



Item 9.1: 2025 Summer Weather Outlook

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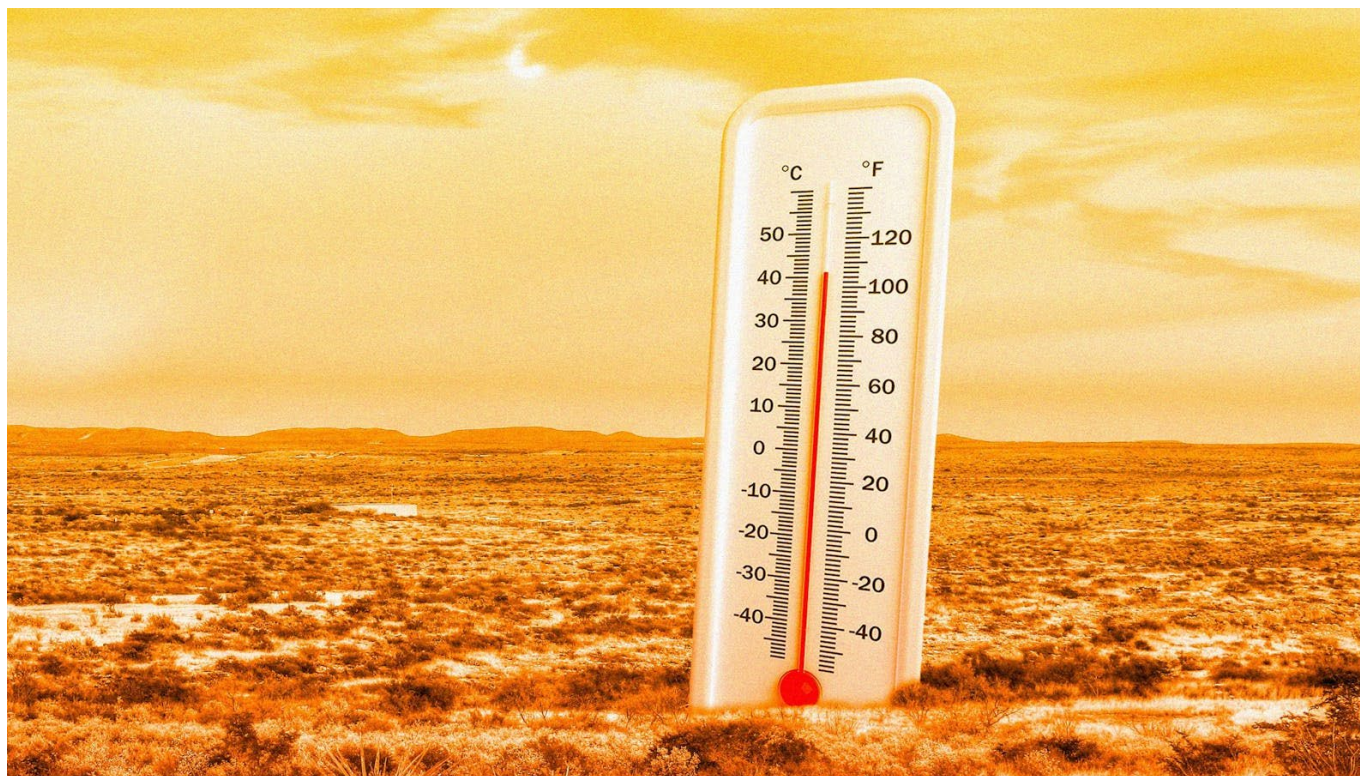
Board of Directors Meeting

ERCOT Public

June 23-24, 2025

Agenda

- Review of recent summers
- Examining last summer
- Summer 2025 temperature and precipitation outlooks
- Drought outlook
- Hurricane forecast



Recent Texas Summers

2024	#6 hottest
2023	#2 hottest
2022	#3 hottest
2021	#55 hottest
2020	#29 hottest
2019	#6 hottest
2018	#11 hottest
2017	#55 hottest
2016	#26 hottest
2015	#22 hottest
2014	#55 hottest
2013	#26 hottest
2012	#17 hottest
2011	#1 hottest

Mean Temperature Ranking of Recent Texas Summers (1895-current, 130 historical years, Jun-Sep)

Since 2011, 11 of 14 summers have ranked within the 29 hottest all-time for Texas (out of 130 historical years)

The three other years have all ranked as the 55th hottest (which is still the upper-half of all historical summers)

2008 was the last Texas summer to rank in the coolest half of all summers

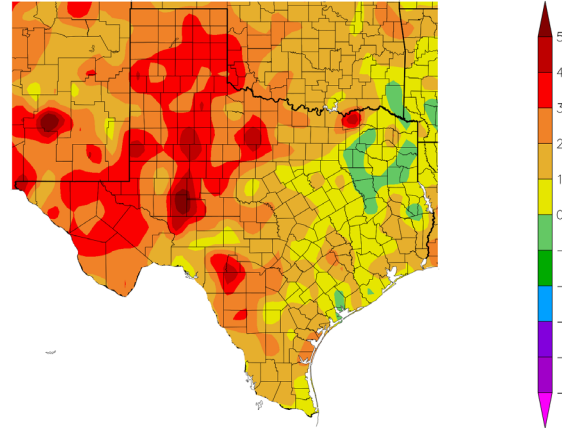
2007 was the last Texas summer to rank in the coolest third

- **Key Takeaway:** The recent run of very hot summers has pushed up the 15-year normal (2010-2024) to the point where only 11 historical summers qualify as above normal (2011, 2023, 2022, 1998, 1980, 2024, 2019, 1954, 1934, 1911, 2018). **It has become statistically challenging to record a hotter-than-normal summer**

