



# Current Climate Trends - October 2024

10/19/24

Chip Redmond - Assistant Meteorologist, Mesonet Manager



Hi, my name is  
Chip.

## WEATHER

Tells you what to wear each day



## CLIMATE

Tells you what types of clothes to have in your closet



NOAA National Centers for Environmental Information

www.ncei.noaa.gov

Kansas Mesonet - Kansas State University, Kansas Research and Extension

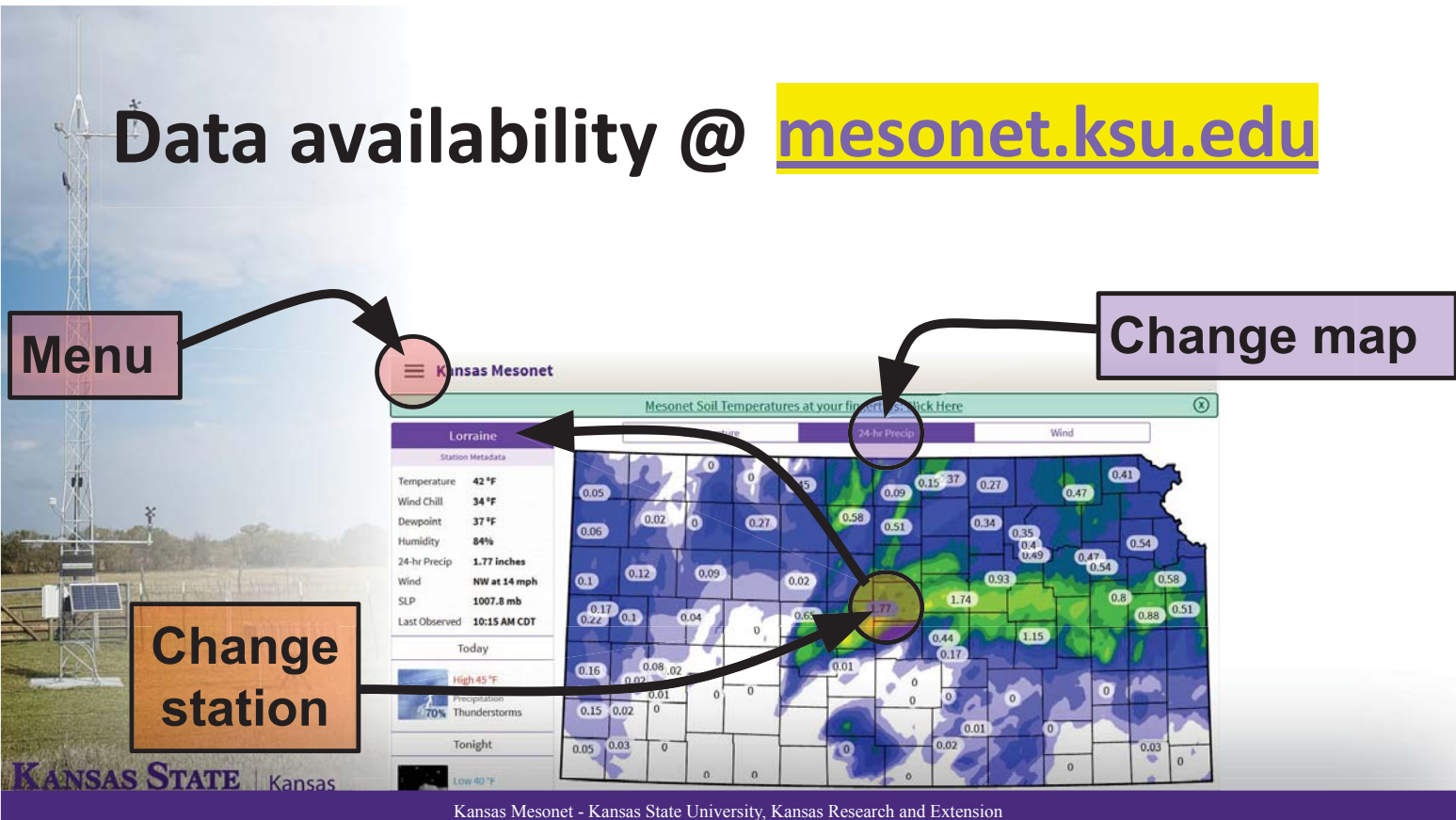
# Data availability @ [mesonet.ksu.edu](http://mesonet.ksu.edu)

Menu



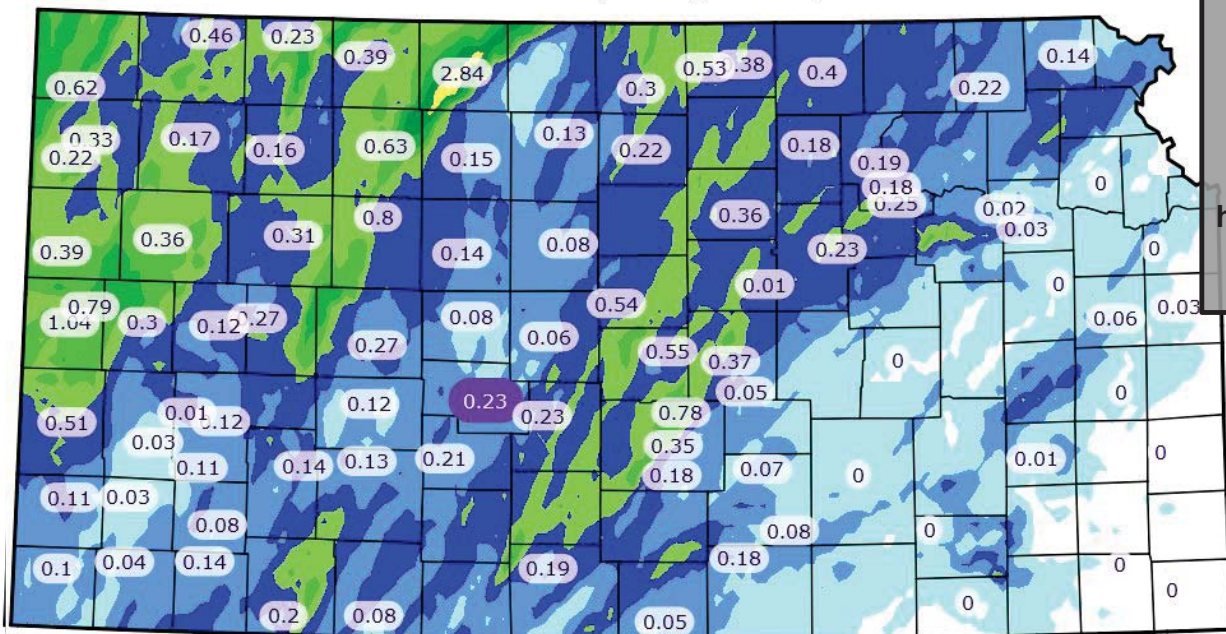
Change map

Change station



Kansas Mesonet - Kansas State University, Kansas Research and Extension

Observed - 14 Days Through Yesterday

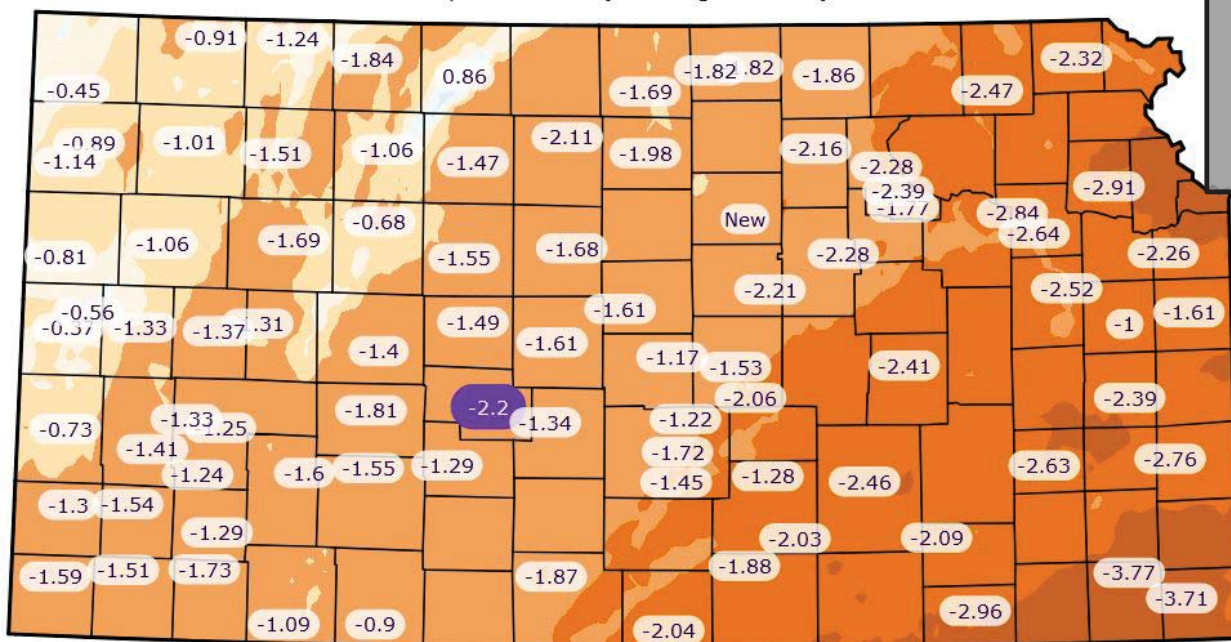


Mesonet Data - Precip (in) at Oct 22 2024 08:15 (CDT)

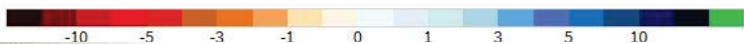


Precipitation earlier this week was the first measurable moisture in quite some time. Unfortunately, highest totals were isolated.

Departure - 30 Days Through Yesterday

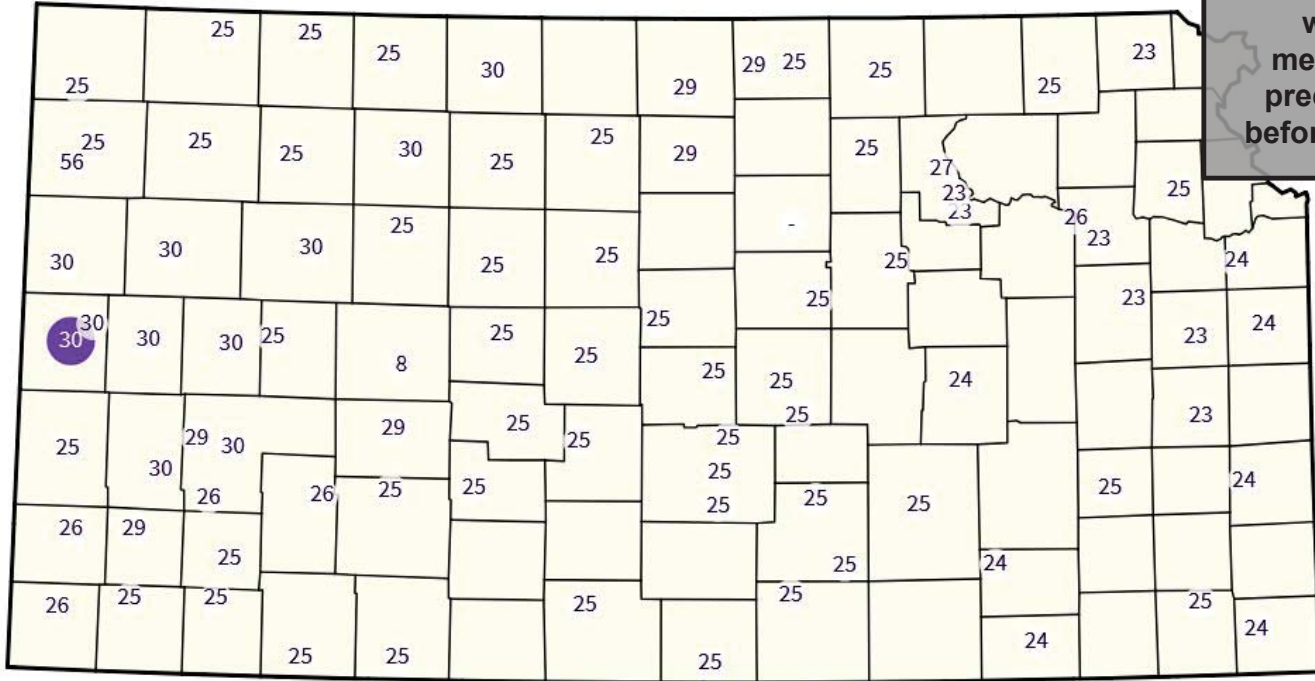


Mesonet Data - Precip (in) at Oct 22 2024 08:15 (CDT)



Considering this event, it didn't do much to improve the deficit of moisture over the last 30 days.

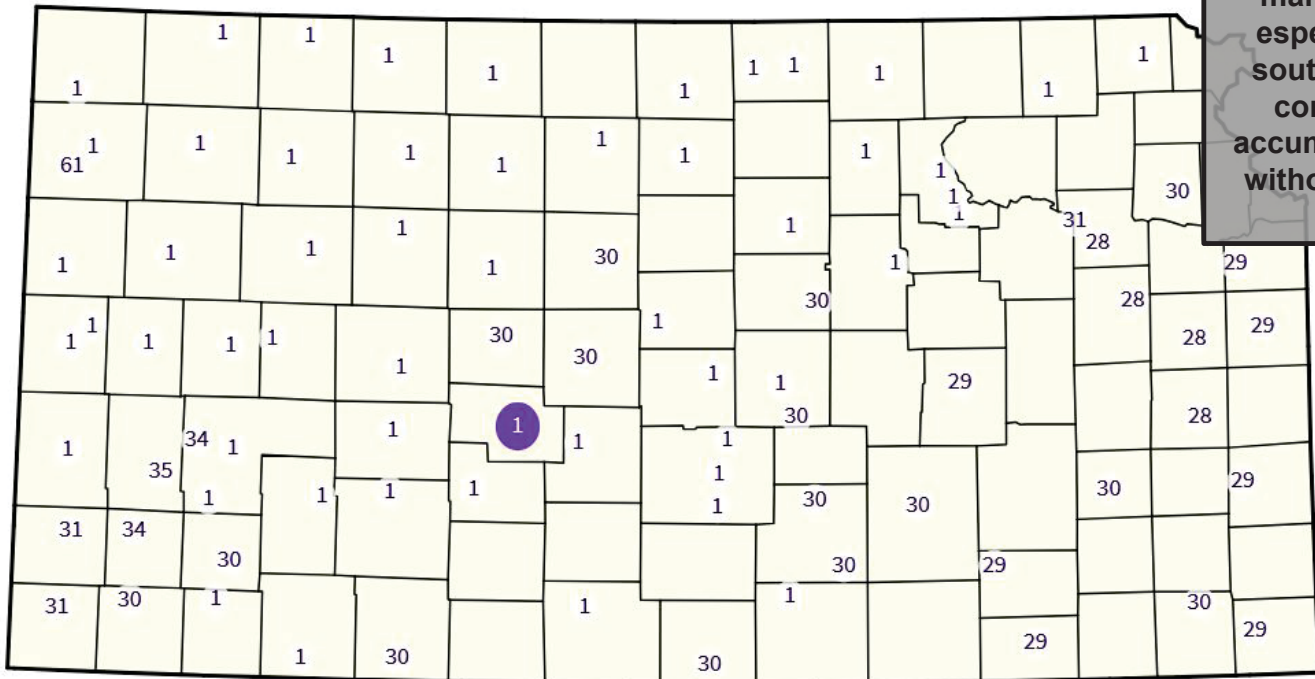
Consecutive Days Since .10"



So, most locations were 25-30 days without measurable precipitation before Monday.

Mesonet Data - Days Since .10" at Oct 17 2024 08:55 (CDT)

Consecutive Days Since .10"



Still, there are many places, especially the southeast that continue to accumulate days without wetting rains.

Mesonet Data - Days Since .10" at Oct 22 2024 08:15 (CDT)

**Number of Consecutive Days Precipitation < 0.1  
for GOODLAND RENNER FIELD, KS**

Click column heading to sort ascending, click again to sort descending.

Rank	Run Length	Ending Date
1	185	1951-04-04
2	131	1933-03-04
3	122	1946-03-04
4	121	1997-02-05
5	120	1970-03-17
6	110	1968-04-18
7	103	1990-01-18
8	97	2018-01-09
9	93	1981-01-28
-	93	1957-02-21

Period of record: 1895-06-01 to 2024-10-16

**Number of Consecutive Days Precipitation < 0.1  
for MANHATTAN, KS**

Click column heading to sort ascending, click again to sort descending.

Rank	Run Length	Ending Date
1	87	2018-01-10
2	76	1927-12-26
3	75	1956-04-08
4	69	1996-02-26
-	69	1894-12-14
6	68	1997-02-06
-	68	1966-12-26
8	67	2001-01-13
9	65	1977-01-03
-	65	1923-02-09

Period of record: 1893-01-12 to 2024-10-17

**Number of Consecutive Days Precipitation < 0.1  
for GARDEN CITY EXP STA, KS**

Click column heading to sort ascending, click again to sort descending.

Rank	Run Length	Ending Date
1	191	1957-03-04
2	162	2018-03-18
3	129	2002-01-30
4	118	2009-03-26
5	109	2016-12-25
6	108	2023-01-21
7	106	1975-02-17
8	100	1980-12-06
9	99	1970-03-15
10	98	1950-02-28

Period of record: 1948-08-01 to 2024-10-16

**Number of Consecutive Days Precipitation < 0.1  
for PARSONS 2 NW, KS**

Click column heading to sort ascending, click again to sort descending.

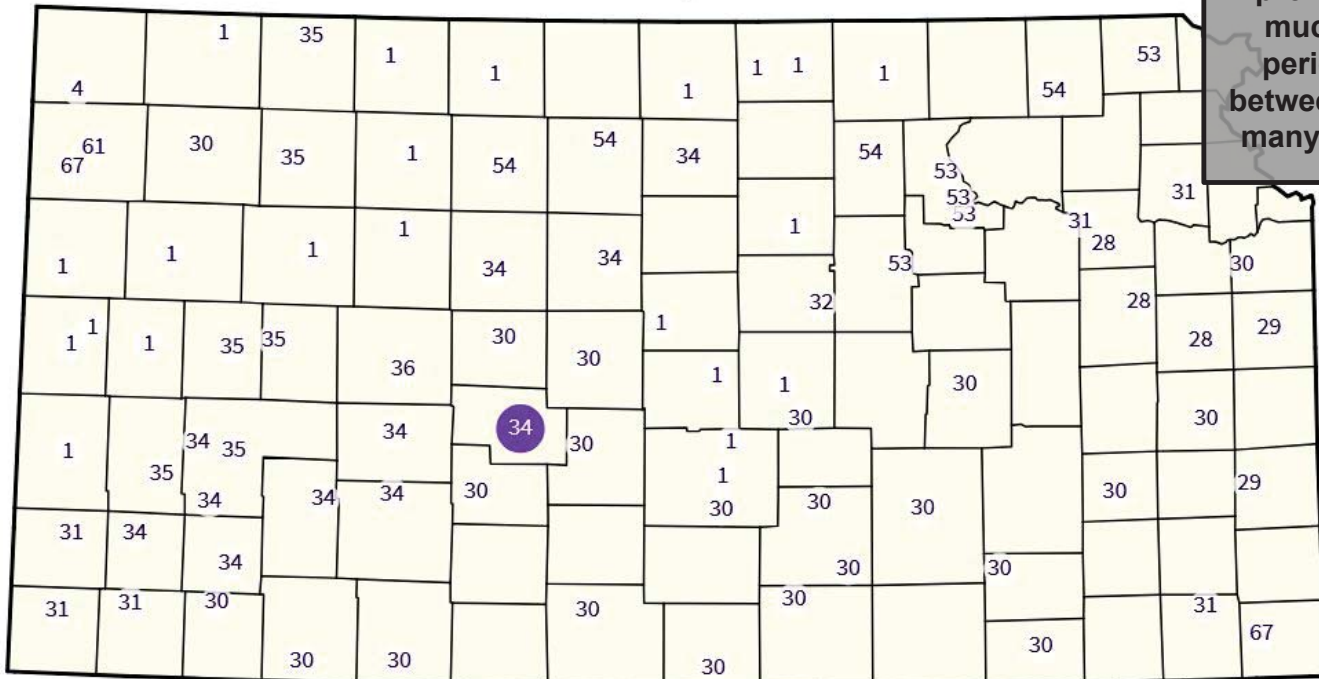
Rank	Run Length	Ending Date
1	90	1951-01-01
2	79	1965-12-09
3	67	1977-01-05
4	59	1989-12-28
5	56	1955-11-30
6	55	2006-01-09
7	54	1936-02-24
8	53	1954-12-26
9	50	1964-01-30
10	49	1983-08-22

Last value also occurred in one or more previous years.

Period of record: 1925-01-01 to 2024-10-15

While it has been dry, this period is well short of dry streak records. However, most of the driest periods in Kansas history have started in Sept/Oct. There is some climate normalcy for a very dry Sept/Oct.

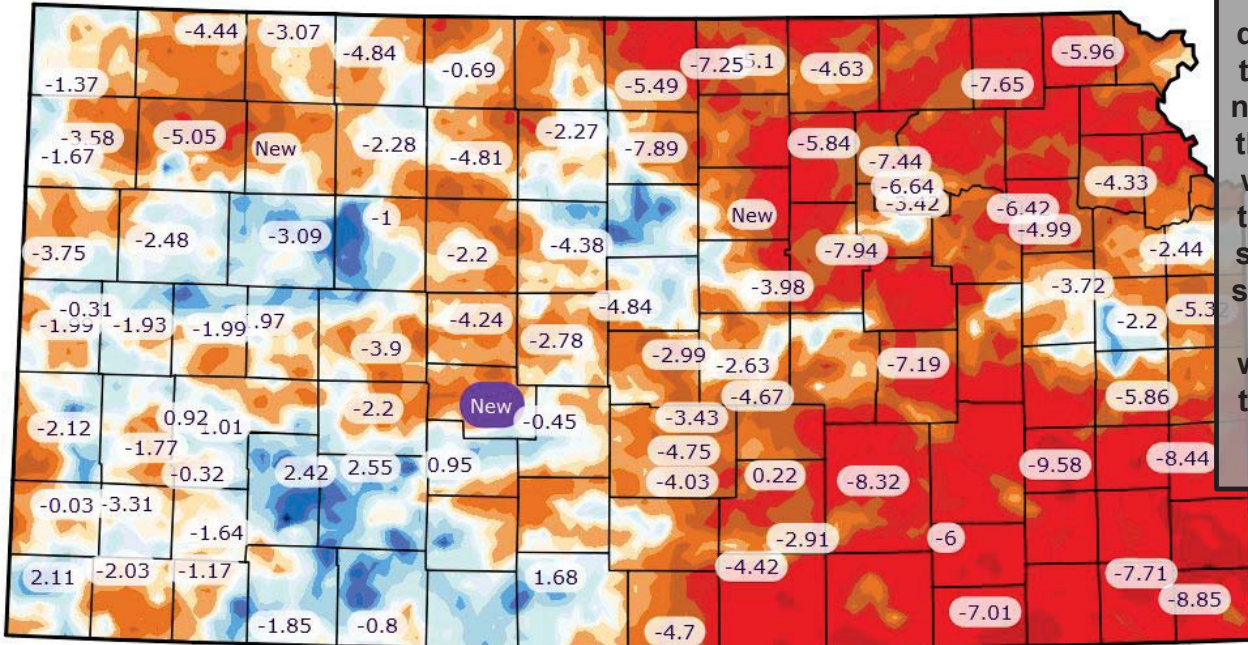
Consecutive Days Since .25"



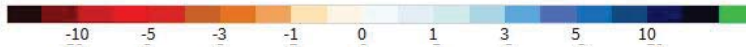
Mesonet Data - Days Since .25" at Oct 22 2024 08:15 (CDT)

Again, some improvements, but much longer periods exist between 0.25" for many locations.

