



2024 Review/2025 Weather Outlook



NOAA/NWS Ohio River Forecast Center

Indiana Certified Crop Advisors Conference

**Jim Noel – Service Coordination Hydrologist
Link Crawford – Hydrologist (presenter)**

December 17/18, 2024



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2024 Trends



CURRENT STATION INFORMATION:

Station Name: INDIANAPOLIS INTL AP
County: MARION
State: IN

[More Info](#)

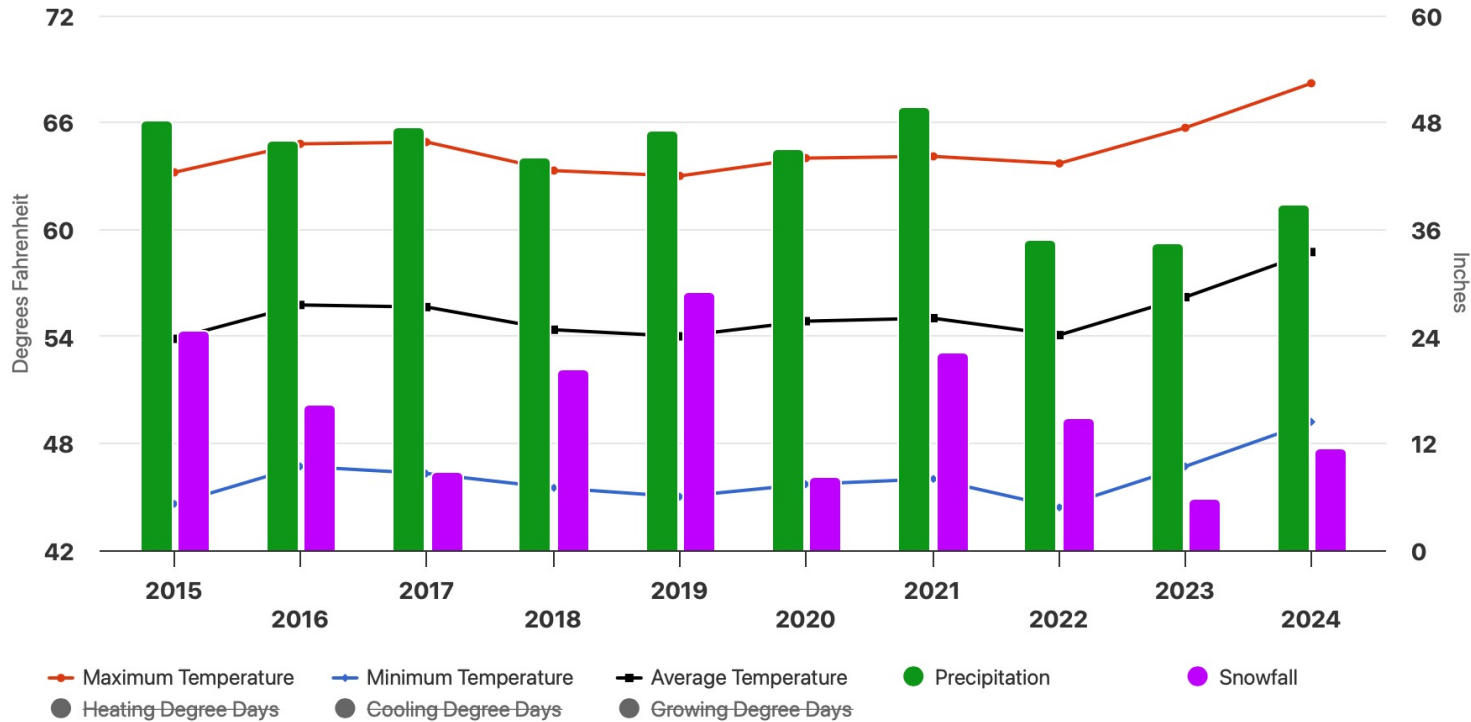


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Annual Values at INDIANAPOLIS INTL AP (IN) USW00093819

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Midwestern Regional Climate Center



Click and drag to zoom.



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2024 Annual Review



- **It was a warm year for Indiana and much of the corn and soybean region**
- **Rainfall saw abrupt swings and most of the monthly and seasonal averages were skewed by tropical events in July and September**
- **Warmest departures were north half**



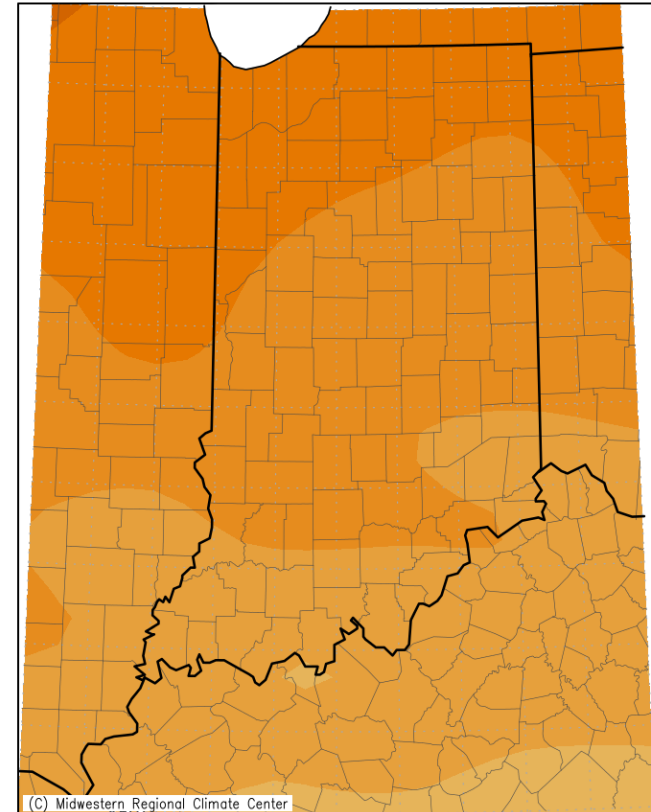


2024 Winter Review



- **It was a warm winter across Indiana and much of the region**
- **Temperatures averaged 2-5F above normal**
- **Warmest departures were north half**

Average Temperature (°F): Departure from Mean
January 1, 2024 to March 31, 2024



(C) Midwestern Regional Climate Center

Mean period is 1991-2020.



Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

Generated at: 12/2/2024 9:24:23 AM EST



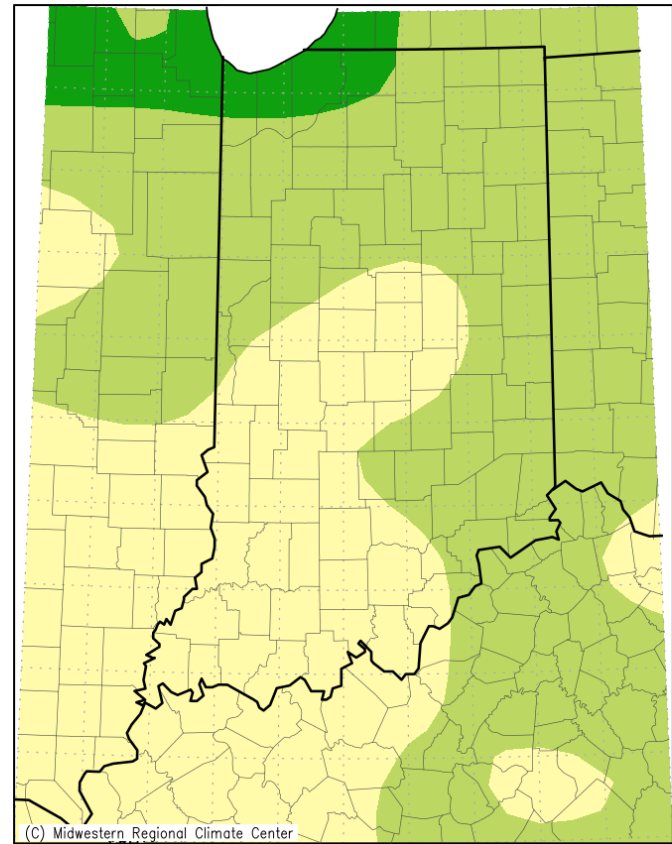


2024 Winter Review

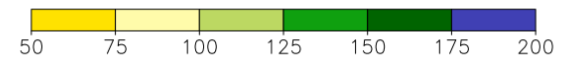


- **Winter precipitation was variable, slightly drier southwest to wetter north**
- **Precipitation was 80-125% of normal**

Accumulated Precipitation: Percent of Mean
January 1, 2024 to March 31, 2024



(C) Midwestern Regional Climate Center
Mean period is 1991–2020.



