April to June 2025 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

NATIONAL WEATHER SERVICE

March 31, 2025

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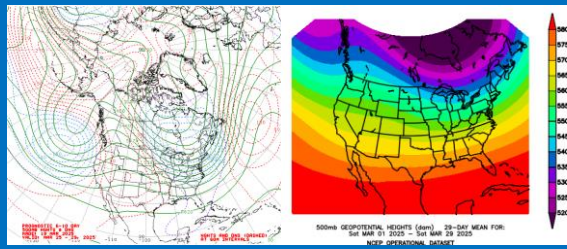
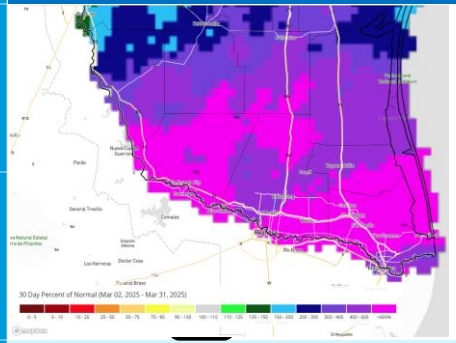
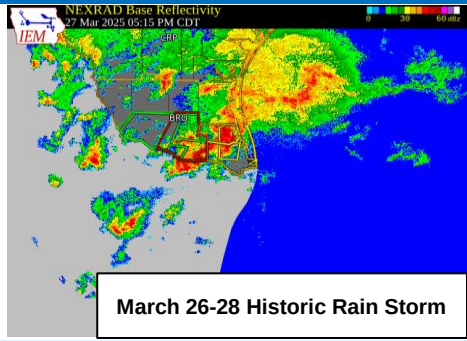


Warmer than normal conditions are expected to continue; precipitation odds are a toss-up; heat risk increases with the potential for some occasional flooding; water supply issues remain in focus





March 2025: Prolific late March rain storm busted the drought, brought historic rains to parts of the area including Harlingen, and numerous cases of flash flooding in both Cameron and Hidalgo Counties; year and month to date totals are at a healthy surplus

Maximum 1-Day Total Precipitation for HARLINGEN RIO GRANDE VALLEY INTL AP, TX

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

Rank	Value	Ending Date
1	13.79	2025-03-27
2	10.64	2020-07-26
3	6.73	2007-05-25
4	6.65	1960-08-12
5	6.29	2019-06-24
6	6.25	2018-09-12
7	6.11	2021-10-01
8	5.90	2018-06-20
9	5.57	2008-08-15
10	5.00	1955-09-08

Period of record: 1952-07-15 to 2025-03-28

Maximum 1-Day Total Precipitation for McAllen Area, TX (ThreadEx)

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

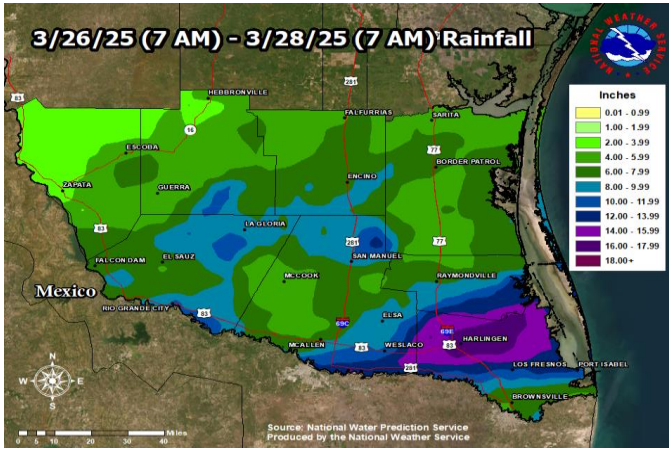
Rank	Value	Ending Date
1	9.42	1980-08-10
2	8.85	1973-09-14
3	8.18	2025-03-27
4	7.30	1966-10-15
5	6.89	1990-09-02
6	6.66	2010-06-30
7	6.10	1954-04-09
8	5.39	2008-08-18
9	5.08	1967-09-20
10	5.07	2017-10-10

Period of record: 1941-06-01 to 2025-03-28

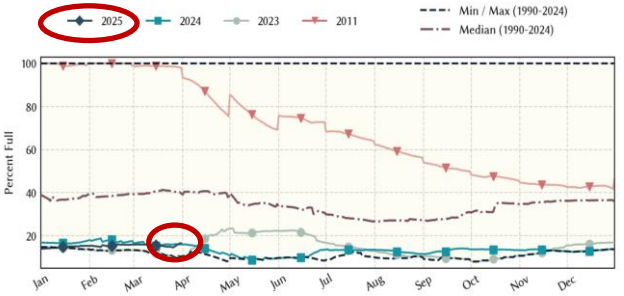
After weeks and weeks of dryness and drought (D0-Abnormally Dry to D3-Extreme Drought) conditions expanding across the region, a late March drought busting deluge of heavy rainfall came over the area. Fueled by a potent disturbance overhead, repeated rounds of showers and thunderstorms resulted in numerous cases of flash flooding and brought Harlingen and nearby areas historic rainfall of biblical proportions.

While 3-6 inches with locally higher amounts between 8-9 inches fell across much of the region, there was a concentrated area from McAllen (mid-Valley) to Harlingen and points east (Lower Valley) that received anywhere from 8-16 inches of rain with locally higher amounts upwards to about 20 inches.

Harlingen's 13.79 inch 1 day rainfall total was a record dating back to 1952. Meanwhile, McAllen's 8.18 inch 1 day rainfall total was the 3rd highest on record dating back to 1941 (see chart above). Through March 30, Harlingen's month to date rainfall total of 13.98 inches is +12.71 inches above normal. McAllen's month to date total of 9.13 inches is +7.80 inches above average. Brownsville's month to date total of 6.74 inches is +5.33 inches above average.



Top Image: 2-Day Rainfall Footprint from the historic Wednesday March 26 to Friday March 28, 2025.



Latest data from the **Rio Grande Reservoirs (Texas Share)** continue to indicate 2025 levels are at or below 30 year lows and near records. Total values have increased as of late.

Image: Texas Water Development Board

Texas: A State Perpetual Drought…

Photos from a trip to the mid and upper RGV on March 19th.

