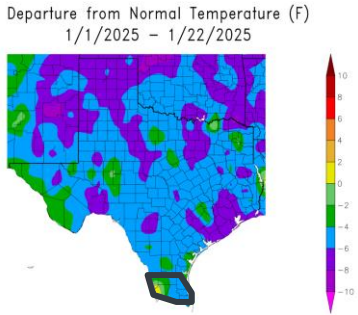
February to April (Late Winter to Spring) 2025 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

NATIONAL WEATHER SERVICE

January 27, 2025

Andrei Evbuoma, Barry Goldsmith, & Rodney Chai
NWS Brownsville/Rio Grande Valley, Texas

Some cool/cold air risks remains through February, but nothing extreme as forecast for warmer and drier than normal conditions remain intact; wildfire potential, water supply, and hazardous marine conditions remain in focus



From This…


Zapata, TX Jan 21 light icing courtesy of Elsa Hull

To This?


Brooks County Parched Grass, spring 2023

January 2025: Arctic Express yielded some of the coldest temps on record for Jan 20-22, and helped to tilt the month colder than normal

Minimum 3-Day Mean Avg Temperature for Brownsville Area, TX (ThreadEx)

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

Rank	Value	Ending Date	Missing Days
1	35.7	1940-01-22	0
2	36.0	1883-01-22	0
3	38.7	1885-01-22	0
4	39.7	1978-01-22	0
5	40.8	1984-01-22	0
6	41.5	1930-01-22	0
7	41.8	1985-01-22	0
8	44.2	2025-01-22	0
-	44.2	1922-01-22	0
10	44.3	1918-01-22	0

Period of record: 1878-01-01 to 2025-01-22

Minimum 3-Day Mean Avg Temperature for McAllen Area, TX (ThreadEx)

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

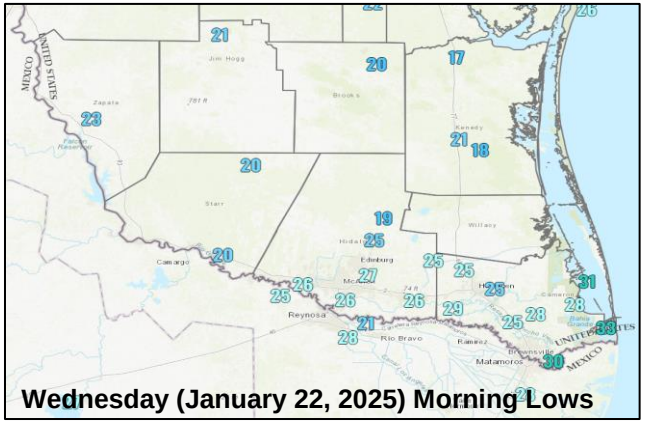
Rank	Value	Ending Date	Missing Days
1	37.8	1978-01-22	0
2	39.2	2025-01-22	0
3	40.0	1985-01-22	0
4	40.2	1984-01-22	0
5	43.8	1966-01-22	0
6	46.3	2022-01-22	0
7	47.3	1987-01-22	0
8	48.7	1960-01-22	0
9	49.0	1963-01-22	0
10	50.3	2024-01-22	0

Period of record: 1941-06-01 to 2025-01-22

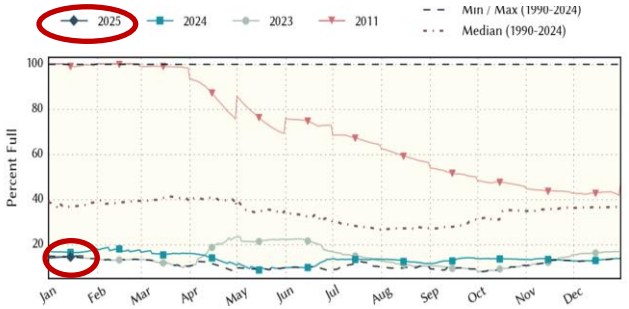
As of January 24 (2025), Brownsville's average temperature of 57.6F degrees is -4.9F degrees cooler than normal. Harlingen's average temperature of 54.2F degrees is -6.2F degrees cooler than normal. Finally, McAllen's average temperature of 56.3F degrees is -6.1F degrees cooler than normal.

The three day cold snap from January 20-22, 2025 was the 2nd coldest on record for McAllen and the 8th coldest on record for Brownsville. Morning lows on January 21 and 22 in McAllen ranked as the 2nd and 1st coldest lows on these dates on record, respectively. Additionally, morning lows on January 21 and 22 in Brownsville ranked as the 4th and 3rd coldest lows on these dates on record, respectively.

Rainfall production were near normal levels for January. As of late January, combined shares at the Falcon Reservoir was seen higher from the previous month at 14.9%, up 1.5% from December's 13.4%, levels. As of January 22, shares still remained at/near record lows on par with 2022 and above 2023 levels.



Top Image: Observed morning lows Wednesday morning.

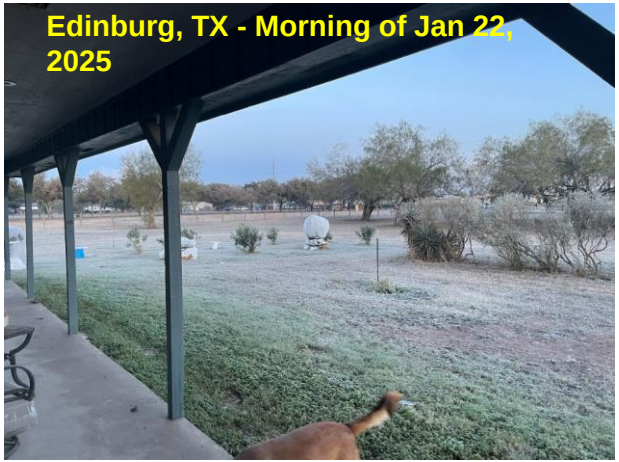


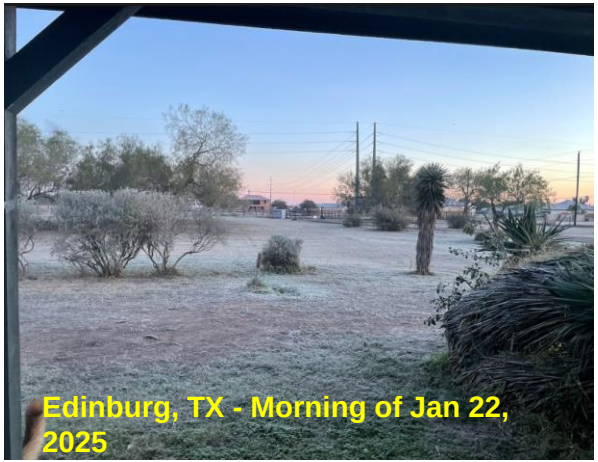
Latest data from the **Rio Grande Reservoirs (Texas Share)** continue to indicate 2025 levels are at or below 30 year lows and near records. Total values have increased as of late.