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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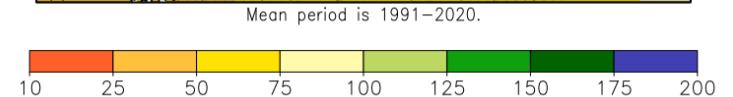
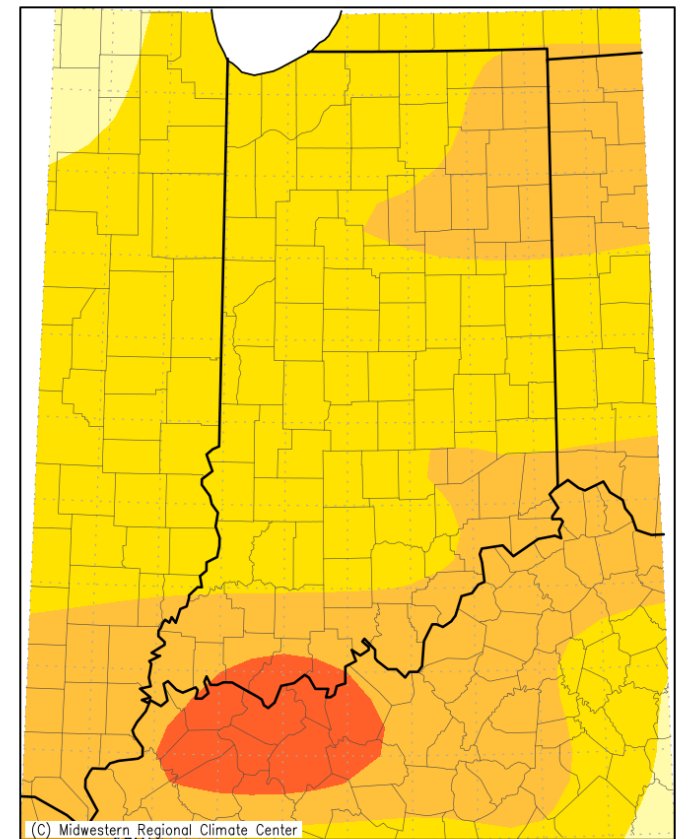


2024 Winter Review



- There was a lack of snow in the winter of 2024
- Snowfall was generally 20-60% of normal
- A lot like 2012 for snow, rain and temperatures.

Accumulated Snowfall: Percent of Mean
January 1, 2024 to May 1, 2024



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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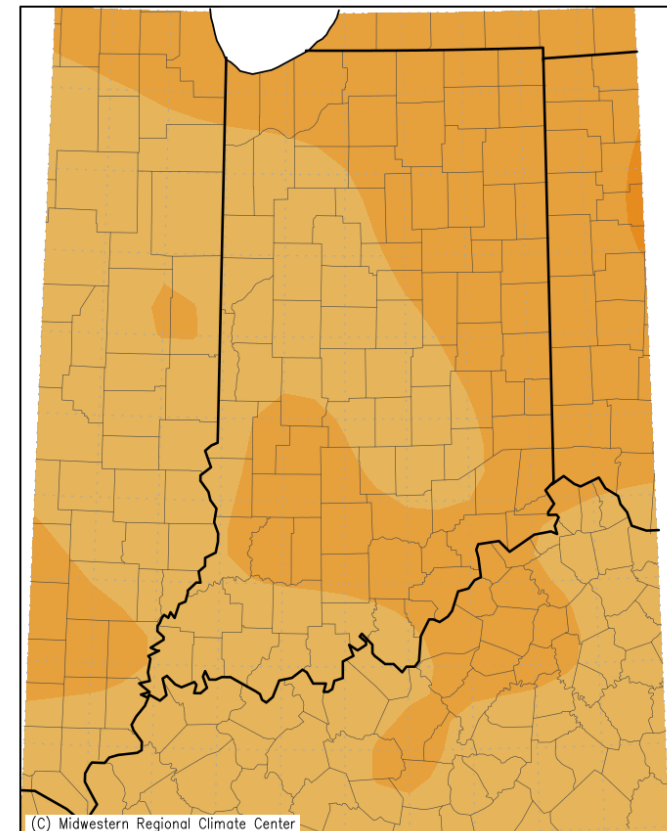


2024 Spring Planting Review



- **The warm weather continued through spring planting. The burst of hot June weather was a big factor in this period**
- **Temperatures averaged 2-4F above normal**

Average Temperature (°F): Departure from Mean
April 1, 2024 to June 30, 2024



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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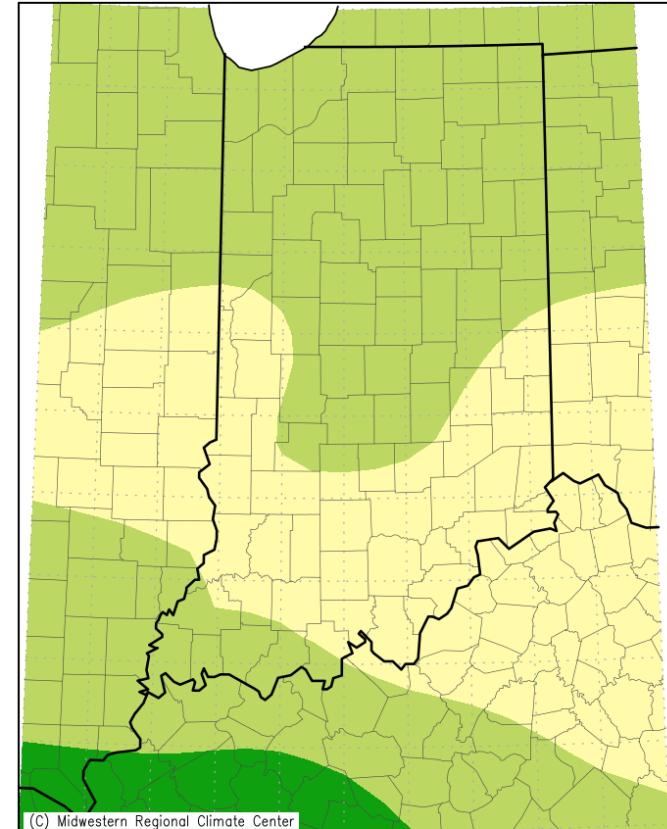


2024 Spring Planting Review



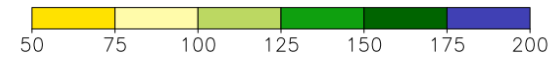
- **Spring rains were variable. Most of the dryness was late in the period and subsoil moisture was fairly good for crops to get going**
- **Precipitation was 80-110% of normal**
- **Driest areas south**

Accumulated Precipitation: Percent of Mean
April 1, 2024 to June 30, 2024



(C) Midwestern Regional Climate Center

Mean period is 1991-2020.



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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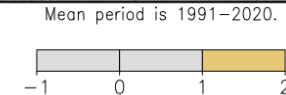
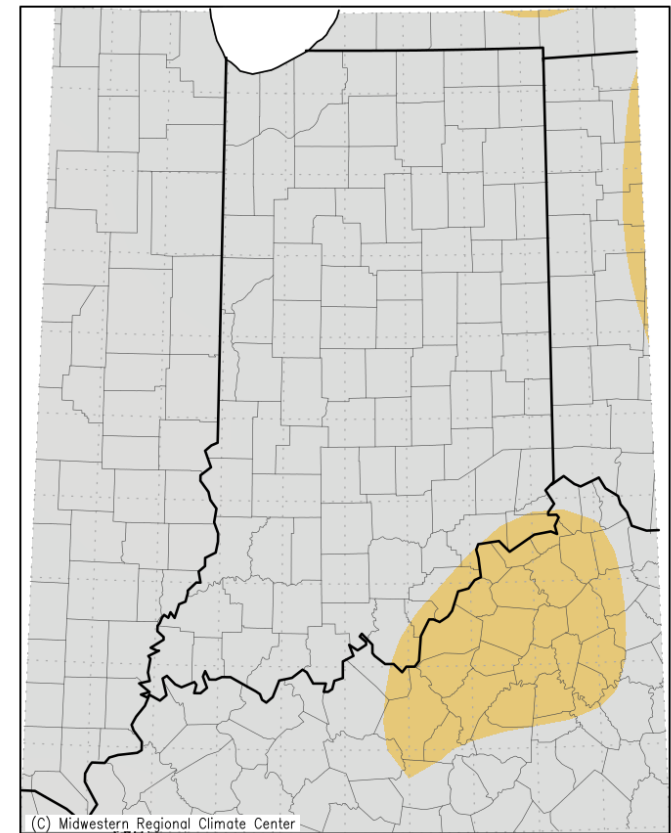


2024 Summer Growing Review



- **Summer heat relaxed after the June heatwave and overall temperatures were fairly benign.**
- **Temperatures averaged normal - below July, normal August, above September**

