

# 2024 North American Monsoon Forecast

**For Central & Northern New Mexico**



Issued: 6/14/2024

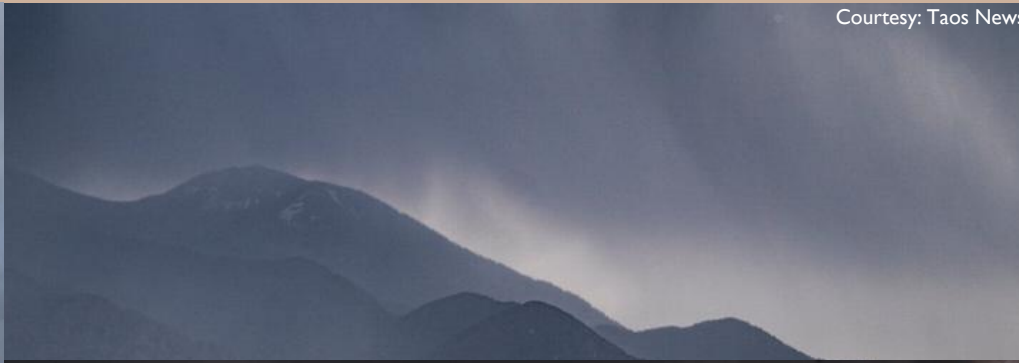
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\*Updated: 8/1/2024



Courtesy: Andrew Church



Courtesy: Taos News



Courtesy: NM Tech



Courtesy: Brett Walton



Courtesy: Angel Fire Resort



Courtesy: Andrew Church

From the Climate Prediction Center (CPC): ENSO-neutral conditions are expected to persist for the next several months. La Niña is favored to develop during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).

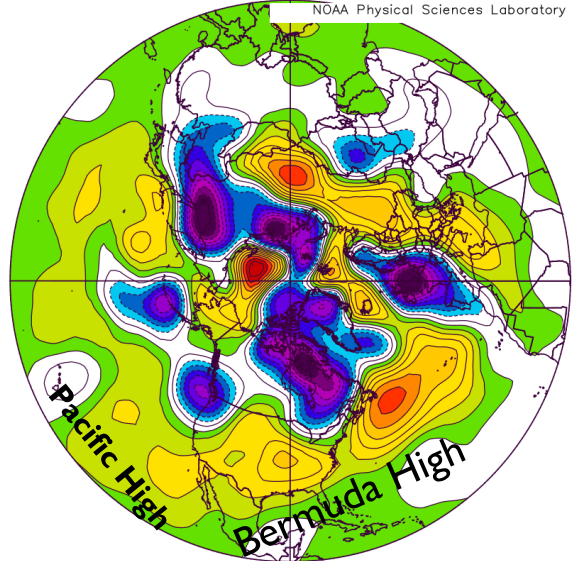


# 2024 North American Monsoon Forecast

## How Was All The Rain In June and early July not the Monsoon?

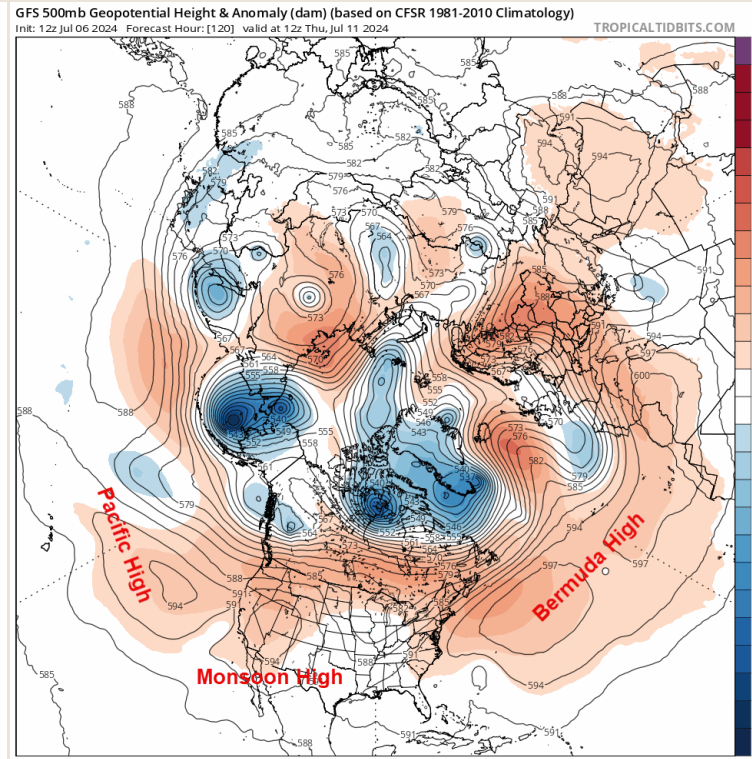


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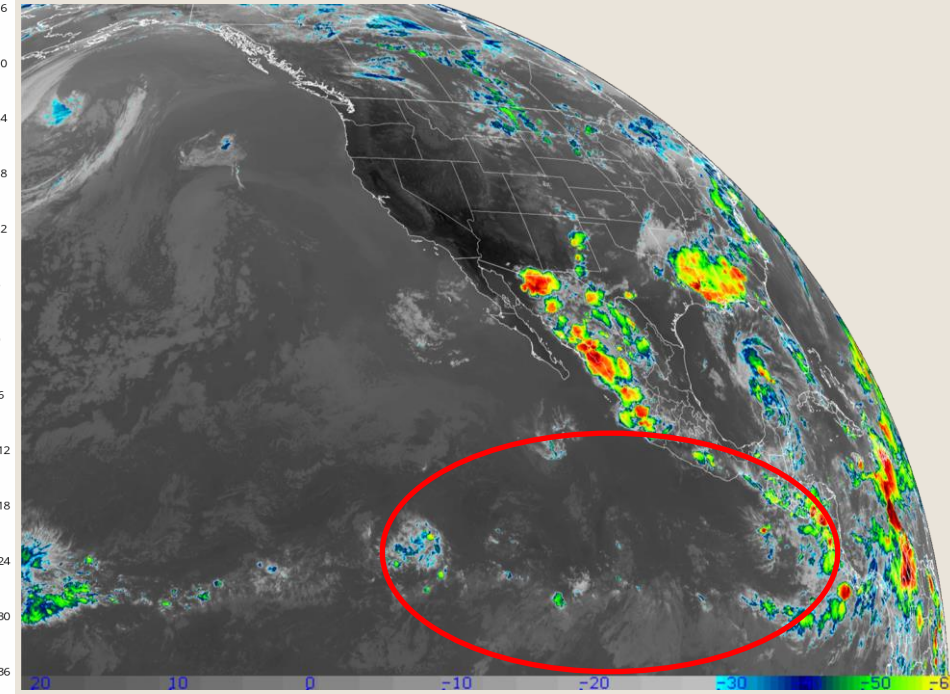


500mb Geopotential Height (m) Composite Anomaly (1991-2020 Climatology)  
06/15/24 06/30/24  
NCEP/NCAR Reanalysis

Mid level difference from average 500mb or around 18K feet above sea level showing how much stronger than average the Bermuda High actually got in late June. It extended westward all the way to NM.



A snapshot of mid level 500mb heights from July 11, 2024 when the monsoon high finally appeared in weather model forecasts from the Global Forecast System or GFS.



A GOES-18 infrared satellite snapshot from July 6, 2024 showing the lack of thunderstorms in the eastern Pacific needed for the monsoon high to develop. The strong thunderstorms in Mexico are still the result of the clockwise Bermuda High circulation and copious Gulf moisture.

Why wasn't all the rain in June and early July considered the North American Monsoon (NAM) from a meteorological and climate prediction perspective? It's actually a climate pattern that resembles the monsoon. This occurs after a strong El Niño fades quickly and transitions rapidly to neutral and eventually the cool phase known as La Niña. The rain in June and early July was caused by unusually high thunderstorm activity in the southwestern Atlantic Ocean, Caribbean, and Gulf of Mexico, combined with stronger than average polar and subtropical jet streams. This resulted in an increase in near-surface Gulf moisture. The increased winds from the two jet streams led to better organization of thunderstorms, an increase in large hail, and a higher probability of tornadoes. Again, scientifically speaking, this was not the North American Monsoon (NAM).

# 2024 North American Monsoon Forecast



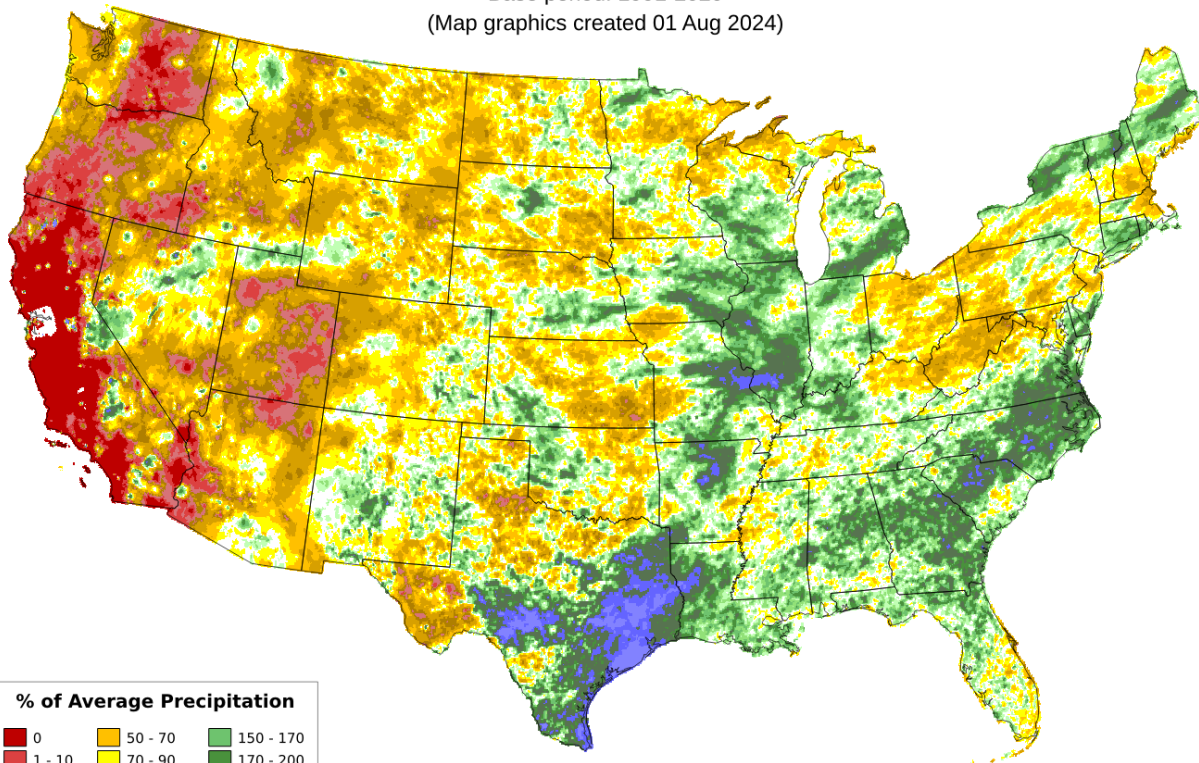
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## Total Precipitation Anomaly: 01 Jul 2024 - 31 Jul 2024

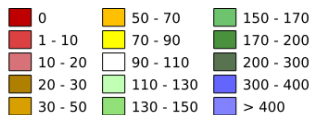
Period ending 7 AM EST 31 Jul 2024

Base period: 1991-2020

(Map graphics created 01 Aug 2024)



### % of Average Precipitation



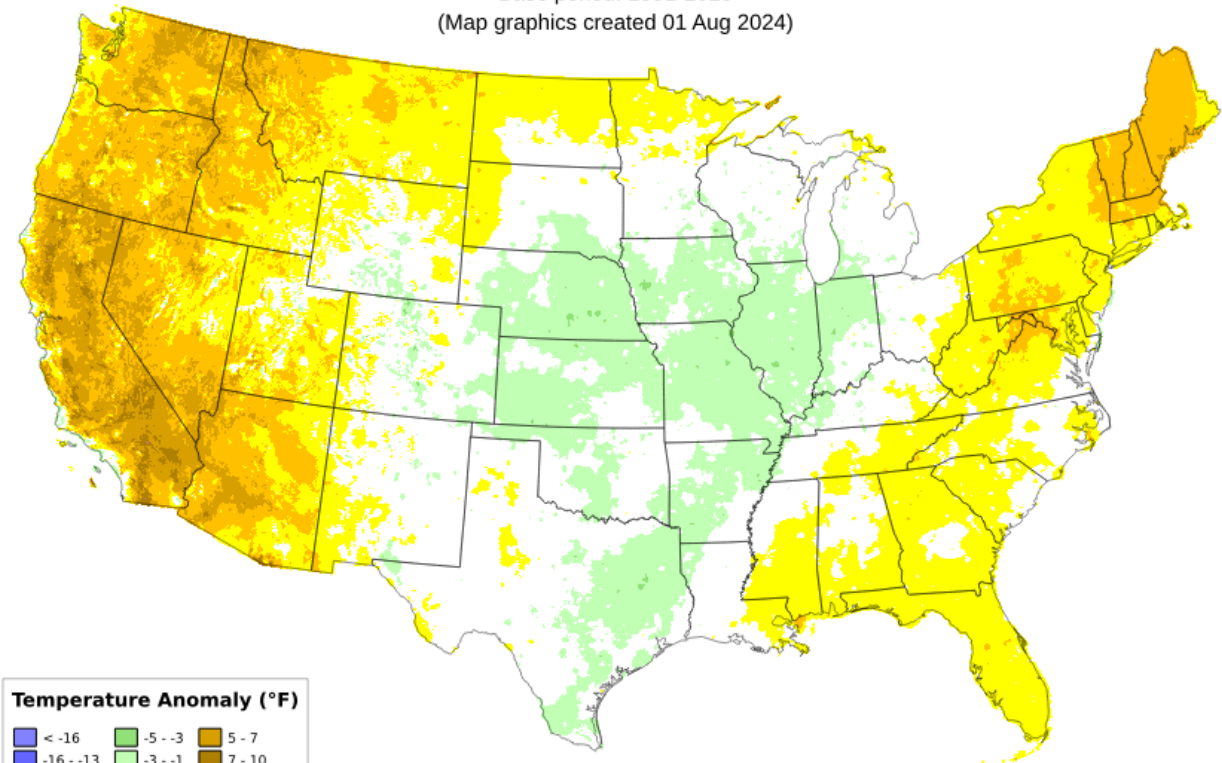
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## Daily Mean Temperature Anomaly: 01 Jul 2024 - 31 Jul 2024

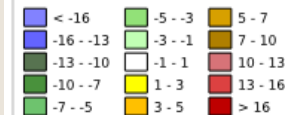
Period ending 7 AM EST 31 Jul 2024

Base period: 1991-2020

(Map graphics created 01 Aug 2024)



### Temperature Anomaly (°F)



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So far during July 2024, precipitation has fared well in portions of the state. Other areas have missed out completely. Temperatures have averaged near 1991-2020 values.



