Rio Grande Valley Summer 2025 Review

Summer 2025 Weather Story for the Rio Grande Valley: The Heat Was On, and Rain Fell Just In Time for Many

Moderate Drought Confined to Brush Country in August

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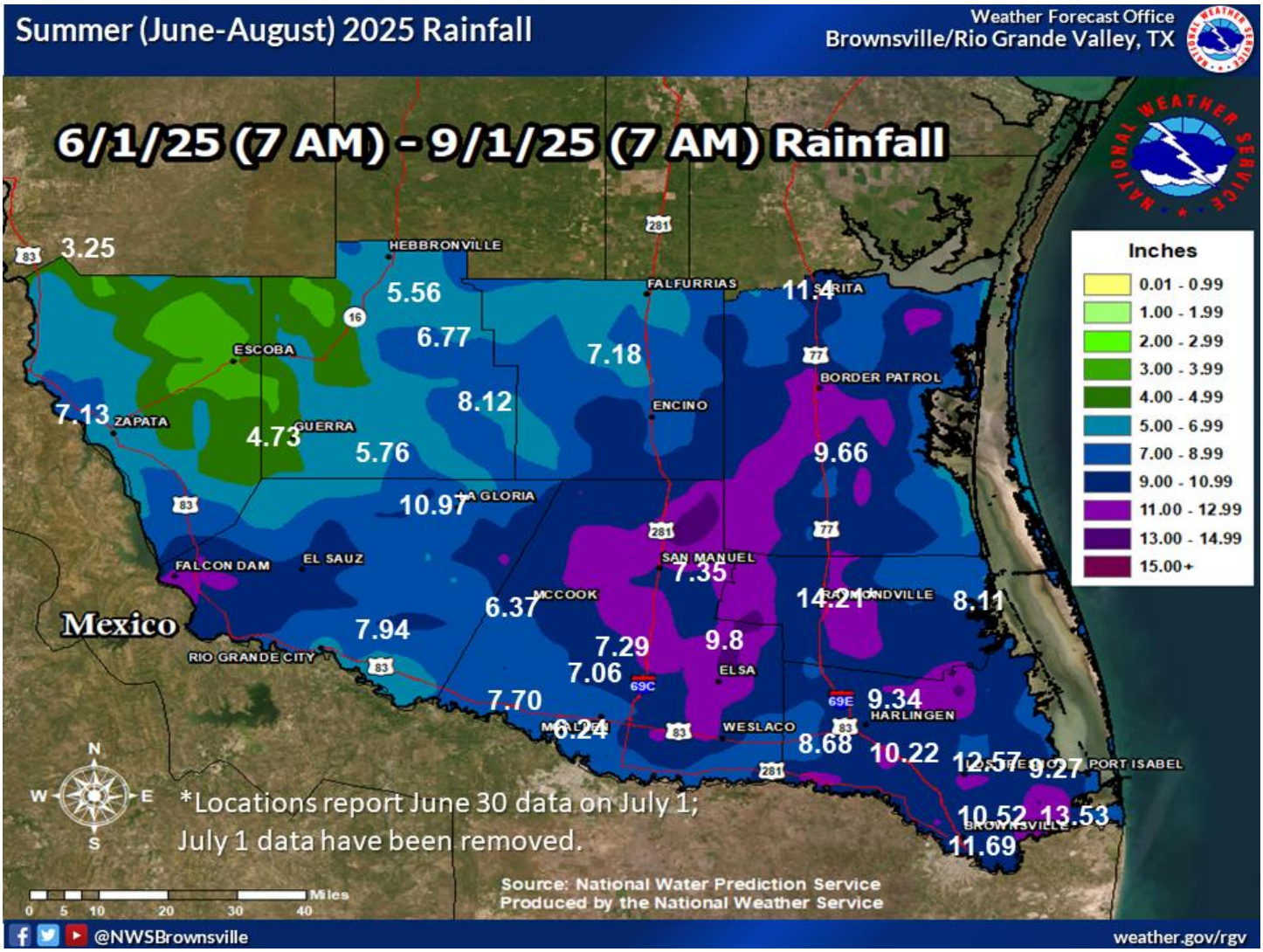


Figure 1. Annotated rainfall map for summer 2025 across the Lower Rio Grande Valley/Deep South Texas region. Annotated values (in inches) are from selected Community Collaborative Rain, Hail, and Snow (CoCoRaHS) observers, along with several cooperative (COOP), Automated Surface Observing System (ASOS), and Texas Mesonet stations with sufficient and trusted values for the season.

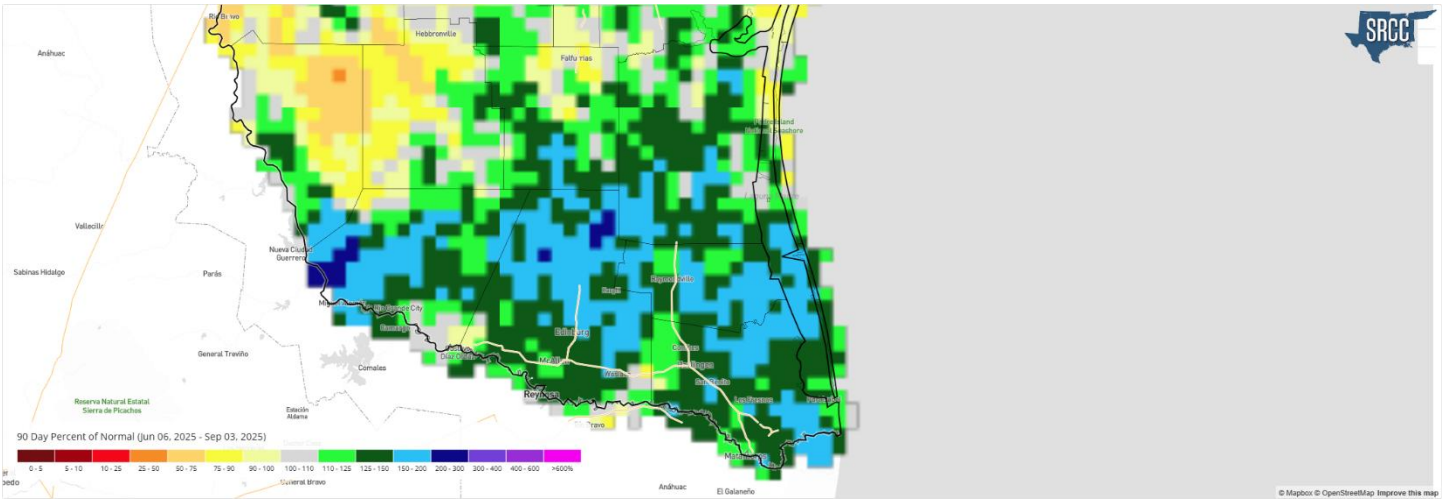


Figure 2. Rainfall percentage of average, June 6 through September 3, 2025 (close approximation for the June 1 to August 31 window). Heavier rainfall favored the four-county Rio Grande Valley, with much less rainfall in Brooks, Jim Hogg, and Zapata County. In general, 100% to 200% of average rain (1 to 2 times) fell in green, blue, and dark blue colored areas for the season. The below average locations matched closely with abnormally dry and moderate drought areas, shown in Figure 4 (right image).