Average Temperature (°F): Departure from Mean
July 1, 2024 to September 30, 2024



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 12/2/2024 9:25:39 AM EST



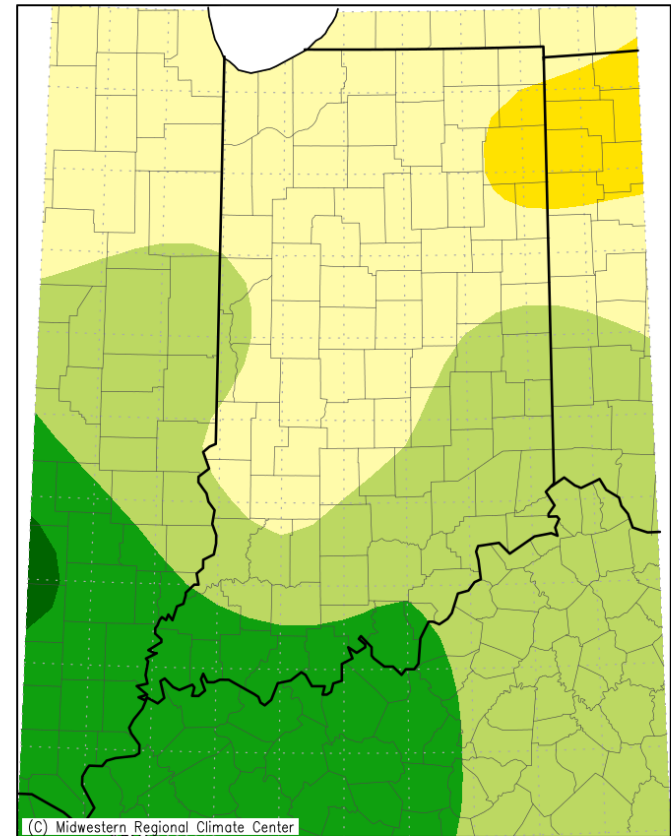


2024 Summer Growing Review



- **Summer growing season was tale of two seasons. July wetter due to remnants of Beryl, drying in August and 25-50% of normal rain in most of September until Helene hit southern Indiana in late September**
- **Below north/above south**

Accumulated Precipitation: Percent of Mean
July 1, 2024 to September 30, 2024



(C) Midwestern Regional Climate Center

Mean period is 1991–2020.



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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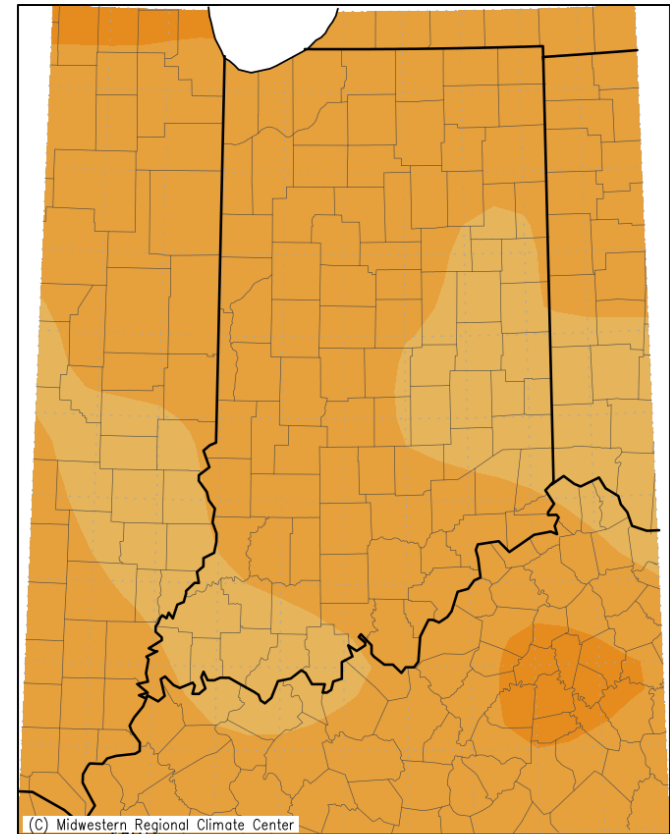


2024 Fall Harvest Review



- **The warm weather of September continued for much of October and November**
- **Temperatures averaged 2-4F above normal**

Average Temperature (°F): Departure from Mean
October 1, 2024 to December 1, 2024



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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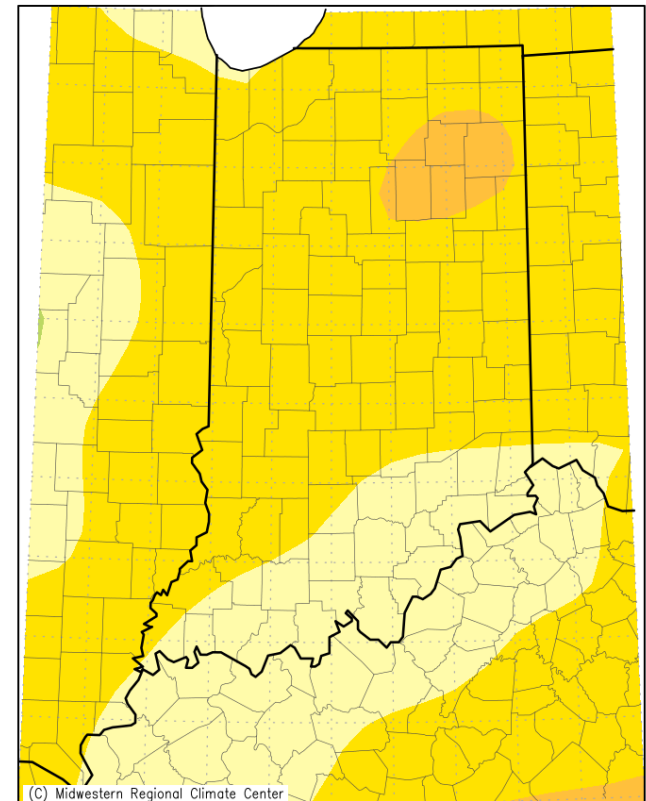


2024 Fall Harvest Review



- **Except for Helene in southern Indiana in late September it was a fairly dry harvest season.**
- **Driest areas were in northern Indiana where <50% of normal rainfall occurred**

Accumulated Precipitation: Percent of Mean
October 1, 2024 to December 1, 2024



25 50 75 100 125 150 175 200

Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

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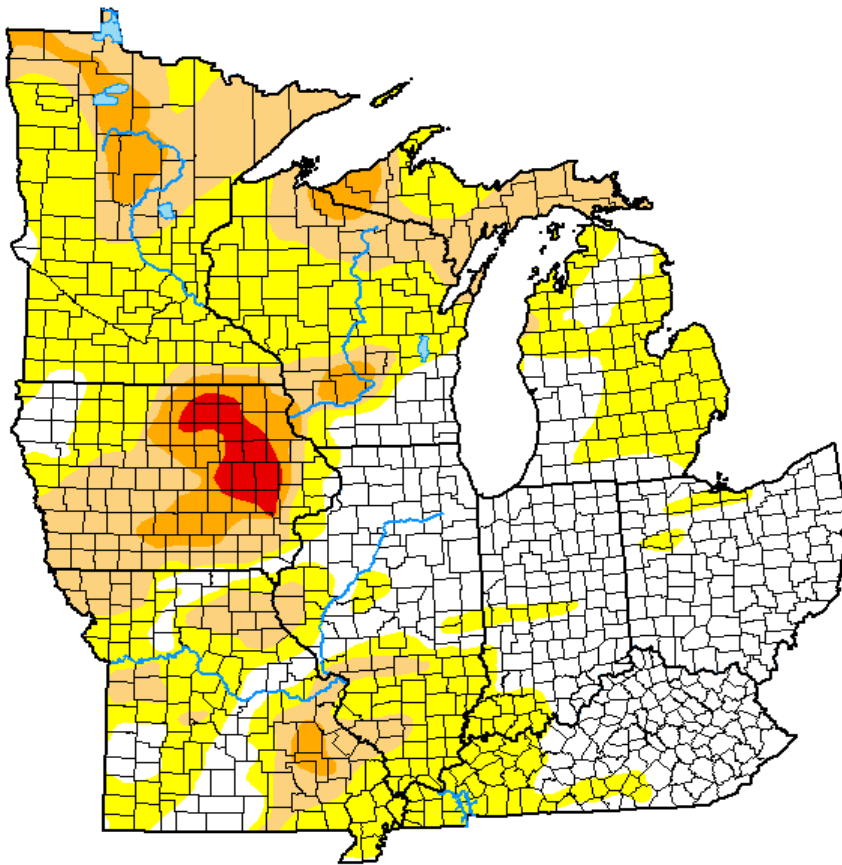


2024 Winter Drought Trend



U.S. Drought Monitor Midwest

March 26, 2024
(Released Thursday, Mar. 28, 2024)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.90	65.10	26.56	7.29	1.36	0.00
Last Week <i>03-19-2024</i>	33.06	66.94	39.97	11.45	2.28	0.00
3 Months Ago <i>12-26-2023</i>	23.27	76.73	46.55	20.52	4.20	0.00
Start of Calendar Year <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <i>09-26-2023</i>	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago <i>03-28-2023</i>	83.78	16.22	6.29	1.78	0.17	0.06