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Current ENSO Status from the Climate Prediction Center (CPC)



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**ENSO Alert System Status: [La Niña Watch](#)**

**ENSO-neutral conditions are present.\***

**Equatorial sea surface temperatures (SSTs) are above average in the western and west-central Pacific, near average in the east-central Pacific, and below average in the eastern Pacific Ocean.**

**ENSO-neutral is expected to continue for the next several months, with La Niña favored to develop during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).**



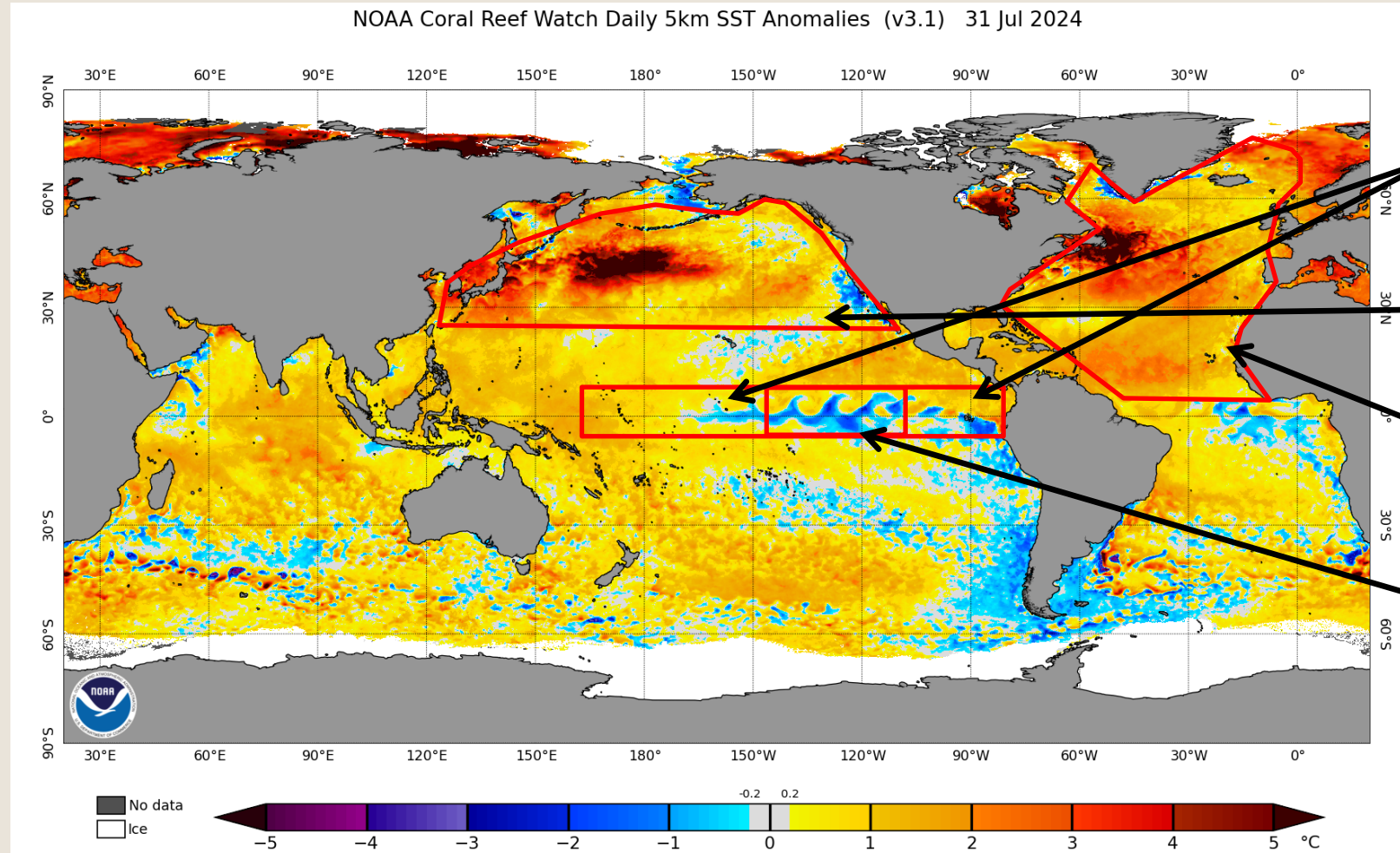
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## Sea Surface Temperature Anomalies or Difference from Average



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➤ Multivariate ENSO Index (MEI) for JAN-FEB 2024: **+0.7** (no update avail.)

➤ Pacific Decadal Oscillation (PDO) for JUNE 2024: **-2.35**

➤ Atlantic Multidecadal Oscillation (AMO) for MAY 2024: **+1.35**

➤ Oceanic Niño Index (ONI) (uses Niño 3.4 region - inner rectangle) for AMJ 2024: **+0.4** (3 month average => **+0.5** = El Niño & **-0.5** = La Niña)

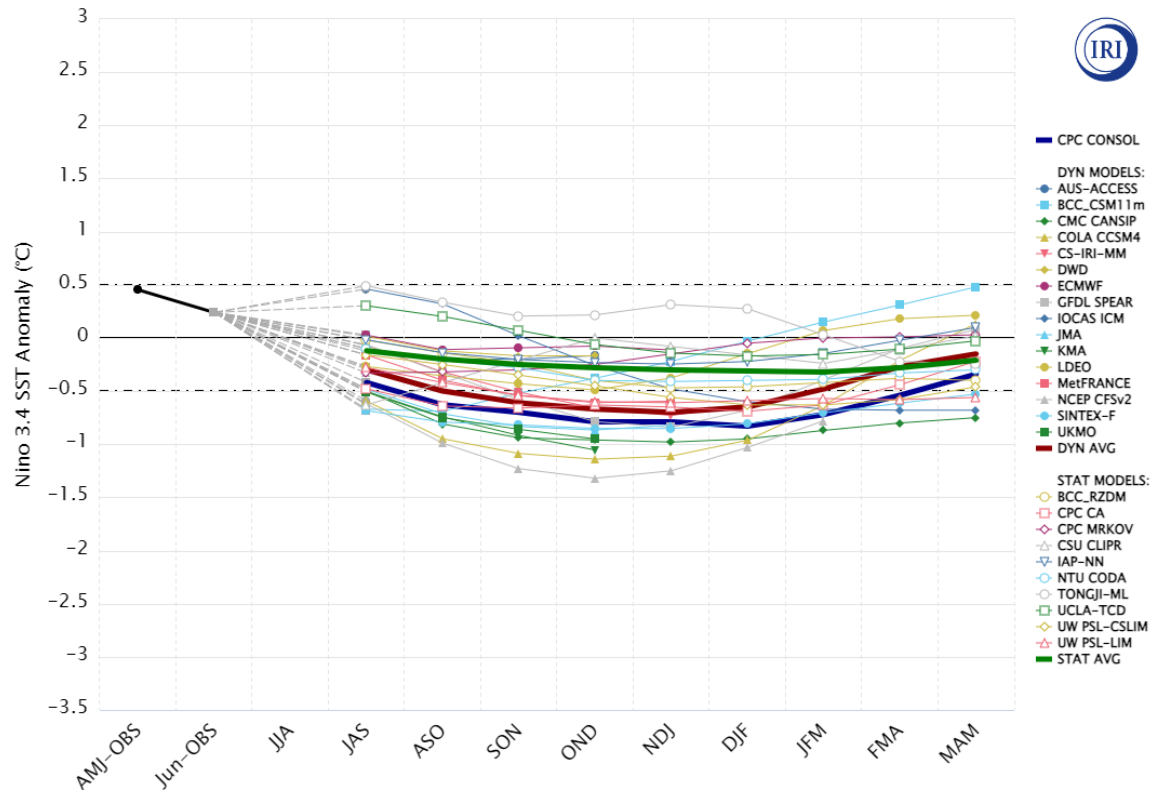
Latest weekly global SST anomalies showing instability waves near the equator showing strong instability waves that are a clear sign of a transition to the cool phase of the El Niño Southern Oscillation (ENSO), La Niña. The Pacific Decadal Oscillation (PDO) continues to remain in a strong negative or cool phase.

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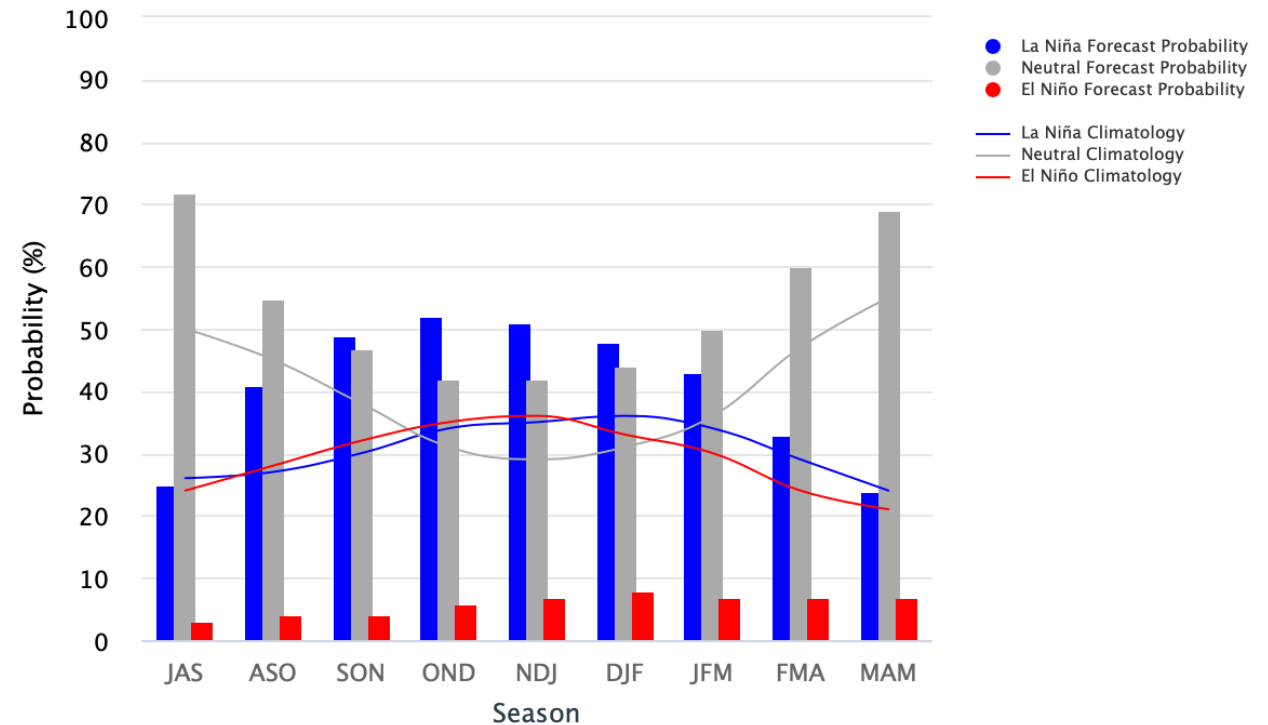
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Model Predictions of ENSO from Jul 2024



Mid-July 2024 IRI Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly Neutral ENSO:  $-0.5^{\circ}\text{C}$  to  $0.5^{\circ}\text{C}$



The graph on the left and table show forecasts made by dynamical and statistical models for SST in the Nino 3.4 region for nine overlapping 3-month periods. Image on the right is forecast probabilities for either neutral, El Niño, or a La Niña climate pattern. La Niña is favored by late summer with a “cool” neutral a close second.



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2016 Was A Similar Climate Pattern Change



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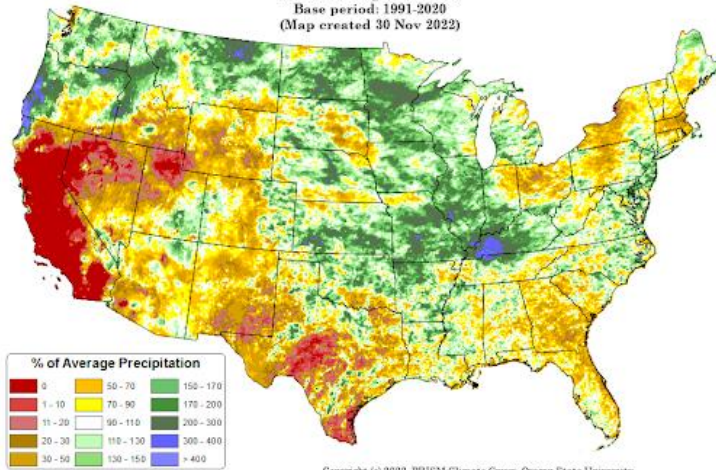
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Total Precipitation Anomaly: Jul 2016

Period ending 31 Jul 2016

Base period: 1991-2020

(Map created 30 Nov 2022)



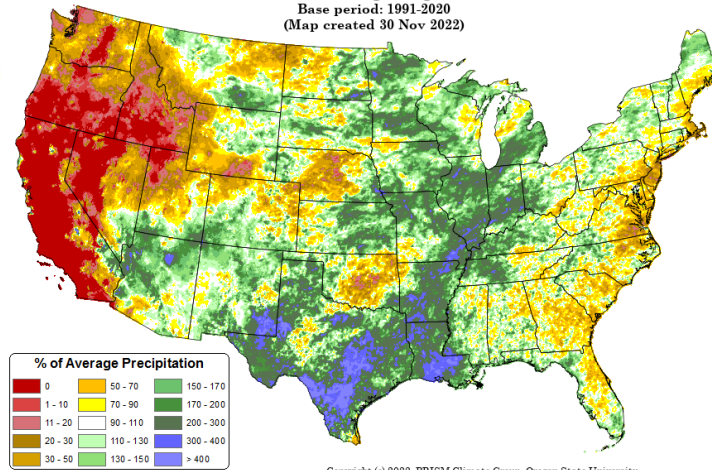
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Total Precipitation Anomaly: Aug 2016

Period ending 31 Aug 2016

Base period: 1991-2020

(Map created 30 Nov 2022)



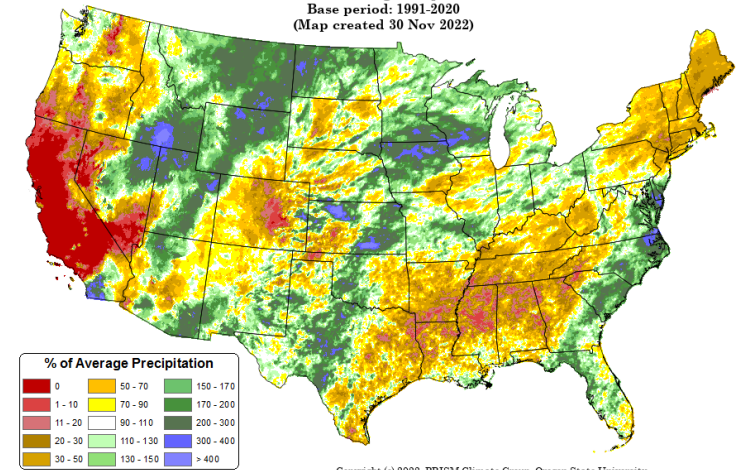
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Total Precipitation Anomaly: Sep 2016

Period ending 30 Sep 2016

Base period: 1991-2020

(Map created 30 Nov 2022)



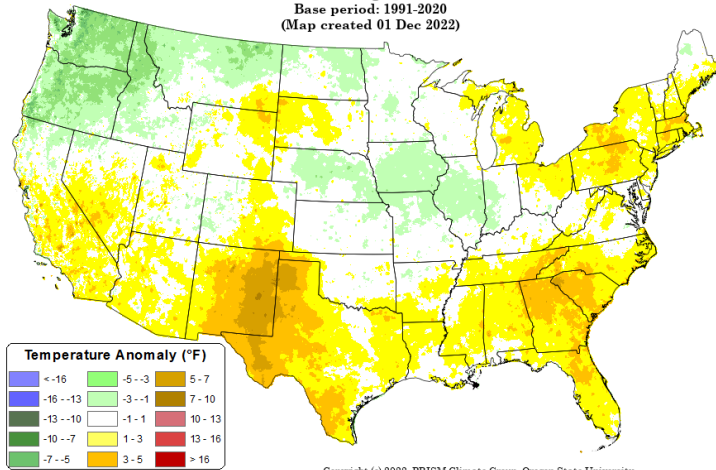
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Daily Maximum Temperature Anomaly: Jul 2016

Period ending 31 Jul 2016

Base period: 1991-2020

(Map created 01 Dec 2022)