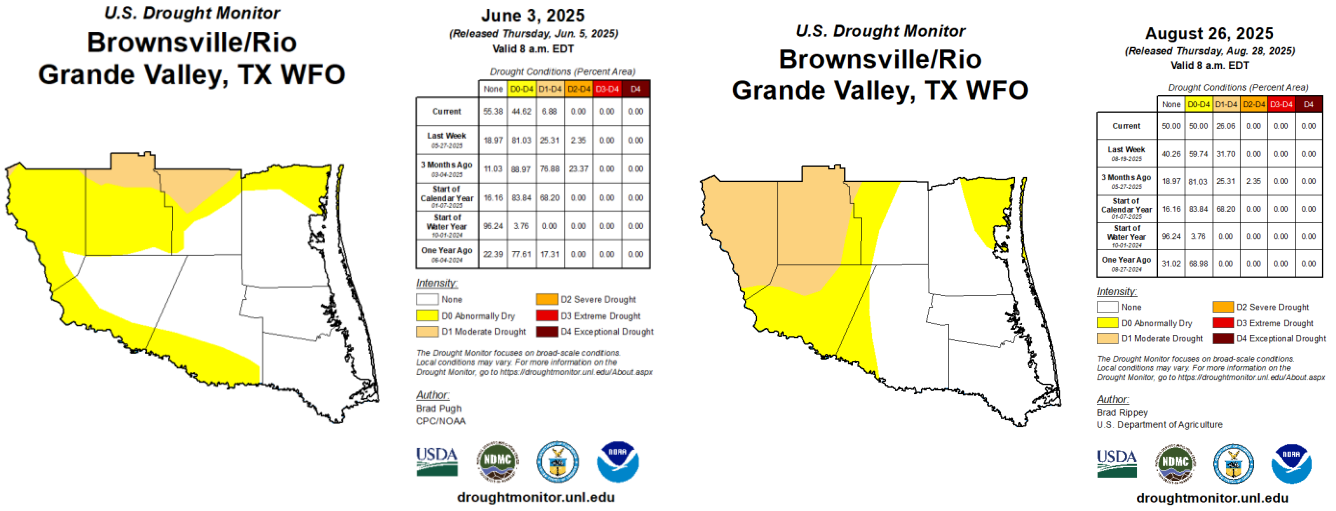


Figure 3. U.S. Drought Monitor differences between June 3 and August 26th. Moderate drought expanded across Starr, Jim Hogg, and Zapata County before being trimmed after locally heavy rains fell between the 20th and 26th. Just-in-time rains fell across much of the populated Rio Grande Valley and Brooks/western Kenedy to keep dryness at bay.

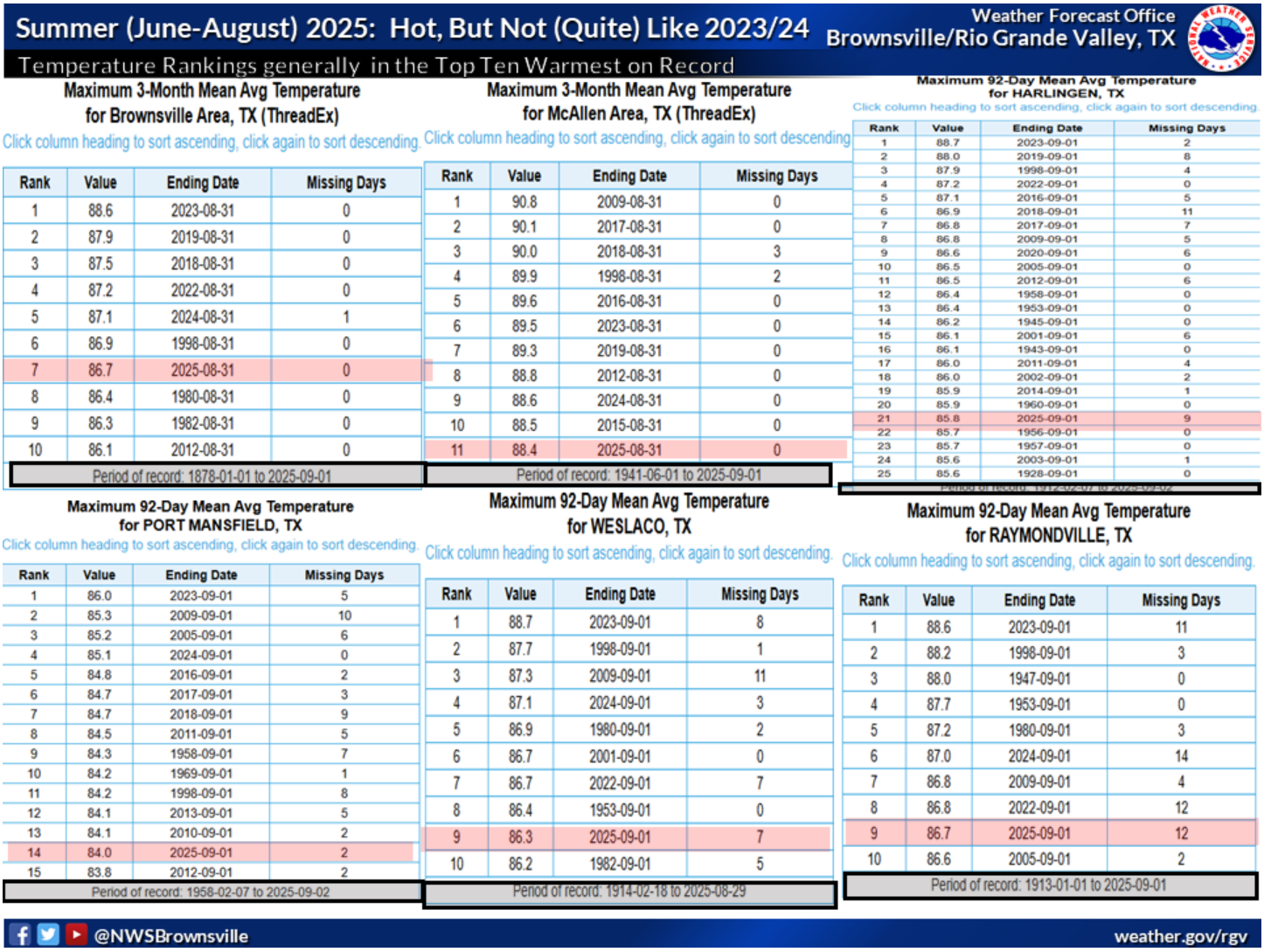
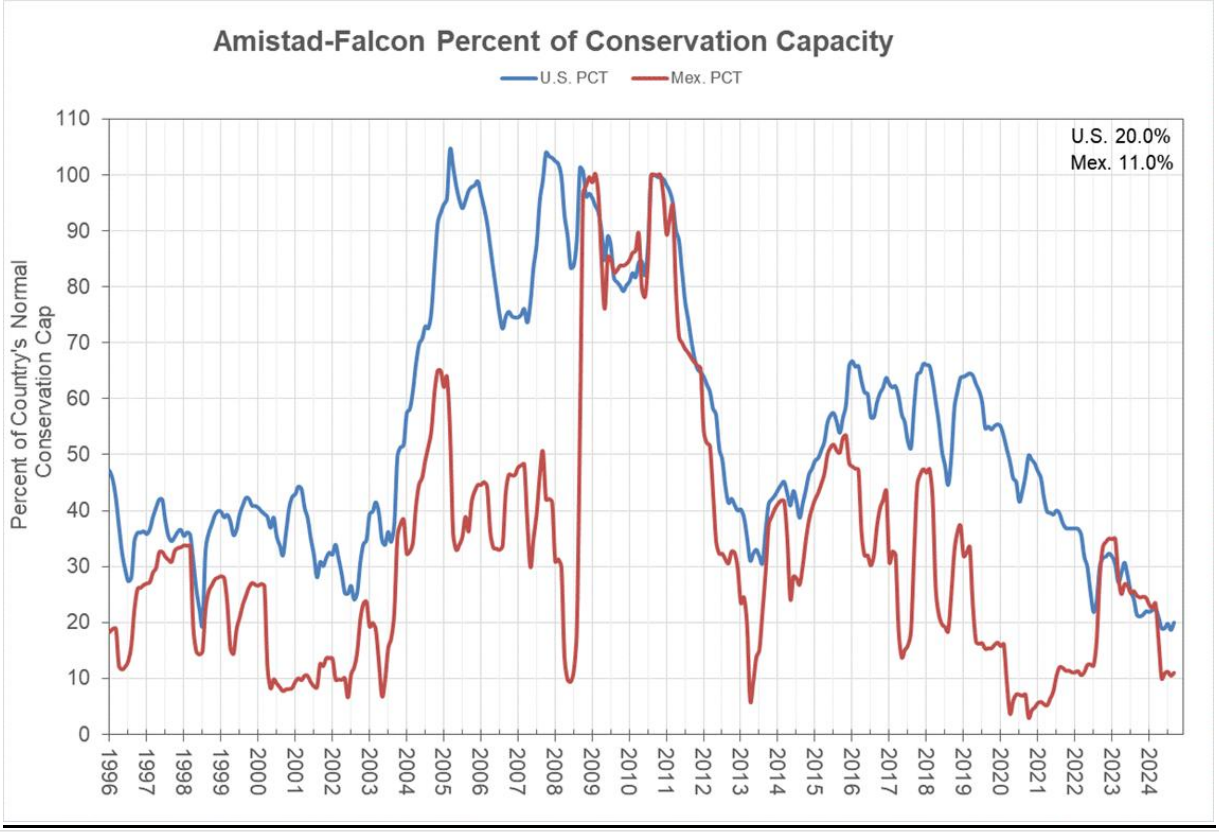