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>

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droughtmonitor.unl.edu



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2024 Spring Drought Trend

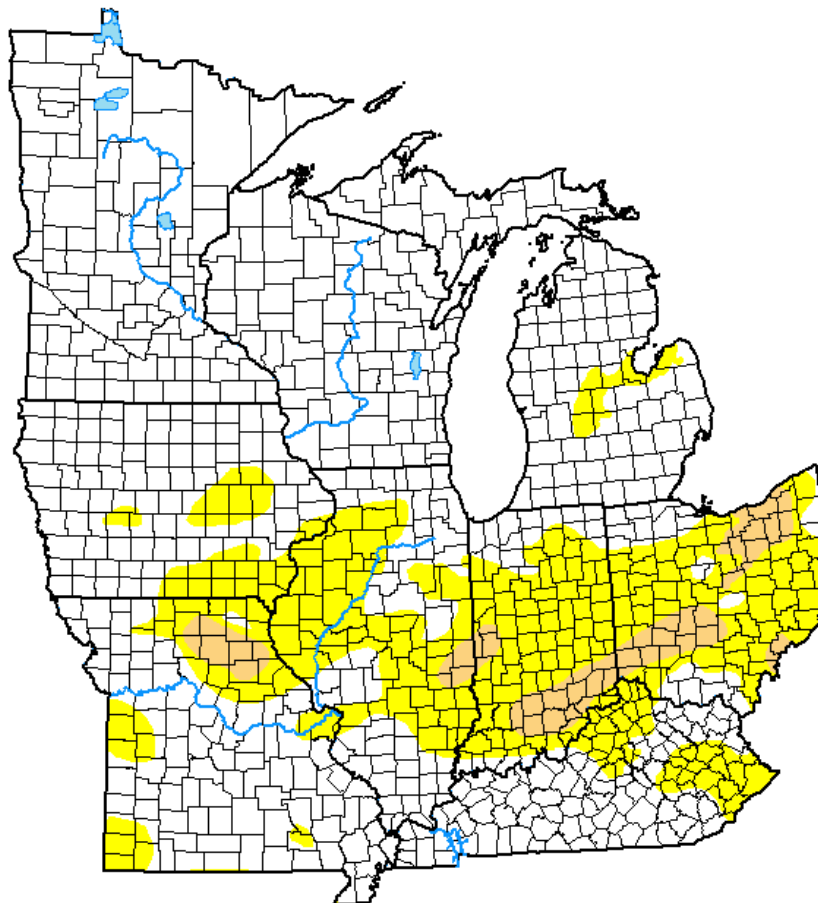


U.S. Drought Monitor Midwest

June 25, 2024

(Released Thursday, Jun. 27, 2024)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	72.88	27.12	3.86	0.00	0.00	0.00
Last Week <i>06-18-2024</i>	77.60	22.40	0.78	0.00	0.00	0.00
3 Months Ago <i>03-26-2024</i>	34.90	65.10	26.56	7.29	1.36	0.00
Start of Calendar Year <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <i>09-26-2023</i>	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago <i>06-27-2023</i>	9.26	90.74	64.71	24.65	3.52	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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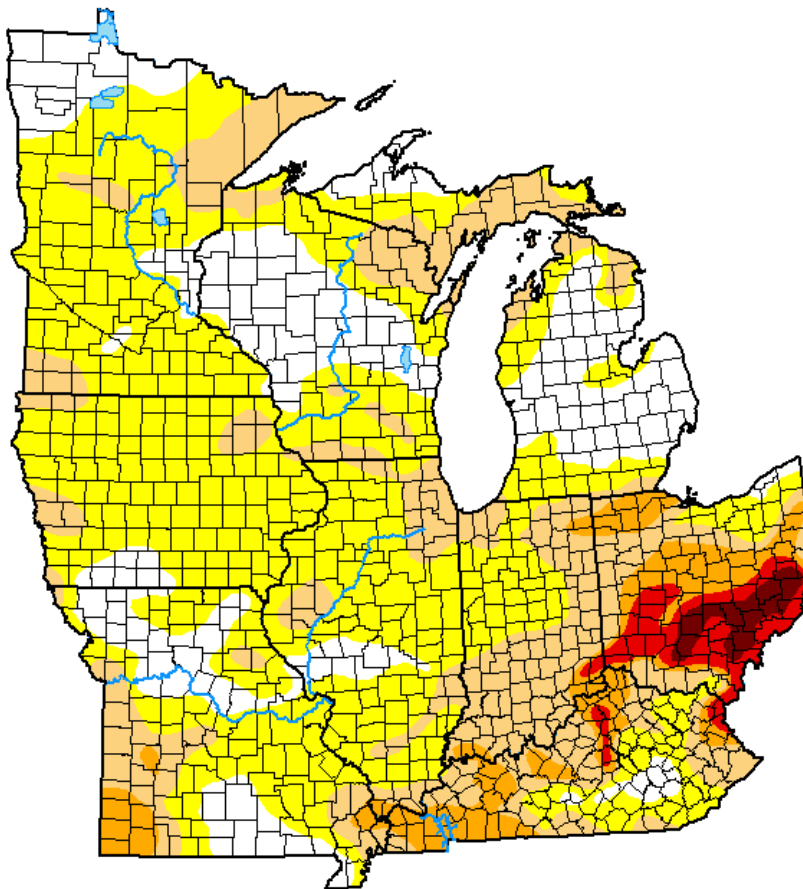
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2024 Summer Drought Trend

U.S. Drought Monitor Midwest

September 24, 2024
(Released Thursday, Sep. 26, 2024)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	20.61	79.39	31.51	9.38	3.27	1.04
Last Week 09-17-2024	22.92	77.08	33.29	9.93	2.56	0.79
3 Months Ago 06-25-2024	72.88	27.12	3.86	0.00	0.00	0.00
Start of Calendar Year 01-02-2024	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year 09-26-2023	16.82	83.18	54.98	23.81	6.21	0.13
One Year Ago 09-26-2023	16.82	83.18	54.98	23.81	6.21	0.13

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
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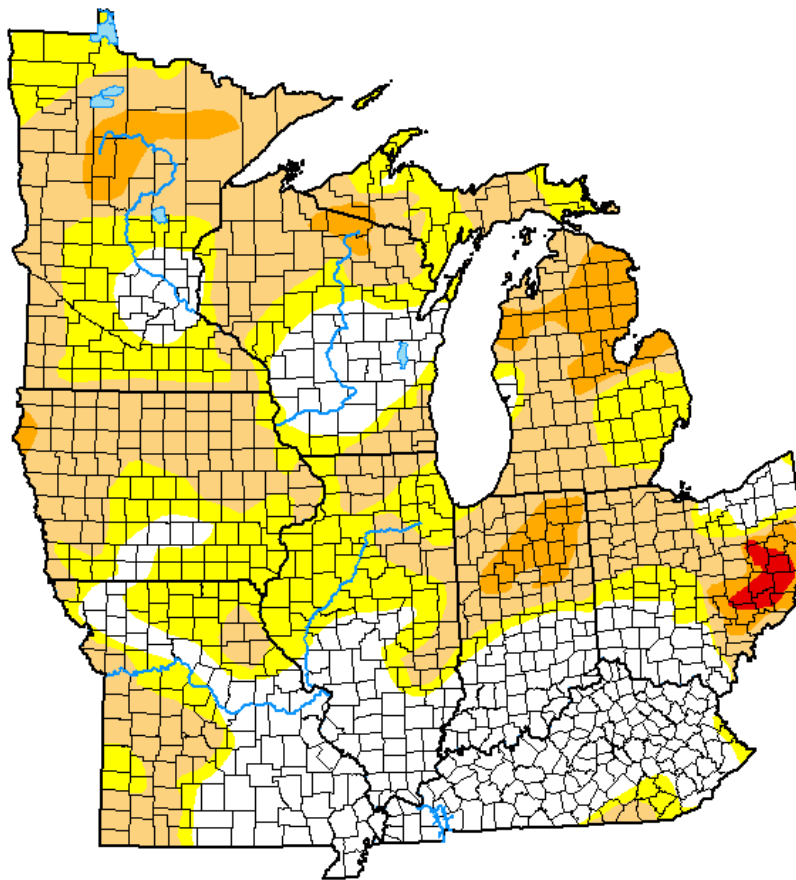