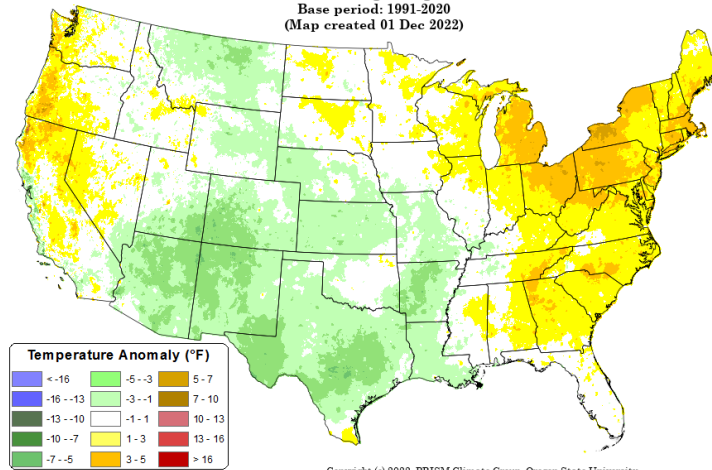
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Period ending 31 Aug 2016

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(Map created 01 Dec 2022)



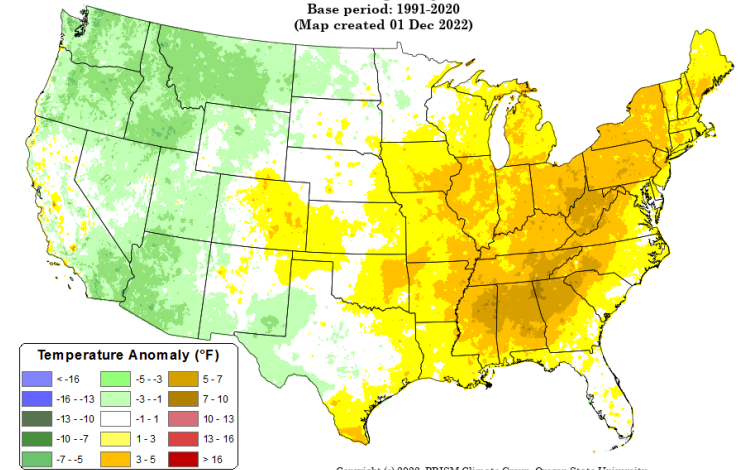
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Base period: 1991-2020

(Map created 01 Dec 2022)



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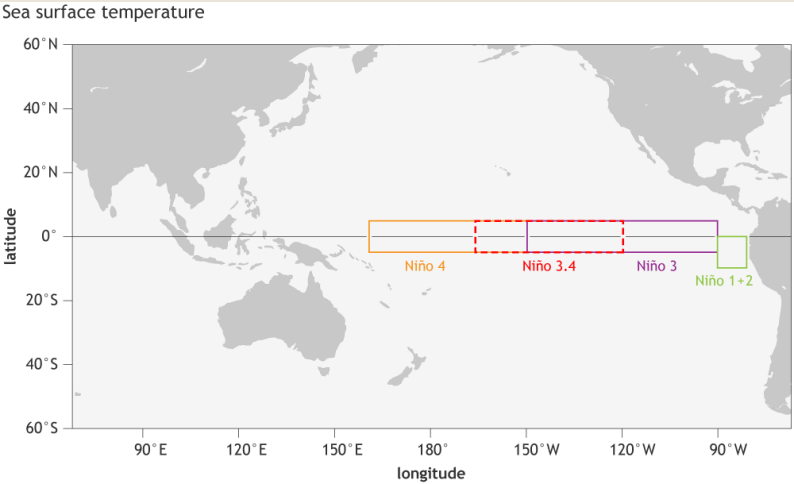
Comparing this year's El Niño ending to a recent super event in 2016. A transition from a strong El Niño to a La Niña like we did in 2016, results in a slow onset or delay, but like it did in 2016, late July and August into early September were very active thunderstorm periods.

# 2024 North American Monsoon Forecast

## Oceanic Niño Index (ONI)



Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2014	-0.4	-0.5	-0.3	0.0	0.2	0.2	0.0	0.1	0.2	0.5	0.6	0.7
2015	0.5	0.5	0.5	0.7	0.9	1.2	1.5	1.9	2.2	2.4	2.6	2.6
2016	2.5	2.1	1.6	0.9	0.4	-0.1	-0.4	-0.5	-0.6	-0.7	-0.7	-0.6
2022	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.9	-1.0	-1.0	-0.9	-0.8
2023	-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.3	1.6	1.8	1.9	2.0
2024	1.8	1.5	1.1	0.7	0.4							



The Oceanic Niño Index (ONI) is NOAA's primary indicator for monitoring the ocean part of the seasonal climate pattern called the El Niño-Southern Oscillation, or “ENSO” for short. The ONI tracks the running 3-month average sea surface temperatures in the east-central tropical Pacific between 120°-170°W (red dashed rectangle), near the International Dateline, and whether they are warmer or cooler than average. 2016 was a similar ENSO year to 2024 due to the El Niño climate patterns evolving similarly.



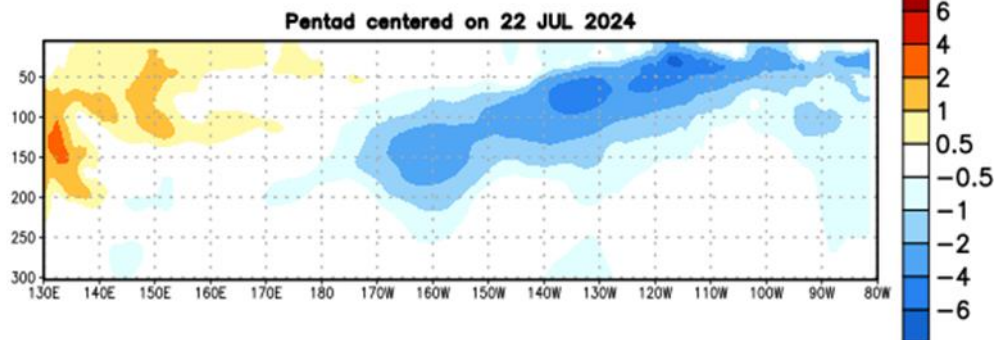
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## Subsurface Pacific Ocean Temperatures

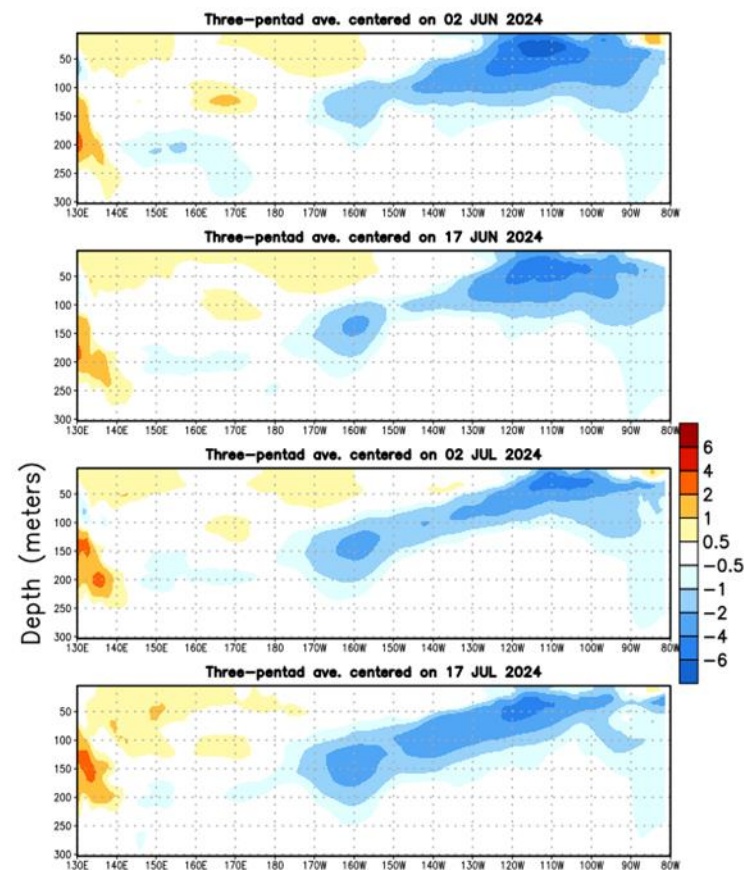


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EQ. Subsurface Temperature Anomalies (deg C)



EQ. Subsurface Temperature Anomalies (deg C)



Below-average temperatures have remained near the surface in the eastern Pacific Ocean near 170°-80°W.

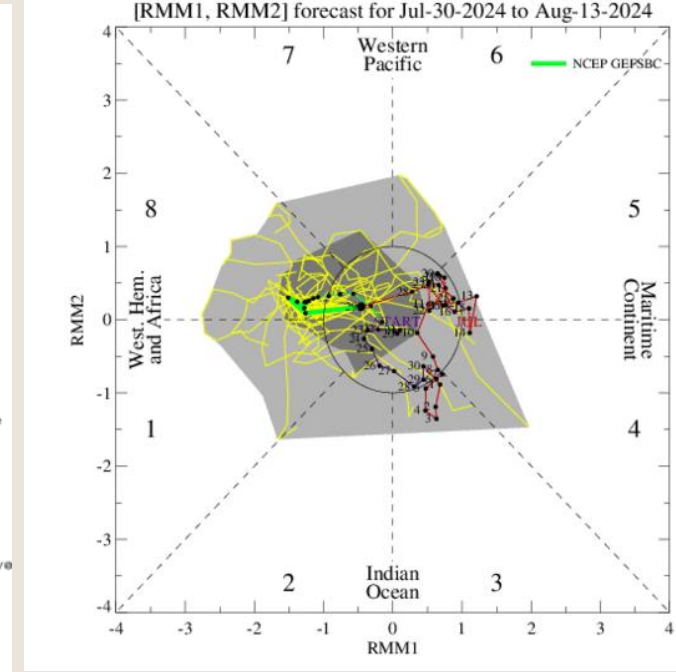
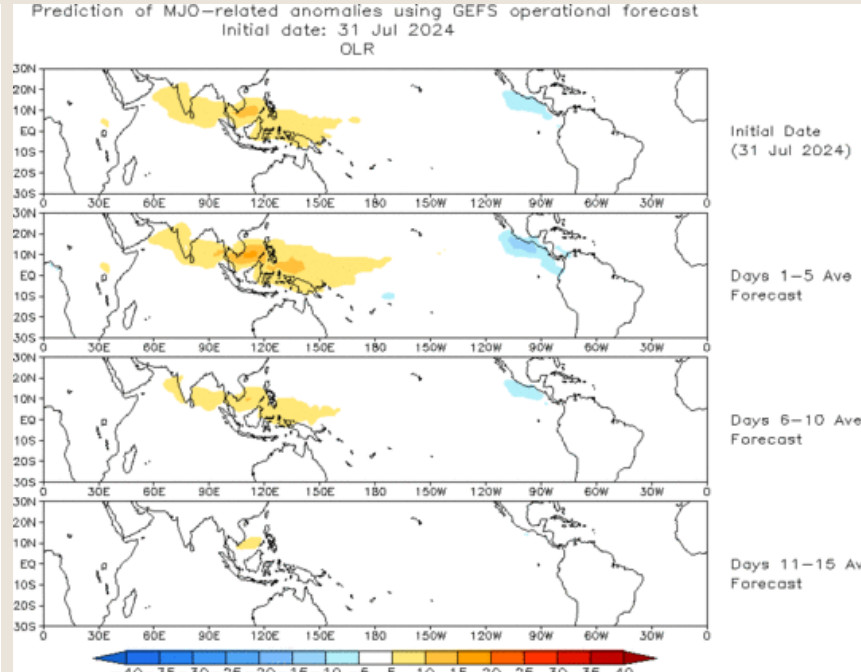
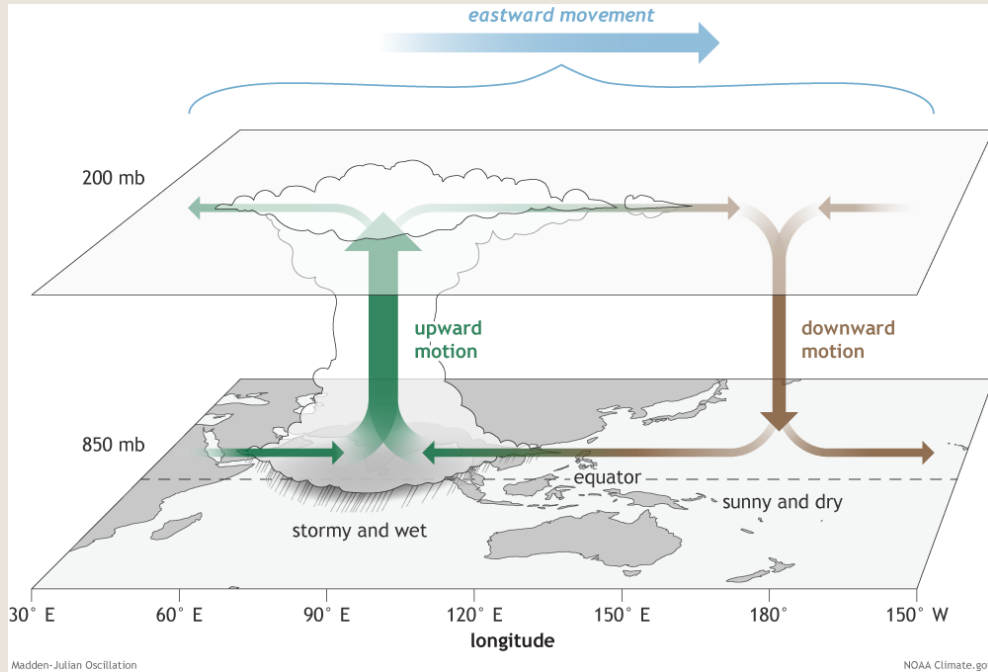
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## Madden-Julian Oscillation (MJO)



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The Madden-Julian Oscillation (MJO) is an area of enhanced thunderstorms that travels around the world every 30 to 60 days from west to east along/near the equator. Ahead and behind the active stormy area are areas of suppressed convection and drier conditions. The MJO affects near-surface wind patterns, because the rising air in the stormy region cause surface winds to blow toward the active area. During a developing La Niña, the trade winds are stronger than average, helping to bring cooler waters up to the surface. When La Niña comes to an end, the enhanced trade winds weaken, allowing warmer water to return to the eastern Pacific and either neutral conditions or an El Niño to develop. This warmer water allow thunderstorms related to the MJO to continue eastward into the EPAC, influencing the jet stream. Currently, El Niño's lasting effects continue to keep the MJO weak and a non factor. It's expected to be more of a player in fall 2024.