Clockwise from left: Zapata County ranches (top row); Anzalduas State Park (near McAllen); near record-low Falcon Reservoir (southwest Starr)

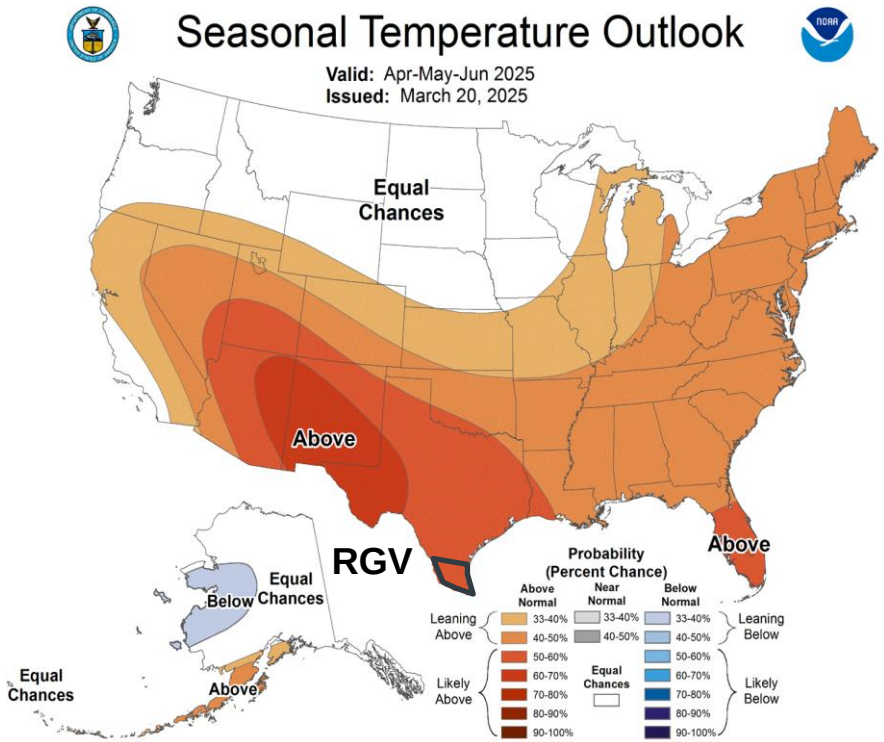
…Broken by the Occasional Devastating Flood!

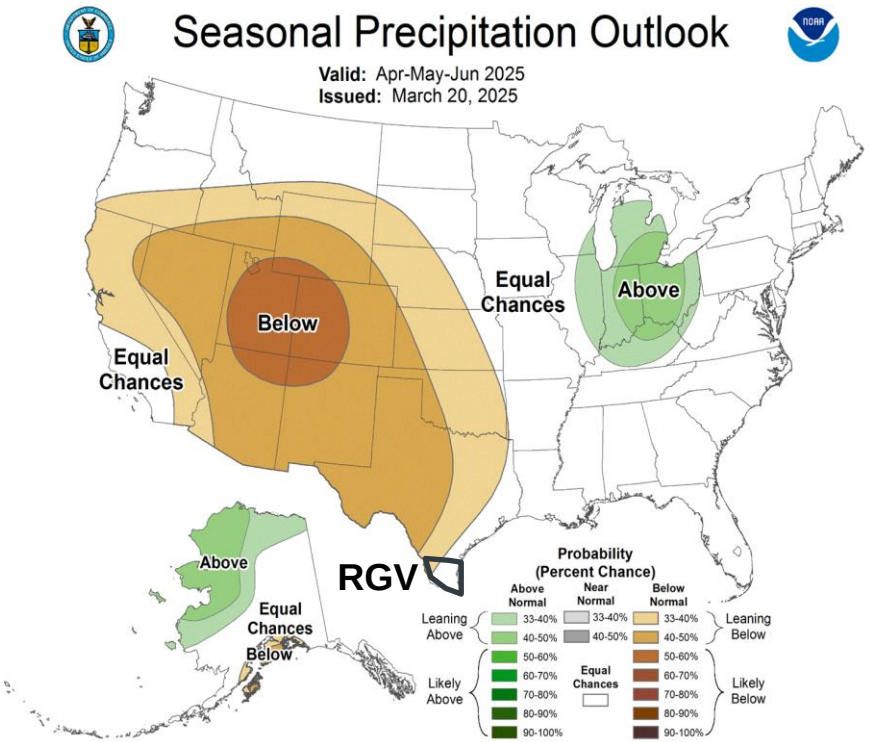





Above: Visuals (during and after) of the March 26-28, 2025 deluge across the populated IH-2 corridor (Hidalgo and Cameron County)

Seasonal Forecast, April – June 2025 USA





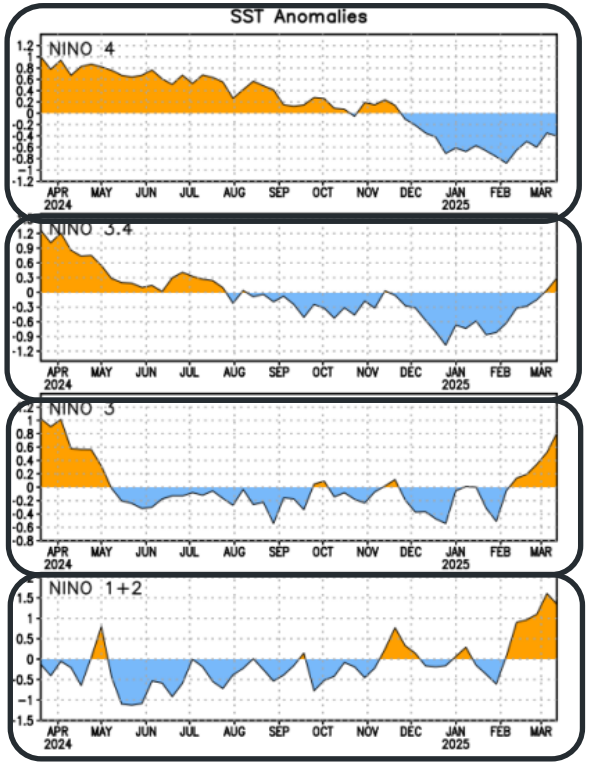
Key Takeaways: April-June 2025 Outlook

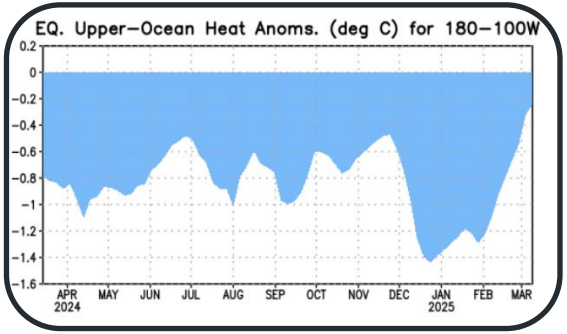
- A **normal to warmer than normal** outlook is favored during the **April-June 2025** timeframe for Deep South Texas and the Rio Grande Valley. Meanwhile, **precipitation is a toss-up** across much of Deep South Texas with a **slight lean towards drier than normal conditions**, especially for areas west of IH-69C. Have to watch for **Heat Risk** through April, but especially May through June!
- After the historic late March rain storm, there has been **significant greenup** across the region. **Drought/dryness and wildfire** concerns have ceased for now and are no longer in focus - but high evaporation rates and the dry "lean" may bring some issues back later in May and June if rains fail to materialize.
- Falcon Int'l Reservoir increased slightly following the late March rain storm, however, remained **near historic lows at the end of March**. **Confidence is near-certain (~100%) on total storage remaining at or near record lows through June.**
- Confidence is **medium-high (60-80%)** that temperatures will run **warmer than normal** from April through June. Confidence is **low-medium (30-50%)** on a **drier than normal outcome** for the period. Confidence is **medium-high (50-70%)** that **drought/dryness** will continue or redevelop over Deep South Texas and the Rio Grande Valley by May, but at lower levels.
- Despite the recent late March historic rain and a slight lean to drier than normal conditions going forward, **showers and thunderstorms that could produce heavy rainfall and localized flooding** has to continue to be taken into consideration through the remainder of the Spring Season.