Departure - 120 Days Through Yesterday



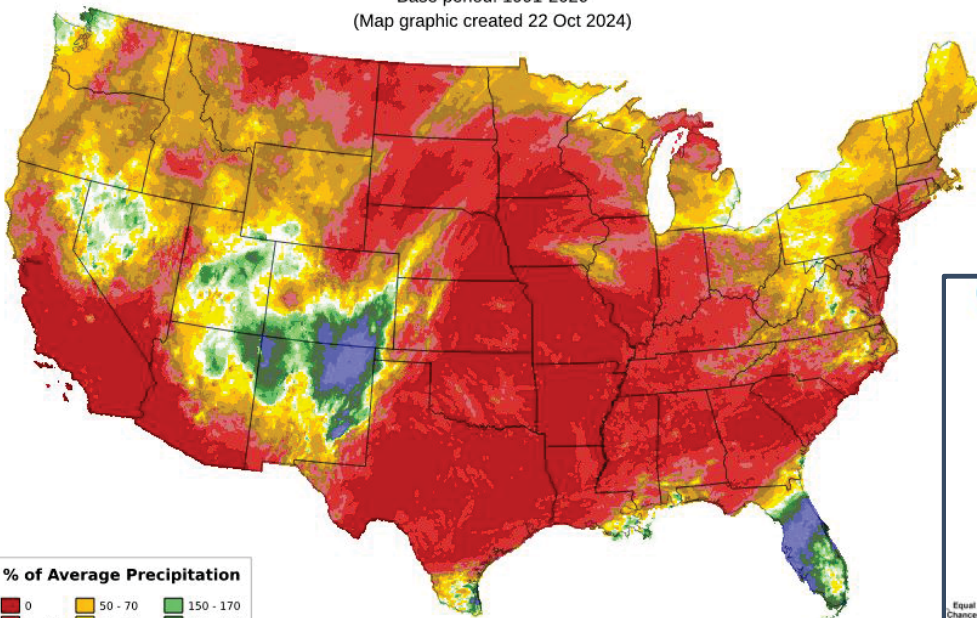
Mesonet Data - Precip (in) at Oct 22 2024 08:15 (CDT)



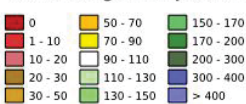
What areas did see some long term dry improvements this summer have now been offset by these very dry few weeks. Gradually, the conditions are shifting to not just short term drought but long term as well. Even despite this weeks limited moisture.

Total Precipitation Anomaly: 01 Oct 2024 - 21 Oct 2024

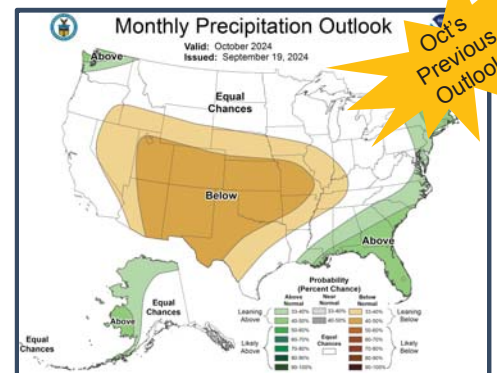
Period ending 7 AM EST 21 Oct 2024  
Base period: 1991-2020  
(Map graphic created 22 Oct 2024)



% of Average Precipitation



Kansas isn't the only dry location. In fact, most of the US hasn't measured any precipitation YET for Oct. This is pretty well in line with what the CPC was forecasting. Monday's event stands out.



Oct's Previous Outlook

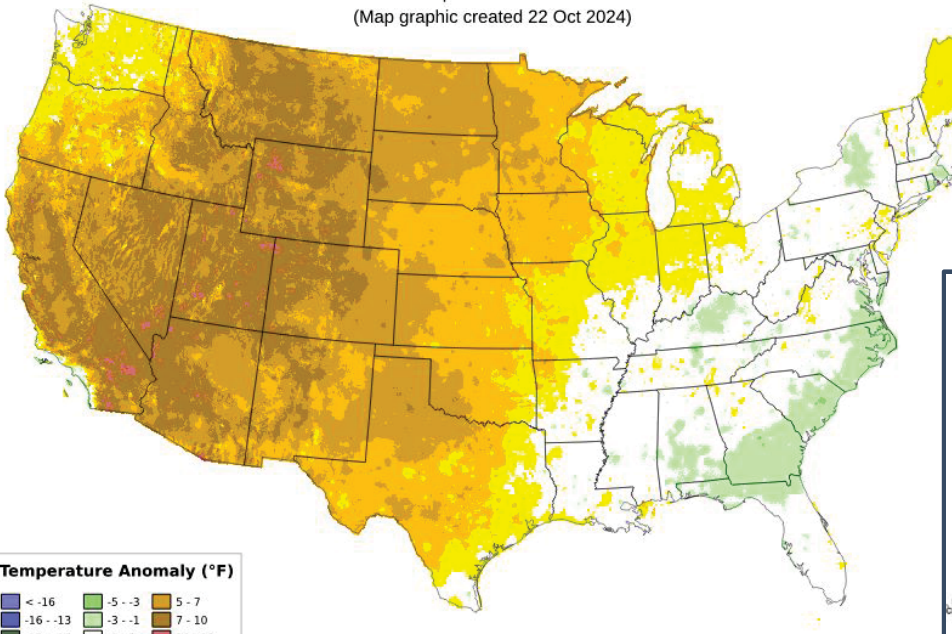
Copyright (c) 2024, PRISM Climate Group, Oregon State University

Daily Mean Temperature Anomaly: 01 Oct 2024 - 21 Oct 2024

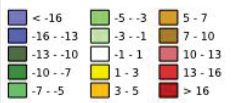
Period ending 7 AM EST 21 Oct 2024

Base period: 1991-2020

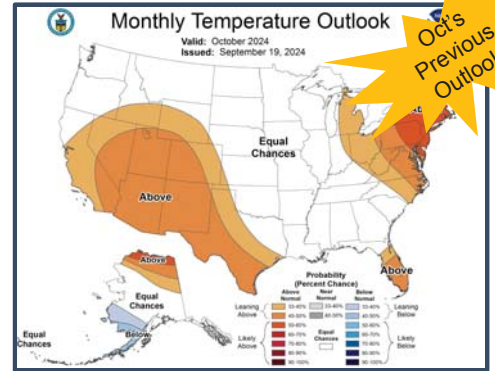
(Map graphic created 22 Oct 2024)



Temperature Anomaly (°F)

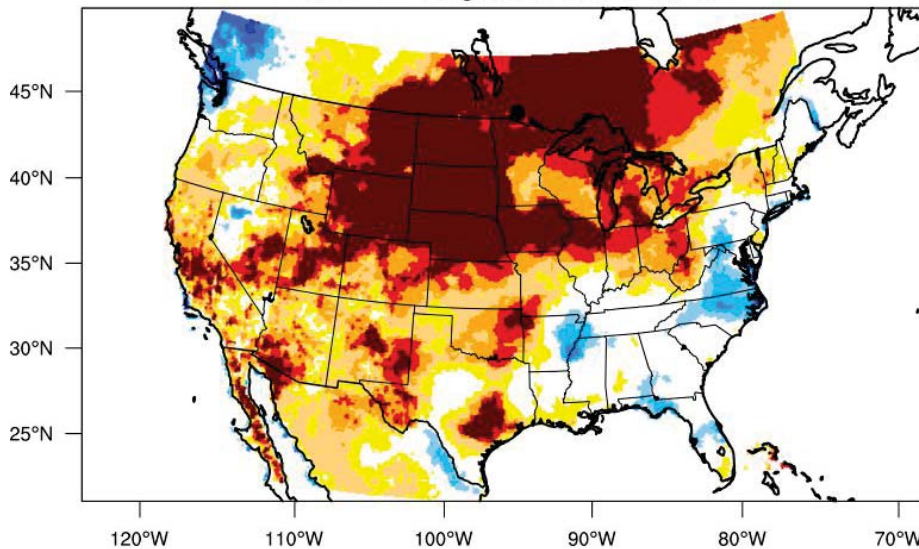


Making the dry period more impactful was the warmth that coincided. Widespread warmer than normal temperatures have taken hold of much of the US. More so than forecasted in the outlook last month.

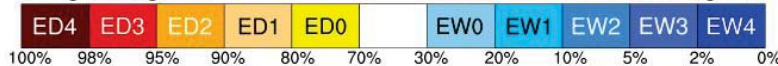


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1-month EDDI categories for October 12, 2024



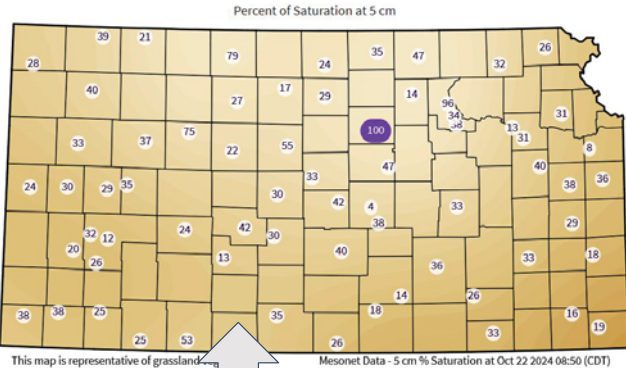
Drought categories



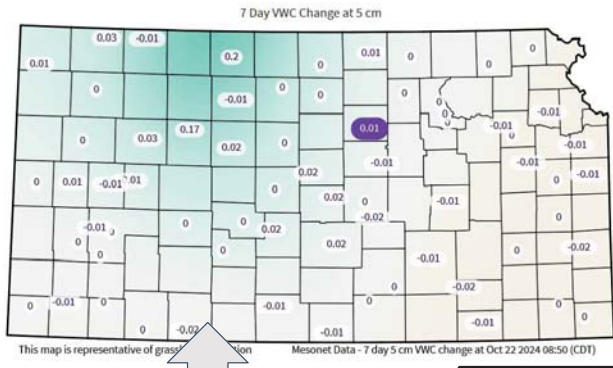
(EDDI-percentile category breaks: 100% = driest; 0% = wettest)

When we combine these warm conditions with the dryness - then toss in some wind, atmosphere has had a significant moisture demand. This has resulted in rapid drying of vegetation, increased drought stress and depletion of surface soil moisture.

Generated by NOAA/ESRL/Physical Sciences Laboratory

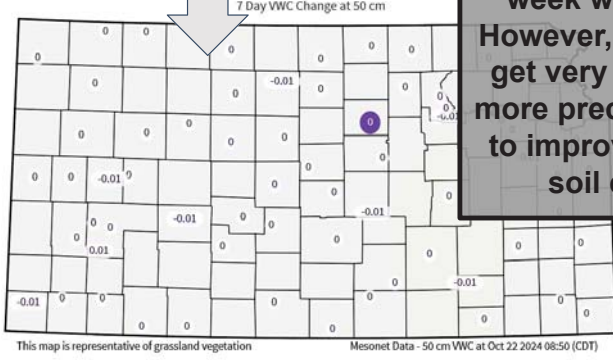


Current 2" (above) and 20" (below) % of saturation



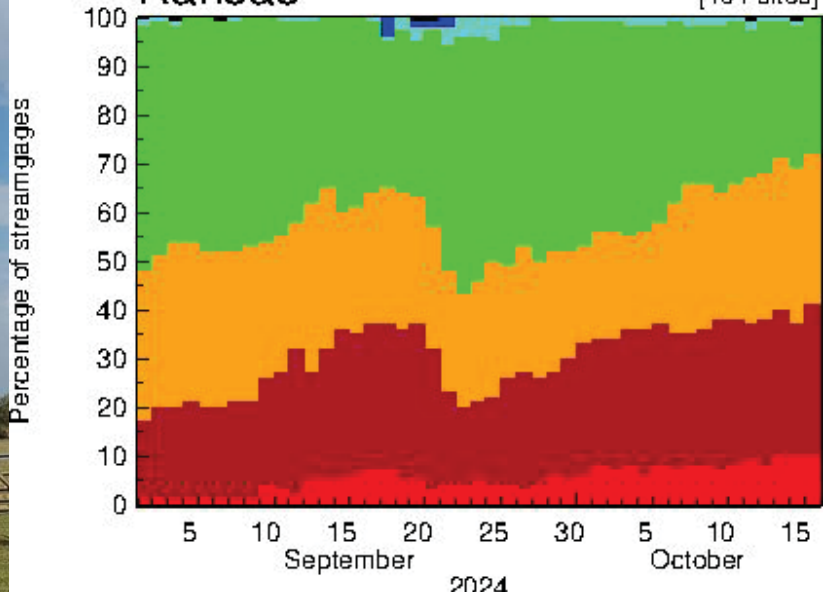
7 day change in water content

Soil moisture has been slightly improved this week where it rained. However, moisture didn't get very deep. We need more precipitation events to improve drought and soil conditions.



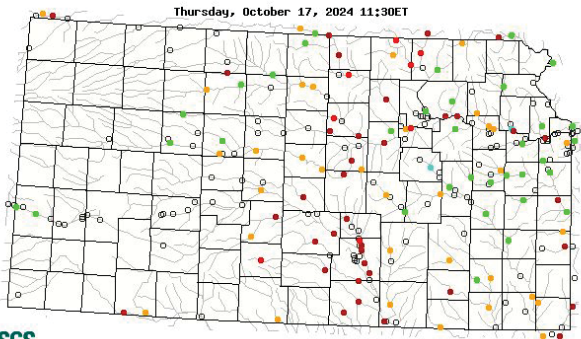
### Last 45 Days Kansas

[101 sites]



The number of streams/ivers in low flows (red) and below normal flow (orange) have increased gradually over the last month.

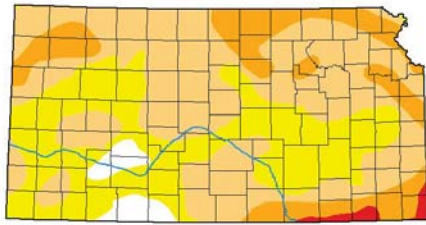
Explanation - Percentile classes						
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High





**U.S. Drought Monitor  
Kansas**

**October 15, 2024**  
(Released Thursday, Oct. 17, 2024)  
Valid 8 a.m. EDT

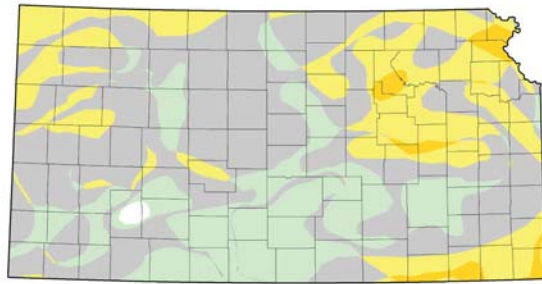


**Intensity:**  
None  
D0 Abnormally Dry  
D1 Moderate Drought  
D2 Severe Drought  
D3 Extreme Drought  
D4 Exceptional Drought

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>.

**Author:**  
Brian Fuchs  
National Drought Mitigation Center  
USDA, NDMC, NCEI/NOAA, NWS  
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

**U.S. Drought Monitor Class Change - Kansas  
4 Week**



5 Class Degradation  
4 Class Degradation  
3 Class Degradation  
2 Class Degradation  
1 Class Degradation  
No Change  
1 Class Improvement  
2 Class Improvement  
3 Class Improvement  
4 Class Improvement  
5 Class Improvement

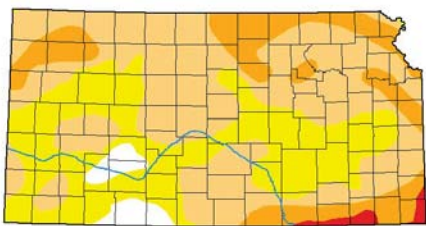
October 15, 2024  
compared to  
September 17, 2024

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

Despite areas seeing improvements in the drought monitor the last month (due to that Sept rain event), drought has overall expanded for much of northern/eastern Kansas. Extreme D3 drought was reintroduced during this period in the southeast.

**U.S. Drought Monitor  
Kansas**

**October 15, 2024**  
(Released Thursday, Oct. 17, 2024)  
Valid 8 a.m. EDT



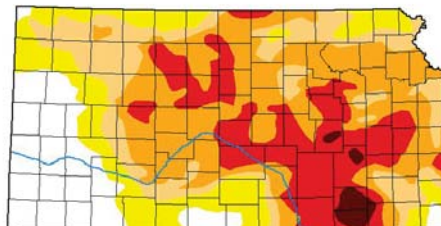
**Intensity:**  
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[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

**U.S. Drought Monitor  
Kansas**

**October 17, 2023**  
(Released Thursday, Oct. 19, 2023)  
Valid 8 a.m. EDT



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

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**Author:**  
Rocky Blotts  
NCEI/NOAA  
USDA, NDMC, NCEI/NOAA, NWS  
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

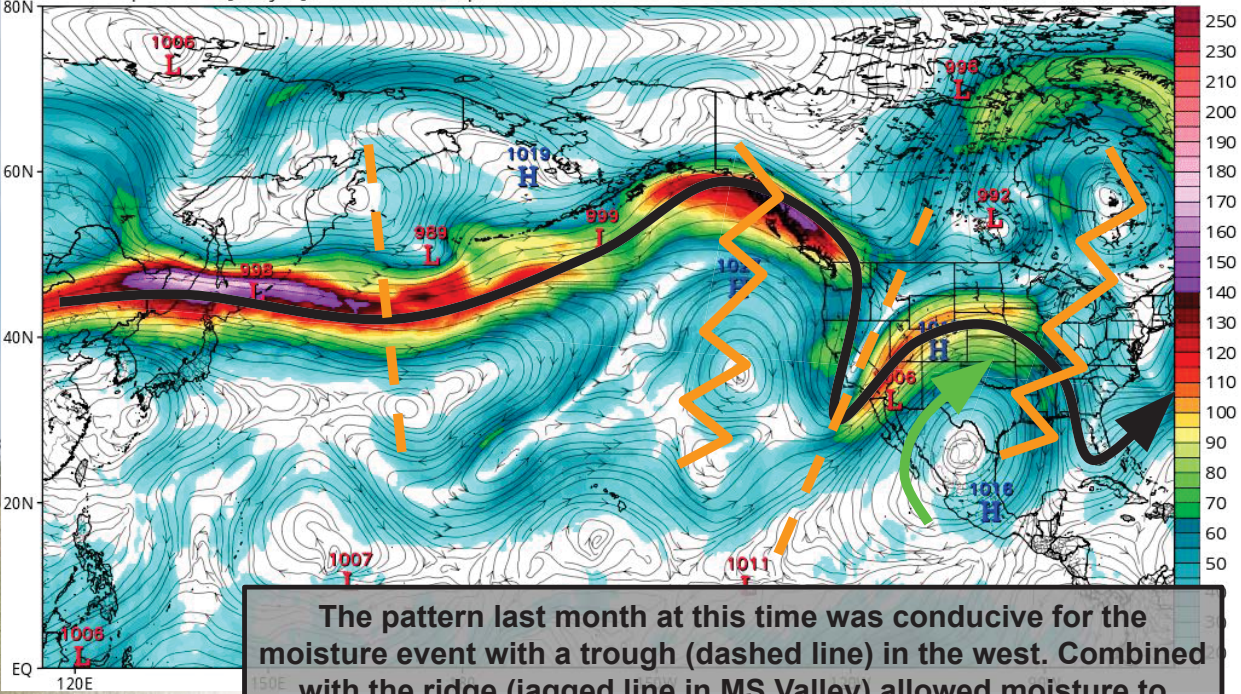
Still, compared to last year, things are much different for a lot of the state. Drought isn't as severe as it was in 2023 thus far. Unfortunately, many of the same places remain stressed as last year.



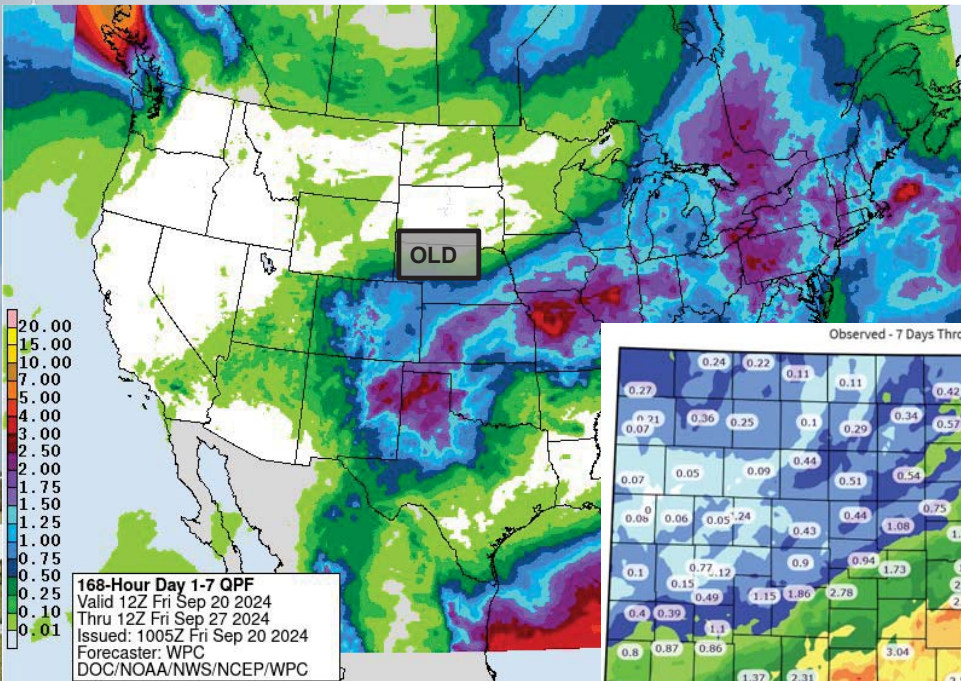
**GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)**

Init: 06z Sep 20 2024 [Analysis] valid at 06z Fri, Sep 20 2024

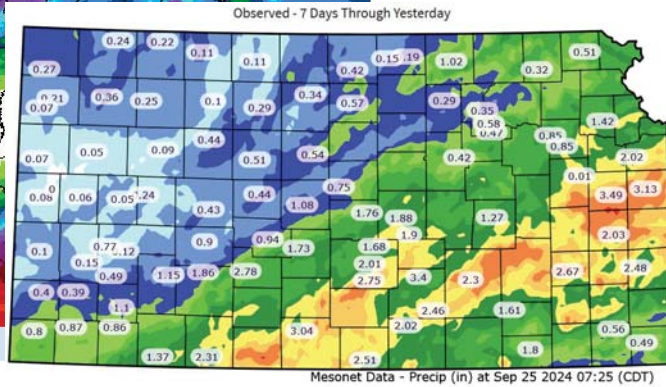
TROPICALTIDBITS.COM



The pattern last month at this time was conducive for the moisture event with a trough (dashed line) in the west. Combined with the ridge (jagged line in MS Valley) allowed moisture to stream north (green arrow) into the Plains.



Thus, we were forecasted to get the ample moisture that was observed shortly thereafter.