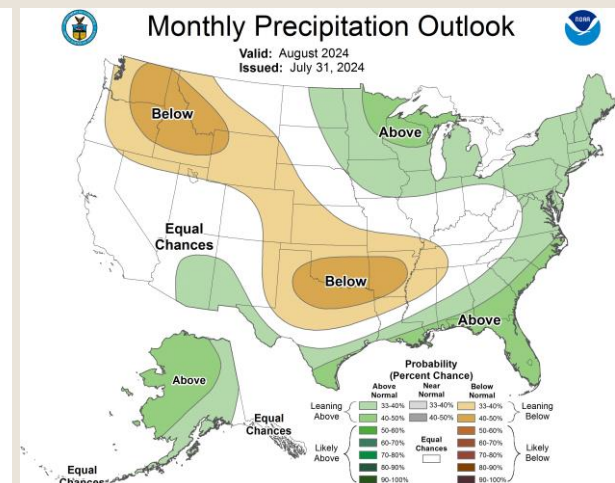
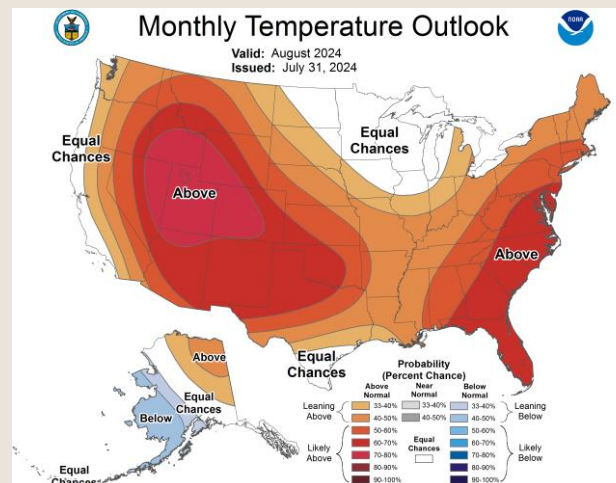
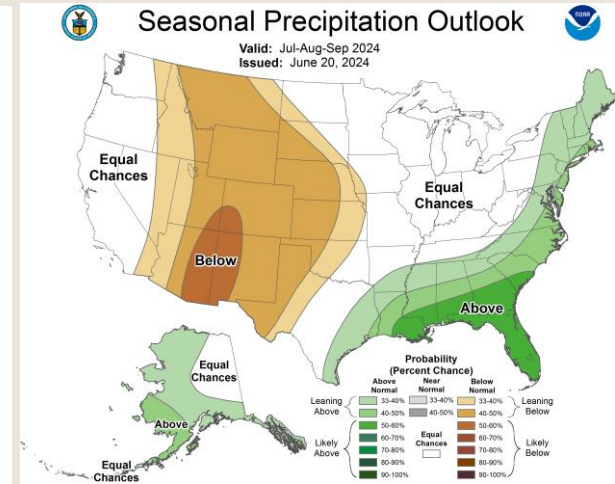
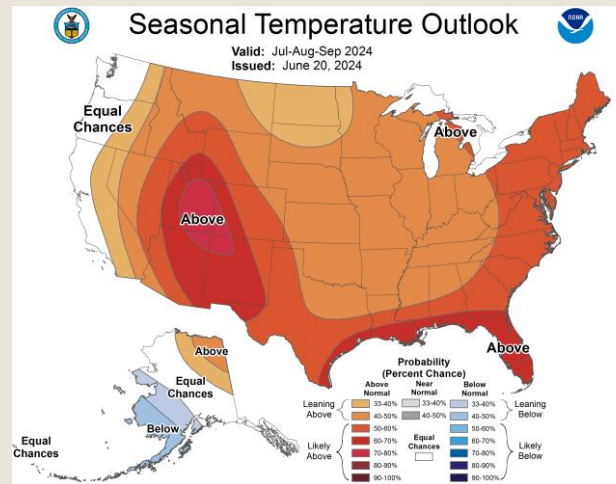
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Climate Prediction Center (CPC)



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The official 2024 outlook from NWS's Climate Prediction Center (CPC) for July, August, and September suggests that there is a high likelihood of above-average temperatures and below-average precipitation. Additionally, the monthly CPC forecast for August indicates slightly higher probabilities in southwest NM for above average precipitation. CPC also agrees that August will favor above average temperatures.

# 2024 North American Monsoon Forecast

European Center for Medium Range Weather Forecasts (ECMWF)



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ECMWF Seasonal Forecast

Prob(most likely category of precipitation)

Forecast start is 01/06/24, climate period is 1993-2016

Ensemble size = 51, climate size = 600

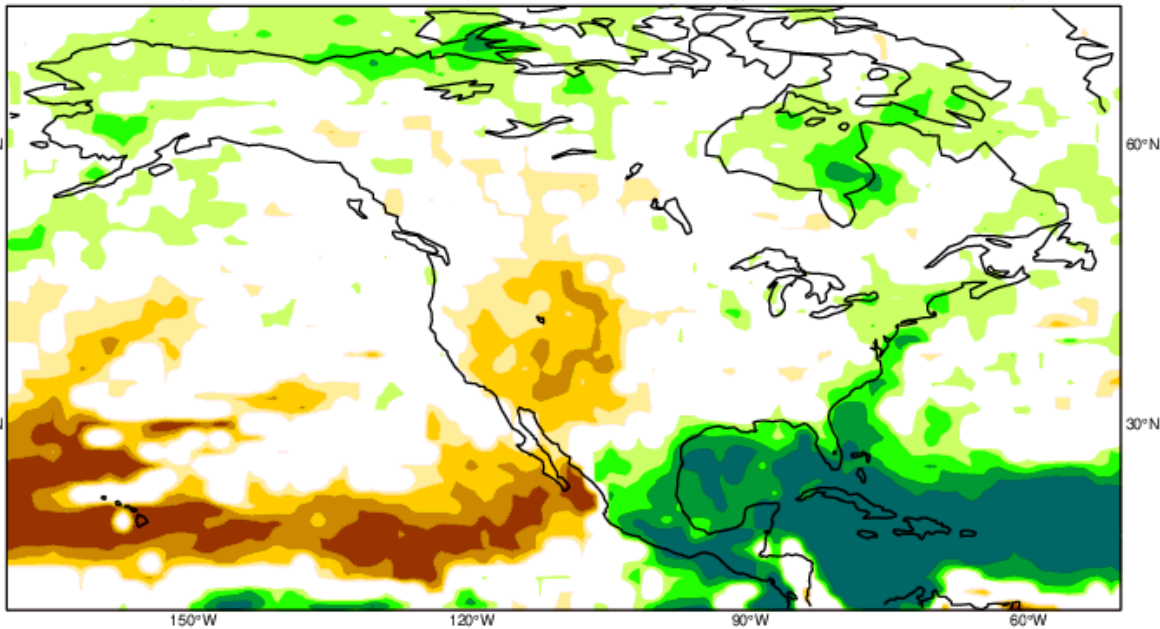
System 5

JAS 2024

<---- Prob(below lower tercile)

Prob(above upper tercile) ---->

70..100% 60..70% 50..60% 40..50% other 40..50% 50..60% 60..70% 70..100%



ECMWF Seasonal Forecast

Prob(most likely category of 2m temperature)

Forecast start is 01/06/24, climate period is 1993-2016

Ensemble size = 51, climate size = 600

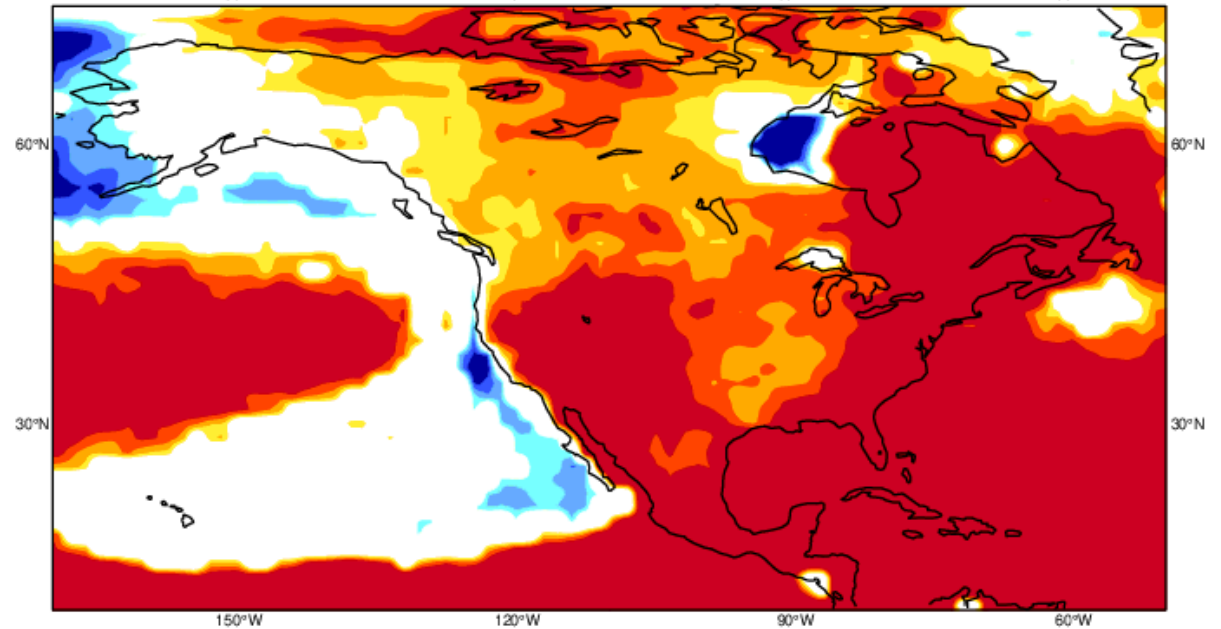
System 5

JAS 2024

<---- Prob(below lower tercile)

Prob(above upper tercile) ---->

70..100% 60..70% 50..60% 40..50% other 40..50% 50..60% 60..70% 70..100%



European Center for Medium Range Weather Forecasts (ECMWF) model forecast for July, August, and September predicts below-average precipitation for NM and above-average temperatures during the monsoon. It's important to note that this type of climate prediction (convective) focuses on the sub seasonal or weekly temporal level, according to Prein et al. 2022.



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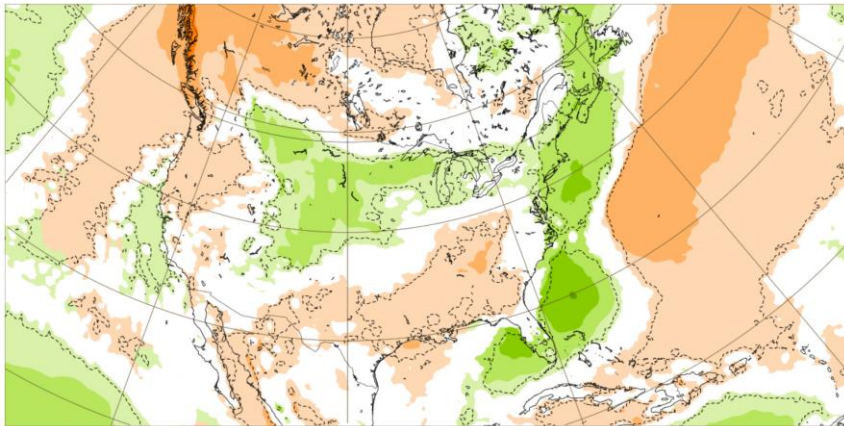
## ECMWF (ENS) - Precipitation



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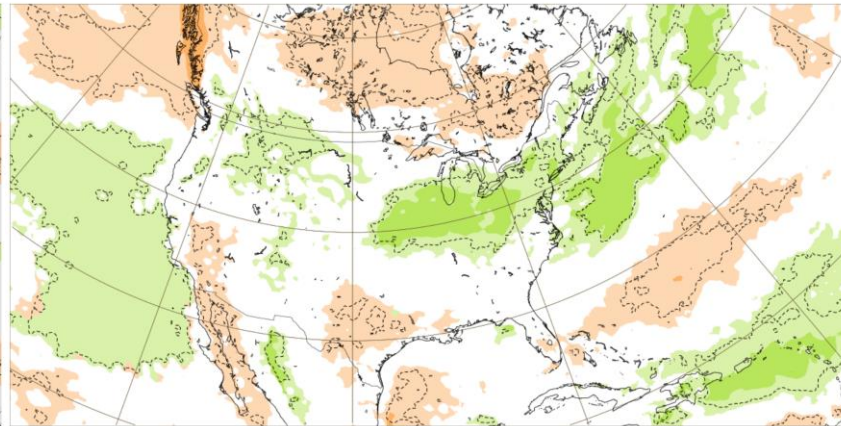
Precipitation: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 05 Aug 2024 - Mon 12 Aug 2024 (+288h) Area : North America



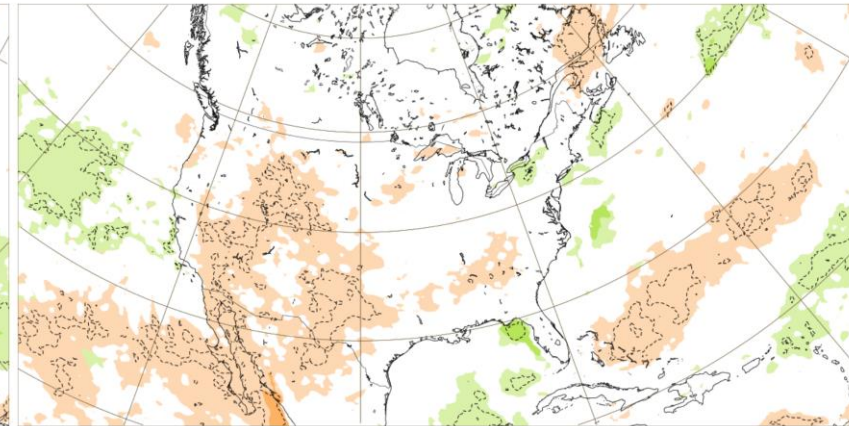
Precipitation: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 12 Aug 2024 - Mon 19 Aug 2024 (+456h) Area : North America



Precipitation: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 19 Aug 2024 - Mon 26 Aug 2024 (+624h) Area : North America



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Created at 2024-08-01T17:28:58.996Z



ECMWF ENS forecasts near to slightly above average precipitation during the first three weeks of August. A traditional (south to north steering flow) monsoon pattern is forecast to return the week of August 12, 2004.

# 2024 North American Monsoon Forecast

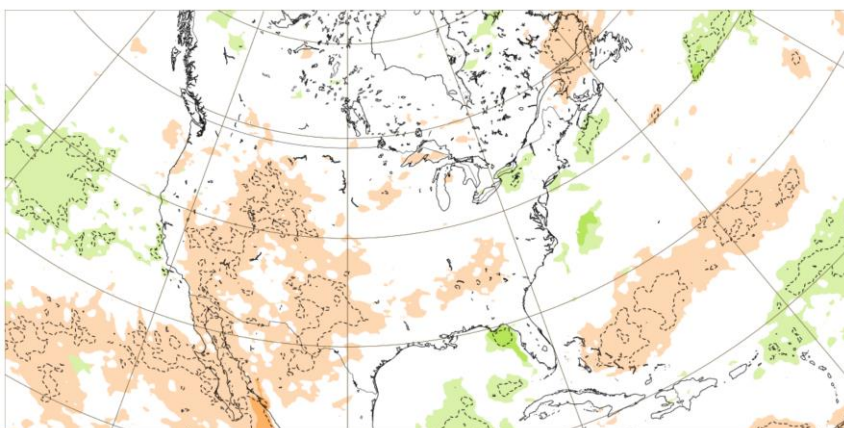
## ECWMF (ENS) - Precipitation



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Precipitation: Weekly mean anomalies

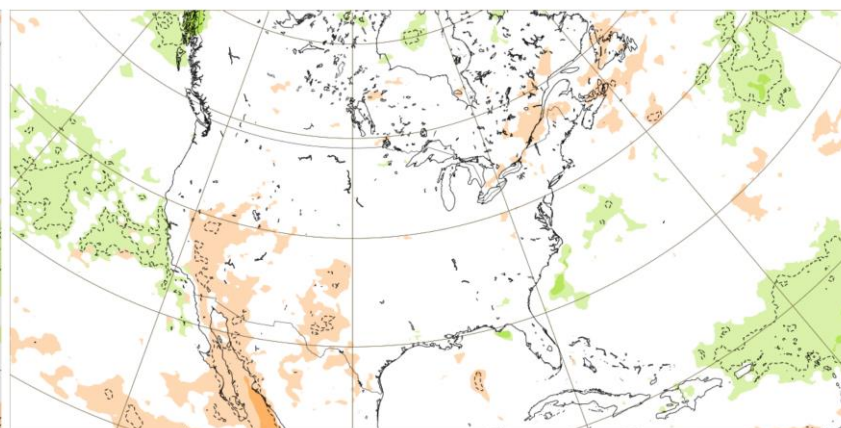
Base time: Wed 31 Jul 2024 Valid time: Mon 19 Aug 2024 - Mon 26 Aug 2024 (+624h) Area: North America



Extended range: Precipitation weekly mean anomaly, significance level: 10 % (mm)  
-90 -80 -60 -40 -20 0 20 40 60 80 100

Precipitation: Weekly mean anomalies

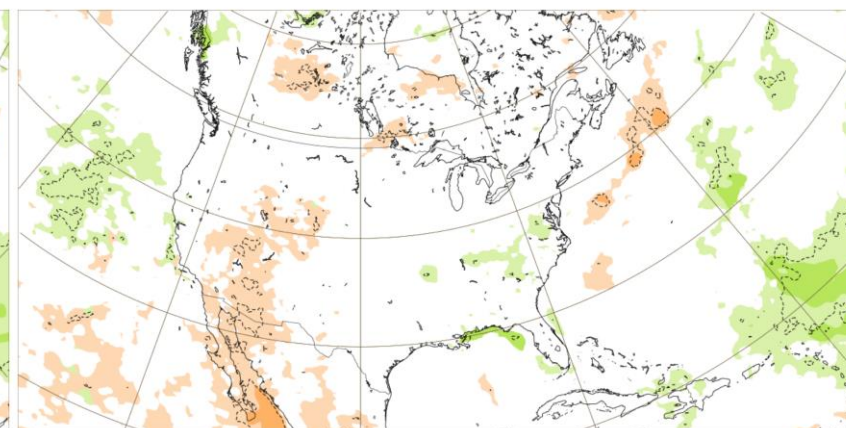
Base time: Wed 31 Jul 2024 Valid time: Mon 26 Aug 2024 - Mon 02 Sep 2024 (+792h) Area: North America



Extended range: Precipitation weekly mean anomaly, significance level: 10 % (mm)  
-90 -80 -60 -40 -20 0 20 40 60 80 100

Precipitation: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 09 Sep 2024 - Mon 09 Sep 2024 (+960h) Area: North America



Extended range: Precipitation weekly mean anomaly, significance level: 10 % (mm)  
-90 -80 -60 -40 -20 0 20 40 60 80 100

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Created at 2024-08-01T17:29:58.996Z



The ECMWF ENS model predicts slightly below-average precipitation for much of New Mexico the week of August 19, 2024. Low level moisture is expected to increase with mainly near-average precipitation forecast for the final week of the month. It's worth noting that average precipitation values are relatively high throughout the area in August. Additionally, 2016 was a good example of how this climate pattern setup can result in an active to very active August and early September.