Image: Texas Water Development Board

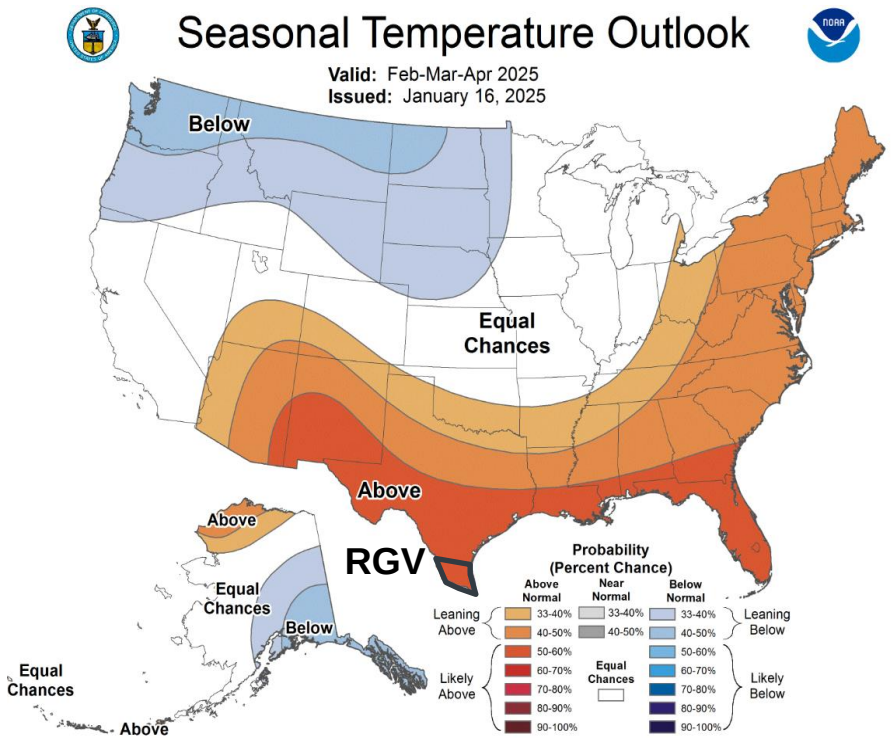
January 2025: January 20-22 Arctic Express in Photos

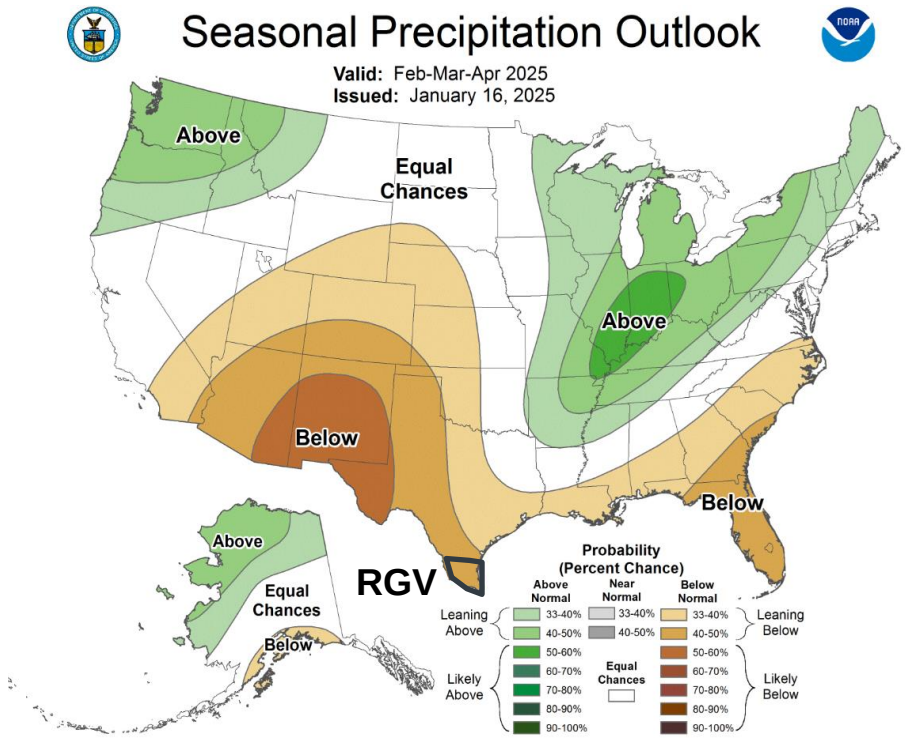

Zapata, TX Jan 21 light icing courtesy of Elsa Hull


Edinburg, TX - Morning of Jan 22, 2025


Edinburg, TX - Morning of Jan 22, 2025

Seasonal Forecast, February – April 2025 USA





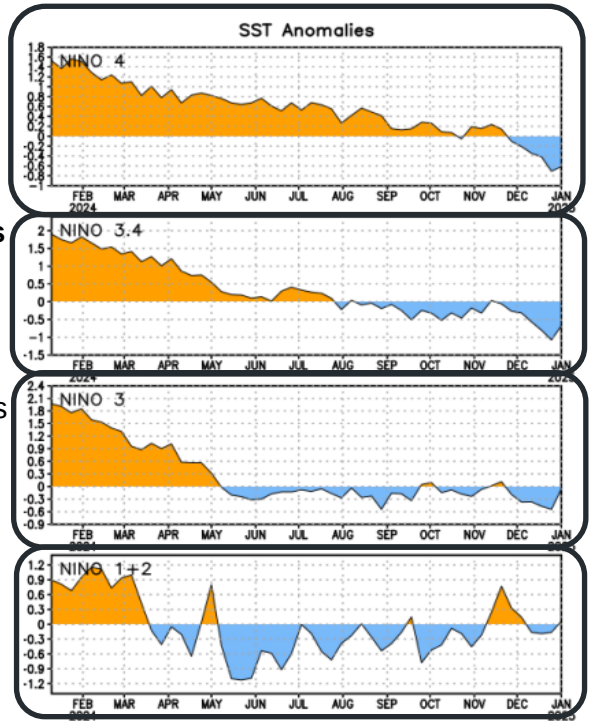
Key Takeaways: February-April (Late Winter-Spring 2025) Outlook

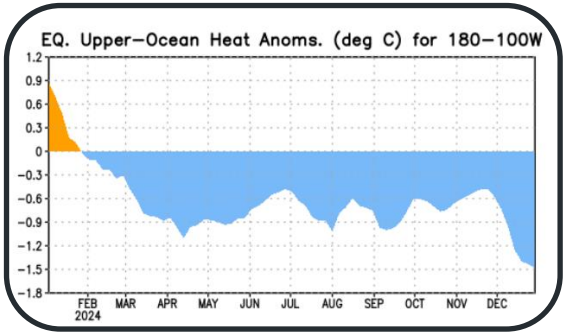
- **A warmer and drier than normal outlook** is expected during the **February-April 2025** timeframe for Deep South Texas and the Rio Grande Valley. **Heat Risk** concerns are expected to increase through April.
- **Drought/dryness** concerns are expected to continue into the Spring Season.
- Falcon and Amistad remained **near historic lows at the end of January**. **Confidence is near-certain (~100%) on total storage remaining at or near record lows through April.**
- Confidence remains **medium-high (60-80%)** that **temperatures will run normal to warmer than normal** from February through April. Confidence is **medium (50-60%)** on a **drier than normal outcome** for the period. Confidence is **medium (50-60%)** that **drought/dryness** will continue to expand over Deep South Texas and the Rio Grande Valley through April.
- Following the January 20-22 Arctic Blast, **wildfire growth concerns are expected to peak in February and March as grasses across the region have become freeze cured.**
- Despite a drier than normal outlook, **showers and thunderstorms that could produce heavy rainfall and localized flooding** has to be taken into consideration, especially in March and April.
- Occasional cool fronts are expected to continue through the remainder of the Winter Season, however **not** at the magnitude of the January 20-22 Arctic Blast and become weaker as we head into March and April. Another surge of Arctic Air is **not expected** through the remainder of the winter season as **confidence is low (10% or less)**.
- Difficult to dangerous boating and beach conditions will continue on occasions through March 2025!