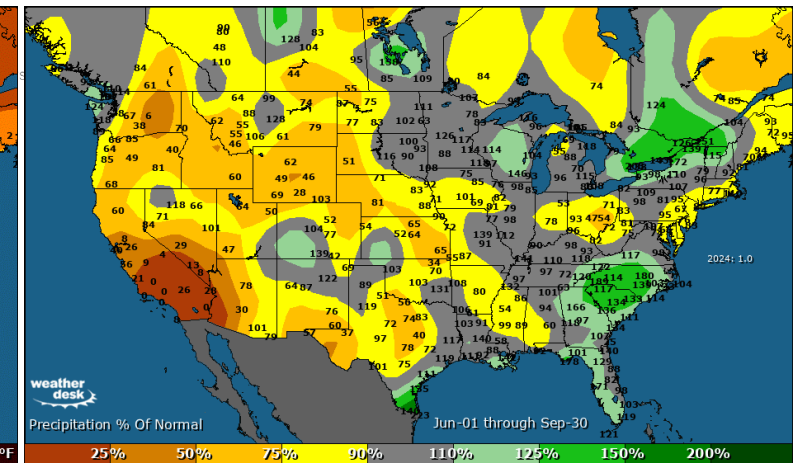
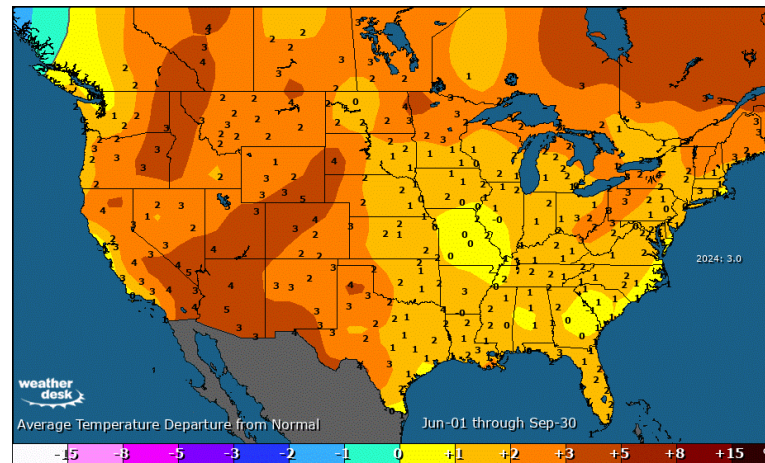
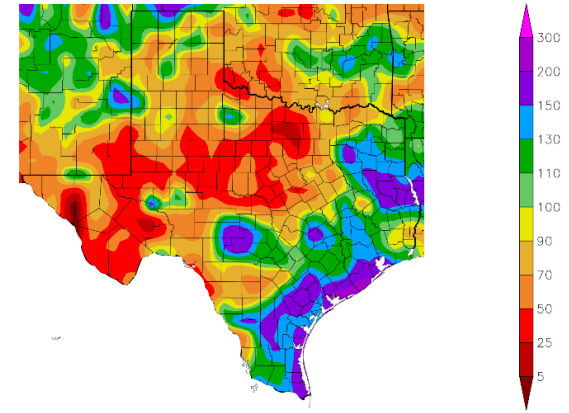
Summer 2024 Review

- June-September 2024 was the **6th hottest** summer on record for Texas based on mean temperatures (5th hottest based on minimum temperatures)
- 2011: #1, 2023: #2, 2022: #3, 1998: #4, 1980: #5
- Three of the six hottest summers on record for Texas have happened over the past three summers**
- The Jun-Sep 2024 period was the **63rd driest** on record and was the **2nd wettest** summer over the past six years (2021 was wetter)
- 100-degree days:
 - Dallas:** 23 days. While far fewer than 2023 (55 days) and 2022 (47 days), this was the 3rd most over the past 11 years
 - Houston:** 9 days. Also, well below 2023 (45) and 2022 (22), but the 3rd most over the past 9 years
 - Austin:** 32 days. Fewest since 2021 (12 days) and 2nd fewest over the past 8 summers
 - San Antonio:** 25 days. 3rd fewest over the past 7 years