# 2024 North American Monsoon Forecast

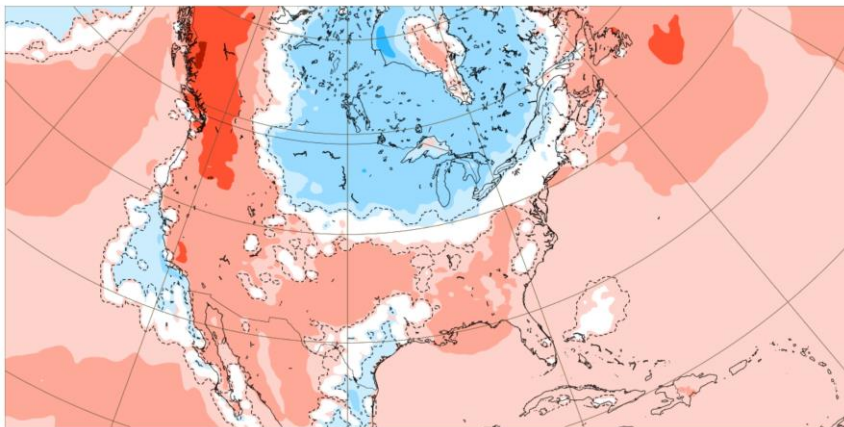
## ECWMF (ENS) - Temperature



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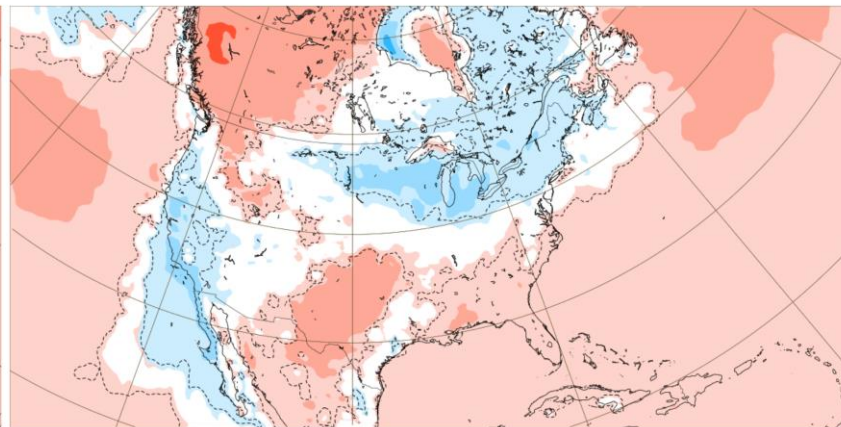
2 m temperature: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 05 Aug 2024 - Mon 12 Aug 2024 (+288h) Area: North America



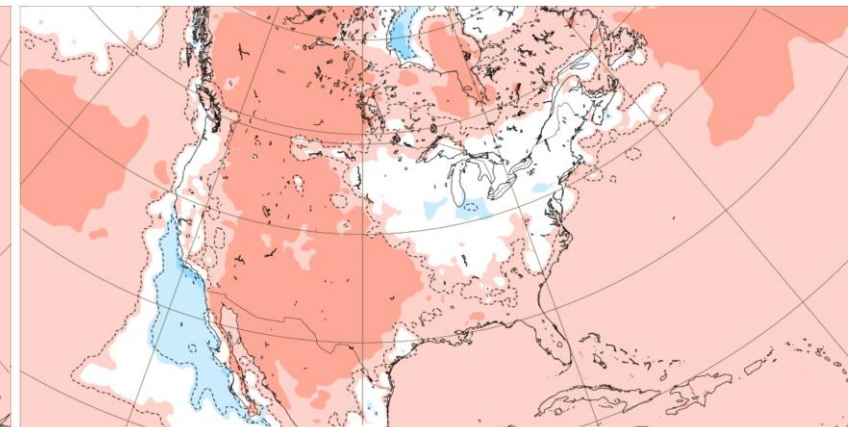
2 m temperature: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 12 Aug 2024 - Mon 19 Aug 2024 (+456h) Area: North America



2 m temperature: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 19 Aug 2024 - Mon 26 Aug 2024 (+624h) Area: North America



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Created at 2024-08-01T03:32:09.387Z



The European Center for Medium-Range Weather Forecasts (ECMWF) predicts that August will end up with above average temperatures except for the week of August 12th when near average temperatures are forecast.

# 2024 North American Monsoon Forecast

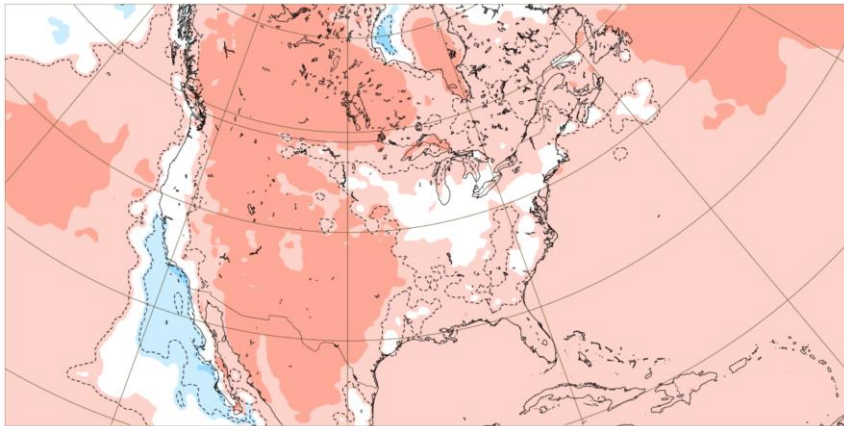
## ECMWF (ENS) - Temperature



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2 m temperature: Weekly mean anomalies

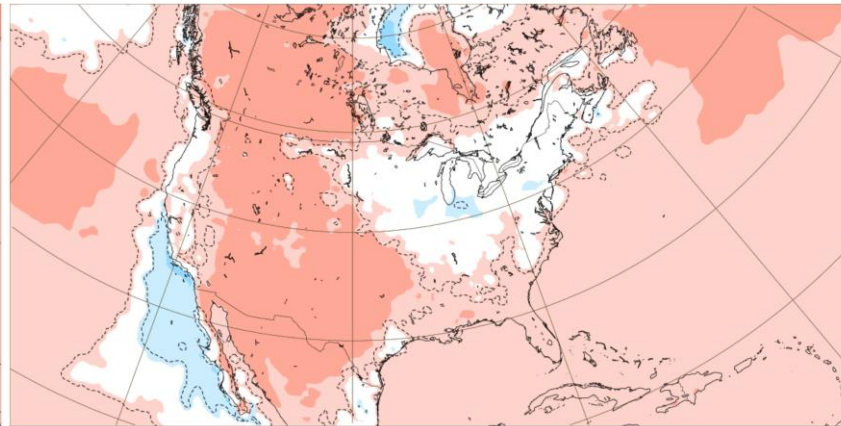
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Extended range: 2m T weekly mean anomaly, significance level: 10 % (°C)

2 m temperature: Weekly mean anomalies

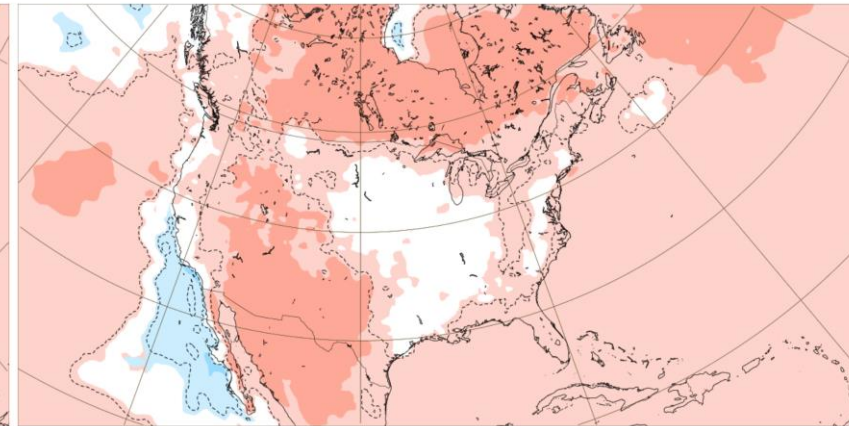
Base time: Wed 31 Jul 2024 Valid time: Mon 19 Aug 2024 - Mon 26 Aug 2024 (+624h) Area : North America



Extended range: 2m T weekly mean anomaly, significance level: 10 % (°C)

2 m temperature: Weekly mean anomalies

Base time: Wed 31 Jul 2024 Valid time: Mon 02 Sep 2024 - Mon 09 Sep 2024 (+960h) Area : North America



Extended range: 2m T weekly mean anomaly, significance level: 10 % (°C)

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Created at 2024-08-01T03:31:37.896Z



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Created at 2024-08-01T03:32:09.387Z



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Created at 2024-08-01T04:21:08.995Z



Weekly difference from average temperature forecasts from the European Center for Medium Range Weather Forecasts (ECMWF) for much of August. ECMWF's extended ensemble model keeps the Southwest U.S. temperatures above average during much of August.



# 2024 North American Monsoon Forecast

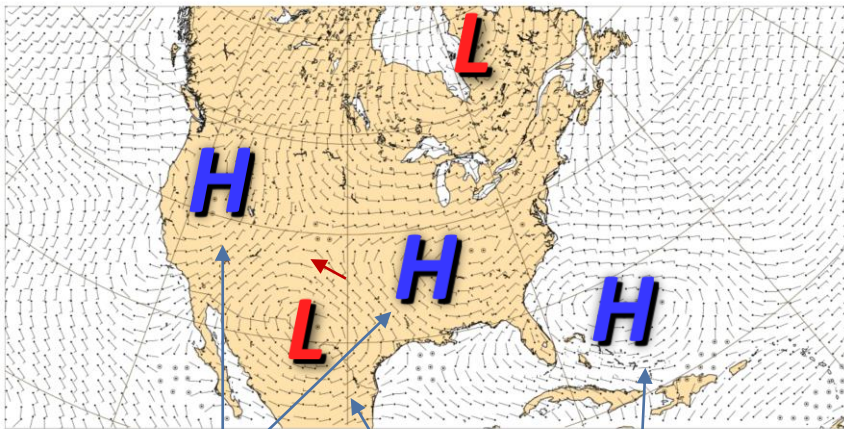
## Monsoon High Set Up During August



Albuquerque  
WEATHER FORECAST OFFICE

Winds at various levels: Weekly mean anomalies

Base time: Wed 31 Jul 2024 00 UTC Valid time: Mon 05 Aug 2024 00 UTC - Mon 12 Aug 2024 00 UTC (+288h) Area : North America Parameters : 500 hPa



Monsoon High  
Split in Two

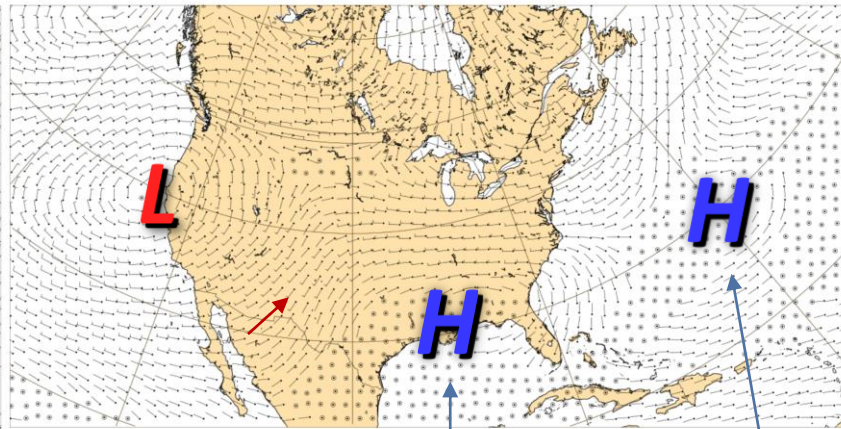
Easterly Wave/Inverted  
Trough

Bermuda High



Winds at various levels: Weekly mean anomalies

Base time: Wed 31 Jul 2024 00 UTC Valid time: Mon 12 Aug 2024 00 UTC - Mon 19 Aug 2024 00 UTC (+456h) Area : North America Parameters : 500 hPa



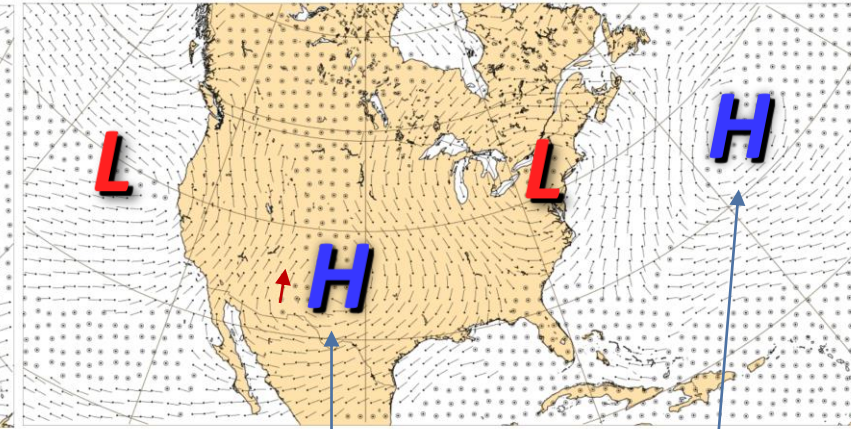
Monsoon High

Bermuda High



Winds at various levels: Weekly mean anomalies

Base time: Wed 31 Jul 2024 00 UTC Valid time: Mon 19 Aug 2024 00 UTC - Mon 26 Aug 2024 00 UTC (+624h) Area : North America Parameters : 500 hPa



Monsoon High

Bermuda High



Weekly mean wind anomaly forecasts for early and mid-August 2024 at 500 mb or approximately 18,000 ft MSL. Due to an unseasonably deep closed upper low over east-central Alberta and west-central Saskatchewan during the week of August 5, 2024, the monsoon high is expected to shift eastward. This will result in a more “traditional” south to north or southwest to northeast steering flow setting up over New Mexico the week of August 12, 2024. ECMWF then predicts the monsoon high will shift back westward over NM during the week of August 19, 2024.



