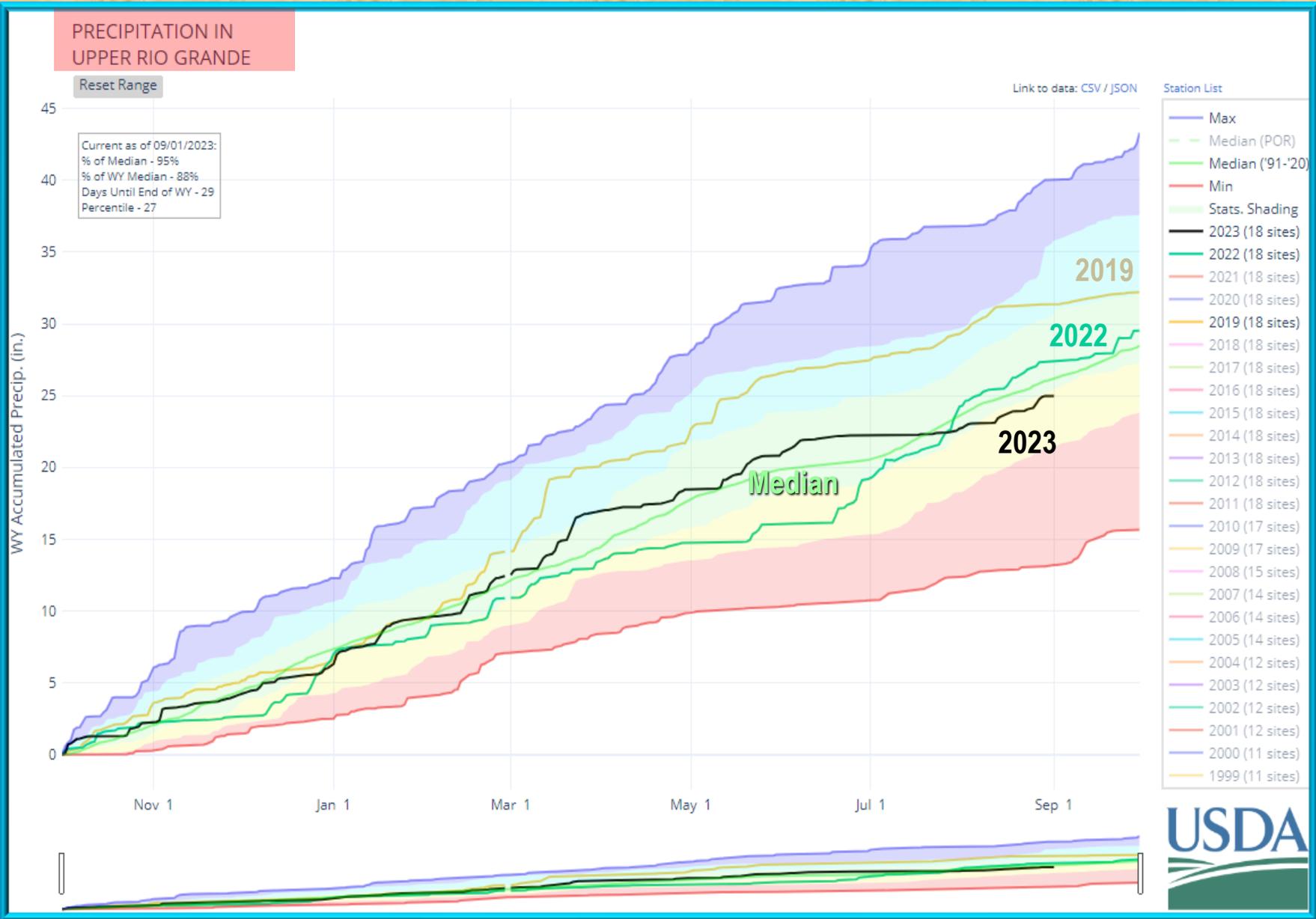
**Aug 29, 2023**

**May 30, 2023**



# Precipitation for the Water Year Oct 1 –Aug 31, 2023

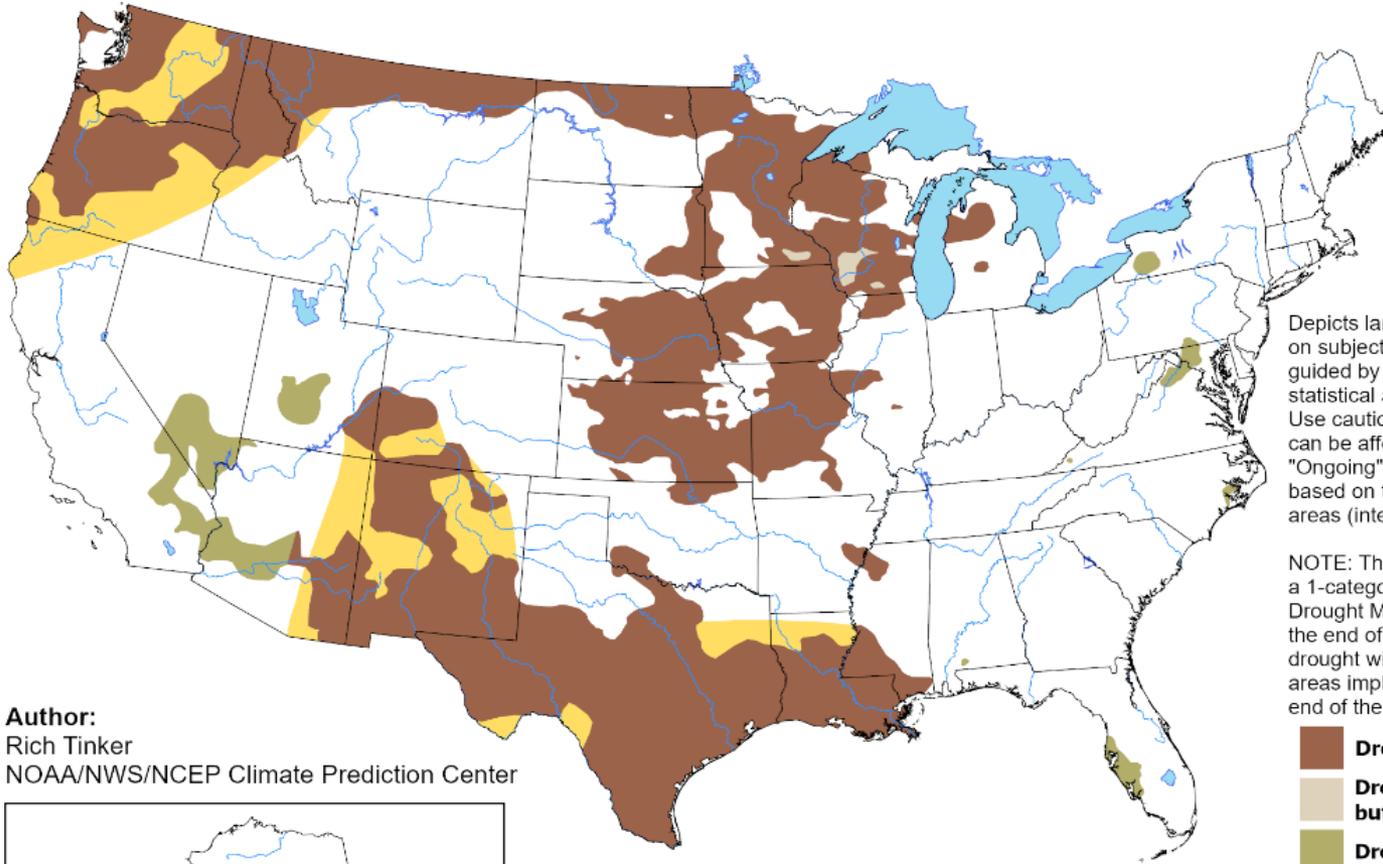
## Compare to last few years and average values



# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for August 17 - November 30, 2023  
Released August 17, 2023

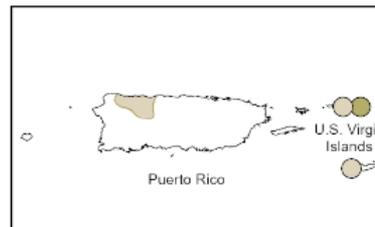
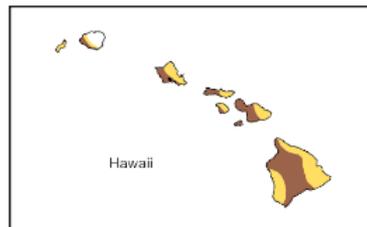


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

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

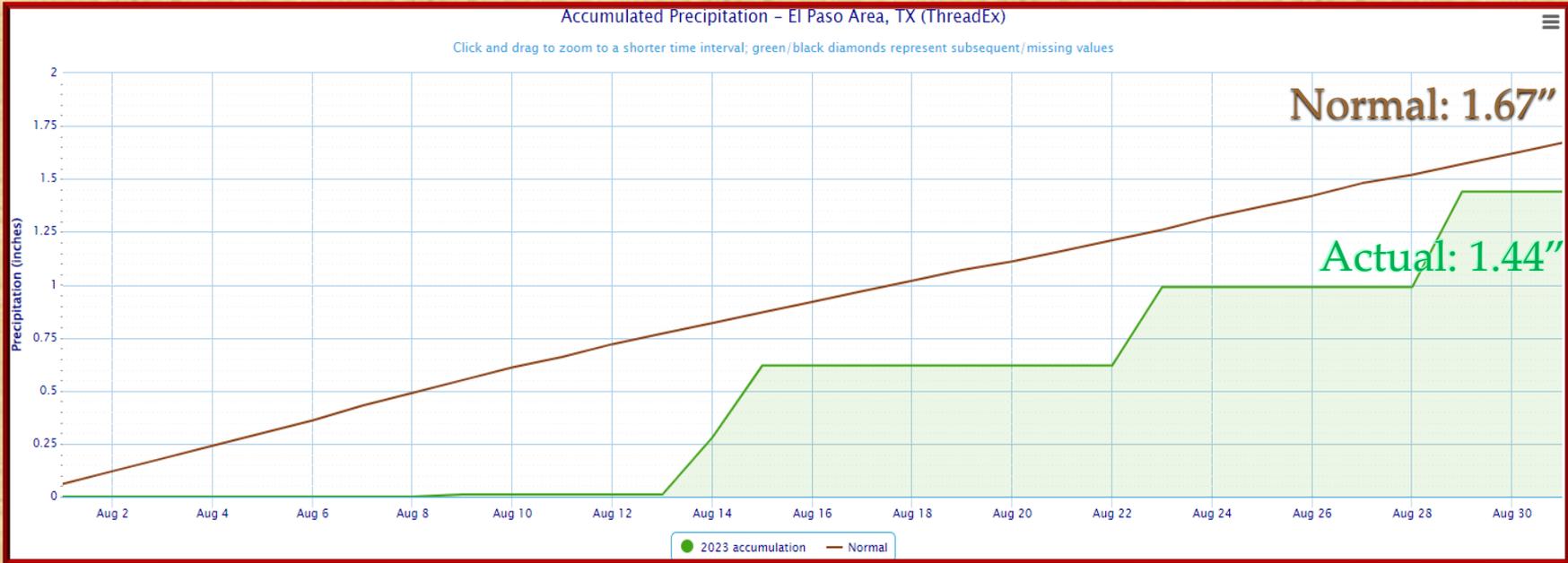
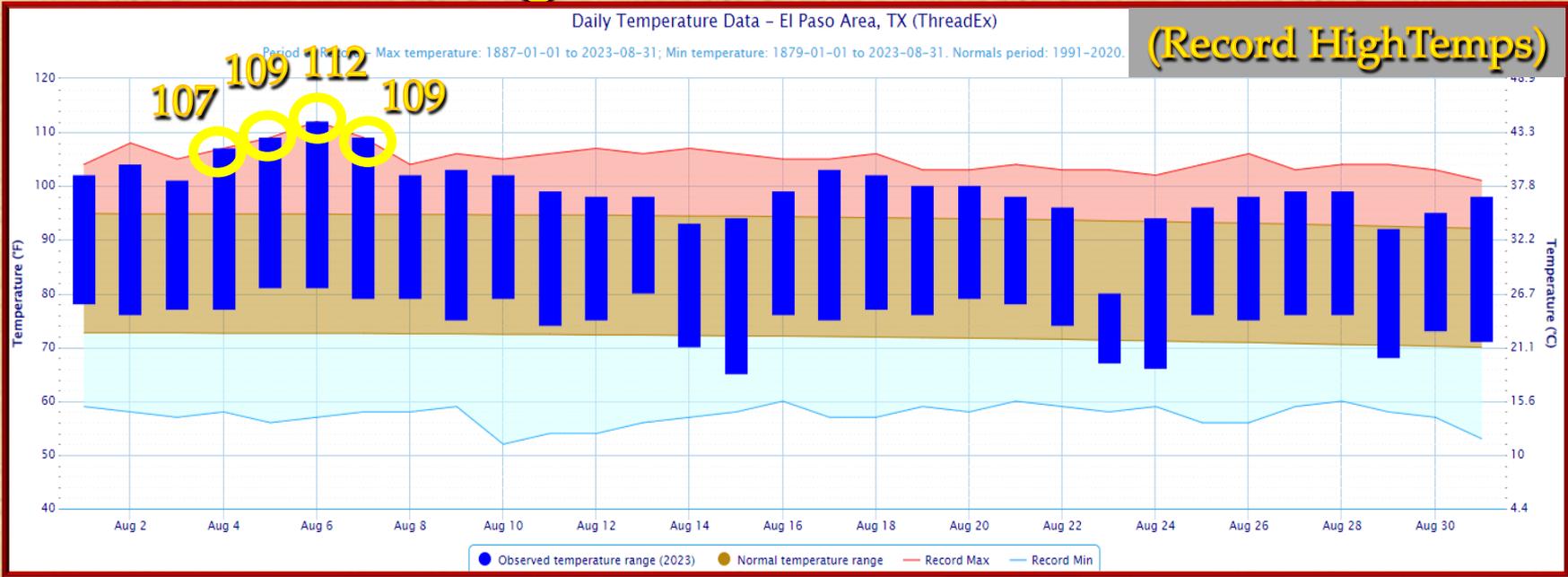
- Drought persists**
- Drought remains, but improves**
- Drought removal likely**
- Drought development likely**
- No drought**



