



**NATIONAL  
WEATHER  
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# October-December 2022 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

September 22, 2022

Barry Goldsmith, NWS Brownsville/Rio Grande Valley, Texas

**Dryness Likely to Resume; Hot → Warm Temperatures to Continue**

September 8, 2022



Falcon Dam and State Park

September 8, 2022



September 8, 2022



From This...

N. Zapata County

January 2, 2011



To This?

Kenedy County



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# Since September 1<sup>st</sup>...

Early month rainfall, followed by more “typical” isolated to scattered rains brought pockets of average to above average totals in the upper RGV, with near to below average elsewhere (right) through the 21<sup>st</sup>.

Despite the rain, the period from April 1 to September 20 still ranked among the top ten hottest on record for RGV anchor cities.

Brownsville/Harlingen, #1; McAllen, #8 (updated on 9/20).

The continuation of near average to above-average rainfall eliminated drought across the region by September 13<sup>th</sup>.

Water levels at Falcon International Reservoir and Amistad International Reservoir continued to edge up (right); Amistad more than Falcon due to steady inflows from the Rio Conchos (next page)



Maximum 173-Day Mean Avg Temperature  
for HARLINGEN, TX

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

Rank	Value	Ending Date	Missing Days
1	84.9	2022-09-21	3
2	84.6	2019-09-21	11
3	84.3	2016-09-21	6
4	84.1	2020-09-21	15
5	84.0	2018-09-21	35
6	83.9	2011-09-21	7
7	83.8	2002-09-21	5
8	83.7	2017-09-21	10
9	83.7	1953-09-21	2
10	83.6	2012-09-21	11

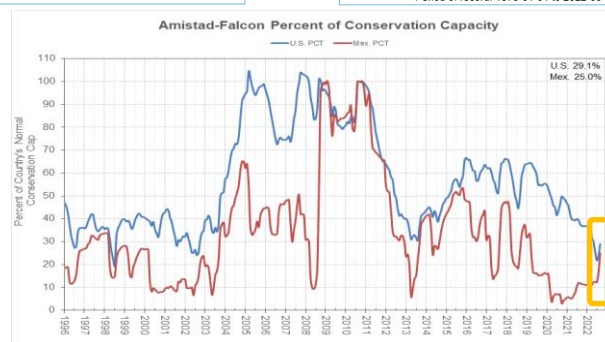
Period of record: 1912-02-07 to 2022-09-20

Maximum 173-Day Mean Avg Temperature  
for Brownsville Area, TX (ThreadEX)

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

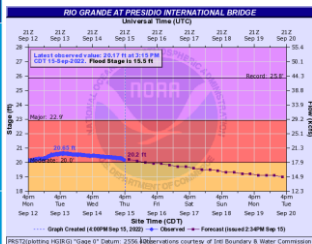
Rank	Value	Ending Date	Missing Days
1	85.0	2022-09-20	0
2	84.8	2019-09-20	0
3	84.3	2018-09-20	0
4	84.2	2011-09-20	0
5	84.0	2012-09-20	0
6	83.8	2020-09-20	0
7	83.4	2002-09-20	0
8	83.4	2001-09-20	0
9	83.3	2006-09-20	0
10	83.2	1982-09-20	0