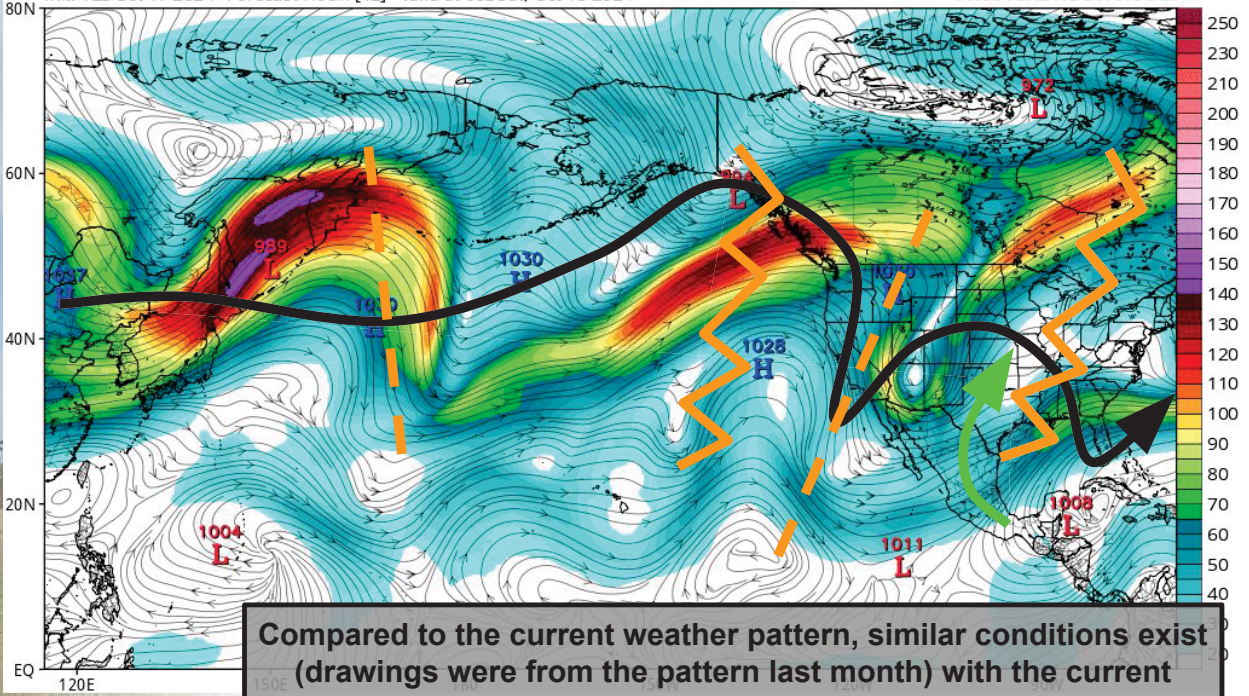




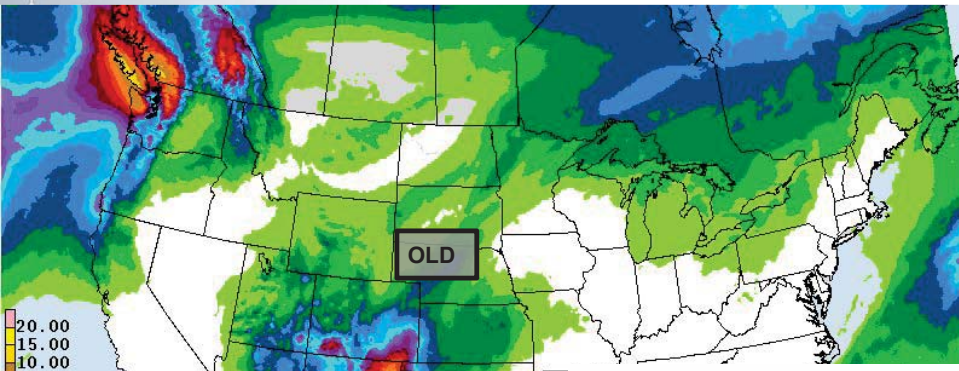
**GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)**

Init: 12z Oct 17 2024 Forecast Hour: [42] valid at 06z Sat, Oct 19 2024

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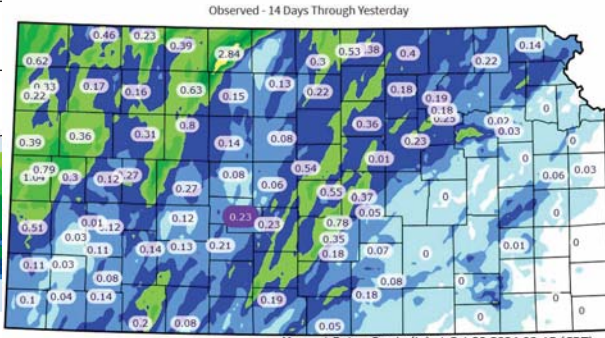


Compared to the current weather pattern, similar conditions exist (drawings were from the pattern last month) with the current upper level pattern. It is only slightly shifted east with a different trough of low pressure orientation.



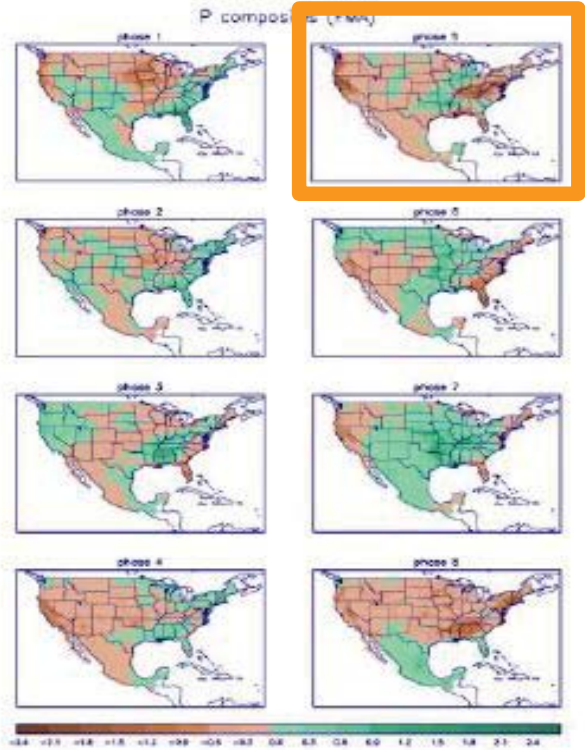
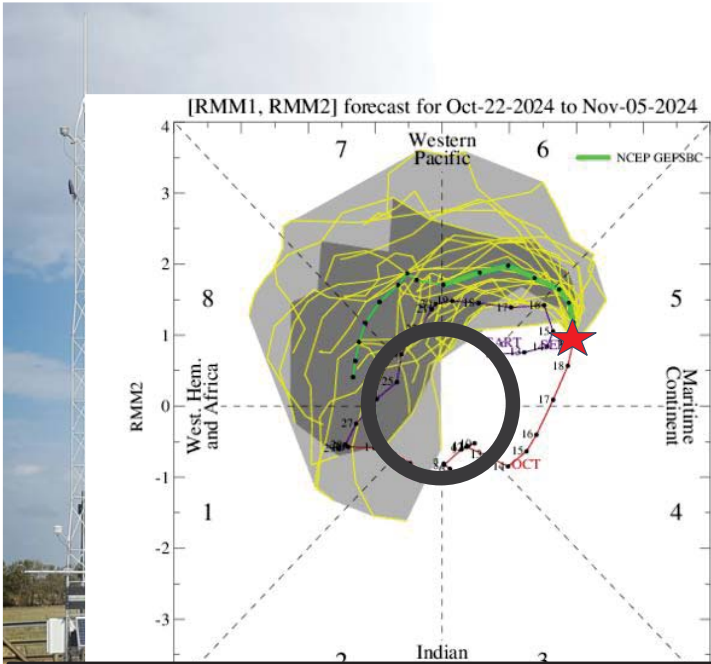
Therefore, forecasted precipitation is once again was forecasted/occurred in the Plains. Unfortunately, the bulk of heaviest totals will be west of Kansas.

**168-Hour Day 1-7 QPF**  
 Valid 12Z Fri Oct 18 2024  
 Thru 12Z Fri Oct 25 2024  
 Issued: 1001Z Fri Oct 18 2024  
 Forecaster: WPC  
 DOC/NOAA/NWS/NCEP/WPC

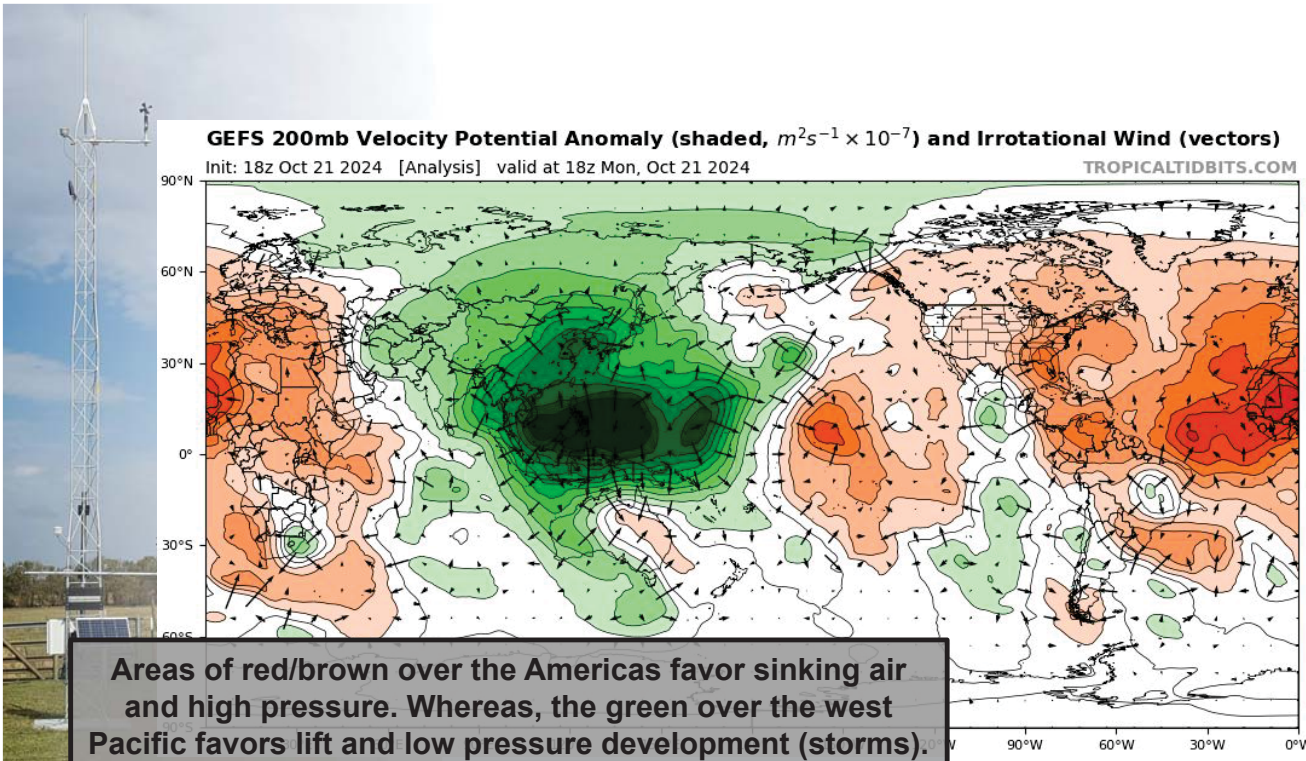


Mesonet Data - Precip (in) at Oct 22 2024 08:15 (CDT)



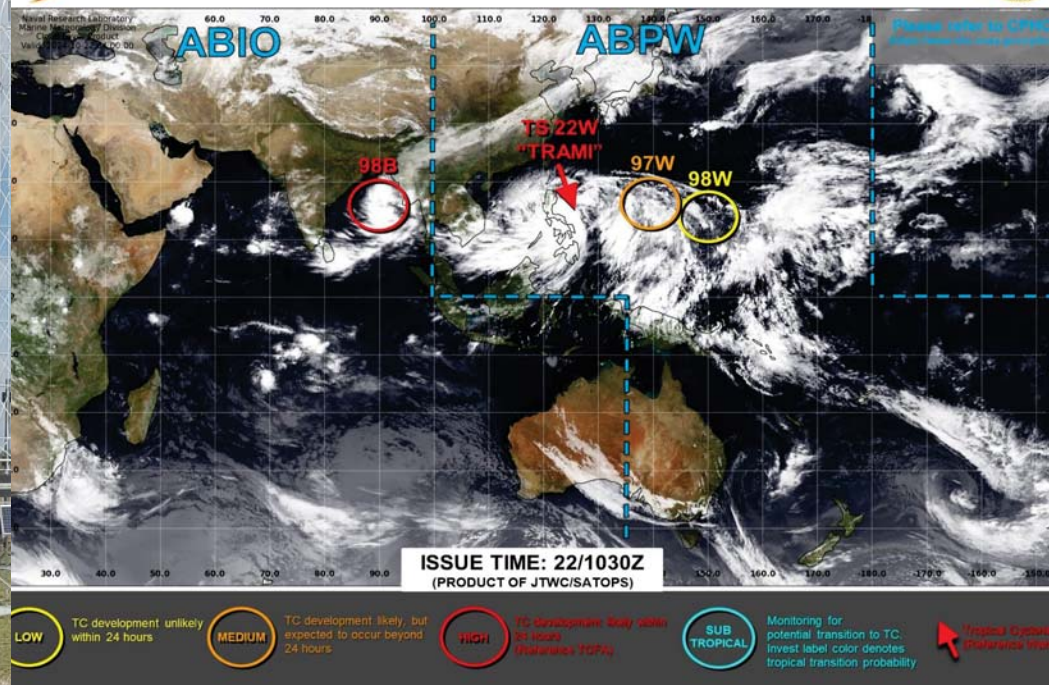


One cause of the recent dry conditions has been the status of the MJO. This area of lift, conducive for moisture remains on the other side of the globe (region 4).



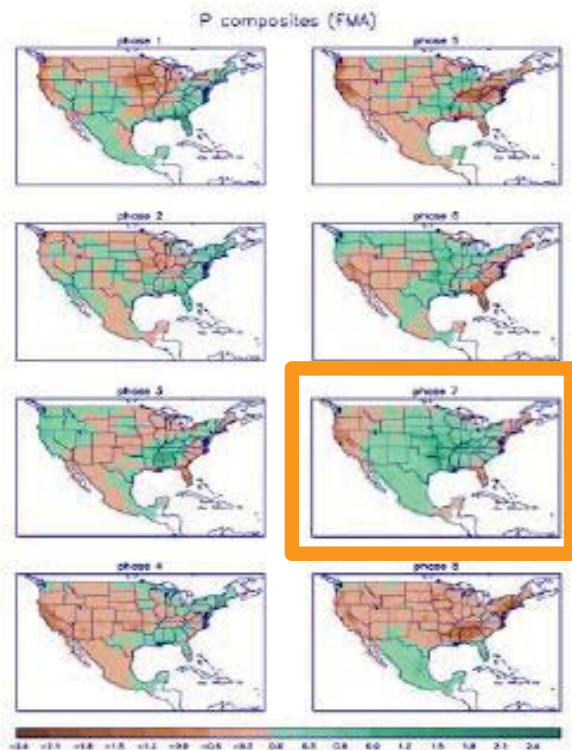
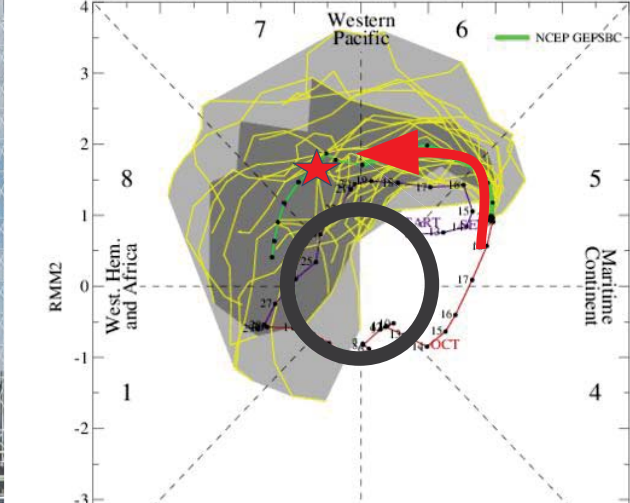
Areas of red/brown over the Americas favor sinking air and high pressure. Whereas, the green over the west Pacific favors lift and low pressure development (storms).

# JOINT TYPHOON WARNING CENTER

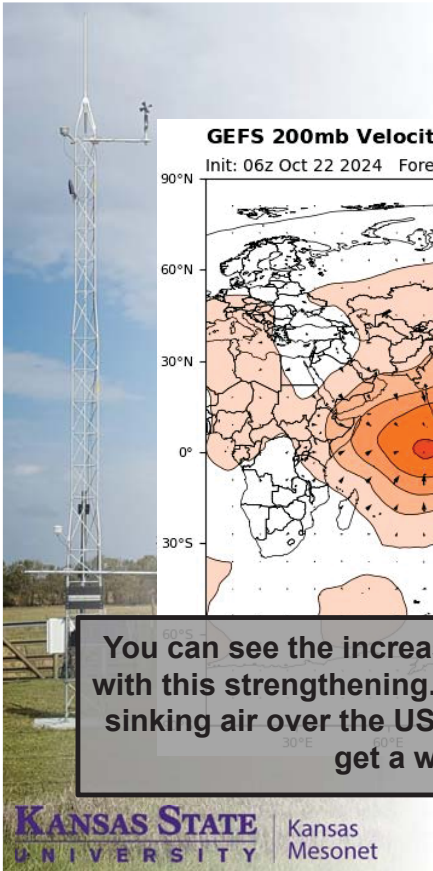


As a result of that lift in the west Pacific, there is some expected tropical activity. However, models vary greatly how it will evolve. Remember, if we can get a potent tropical storm, that could recurve and have downstream impacts on the US. Something to watch as the MJO favors development.

[RMM1, RMM2] forecast for Oct-22-2024 to Nov-05-2024



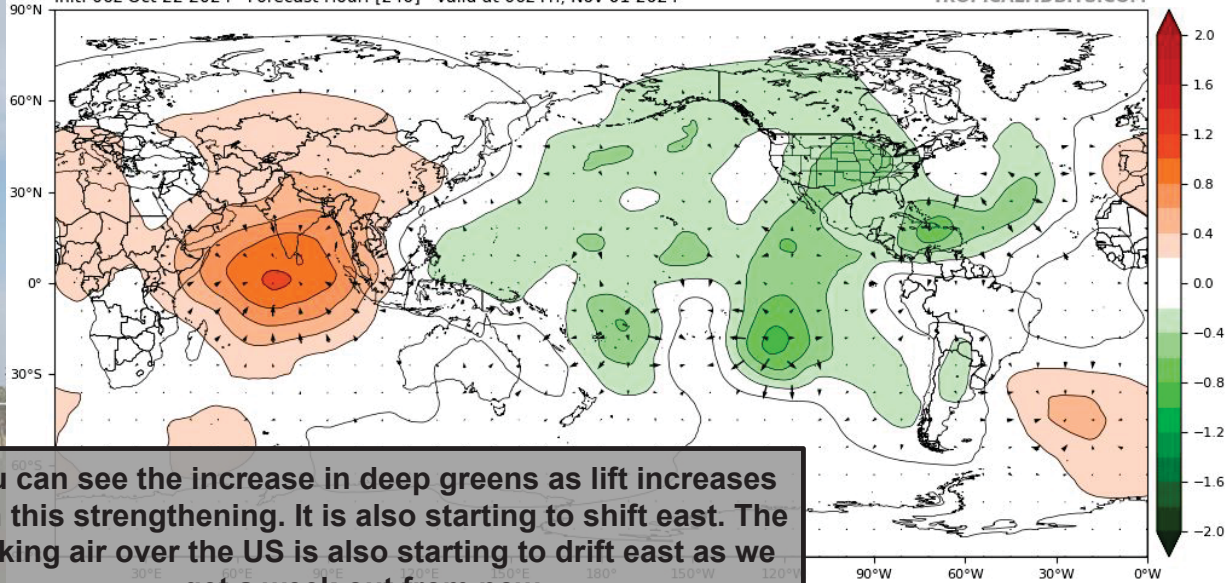
The area of lift is expected to move around the globe and strengthen (get further from the middle circle). This favors a subtle increase in moisture in the US (orange box).



**GEFS 200mb Velocity Potential Anomaly (shaded,  $m^2s^{-1} \times 10^{-7}$ ) and Irrotational Wind (vectors)**

Init: 06z Oct 22 2024 Forecast Hour: [240] valid at 06z Fri, Nov 01 2024

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You can see the increase in deep greens as lift increases with this strengthening. It is also starting to shift east. The sinking air over the US is also starting to drift east as we get a week out from now.



**Eastern Pacific Tropical Cyclones and Disturbances**

Another area to watch is Kristy in east Pacific. This will evolve into a major hurricane and potentially provide moisture into the US early Nov.

04:20 AM PDT  
Tue Oct 22 2024

www.hurricanes.gov

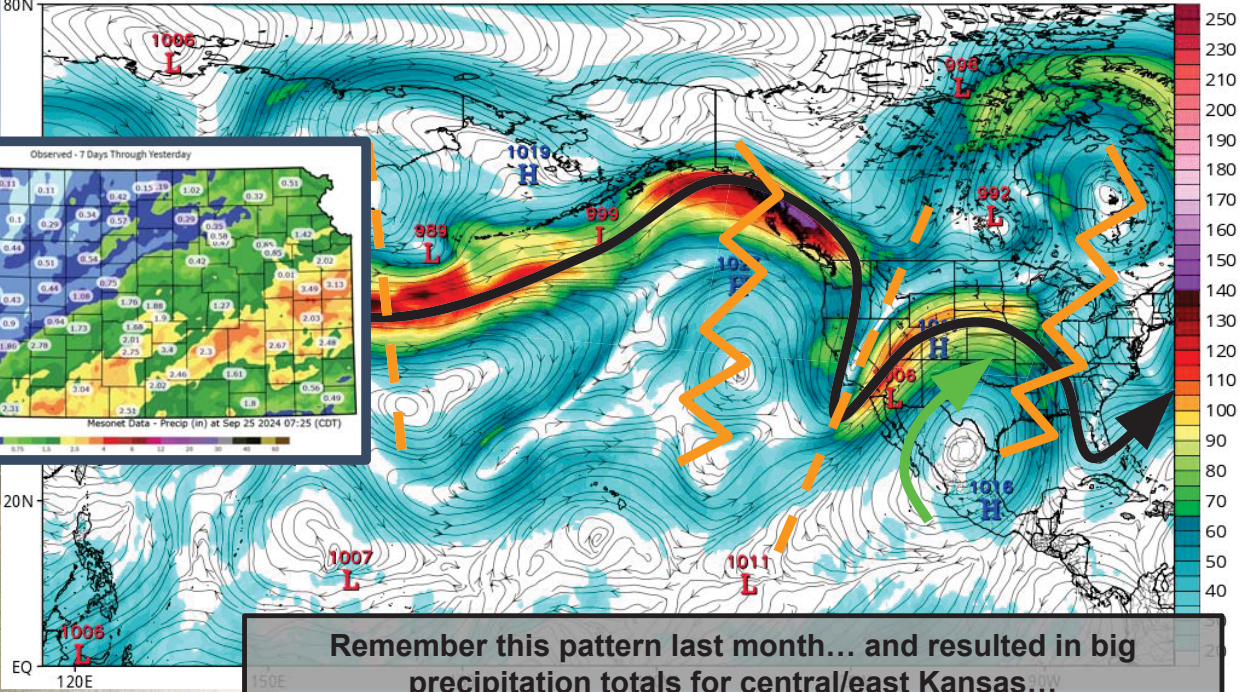
- Current Disturbances and Two-Day Cyclone Formation Chance: ✕ < 40% ✕ 40-60% ✕ > 60%
- Tropical or Sub-Tropical Cyclone: ○ Depression ⦿ Storm ⦿ Hurricane
- ⦿ Post-Tropical Cyclone or Remnants



GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)

Init: 06z Sep 20 2024 [Analysis] valid at 06z Fri, Sep 20 2024

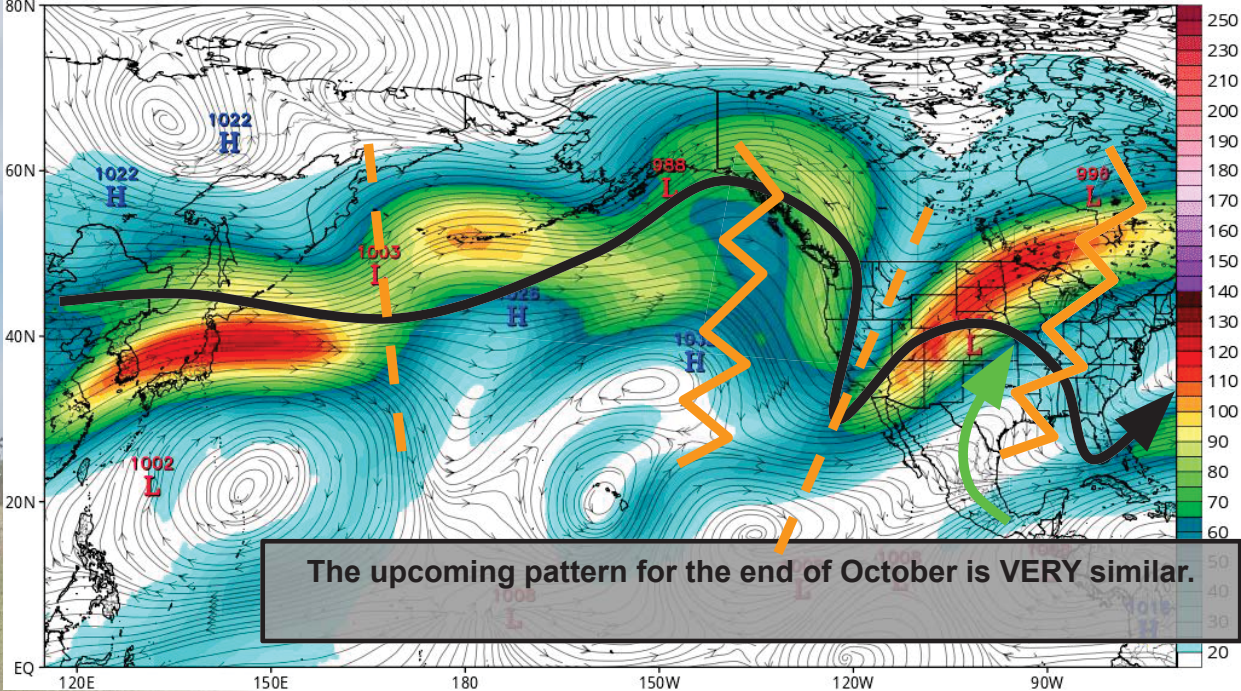
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GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)