Figure 4. Though summer 2025 fell short of the searing heat of 2023, it still ranked among the top fifteen for most during the period-of-record for most available locations. Temperatures ended up a little above the 1991-2020 averages – but well above the period-of-record averages (dating back over 100 years for some locations) for yet another year.



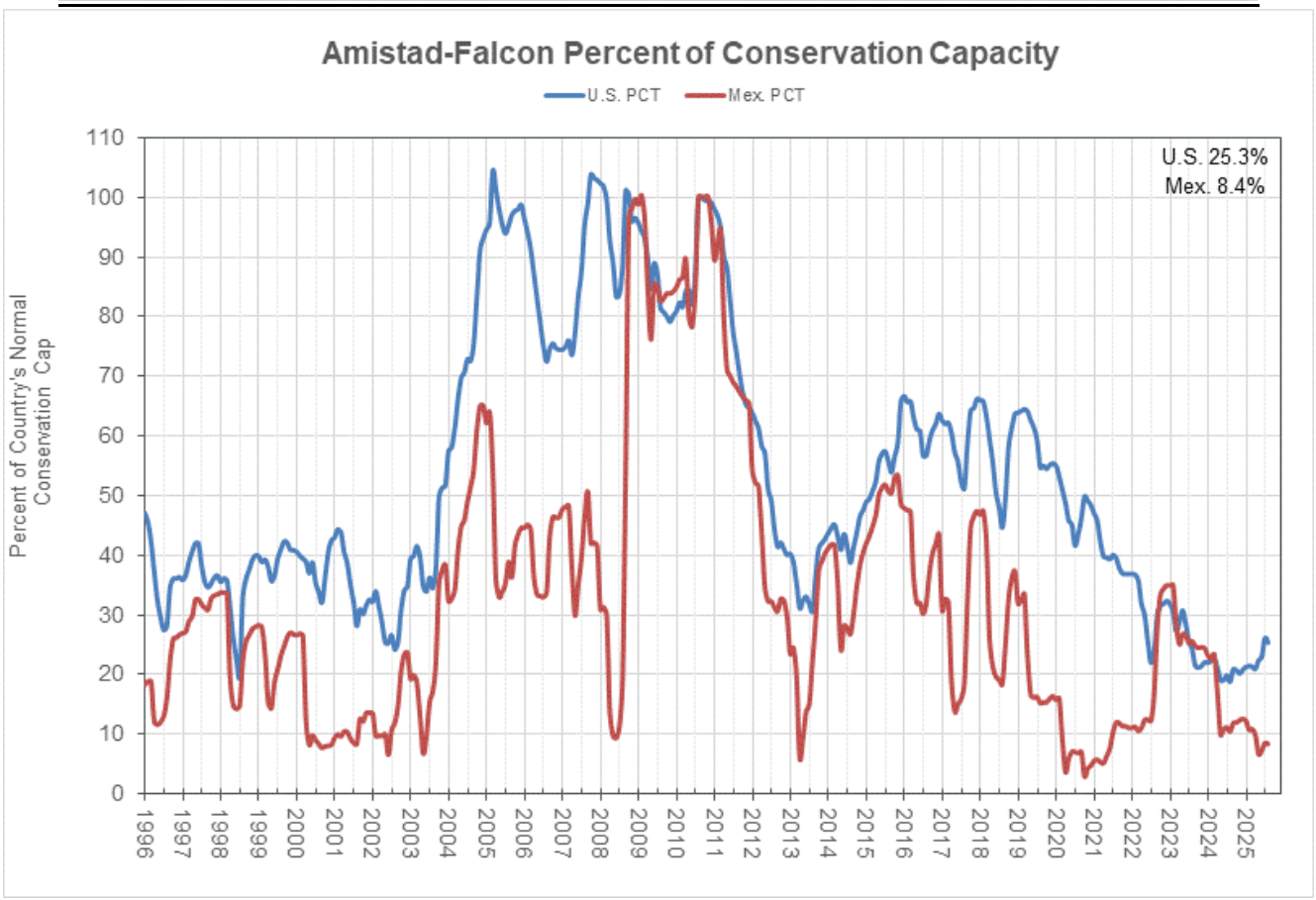


Figure 5. A comparison of U.S. International Boundary and Water Commission (IBWC) combined percentage of conservation capacity for Amistad and Falcon International Reservoirs between the start of September 2024 (top) and the end of August 2025 (bottom). Values were little changed between these periods, with just a slight rise in US shares (20 to 25.3 percent) and slight drops in Mexican shares (11 to 8.4 percent). The combined low values remained among lowest on record since each dam was constituted (Falcon in 1954; Amistad in 1971).