Departure from Normal Temperature (F)
6/1/2024 – 8/31/2024



Percent of Normal Precipitation (%)
6/1/2024 – 8/31/2024



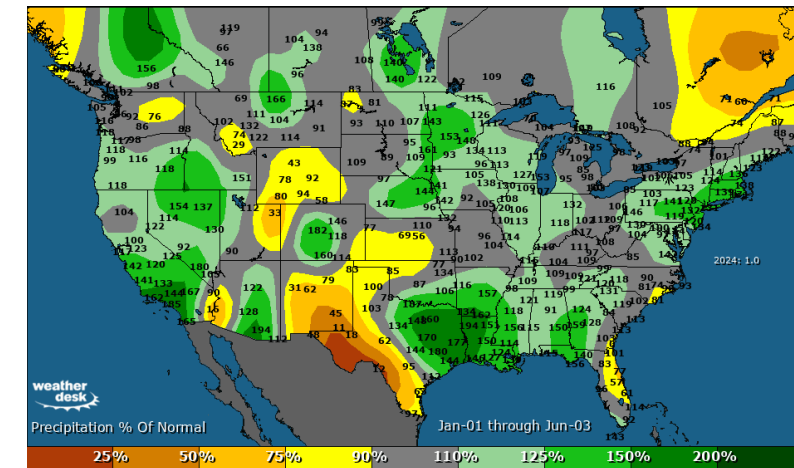
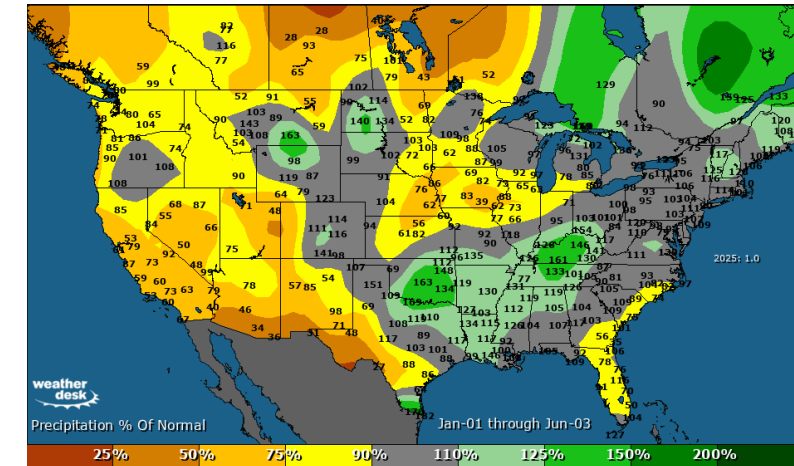
- Key Takeaway:** Last summer wasn't nearly as hot as 2023; however, it still ranked top 10 – even with the 2nd wettest summer over the past 6 years

Summer 2024 Review

- Wet summers typically do not correlate well with hot summers – **last year was an exception**
- June through August 2024** (meteorological summer) was the hottest recorded for Texas in a summer with above normal precipitation
- In fact, it was the **only of the top 20** hottest summers to record above normal precipitation
- Only 3 other top 50 hottest summers in Texas also recorded above normal precipitation:
 - 2010: 21st hottest, 2016: 33rd hottest, 1899: 47th hottest

- Key Takeaway:** The relative wetness of last summer likely saved us from a significantly hotter season

	temperature	precipitation	departure	
	rank	rank	from 15-yr norm	
2011	1	1	-4.94	
2023	2	7	-3.19	
2022	3	46	-0.63	
1934	4	4	-3.59	
1998	4	29	-1.37	
1980	6	8	-3.07	
2024	7	76	0.44	
2018	8	49	-0.59	
1953	9	39	-0.92	
2020	10	24	-1.65	
1954	11	6	-3.23	
1901	12	16	-2.49	
1918	12	15	-2.59	
2012	12	36	-1.00	
1951	15	22	-1.73	
1952	15	3	-3.61	
1956	15	2	-4.11	
2009	18	40	-0.82	
1925	19	23	-1.68	
2001	20	57	-0.28	



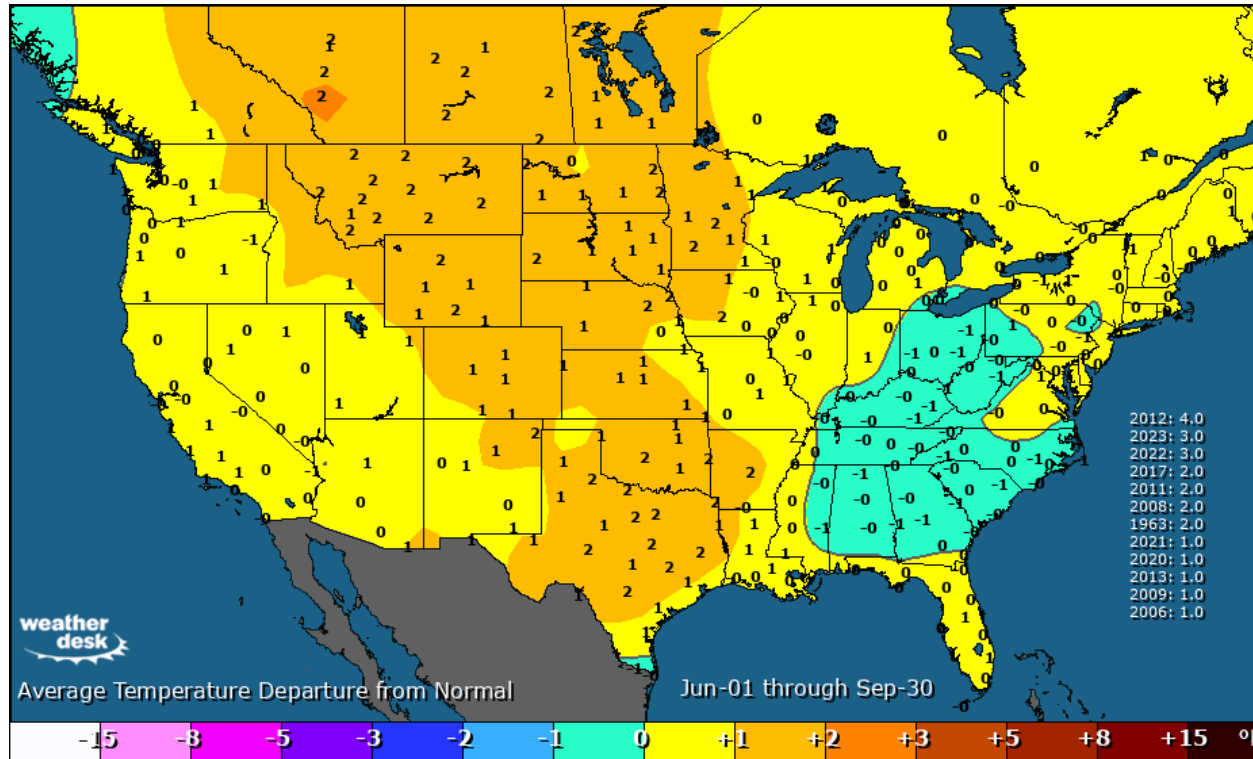
- Key Takeaway:** Jan 1 – Jun 3 precipitation anomalies, 2025 (top) vs 2024. Similar pattern – though mostly not as wet as a year ago