Period of record: 1878-01-01 to 2022-09-20



# Filled Reservoirs in Mexico to Help Amistad into

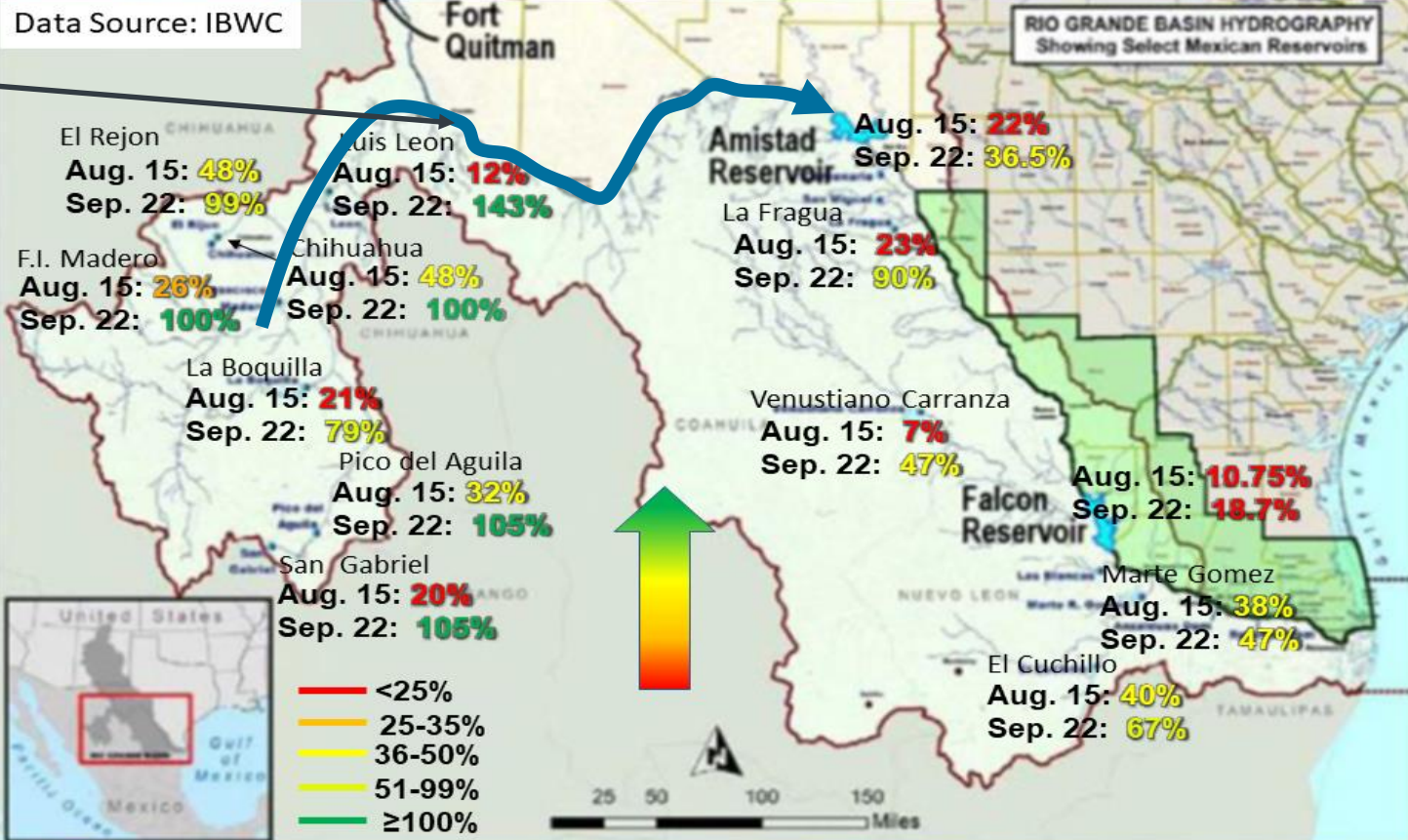
## October



- Rio Conchos Reservoirs Generally at or above 100 percent conservation storage.
- Necessary releases will keep Rio Grande in flood (above) along Big Bend into early October
- Steady rises will continue at Amistad, but are values were level at Falcon and are likely to begin a slow drop.

## Lower Rio Grande Watershed Reservoir Level Rises Between August 15 and September 22, 2022

Weather Forecast Office  
Brownsville/Rio Grande Valley, TX



@NWSBrownsville



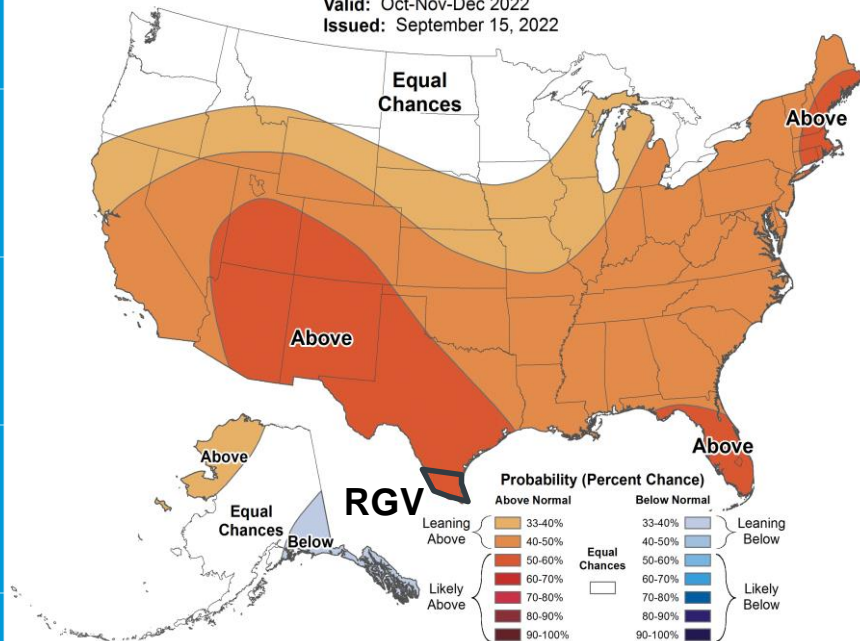
# Seasonal Forecast October-December 2022 - USA



## Seasonal Temperature Outlook



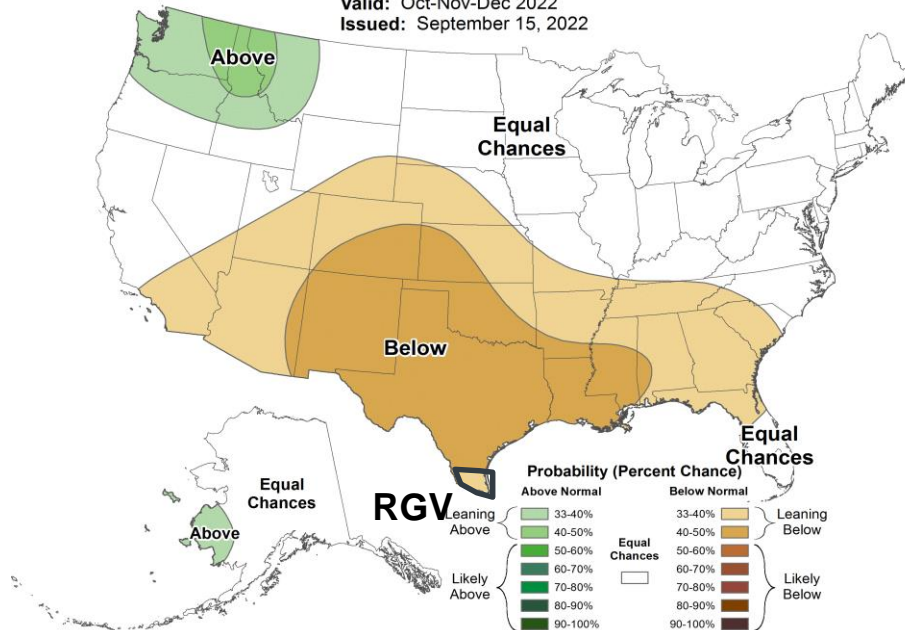
Valid: Oct-Nov-Dec 2022  
Issued: September 15, 2022