Init: 06z Oct 22 2024 Forecast Hour: [174] valid at 12z Tue, Oct 29 2024

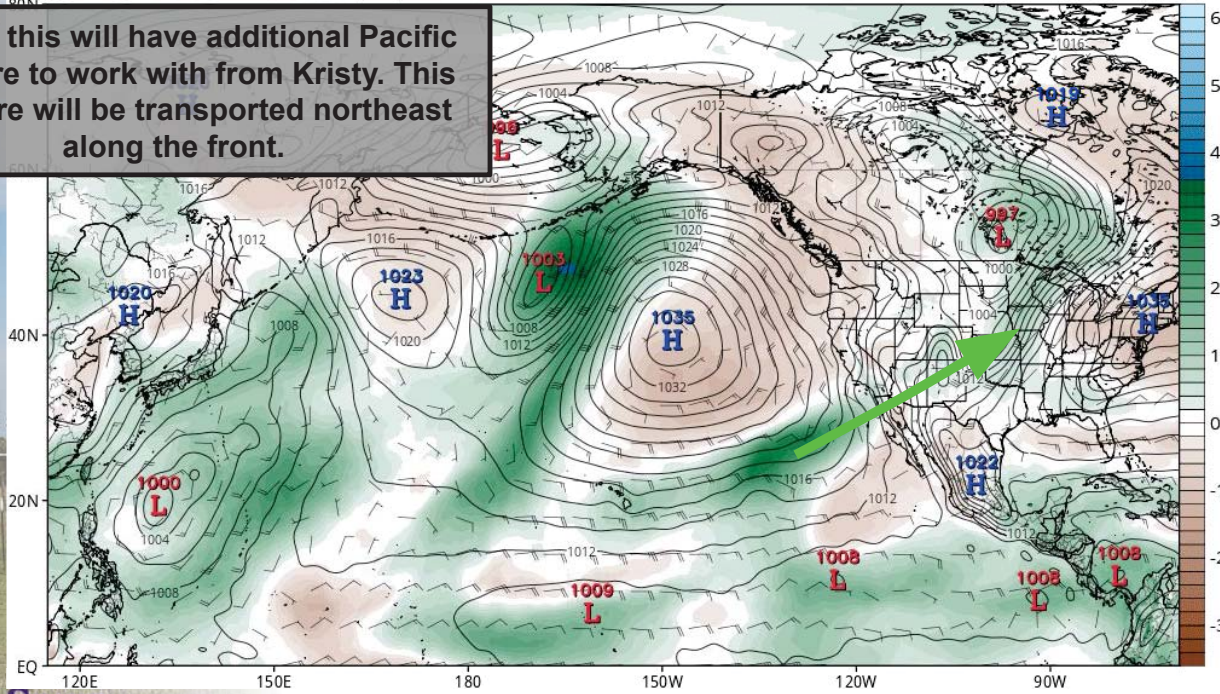
TROPICALTIDBITS.COM



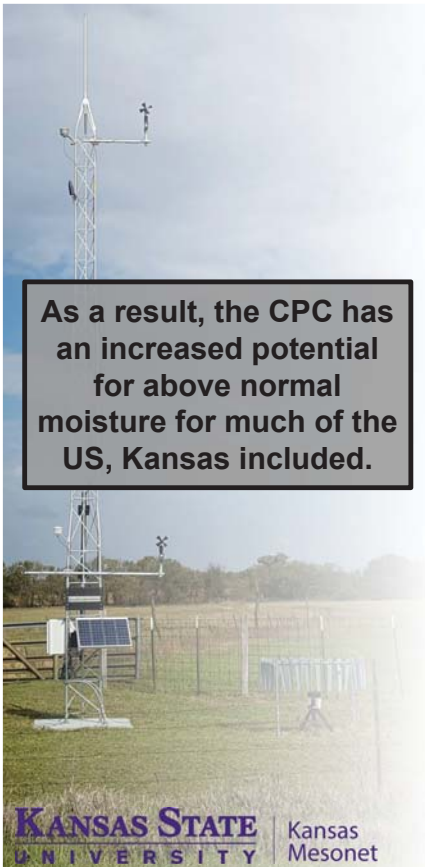
GEFS MSLP (mb), Total Precipitable Water Normalized Anomaly, & 850mb Wind (kt)  
 Init: 06z Oct 22 2024 Forecast Hour: [150] valid at 12z Mon, Oct 28 2024

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Except, this will have additional Pacific moisture to work with from Kristy. This moisture will be transported northeast along the front.

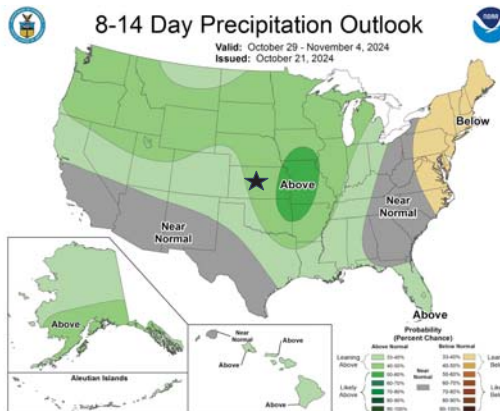
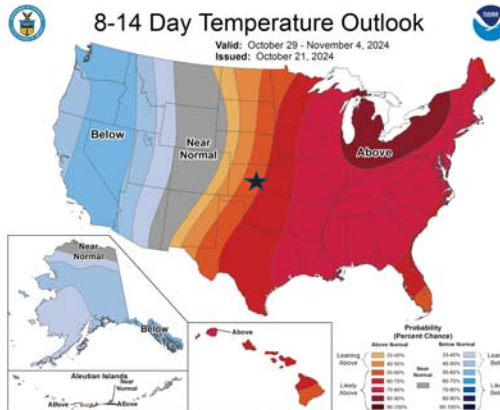


KANSAS STATE UNIVERSITY Kansas Mesonet



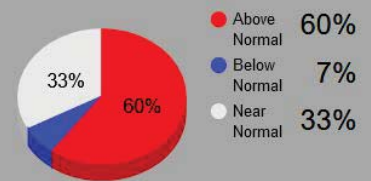
As a result, the CPC has an increased potential for above normal moisture for much of the US, Kansas included.

KANSAS STATE UNIVERSITY Kansas Mesonet

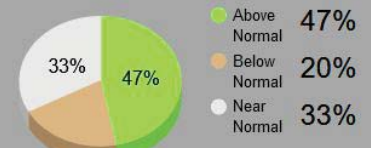


#### 7 Day Forecast for Gypsum, KS

Three Category Temperature Outlook  
 Normal Maximum Temperature: 61  
 Normal Minimum Temperature: 38

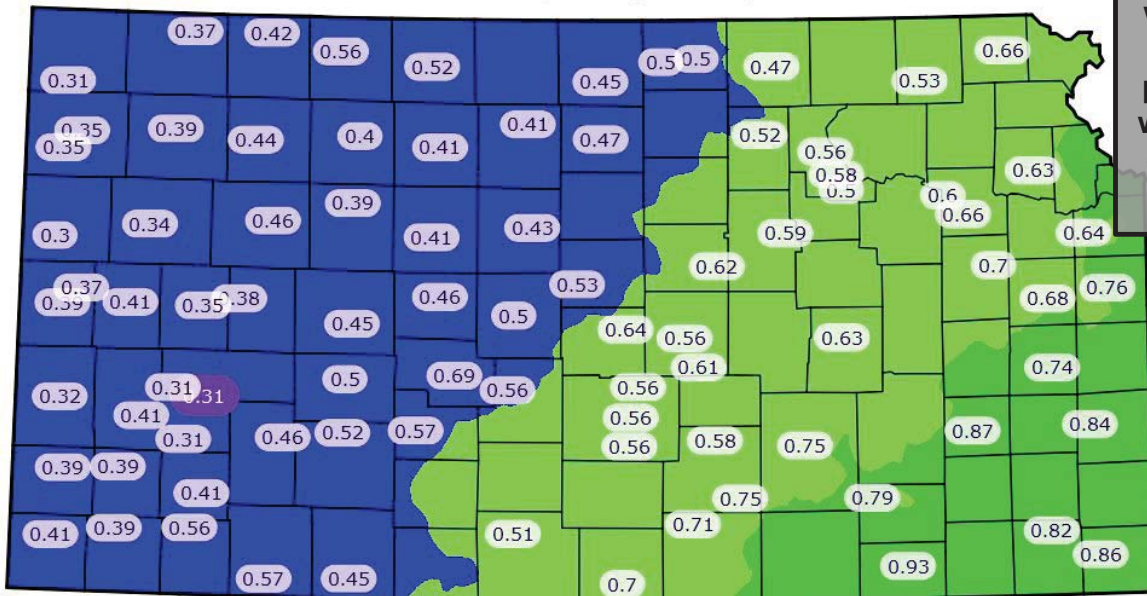


Three Category Precipitation Outlook  
 Normal Precipitation: 0.47





Normal - 7 Days Through Yesterday



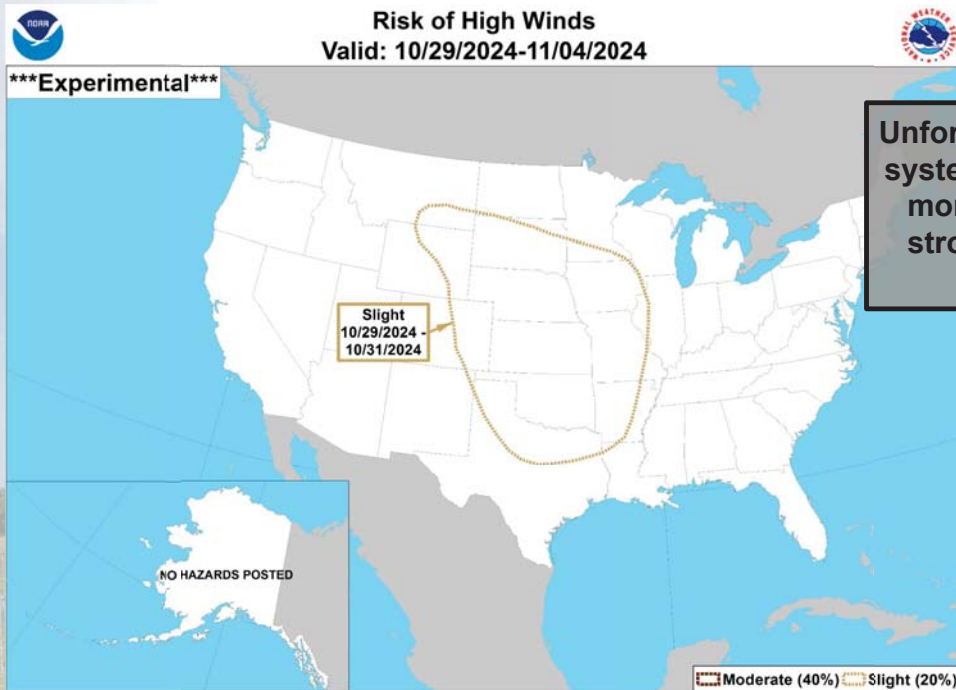
Mesonet Data - Precip (in) at Oct 18 2024 08:40 (CDT)



Average precipitation is falling about 0.05"-0.1" a week. This is the last 7 days normal precipitation. Consider we are approaching the driest time of the year, winter.



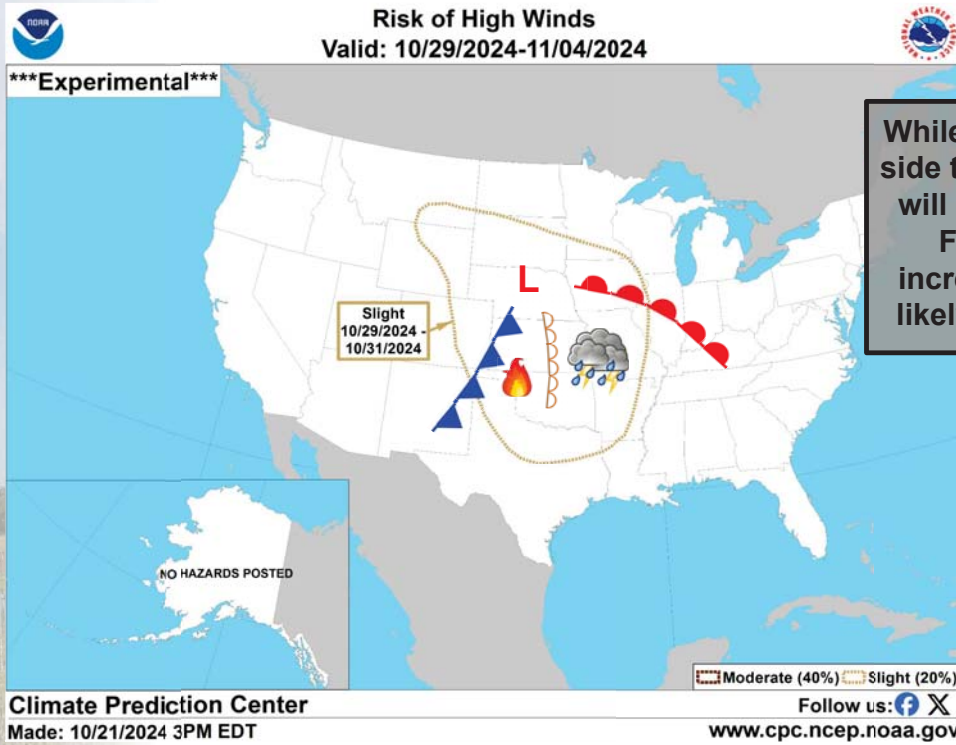
Risk of High Winds  
Valid: 10/29/2024-11/04/2024



Unfortunately, this storm system at the end of the month will result in a strong wind event as well.

Climate Prediction Center  
Made: 10/21/2024 3PM EDT

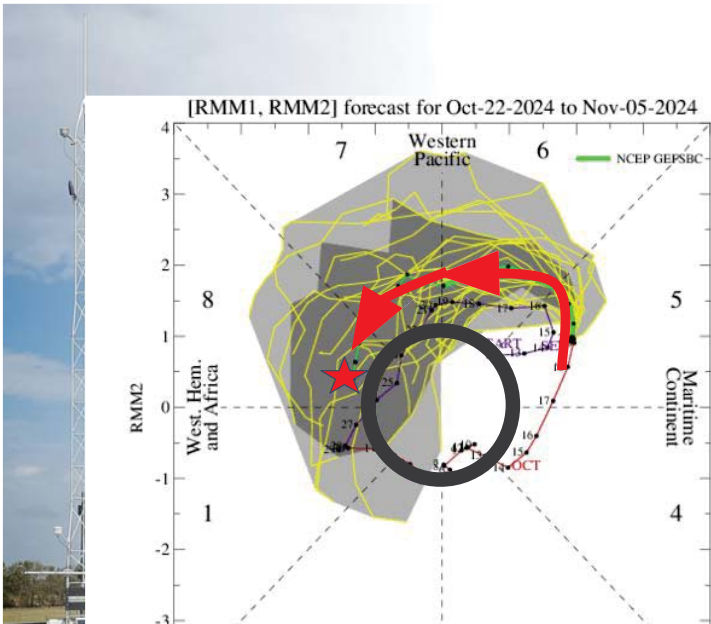
Follow us:   
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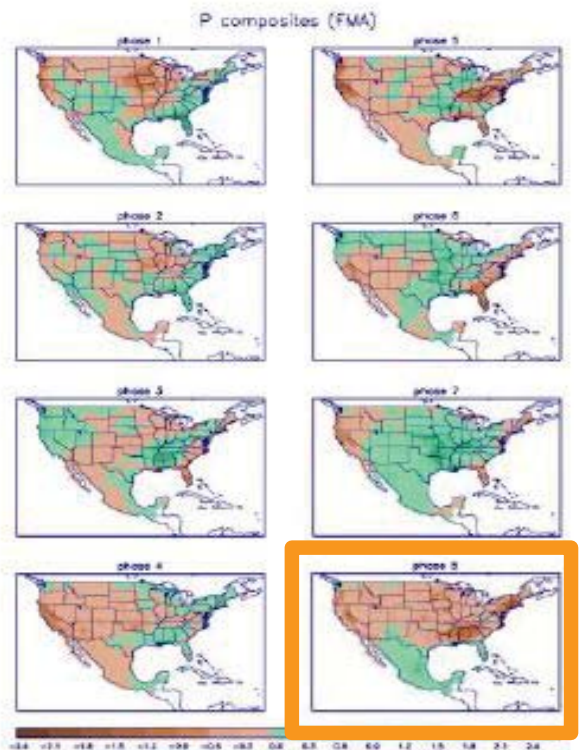
While there will be a wet side to the system, there will also be a dry side. Fire concern will increase as well, most likely western Kansas.

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The MJO is expected to continue progressing across the globe. We will enter a drier phase (8) again after the Oct/early Nov system.



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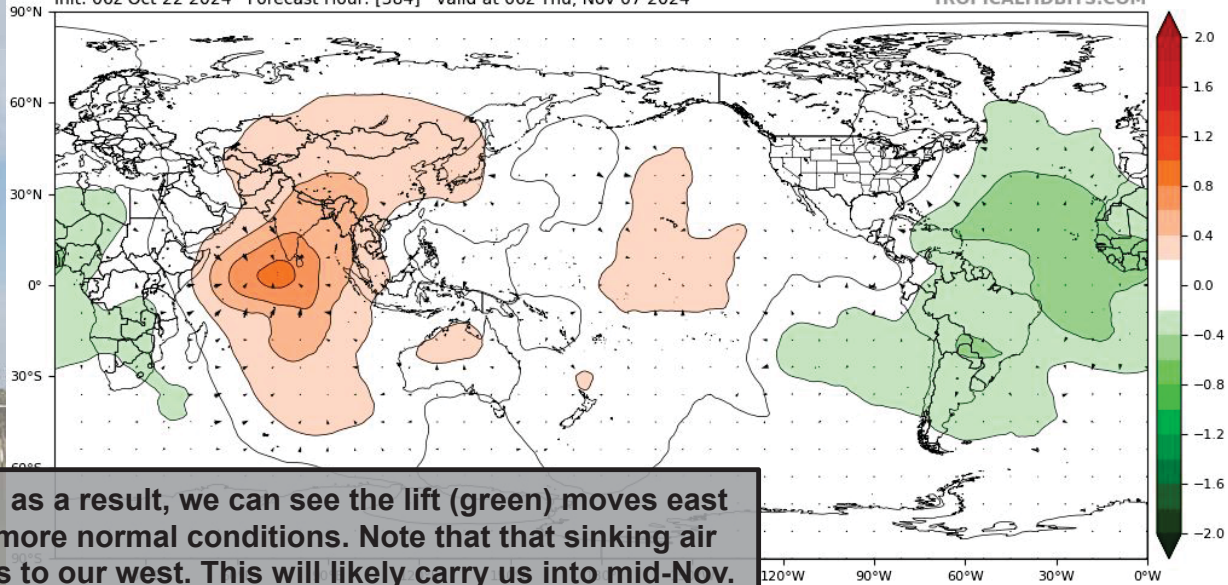
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**GEFS 200mb Velocity Potential Anomaly (shaded,  $m^2s^{-1} \times 10^{-7}$ ) and Irrotational Wind (vectors)**

Init: 06z Oct 22 2024 Forecast Hour: [384] valid at 06z Thu, Nov 07 2024

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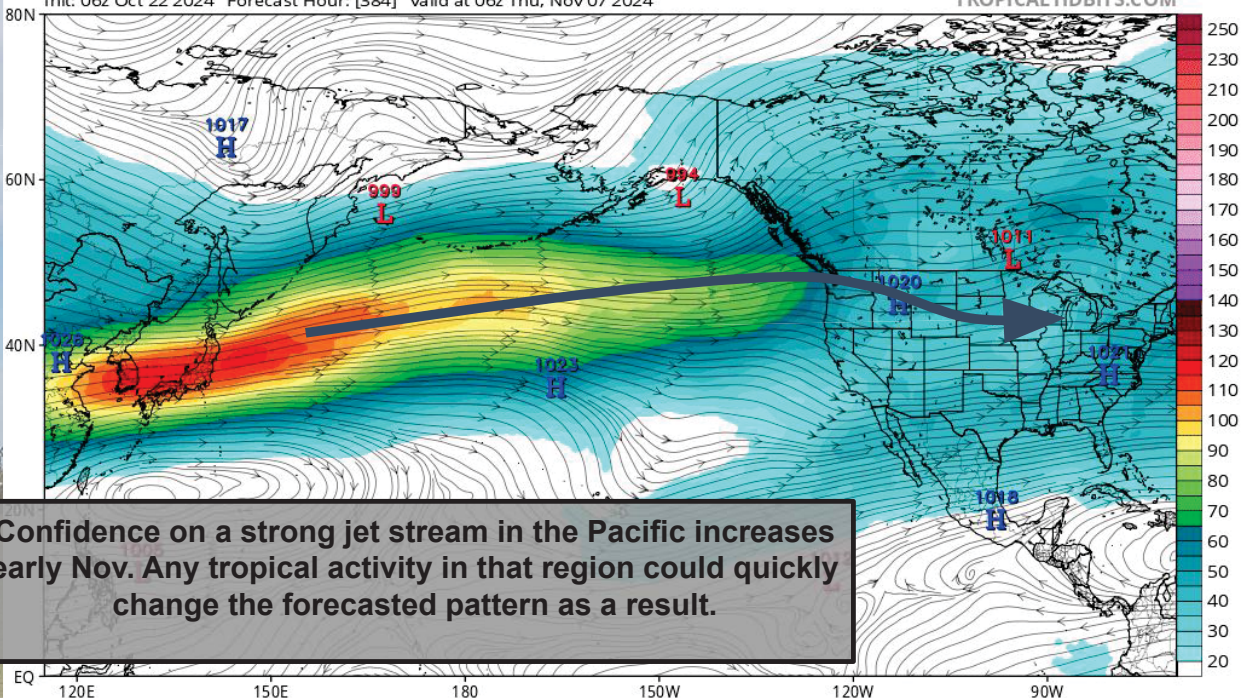
And... as a result, we can see the lift (green) moves east with more normal conditions. Note that that sinking air resides to our west. This will likely carry us into mid-Nov.



**GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)**

Init: 06z Oct 22 2024 Forecast Hour: [384] valid at 06z Thu, Nov 07 2024

TROPICALTIDBITS.COM



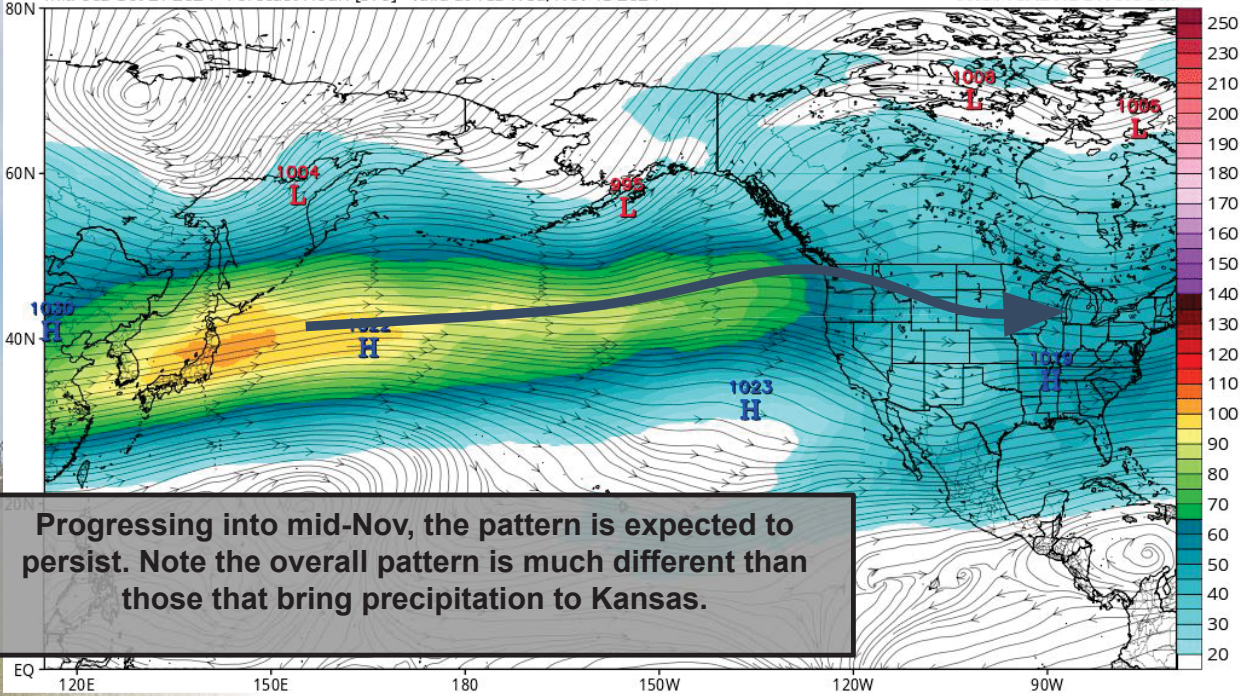
Confidence on a strong jet stream in the Pacific increases early Nov. Any tropical activity in that region could quickly change the forecasted pattern as a result.



**GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)**

Init: 00z Oct 21 2024 Forecast Hour: [570] valid at 18z Wed, Nov 13 2024

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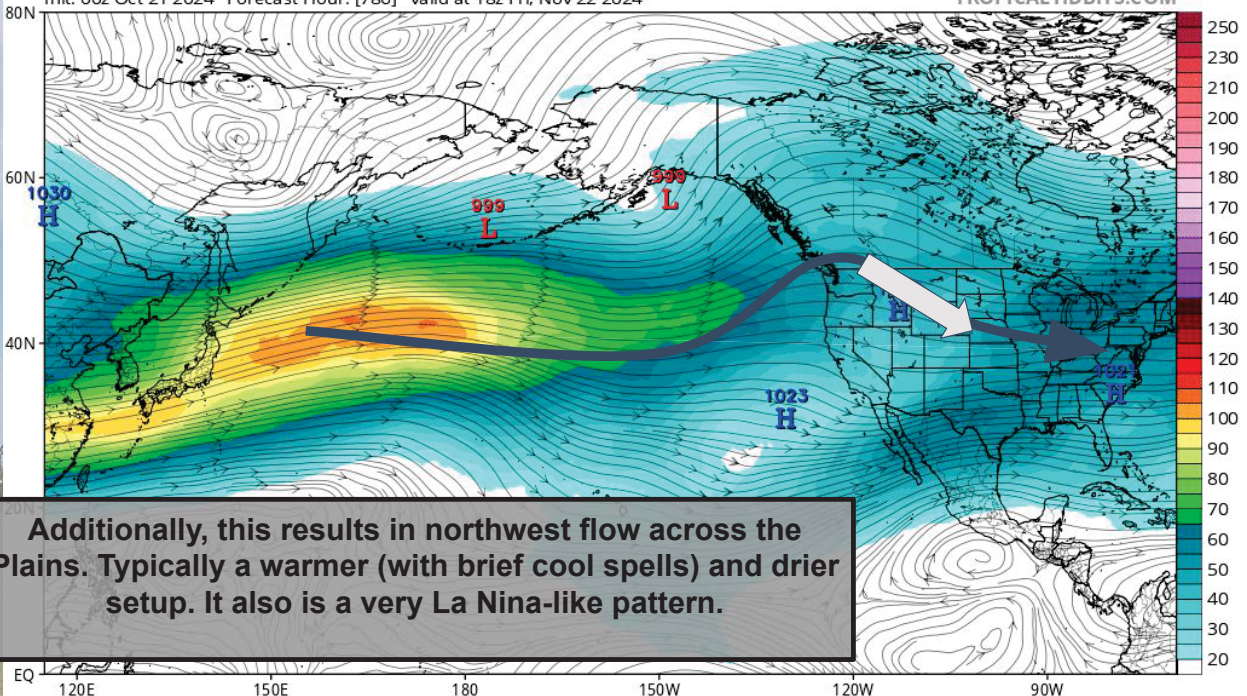
Progressing into mid-Nov, the pattern is expected to persist. Note the overall pattern is much different than those that bring precipitation to Kansas.



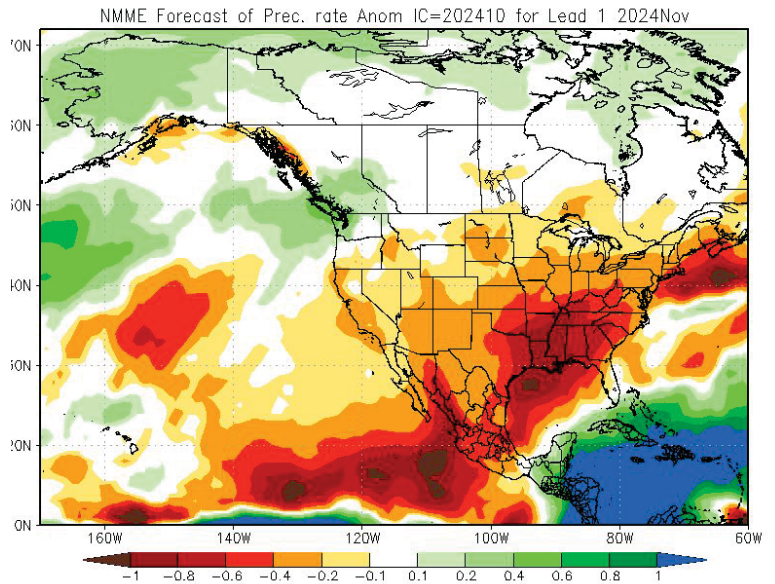
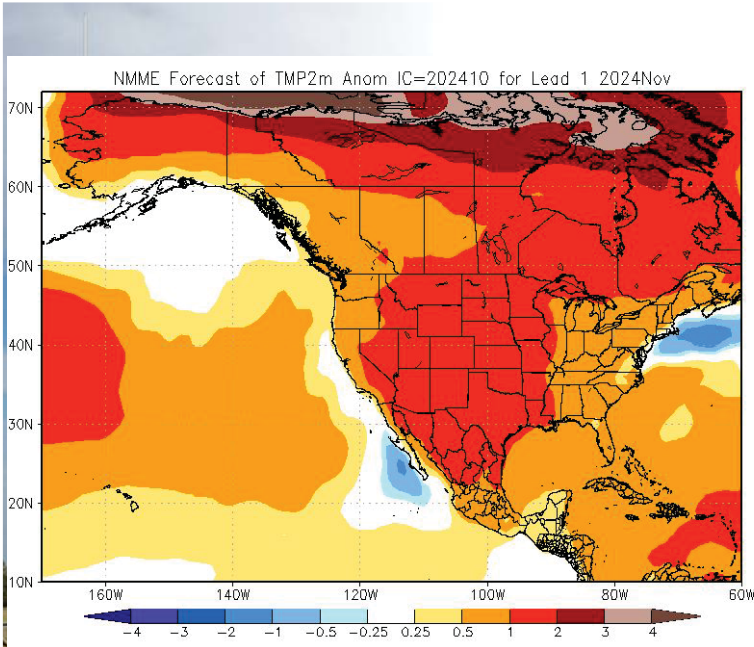
**GEFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)**

Init: 00z Oct 21 2024 Forecast Hour: [786] valid at 18z Fri, Nov 22 2024

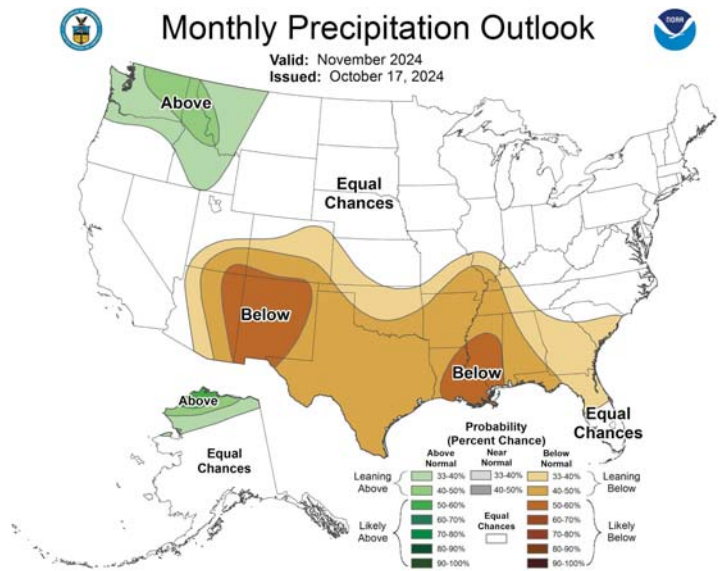
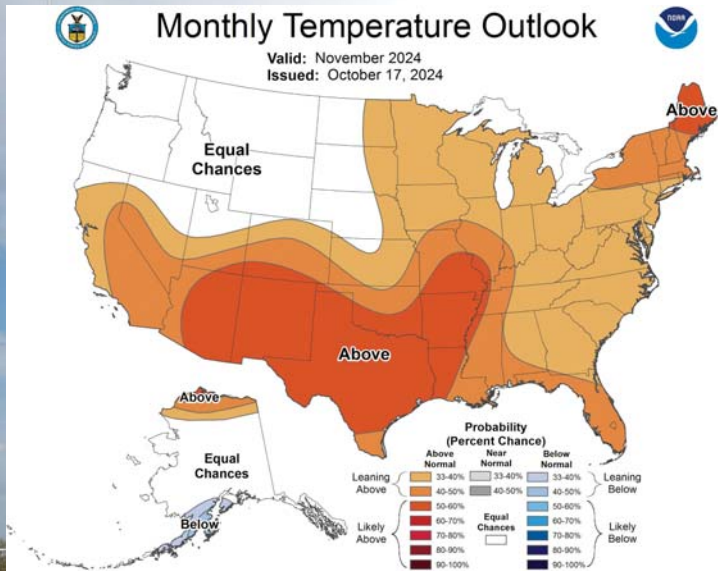
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Additionally, this results in northwest flow across the Plains. Typically a warmer (with brief cool spells) and drier setup. It also is a very La Nina-like pattern.



The average of all models for the month of November stick with continued warmer than normal temperatures and a high probability of drier than normal conditions.

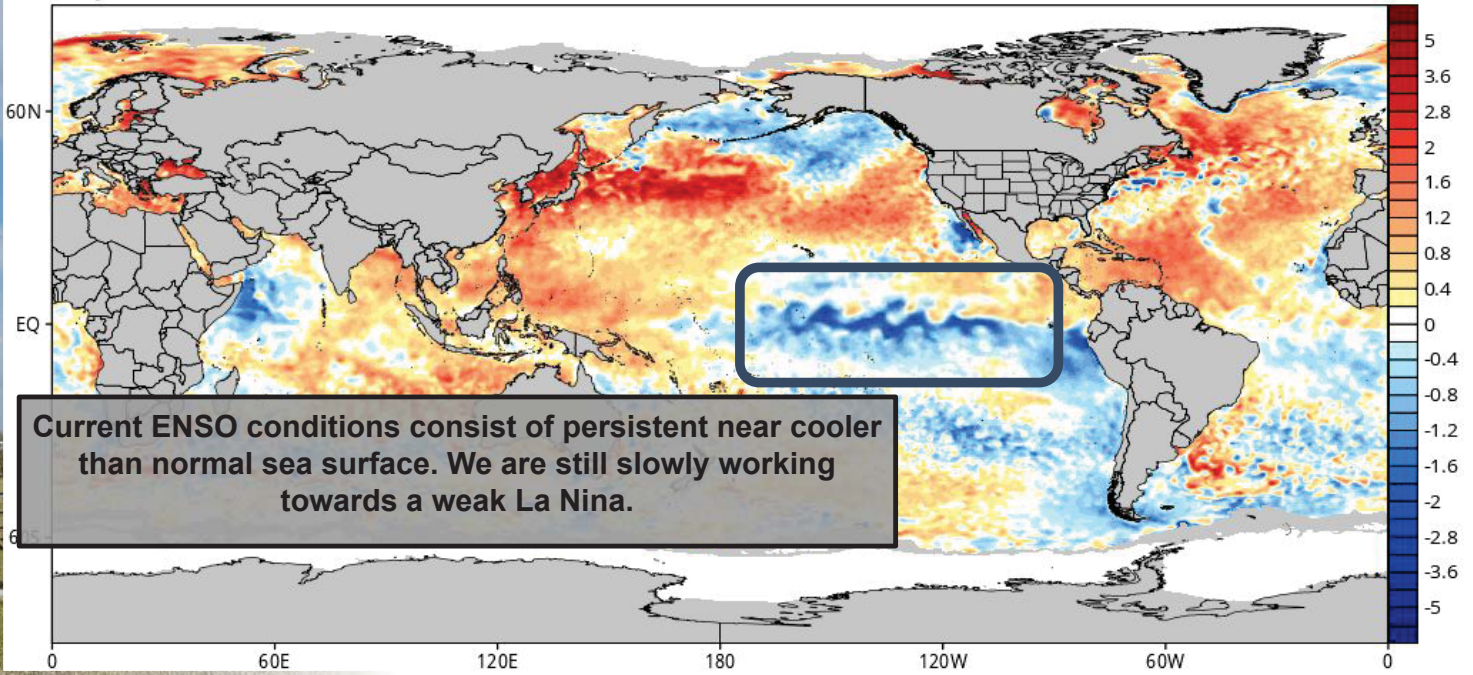


Due to tropical influence, the CPC is less confident on the dry/warm conditions for Kansas. This pattern is very similar to expectations of a La Nina-like flow...

**CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)**

Analysis Time: 18z Oct 17 2024

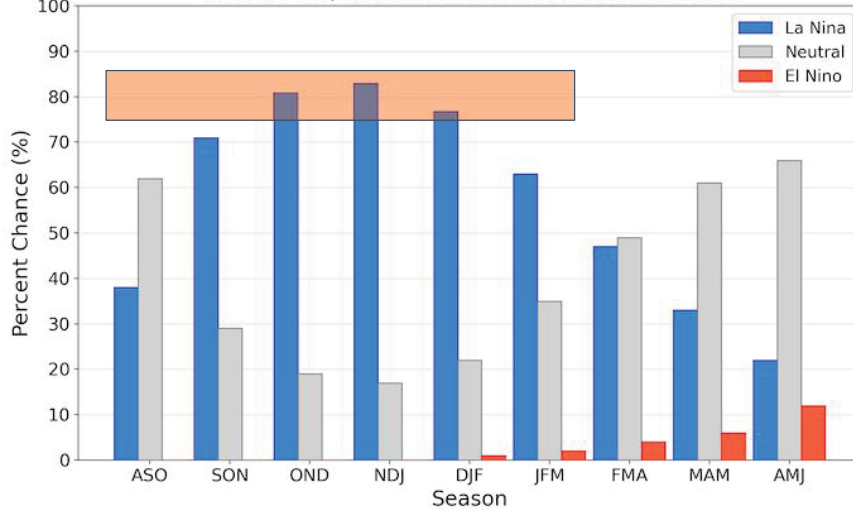
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**Current ENSO conditions consist of persistent near cooler than normal sea surface. We are still slowly working towards a weak La Nina.**

**Official NOAA CPC ENSO Probabilities (issued September 2024)**

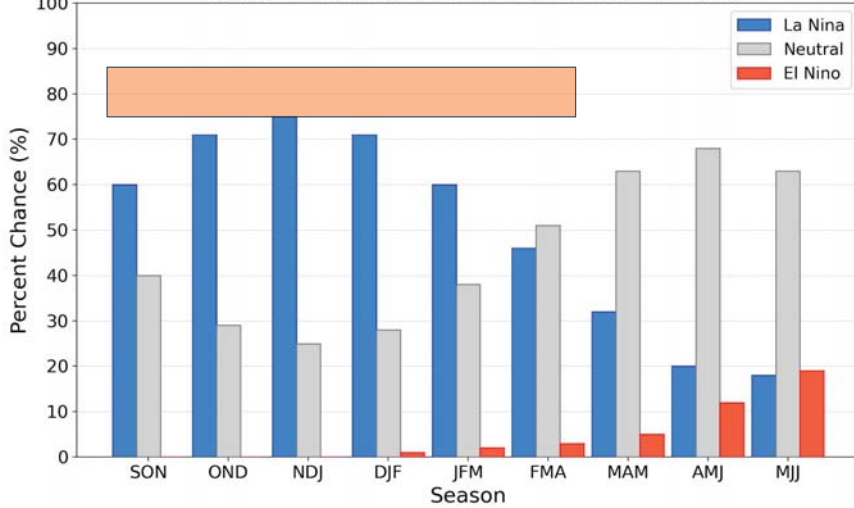
based on  $-0.5^{\circ}/+0.5^{\circ}$  thresholds in ERSSTv5 Niño-3.4 index



**Last month, we saw the probability of La Nina slightly increase again to near 80% for the NDJ time period.**

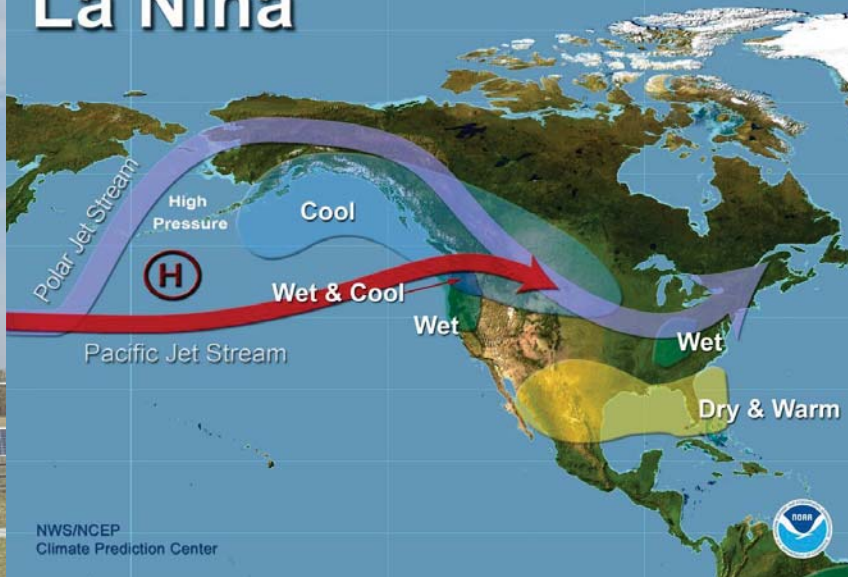
### Official NOAA CPC ENSO Probabilities (issued October 2024)

based on  $-0.5^{\circ}/+0.5^{\circ}\text{C}$  thresholds in ERSSTv5 Niño-3.4 index



However, this month, confidence again decreases as the NDJ period has dropped back into the 70% range. While La Nina is still the most likely outcome, it is expected to be weak and short lived.

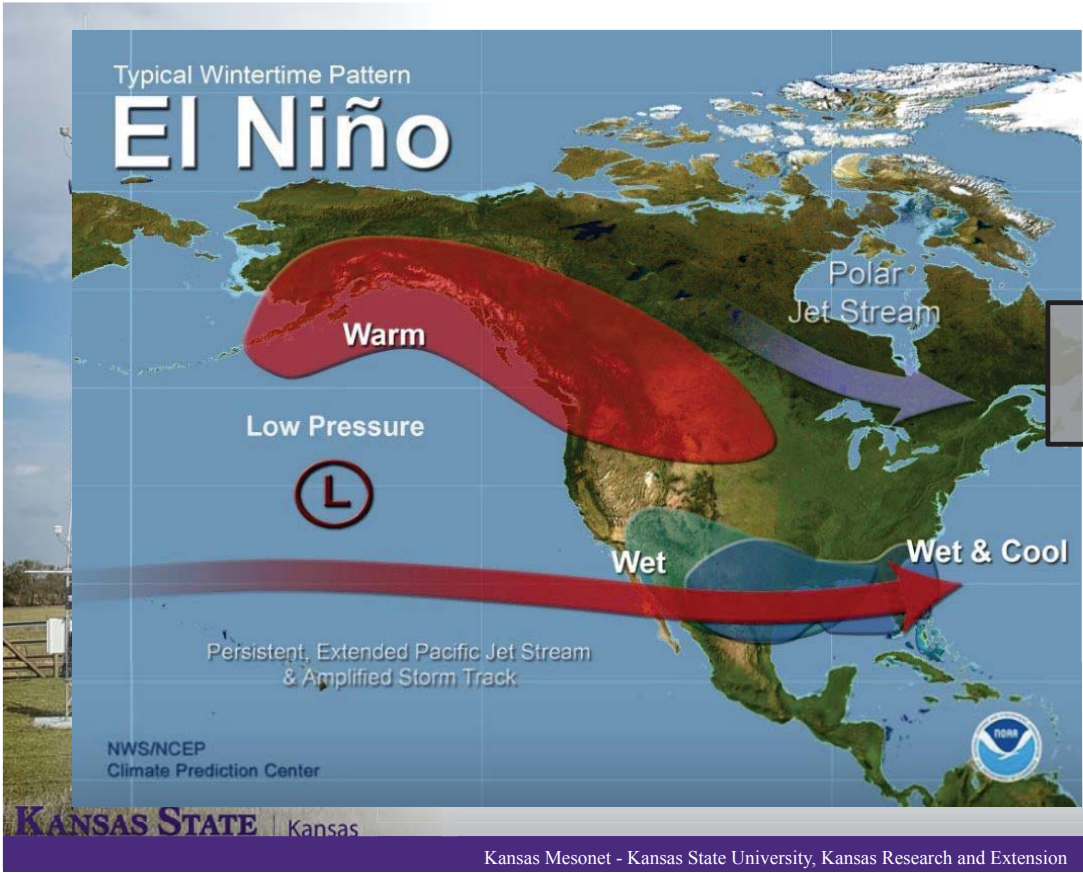
### Typical Wintertime Pattern La Niña



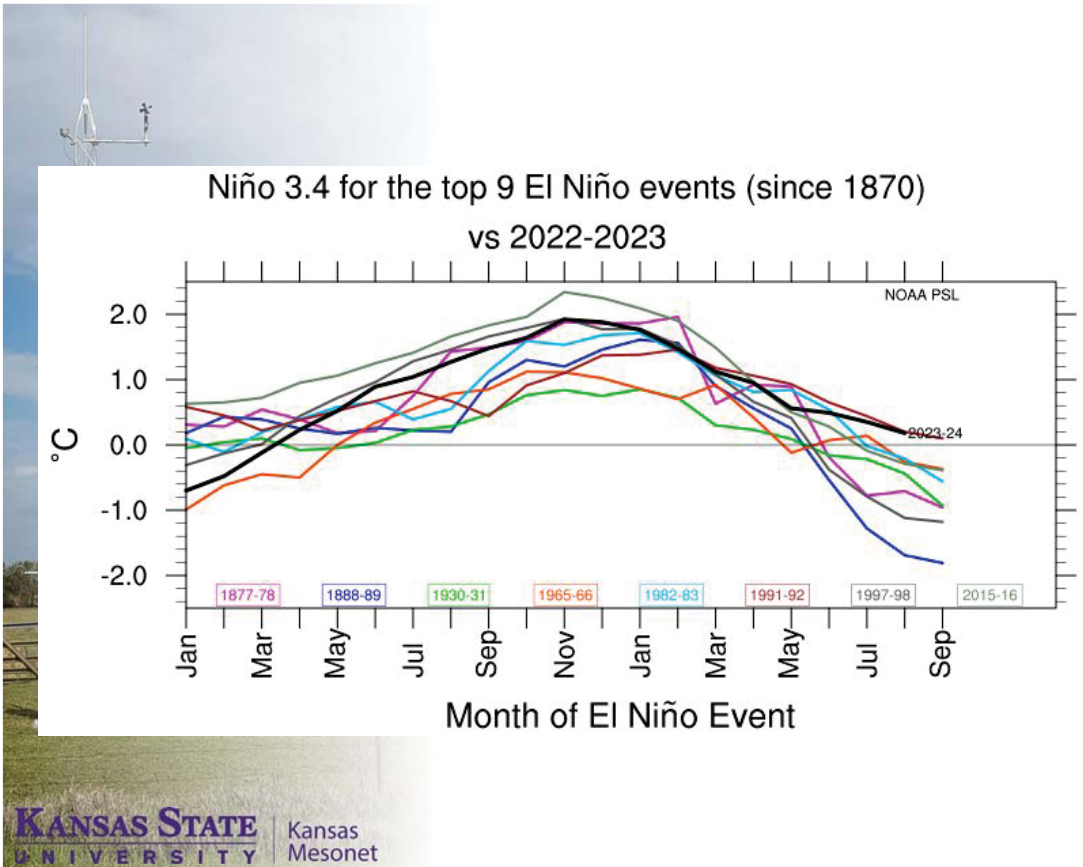
NWS/NCEP  
Climate Prediction Center



As a reminder, La Nina means northwest flow for the central Plains and favors warmer and drier conditions. Especially for southern US.