2025 Summer Temperature Historical Matches (Analog)

OVERALL

1. 2012
2. 2023
3. 2022
4. 2017
5. 2011
6. 2008
7. 1963
8. 2021
9. 2020
10. 2013
11. 2009
12. 2006

Analogues are listed in priority order



The 2025 analog composite is a hotter pattern than it was for the 2024 summer outlook

Key Takeaway:
Analogues point to above normal temperatures this summer

The Top 3 Hottest Summers are listed as analogs (similar matches to 2025)

2012: 17th hottest summer

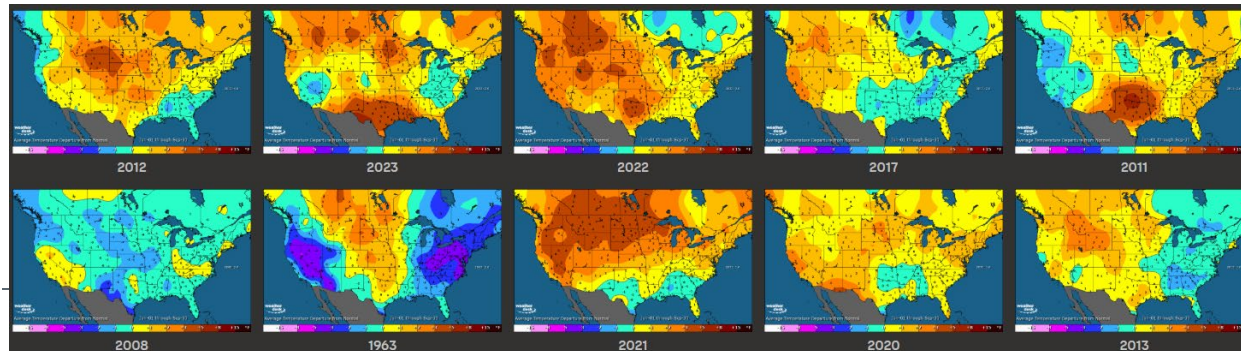
2023: 2nd hottest summer
2022: 3rd hottest summer

2017: 55th hottest summer
2011: 1st hottest summer
2008: 82nd hottest summer
1963: 29th hottest summer

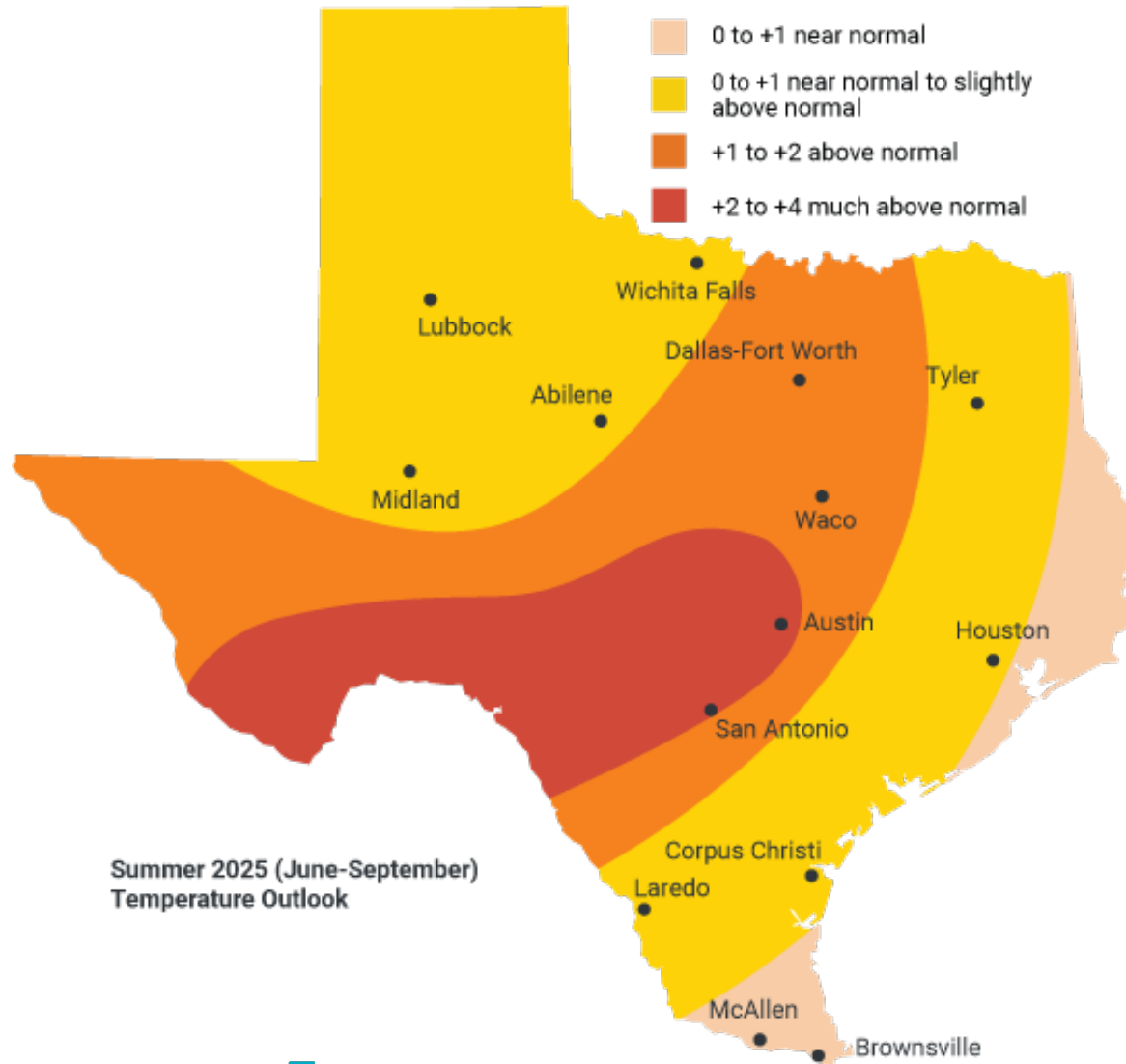
2021: 55th hottest summer
2020: 29th hottest summer
2013: 26th hottest summer
2009: 34th hottest summer
2006: 47th hottest summer