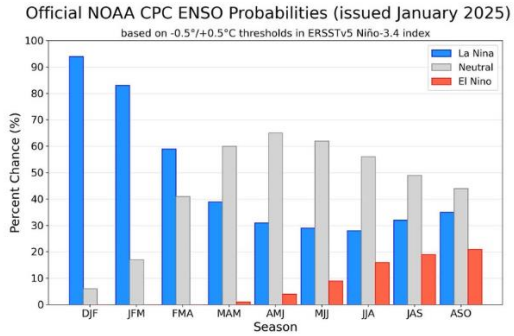
The "Why" of the Forecast: La Nina, soil moisture, long-term trends, intraseasonal variability, and other key climate teleconnections to play a factor

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0
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	-0.2	-0.4	

- With a La Nina in place, **warmer than normal temperatures** are favored to continue through April and potentially longer. Additionally, this setup favors an **overall drier than normal pattern** into the Spring Season.
- In addition to a La Nina, the **placement of the jet stream** and other important **teleconnections (i.e. AO/Arctic Oscillation, PNA/Pacific North American Oscillation), polar vortex (PV) strength** could play a vital role in *intraseasonal variability* leading to an anomalous weather event such as increased **heat risk** and instances of **heavy rainfall/flooding** this Spring Season!
- **Wildfire season** remains on the table through March as **drought/dryness** trends continue to increase!

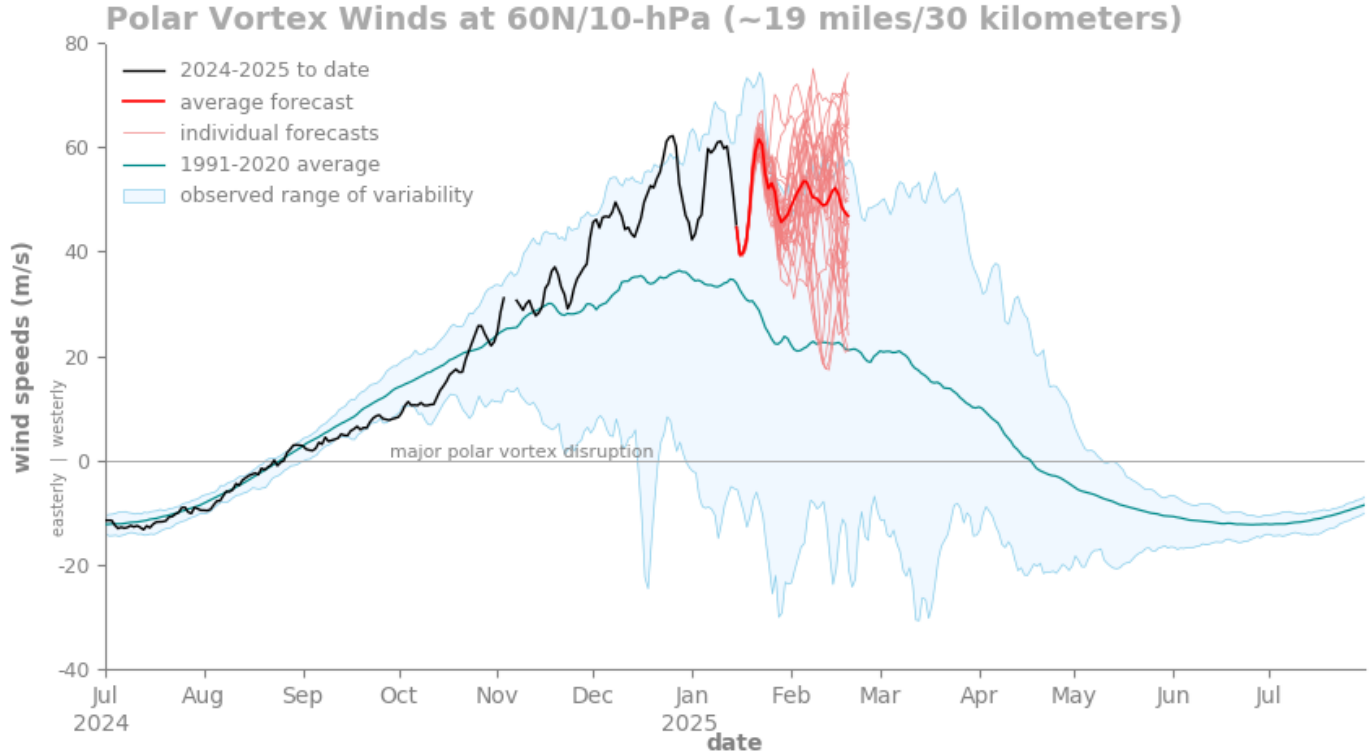






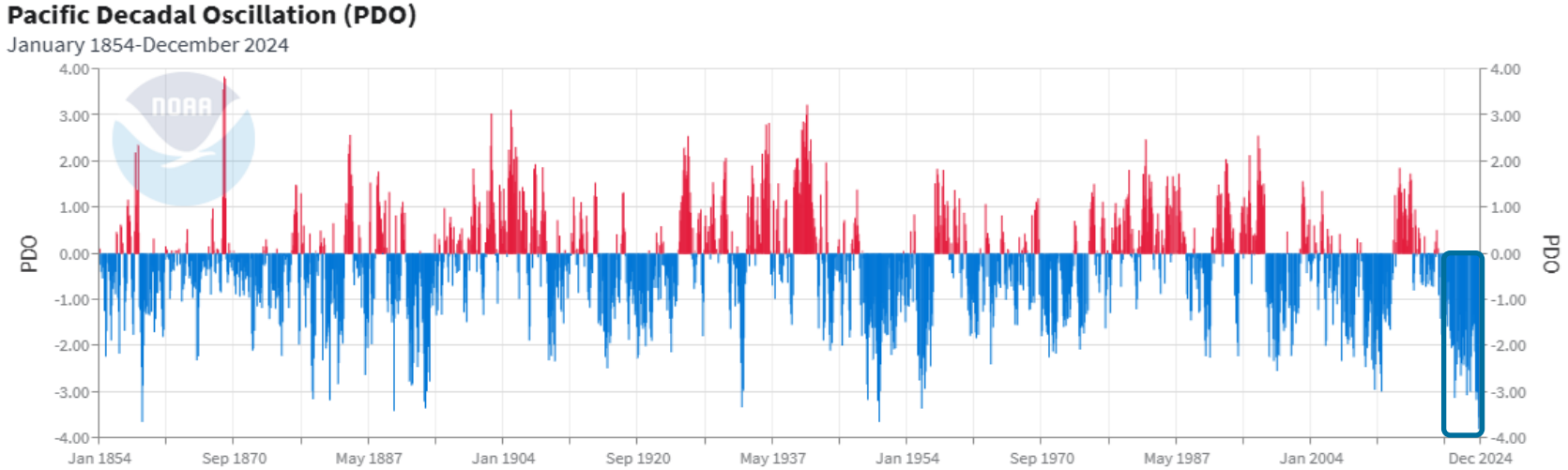
*Above right: Oceanic Niño Index. Values below -0.5 (**light blue**) for five consecutive 3-month periods indicated La Niña. El Niño (**red,** +0.5) officially began in April-June 2023, reached strong levels (**+1.5**) by August-October 2023, strengthened further through November-January, then weakened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

Polar Vortex is expected to remain strong into March



- Risk for a significant cold snap (but not a hard freeze) through March is **low (20-30%)** as the polar vortex remains strong.