Month-by-Month Summary

June 2025 was a harbinger of the summer to come: Brief shots of storminess and locally heavy rainfall with a lot of dry and hot conditions in between. The heat in June was not memorable when compared with first half of 2024 (record start) or the last 18 days of 2023 (record finish), but still finished in the top 7th to 15th hottest on record for most of the the Lower Rio Grande Valley. Rain and storm events were concentrated in four windows:

- June 10-12: Strong to severe storms produced locally heavy rainfall of perhaps more than 3"in portions of Hidalgo, southwest Starr, and central Kenedy. This included one microburst (12th) in southern Hidalgo County (photo, below).
- June 16: Locally torrential rainfall in central Kenedy County, possibly over 4". This region has generally sandy soil with fairly high absorption rates; there were no reports of flooding, even though there may have been minor issues along US 77 where the heaviest rainfall intersected it.
- June 19-21: Tropical moisture spread across the "lower/mid" Valley to produce pockets of helpful rains
- June 29-30: Deep tropical moisture plumes ahead of Tropical Storm Barry produced fairly widespread rain across much of the Lower Rio Grande Valley and Deep S. Texas ranchlands

Overall, rainfall ended up at 100 to 250 percent of average for all but southeast Cameron County and northern Zapata County – and drought/dryness conditions responded in several locations, with just a sliver of moderate drought left by July 1 in northwest Zapata, and abnormally dryness pinned to the remainder of northern Zapata and northern Jim Hogg County.

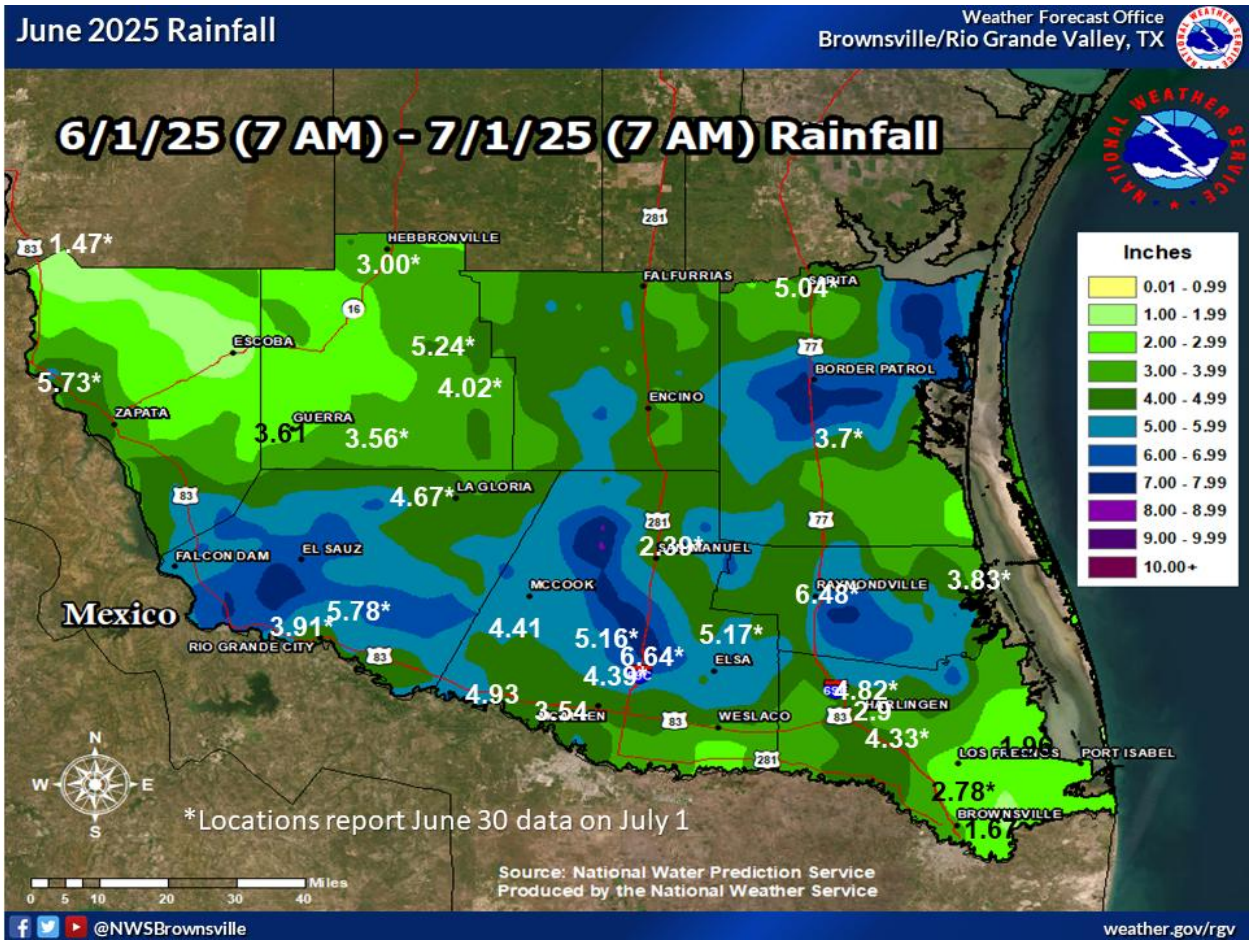


Figure 6. June 2025 rainfall map, including selected annotated values from CoCoRaHS observers, NWS cooperative observers, and Automated Surface Observing Systems (ASOS) data, and the Texas Mesonet.

Above: Collage of photos from an NWS Brownsville/Rio Grande Valley storm survey (June 13th) based on microburst (wind) damage during the early evening of June 12th across the North Alamo-North Donna (Hidalgo County) area.