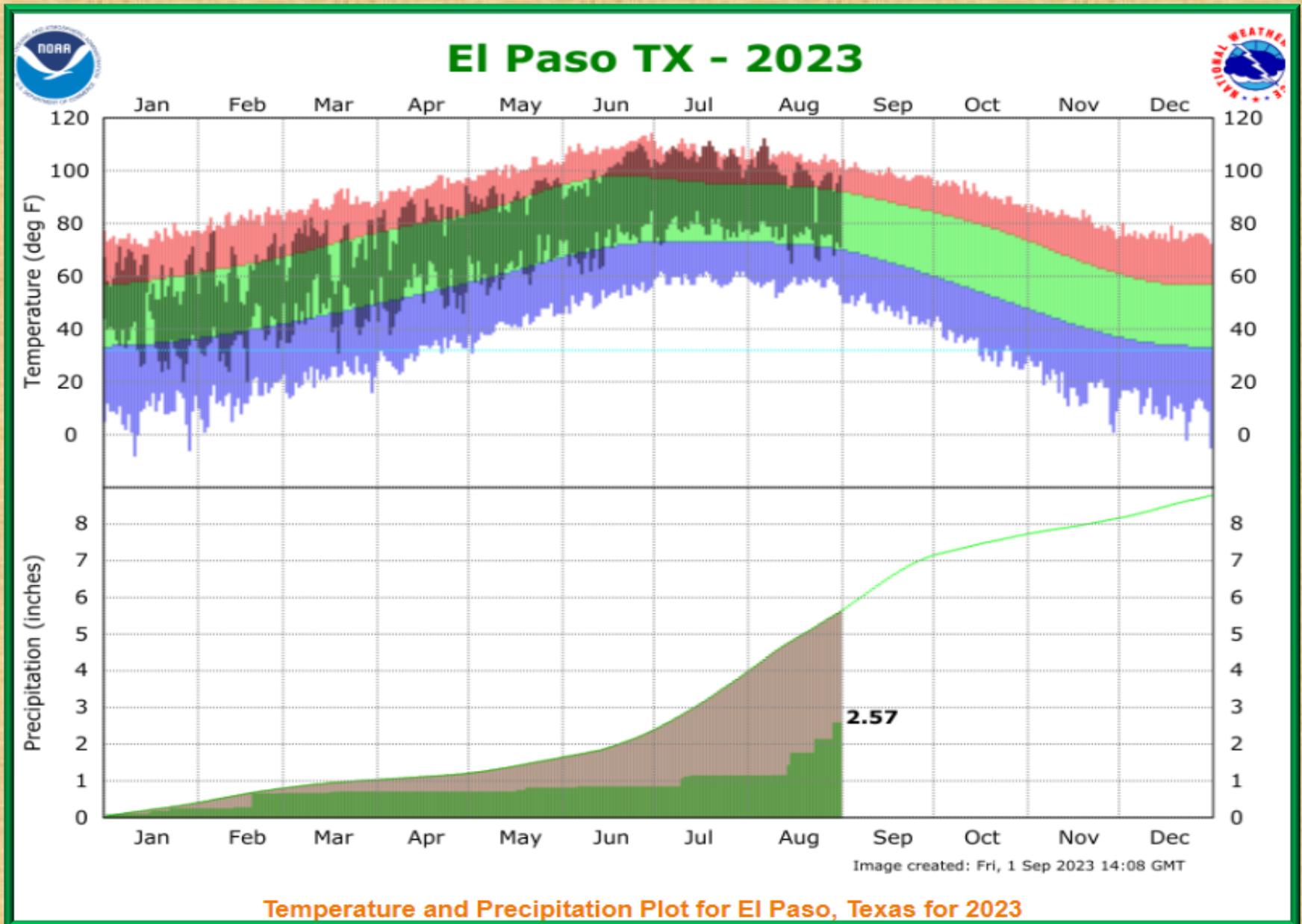
<https://go.usa.gov/3eZ73>

# Temperature and precipitation data for August 2023 in El Paso

○ = record



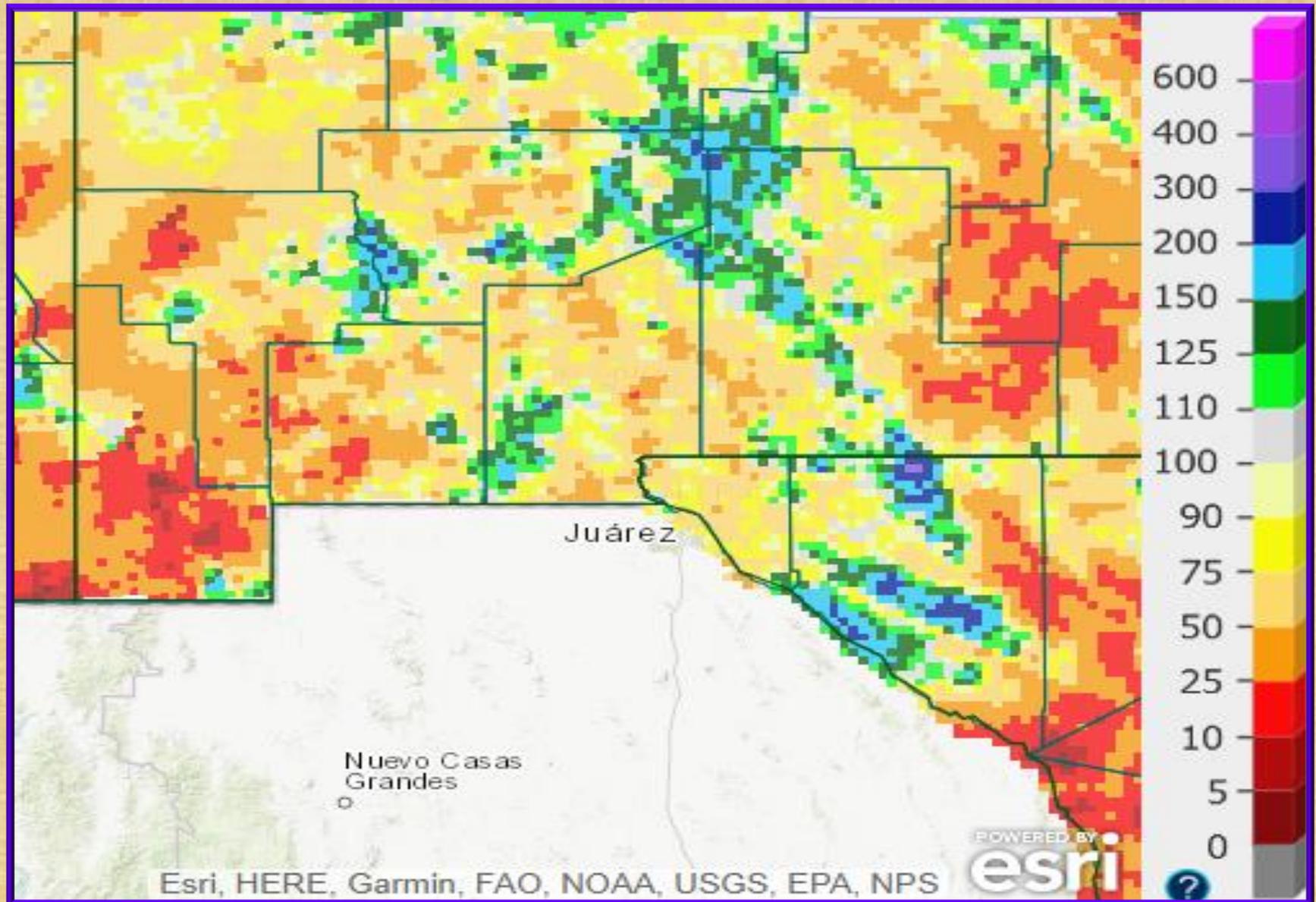
# Temperature and Precipitation for 2023 YTD for El Paso



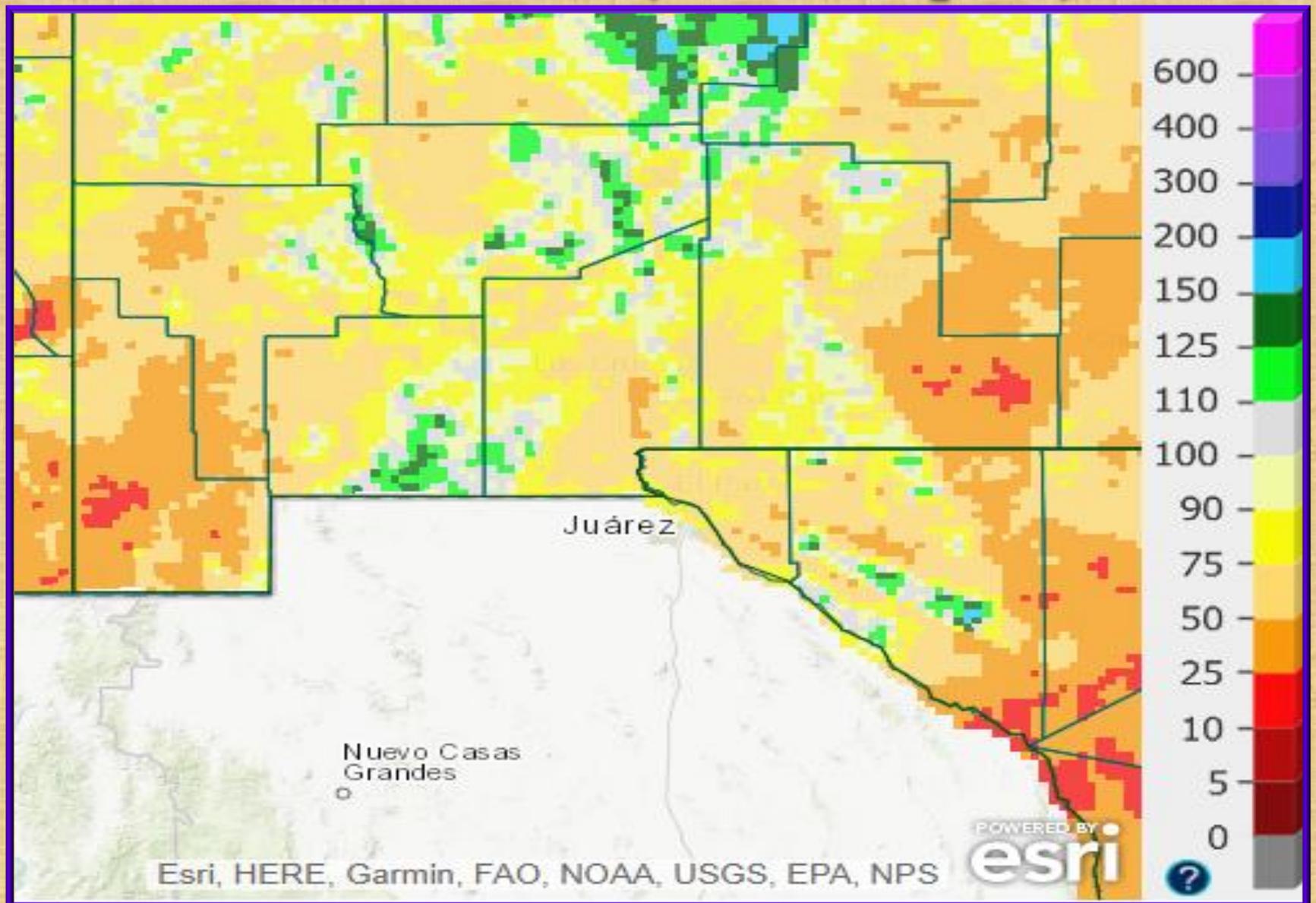
Temperature and Precipitation Plot for El Paso, Texas for 2023



# August 2023 rainfall estimate percent of normal



# Radar rainfall estimate percent of normal for the Water Year (Oct 1 – Sept 31)



# **Tracking the 2023 Monsoon Season across the El Paso Forecast Area**

A transition to monsoon flow began right on time this year with winds shifting to the south and east the first week of July [see fig 1] and the first round of precipitation following the next week [see fig 2]. This flow remained rather consistent throughout July across south-central New Mexico and far west Texas with occasional southwesterly winds over western New Mexico.