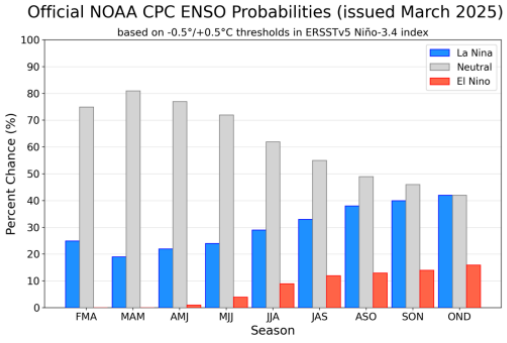
The “Why” of the Forecast: ENSO Neutral, soil moisture, long-term trends, and other key climate teleconnections to play a role

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
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	0.2	0.0	-0.1	-0.2	-0.3	-0.4	-0.5
2025	-0.6											

- With ENSO Neutral conditions in place, **ENSO will have little influences on our weather and climate pattern going forward**. That said, analogs and long term trends suggest that **warmer than normal temperatures** are favored to continue through June and potentially longer, when transitioning from a La Nina to ENSO Neutral. **As for precipitation odds, it’s a toss-up** across much of Deep South Texas with maybe a **slight lean towards drier than normal conditions across the western sections of our area**.
- Given that the ENSO in the tropical Pacific will play less of a role in our weather pattern, the **placement of the jet stream and heat ridge, tropical moisture influx, soil moisture, amongst other weather/climate variables** will serve as vital roles in various weather events, such as increased **heat risks** and a few instances of **heavy rainfall/flooding** through Spring into early Summer.
- **Note:** An ENSO Neutral to a La Nina transition towards the end of the year could support a little more rain potential for Deep South Texas and the Rio Grande Valley, which gives credence to the precipitation outlook toss-up this Spring!

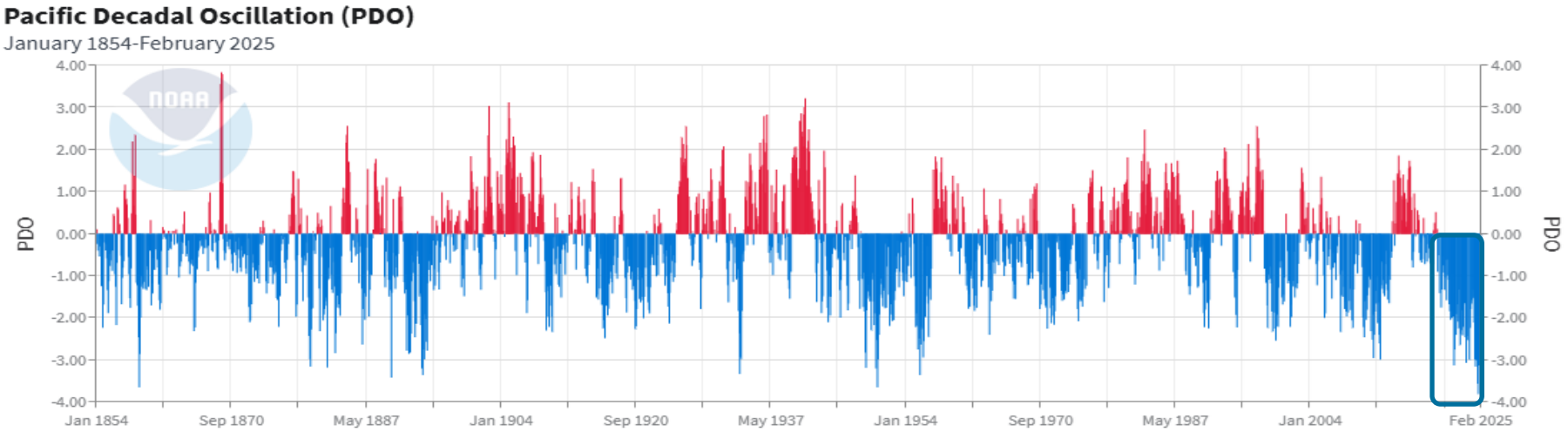






*Above right: Oceanic Niño Index. Values below -0.5 (**light blue**) for five consecutive 3-month periods indicated La Niña. El Niño (**red,** +0.5) officially began in April-June 2023, reached strong levels (**+1.5**) by August-October 2023, strengthened further through November-January, then weakened rapidly through early summer. Neutral conditions arrived for April-June 2024.

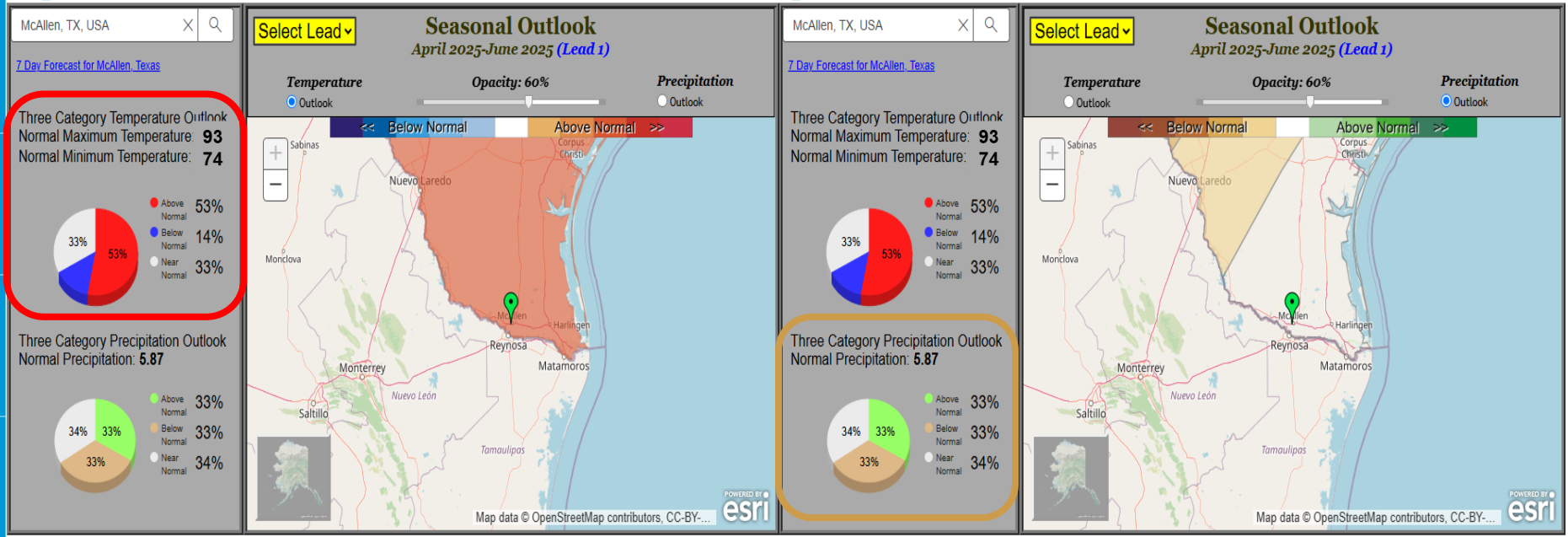
The “Why” of the Forecast: Pacific Decadal Oscillation (PDO) remains in Sharp Negative Phase