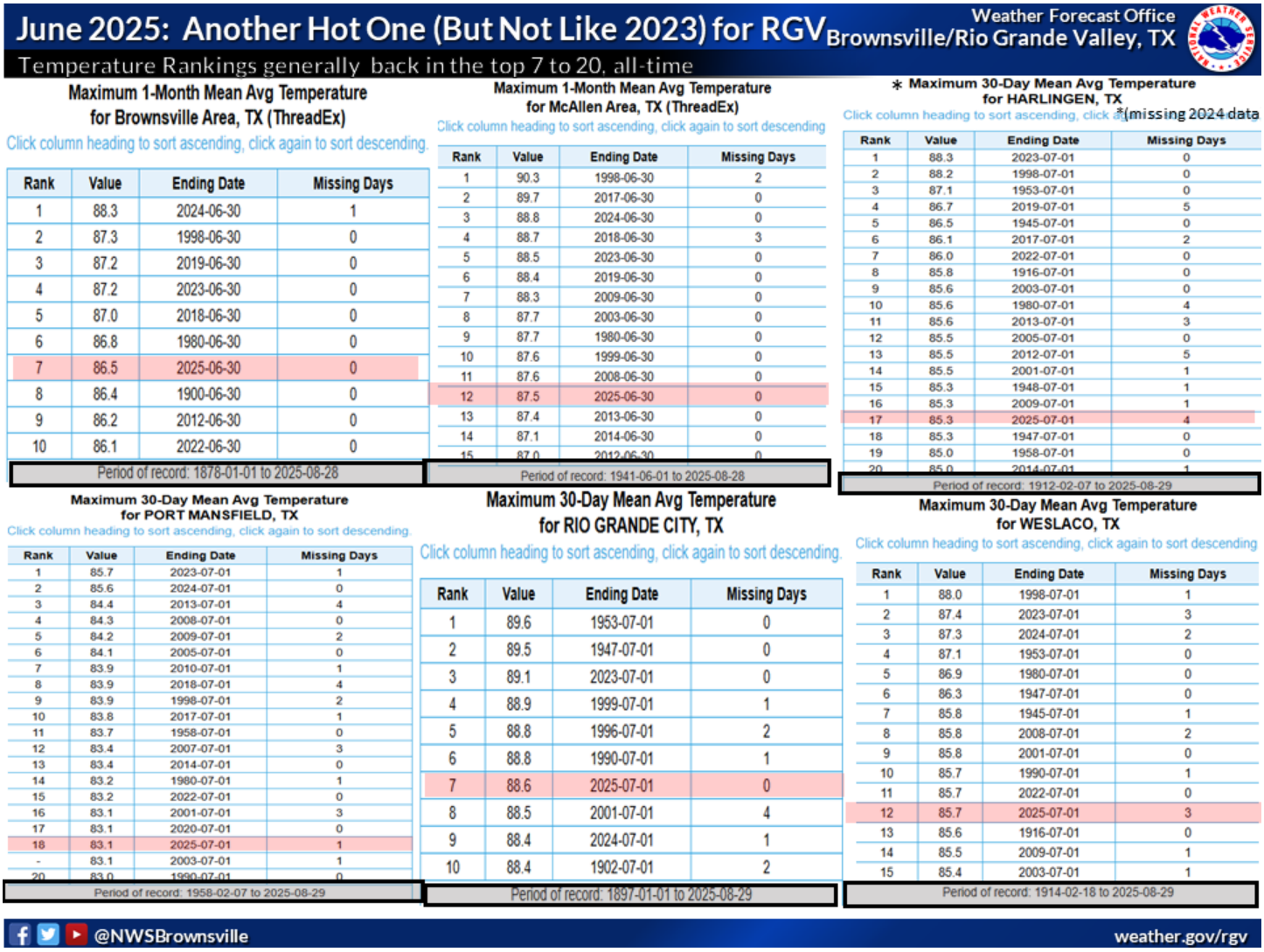


Figure 7. June 2025 temperature rankings (period of record) for selected Lower Rio Grande Valley locations. Rankings for most available locations ended up in the top 20 warmest on record, dating back more than 100 years for some.

July 2025 began with a rainfall "bang", as the remnants of Tropical Storm Barry linked up with weak upper-level disturbances to drop more than 5" on the 1st in Cameron County, and up to 3" in Hidalgo County. The rainfall on the 1st contributed most to the graphic below, which also includes lead-in rainfall from the 29th and 30th, which generally added up to 1 to 1.5" across the region. In total, **nearly 9" fell** in southeastern Cameron during the short window, or nearly *five times the monthly average for July*.

A few more instability showers fell on the 2nd, before skies cleared and typical July heat, based on the 1991-2020 averages, took over. Rainfall was scarce thereafter, with pockets of showers/storms through mid-month. Century-mark high temperatures reached the mid/upper Valley (mainly along/west of IH-69C/US 281) for much of the last ten days of the month – right on expectations. Despite the heat and lack of rain, the combination of temperature and humidity fell short of heat advisory (111 for 2 hours or more) or heat warning (116 for the same time window), and heat risk, which accounts for acclimation, landed in the low to moderate range.

Similar to 2024, July's average temperatures fell a little shy of the 1991-2020 average – but still managed to place among the top 25% hottest for the periods-of-record at most Rio Grande Valley locations (Fig. 10, below).