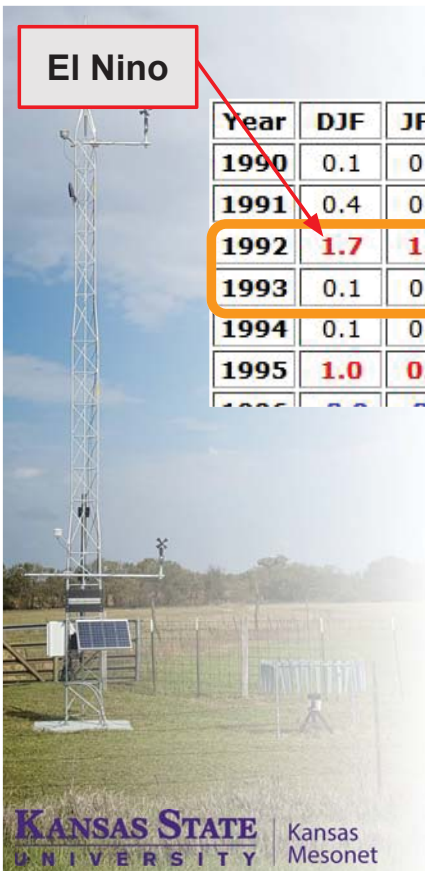
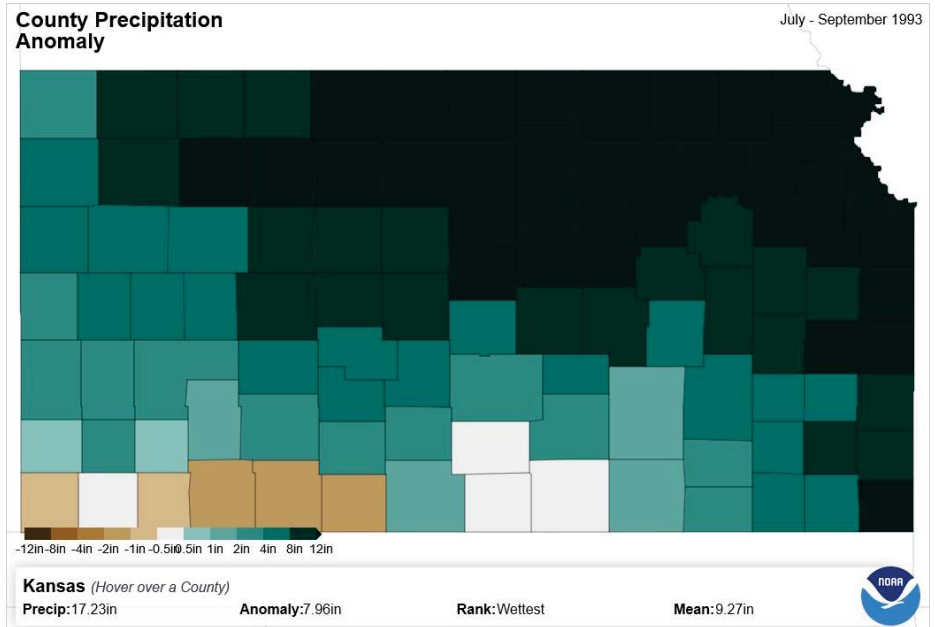
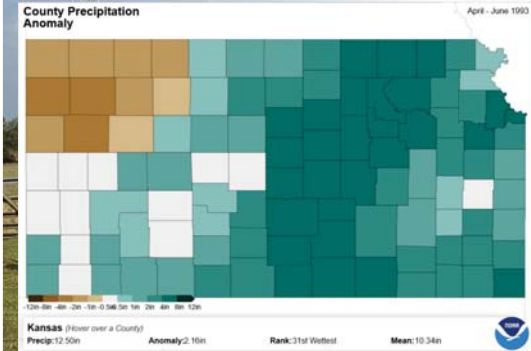
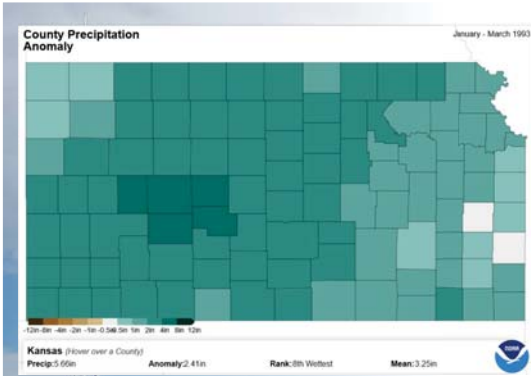
Last year, we had El Niño. This resulted in a very different pattern.



That Niño weakened this spring/summer. Comparing to similar waning Niño to Niña events, this year is tracking very similarly to the 1991-1992 event. That was a precursor to 1993...



I think we all remember the wet first 9 months of 1993... so... is this possible again in 2025?



El Nino

Neutral

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
1990	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.4	0.4
1991	0.4	0.3	0.2	0.3	0.5	0.6	0.7	0.6	0.6	0.8	1.2	1.5
1992	1.7	1.6	1.5	1.3	1.1	0.7	0.4	0.1	-0.1	-0.2	-0.3	-0.1
1993	0.1	0.3	0.5	0.7	0.7	0.6	0.3	0.3	0.2	0.1	0.0	0.1
1994	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.6	0.7	1.0	1.1
1995	1.0	0.7	0.5	0.3	0.1	0.0	-0.2	-0.5	-0.8	-1.0	-1.0	-1.0

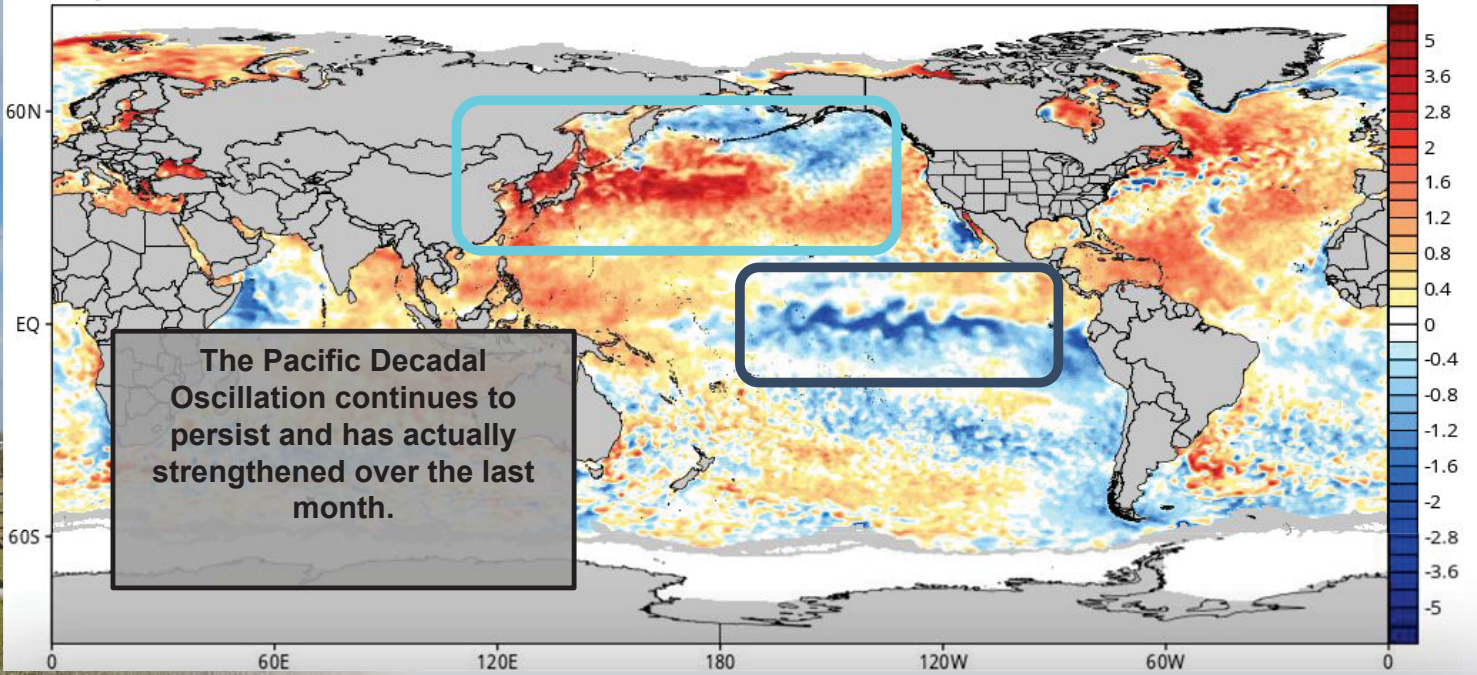
La Nina

The 1991-1992 El Nino waned to Neutral conditions which carried into 1993. Very similar trend to 2023-2024 and into 2025.

# CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)

Analysis Time: 18z Oct 17 2024

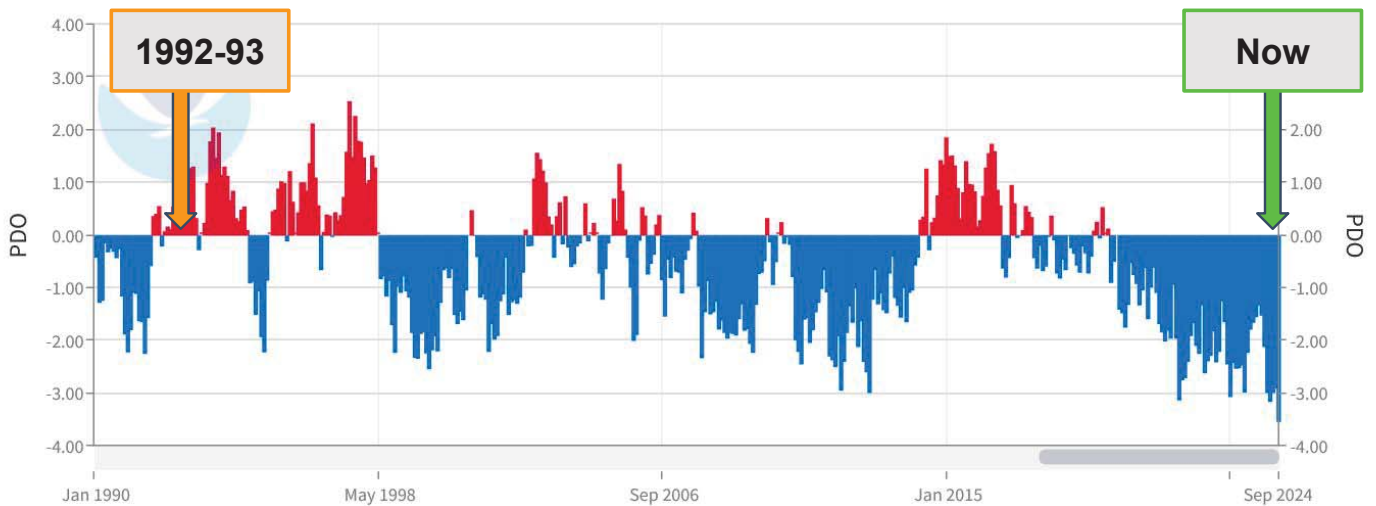
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## Pacific Decadal Oscillation (PDO)

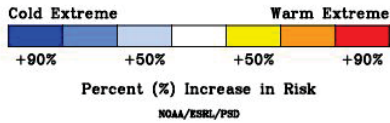
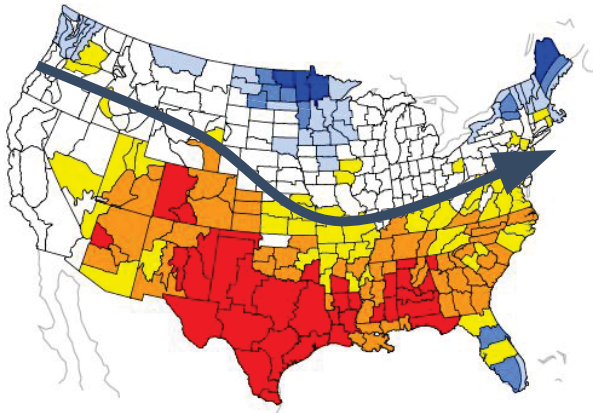


Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

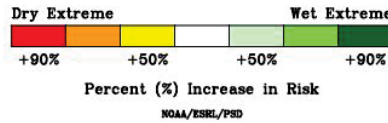
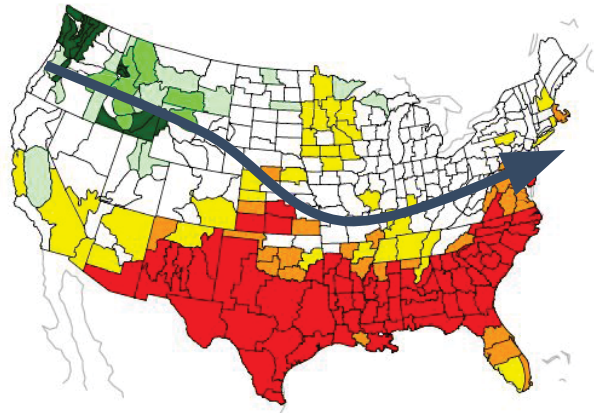
Even with weak La Nina, the current -PDO will ensure La Nina impacts are going to be reinforced no matter the expected strength of ENSO.

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NDJ Temperature During La Nina  
Increased Risk of Warm or Cold Extremes

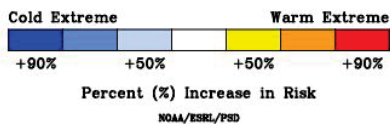
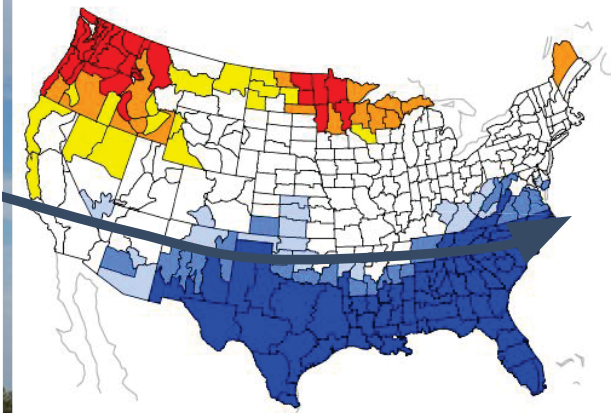


NDJ Precipitation During La Nina  
Increased Risk of Wet or Dry Extremes

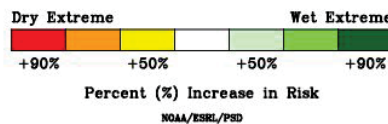
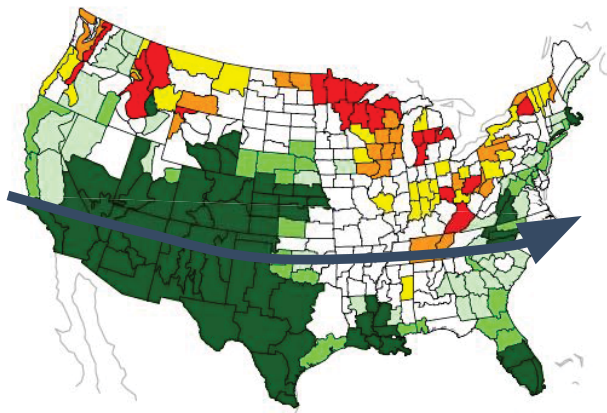


The jetstream average path during the winter months will (and usually is) the dividing line between conditions north vs south. Kansas is right at that average division in La Niña.

FMA Temperature During El Nino  
Increased Risk of Warm or Cold Extremes

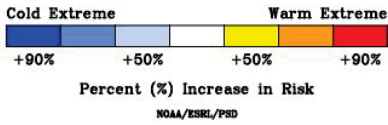
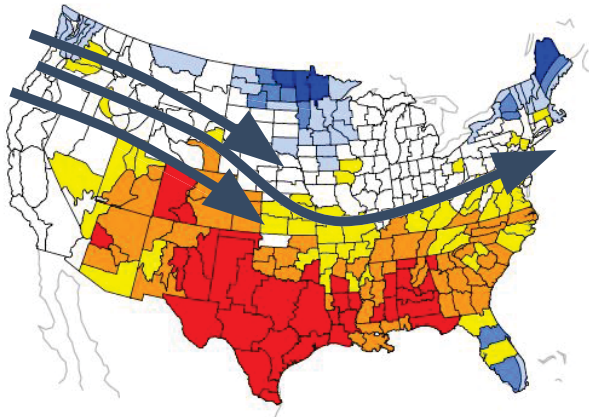


FMA Precipitation During El Nino  
Increased Risk of Wet or Dry Extremes

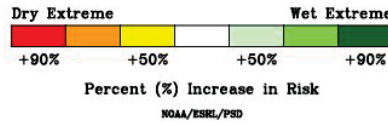
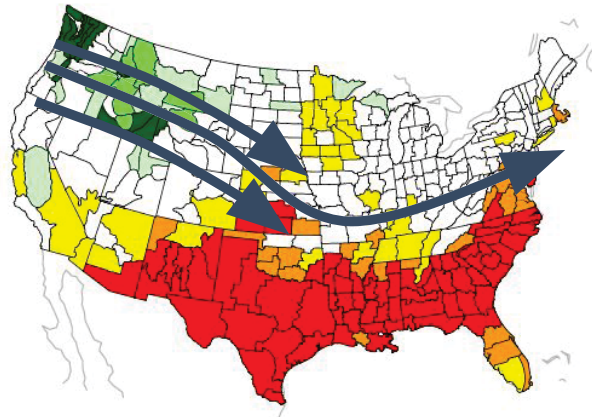


El Niño also results in a split pattern with Kansas typically in the transition zone. The biggest difference is that the wet/cool is flipped latitudinally.

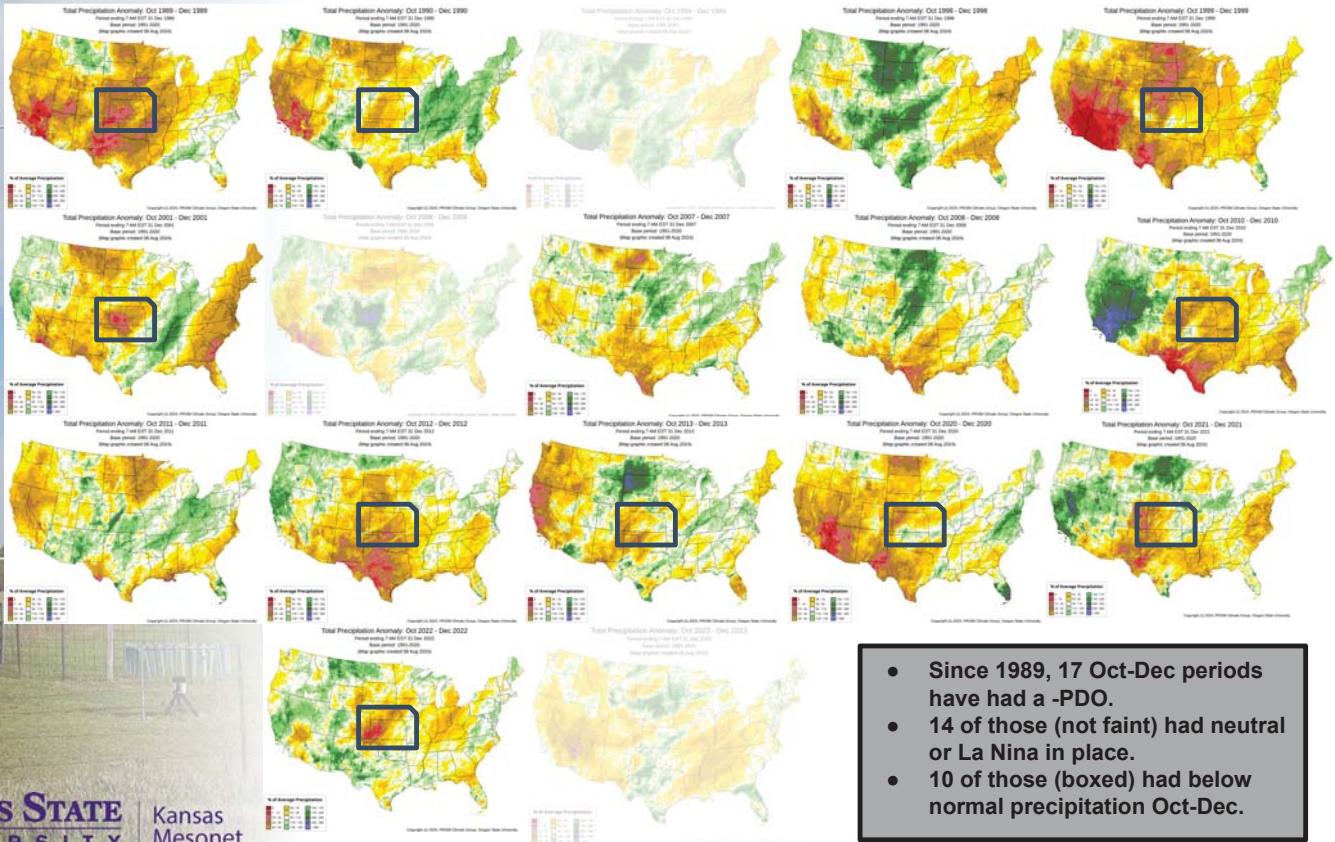
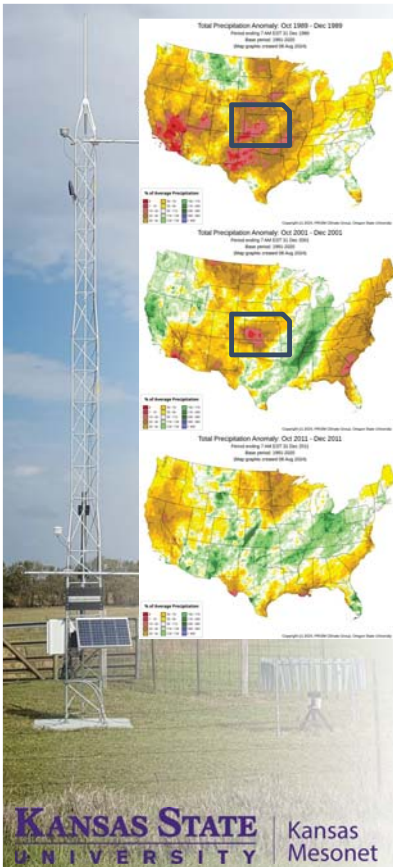
**NDJ Temperature During La Nina**  
Increased Risk of Warm or Cold Extremes



**NDJ Precipitation During La Nina**  
Increased Risk of Wet or Dry Extremes

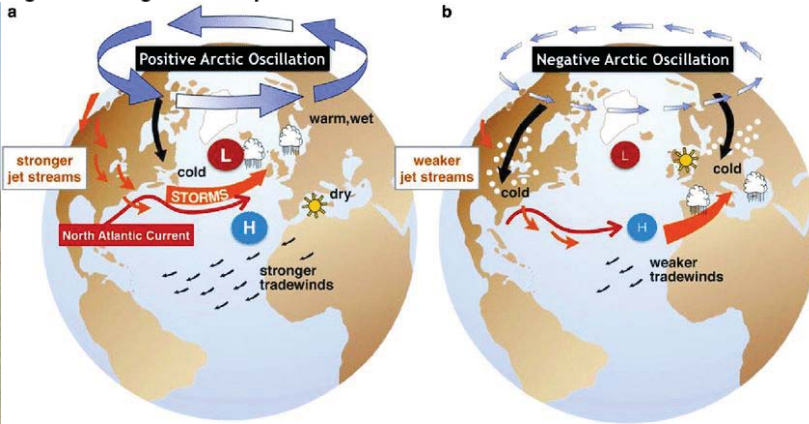
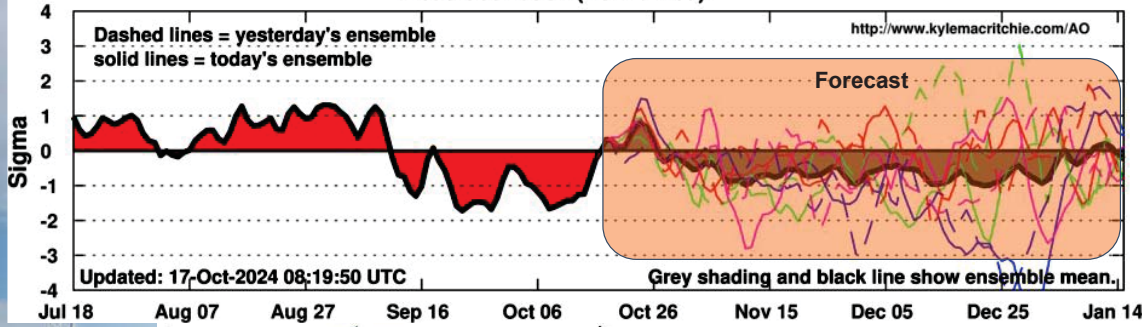


Unfortunately, the -PDO reinforces the northwest Nina flow. Potentially increasing impacts.