Analogues were determined by similar historical patterns to current:

- El Niño / La Niña / neutral
- Drought
- Solar Activity
- Pacific and Atlantic Ocean temperatures
- Similar temperature and precipitation patterns



2025 Summer Temperature Outlook



Summer 2025 (June-September)
Temperature Outlook

This summer's temperature outlook is mostly above normal across Texas

The most above normal anomalies generally correlate to the driest regions

Note the near normal areas over East and South Texas
Small chance the milder temperatures expand over a larger area

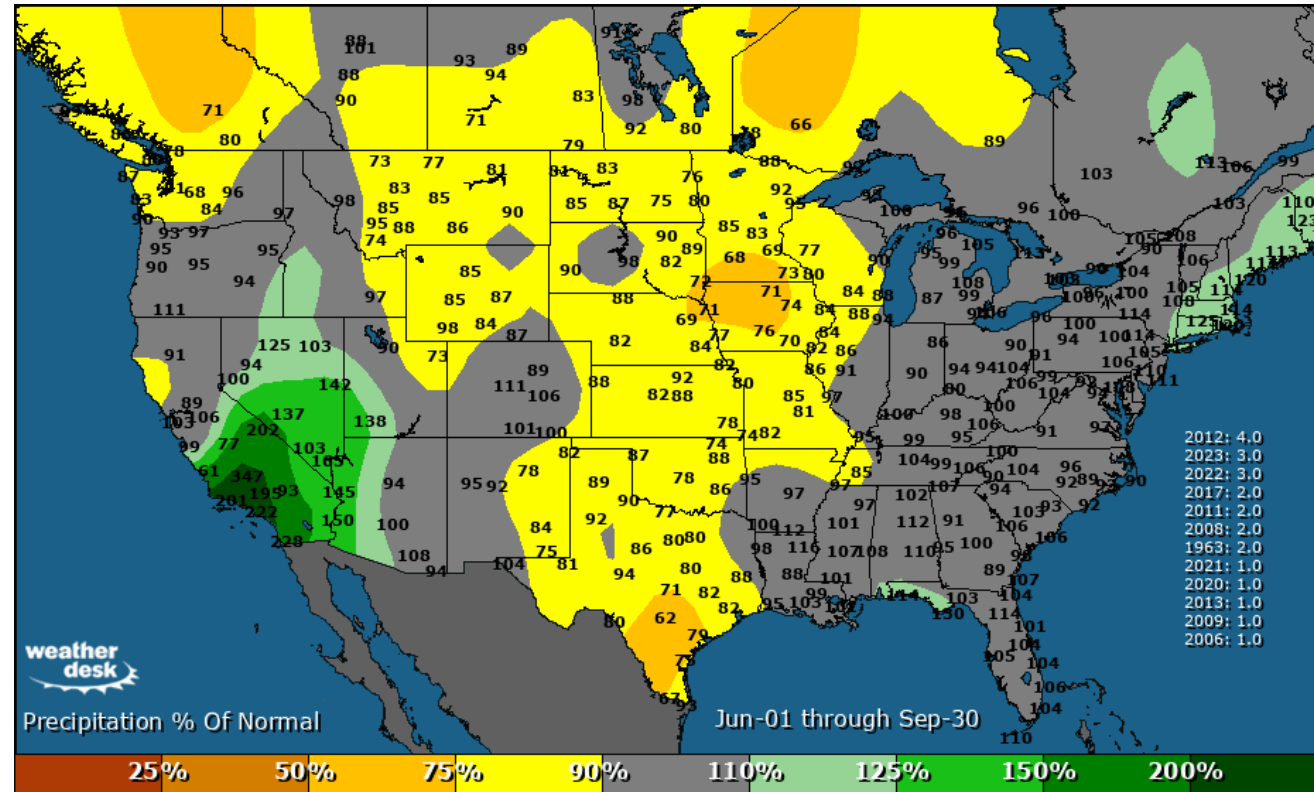
- **Key Takeaway:** Above normal temperatures equate to a top 10 hottest summer since 1895

2025 Summer Rainfall Historical Matches (Analog)

OVERALL

1. 2012
2. 2023
3. 2022
4. 2017
5. 2011
6. 2008
7. 1963
8. 2021
9. 2020
10. 2013
11. 2009
12. 2006