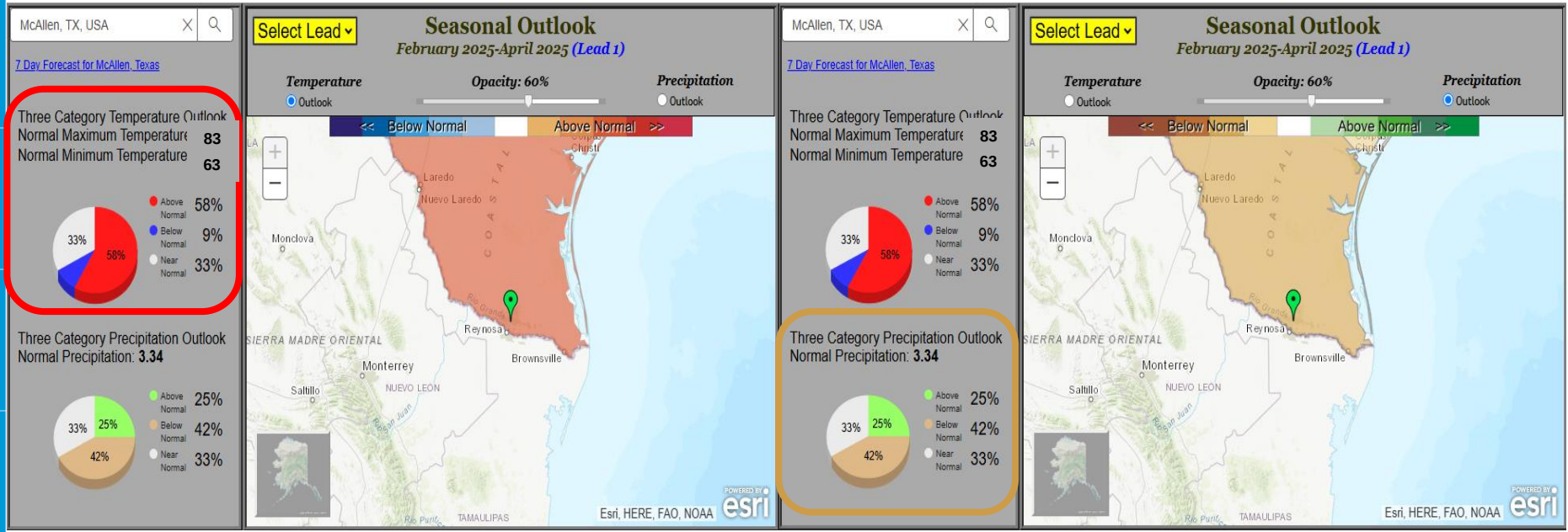
The “Why” of the Forecast: Pacific Decadal Oscillation (PDO) remains in Sharp Negative Phase



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

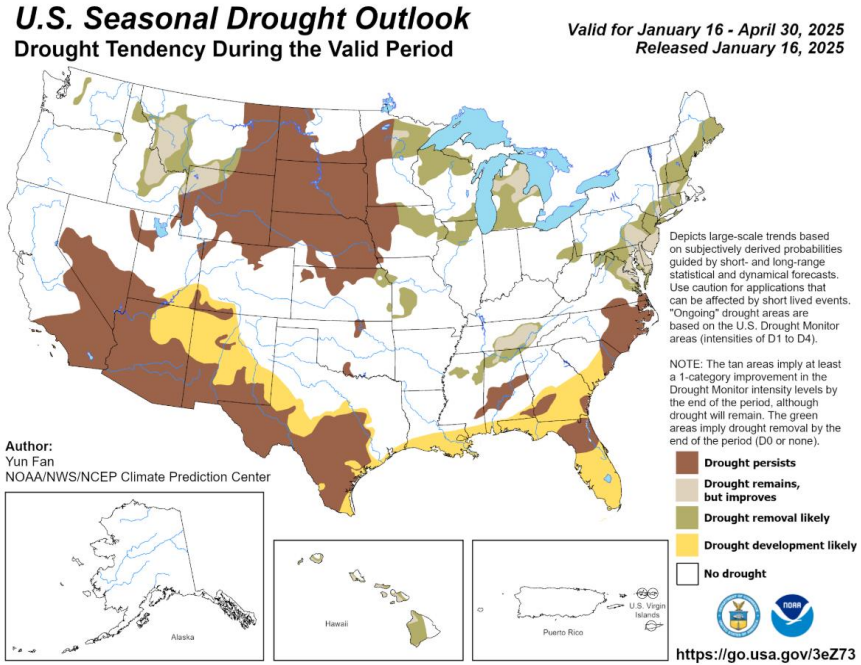
- The 2021-2025 **prolonged and strong negative PDO has persisted**, and should remain the case headed into the expected La Niña period. This **increases confidence** for a **drier and warmer than normal pattern persisting into the Spring Season.**
- The sharply negative PDO combined with a La Nina adds confidence to an increasingly dry (and still warm) forecast as we move through the beginning parts of 2025. **Confidence is high** for sharply negative PDO to maintain through the first half of 2025.

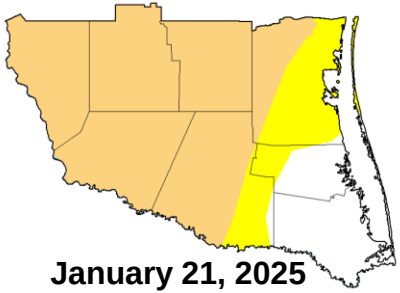
The February-April 2025 Outlook: Rio Grande Valley (McAllen as Anchor Point)

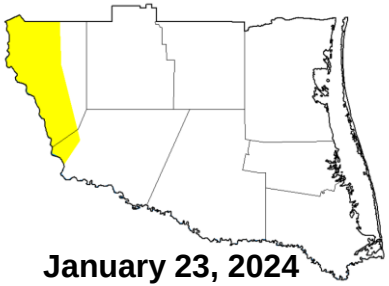


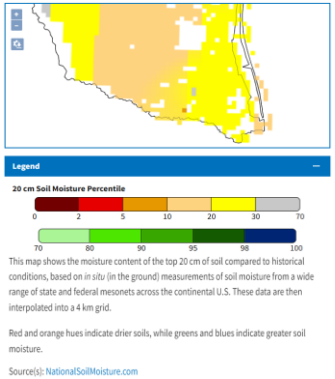
- **Temperature:** **Warmer than normal temperatures likely to persist Feb-Apr (Confidence: Medium-High).** RGV averages: Afternoon – Mid-upper 70s through early February; Upper 70s to low-mid 80s mid-February through March; Wake-up: Mid 50s through early-February; Upper 50s to mid 60s mid-February through March.
- **Precipitation:** **Drier than normal conditions are expected to continue Feb-Apr (Confidence: Medium).** RGV averages: 3.5-4 inches (most in March and April).