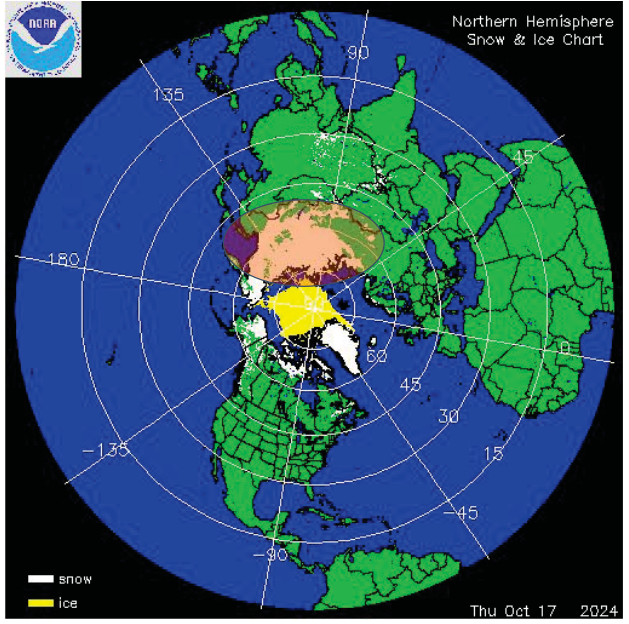
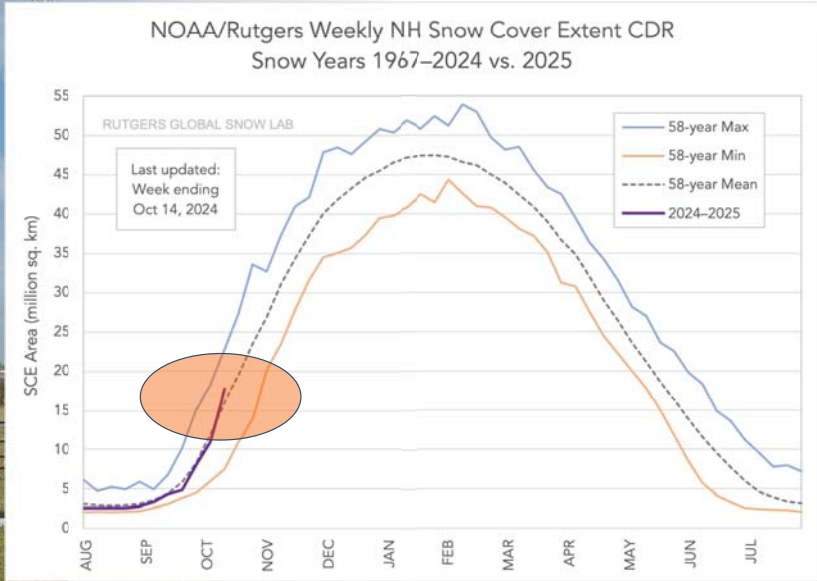
- Since 1989, 17 Oct-Dec periods have had a -PDO.
- 14 of those (not faint) had neutral or La Nina in place.
- 10 of those (boxed) had below normal precipitation Oct-Dec.

### Arctic Oscillation (Normalized)



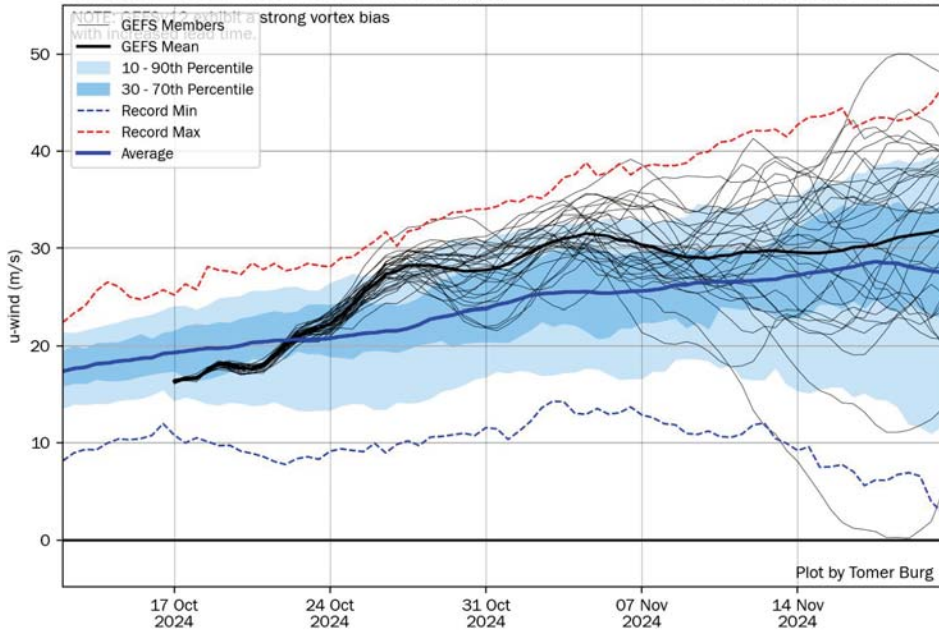
As we move into winter, ENSO isn't the only driver of the jetstream. Another consideration is the Arctic Oscillation, also commonly referred to as the Polar Vortex. Negative AO leads to weaker vortex that allows cold air intrusions southward and pushes jetstream south.

One precursor to keep an eye on is the Eurasia/Siberian snow cover. Early snow coverage expansion can lead to a stronger Polar Vortex. Potential mid-winter weakening can result with periods of cold air episodes and lobes to move southward. Recently, snow cover has increased and is running slightly above normal (shaded).



GEFS 10-hPa 60°N Zonal Mean Zonal Wind (m/s)

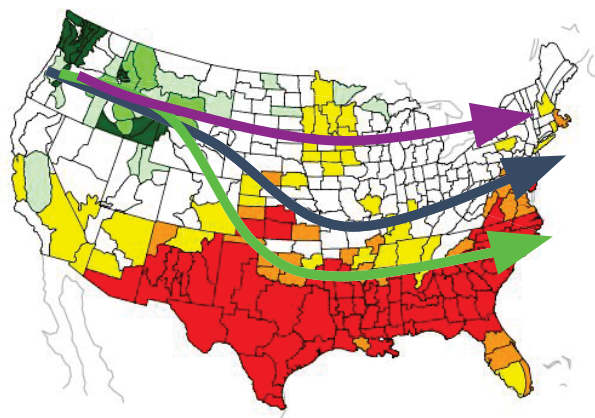
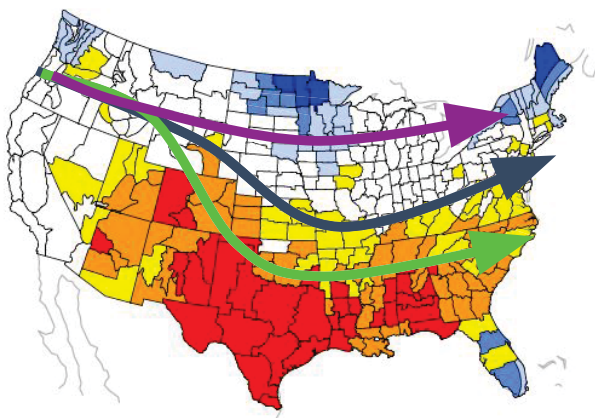
ERA5 Climatology: 1958 - 2022  
GEFS Init: 0000 UTC 17 Oct 2024



Current models are projecting a stronger than normal Polar Vortex as a result. Should this weaken, the jet stream could potentially shift further south leading to cold episodes. This will be something to watch in the coming weeks/months.

NDJ Temperature During La Nina  
Increased Risk of Warm or Cold Extremes

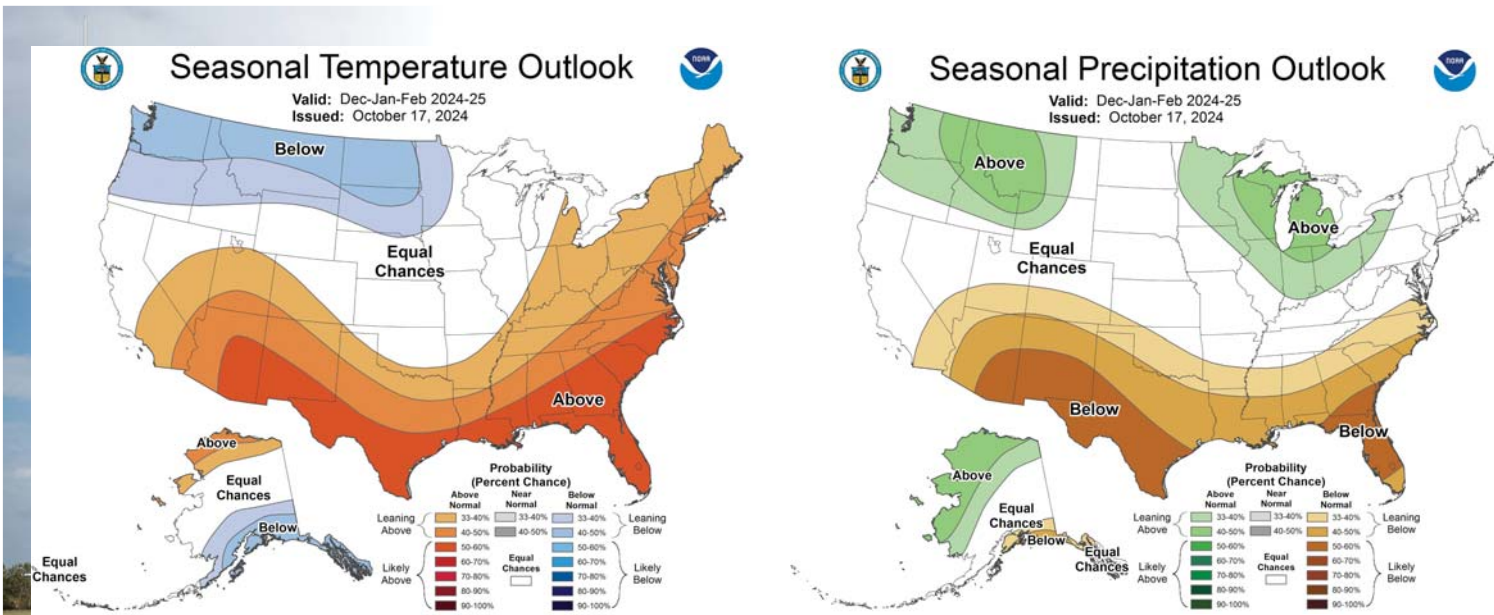
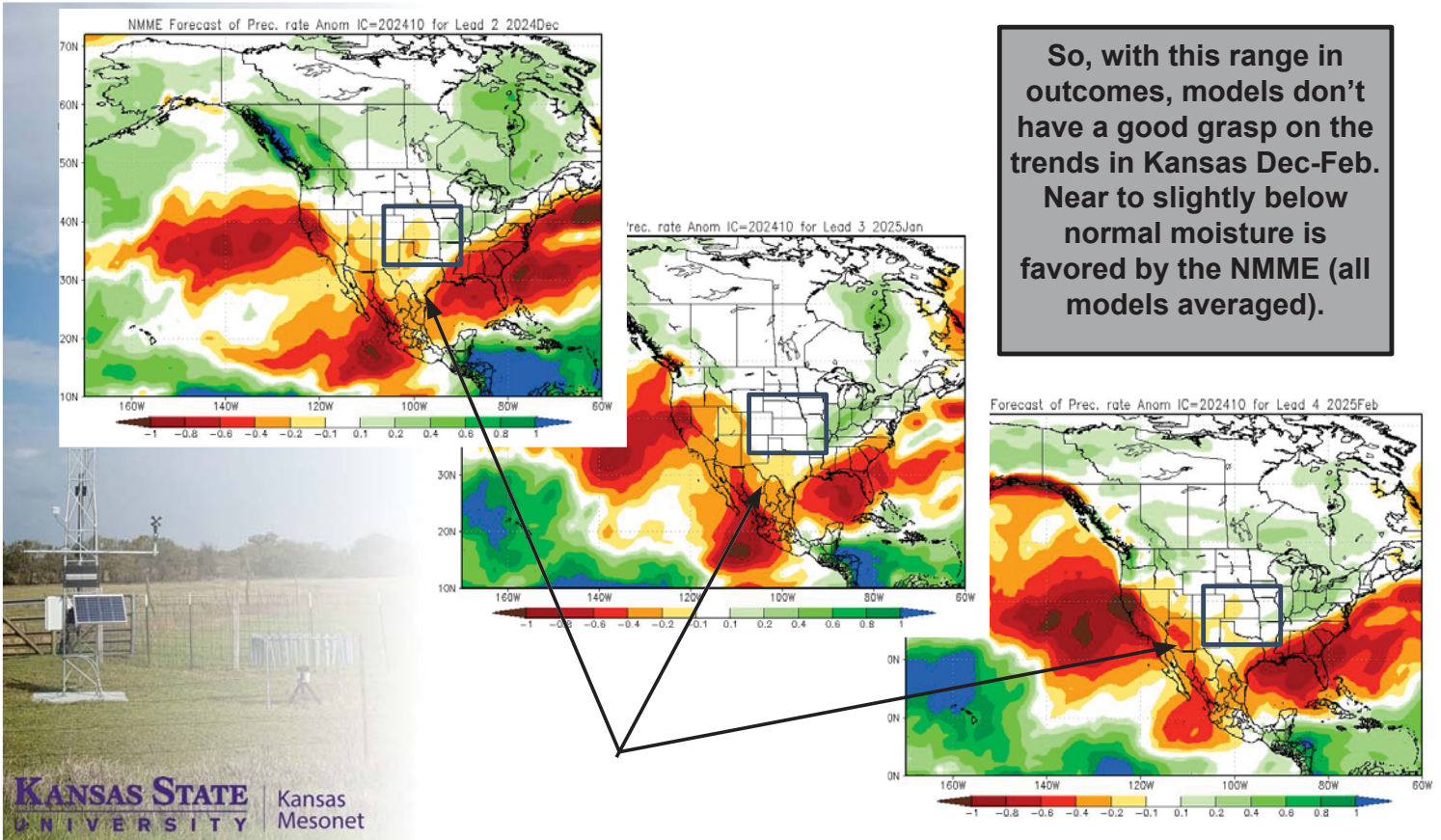
NDJ Precipitation During La Nina  
Increased Risk of Wet or Dry Extremes



Cold Extreme Warm Extreme  
+90% +50% +50% +90%  
Percent (%) Increase in Risk  
NOAA/ESRL/PSD

Dry Extreme Wet Extreme  
+90% +50% +50% +90%  
Percent (%) Increase in Risk  
NOAA/ESRL/PSD

Should periods of weaker vortex and a -AO occur, we can expect the overall jetstream to trend further south (green) allowing cooler, wetter conditions. However, if it doesn't occur, the jetstream could potentially set up further north and lead to warmer/drier.

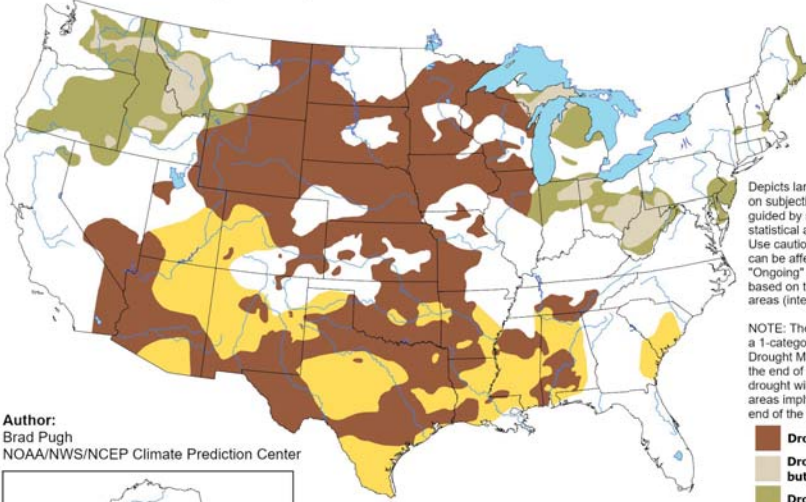


CPC aligns with the -PDO and Nina potential along with the uncertainty of storm track with Kansas as the gradient battleground. Equal chances dominate for at/below/above normal conditions.

# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for October 17, 2024 - January 31, 2025  
Released October 17, 2024



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).

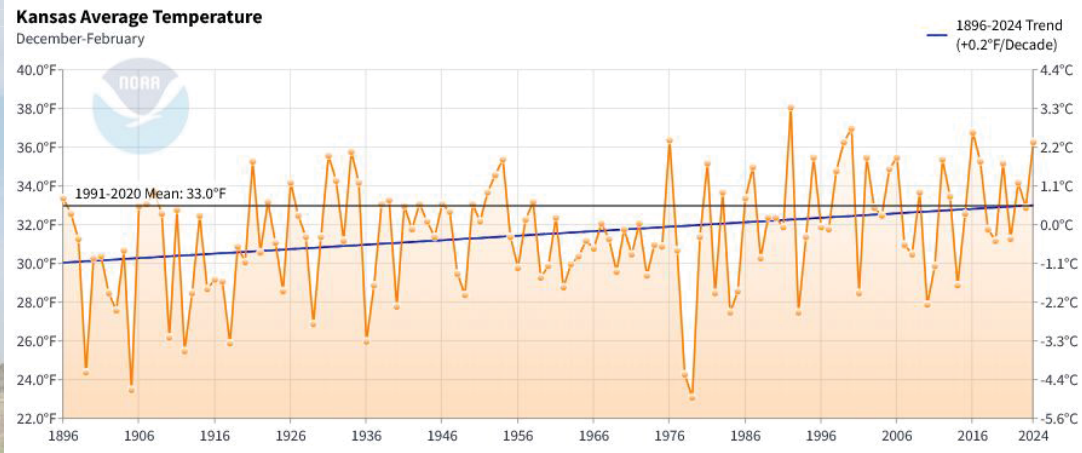
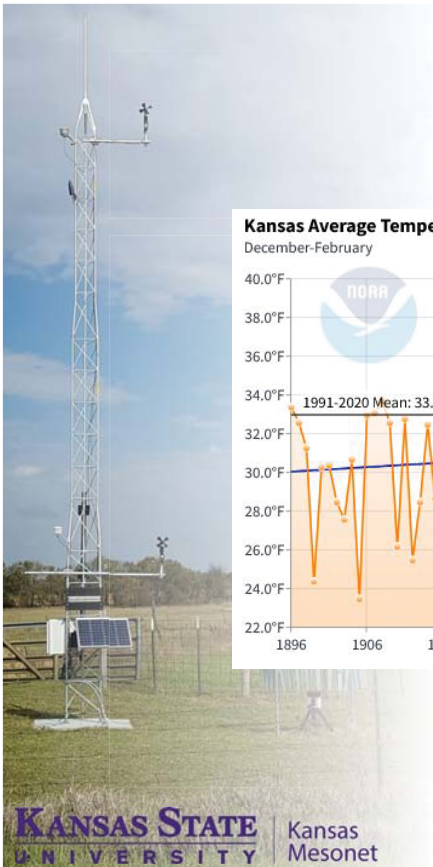
- Drought persists
- Drought remains, but improves
- Drought removal likely
- Drought development likely
- No drought

Author:  
Brad Pugh  
NOAA/NWS/NCEP Climate Prediction Center



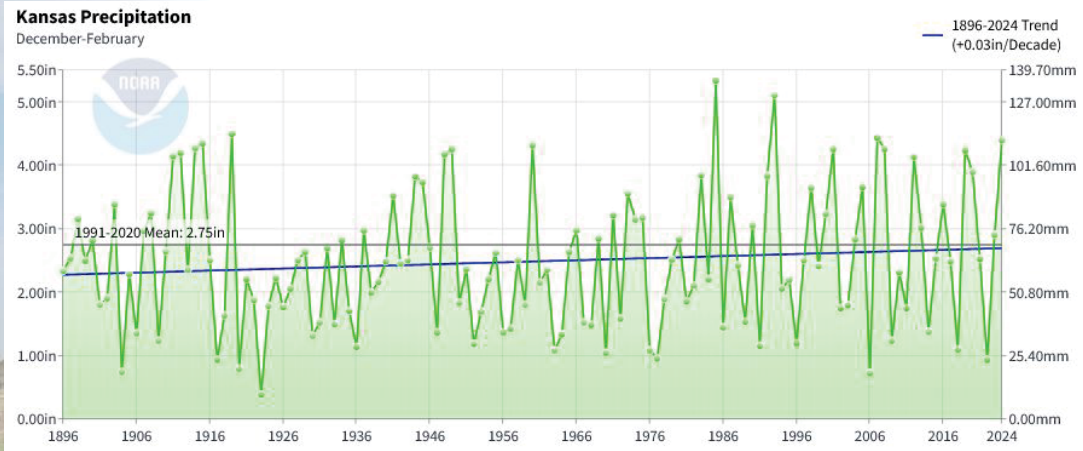
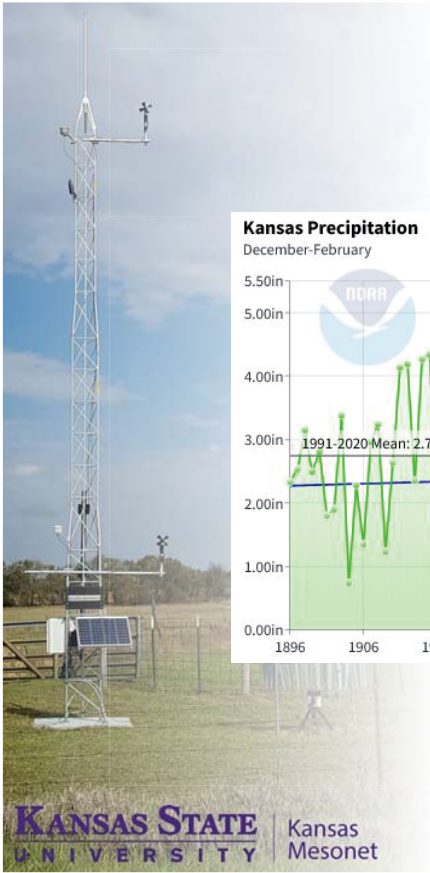
<https://go.usa.gov/3eZ73>

The good news is with this uncertainty, drought development isn't expected further in the Oct-Jan period! Unfortunately, drought reduction also isn't expected.

