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# May-July 2022 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

May 9, 2022

Barry Goldsmith, NWS Brownsville/Rio Grande Valley, Texas

Any of the below is possible through July

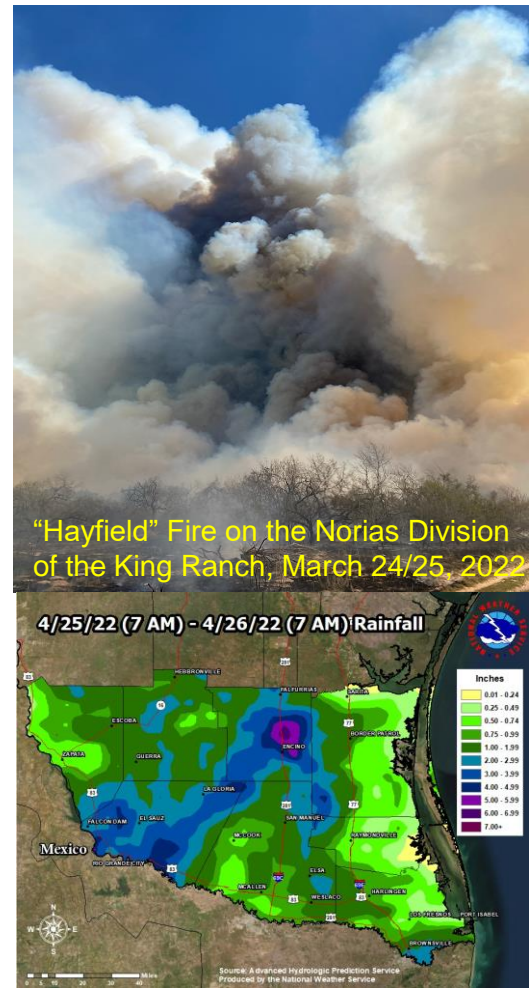


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# Spring So Far

- March and most of April showed steady worsening of the drought, with Level 3 (Extreme) and Level 4 (Exceptional) reaching the Rio Grande Plains/Brush Country, as expected
- Wildfire “season” was active, with an estimated 33,000 acres burned in rural Deep S. Texas ranch/brush country and the upper Valley between February and early April
- A “one-off” torrential rain event on April 25/26 temporarily improved dryness/drought and humidity that followed quelled the wildfire season into early May