## Seasonal Precipitation Outlook



Valid: Oct-Nov-Dec 2022  
Issued: September 15, 2022





# Key Takeaways: October-December 2022



- **Above average temperatures**, and confidence for **below average rainfall continues...**
- **Confidence is high** on a **warm to hot end of 2022**, and **medium-high** on a **dry end of 2022**.
  - **Persistent Warmth** which began in April will continue through the end of the year.
  - Reservoir levels at Amistad and Falcon continued to rise into mid September; however, while Amistad continues to rise due to Conchos inflows, **Falcon may begin to fall slowly** from mid October through December, without significant rain or a downstream release in the headwaters. **Water supply issues will remain a concern for many Valley locations.**
  - The expectation of much drier, but still warm, air following ample “fuel” growth of grasses and brush across the region between mid August and mid September could set up **potential fire weather issues by late November and especially December.**
  - While the pattern overall favors warm and dry conditions, seasonal cold fronts should begin to arrive between late October and mid November. One or two of these **fronts could be strong, dropping “feels like” temperatures below 40°F** – with a potential day-to-day change of up to 50°F The best opportunity would be between Thanksgiving and New Years Eve.





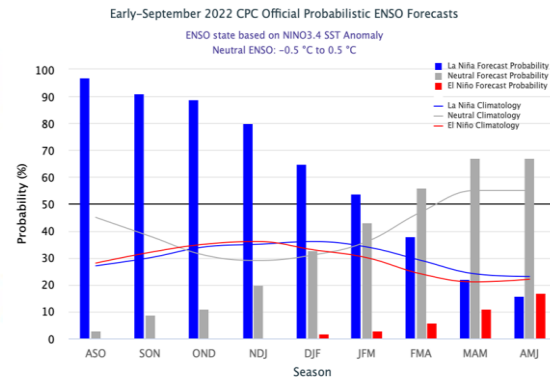
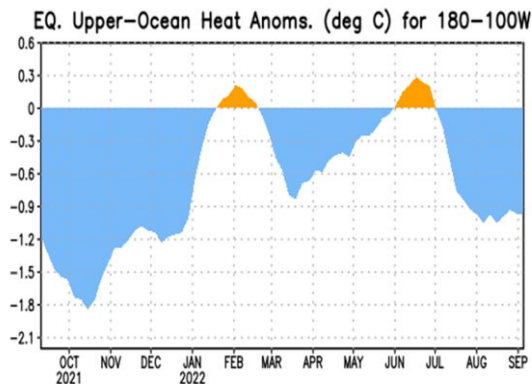
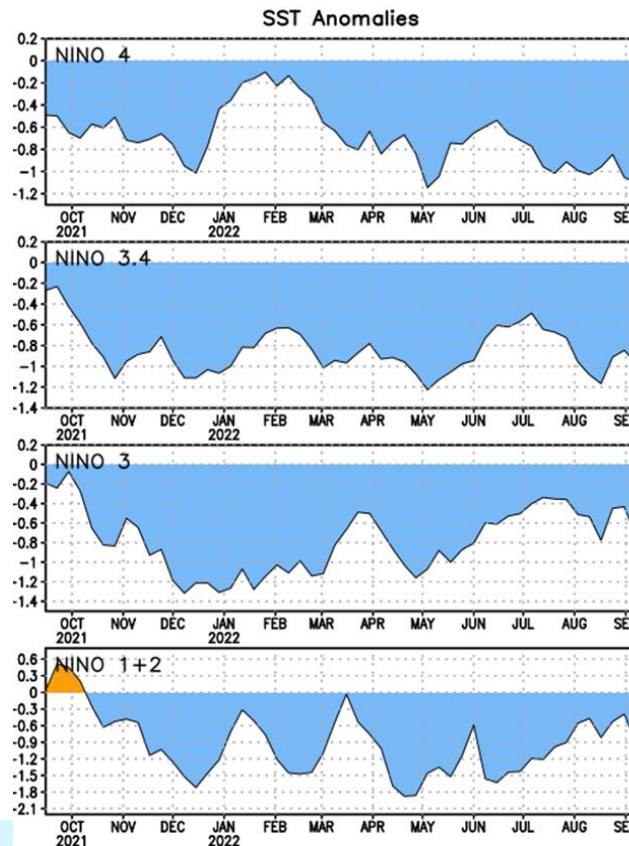
# The “Why” of the Forecast:

## El Niño/Southern Oscillation (ENSO) solidly in La Niña Phase

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					

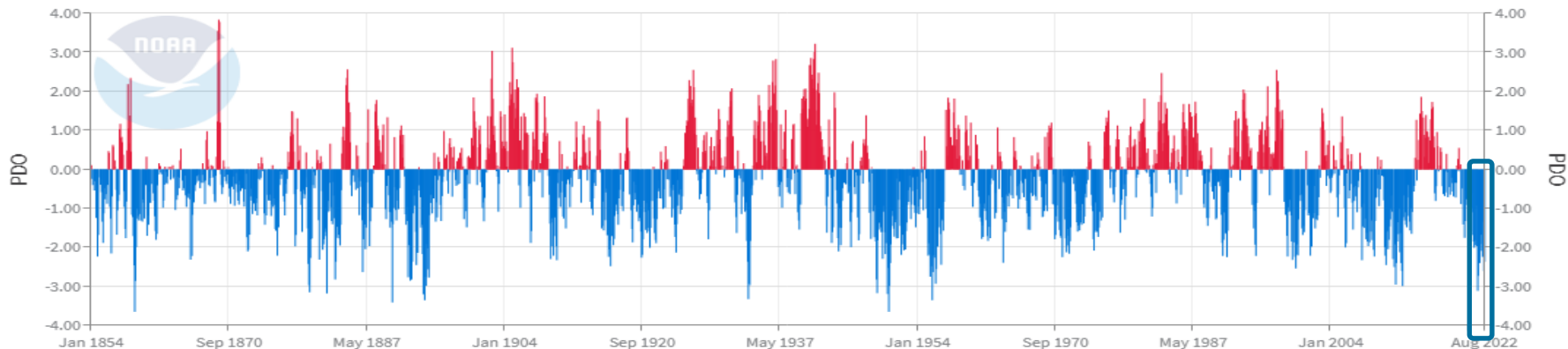
- La Niña will remain the dominant signal into early spring
- The stout La Niña combined with general atmospheric patterns and other “teleconnections” still leans toward warm/hot and dry/drought conditions...
- ...but La Niña can also support notable cold snaps toward the end of the calendar year

\*Above right: Oceanic Niño Index. Values below -0.5 (light blue) indicate a 3-month La Niña episode. Current La Niña expected to last up to 18 months.



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

Pacific Decadal Oscillation (PDO)



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

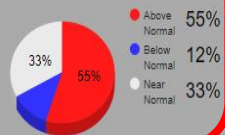
- The 2021/2022 prolonged and strong negative PDO remains similar to that of late 2010 through 2011. Combined with the persistent La Niña – also very similar to that from late 2010-2011 (though 2011 was a bit stronger), **confidence remains high on a hot October, followed by a warm November-December.**
- The same PDO when combined with the strong and persistent La Niña, increases the confidence in a **drier than average end of 2022.**

# The October-December 2022 Outlook: Rio Grande Valley (McAllen as Anchor Point)

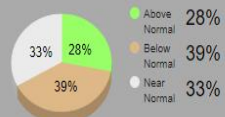
mcallen, tx

7 Day Forecast for McAllen, Texas

Three Category Temperature Outlook  
Normal Maximum Temperature: 80  
Normal Minimum Temperature: 58



Three Category Precipitation Outlook  
Normal Precipitation: 4.09



Select Lead

Seasonal Outlook

October 2022-December 2022 (Lead 1)

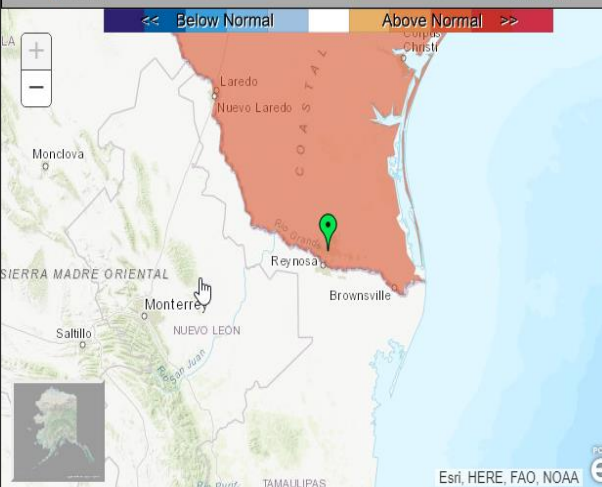
Temperature

Opacity: 60%

Precipitation

● Outlook

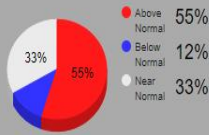
● Outlook



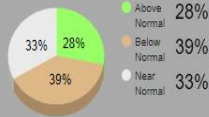
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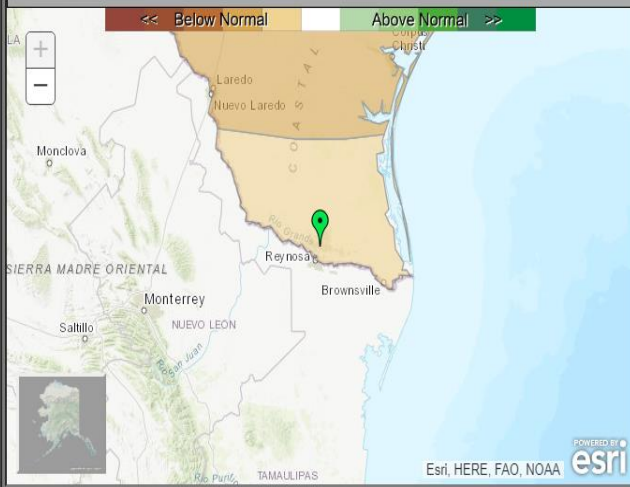
Temperature

Opacity: 60%

Precipitation

● Outlook

● Outlook



- Temperature: A **55 percent chance of above average**. A 12 percent chance for below average: RGV averages: Afternoon – 90, falling to around 70 by the end of December. Morning: 68 to 73, falling to falling 47 to 52 by the end of December.
- Precipitation: A **39 percent chance** of below average; 28 percent for wetter than average. RGV averages: 4.5 to 7 inches (from west to east).