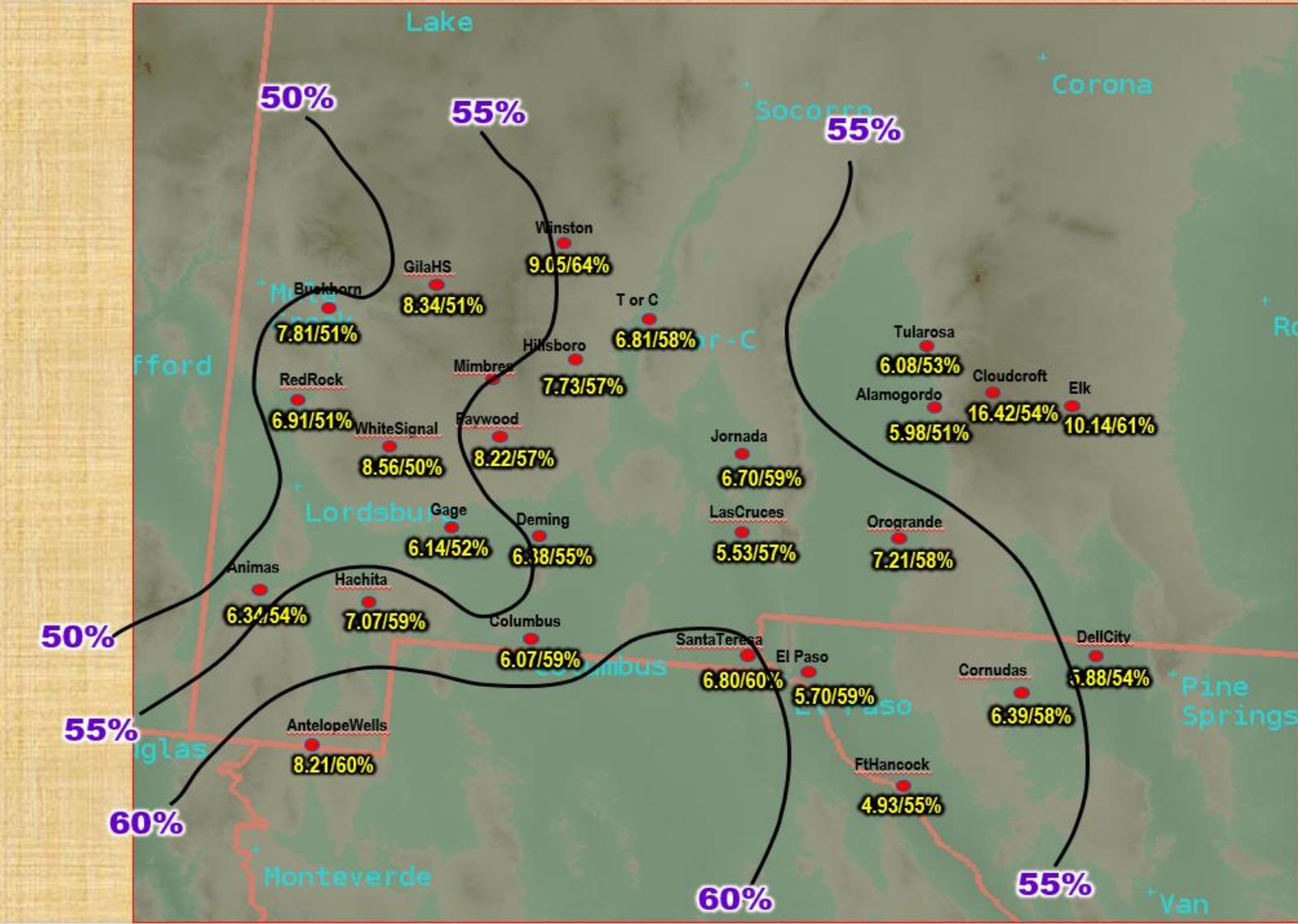
Main headline for the 2023 Monsoon so far is well below precipitation across much of the U.S. Southwest. Seasonal precipitation totals range from 0.25-1.00" across much of the desert floor with 2.00-4.00" over the high terrain. This is leading to rainfall deficits of 1-2" compared to climate normals and growing, which is only 20-50% of expected monsoon rainfall.

Sea surface temperatures of the northern Gulf of California and western Gulf of Mexico are a good indicator of how far we've progressed through the monsoon. SSTs reaching 29 degrees typically indicate the 1/3 progress mark, which was quickly reached on July 17<sup>th</sup> [see fig 4]. This suggests we're already well into the second half of the season. Mid-latitude flow may resume earlier than usual, bringing this year's monsoon to an end in mid-September. Thus, confidence is high that 2023 will finish well below normal for precipitation.

# **Tracking the 2022 Monsoon Season across the El Paso Forecast Area**

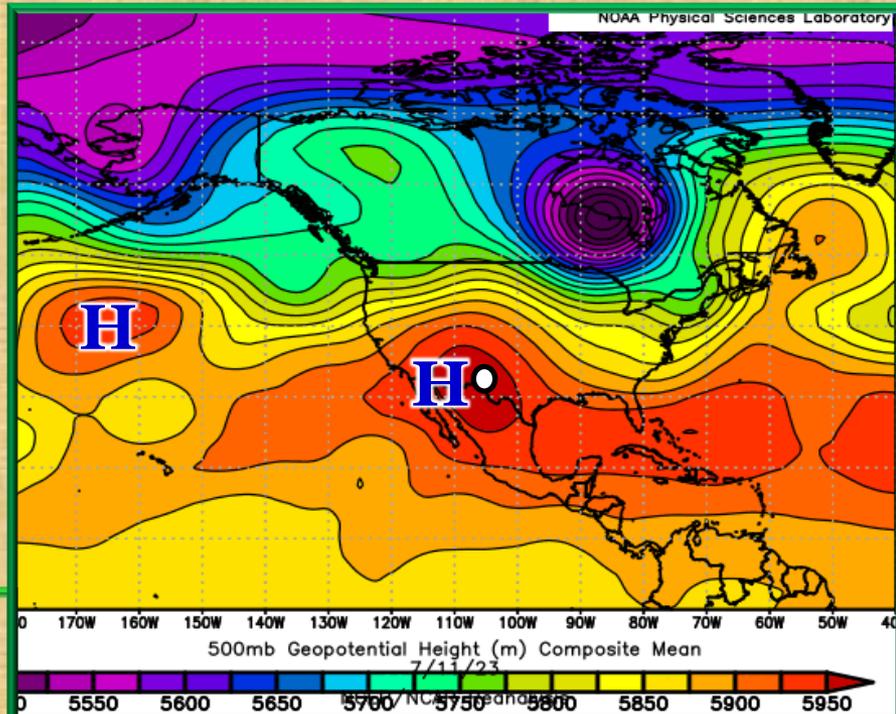
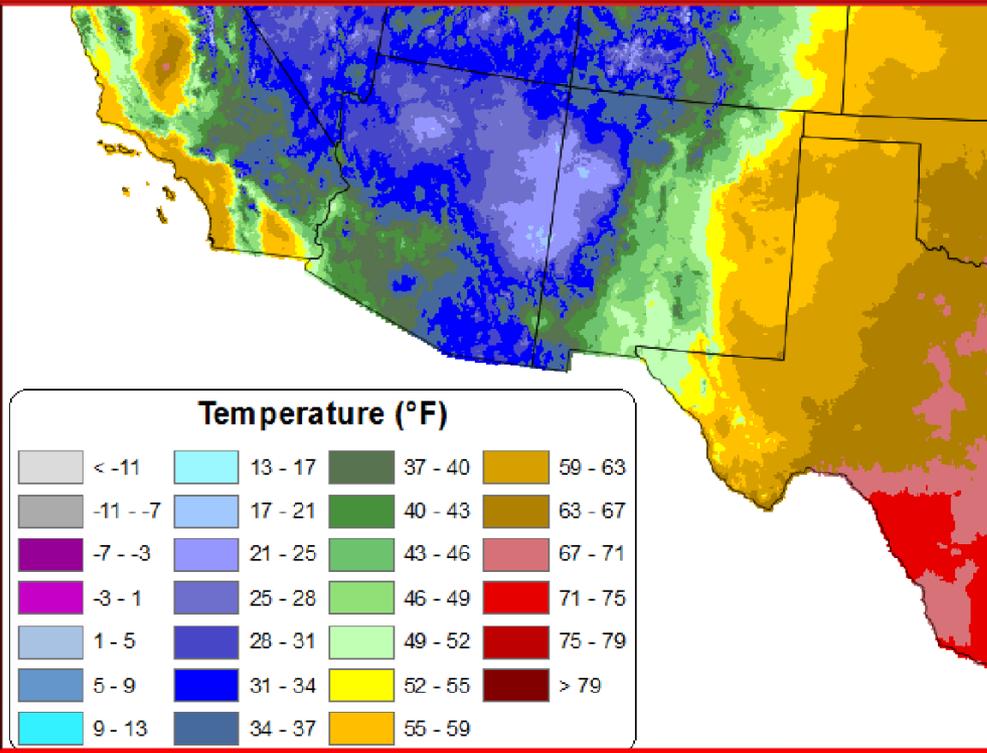
Updating our monsoon season through the end of August; we did increase the coverage and amount of rain some but still below normal for the season. As of the end of August dewpoint temperatures remained at the low end of typical monsoon values This is one of the first parameters to fall out of favor when the monsoon ends [see fig 4]. A look at the pattern aloft still shows the monsoon firmly in place. The average last day of the monsoon over southern New Mexico and west Texas occurs on about September 24, so we are looking at 3 weeks or less.

# Percent of Annual Precipitation Falling During the Monsoon Season (Jun15-Sep 30)



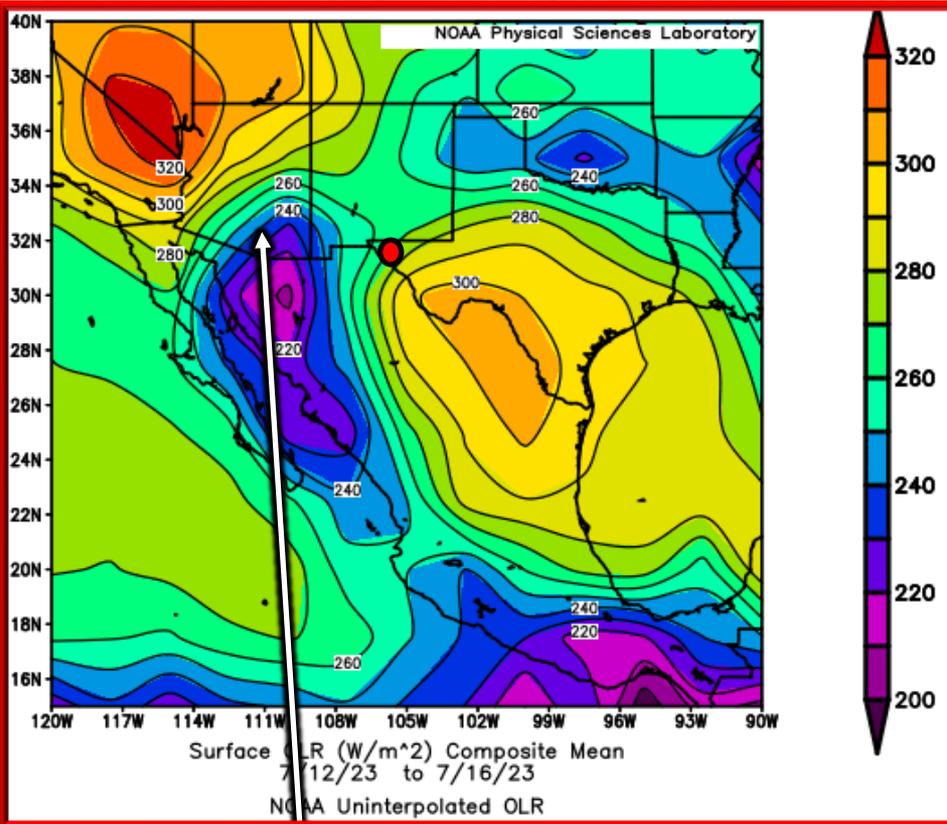
# Tracking the 2023 Monsoon Season across the El Paso Forecast Area. Fig 1