# Seasonal Forecast May-July 2022 - USA

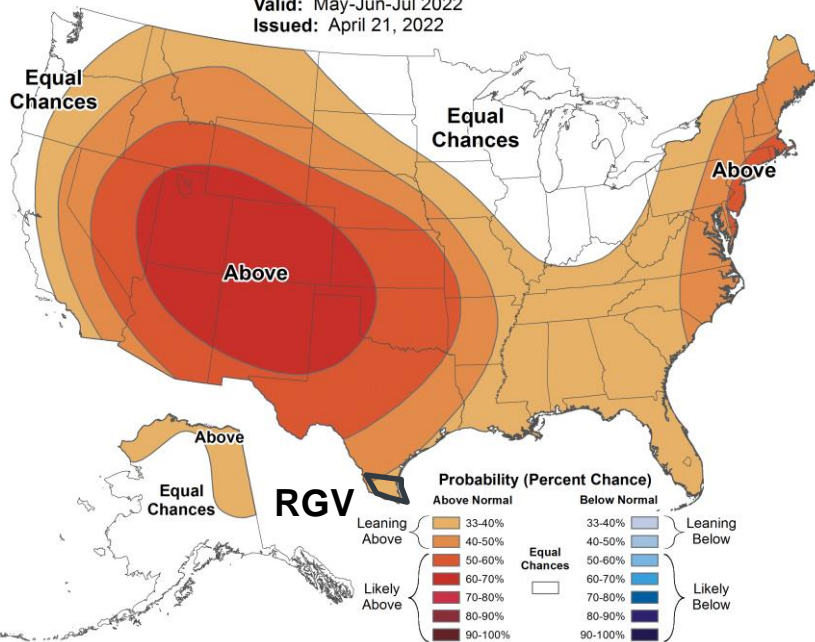


## Seasonal Temperature Outlook



Valid: May-Jun-Jul 2022

Issued: April 21, 2022

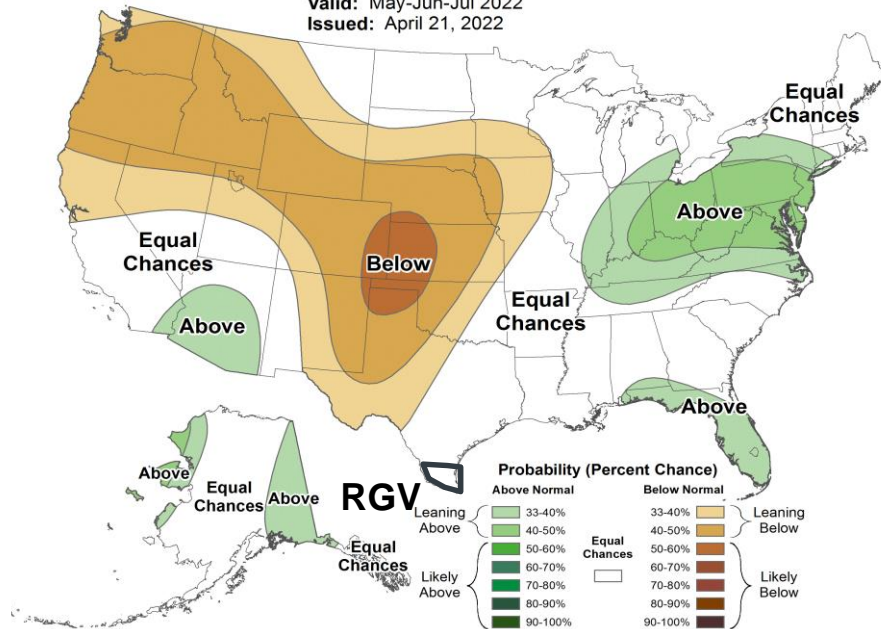


## Seasonal Precipitation Outlook



Valid: May-Jun-Jul 2022

Issued: April 21, 2022





# Key Takeaways



- **Above to average temperatures**, and a “lean” toward **below average rainfall continues...**
- **Confidence is high** on a **hot and largely rain-free May**, then mixed on if the pattern changes in June and July
  - **Drought** will worsen once again across the Rio Grande Plains/Brush Country in May, and ultimately spread to parts of the Rio Grande Valley. **Extreme to Exceptional** (highest on scale) **Drought is likely across Rio Grande Plains and Brush Country**, with Moderate Drought spreading to all but the Lower Texas coast.
  - **Excessive Heat** had already impacted some locations across the Brush Country/Rio Grande Plains in early May, and this may **be a big story through July** in most areas. A hot and largely rain-free pattern would produce several days of apparent temperatures between 111°F and 120°F – locally higher.
  - **Wildfire spread threat could re-appear in Brooks/Hidalgo through Zapata by late May and potentially continue on and off through July** - based on fuel (grass, brush, tree) availability, dryness, and the expected warmth and drought.
  - **June and July** are still “wild cards”, though **June is leaning dry**. Based on historical precedent in springs like this, a reasonable chance for excessive lightning, and **flooding** should thunderstorm clusters, or unnamed tropical waves develop or spread into the region. June [2018](#) and [2019](#) stand out.







# The “Why” of the Forecast:

## El Niño/Southern Oscillation (ENSO) (still) 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									



La Niña remains stubborn, and is now expected to remain the dominant signal into summer, with only slow weakening



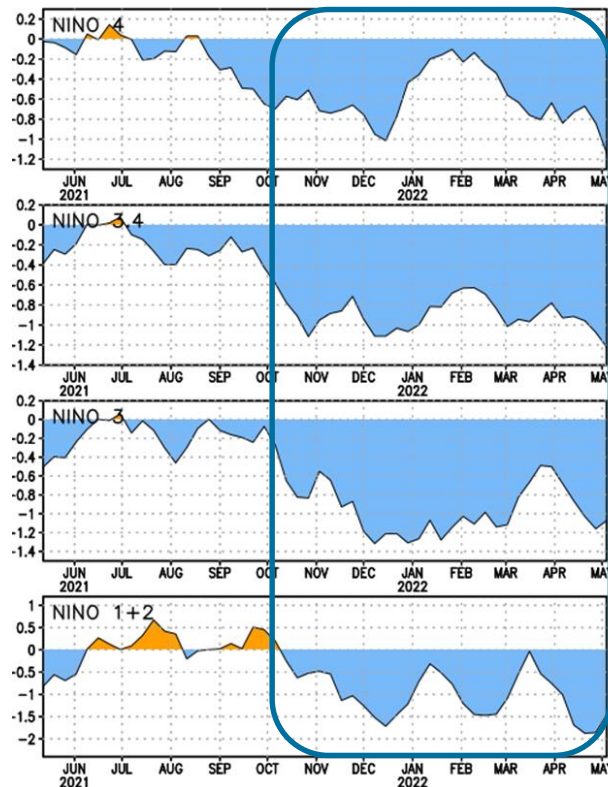
The staunch late spring/summer La Niña combined with general atmospheric patterns and other “teleconnections” generally favors hot and dry/drought conditions into July