Analogues are listed in priority order



2012: 56th driest summer

2023: 8th driest summer

2022: 26th driest summer

2017: 126th wettest summer

2011: 1st driest summer

2008: 86th driest summer

1963: 23rd driest summer

2021: 95th driest summer

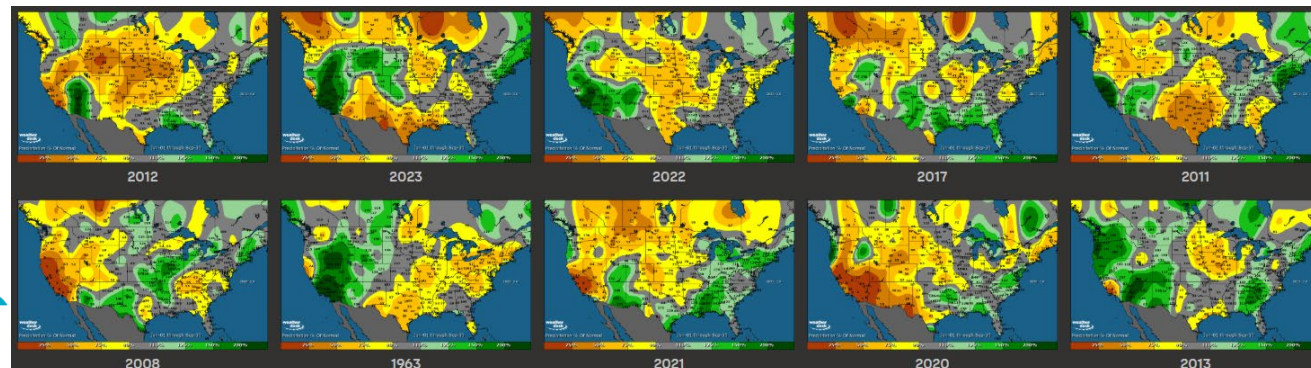
2020: 53rd driest summer

2013: 70th driest summer

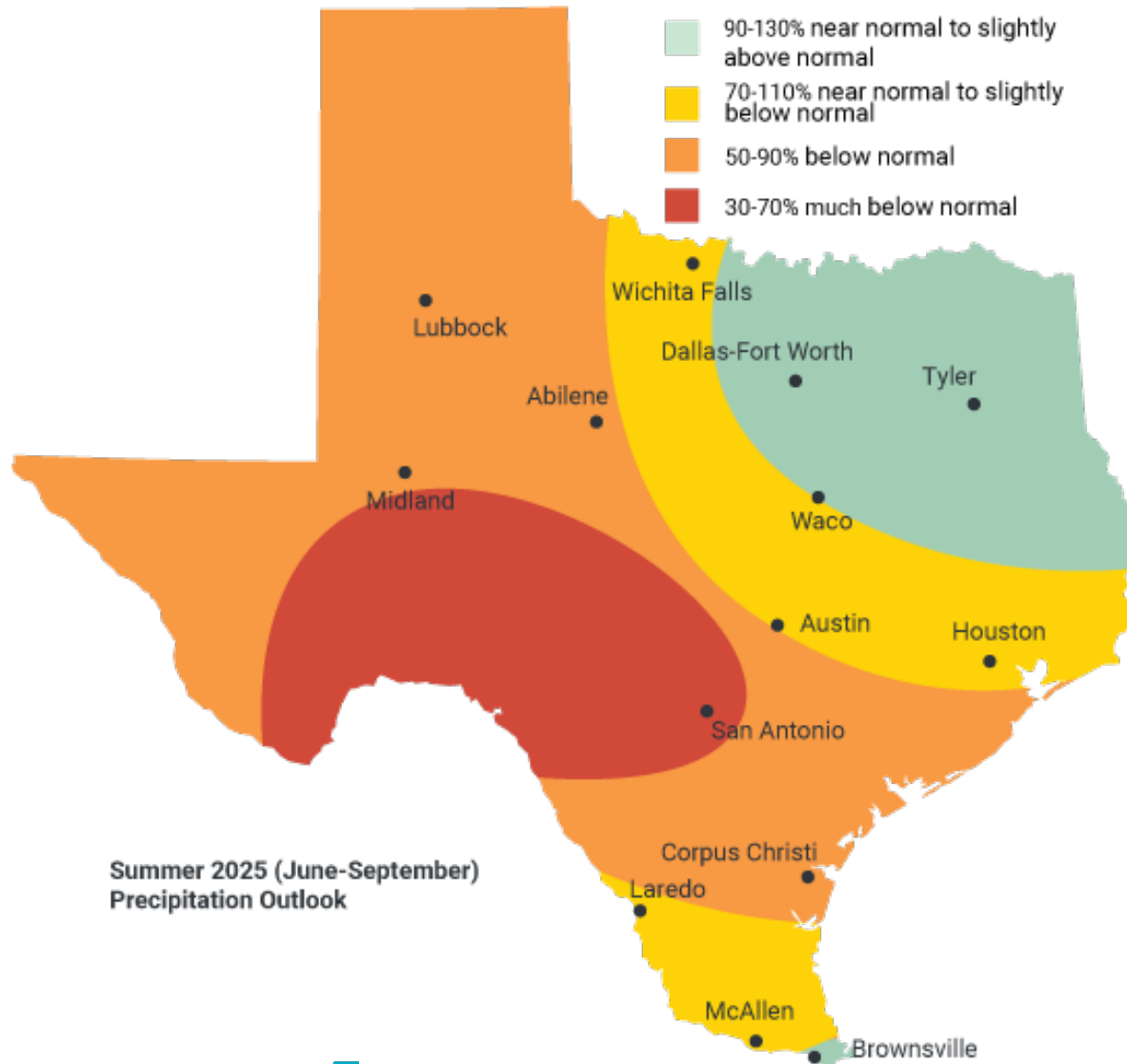
Key Takeaway:
Analogues point to a relatively dry summer