# 2024 North American Monsoon Forecast

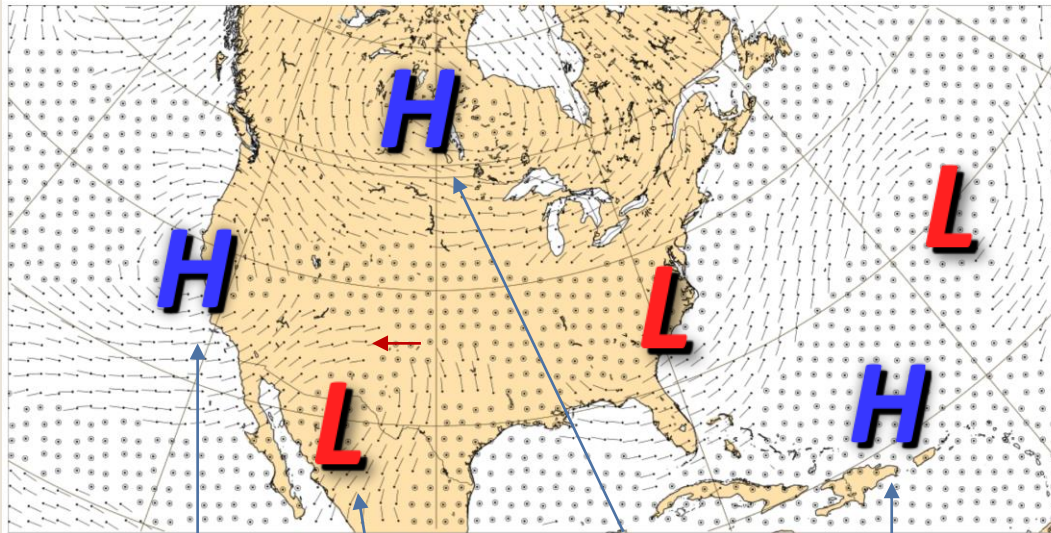
## Monsoon High Set Up During Early September



Albuquerque  
WEATHER FORECAST OFFICE

Winds at various levels: Weekly mean anomalies

Base time: Wed 31 Jul 2024 00 UTC Valid time: Mon 26 Aug 2024 00 UTC - Mon 02 Sep 2024 00 UTC (+792h) Area : North America Parameters : 500 hPa



Monsoon High

Asian-Pacific Jet  
Stream High

Bermuda High

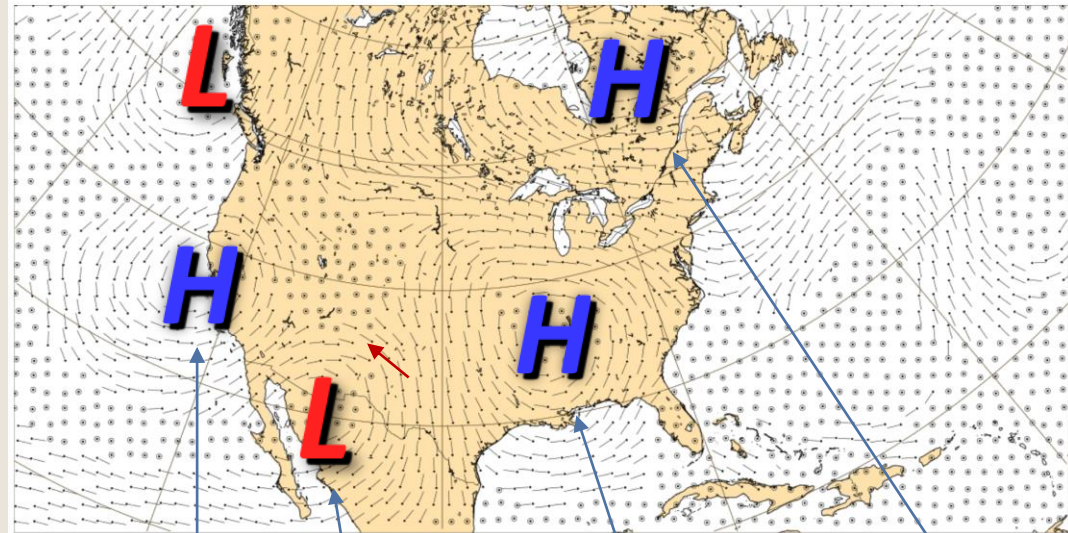
Easterly Wave/Inverted  
Trough

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Created at 2024-08-01T17:57:27.202Z



Winds at various levels: Weekly mean anomalies

Base time: Wed 31 Jul 2024 00 UTC Valid time: Mon 02 Sep 2024 00 UTC - Mon 09 Sep 2024 00 UTC (+960h) Area : North America Parameters : 500 hPa



Monsoon High

Bermuda High

Asian-Pacific Jet  
Stream High

Easterly Wave/Inverted  
Trough

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Created at 2024-08-01T17:57:40.220Z



. There can be no such thing by definition. Reverse refers to the steering flow direction. Northeasterly steering flow is looking like the mostly likely set up for much of August.



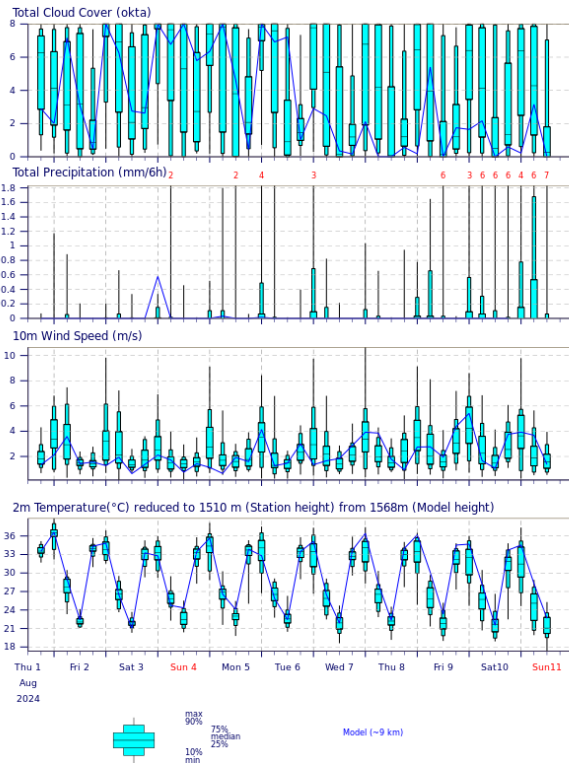
# 2024 North American Monsoon Forecast

## Meteograms For Selected Cities in NM

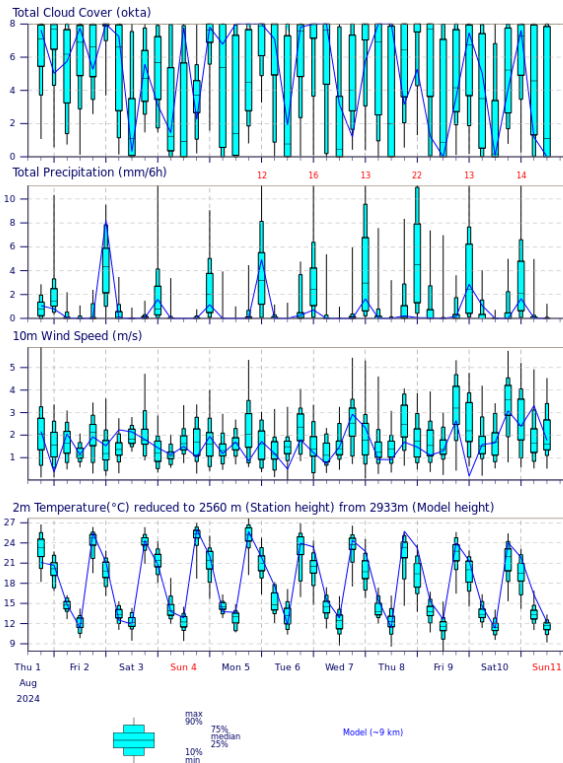


Albuquerque  
WEATHER FORECAST OFFICE

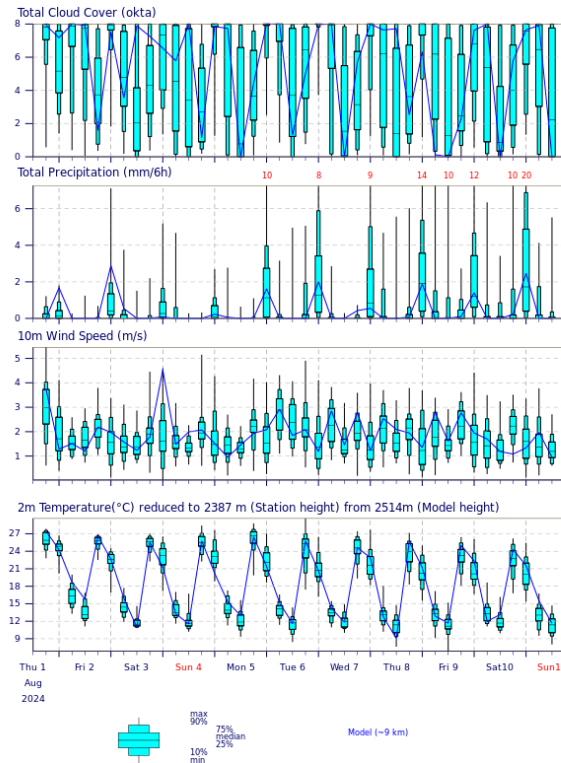
ENS Meteogram  
Albuquerque - New Mexico - United States 35.11°N 106.62°W (ENS land point) 1510 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



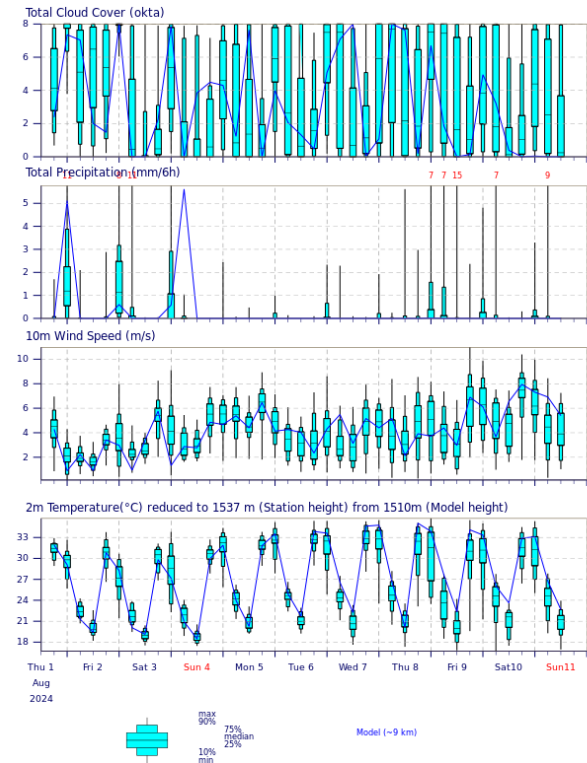
ENS Meteogram  
Angel Fire - New Mexico - United States 36.38°N 105.25°W (ENS land point) 2560 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Chama - New Mexico - United States 36.87°N 106.58°W (ENS land point) 2387 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Clayton - New Mexico - United States 36.45°N 103.16°W (ENS land point) 1537 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



A meteogram is the vertical profile of the atmosphere for a given point and its development over a time range. Cloud cover is measured in eighths with 8 being overcast. One meter per second = 2.24 mph. 36°C = 97°F, 15° = 59°F.

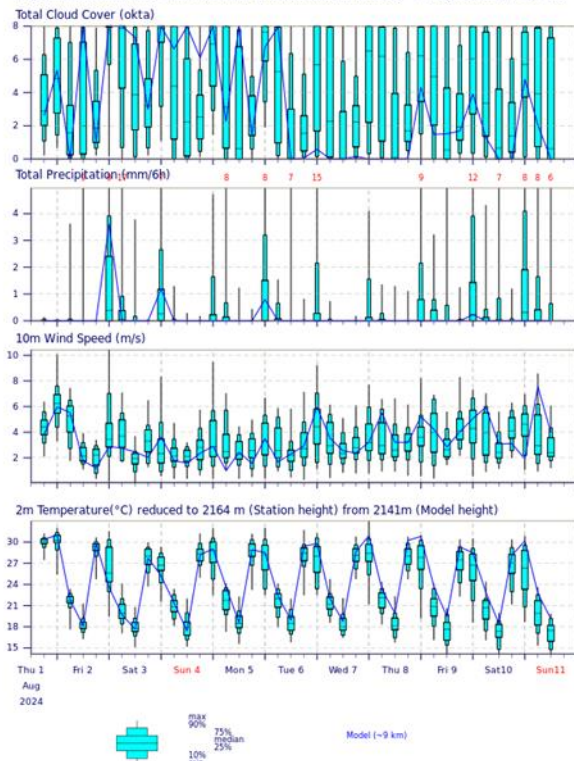
# 2024 North American Monsoon Forecast



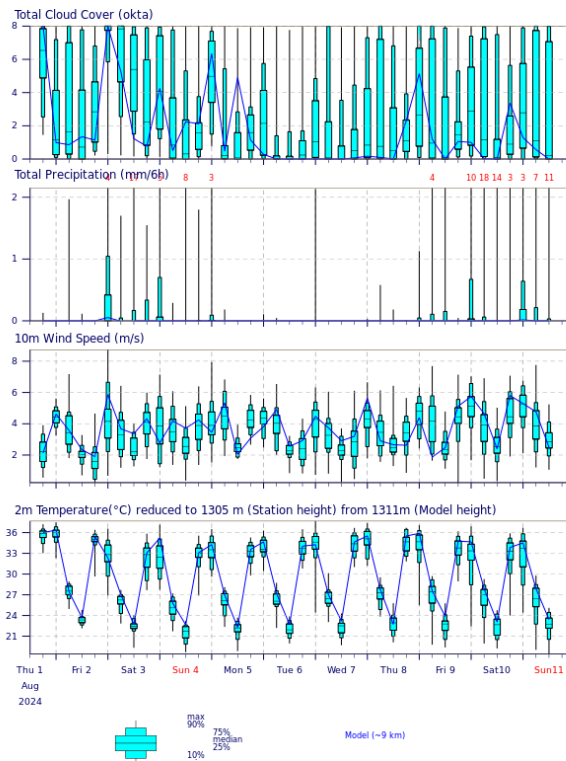
Albuquerque  
WEATHER FORECAST OFFICE

## Meteograms For Selected Cities in NM

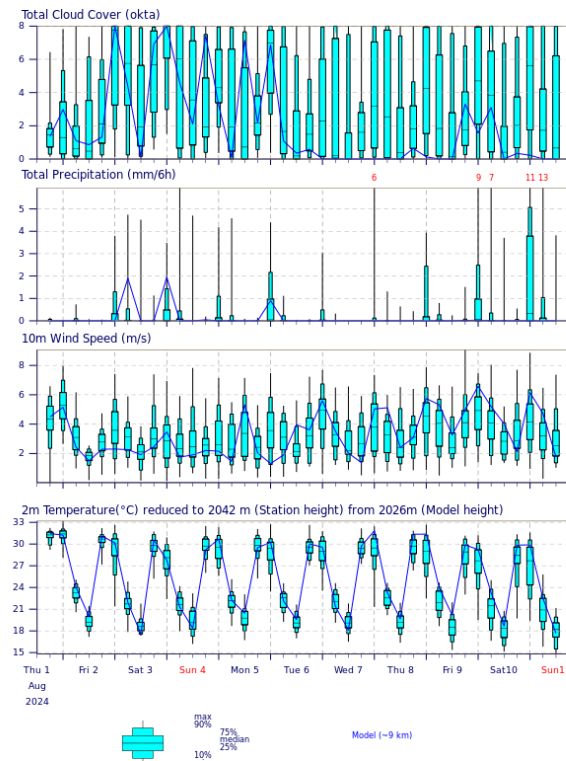
ENS Meteogram  
Clines Corners - New Mexico - United States 34.97°N 105.67°W (ENS land point) 2164 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



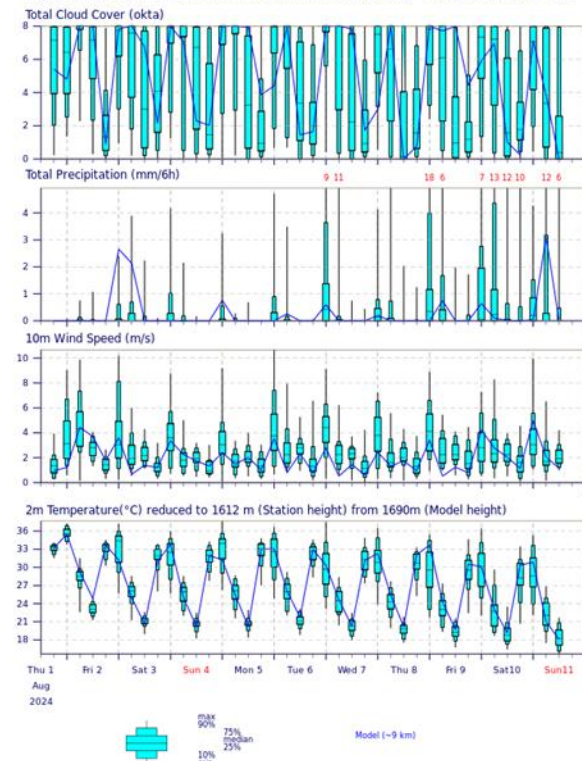
ENS Meteogram  
Clovis - New Mexico - United States 34.41°N 103.25°W (ENS land point) 1305 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Corona - New Mexico - United States 34.27°N 105.58°W (ENS land point) 2042 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Farmington - New Mexico - United States 36.73°N 108.19°W (ENS land point) 1612 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



A meteogram is the vertical profile of the atmosphere for a given point and its development over a time range.