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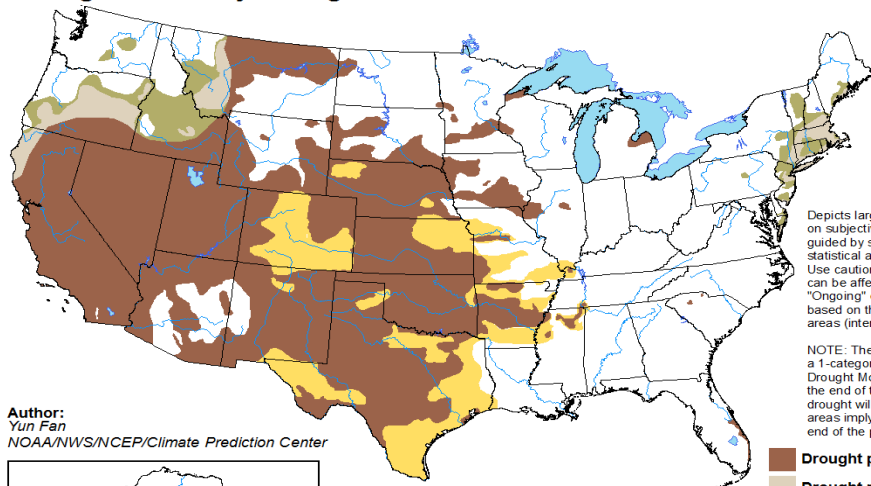
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# The October-December “Droughtlook”

## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for September 15 - December 31, 2022  
Released September 15



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).

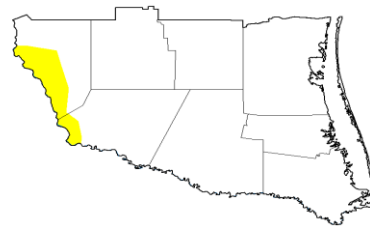
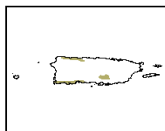
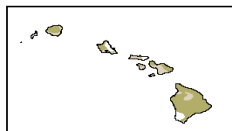
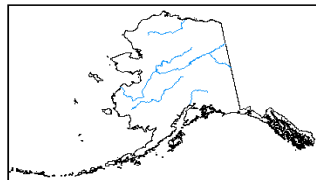
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

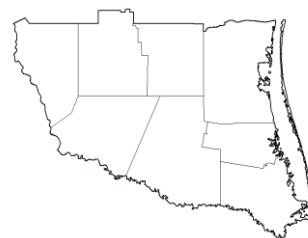


<http://go.usa.gov/3eZ73>

Author:  
Yun Fan  
NOAA/NWS/NCEP/Climate Prediction Center



September 20, 2022



September 15, 2021

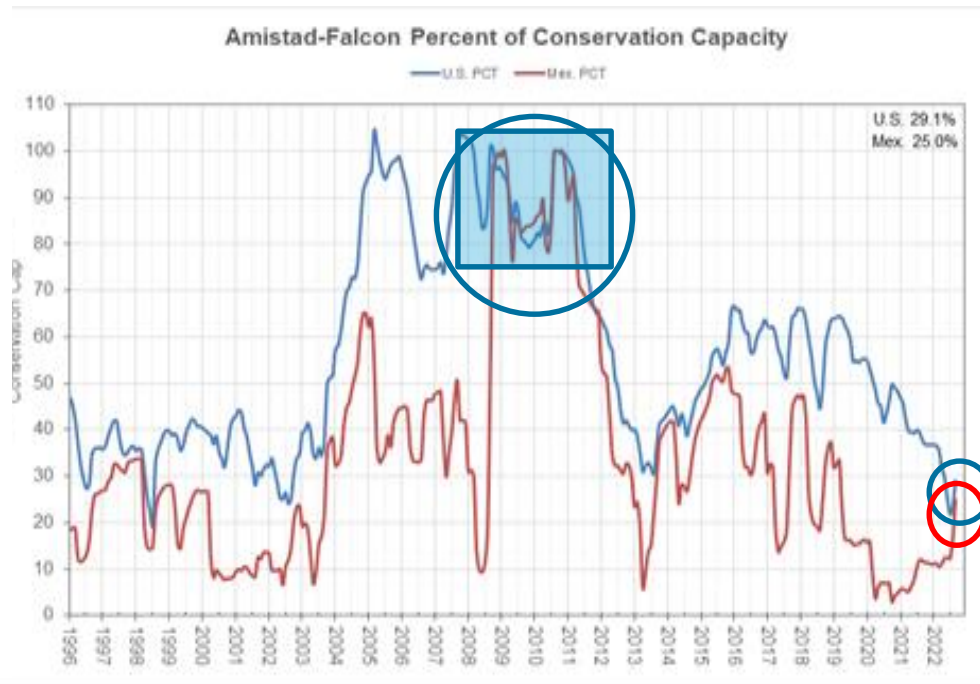
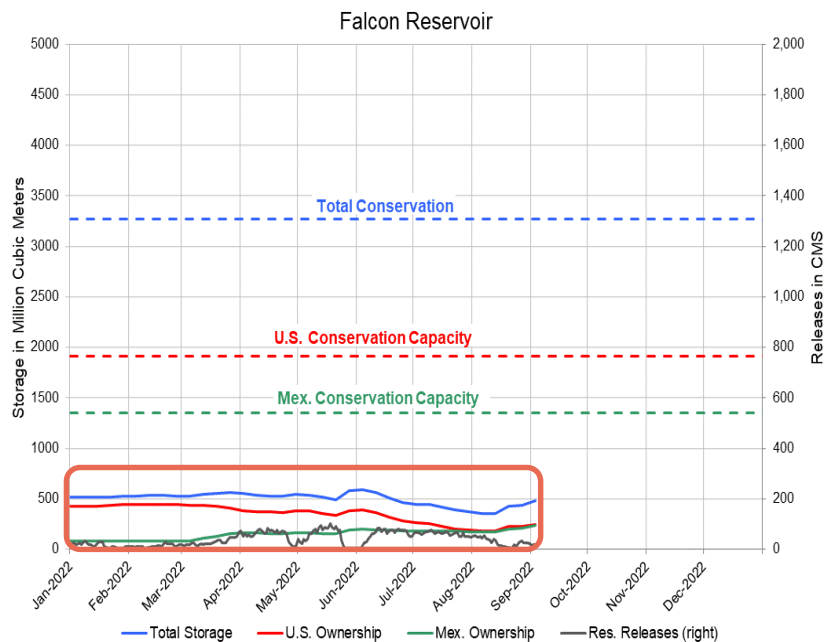
### Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