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

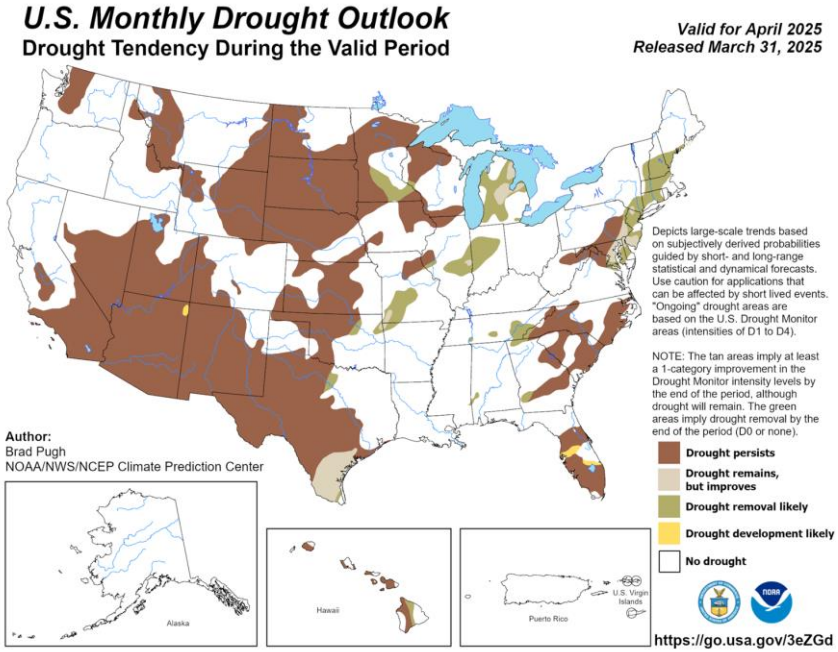
- The 2021-2025 **prolonged and strong negative PDO has persisted**, and should remain the case going through Spring and into Summer 2025. This **has increased confidence** for a **warmer than normal pattern to persist through the Spring Season.**
- Despite the sharply negative PDO in place, an ENSO Neutral results in a toss-up for precipitation outcome. Other weather/climate variables will play a vital role in precipitation outcomes through the Spring and into Summer 2025. **Confidence remains high** for a sharply negative PDO to continue through 2025.

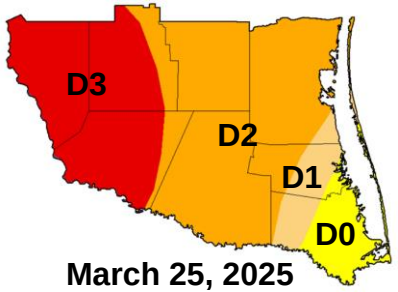
The April-June 2025 Outlook: Rio Grande Valley (McAllen as Anchor Point)

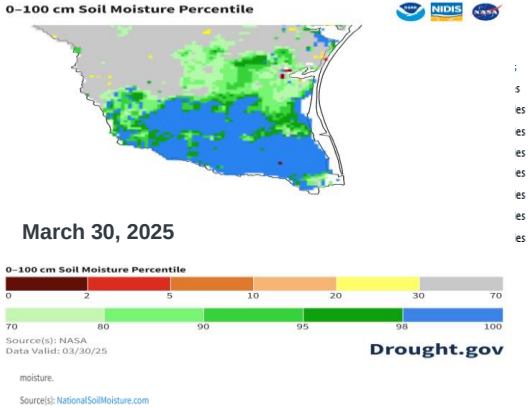


- **<u>Temperature:</u> Warmer than normal temperatures will likely persist Apr-Jun (Confidence: Medium-High).** RGV averages: Afternoon – Mid-upper 80s through early April; Mid 80s-Mid 90s mid-April through May; Wake-up: Mid 70s through early April; Mid 70s-Mid 80s mid-April through May.
- **<u>Precipitation:</u> Toss-up (50/50% shot or equal chances of below, normal, or above) expected Apr-Jun (Confidence: Medium).** RGV averages: 6.5-7 inches (most in June).

The April 2025 “Droughtlook”