2024 Autumn Drought Trend



U.S. Drought Monitor Midwest

November 26, 2024
(Released Wednesday, Nov. 27, 2024)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	30.32	69.68	43.38	7.17	0.57	0.00
Last Week <i>11-19-2024</i>	26.29	73.71	50.34	12.42	0.83	0.41
3 Months Ago <i>08-27-2024</i>	62.98	37.02	5.49	2.08	1.35	0.11
Start of Calendar Year <i>01-02-2024</i>	22.92	77.08	50.25	20.76	4.20	0.00
Start of Water Year <i>10-01-2024</i>	21.78	78.22	28.15	6.40	1.46	0.66
One Year Ago <i>11-28-2023</i>	25.75	74.25	42.58	17.33	3.30	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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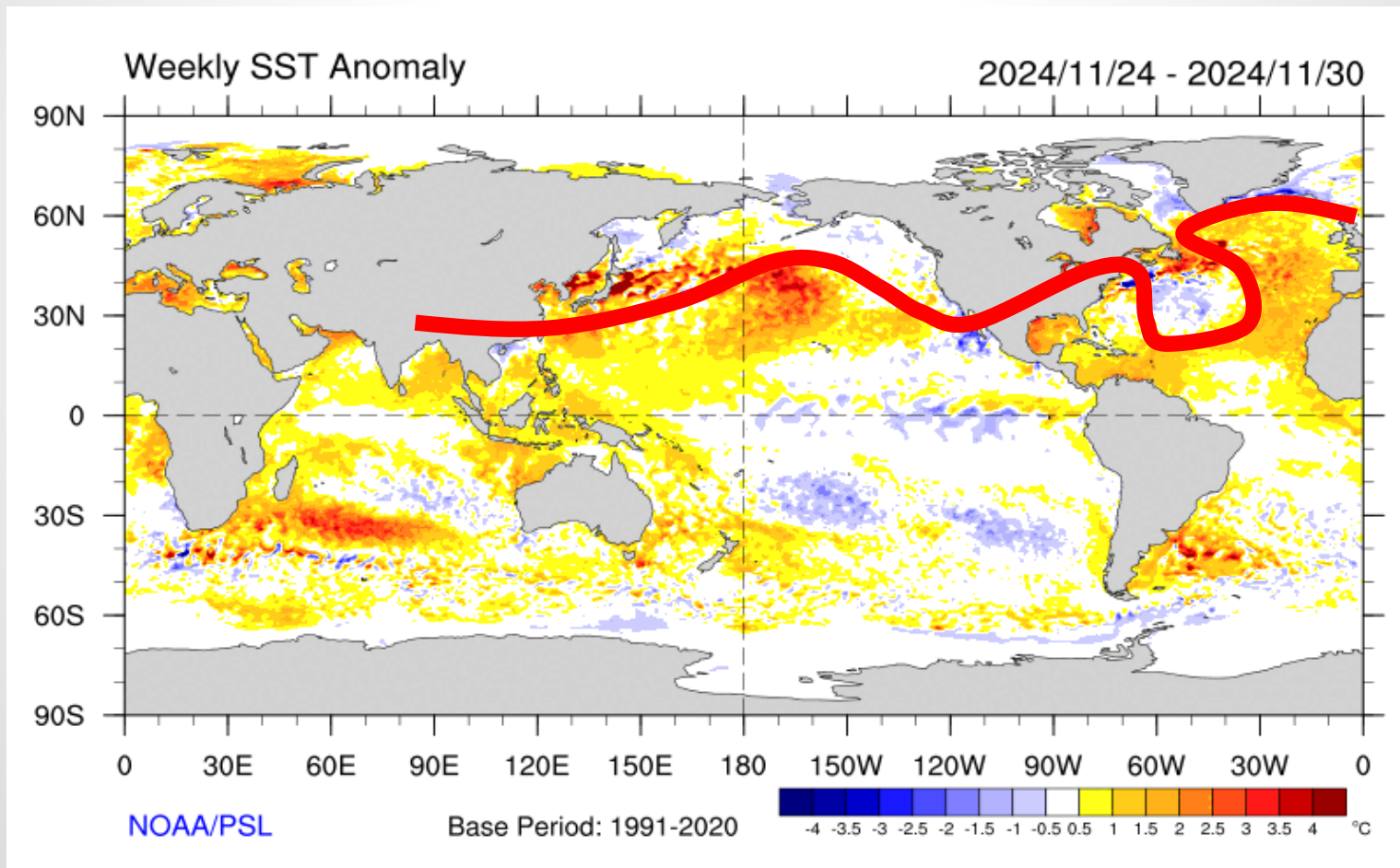
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Late 2024 Ocean Conditions



We have had no La Nina to this point. Weather pattern will be driven by ocean pattern this winter and spring



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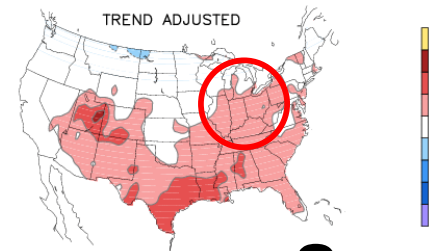
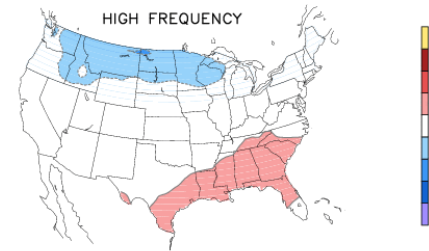
Typical La Nina Temperature Response



- Normally winter is normal to warmer, spring normal to colder and summer normal to warmer than normal.

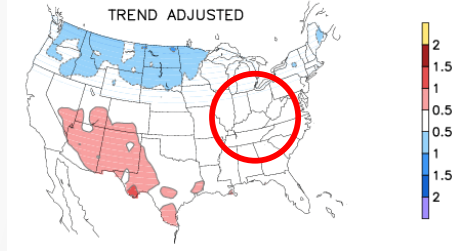
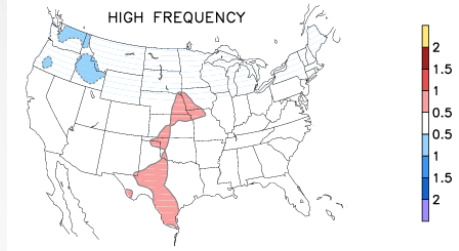
Winter

DJF LA NINA TEMPERATURE ANOMALIES (°C)
(20 CASES)



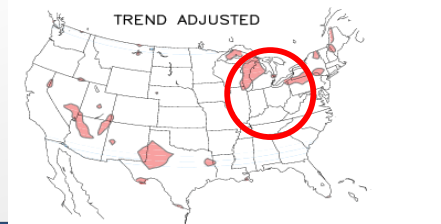
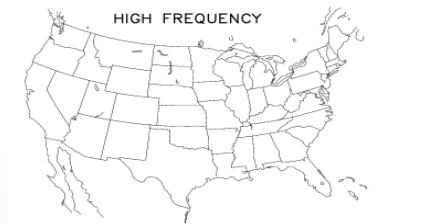
Spring

MAM LA NINA TEMPERATURE ANOMALIES (°C)
(13 CASES)



Summer

JJA LA NINA TEMPERATURE ANOMALIES (°C)
(13 CASES)



- A lot of uncertainty in temperatures.





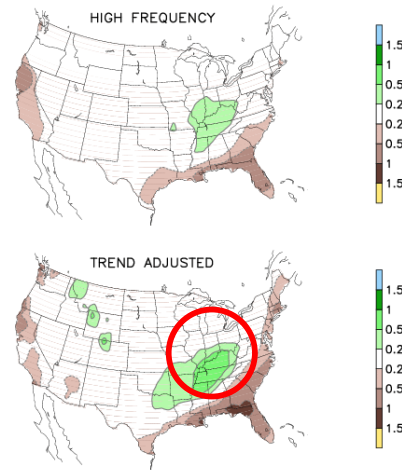
Typical La Nina Precipitation Response



- Normally winter into spring is wetter than normal with a trend toward drier in summer in La Nina years.

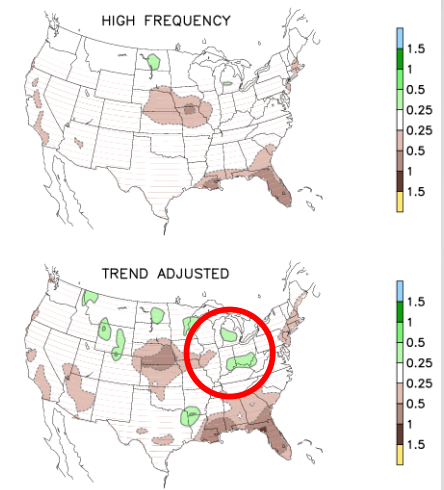
Winter

DJF LA NINA PRECIPITATION ANOMALIES (MM DAY⁻¹)
(20 CASES)



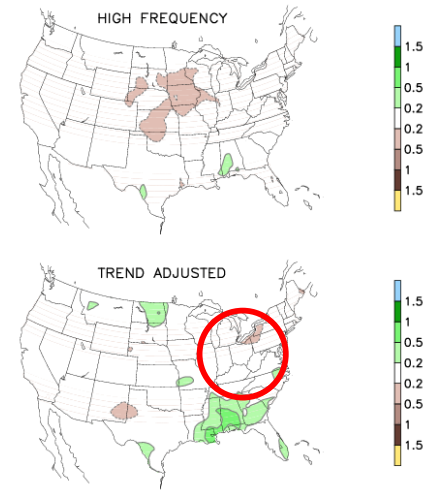
Spring

MAM LA NINA PRECIPITATION ANOMALIES (MM DAY⁻¹)
(13 CASES)



JJA LA NINA PRECIPITATION ANOMALIES (MM DAY⁻¹)
(5 CASES)

Summer





2025 La Nina Outlook



- **Even if we reach minimal La Nina conditions in the Pacific Ocean, it will have little if any impacts here due to it being weak.**

- **Other weather forcings will drive our weather the next 6+ months.**

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf



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2025 Outlook



- **Highly variable winter temperatures, likely not as warm as last winter!**
- **Rain likely normal to above slightly normal but nothing super extreme.**
- **More snow than last winter but still on normal to below normal side**
- **2025 likely to overall be warmer than normal with near normal rainfall (30-day swings).**