July 3 – Dewpoints reach into the upper 40s to lower 50s across the area



By July 5, 500mb (18,000 ft) sub-tropical high reaches the Desert Southwest

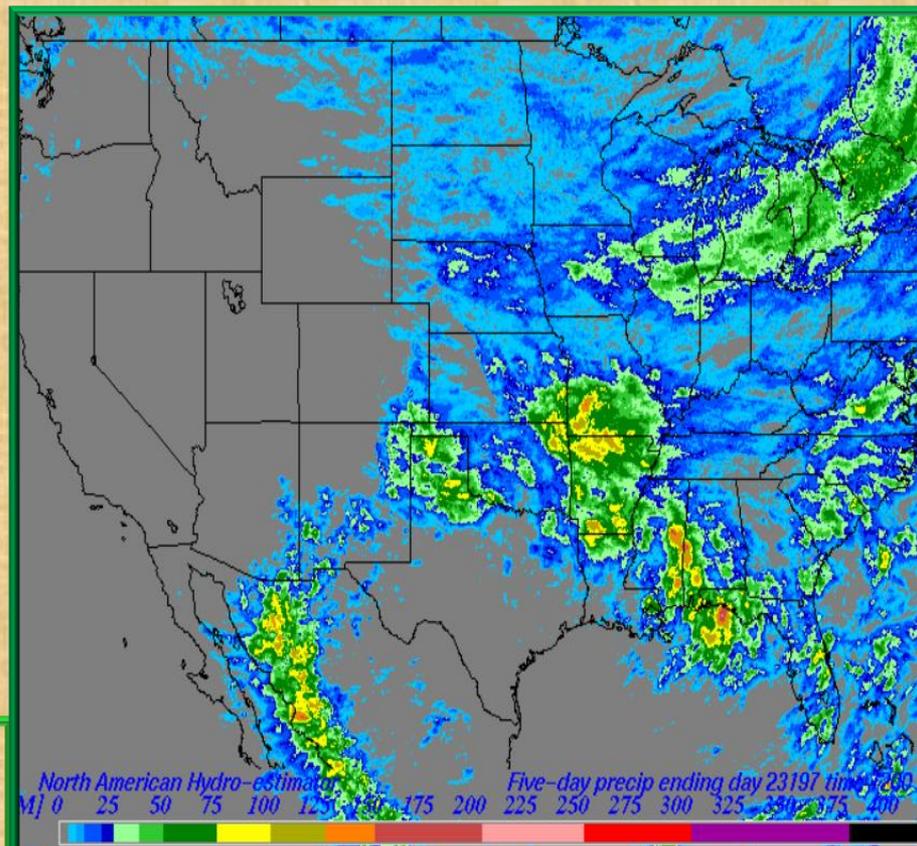
# Tracking the 2023 Monsoon Season across the El Paso Forecast Area. Fig. 2



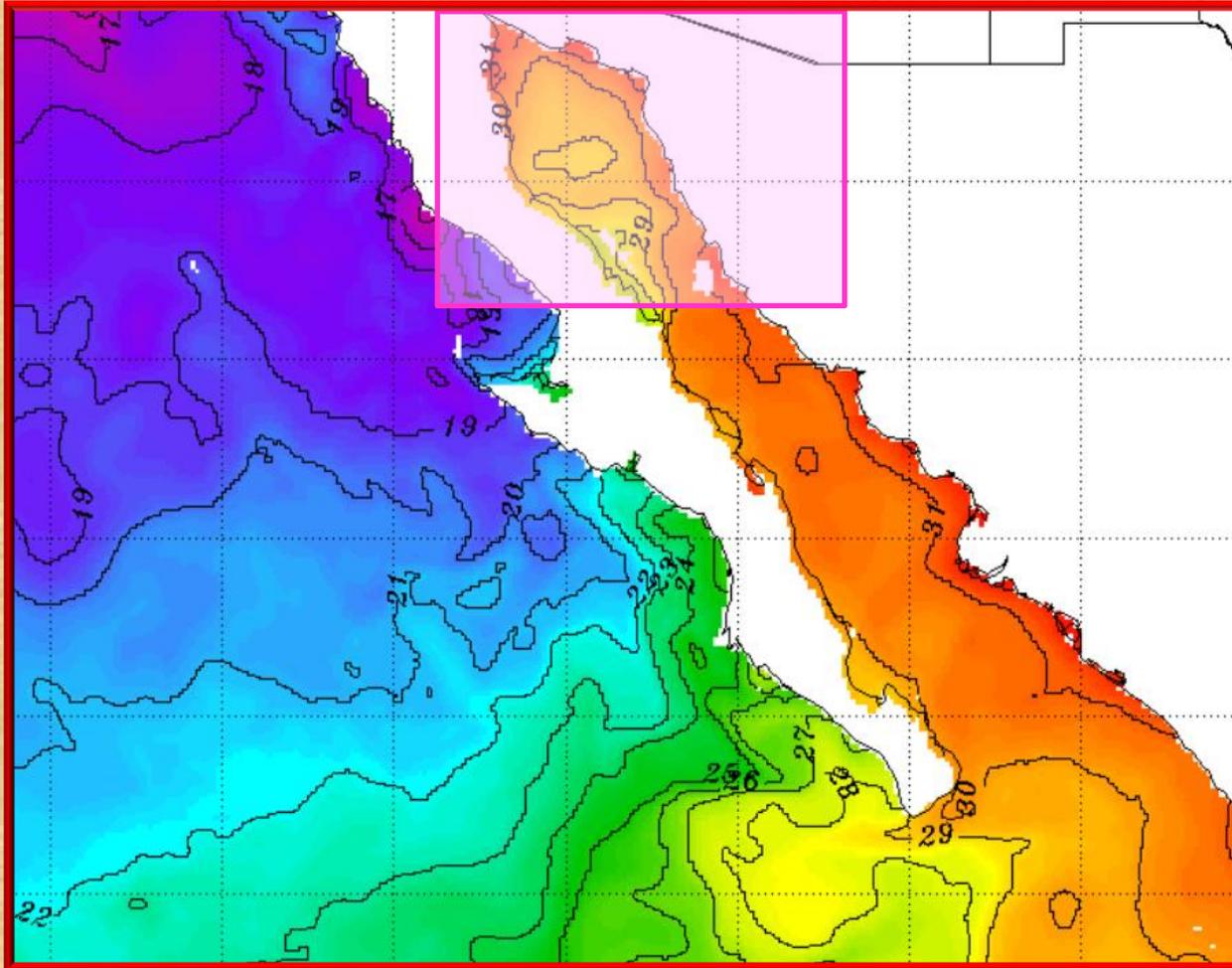
July 12-16 - Outgoing Longwave Radiation (OLR) diminishes to less than 240 W/m<sup>2</sup> in the area though not over New Mexico. Thick clouds and anvil tops from thunderstorms diminish the OLR values, often indicative of the monsoon moisture and thunderstorms moving into the area. (Pentad data Jun 26-30)

240 W/m<sup>2</sup>

By July 11-16, the first area wide Monsoon precipitation occurs



# Tracking the 2023 Monsoon Season across the El Paso Forecast Area. Fig. 3

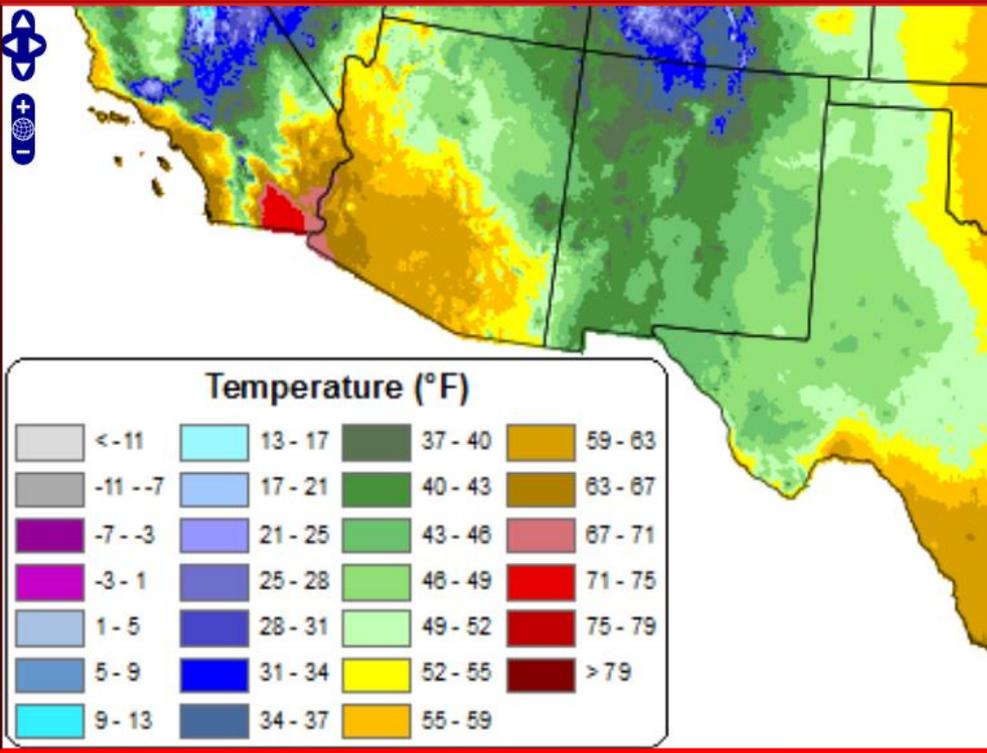


July 17 – Sea surface temperatures in the northern Gulf of California reach 29C deg (84F)

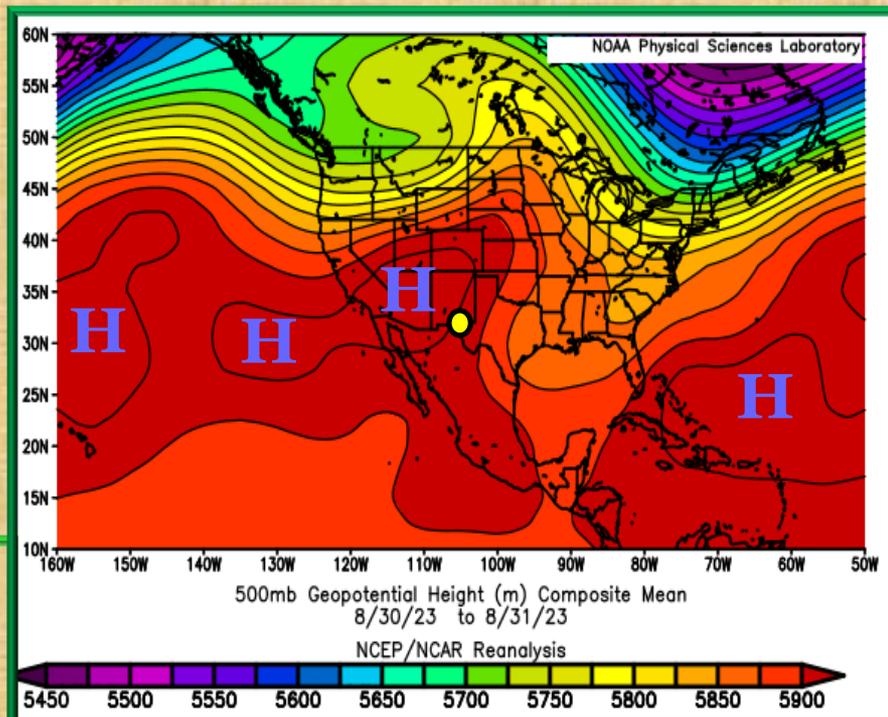
Studies have shown that once northern Gulf of California sea surface temperatures reach 29C, New Mexico/Arizona will receive around 65-70% of their total summer rainfall.

# As we near the end of the 2022 Monsoon Season. Fig 4

Sep 1– Dewpoints remain in the mid 40s, indicating the monsoon season is likely nearing the end.



As of the end of August, the 500mb (18,000 ft) upper flow is still well in the Monsoon pattern.



**Fig. 4**

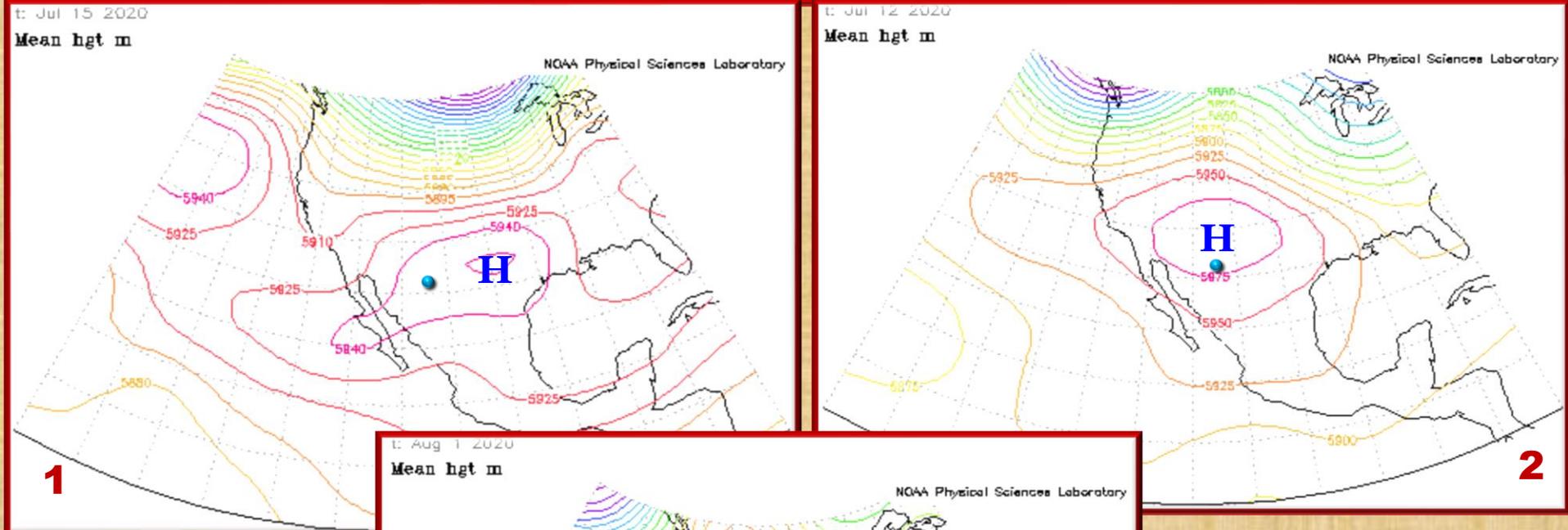
Percent of Monsoon rainfall after 29C							
Year	29C Date	ELP	DMN	CLD	ANM	TCS	HIL
2022	Jun 29	85	82	85	MSG	67	74
2021	Jul 16	51	75	68	MSG	60	63
2020	Jul 22	88	65	67	MSG	98	89
2019	Aug 8	83	91	62	67	71	49
2018	Jul 21	59	46	74	38	80	62
2017	Jul 23	58	67	66	48	88	61
2016	Aug 3	93	92	71	57	79	85
2015	Jul 27	63	43	56	60	53	61
2014	Jul 23	92	82	77	MSG	91	89
2013	Aug 8	61	68	61	23	88	75
2012	Jul 24	53	64	73	65	42	52
2011	Jul 29	37	90	36	67	86	62
2010	Jul 29	47	31	43	71	33	47
2009	Jul 24	54	61	47	63	56	65
2008	Jul 27	48	39	54	44	46	58
2007	Jul 26	65	62	60	66	91	72
2006	Jul 29	84	81	73	76	86	85
2005	Jul 30	95	79	72	92	83	87
Ave	Jul 27	68	68	64	60	72	69

**ELP=El Paso Intl Airport**  
**DMN=Deming Airport**  
**CLD=Cloudcroft COOP**  
**TCS=T or C Airport**  
**HIL-Hillsboro COOP**

The northern Gulf of California sea surface temperature this year reached 29C on June 29. Research has shown that around 50-75% of the total Monsoon rainfall will fall after that date. As this table shows, this year even exceeded the average figures.