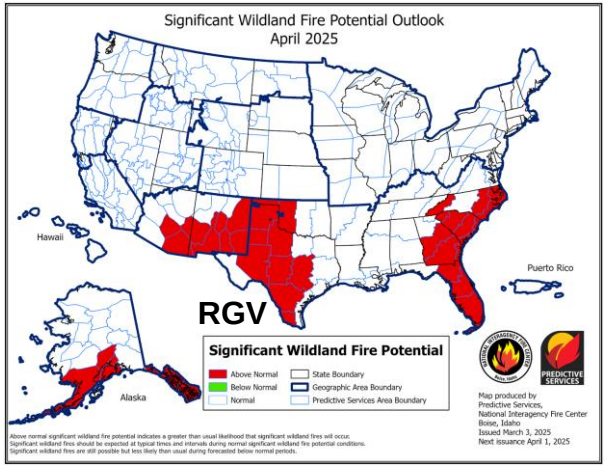


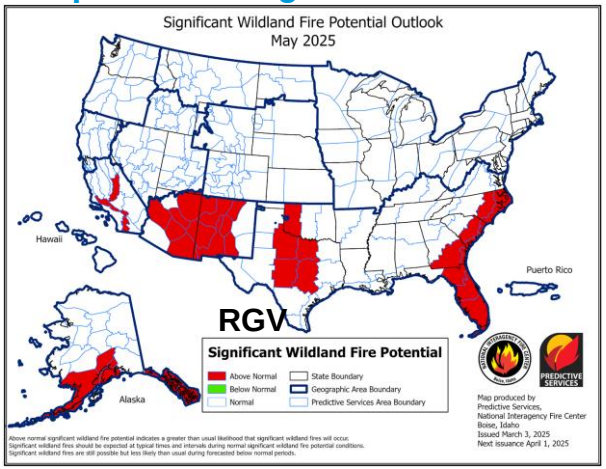


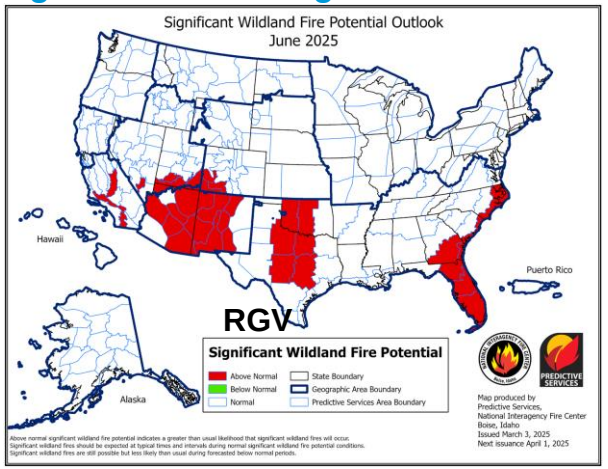


- **Year-over-Year (YoY) drought/dryness** depicts a night and day difference across Deep South Texas and the Rio Grande Valley. As of March 25 2025, right before the late March deluge, anywhere from a D0-D3 Drought was present. In contrast, last year this same time, a drought was not present anywhere across the region.
- **Note:** This Thursday’s (April 3rd) updated release of the U.S. Drought Monitor, will likely **show sharply reduced drought/dryness across the region** **after the historic rain storm** brought beneficial and in many cases excessive rainfall to the region**.** See the soil moisture percentage near 100 percent following the event.

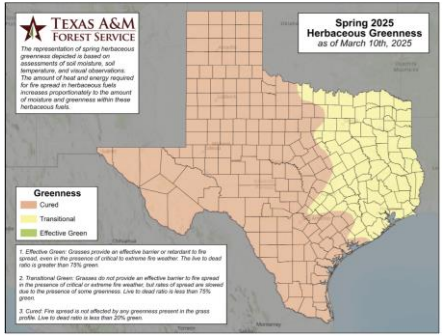
Wildfire Concerns Have Decreased For April Following the Late March Deluge Across the Region





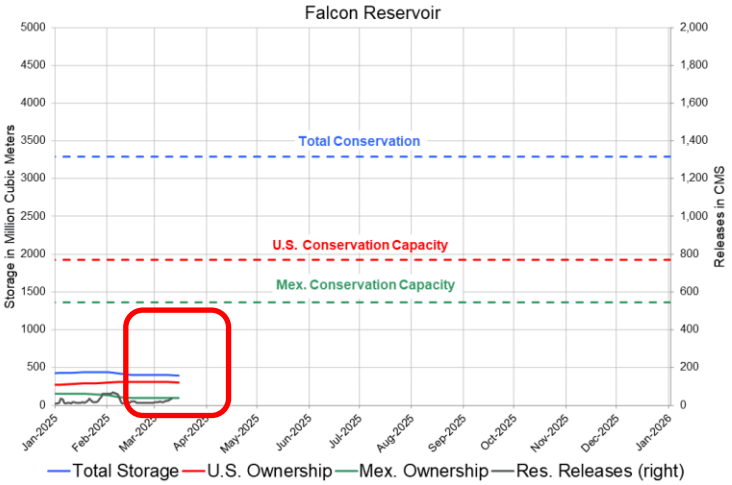


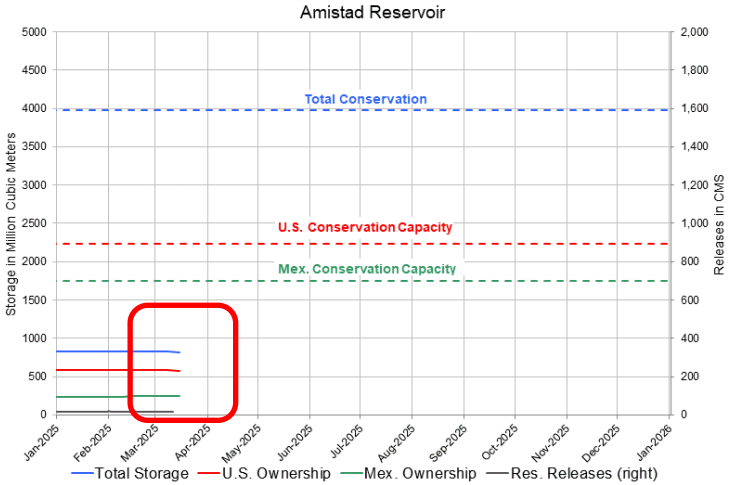
- Following the **March 26-28, 2025 drought busting rain storm**, there has been **significant greenup** across the region squelching any wildfire concerns through April into May, at least.
- In the coming weeks, moisture levels will continue to be largely be dependent on rain chances, the strength and number of cold frontal passages vs. days with a return flow out of the south boosting relative humidity (RH) values. As we move through the Spring Season, trends should favor more humid situations than prior months due to more days with winds out of the south and less cold frontal passages from the north and west.
- Fuels are likely to increase in all areas following the historic late March rains. Fuel moisture should remain moderate to high through April, but could begin dropping in May - and without sufficient late spring rains, an increase in wildfire spread threat may resume.



Spring 2025 Herbaceous Greenness Map for Texas (March 10, 2025). Note: effective green is likely to appear in April.