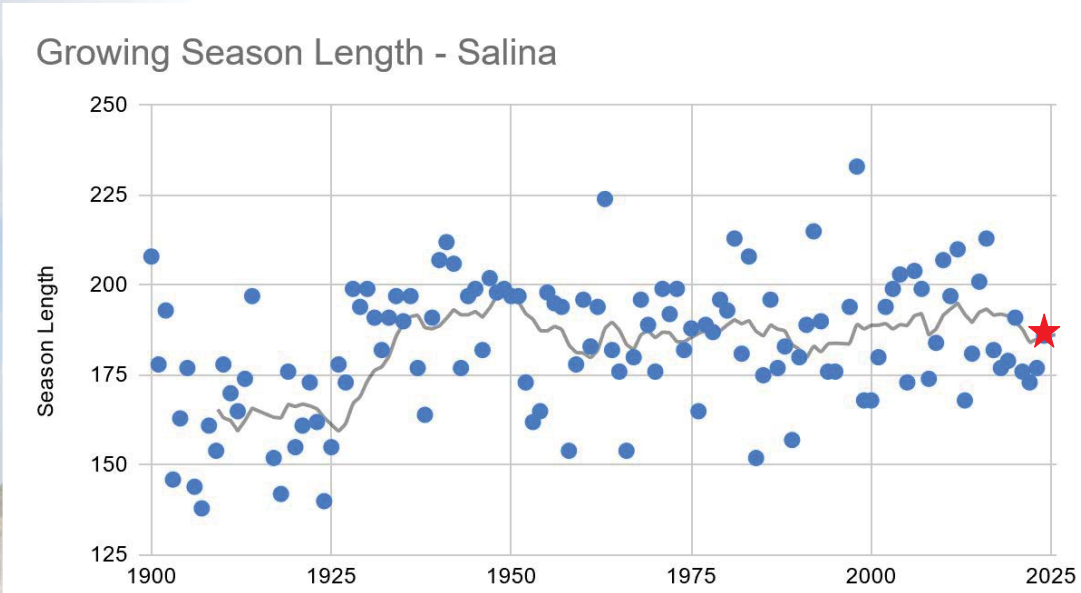
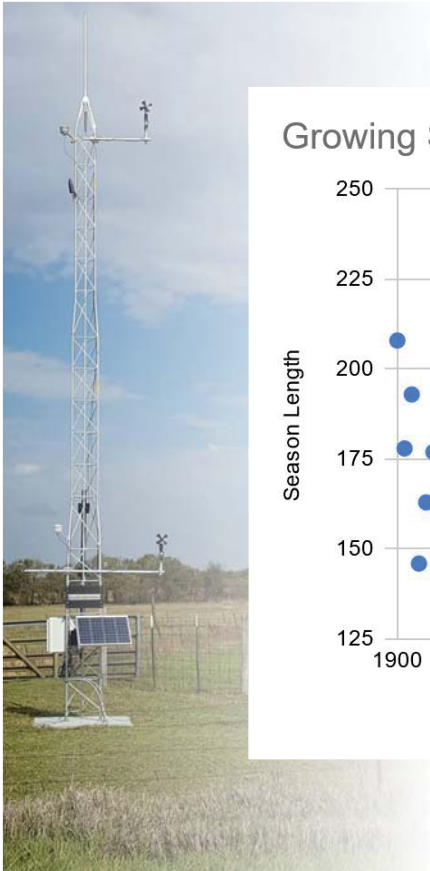


Another consideration is the long term trends in Kansas winters. We have seen around 0.2F/decade increase in temperatures. Our winters are becoming warmer.





Precipitation has also increased, but with warmer temperatures, it doesn't usually fall as snow these days.

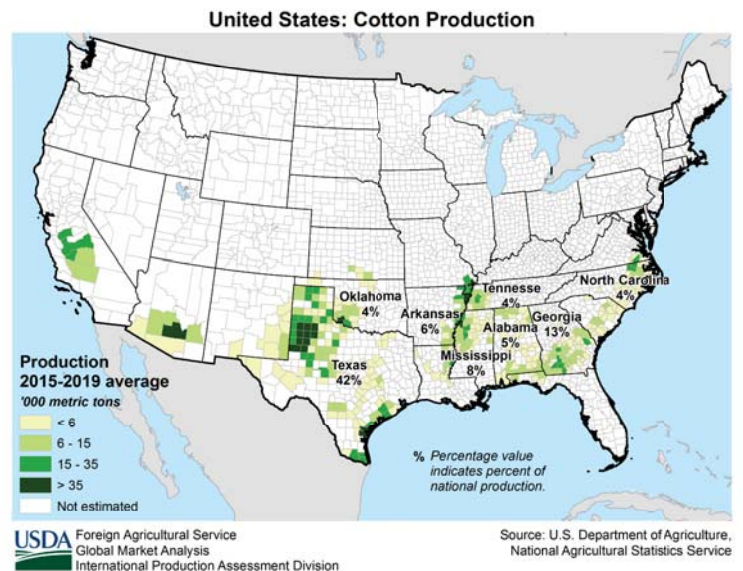
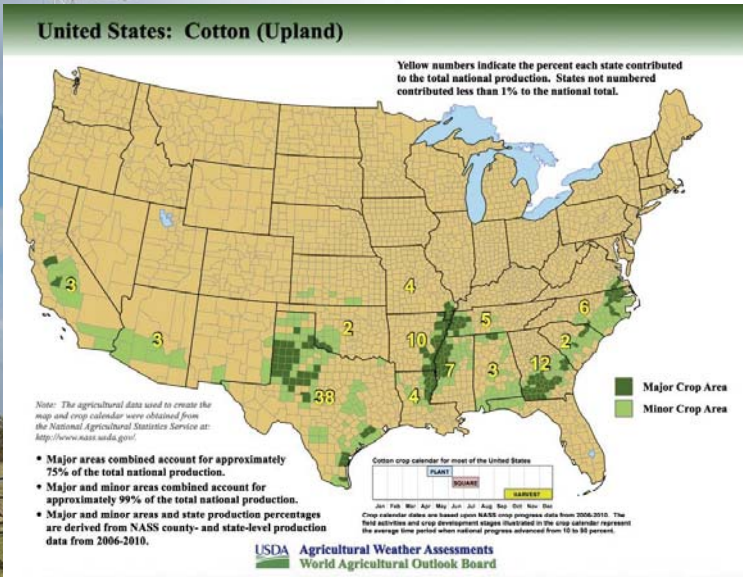


Because of this warming, we are seeing an increase in growing season length in Kansas.



Thus, we see an increase in overwintering invasive species.

We are also seeing a gradual change in crop type grown in the Plains.



**We are also seeing similar trends in species of animals able to survive less harsh winters.**

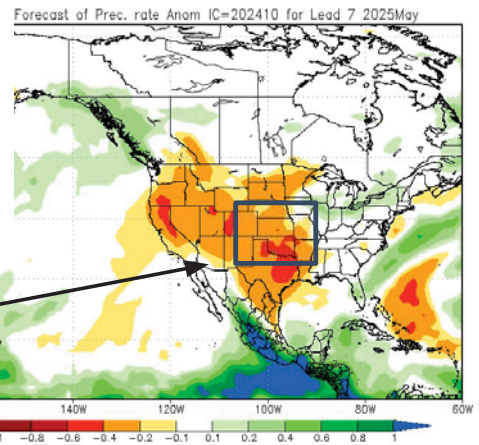
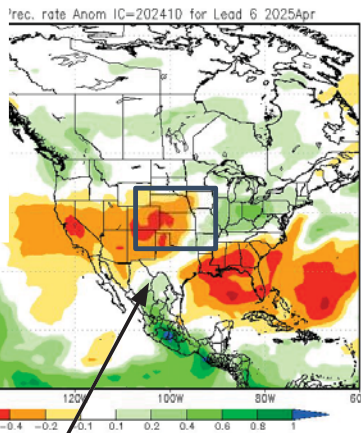
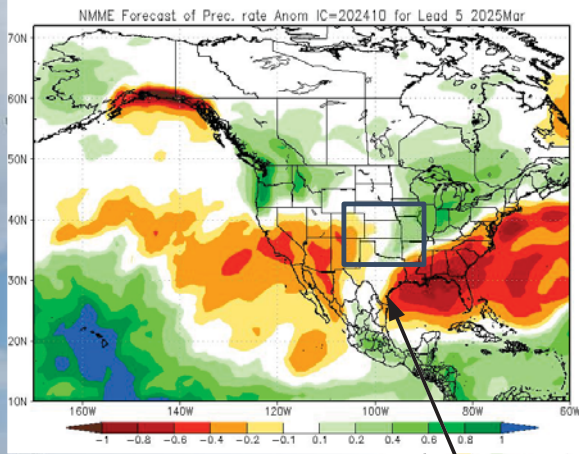
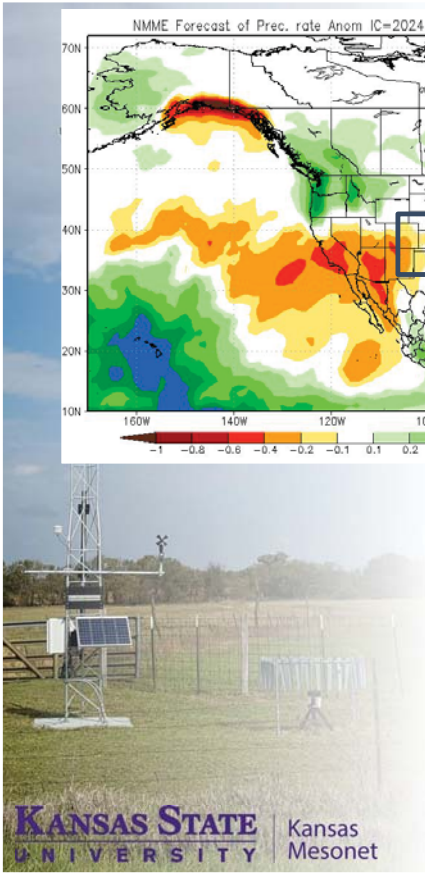


<https://eemb168.blogspot.com/2011/10/climate-change-expanding-armadillo.html>

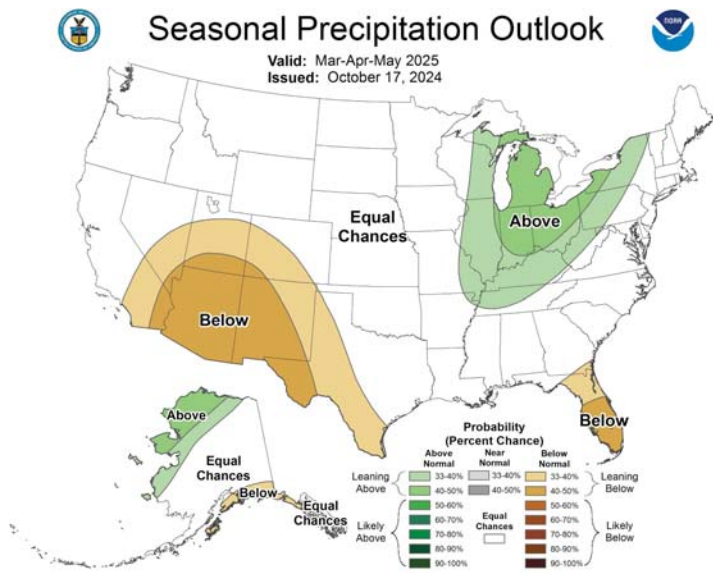
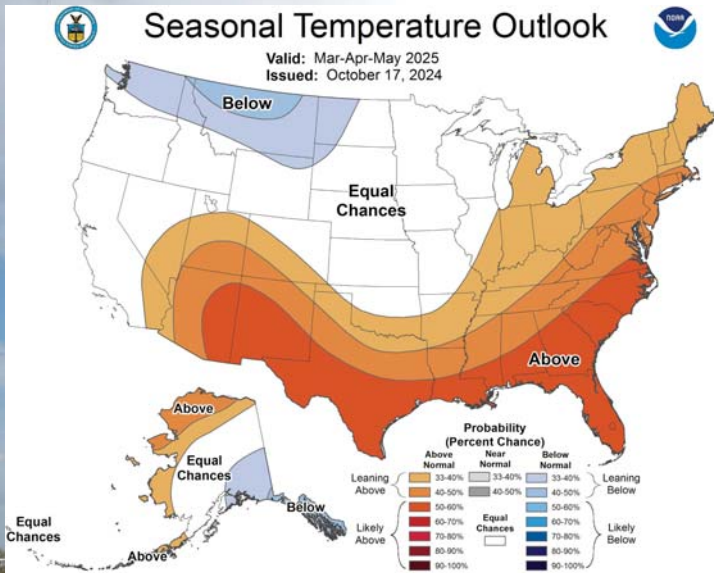
Kansas Mesonet - Kansas State University, Kansas Research and Extension



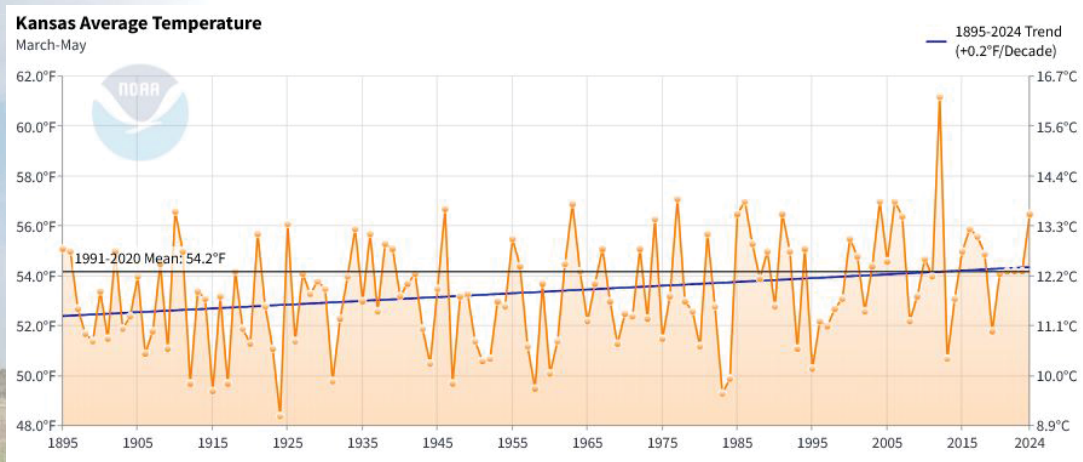
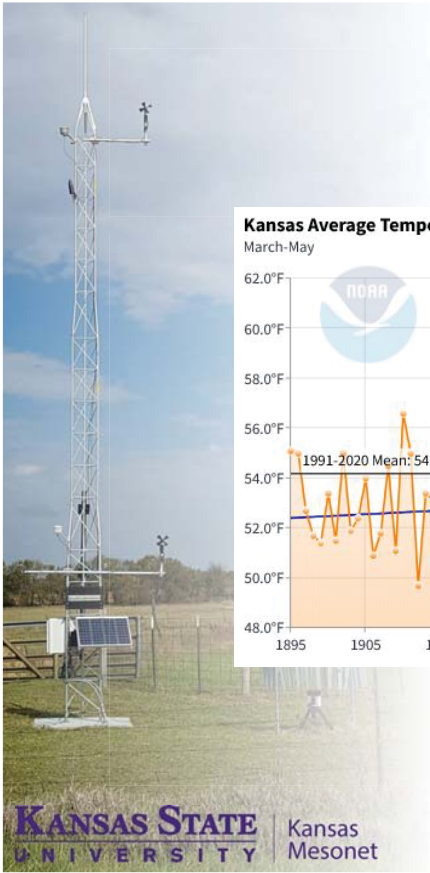
**And, unfortunately, we also see an increase in insect pressure as well.**



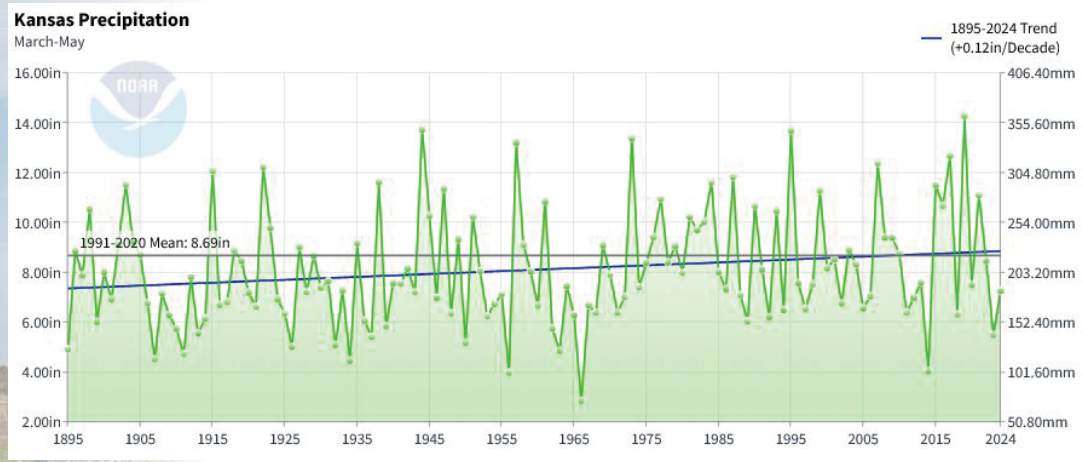
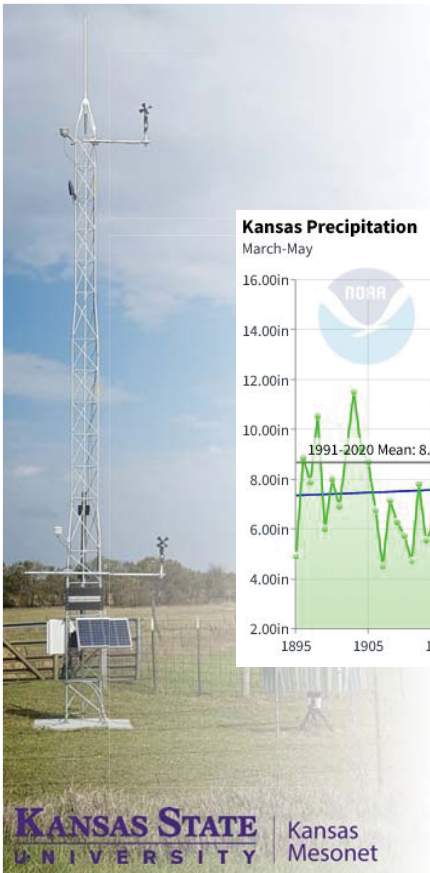
As we look farther into the Mar-May period, a bit more prominent signal emerges for drier than normal conditions. Especially Apr/May. This would be La Nina diminishing with the -PDO dominating the models.



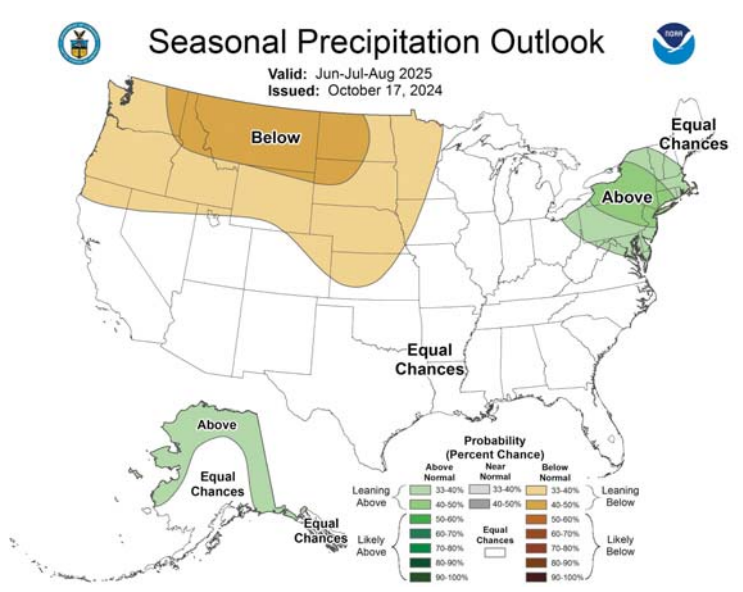
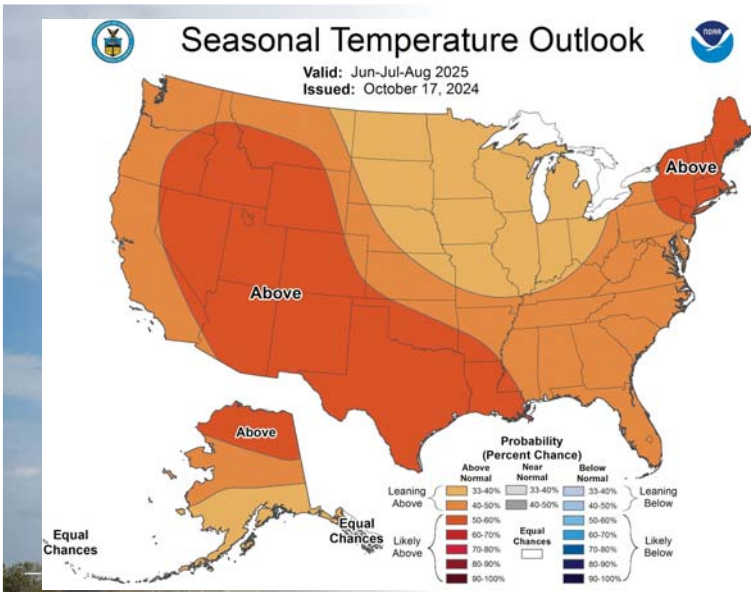
Obviously a ton of uncertainty that far out but that would be a big concern for wildfire should that previous model data verify. The CPC isn't as aggressive and continues Kansas on the gradient through the period. A lot will hinge on what the Nina does in the spring.



**Like winter, spring has also observed warming temperatures for Kansas.**



**Same with precipitation. It doesn't mean we don't have less drought periods - it reflects that when it rains, it rains harder.**



For entertainment purposes, the CPC outlooks for next summer highlight similar conditions to this past summer. Warmer/drier dominate the western US. With neutral conditions possible with diminished Nina and if the -PDO persists, this would fit that analog pretty well.

# 2024-25 Winter Outlook

- Moisture will remain limited with next opportunity early Nov
- Overall warmer than normal temperatures expected
- Some uncertainty for winter depending on storm track
- Expect frequent systems and periods of cold, moisture may remain limited
- Less than average snow this winter
- Fire concerns above normal
- Spring outlook could favor fire risk, limited moisture

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Mesonet

christopherredmond@k-state.edu  
@wx\_chip

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We need more drought reports!  
Please share these links widely.

View CMOR reports: [go.unl.edu/CMORMAP](http://go.unl.edu/CMORMAP)  
Make a CMOR Report: <http://go.unl.edu/CMOR>

NWS Headlines

- Click Here to Submit a Drought Report for Your Location
- Click Here to Skip for Drought and Rainfall Information

NWS Forecast Office Springfield, MO

Weather.gov - Springfield, MO

Current Hazards Current Conditions Radar Forecasts Rivers and Lakes Climate and Past Wea

Click a location below for detailed forecast.

Watches Warnings & Advisories

Heat Advisory

Hazardous Weather Outlook

Last Map Update: Fri, Jul 22, 2022 at 11:07:57 am CDT

NWS Springfield has had a big response with adding link to their webpage headlines!