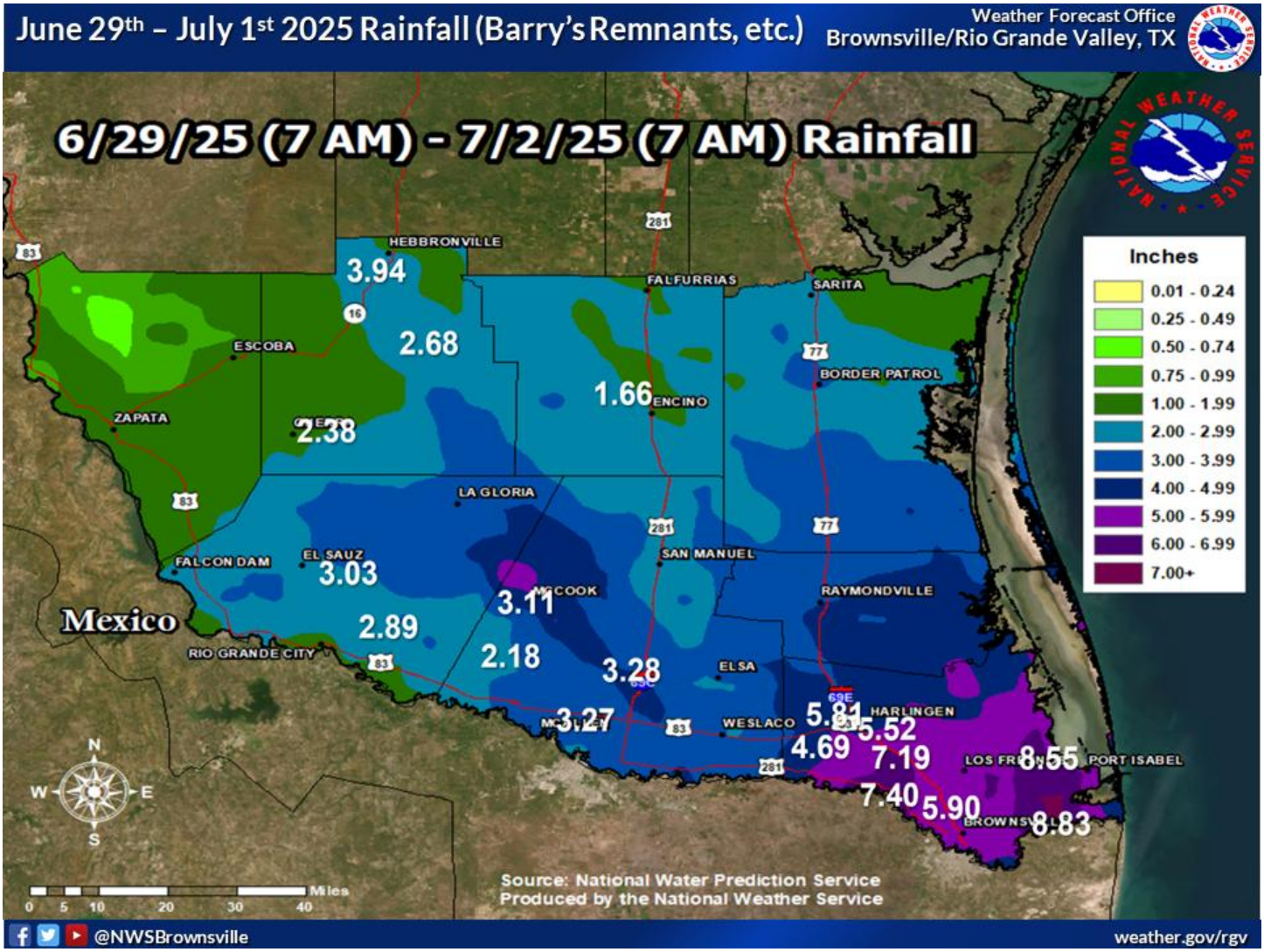


Figure 8. Rainfall from tropical moisture ahead and during the remnants of Tropical Storm Barry, which made landfall near Tampico on June 30th. Locations shown in this graphjc are mostly from CoCoRaHS sites.

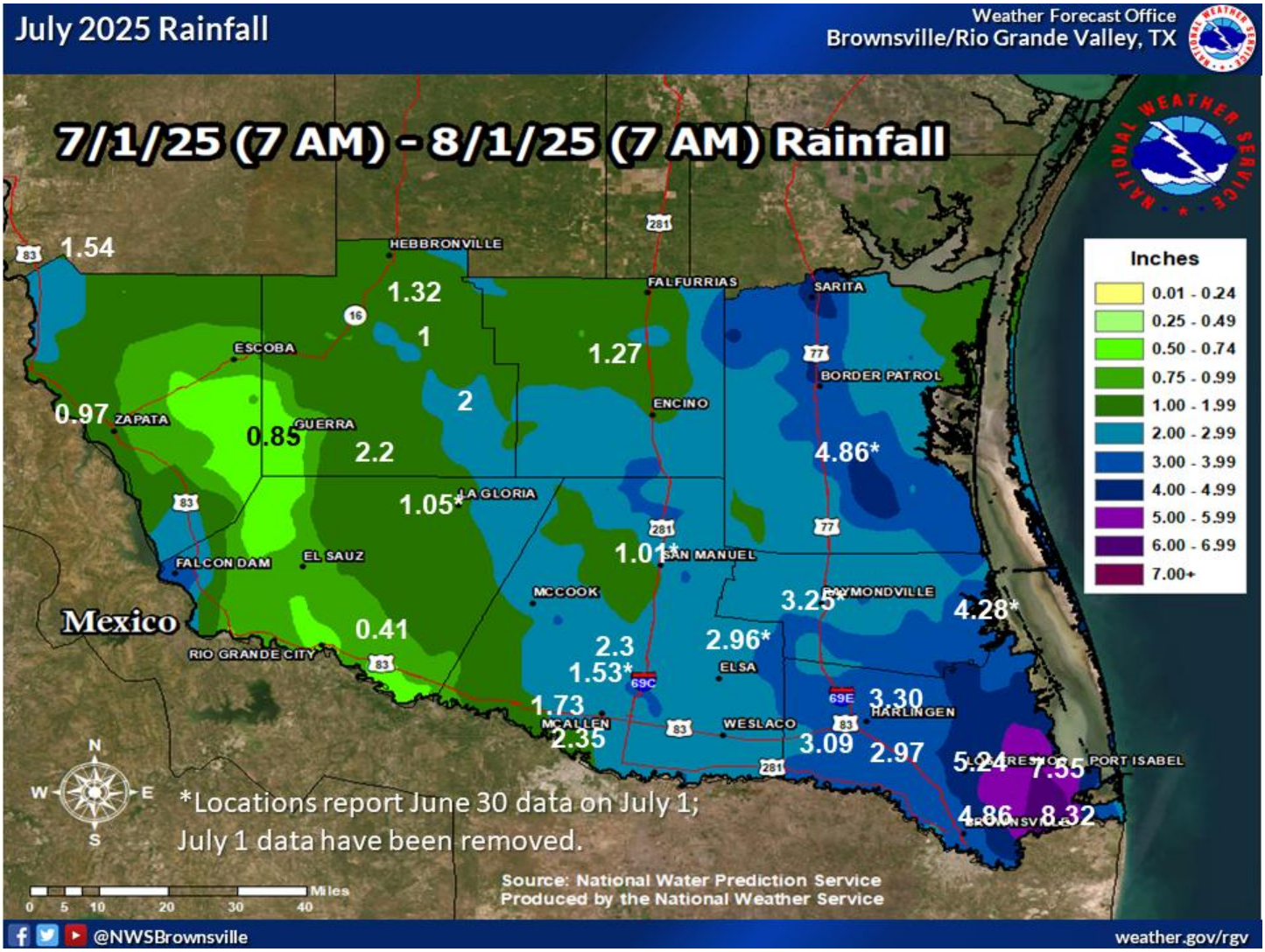


Figure 9. July 2025 rainfall map, including selected annotated values from CoCoRaHS observers, NWS cooperative observers, and Automated Surface Observing Systems (ASOS) data. Asterisked (*) locations report June 30th rainfall on July 1st; these data were removed from the values shown in the graphic to better match the calendar month.