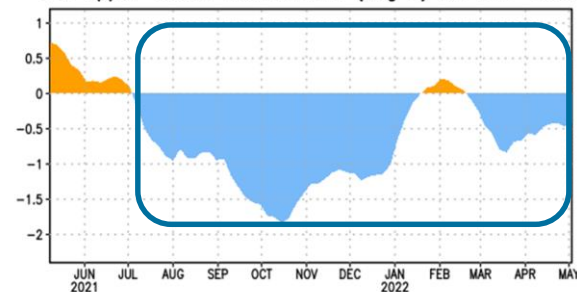
\*Above right: Oceanic Niño Index. Values below -0.5 (light blue) indicate a 3-month La Niña episode.



SST Anomalies

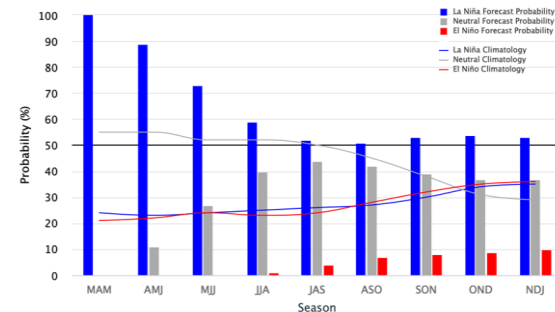


EQ. Upper-Ocean Heat Anoms. (deg C) for 180–100W



Early-April 2022 CPC/IRI Official Probabilistic ENSO Forecasts

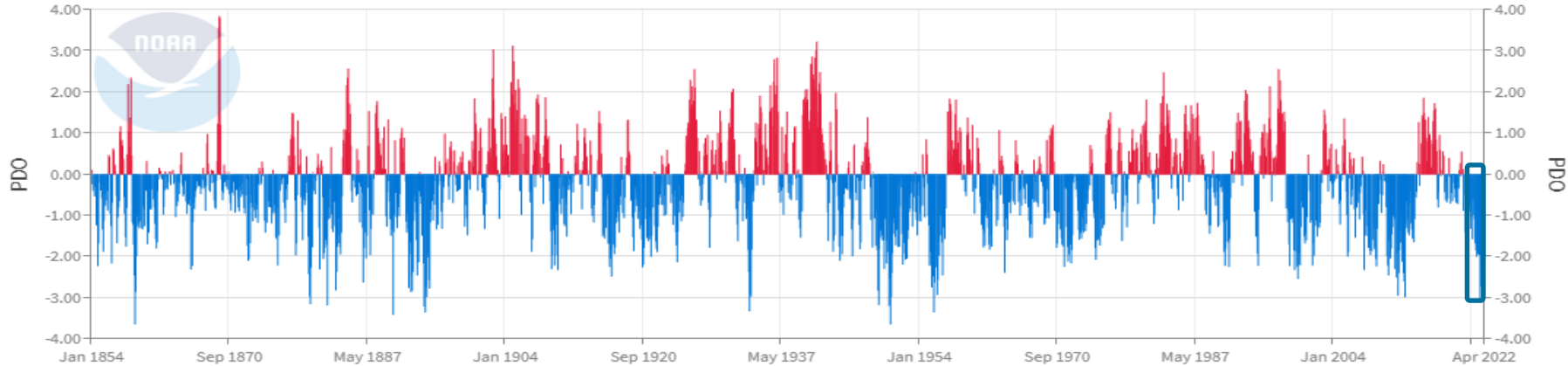
ENSO state based on NINO3.4 SST Anomaly  
Neutral ENSO: -0.5 °C to 0.5 °C