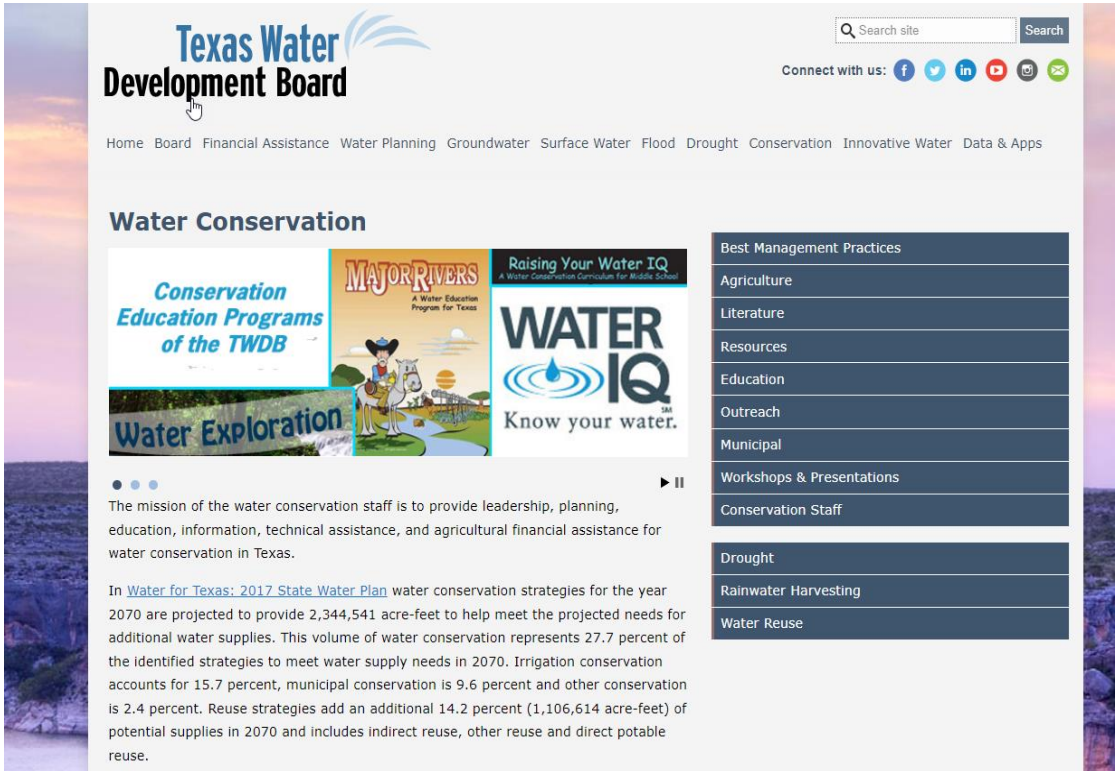
Amistad and Falcon Reservoirs remains at or near Record Lows through the first part of 2025





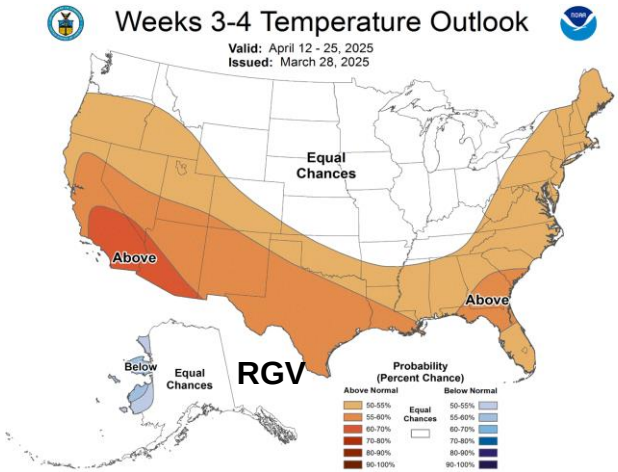
- **Falcon had fallen to 11.3 percent** (down slightly from **12.1% in late February**) on March 26, before 5 to 8 inches (measured/estimated) of rainfall flowed into the reservoir from the system that brought historic flooding to the RGV. Levels rose to **12.8 percent by March 31**, but were likely to **level off in early April** and not change much through June.
- **Amistad also remained nearly steady and slightly above all-time record lows in late March.** Levels were at **20.6% on March 31st** (slightly lower than **20.8% from February 21**). Levels may not change much through June.

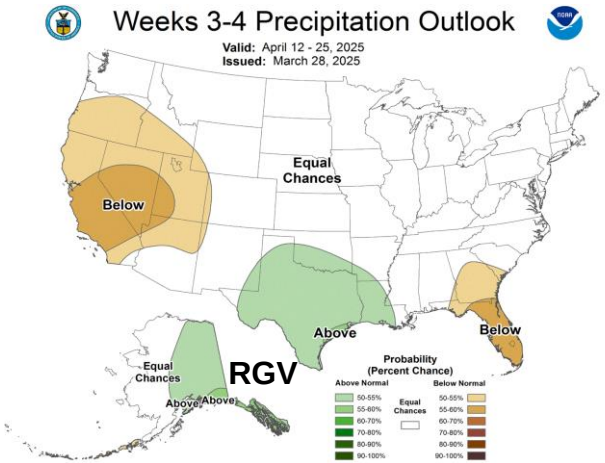
Water Conservation is Key Until Further Notice!

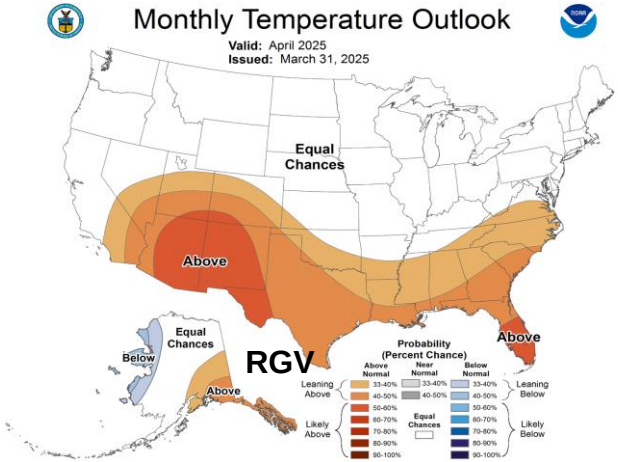


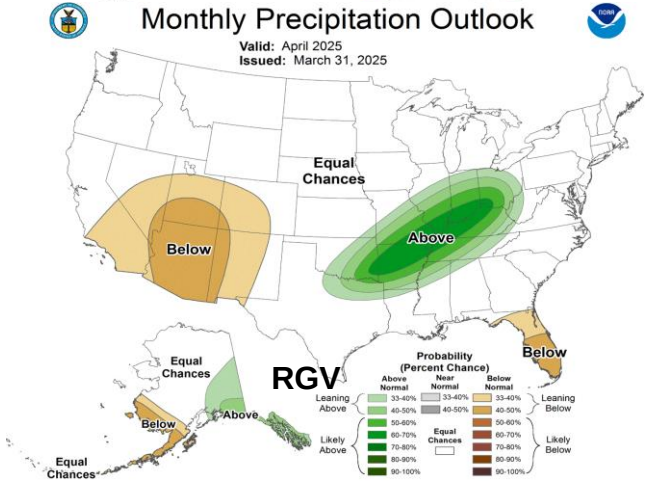
- "Stage 2/3" Restrictions continued through early winter 2025 and are likely to continue **until further notice** based on inflows from Amistad and Falcon.
- Learn more at the Texas Water Development Board's Conservation Page

April 2025: Confidence: Medium (50-60%) on Temperature and Low-Medium (30-40%) on Precipitation Trends









- Medium to long-range models are favoring a **normal to warmer than normal** pattern through April. **Precipitation odds are now a toss-up**, given that signals for an outright dominant warmer/hotter than normal pattern is **not strong**, leading to the fact that there could be clouds and rain/storms to contend with at times.