The February-April 2025 “Droughtlook”



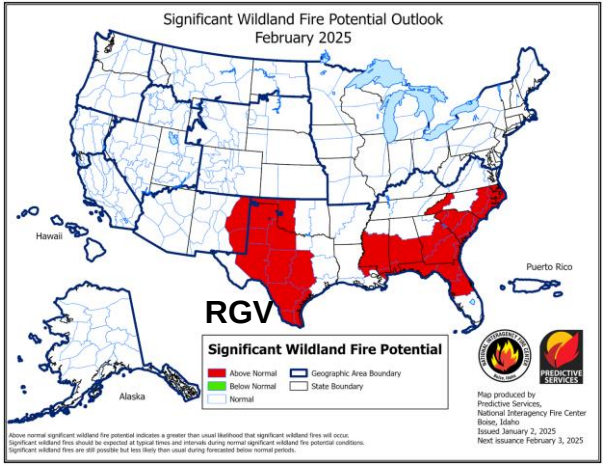


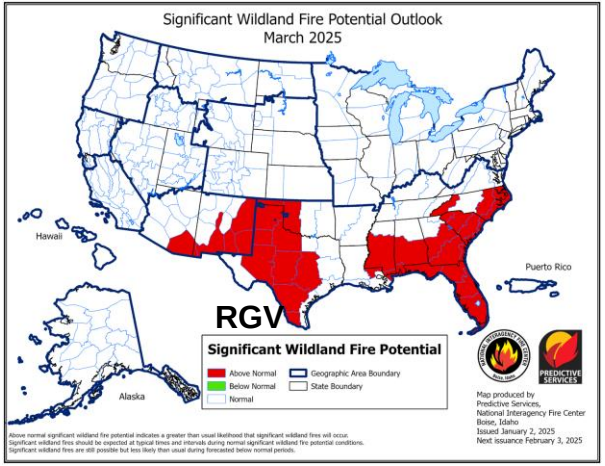


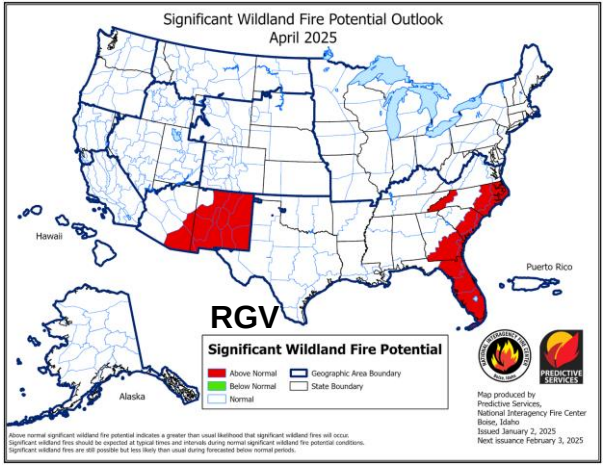


- **Year-over-Year (YoY) drought/dryness** over Deep South Texas and the Rio Grande Valley is greater this year compared to last year. Precipitation production has been few and far between for the mid/upper valley, where mainly D1 (moderate) drought is in place.
- Factoring in a La Nina and climatological trends, the latest seasonal outlook continues to favor the **expansion of dryness/drought** across the lower/mid Valley into this upcoming Spring Season.

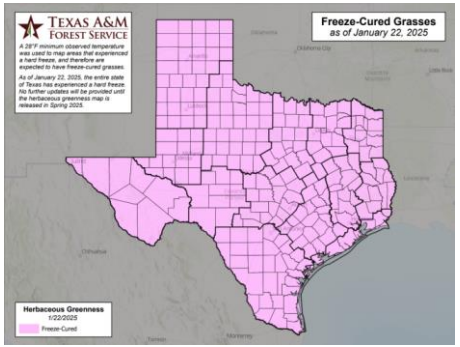
Wildfire Concerns Will Remain Elevated Through March







- Following the **Jan 20-22 Arctic Blast**, grasses across all of Deep South Texas and the Rio Grande Valley have become **freeze-cured** (see lower right image).
- 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. Trends favor more dry situations than moist situations headed into February.
- **Dry moisture levels** are taking place across our western sections (i.e. along and west of (IH-69C). Dry moisture level trends **could continue to spread east** depending on the conditions stated above.
- **Bottom lines:**
  - Given the situation, **wildfire concerns** will remain in focus, possibly peaking in February and into March. The strength of the cool/cold fronts in addition to drying trends will be key!
  - The **National Interagency Fire Center (NIFC)** has much if not all of the RGV/Deep South Texas ranchlands outlooked under an **"Above Normal Potential"** in its **Wildland Fire Potential Outlook for February and March**.
  - April remains uncertain, but could lean dry based on consensus of longer-lead monthly outlooks from trusted climate models.

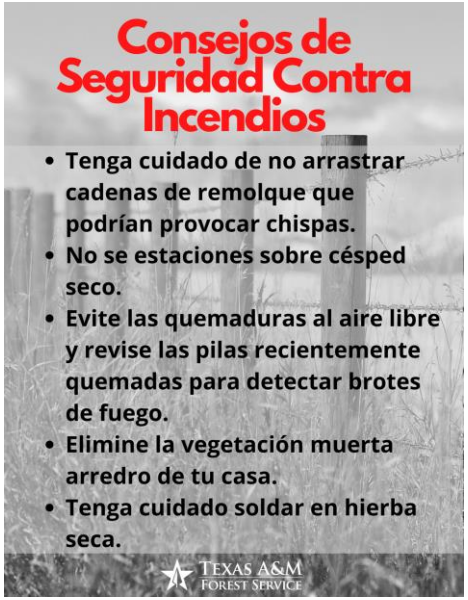


Freeze-Cured Grass Map for Texas (January 22, 2025)

Wildfire Prevention Review

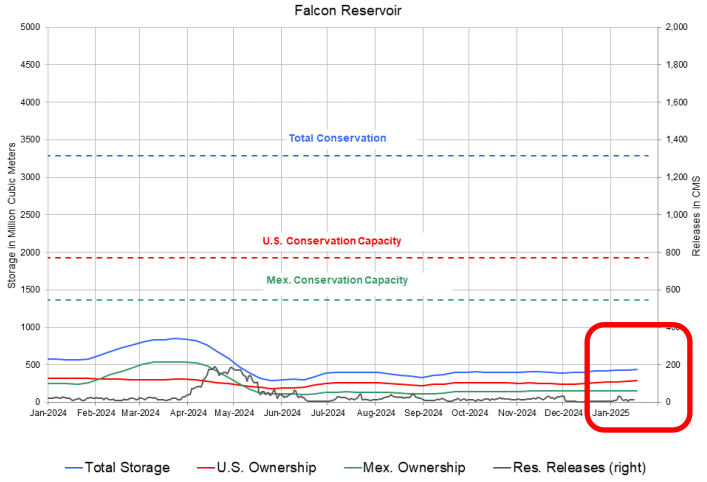
- This **remains critical through the late winter and especially into March**, especially if severe to extreme drought continues over fuel-loaded/fuel-cured rangeland north of the populated Valley. February and March 2022, and March 2023, were both active - especially across the ranchlands north of the RGV. 2025 looks similar.
- Continue to focus on **farm, ranch workers**, and **other persons who might drive hot vehicles** on parched brush on critical/near-critical days – especially low humidity, breezy days following fronts.