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

## Pacific Decadal Oscillation (PDO)



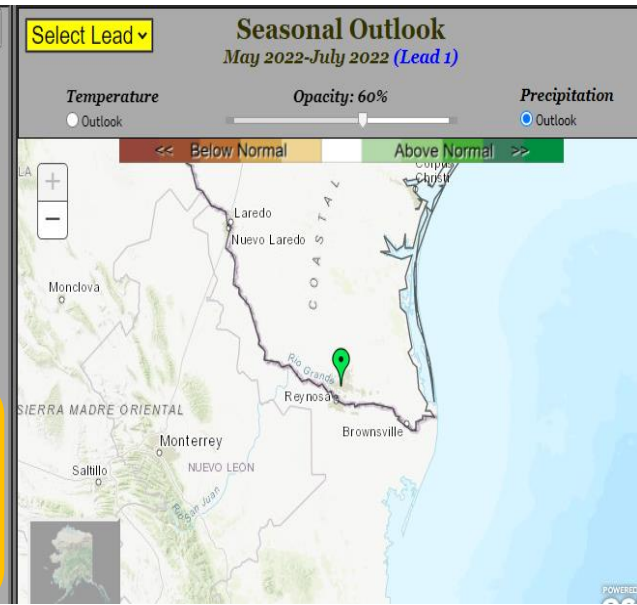
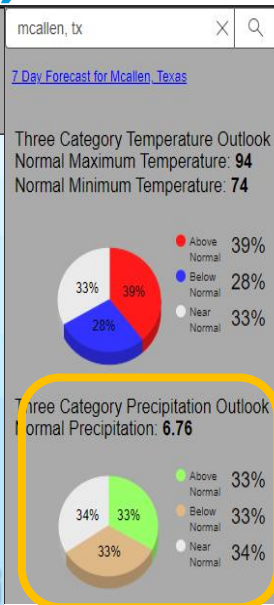
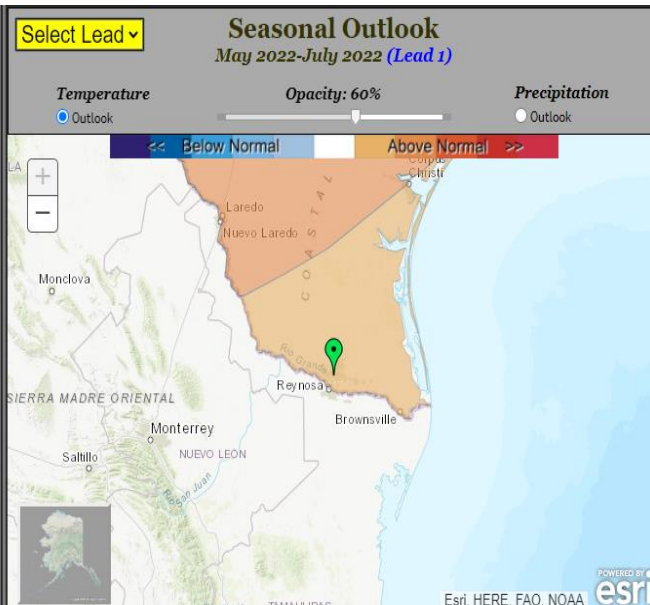
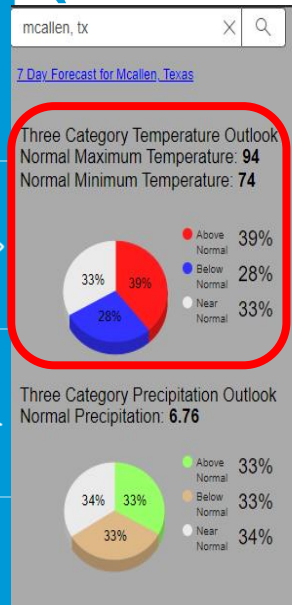
Source: <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>



- The 2021/2022 prolonged negative PDO is now 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 is building on a prolonged warm to hot and dry late spring into early-mid summer 2022.**
- June into early July could still be a **wild card** as the month in recent years has featured notable thunderstorm and flood impacts.



# The May-July 2022 Outlook: Rio Grande Valley (McAllen as Anchor Point)



- Temperature: A 39 percent chance of above average. RGV averages (daytime): Rising from the lower 90s (early May) to 100+ (end of July)
- Precipitation: Equal chances (~33.3 percent of all three categories), RGV averages: 6 to 7 inches.
- Of note: Average temperatures rose ~2 degrees for the 1991-2020 sample, making it more difficult to forecast a summer value much above this.