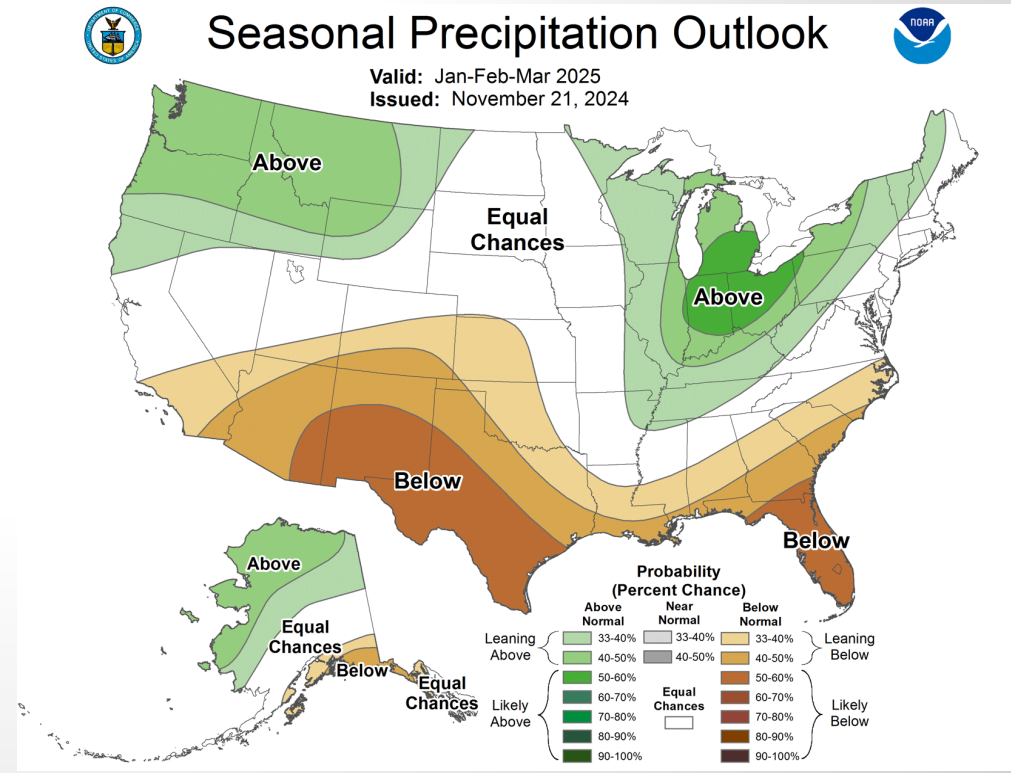
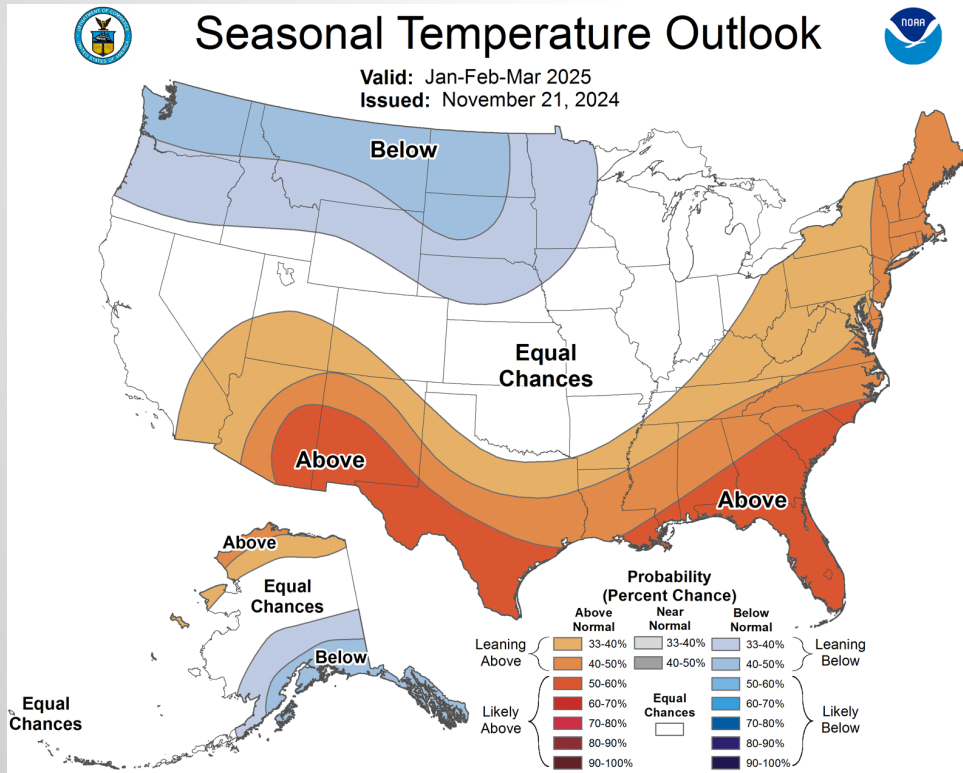




2025 Winter Probability Outlook



- Not far from normal temperatures but highly variable with cold and warm bursts
- Wetter than normal but not extreme (not like 2011)



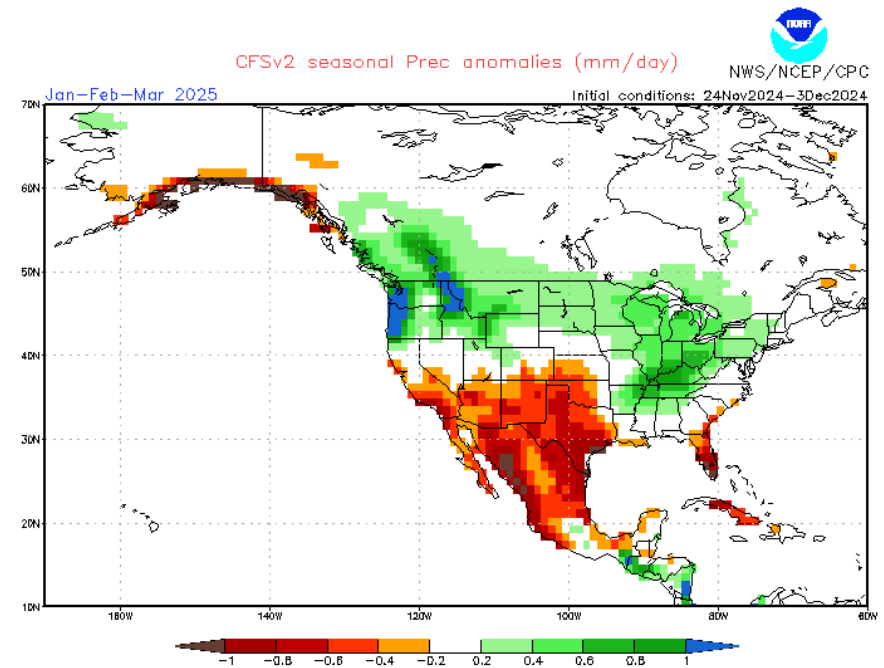
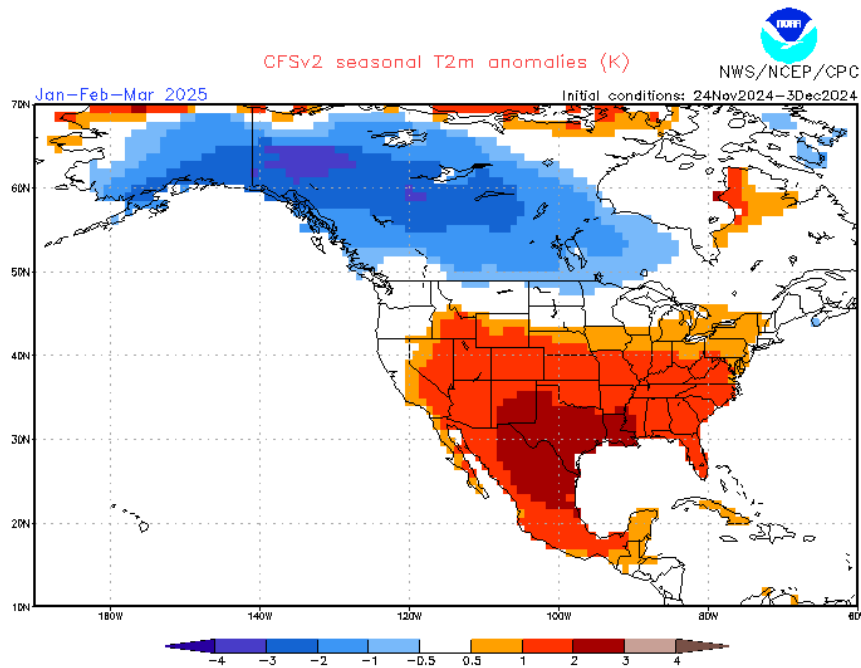
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2025 Winter Departure Outlook



- Our climate model indicates temperatures forecast (+1-3)F above normal while rainfall (+0.5-1.0)” above average per month (+10-20%)