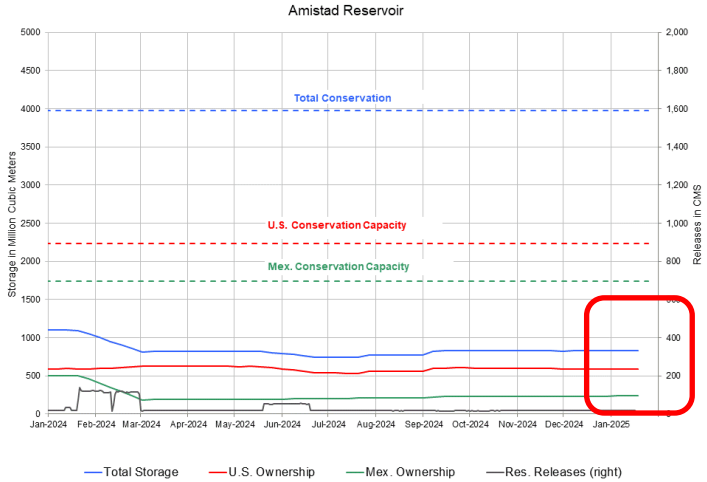
Infographics for Wildfire Prevention



- ~50 in all (20 in Spanish)!
- Thanks to **Texas A&M Forest Service** for Many of These!

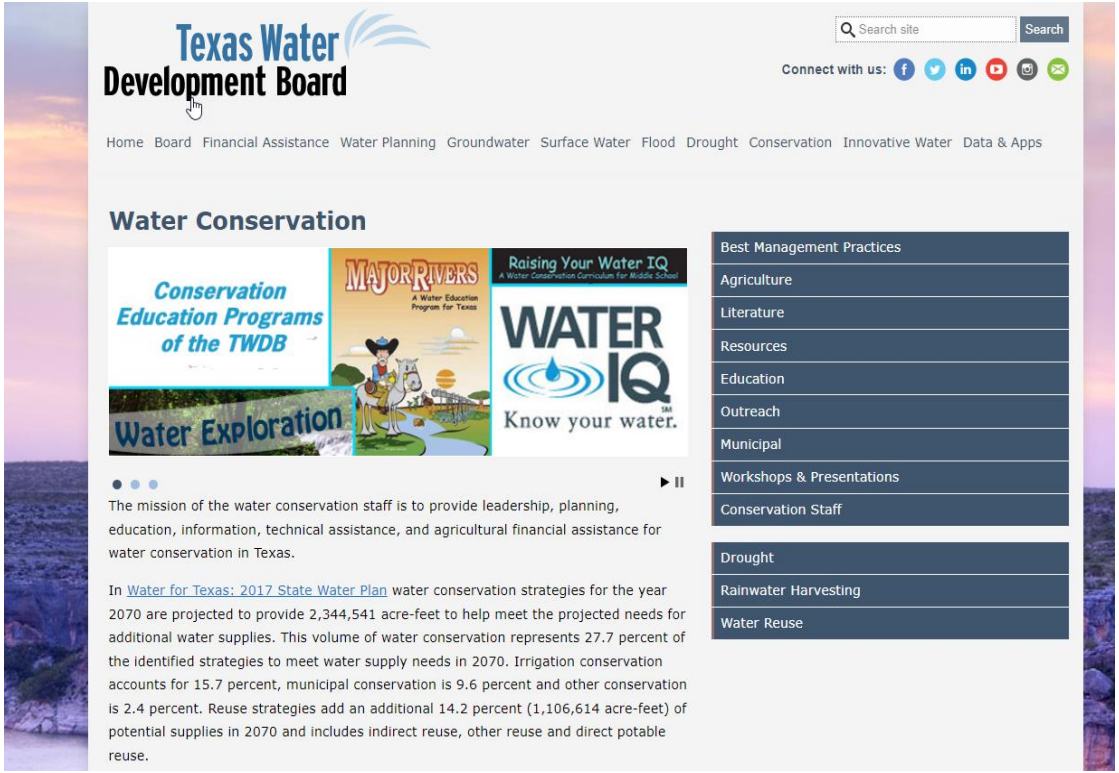
Amistad and Falcon Reservoirs remains at or near Record Lows heading into the New Year





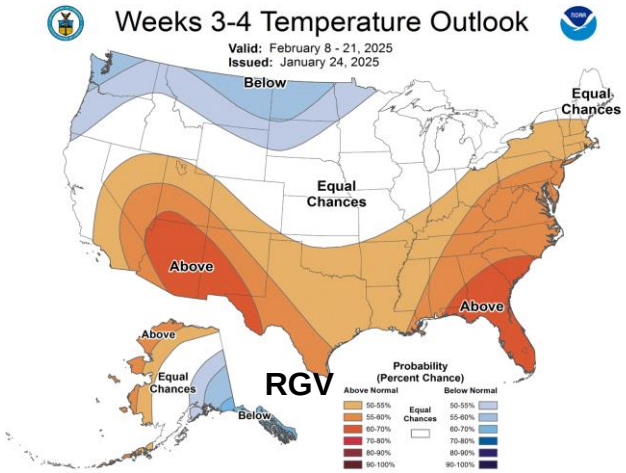
- **Falcon remained nearly steady**, ending late January at **13.3 percent** (up slightly from **12.7% in late December**). This level is just a few ticks above prior records. Levels may not change much through April.
- **Amistad remained steady and above all-time record lows in late January.** Levels were at **20.8% on January 23rd** (**same level of 20.8% from December 19**). Levels may not change much through April.

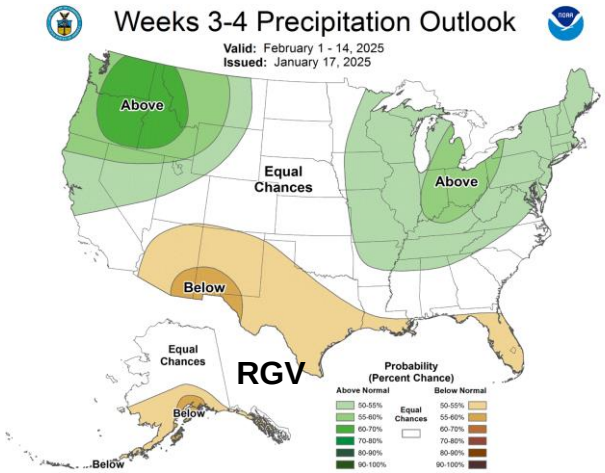
Water Conservation is Key Until Further Notice!

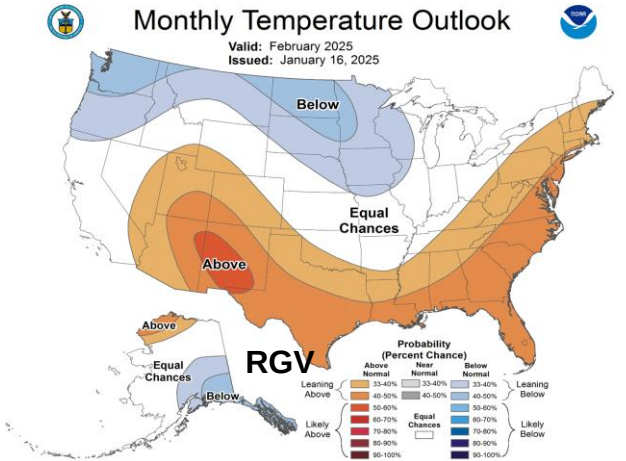


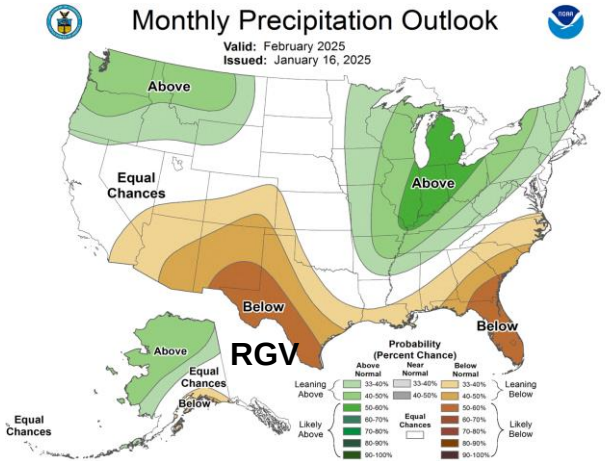
- "Stage 2/3" Restrictions continued through early winter 2025 and are likely to continue **until further notice** based on inflows from Amistad and Falcon.
- Learn more at the Texas Water Development Board's Conservation Page

February 2025: Confidence: Medium-High (60-80%) on Temperature and Precipitation Trends









- Medium to long-range models are suggesting a cool/cold snap taking place around the **1st week of February (i.e. Feb 7-9 timeframe)**. However, this cold snap is **not expected to be of the magnitude of the Jan 20-22 Arctic Blast event**.