# Tracking the 2023 Monsoon Season across the El Paso Forecast Area. Fig. 5

Position of NAM upper high determines our rainfall potential. Blue dot represents El Paso.

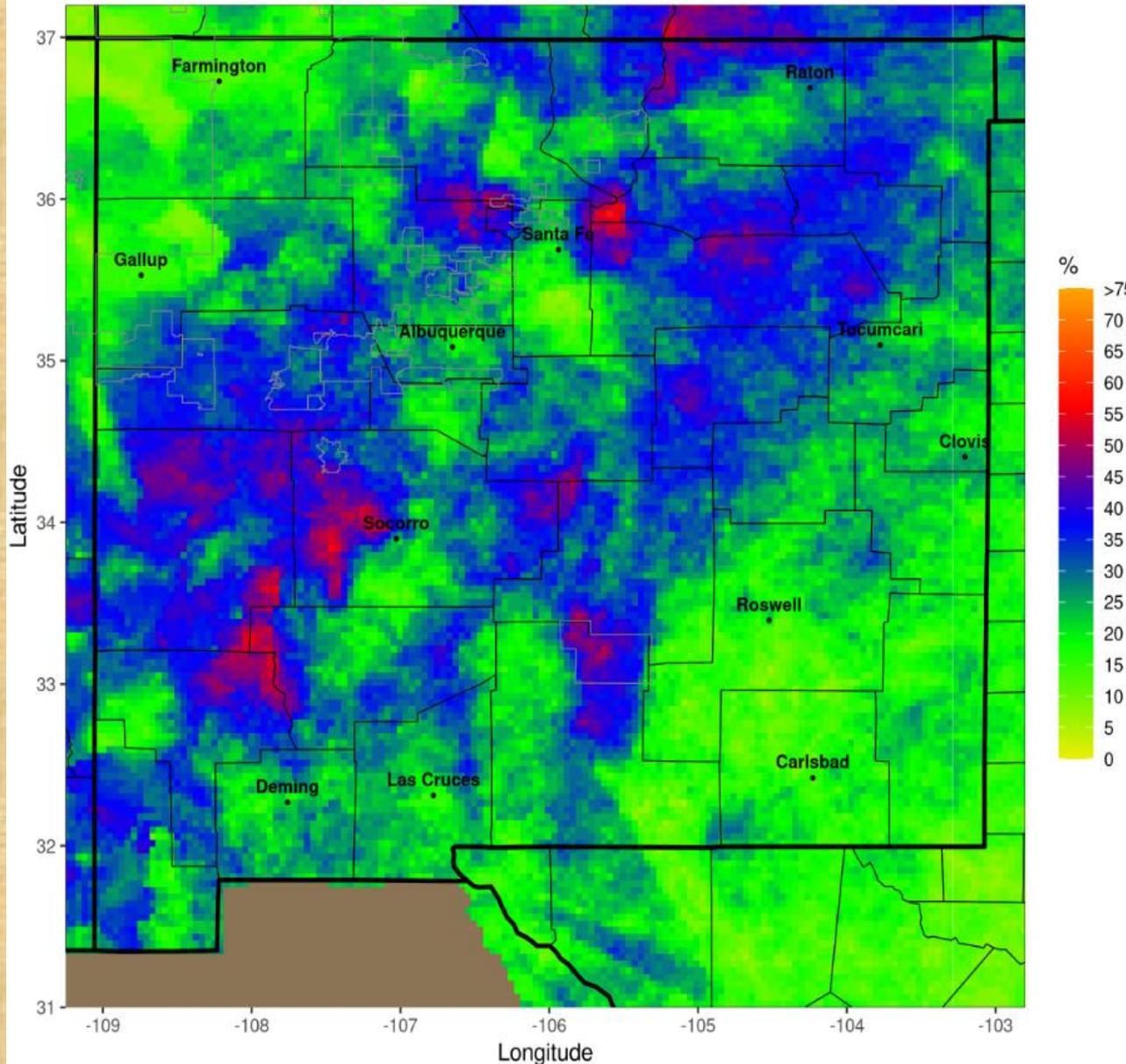


**No. 1** High center east of New Mexico. Often brings ample tropical moisture and widespread heavy rain and flooding to the area under southerly flow.

**No. 2** High center over New Mexico. Often brings very hot temperatures and little if any rain (usually limited to the mountains).

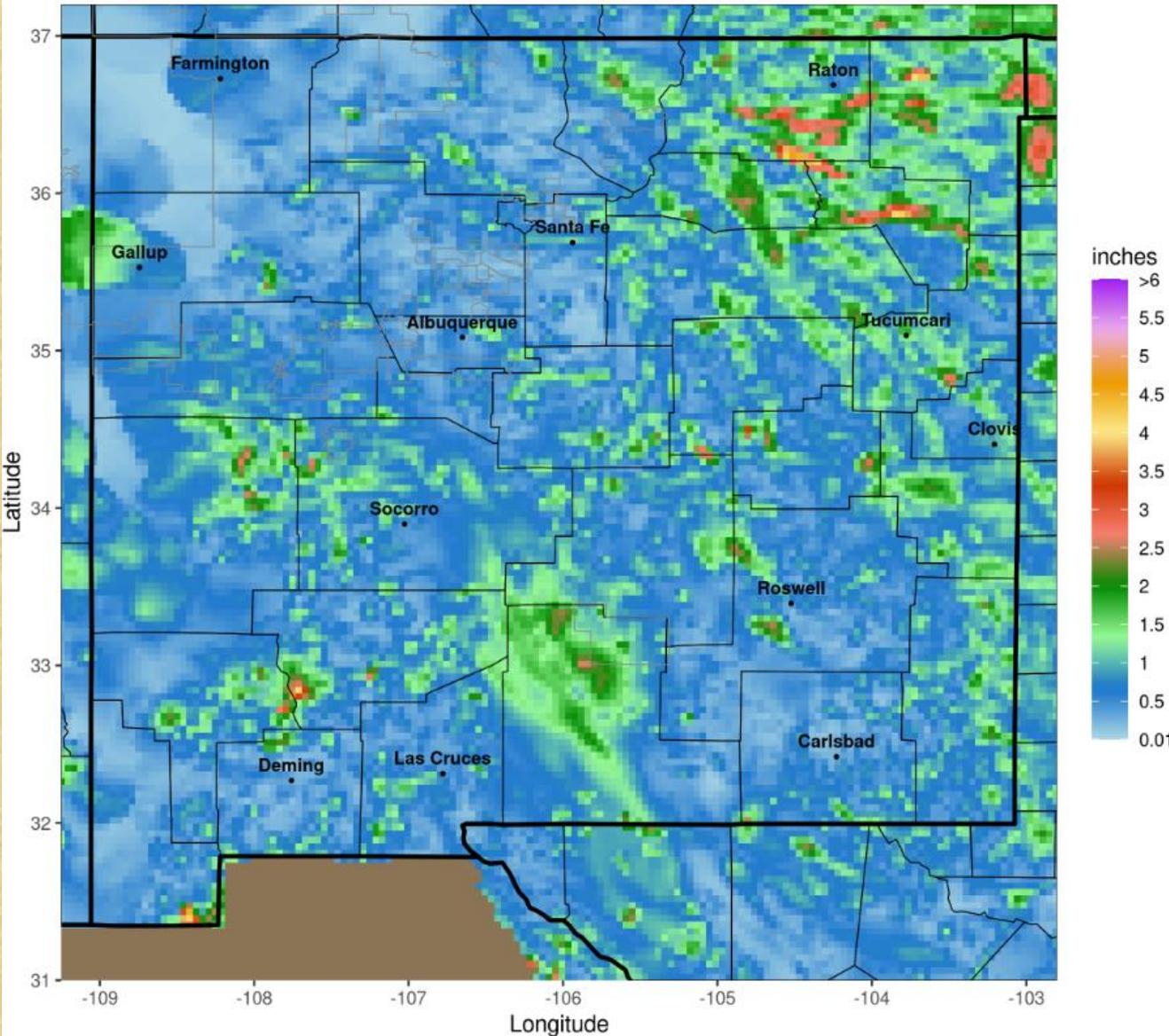
**No. 3** High center west of New Mexico. Often brings scattered storms with hit and miss heavy rains and large hail and strong wind potential.

# Percent of days with rain (>0.01 in): 2023-06-15 to 2023-09-02



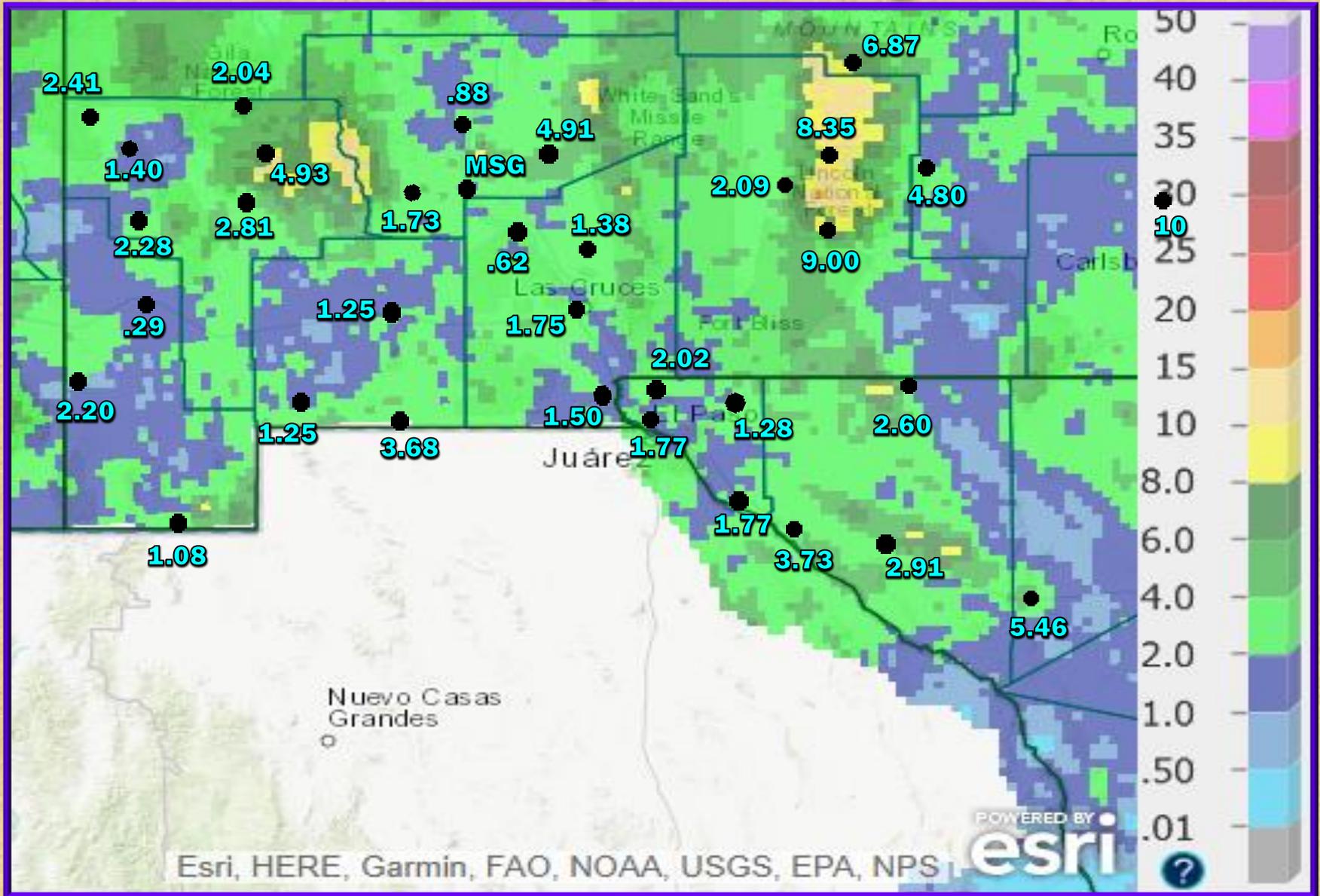
**This map shows the percentage of measurable rainfall days so far during the Monsoon season. Courtesy of Climate Assessment for the Southwest.**