- The warm to hot and dry forecast, combined with September rains expected to land a touch below average on the whole, is now expected to bring **the resumption of drought conditions** to parts of the Rio Grande Valley/Deep S. Texas Region by late autumn or early winter.



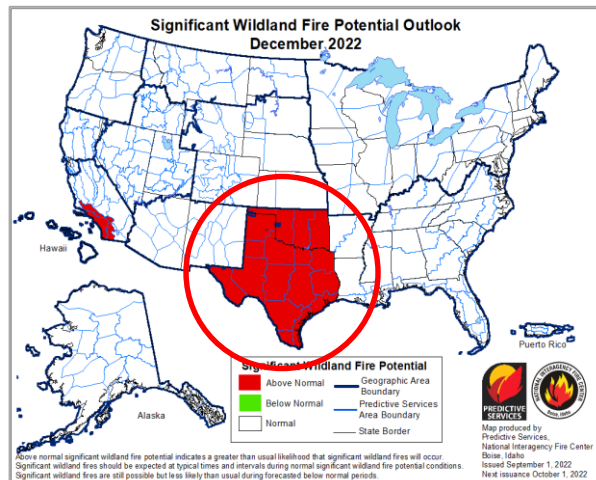
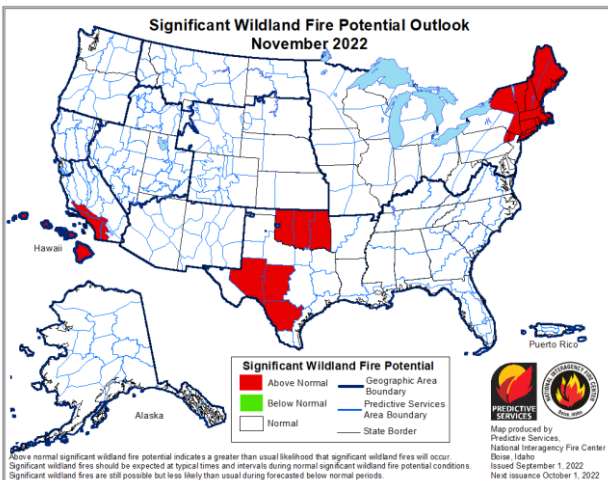
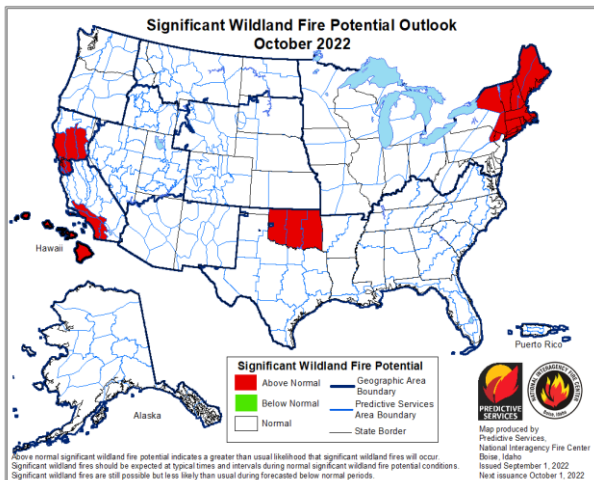
# Falcon Reservoir Levelled Off; Amistad Will Rise into October



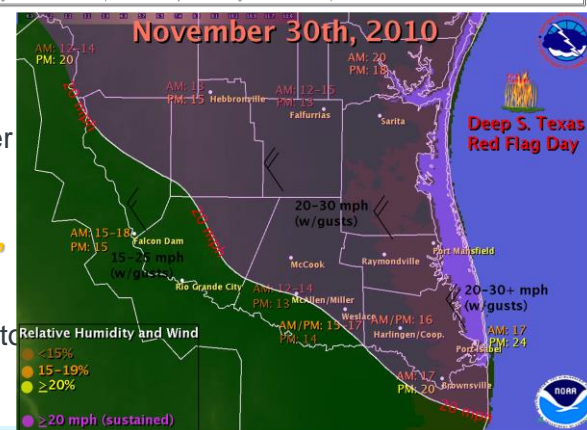
- Mid September 2022 total capacity, Falcon Reservoir: **18.7 percent (up from 10.75 percent )** on August 13-15<sup>th</sup>. Still very low relative to long term averages.
- Late September 2011 total capacity, Falcon Reservoir: **47 percent**