# The May-July “Droughtlook”

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

Valid for May 1 - July 31, 2022  
Released April 30, 2022

Consistency adjustment  
based on Monthly  
Drought Outlook for  
May 2022

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).

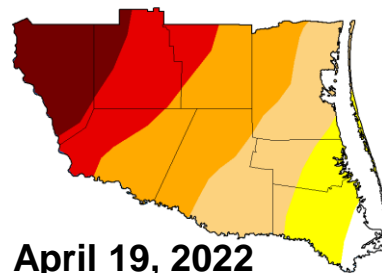
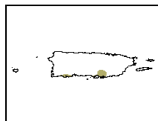
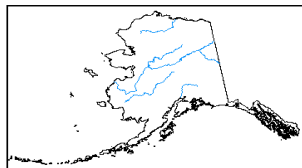
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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

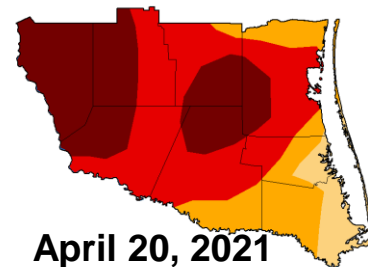


<http://go.usa.gov/3eZ73>

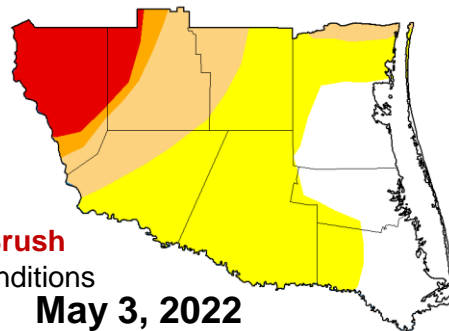
Author:  
Richard Tinker  
NOAA/NWS/NCEP/Climate Prediction Center



April 19, 2022



April 20, 2021



May 3, 2022

### Drought Classification

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

- Drought is likely to **return toward Extreme to Exceptional across the Brush Country/Rio Grande Plains** into early June, with Moderate to Severe conditions likely spreading back into the populated Rio Grande Valley
- Rains in June and July are a “wild card”. If **rains come as they did in June/July 2018-2021**, drought will be removed. If **they don’t come, Severe to Exceptional conditions** will dominate all of the Valley/Brush Country by July.



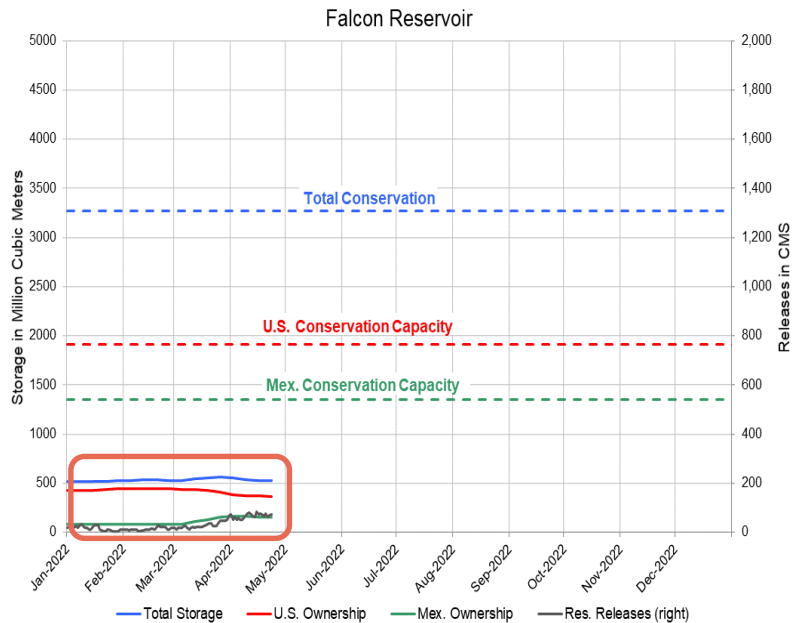
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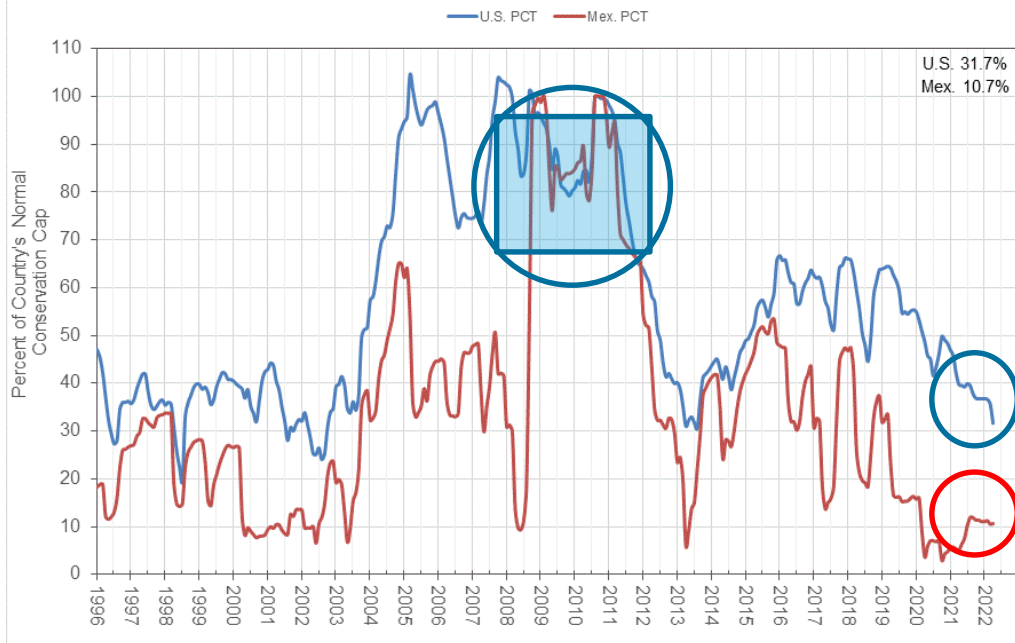