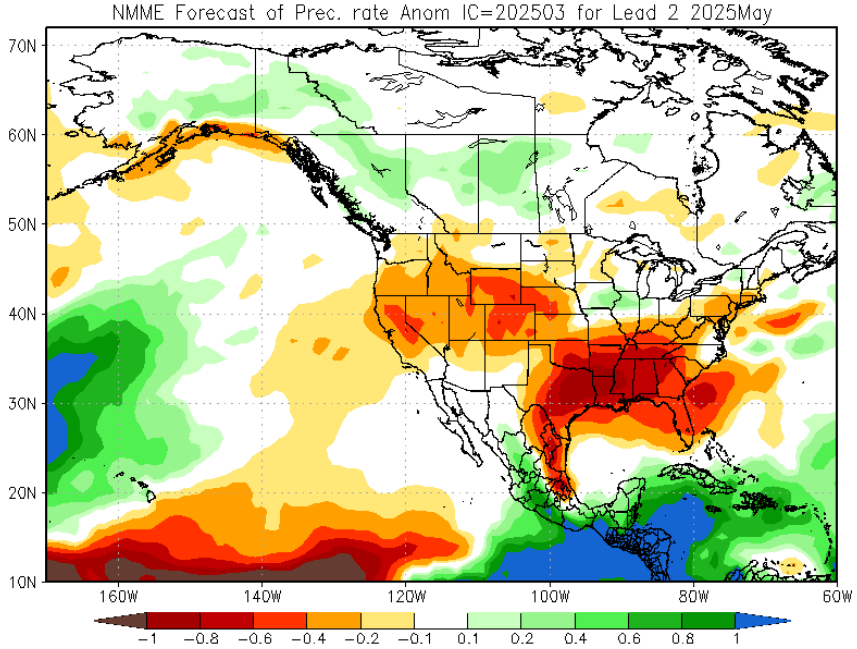
- Minor (Level 1) to at times moderate (Level 2) **Heat Risk** will be in play during the first few days, and second half, of April. At this time, **not anticipating a Heat Wave with widespread major and extreme Heat Risk through April**. That said, **Heat Risk** will likely be on the increase after April.

- Equal chances for above, below, or average rainfall (33.3 percent for each) is the latest forecast, though much may depend on rainfall during the second week of the month. Some moisture influx and the chance for non-tropical showers and storms will remain in play as we move deeper into the Spring Season.

- Though precipitation odds are now a toss-up, **heavy rainfall or flooding events can still develop.** Monitor the potential for showers and storms that could **produce additional heavy rainfall/flood risks**!

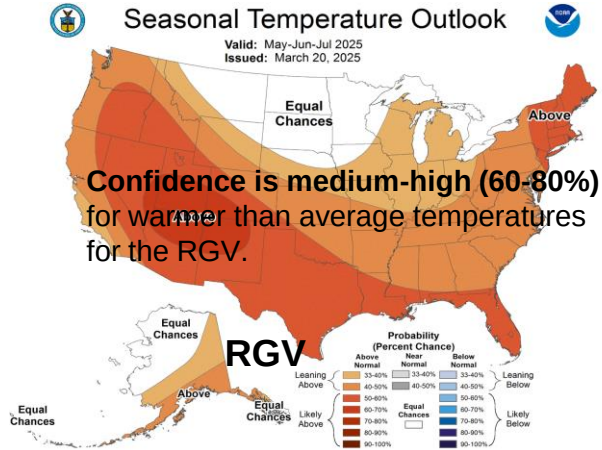
Early Look: May 2025

Potential rainfall rate anomaly, May 2025



- This model's forecast for <u>May</u> favors a **dry pattern** (note the red color over the area and nearby brown colors) continuing.
- As we move deeper into spring, shower and thunderstorm chances will remain in play. Some of these showers and storms could result in locally heavy rainfall and additional, but local, cases of flash flooding.
- A repeat of March 26-28 (historic) flooding is unlikely.

Late Spring Through Summer 2025: Warmer than normal trends are favored; Precipitation pattern remains a toss-up



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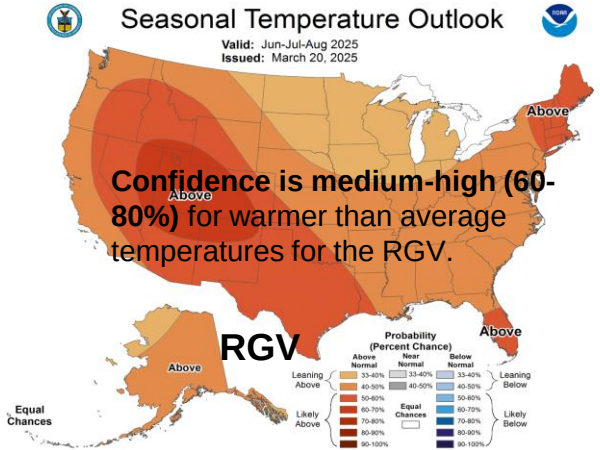

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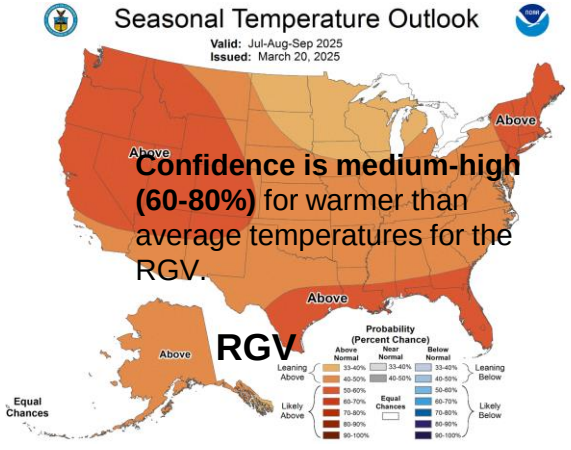

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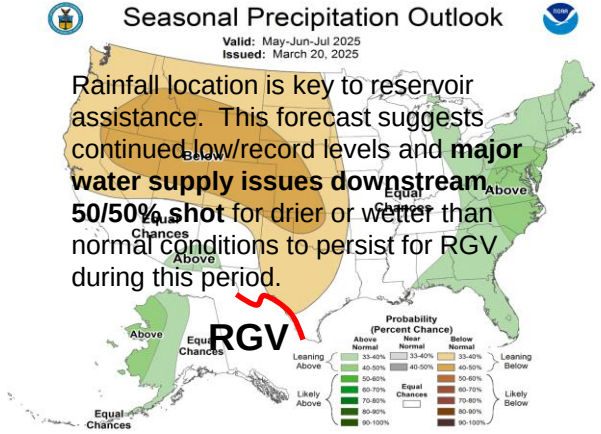
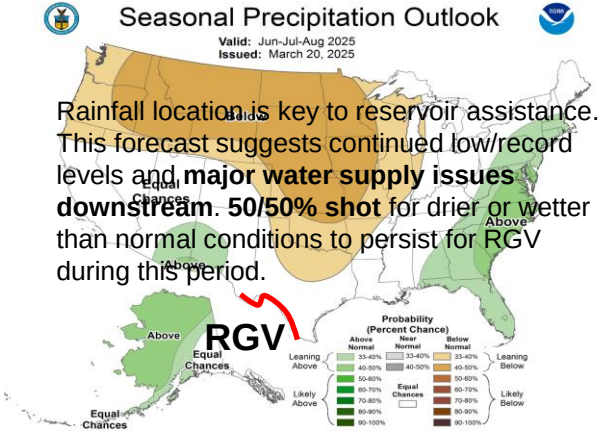


Rainfall location is key to reservoir assistance. This forecast suggests continued low/record levels and **major water supply issues downstream**. **50/50% shot** for drier or wetter than normal conditions to persist for RGV during this period.