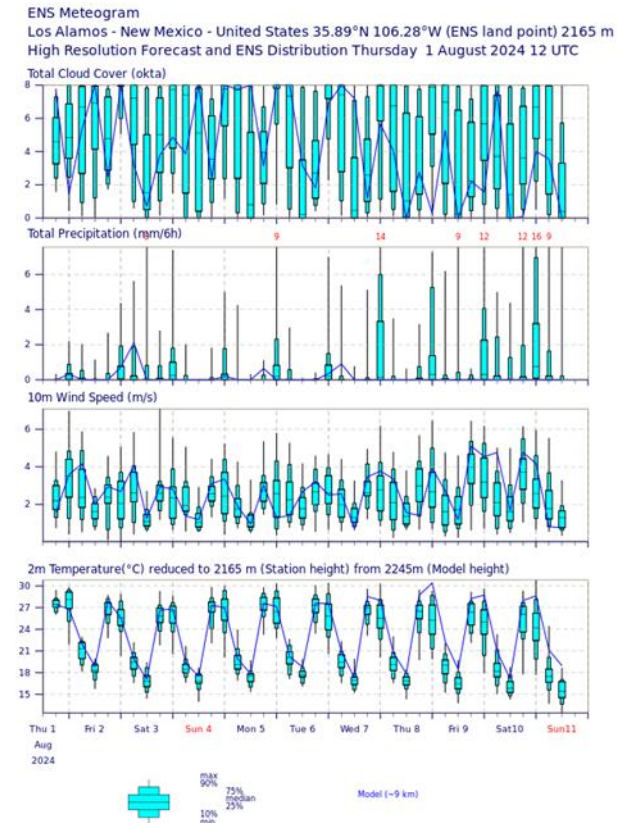
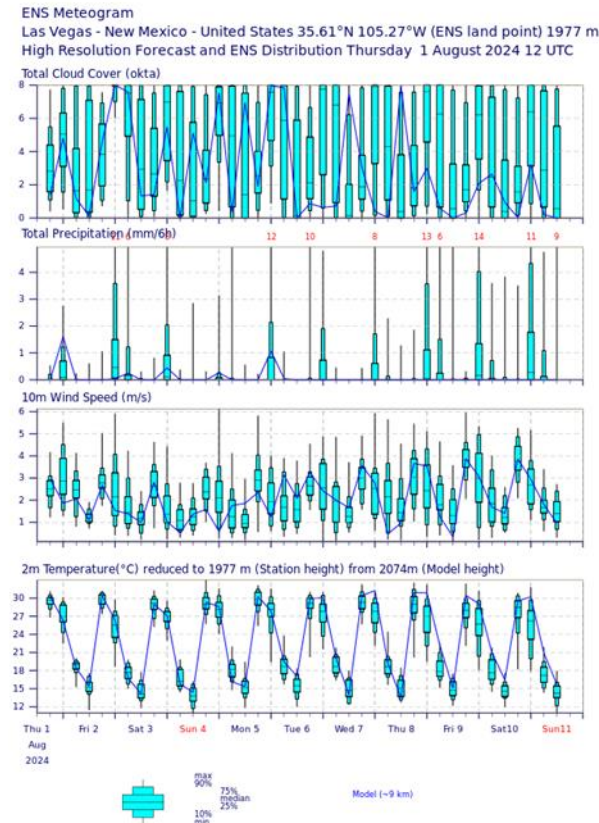
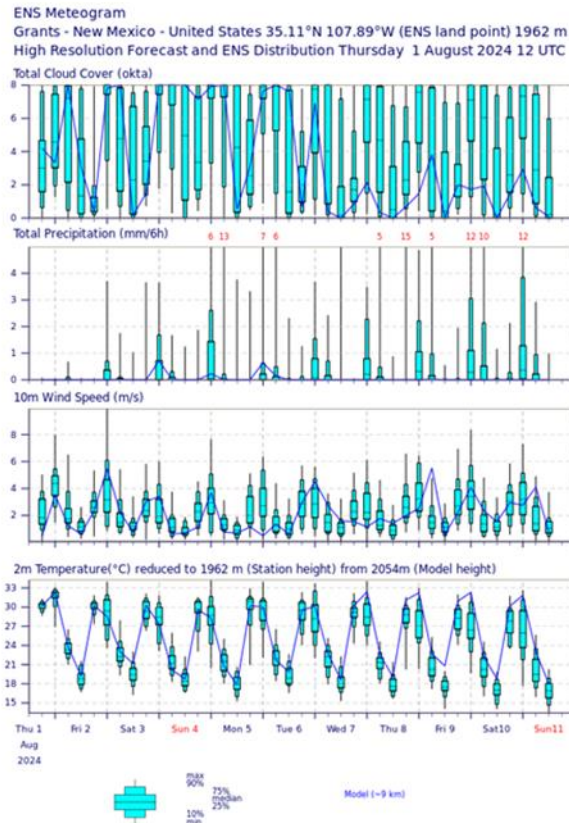
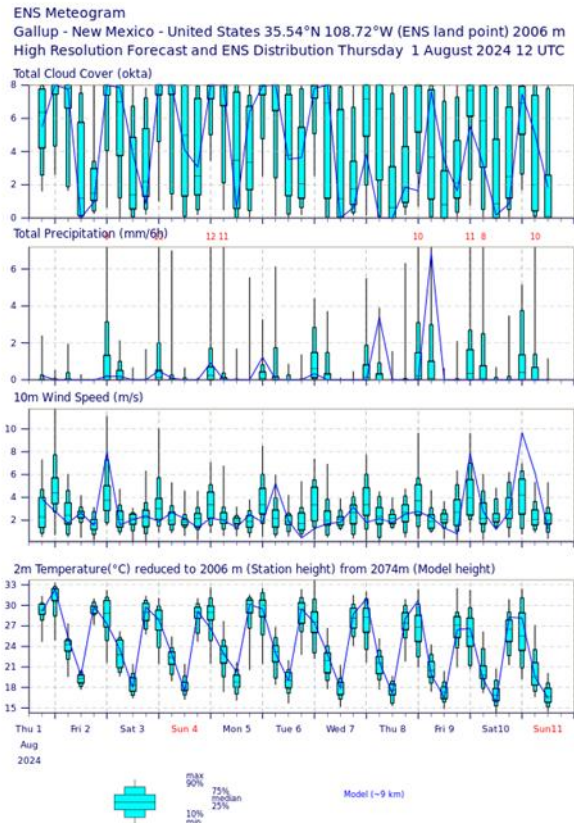


# 2024 North American Monsoon Forecast

## Meteograms For Selected Cities in NM



Albuquerque  
WEATHER FORECAST OFFICE



A meteogram is the vertical profile of the atmosphere for a given point and its development over a time range.



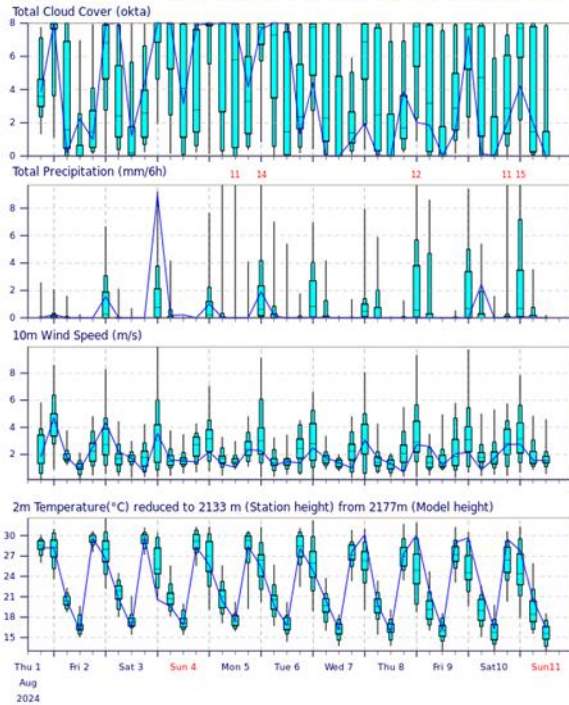
# 2024 North American Monsoon Forecast

## Meteograms For Selected Cities in NM

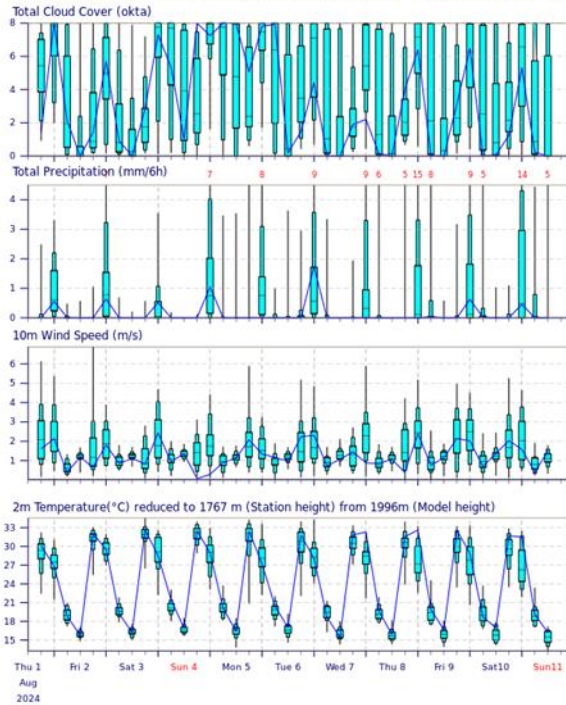


Albuquerque  
WEATHER FORECAST OFFICE

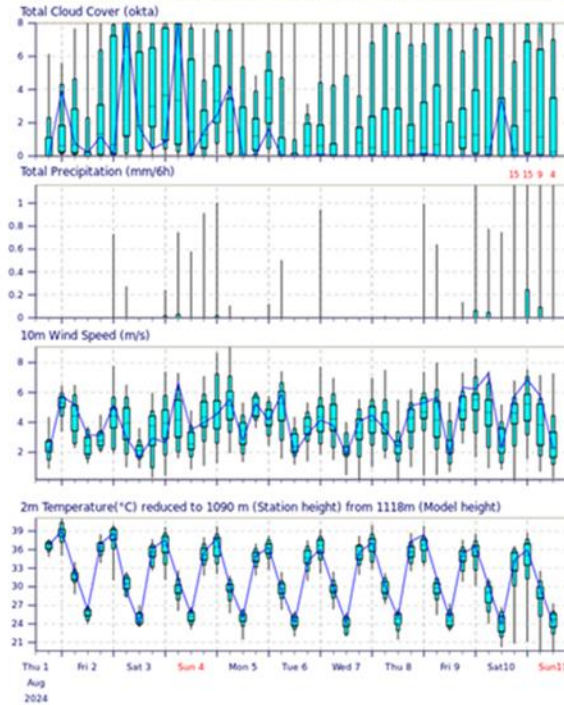
ENS Meteogram  
Quemado - New Mexico - United States 34.34°N 108.54°W (ENS land point) 2133 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



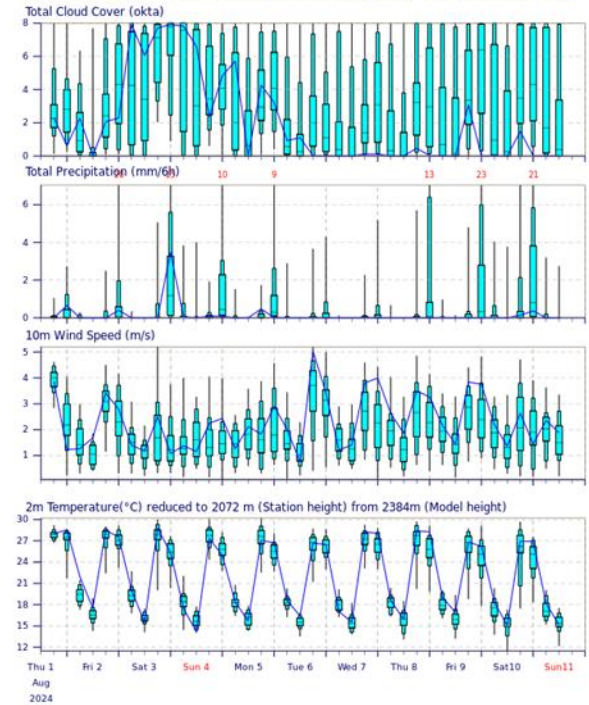
ENS Meteogram  
Reserve - New Mexico - United States 33.71°N 108.78°W (ENS land point) 1767 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Roswell - New Mexico - United States 33.36°N 104.56°W (ENS land point) 1090 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Ruidoso - New Mexico - United States 33.36°N 105.67°W (ENS land point) 2072 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC





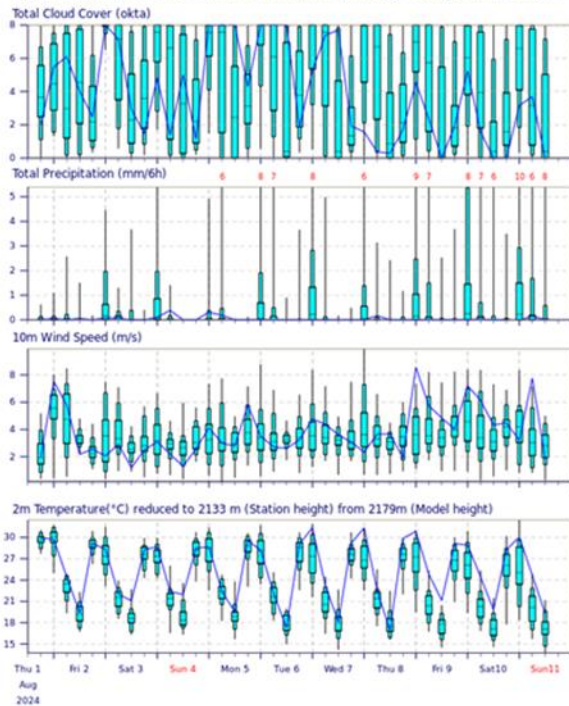
# 2024 North American Monsoon Forecast

## Meteograms For Selected Cities in NM

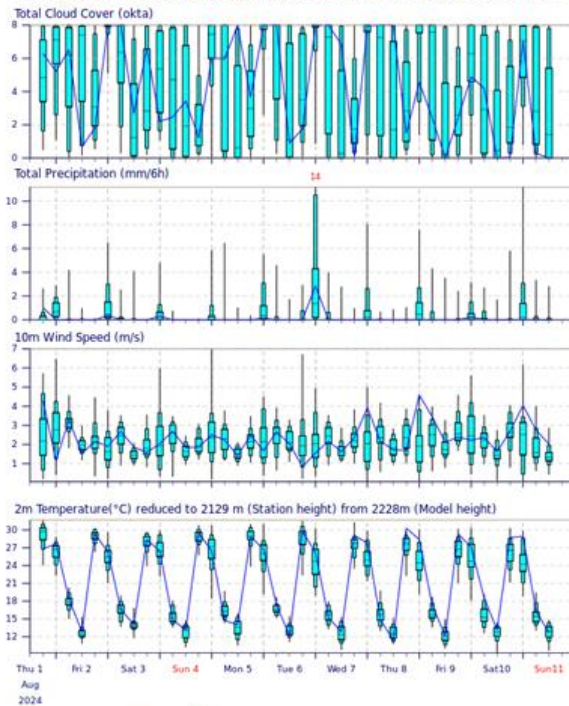


Albuquerque  
WEATHER FORECAST OFFICE

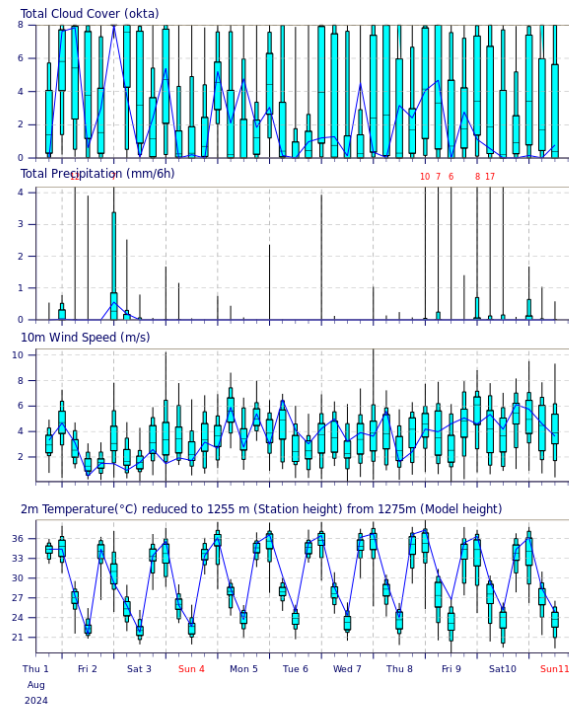
ENS Meteogram  
Santa Fe - New Mexico - United States 35.68°N 105.98°W (ENS land point) 2133 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



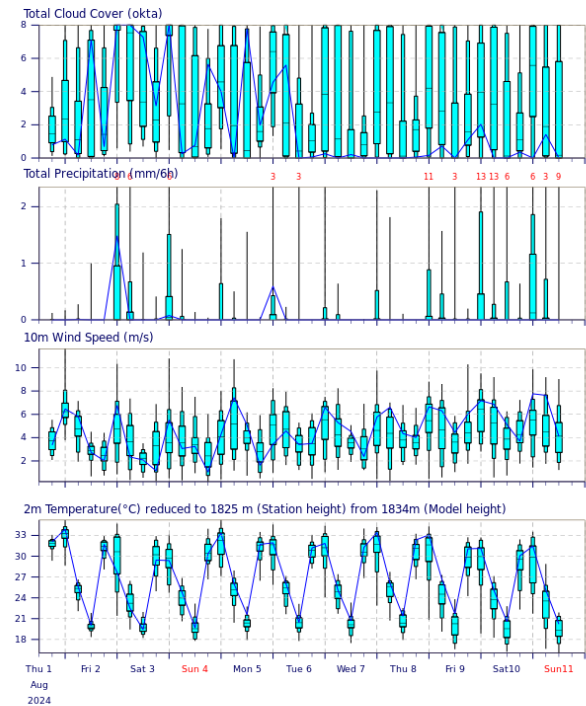
ENS Meteogram  
Taos - New Mexico - United States 36.38°N 105.61°W (ENS land point) 2129 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Tucumcari - New Mexico - United States 35.18°N 103.78°W (ENS land point) 1255 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



ENS Meteogram  
Vaughn - New Mexico - United States 34.62°N 105.23°W (ENS land point) 1825 m  
High Resolution Forecast and ENS Distribution Thursday 1 August 2024 12 UTC



A meteogram is the vertical profile of the atmosphere for a given point and its development over a time range.

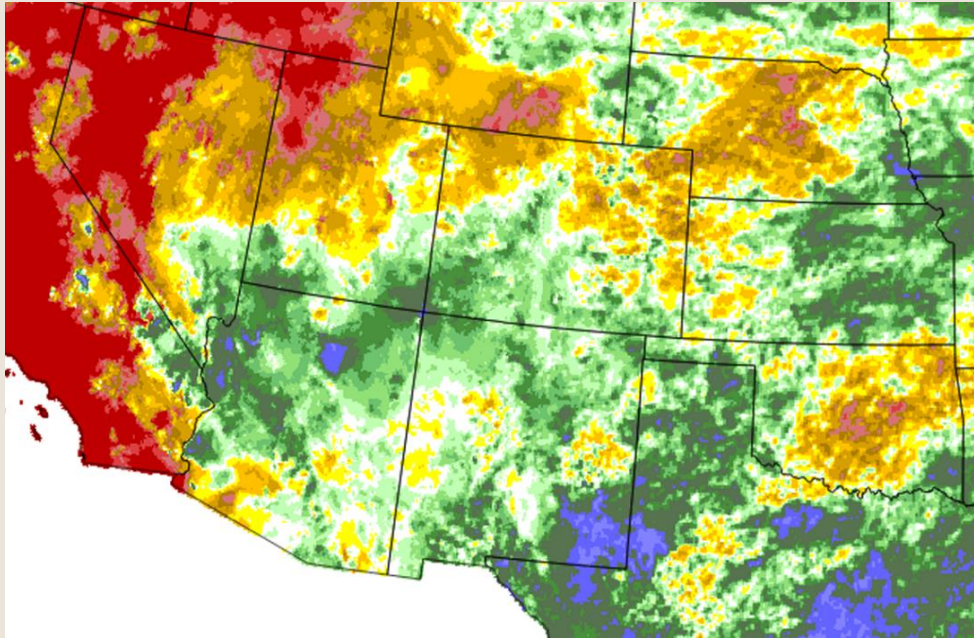


# 2024 North American Monsoon Forecast

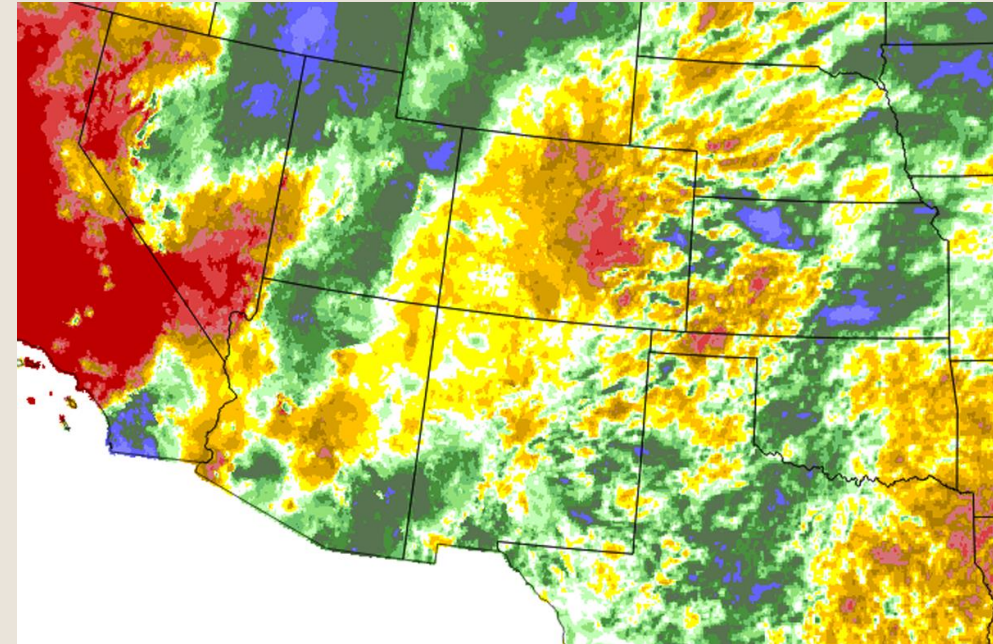
## Fire Weather Forecast For Late August and September 2024



**Albuquerque**  
WEATHER FORECAST OFFICE



**Difference from Average Rainfall in August 2016. A similar flow pattern is predicted in late July through early September 2024**



**Difference from Average Rainfall in August 2016. A similar flow pattern is predicted in late July through early September 2024**

Thunderstorm rainfall is irregular and non-uniform in nature. The image above indicates that while most of the forecast area and the state of New Mexico experienced well above average rainfall in August 2016, some areas did not. Portions of the east central plains, ABQ metro, and areas to the west of ABQ ended up drier than average. In 2016, however, it became clear that climate change, particularly abnormal sea surface temperatures and increased tropical thunderstorm activity, is impacting global weather and climate patterns (K.E. Trenberth 2022). The transition from a strong El Niño to a "cool" neutral or La Niña climate pattern increases the likelihood of above-average thunderstorm activity and resulting rainfall in New Mexico from late July through August into early September. The highly accurate weekly 500mb forecasts from the ECMWF ensemble model support the 2016 pattern and indicate that much of August 2024 will likely be wetter than average for much of northern and central New Mexico. How does this year differ from 2016? Atmospheric stretching is expected to be stronger compared to 2016, along with more available moisture in the atmosphere, known as precipitable water (PWAT), for the stretching/lift to work upon. With that said, patchy areas of critical fire weather conditions may return to the Bosque in the middle Rio Grande Valley and east central plains at times in August and particularly late September.



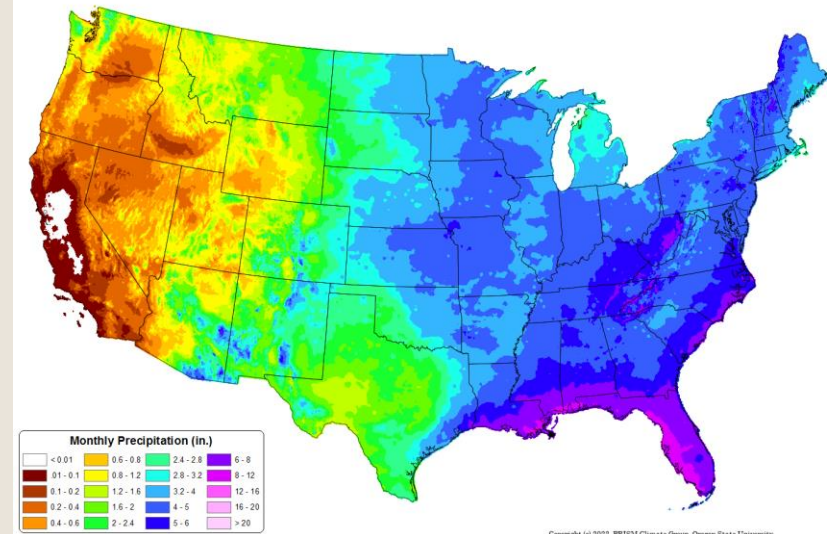
# 2024 North American Monsoon Forecast

## What is Average Precipitation During the Monsoon?

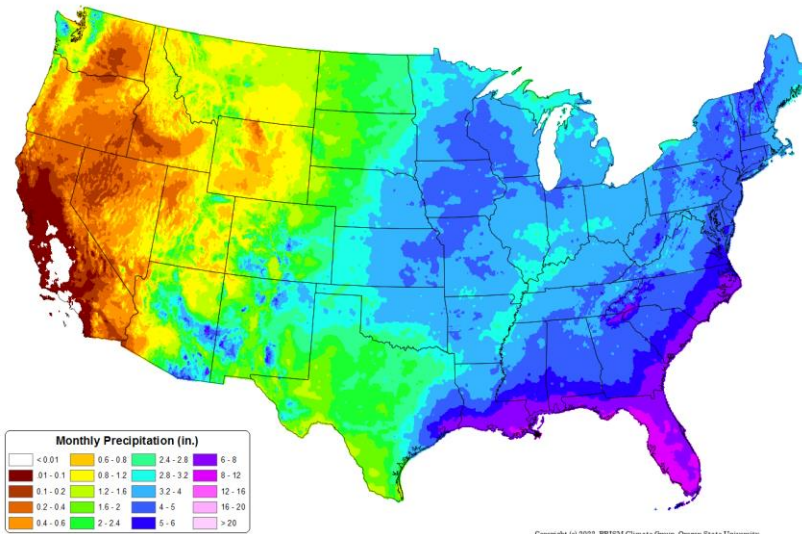


**Albuquerque**  
WEATHER FORECAST OFFICE

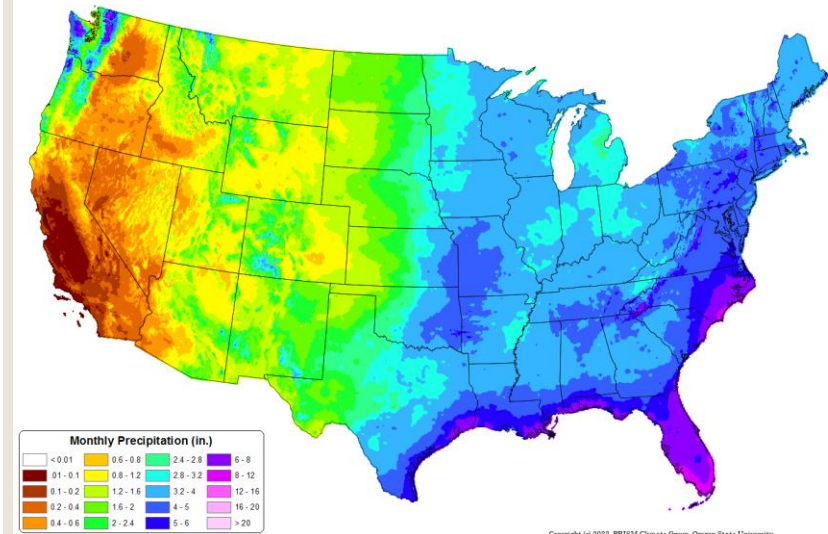
30-yr Normal Precipitation: July  
Period: 1991-2020



30-yr Normal Precipitation: August  
Period: 1991-2020



30-yr Normal Precipitation: September  
Period: 1991-2020



What is average or “normal” precipitation for each month during the monsoon? These charts show normal or average precipitation for July, August, and September.

# 2024 North American Monsoon Forecast

## 2024 Monsoon Forecast By Month



Albuquerque  
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Forecast confidence for **August** remains **high** that there will be above-average precipitation and temperatures that are near to slightly **above** average. However, not every location will experience above-normal rainfall. The direction of thunderstorm steering flow is crucial in determining which areas will receive heavy rainfall. A slight change in the flow compared to 2016 can significantly impact a location's rainfall total. For instance, a slight change in the steering flow for the Albuquerque Metro compared to that of 2016 can make all the difference in whether or not an area receives above-average rainfall. If the flow is slightly more northerly or easterly, the Albuquerque Metro can benefit from storms coming off the Jemez or Sandia Mountains.

Forecast confidence for **September** remains **moderate to high** for near to slightly above-average precipitation and **near average** temperatures during the first two weeks of the month. Southern and eastern NM stand the best chances for above-average rainfall in September. Dry westerlies are more likely over western and northern NM during the latter half of the month.

“It’s convection! Some of the brightest minds with the best available technology in the world struggle to forecast its movement and evolution.”  
Dr. Morris Weismann | National Center for Atmospheric Research (NCAR) | Mesoscale & Microscale Meteorology Laboratory | Boulder, CO  
1998.

\*Red indicates a change from previous forecast



# 2024 North American Monsoon Forecast



Albuquerque  
WEATHER FORECAST OFFICE

- Outlook provided by National Weather Service Forecast Office Albuquerque, NM.
- [Comments? Questions? Please contact us.](#) (505) 243-0702