# Max 1-day Precipitation (in.): 2023-06-15 to 2023-09-02

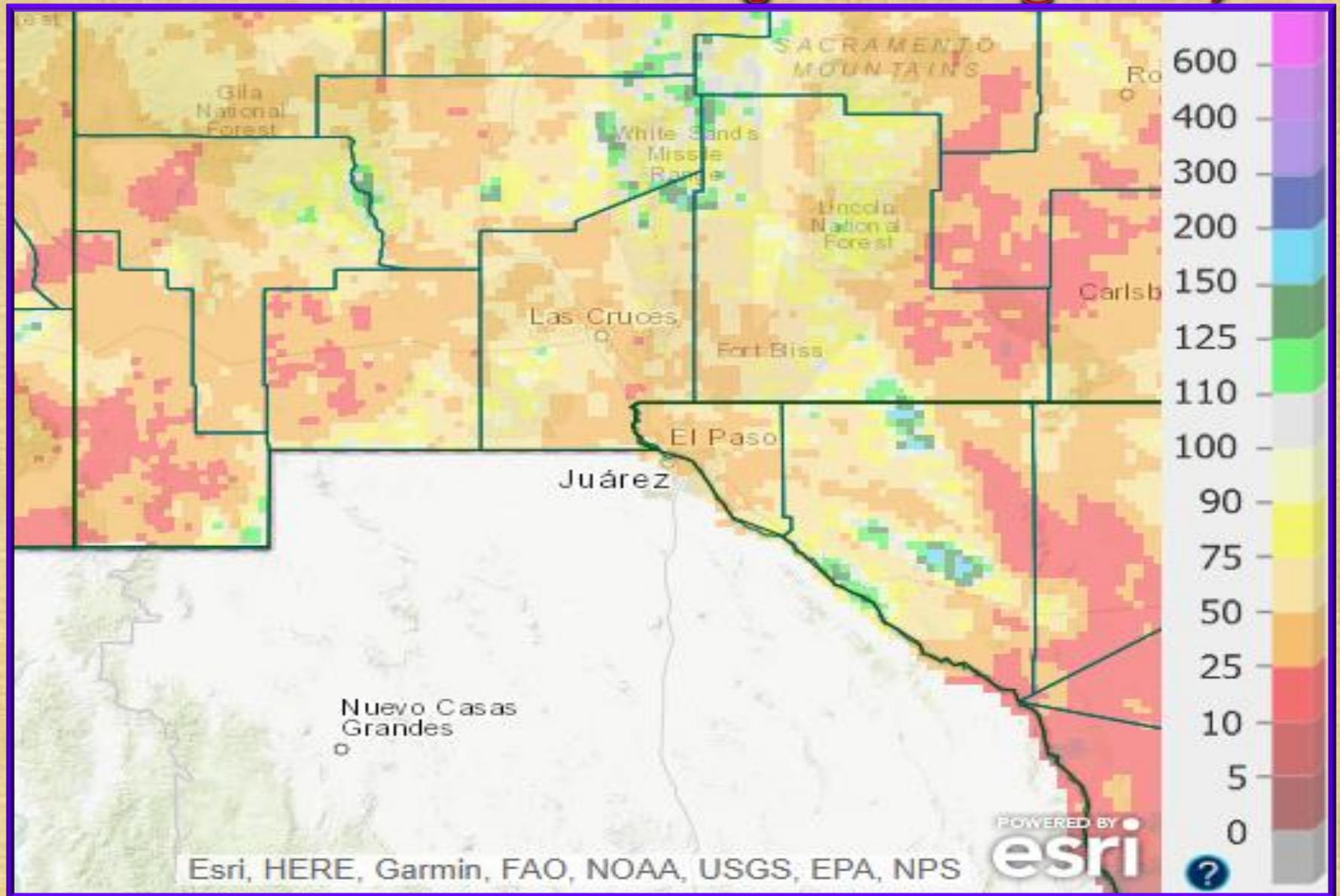


**This map shows greatest one day rainfall total so far during the Monsoon season. Courtesy of Climate Assessment for the Southwest.**

# Radar rainfall estimate for the Monsoon Season 2023 (June 1 – August 31)



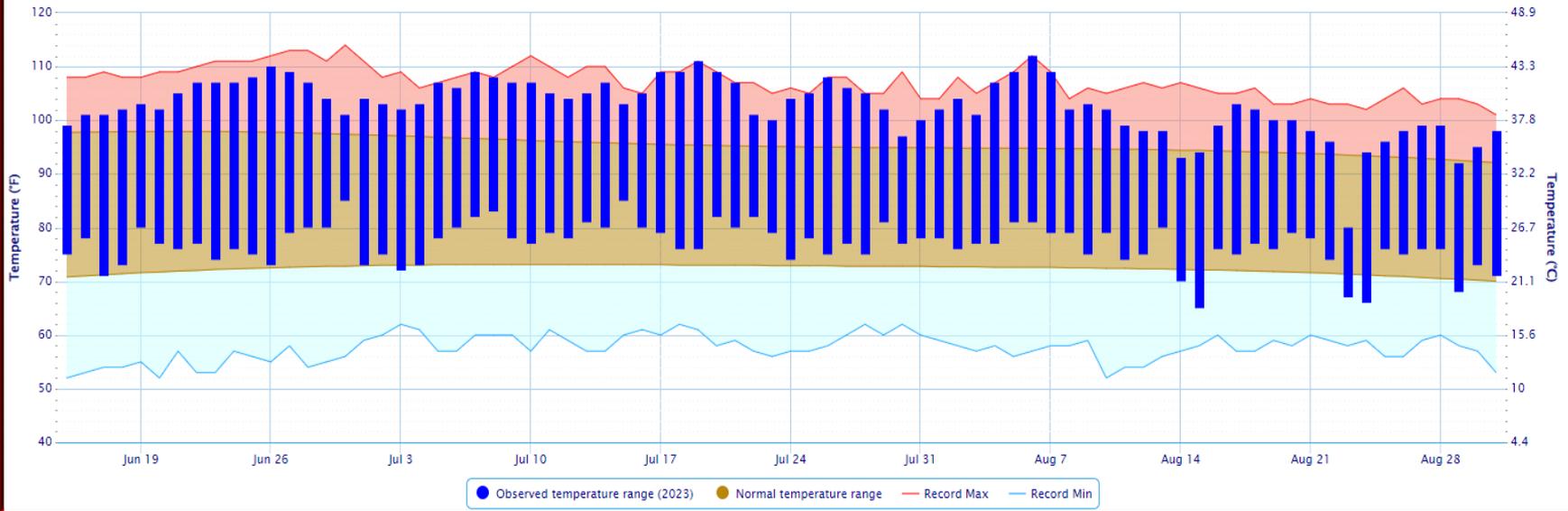
# Radar rainfall estimate percent of normal for Monsoon season 2023 (June 1-August 31)



# Temperature and precipitation data through August 31, 2023 Monsoon Season in El Paso

Daily Temperature Data – El Paso Area, TX (ThreadEx)

Period of Record – Max temperature: 1887-01-01 to 2023-08-31; Min temperature: 1879-01-01 to 2023-08-31. Normals period: 1991-2020. Click and drag to zoom chart.



Accumulated Precipitation – El Paso Area, TX (ThreadEx)

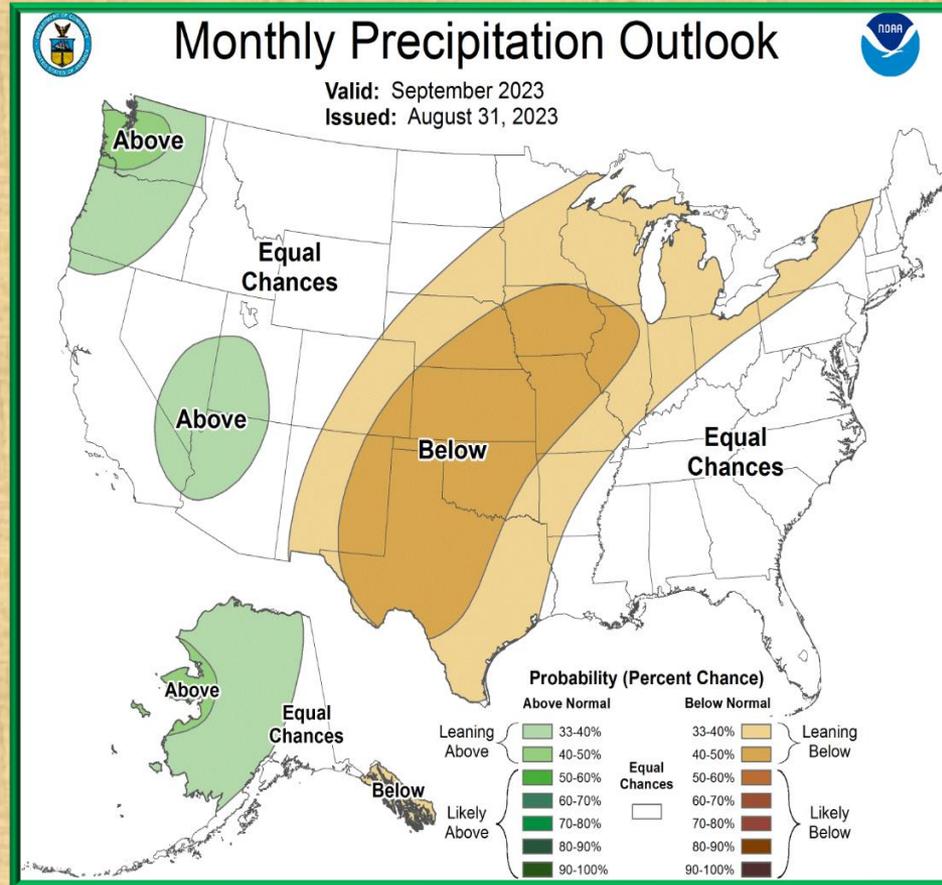
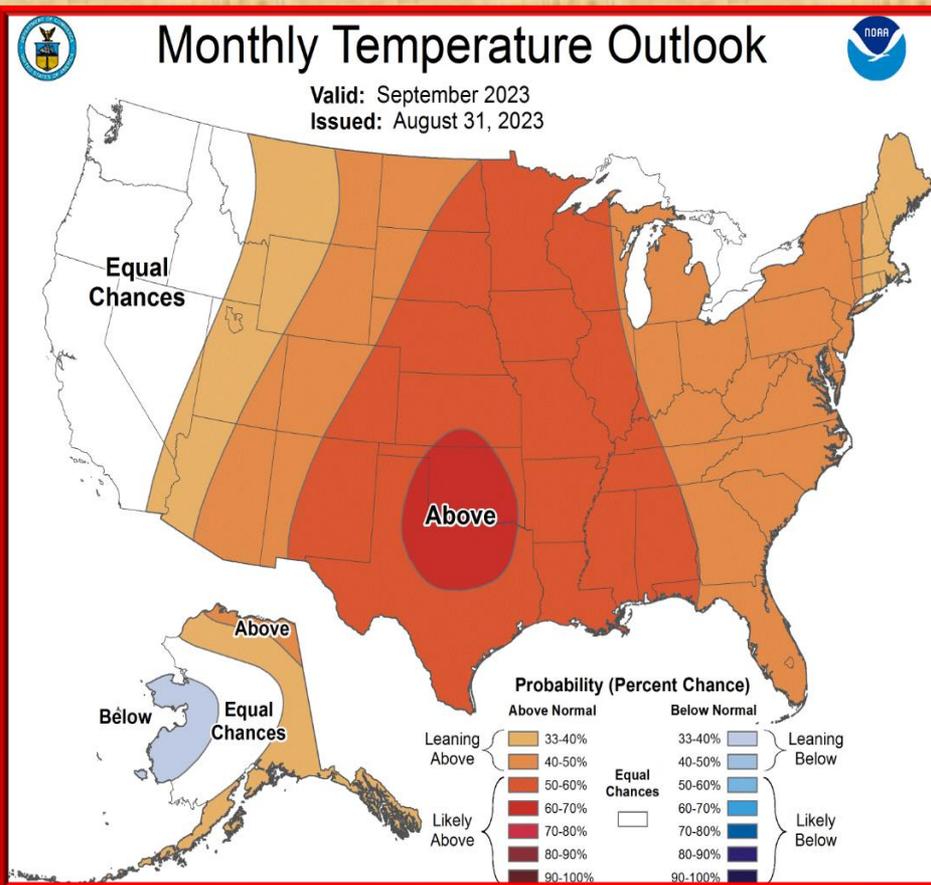
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