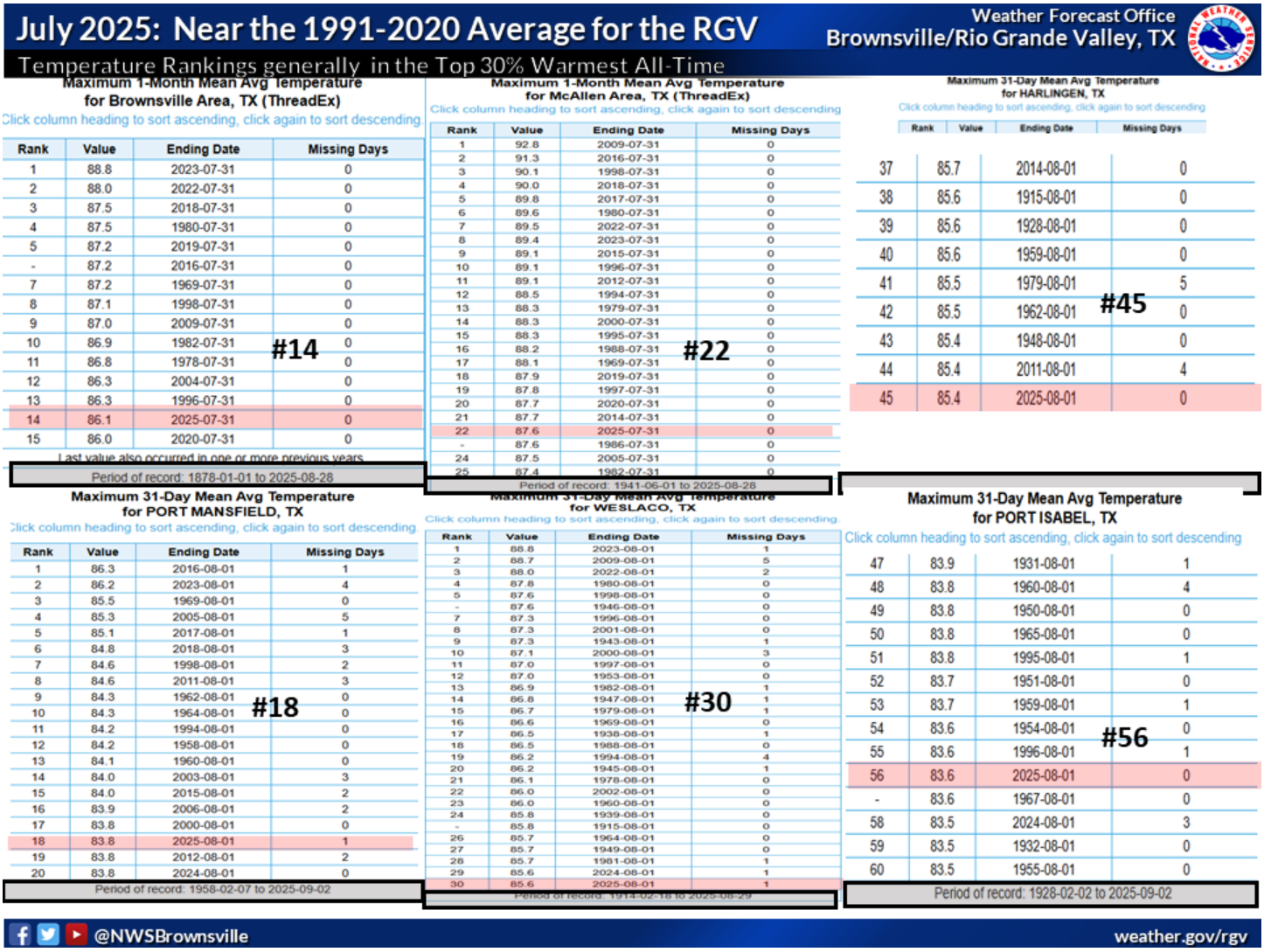


Figure 10. July 2025 temperature rankings (period of record) for selected Lower Rio Grande Valley locations. Rankings for most available locations ended up in the top 30% hottest on record, dating back more than 100 years for some. Port Isabel and Harlingen were two exceptions.

August 2025 followed July's close, and as expected based on climatology, was the hottest calendar month of the year. Century-mark temperatures dominated Hidalgo/southern Brooks County and points west to Zapata County through the first three weeks of the month, before a somewhat wetter pattern arrived between the 20th/21st and 26th, where late morning through early evening showers and thunderstorms put a cap on high temperatures. That cap helped to lower the ranking of the month, which was rivaling 2023 and 2024. August would still rank among the top ten hottest on record for most locations (Figure 12, below) – the third straight August that will be known for searing heat in the Rio Grande Valley.

Aside from the August 20 through 26 sea breeze/upper disturbance rains, a tropical disturbance moved from the coast of Honduras on August 12th into the Bay of Campeche late on August 14th before rolling across the lower/mid Valley on the 15th. While the event remained disorganized, it had enough punch to produce pockets of 2-2.5" of rainfall along the Rio Grande from Weslaco through Brownsville. The rain shield had a sharp western line, as McAllen received less than 0.1". August Rainfall favored Hidalgo County overall, from a combination of the August 15th event and the additional isolated-scattered thunderstorms later on.

Following the some seasonable isolated-scattered mainly afternoon thunderstorms between the 20th and 26th, seasonably hot and generally rain-free conditions returned to close out August, including the majority of Labor Day Weekend (Friday, August 29 through Sunday, August 31).