Analogues were determined by similar historical patterns to current:

- El Niño / La Niña / neutral
- Drought
- Solar Activity
- Pacific and Atlantic Ocean temperatures
- Similar temperature and precipitation patterns



2025 Summer Precipitation Outlook



This summer's precipitation outlook is mostly below normal rainfall across Texas

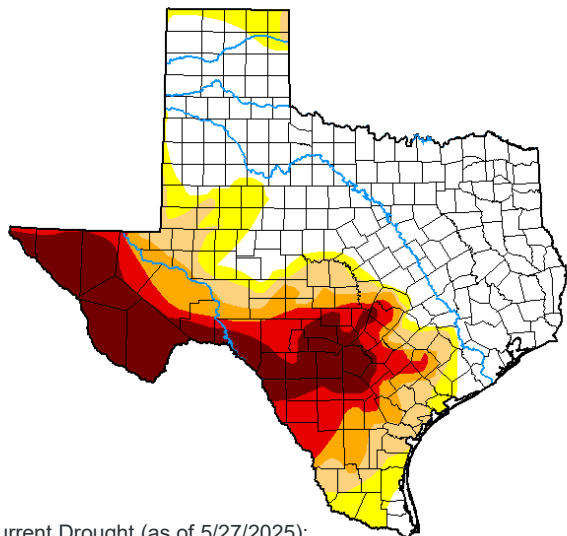
Note the above normal area over Northeast Texas. Small Chance that expands west and south over a larger portion Of the state

- **Key Takeaway:** This general pattern has been in place since last year; the same areas that have been wet will continue to see the best rain chances. The regions that have been relatively dry will continue to see less rain opportunities

Summer 2025 (June-September)
Precipitation Outlook

Drought Outlook

U.S. Drought Monitor Texas



Current Drought (as of 5/27/2025):
39% of the state's area in moderate drought
or worse (26% a year ago)

May 27, 2025
(Released Thursday, May. 29, 2025)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	51.37	48.63	38.87	29.70	22.41	14.03
Last Week 05-20-2025	48.04	51.96	41.08	31.57	23.02	14.47
3 Months Ago 02-25-2025	20.06	79.94	49.01	27.76	17.34	6.30
Start of Calendar Year 01-01-2025	36.81	63.19	43.63	21.45	13.26	6.30
Start of Water Year 10-01-2024	26.09	73.91	34.39	16.62	8.91	3.36
One Year Ago 05-28-2024	50.84	49.16	26.48	13.03	1.90	0.00

Intensity



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>

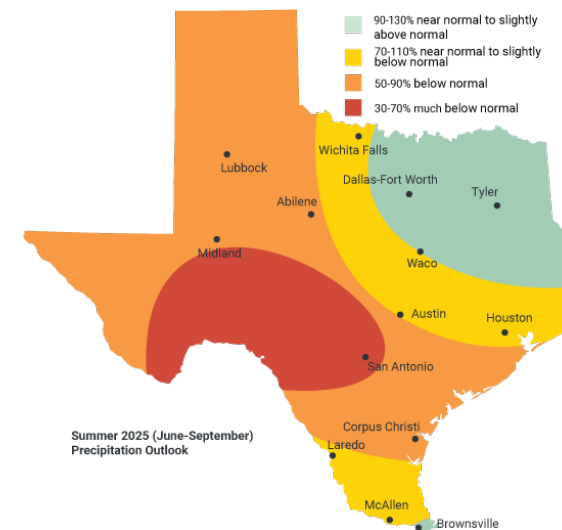
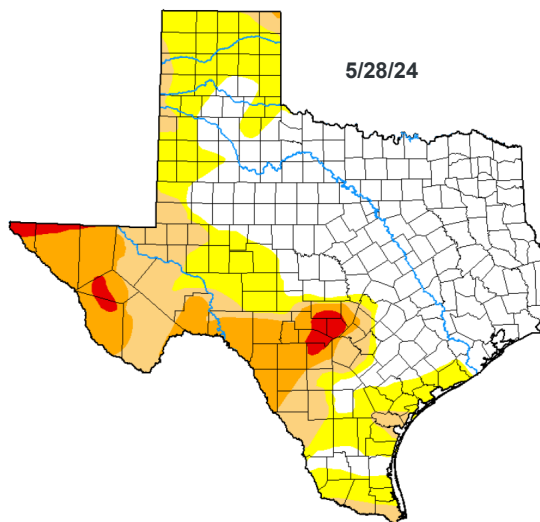
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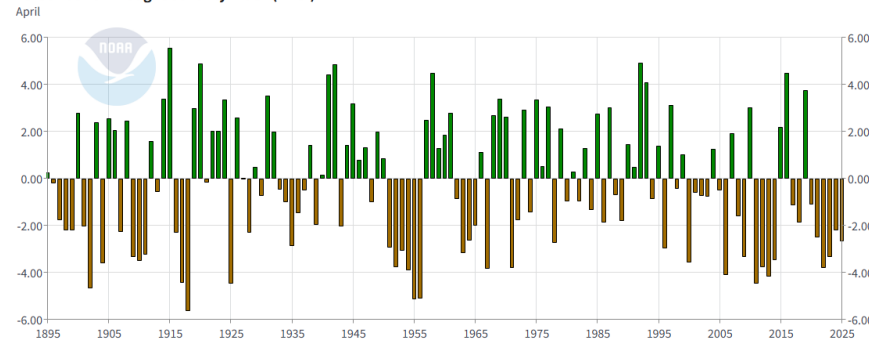


droughtmonitor.unl.edu

- Key Takeaway:** The summer precipitation outlook supports expanding and worsening drought