# Falcon Reservoir Only a Tad Above 30-year Lows, at start of May 2022



Amistad-Falcon Percent of Conservation Capacity



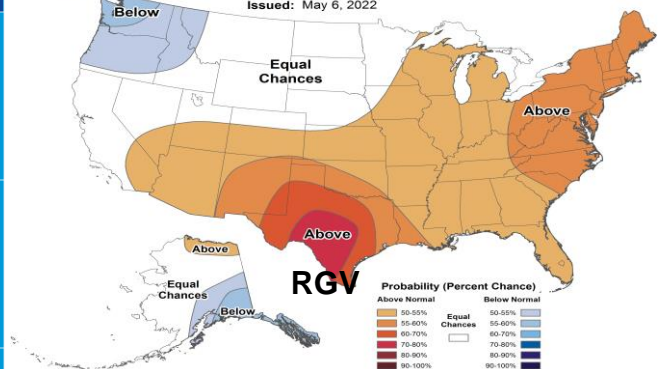
- Early May 2022 total capacity, Falcon Reservoir: **17 percent**
- Early May 2011 total capacity, Falcon Reservoir: **70 percent**



# May 2022: Confidence High on Dry...and Hot

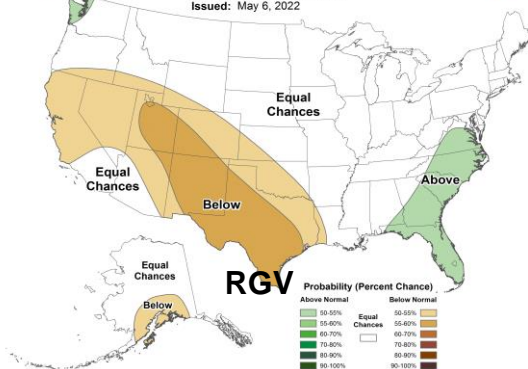
Weeks 3-4 Temperature Outlook

Valid: May 21 - June 3, 2022  
Issued: May 6, 2022



Weeks 3-4 Precipitation Outlook

Valid: May 21 - June 3, 2022  
Issued: May 6, 2022

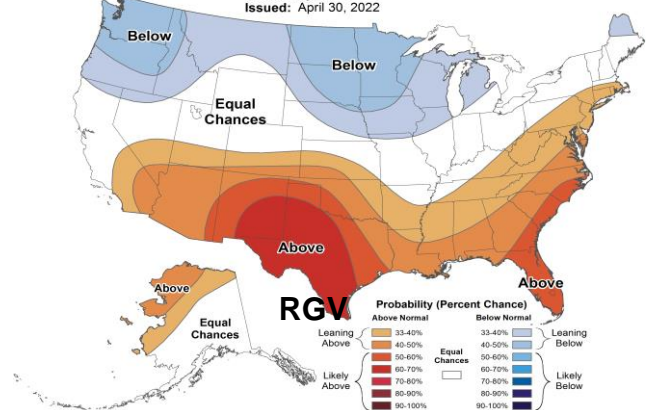


- **Bottom Line:** May will continue hot, humid, breezy, with little rain – threatening top-ten warmest all time. **Drought re-intensifies and spreads back east, with some potential for wildfire spread on some days**

- Transitional green-up aided by the fairly widespread heavy rainfall on April 25/26 will begin fading in mid to late May; if June remains dry, peak evaporation rates will turn grass and brush into fuel ready to burn, especially in lower humidity areas mainly from Brooks/western Hidalgo through Zapata County.