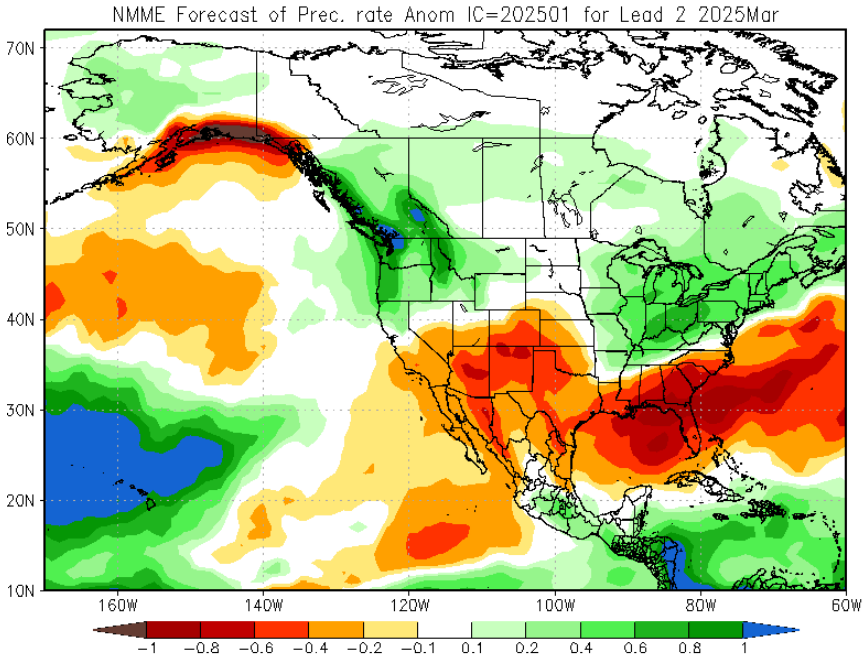
- Despite the potential for a cool snap or two, February should average out warmer than normal as building atmospheric high pressure will be more of the dominant driver in the weather pattern. The onset of heat risk will be on the increase as we move into March/April.

- A drier than normal pattern is expected for the month of February, though moisture influx and the chance for non-tropical showers and storms will gradually be on the increase as we begin to shift towards the Spring Season.

- Though we are expecting a drier than normal pattern, **heavy rainfall or flooding events can still develop.** Have to monitor the potential for showers and storms that could **produce heavy rainfall/flooding risk**!

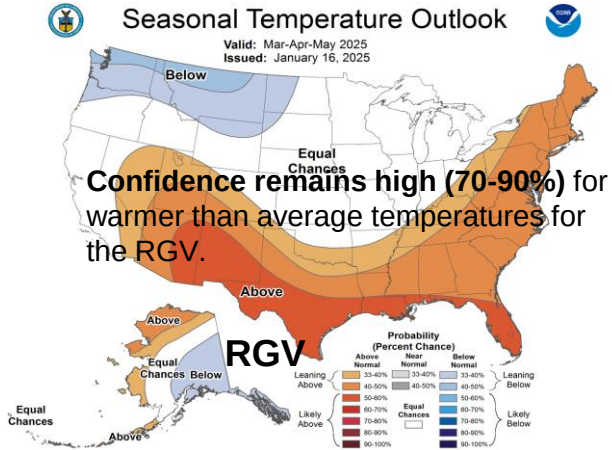
Early Look: March 2025

Potential rainfall rate anomaly, March 2025

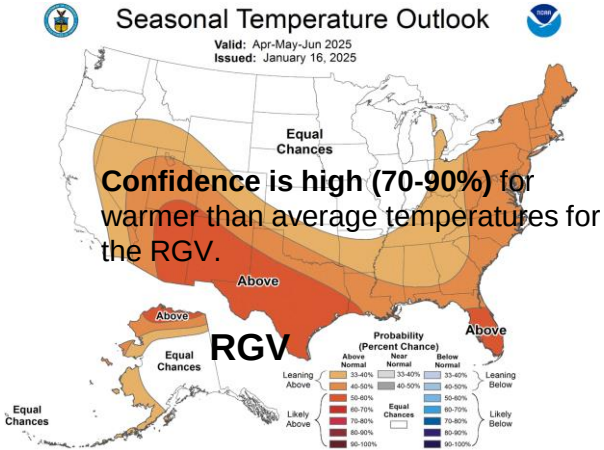


- This model's forecast for March suggest a **dry pattern** (note the red color over the area and nearby brown colors) continuing. Confidence is medium.
- As we shift towards the Spring Season, showers and thunderstorms are possible. **The position of the southern jet stream (subtropical jet) will be key!** Though we do expect to see showers and thunderstorms, at this time, we are leaning towards an overall drier than normal pattern in March.

Spring into early Summer 2025: Warmer than Normal Trends are Favored; Precipitation pattern is a toss-up



Confidence remains high (70-90%) for warmer than average temperatures for the RGV.



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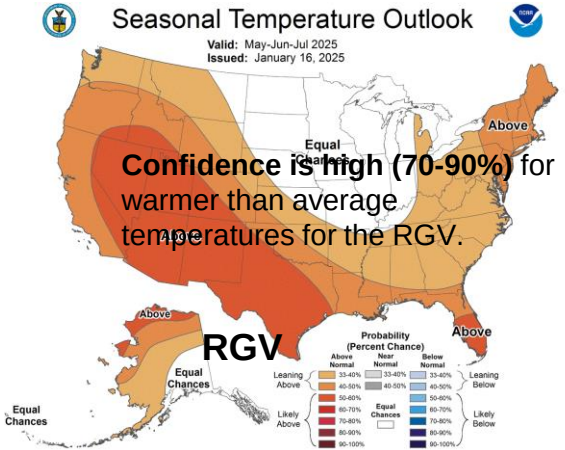