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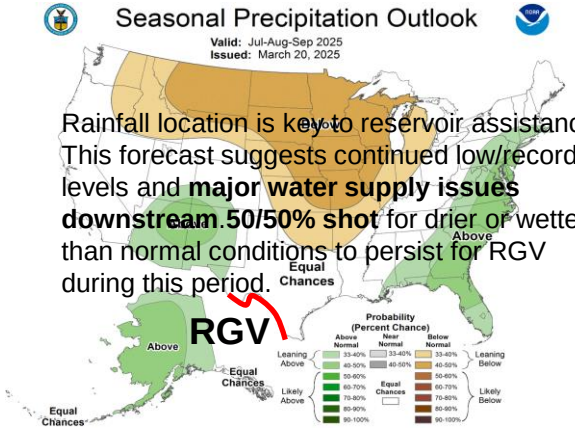

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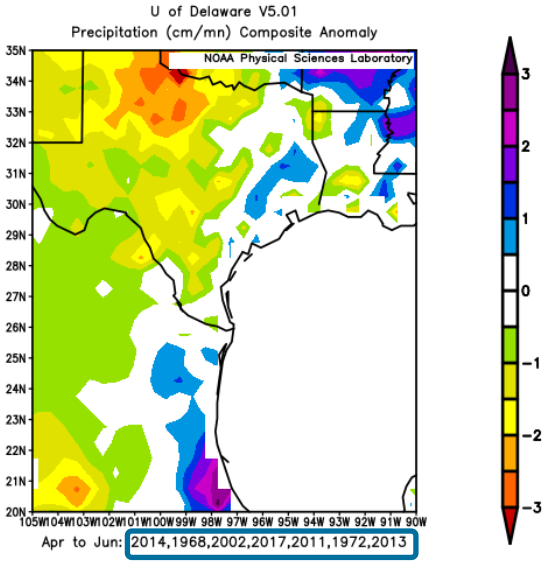
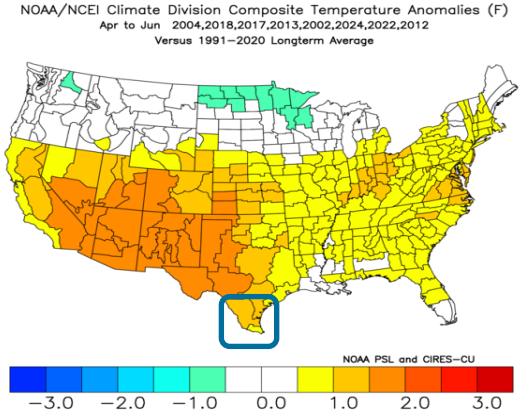
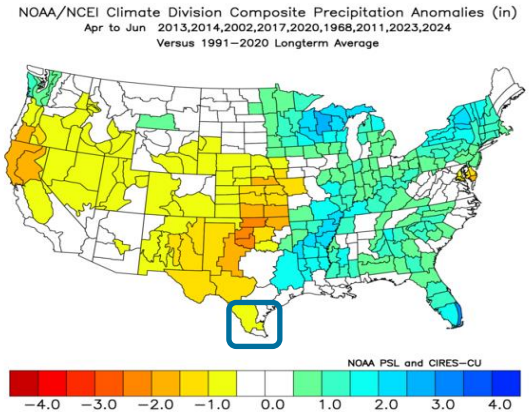
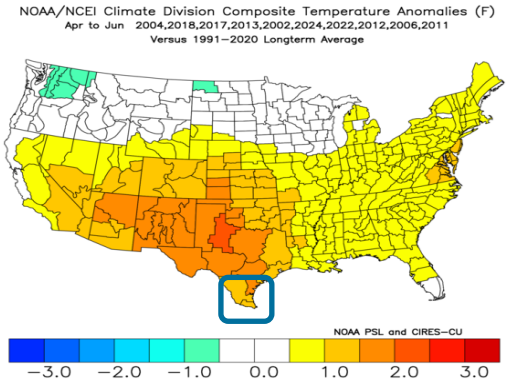
Comparing Similar La Nina to Neutral Episodes mostly within the last 30 years; April-June Periods

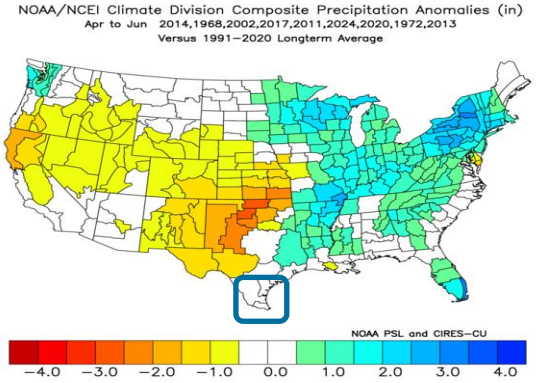


Composite departure from average rainfall for years of similar La Nina to Neutral transition episodes in the April-June window.









- **Top:** Composite temperature (left) and precipitation (right) anomalies for similar La Nina to Neutral transition episodes leading into April-June, since 1950.
- **Bottom Left:** Same, except added 2006 and 2011 seasons.
- **Bottom Right:** Same, except added 1972 season and took out 2023 season.

Bottom Lines

- **Warmer than normal** conditions are expected to persist through the remainder of spring into early summer with ENSO-neutral conditions in place. As we move through the period, particularly May and June, **heat risk concerns** are expected to increase.
- **Precipitation odds are more of a toss-up** as studies indicate a ENSO Neutral to a potential La Nina transition later this year could favor a **wetter bias** (than previously forecast) across Deep South Texas/RGV between April-June and a slightly more active severe weather season than in 2024.
- Sufficient inflows from Mexican and International reservoirs serving the Lower Rio Grande watershed remain unlikely. The **combined share of water in Amistad and Falcon will likely to continue well below Stage 2 and 3 triggers (25% or less) until further notice.** Water conservation, smart irrigation, and rainwater harvesting are **critical actions to continue as we move into the Spring season.**
- **Fire weather and drought concerns/issues** have been sharply reduced following late March's historic rain storm event, but could gradually return by late May and June if additional rains don't fall.
- It's a bit too soon to speculate on June tropical activity this far out, but an event like **2024's Alberto** would provide **beneficial rain,** especially if April and May are warm and generally dry.