# Temperature and precipitation outlook For September 2023

## Temperature

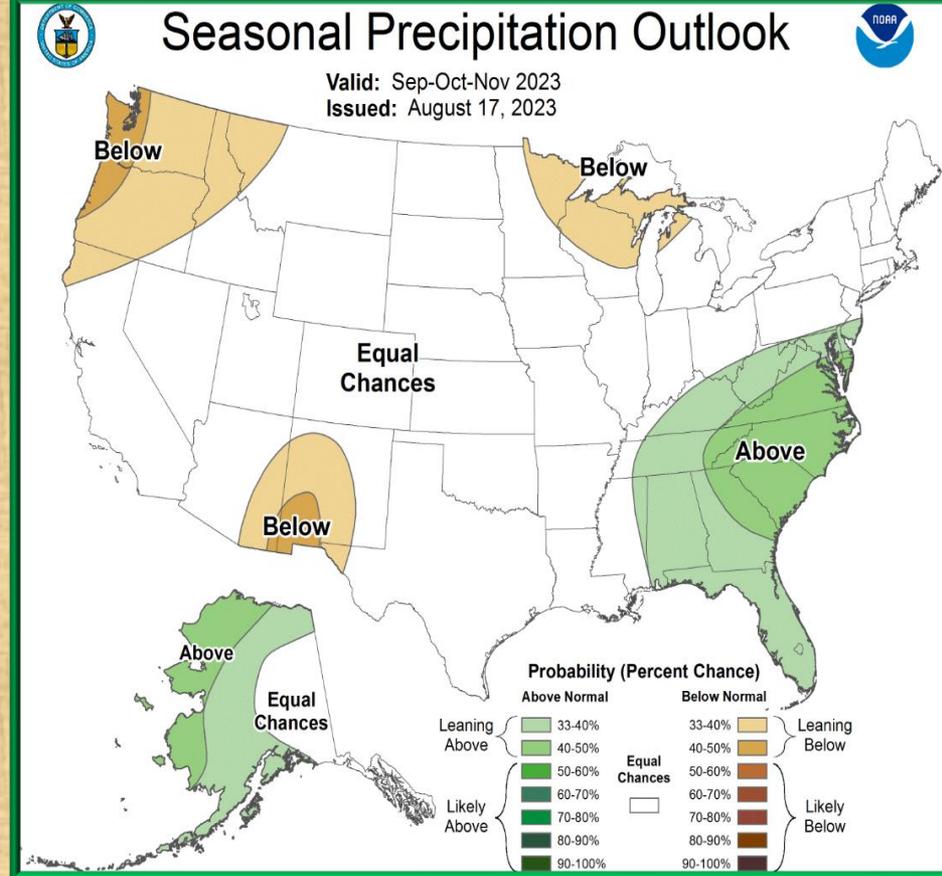
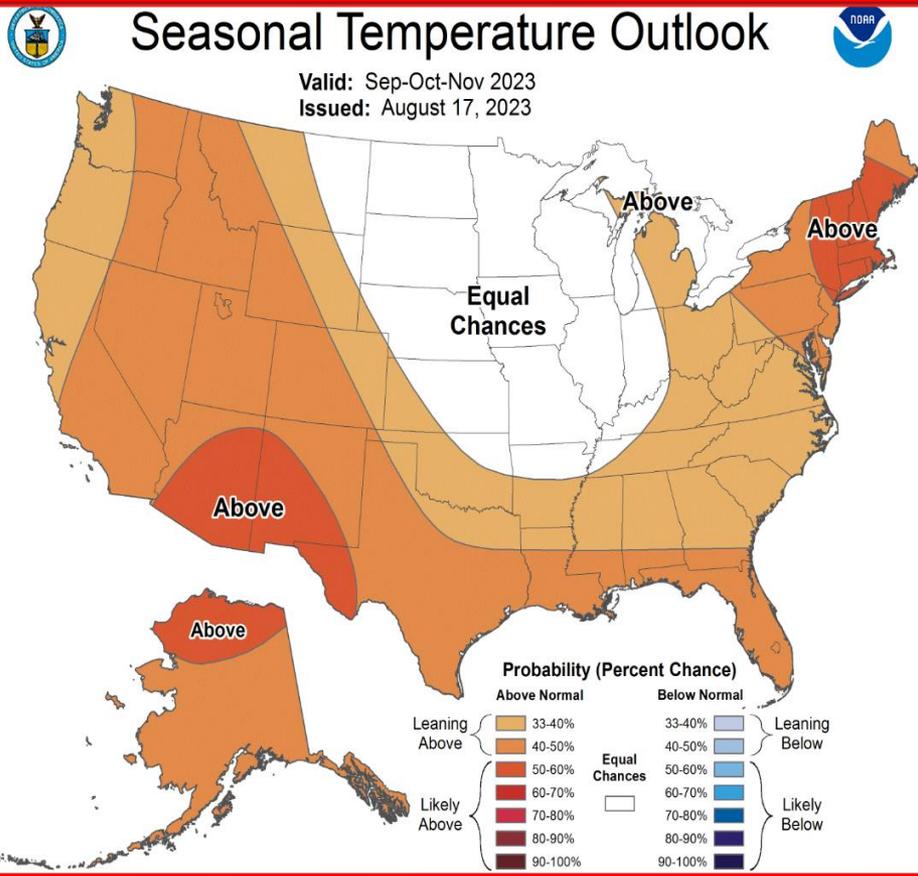
## Precipitation



# Temperature and precipitation outlook for Sep-Nov 2023

## Temperature

## Precipitation



# Temperature and precipitation outlook for Dec-Feb 2024

## Temperature

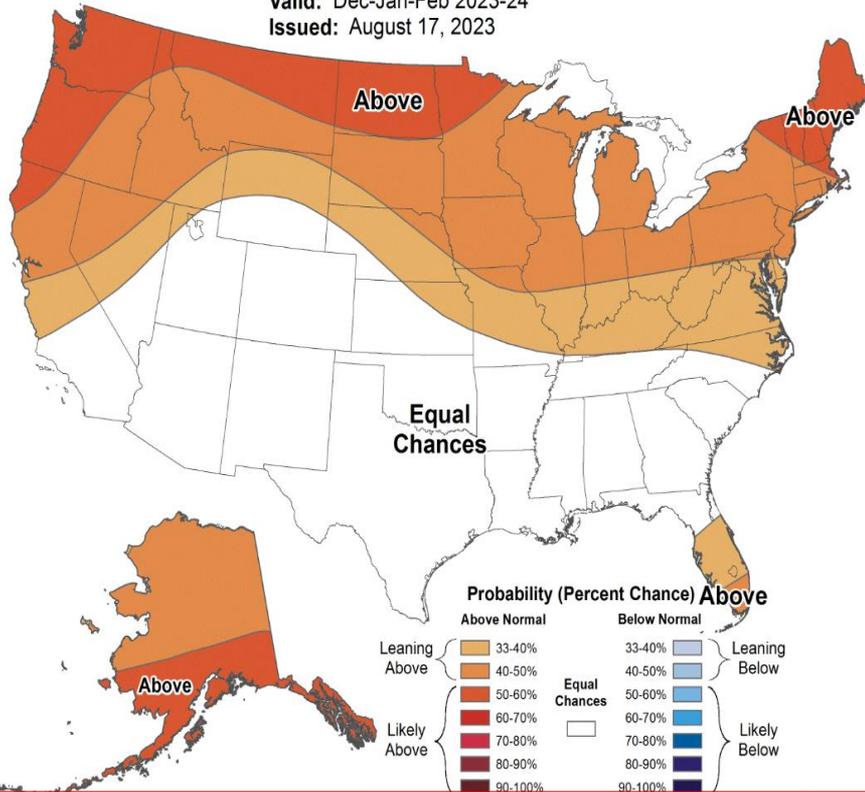
## Precipitation



### Seasonal Temperature Outlook



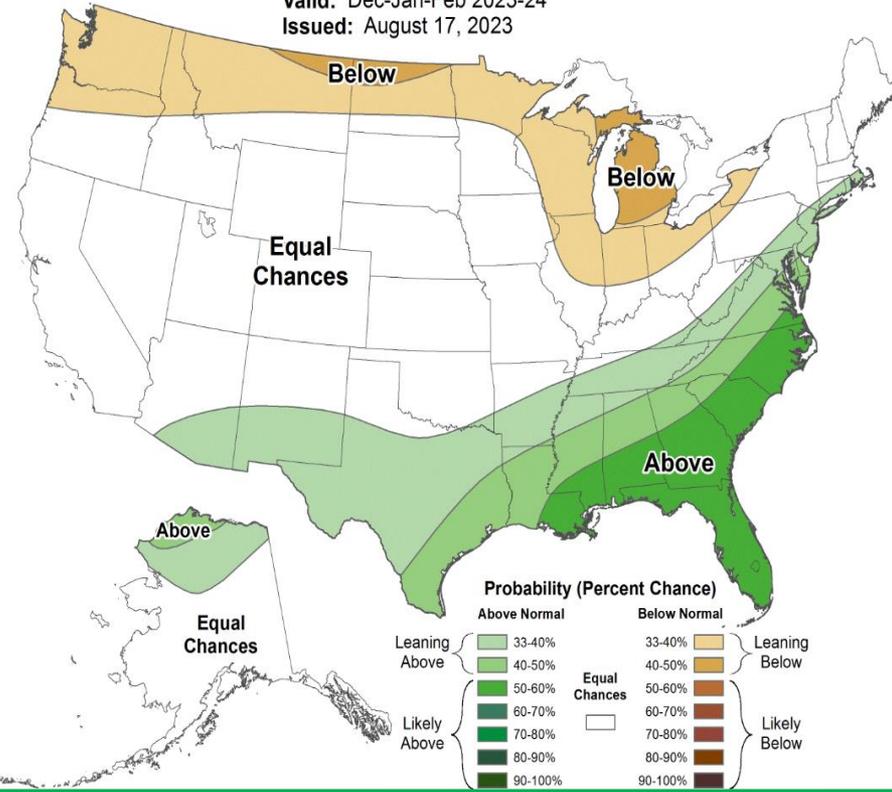
Valid: Dec-Jan-Feb 2023-24  
Issued: August 17, 2023



### Seasonal Precipitation Outlook



Valid: Dec-Jan-Feb 2023-24  
Issued: August 17, 2023

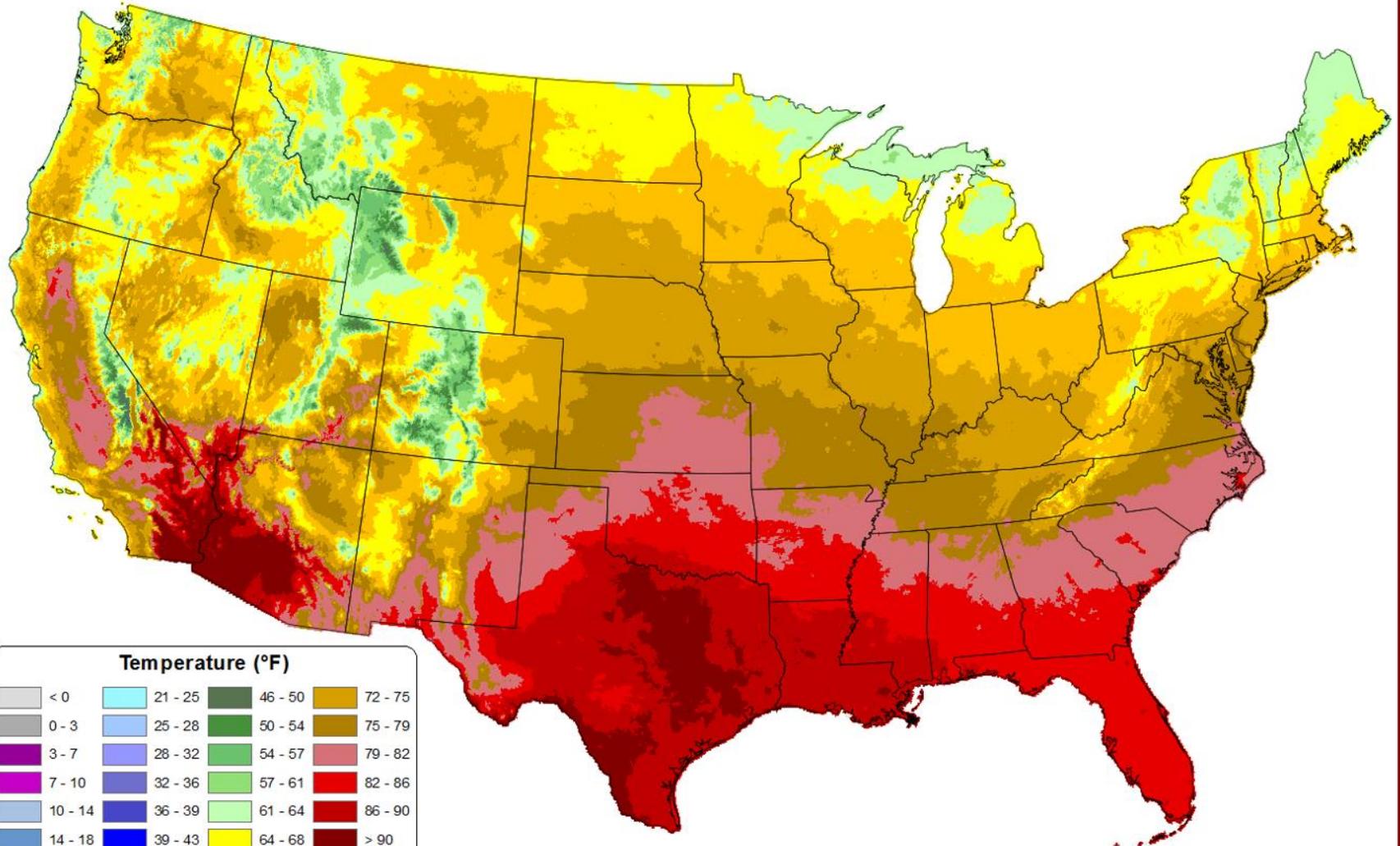


# Average Daily Mean Temperature for August 2023

Average Daily Mean Temperature: 01 Aug 2023 - 31 Aug 2023

Period ending 7 AM EST 31 Aug 2023

(Map created 01 Sep 2023)