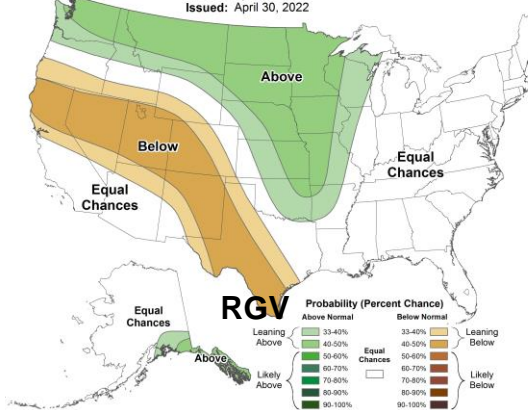
Monthly Temperature Outlook

Valid: May 2022  
Issued: April 30, 2022



Monthly Precipitation Outlook

Valid: May 2022  
Issued: April 30, 2022



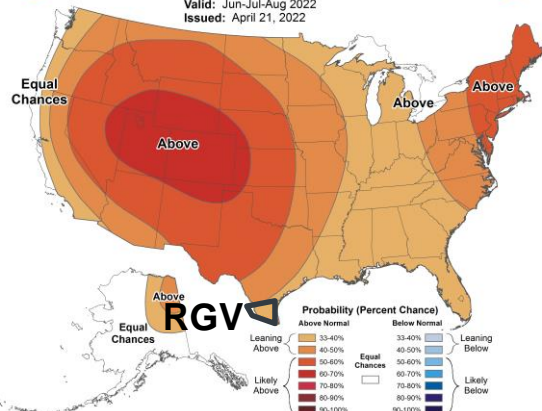


# Late Summer/Early Autumn 2022: Continued Heat; Rainfall Uncertain (tropical systems always a wild card)



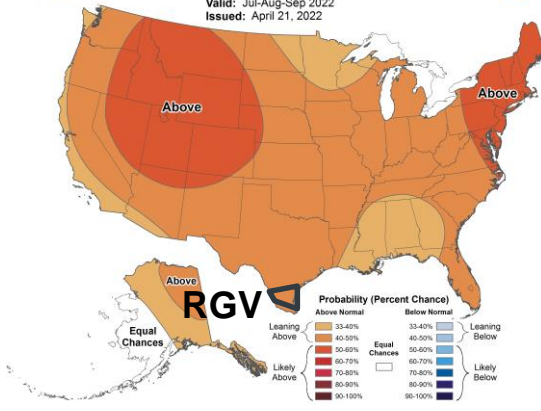
## Seasonal Temperature Outlook

Valid: Jun-Jul-Aug 2022  
Issued: April 21, 2022



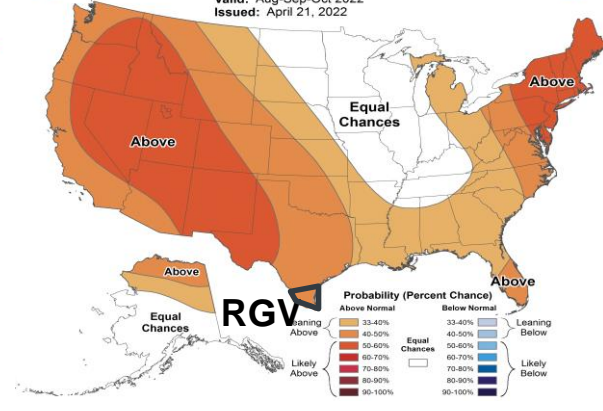
## Seasonal Temperature Outlook

Valid: Jul-Aug-Sep 2022  
Issued: April 21, 2022



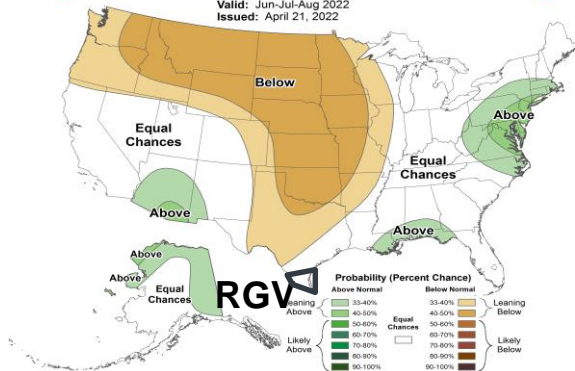
## Seasonal Temperature Outlook

Valid: Aug-Sep-Oct 2022  
Issued: April 21, 2022



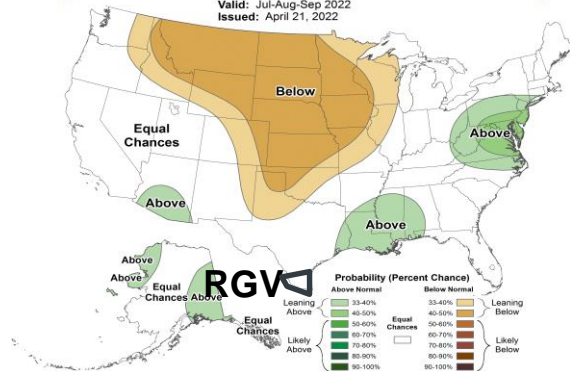
## Seasonal Precipitation Outlook

Valid: Jun-Jul-Aug 2022  
Issued: April 21, 2022



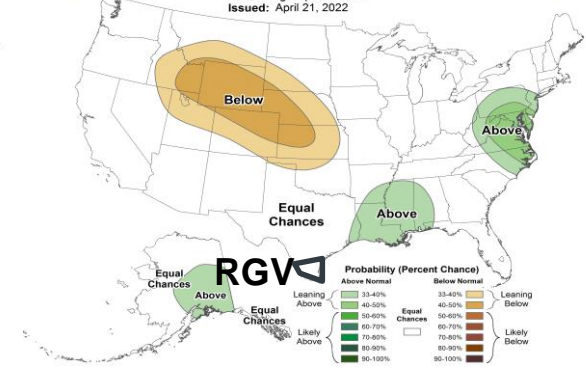
## Seasonal Precipitation Outlook

Valid: Jul-Aug-Sep 2022  
Issued: April 21, 2022



## Seasonal Precipitation Outlook

Valid: Aug-Sep-Oct 2022  
Issued: April 21, 2022



# Bottom Lines

- **Heat** should be dominant through July, perhaps setting the stage for *another top-ten warmest year* should much warmer than average conditions prevail through the rest of 2022. **Heat safety** should be promoted frequently.
- **Drought is likely to reset to extreme to exceptional (the highest on the 5-level scale) mainly west of IH 69/US 281 by early to mid June.** Re-development of moderate to perhaps severe (levels 2 and 3 on the scale) is possible into key growing areas of Hidalgo County. “Transitional” green will turn back to yellow/brown across the lower Valley through Kenedy and Brooks by late May/early June.
- **Agriculture and municipal water shortages are likely to increase** with high evaporation, lack of significant rainfall, and very low water levels in Falcon Reservoir, through at least early June. Late June and July are wild cards, but the “lean” this year is drier vs. wetter based on a persistent pattern, **already showing signs of “La Canícula” in May.** *Conservation, smart irrigation, rainwater harvesting*, etc. are discussion topics.
- **Mid June through July** are now the “wild card” months. Continuation of **hot and rain-free** weather deep into summer will spread extreme drought into the agriculturally-rich eastern Hidalgo/Willacy/western Cameron region, with an increasing potential for **rapid to extreme wildfire growth** on breezy, very hot, and relatively “dry” days.
- However, a **wetter** (and less hot) month would reduce the drought and be a “just in time” boon to **agriculture**, though significant flash flooding could occur due to intense thunderstorms, as seen in 2018-2019, and in early July 2021.