# Wildfire Spread Potential Could Worsen in November/December



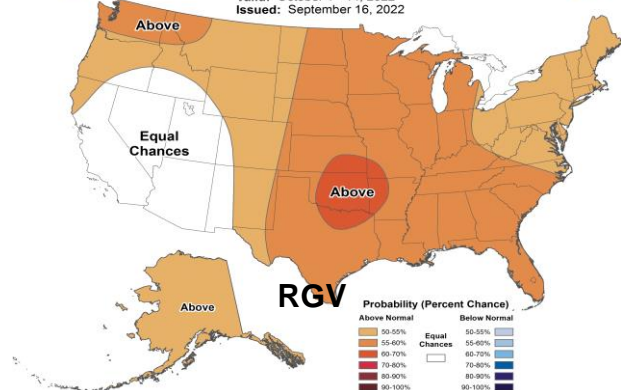
- **New growth fuels are abundant** across the Rio Grande Valley and especially the Deep S. Texas Ranch/Brush Country as of late September.
- September rains were **sufficient to maintain green-up**, but not enough to maintain a prolonged fuel wetness profile as **dry/warm to hot conditions** dominate much of October and **especially November and December**.
- Those fuels are likely to **become rapidly parched**, especially if “dry” fronts surge strong northwest winds and very low humidity across new growth areas, bringing **“flash drying” and perhaps a flash drought** event.
- Such a situation (right) could lead to **large growth late autumn/winter wildfires**, similar to late 2010 and early 2011. Favored locations would generally be along and west of IH-69E/US 77.



# October 2022: Confidence High on Heat, Medium on Dryness

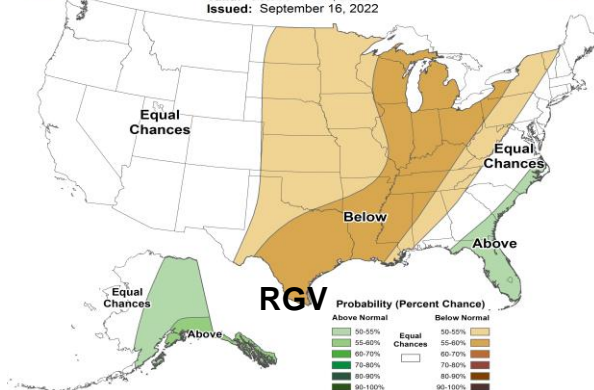
Weeks 3-4 Temperature Outlook

Valid: October 1 - 14, 2022  
Issued: September 16, 2022



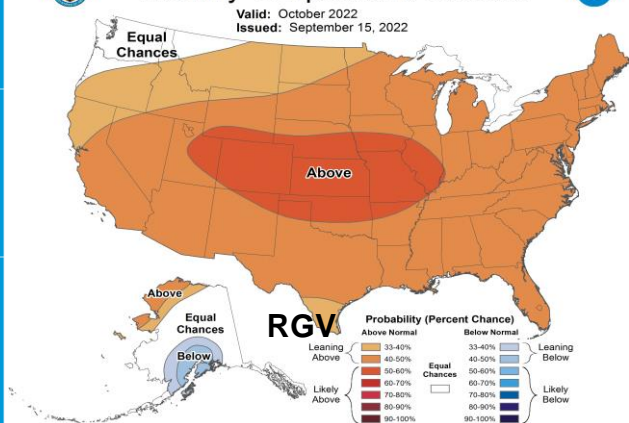
Weeks 3-4 Precipitation Outlook

Valid: October 1 - 14, 2022  
Issued: September 16, 2022



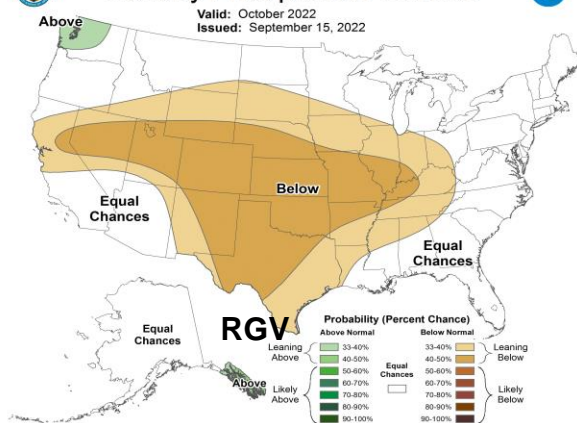
Monthly Temperature Outlook

Valid: October 2022  
Issued: September 15, 2022



Monthly Precipitation Outlook

Valid: October 2022  
Issued: September 15, 2022



- **Bottom Line:** Through mid October, dry and hot weather will likely dominate, as atmospheric high pressure, similar to that from July and early August, covers nearly all of Texas.
- By late October, the ridge is expected to generally hold and likely shift toward the “La Canícula” position (southwest Texas/southeast New Mexico/northern Mexico), increasing the likelihood of more warm/hot and dry conditions. These conditions will extend to both reservoirs and ensure no further notable rises at Falcon and a slow-down in rises at Amistad.

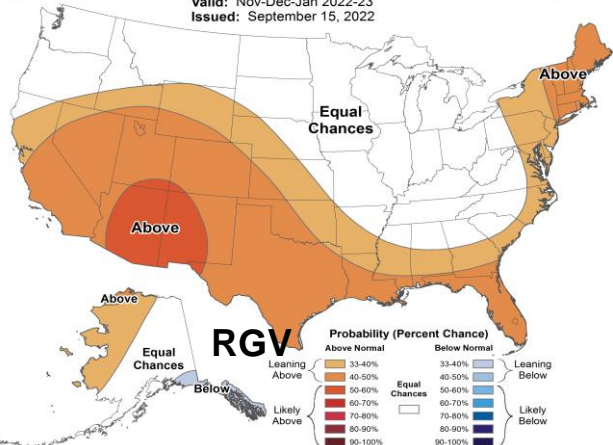
# Winter through early Spring 2023: Continued Warm and Dry...