## Temperature (°F)

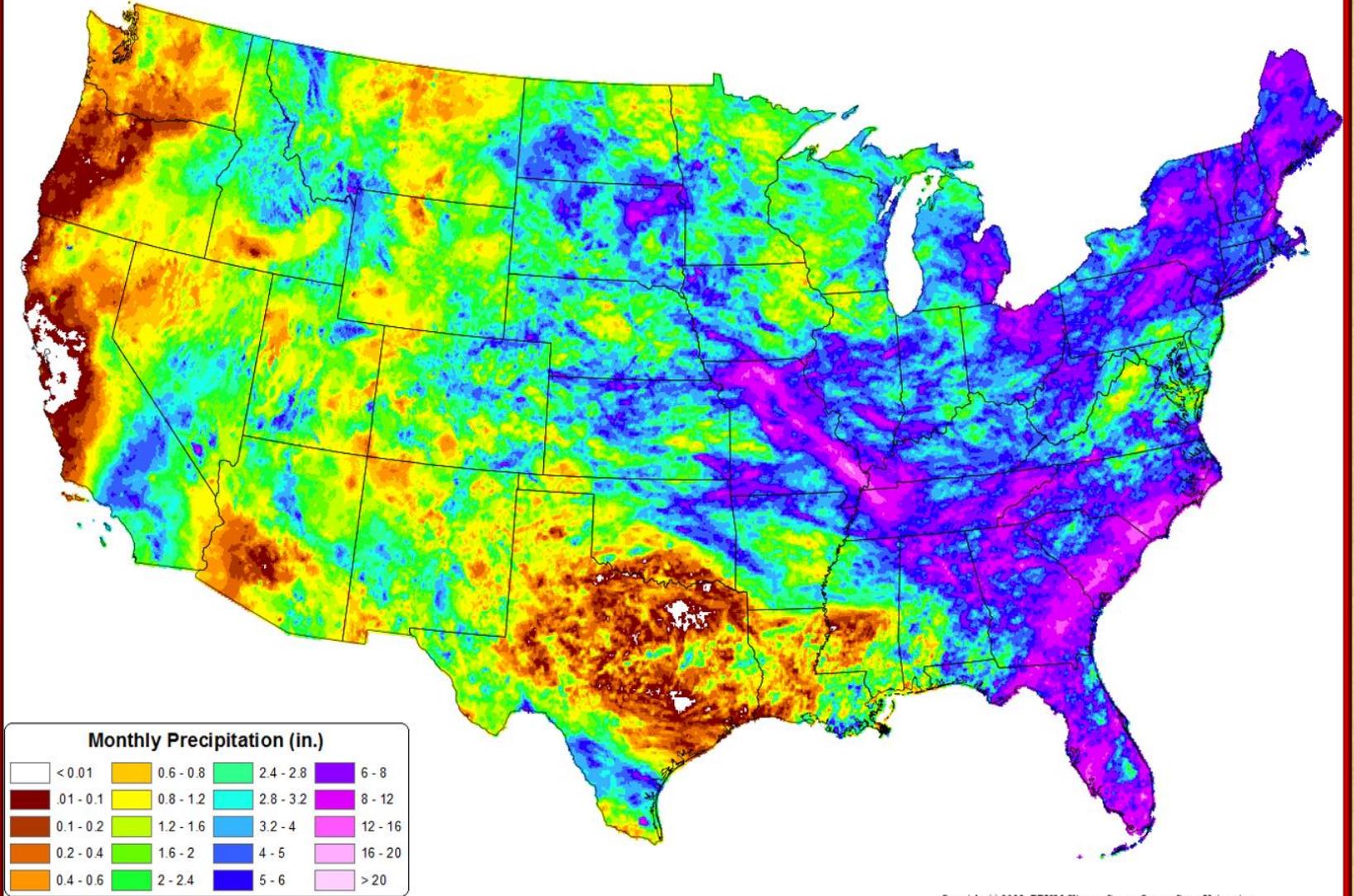
< 0	21 - 25	46 - 50	72 - 75
0 - 3	25 - 28	50 - 54	75 - 79
3 - 7	28 - 32	54 - 57	79 - 82
7 - 10	32 - 36	57 - 61	82 - 86
10 - 14	36 - 39	61 - 64	86 - 90
14 - 18	39 - 43	64 - 68	> 90
18 - 21	43 - 46	68 - 72	

# Total Precipitation for August 2023

Total Precipitation: 01 Aug 2023 - 31 Aug 2023

Period ending 7 AM EST 31 Aug 2023

(Map created 01 Sep 2023)



# Selected Weather Reports August 2023

<b>Date/Time</b>	<b>Location (County)</b>	<b>Event</b>
AUGUST 20 1140 PM	SAN AUGUSTIN PASS-DONA ANA	61 MPH PEAK WIND GUST
AUGUST 20 850 PM	LORDSBURG PLAYA MP12-HIDALGO	41 MPH PEAK WIND GUST
AUGUST 20 955 PM	EL PASO INTL AIRPORT-EL PASO	38 MPH PK WIND GUST
AUGUST 20 1130 PM	LAS CRUCES AIRPORT-DONA ANA	37 MPH PK WIND GUST
AUGUST 21 249 AM	HIGH ROLLS-OTERO	52 MPH PEAK WIND GUST
AUGUST 21 116 AM	LAS CRUCES EAST MESA-DONA ANA	40 MPH PEAK WIND GUST
AUGUST 21 1255 AM	SANTA TERESA NWS-DONA ANA	38 MPH PEAK WIND GUST
AUGUST 23 1128 PM	LA LUZ-OTERO	3.33 INCHES RAIN 24 HRS
AUGUST 23 1130 PM	CLOUDCROFT-OTERO	2.43 INCHES RAIN 24 HRS
AUGUST 23 1129 PM	HIGH ROLLS-OTERO	2.14 INCHES RAIN 24 HRS
AUGUST 23 1115 PM	MAYHILL-OTERO	1.84 INCHES RAIN 24 HRS
AUGUST 23 1116 PM	ALAMOGORDO-OTERO	1.63 INCHES RAIN 24 HRS

# Selected Weather Reports August 2023

<b>Date/Time</b>	<b>Location (County)</b>	<b>Event</b>
AUGUST 23 1130 PM	WEED DARK RIDGE-OTERO	1.55 INCHES RAIN 24 HRS
AUGUST 23 1115 PM	TIMBERON-OTERO	1.29 INCHES RAIN 24 HRS
AUGUST 23 1141 PM	MESCALERO-OTERO	1.19 INCHES RAIN 24 HRS
AUGUST 23 1055 PM	HOLLOMAN AFB-OTERO	0.88 INCHES RAIN 24 HRS

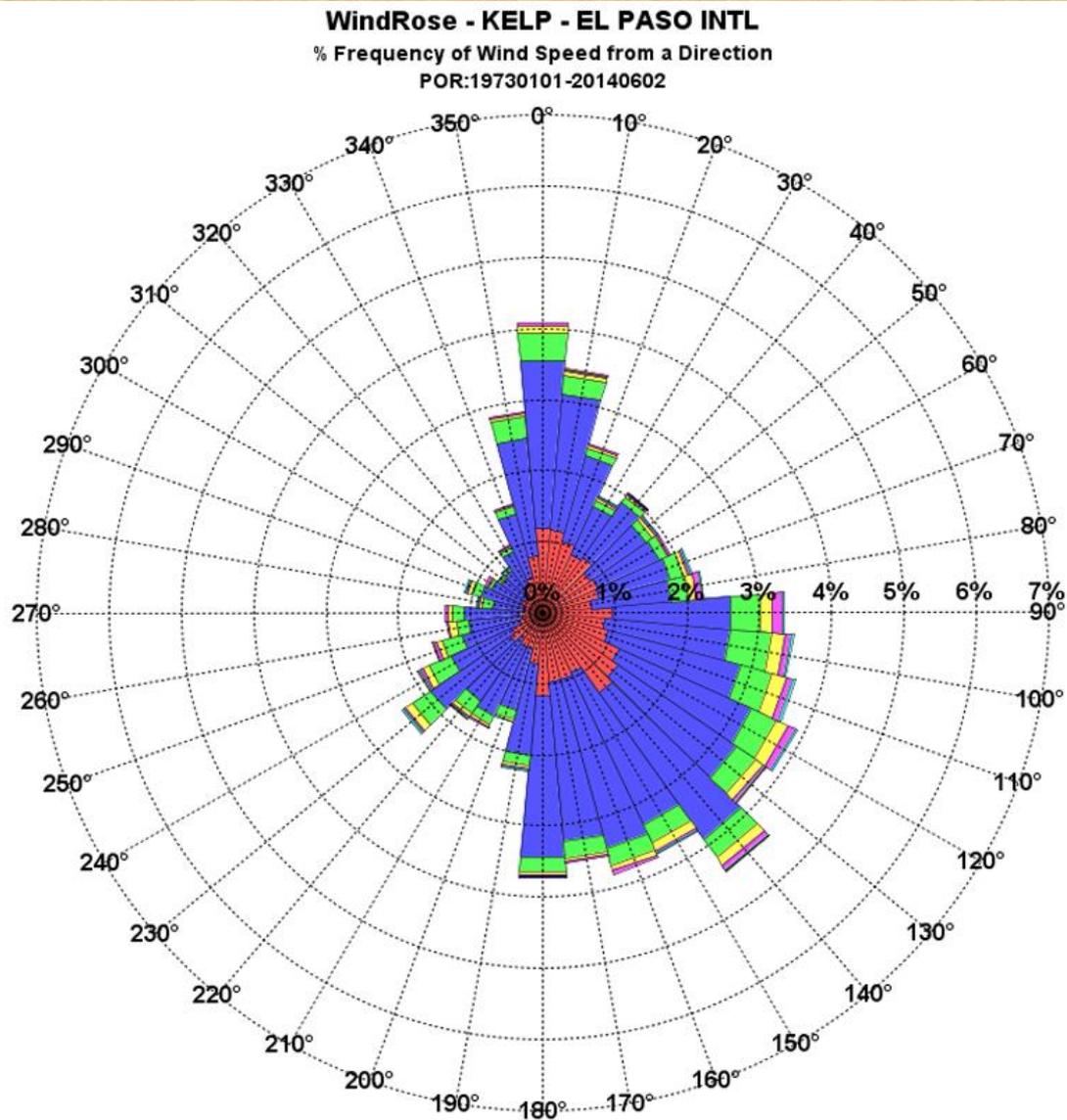
# Special Features

[www.weather.gov/epz/elpwindrosedata](http://www.weather.gov/epz/elpwindrosedata)

Month: **AUGUST**

Calm: 10.33%

Variable: 9.31%



Local forecast by "City, St" or ZIP code  
 Enter location ...   
[Location Help](#)

**Heavy Rain and Flash Flooding Possible Over Parts of the Eastern United States**  
 Heavy rainfall is expected over portions of the eastern United States through Thursday. Flooding and flash flooding will be possible in some areas. Click the "Read More" link for excessive rainfall forecasts from the Weather Prediction Center. [Read More >](#)

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El Paso, TX  
 Weather Forecast Office

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Weather **Local Programs**

**Today**

**Wednesday**  
 Warmer with a Few Afternoon Storms  
 Weather Forecast Office  
 El Paso, TX  
 September 27, 2016 4:43 PM

Local forecast by "City, St" or ZIP code  
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**Heavy rain expected across the Mid-Atlantic region and central Appalachians.**  
 Heavy rainfall is possible over portions of the eastern United States today, with the highest risk across the Mid-Atlantic and central Appalachians. Click the "Read More" link for excessive rainfall forecasts from the Weather Prediction Center. Afternoon showers and thunderstorms are possible over portions of the Southwest and southern Rockies through Friday. [Read More >](#)

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 Weather Forecast Office

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Southern New Mexico and Far West Texas has a variety of weather from month to month. Conditions can range from extreme drought, to heavy flooding rains, from record breaking heat to bone chilling cold. Below you will find past weather highlights from the area that the NWS office in Santa Teresa NM covers. This area includes the following counties in New Mexico: Hudspeth, Grant, Luna, Sierra, Doña Ana and Otero and the following counties in Texas: El Paso and Hudspeth.

WEATHER DIGESTS AND BULLETINS	
Weather Digest	Southwest Weather Bulletins
<a href="#">January</a>	2005 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">February</a>	2006 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">March</a>	2007 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">April</a>	2008 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">May</a>	2009 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">June</a>	2010 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">July</a>	2011 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">August</a>	2012 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">September</a>	2013 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">October</a>	2014 <a href="#">Spring</a> <a href="#">Fall</a>
<a href="#">November</a>	
<a href="#">December</a>	

**Don't Forget-Current and past issues of our Weather Digest are available on our website at [www.weather.gov/epz/](http://www.weather.gov/epz/)**

**Just click on "Local Programs>Weather Digest", then choose which month's Digest to view. Also, though discontinued, don't forget to check out our back issues of Southwest Weather Bulletin.**