Texas Palmer Drought Severity Index (PDSI)



8 of the past 9 years and 12 of 15 have been at drought level

The Palmer Drought Severity Index ranks the drought as the 30th worst at this point
in the year (1895-current, 130 years) – a bit worse but very similar to this point in 2024

2025 Hurricane Season Forecast

	# named storms	# hurricanes	# of major hurricanes
2012	19	10	2
2022	14	8	2
2023	20	7	3
2008	16	8	5
2017	17	10	6
2011	19	7	4
1963	10	7	3
Average	16.43	8.14	3.57

gulf	texas
named storms	named storms
4	0
5	0
3	1
5	0
7	1
5	0
1	1
4.29	0.43

Forecast:

14-19 named storms

7-10 hurricanes

3-6 major hurricanes

4-7 named storms in the Gulf

0-1 named storms with Texas landfall

Key Takeaways: The forecast is for an above normal hurricane season. The last year with a below normal number of tropical cyclones was 2015

The top end of the forecast ranges are near last year's numbers; thus, the most likely scenario is for fewer tropical cyclones than last year

The Gulf temperatures are running well above normal (and similar to last year, which was very active). This may again be the area to keep an eye on



Last Year's Numbers:

18 named storms

11 hurricanes

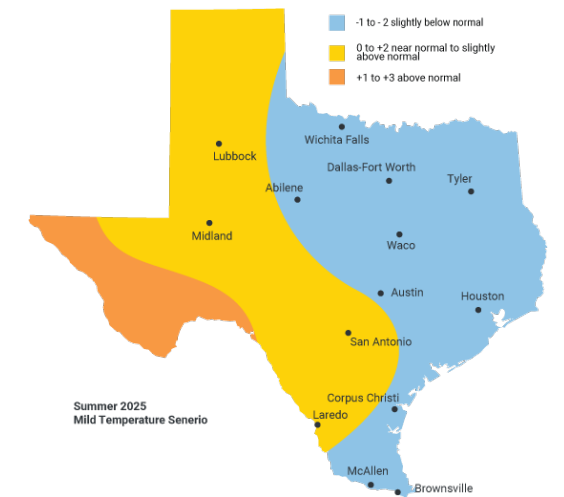
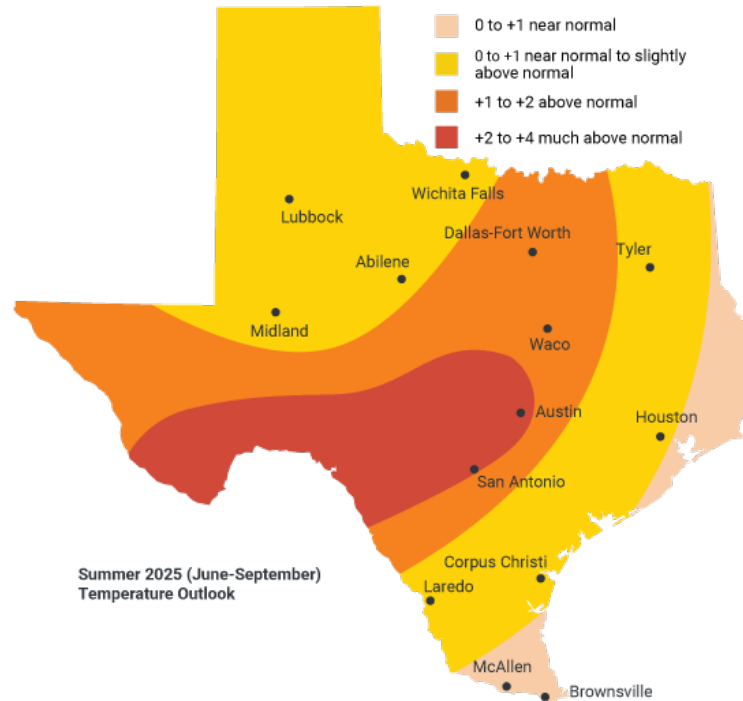
5 major hurricanes

11 named storms in the Gulf

1 Texas landfall: Hurricane Beryl

2025 Summer Weather Outlook Key Takeaways

- The summer weather outlook calls for **above normal temperatures** and **below normal precipitation** for most of Texas
- The past 3 summers have ranked in the top 6 hottest summers since 1895. Much of what drove those summers to extremes is still in place (solar max, drought, warm oceans)
- 2025 is forecasted to bring another top 10 hottest summer to Texas
- The lean is for summer 2025 to be hotter than 2024 (but it could vary by region, with the driest having the hottest potential)
- Into mid-spring, there was growing concern for this summer to challenge 2011 and 2023 – but late-spring rainfall likely minimized that concern (not zero, however)
- Drought is likely to continue through the summer – at least regionally, potentially worsening
- There is about a 30% chance for a significantly milder and wetter summer (similar to 2021 and 2017)
- The 2025 Atlantic Basic hurricane season should again be active – but with a lean toward less storms than last year
 - The Gulf may again be a focal point



30% chance of a milder scenario