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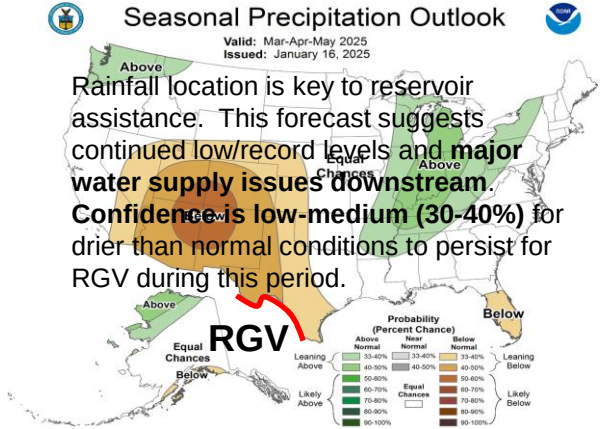
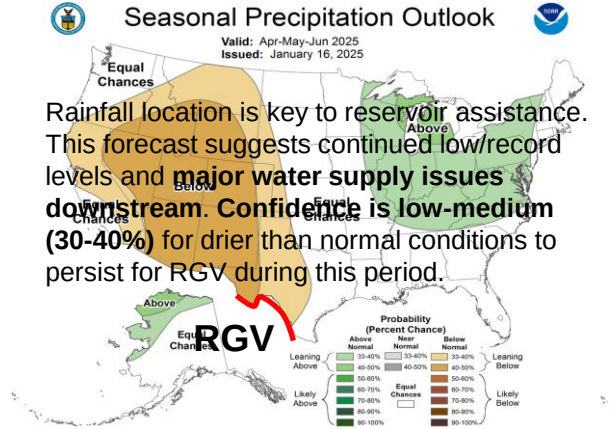


Rainfall location is key to reservoir assistance. This forecast suggests continued low/record levels and **major water supply issues downstream**. **Confidence is low-medium (30-40%)** for drier than normal conditions to persist for RGV during this period.



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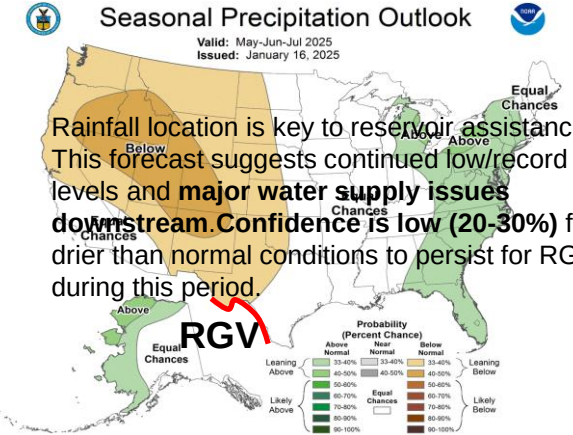
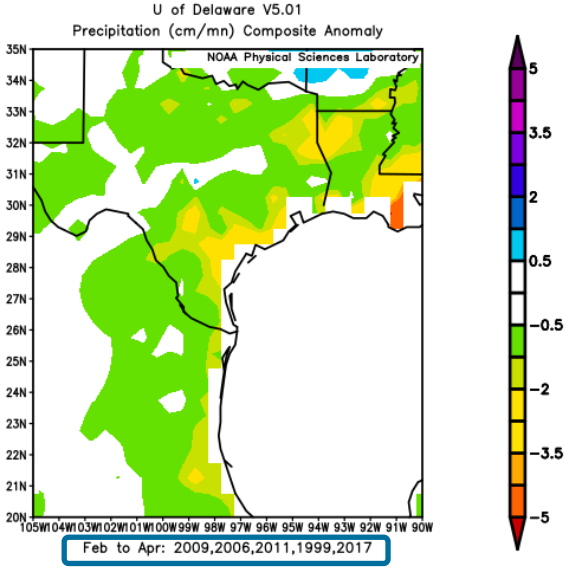
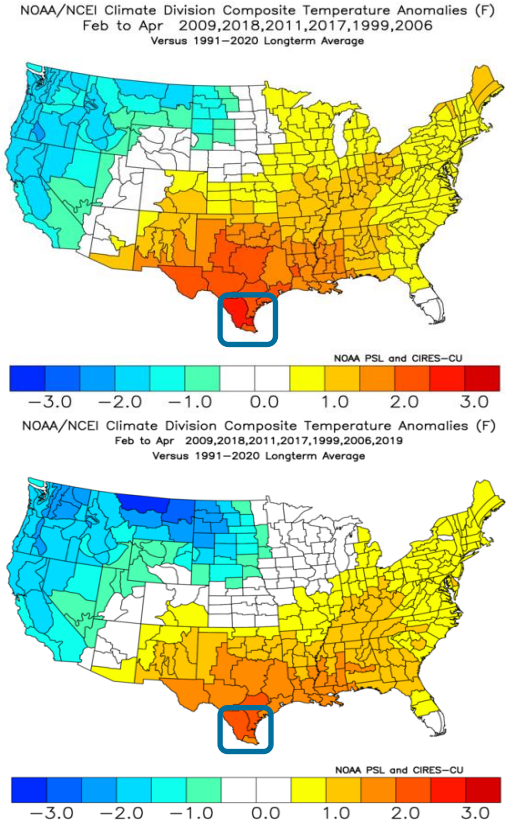


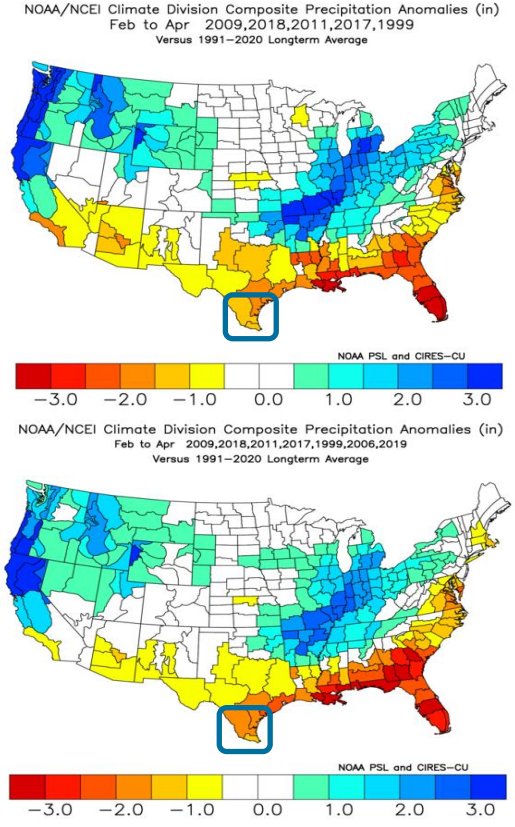
Rainfall location is key to reservoir assistance. This forecast suggests continued low/record levels and **major water supply issues downstream**.**Confidence is low (20-30%)** for drier than normal conditions to persist for RGV during this period.

Comparing Similar El Niño to La Nina Episodes within the last 30 years; Feb-Apr Periods



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





- **Top:** Composite temperature (left) and precipitation (right) anomalies for similar El Nino to La Nina transition episodes leading into February-April, since 1950.
- **Bottom Left:** Same, except added 2019 season. **Bottom Right:** Same, except added 2006 and 2019 seasons.

Bottom Lines

- **Warmer than normal conditions** and **drier than normal conditions** are expected to persist into the Spring Season with a La Nina in place. As we move into the Spring Season, particularly March and April, **heat risk concerns** are expected to increase. **Dryness** is expected remain in focus over Deep South Texas February-April.
- 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 dry season.**
- **Fire weather** is expected to remain in focus February-April, as **soils continue to dry** and **cool/cold fronts** continue. Farmers/ranchers should be ready to **implement fire safety rules!**
- **Note:** Just b/c a drier than normal pattern is expected February-April, it doesn't mean that heavy rainfall/flooding is not to occur. Should the pattern setup, there could be **instances of showers and thunderstorms that result in heavy rainfall/flooding** as we move into the Spring Season.