## ...but significant cold snaps could sneak through in Jan-Feb.



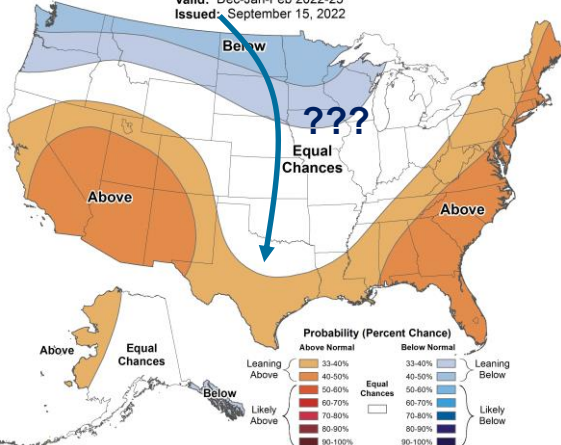
### Seasonal Temperature Outlook

Valid: Nov-Dec-Jan 2022-23  
Issued: September 15, 2022



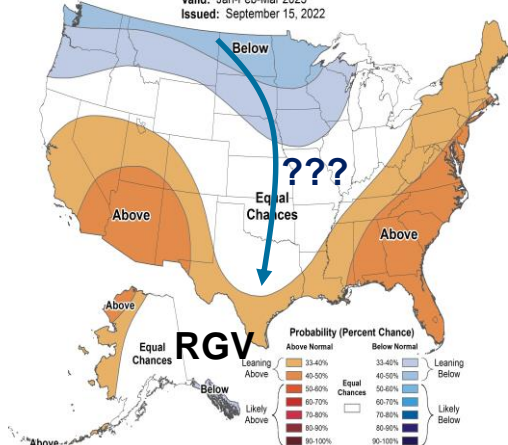
### Seasonal Temperature Outlook

Valid: Dec-Jan-Feb 2022-23  
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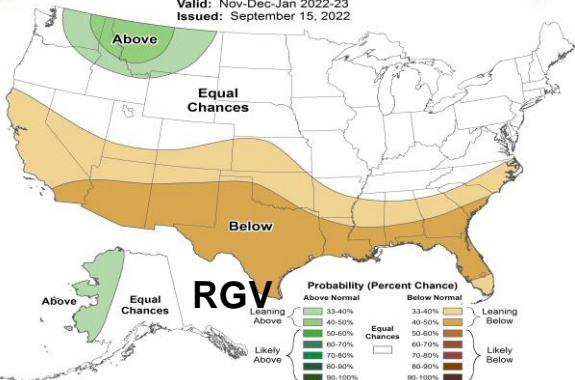
### Seasonal Temperature Outlook

Valid: Jan-Feb-Mar 2023  
Issued: September 15, 2022



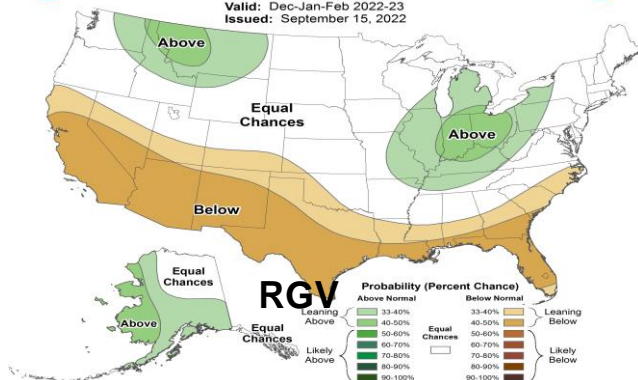
### Seasonal Precipitation Outlook

Valid: Nov-Dec-Jan 2022-23  
Issued: September 15, 2022



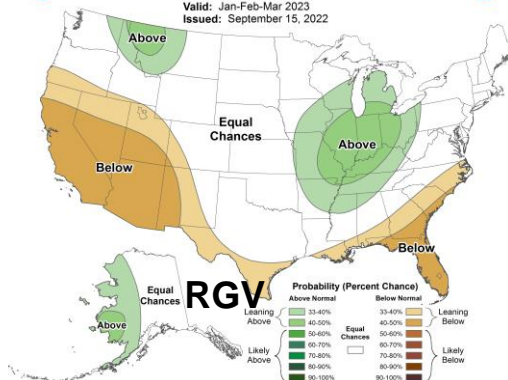
### Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2022-23  
Issued: September 15, 2022



### Seasonal Precipitation Outlook

Valid: Jan-Feb-Mar 2023  
Issued: September 15, 2022





# Bottom Lines

- **Heat** will gradually fade as the daylight hours shorten, but continued above average temperatures through autumn may set the stage for *another top-ten ranked warm calendar year* at some locations should much warmer than average conditions persist through the rest of 2022. **Heat safety** should be promoted through October as conditions warrant.
- While Amistad Reservoir levels will **continue to steadily rise into early October**, levels at Falcon **have leveled off**. For late October through December, Amistad will level off and Falcon should begin falling...slowly...with limited inflows. The **combined share of water is likely to remain low to very low** headed into the early spring growing season. Water conservation, smart irrigation, and rainwater harvesting are still viable actions.
- The growth, thickness, and density of grasses and brush in mid September could quickly become **“tinder/duff” for rapid-spread wildfires** by **late November and December**, based on the forecast. Wildfire prevention activities should resume this autumn and resources should be readied for deployment, just in case.
- Between late November and New Year’s Eve, the potential for **one or two strong cold fronts** – dropping “feels like” temperatures between 40 and 50 degrees – is possible. Residents should consider their **winter wardrobes** and ensure **heating systems** are in proper working order from October through early November.