2025 Spring Probability Outlook



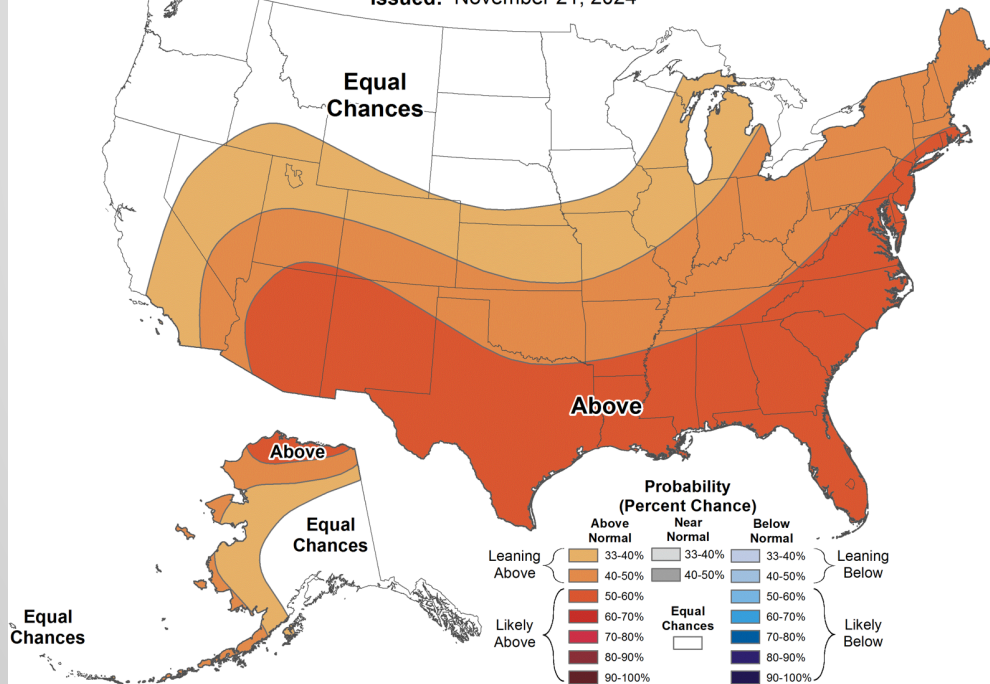
- Warmer departures from normal will grow with May and June favored most.
- Lingering wetness should be early



Seasonal Temperature Outlook



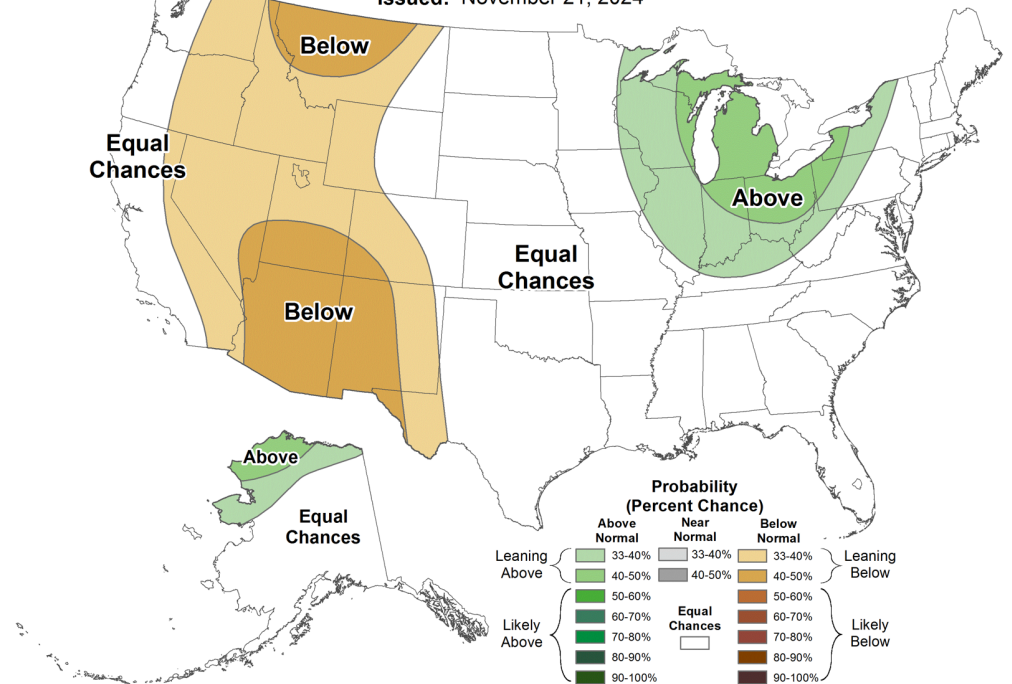
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Issued: November 21, 2024



Seasonal Precipitation Outlook



Valid: Apr-May-Jun 2025
Issued: November 21, 2024



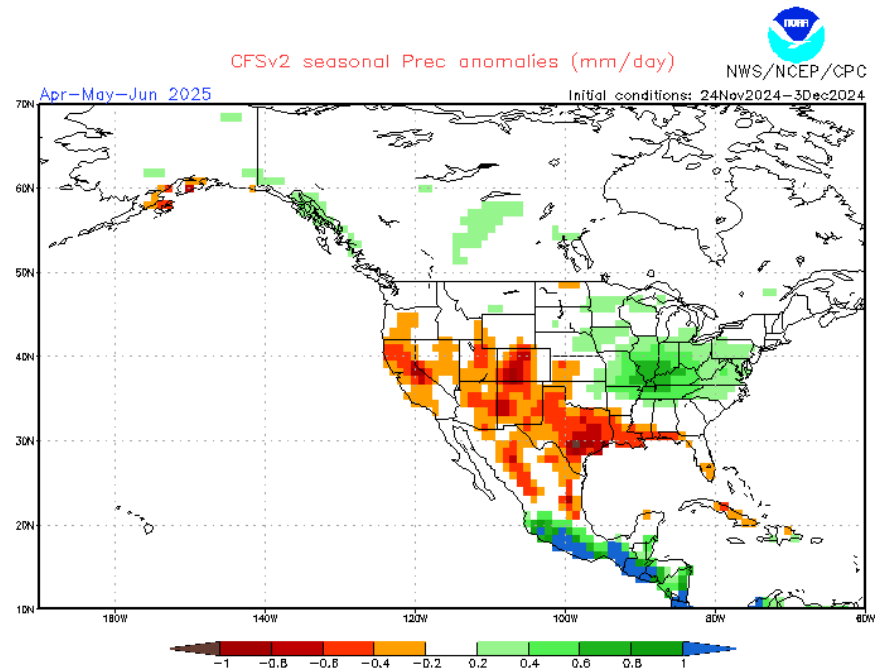
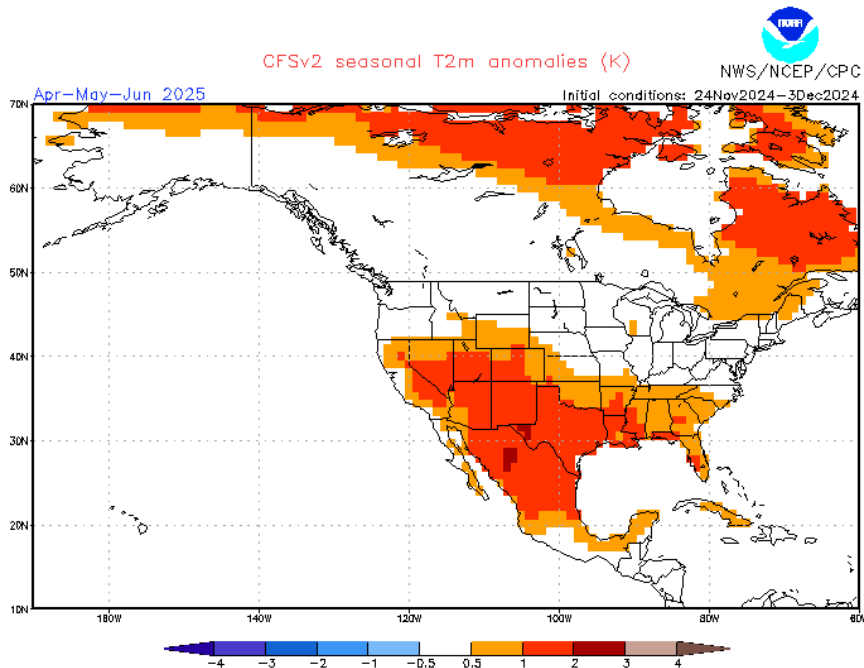
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2025 Spring Departure Outlook



- **(+0-1)F above normal for temperatures and (+0.25-0.50)'' above normal per month on average. (+8-12%) above normal rainfall.**





2025 Summer Probability Outlook



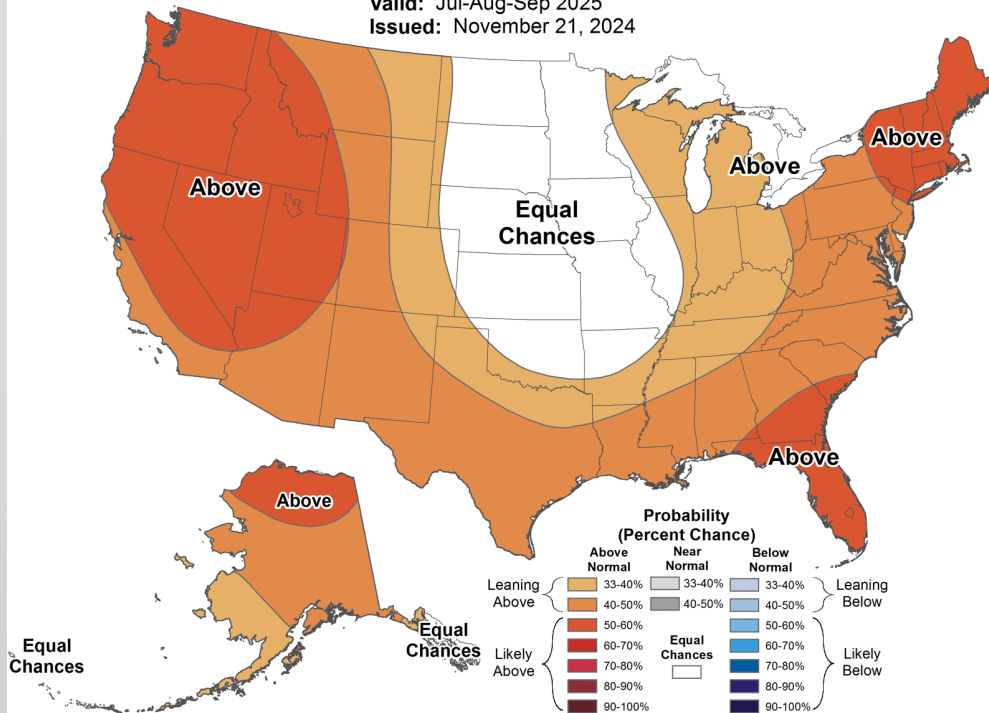
- Slightly above normal temperatures mostly in nighttime minimums
- Highly variable summer rains averaging out close to normal



Seasonal Temperature Outlook



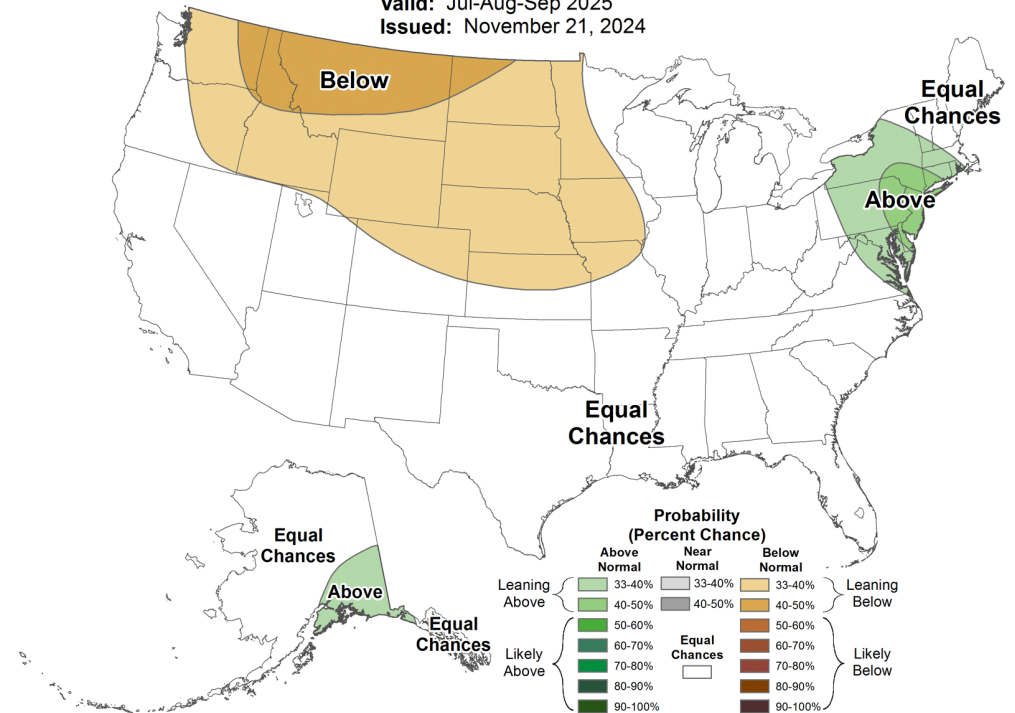
Valid: Jul-Aug-Sep 2025
Issued: November 21, 2024



Seasonal Precipitation Outlook



Valid: Jul-Aug-Sep 2025
Issued: November 21, 2024



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2025 Autumn Probability Outlook



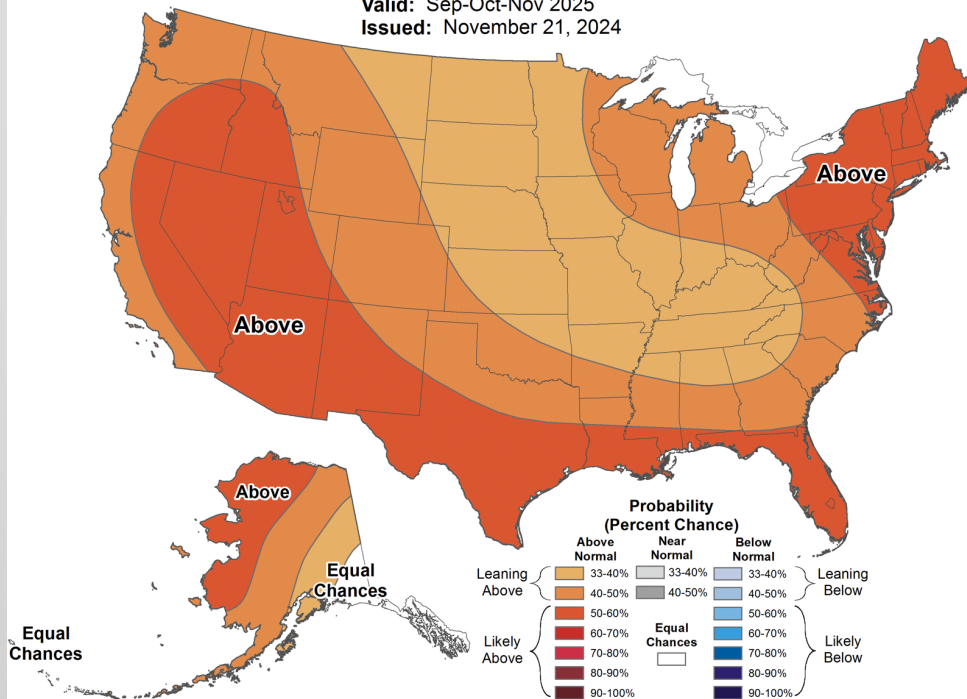
- Another warm harvest season projected. This has become the norm in recent years.
- No signal in rainfall could go either way



Seasonal Temperature Outlook



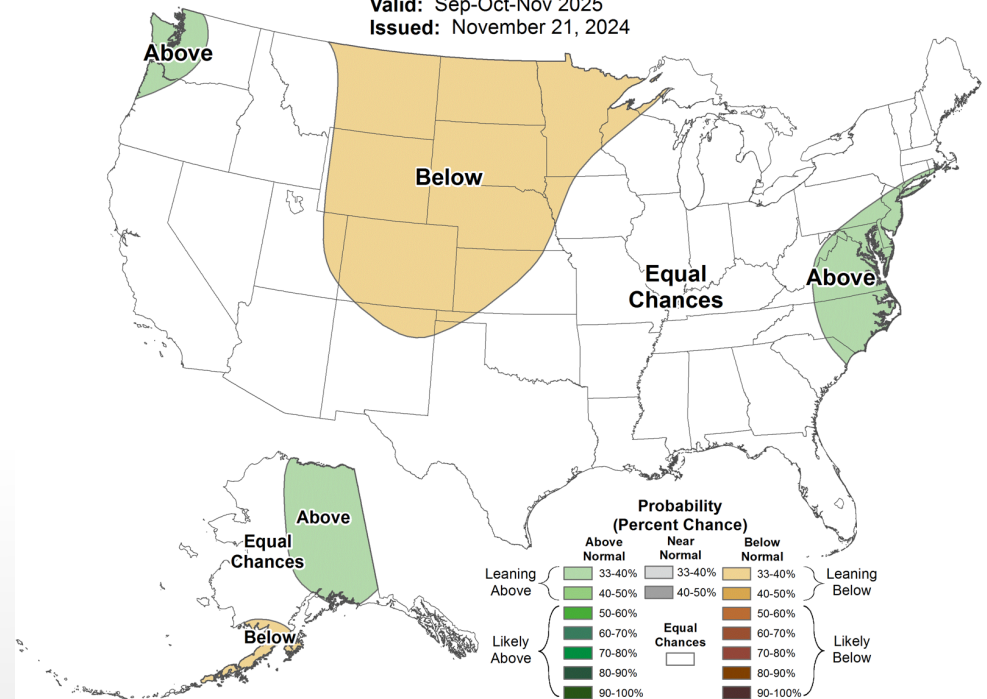
Valid: Sep-Oct-Nov 2025
Issued: November 21, 2024



Seasonal Precipitation Outlook



Valid: Sep-Oct-Nov 2025
Issued: November 21, 2024



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Questions?



Email: James.Noel@noaa.gov



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