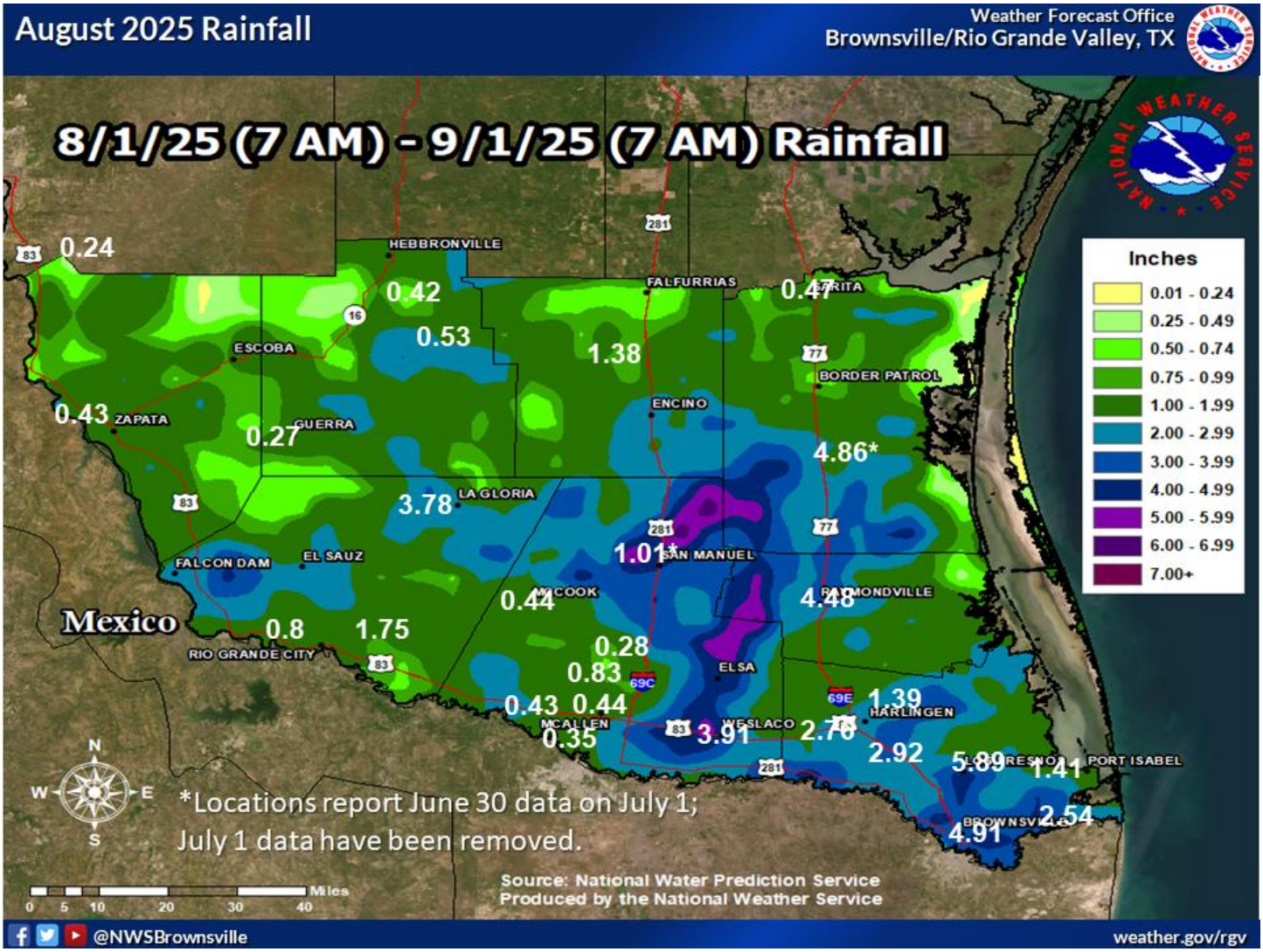


Figure 11. August 2025 rainfall map, including selected annotated values from CoCoRaHS observers, NWS cooperative observers, and Automated Surface Observing Systems (ASOS) data.

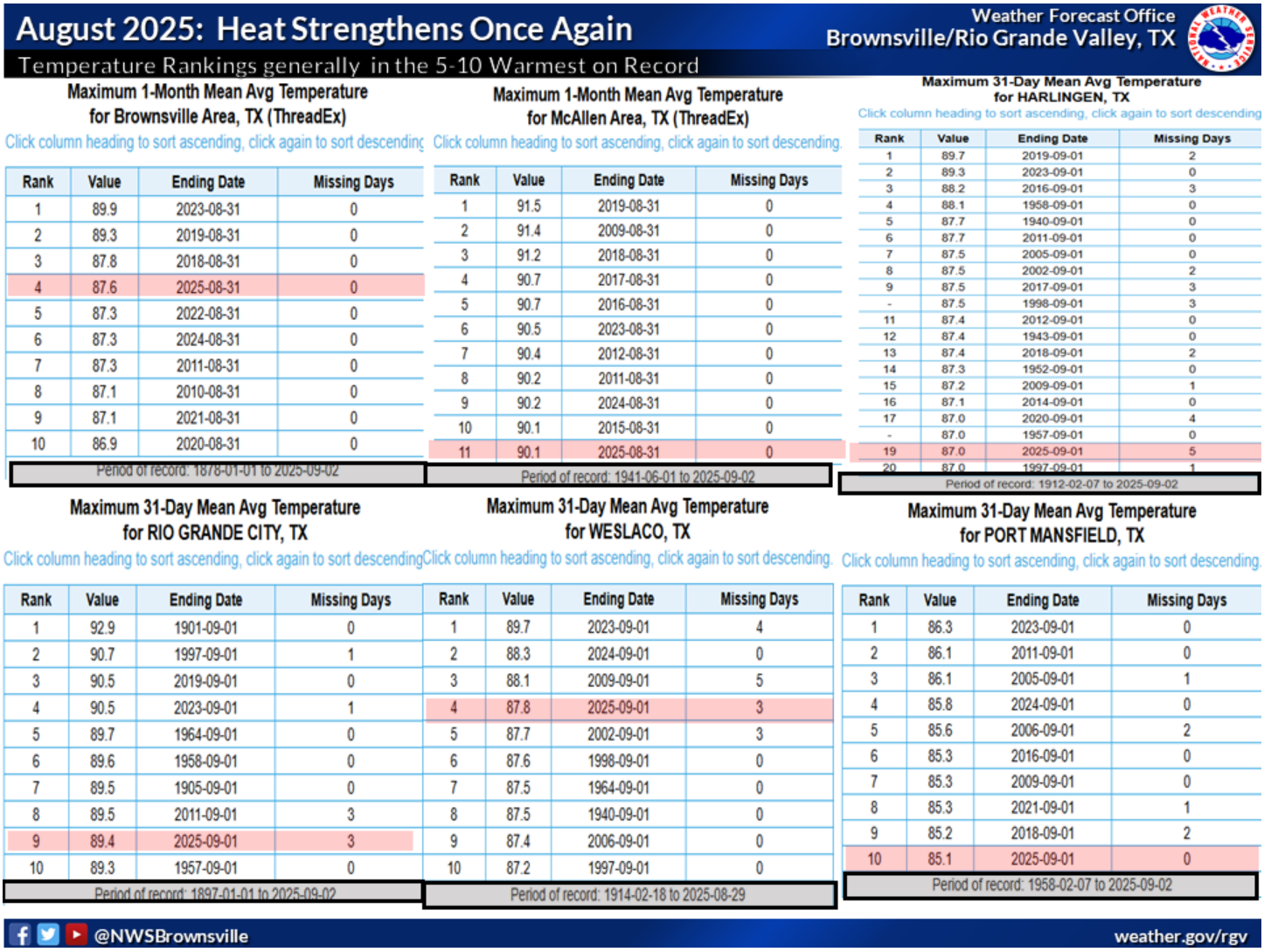


Figure 12. August 2025 temperature rankings (period of record) for selected Lower Rio Grande Valley locations. Rankings for most available locations ended up in the top ten hottest on record, dating back more than 100 years for some. Port Isabel and Harlingen were two exceptions.

Summer 2025 on the whole was not too different from Summer 2024 in terms of temperature; rankings were just a touch lower, but once again generally among the top ten warmest for a third year in a row, and for some, a fourth year in a row. Rainfall on the whole was a bit lower, thanks to the lack of widespread heavy rainfall that occurred with distant Tropical Storm Alberto brought to most of the region, mainly on June 19th that year. Interestingly, the upper-level steering pattern seldom featured a true "La Canicula" pattern match; rather, upper-level ridging tended to oscillate between Texas and much of the Gulf into Florida (Figure 13), maintaining the heat but allowing "just-in-time" rainfall – especially for the populated lower/mid Valley (Cameron and Hidalgo).

Still, triple-digit heat fell into place at times during July and especially August – which is in reasonable range based on the 1991-2020 averages. McAllen/Miller Airport led the pack* with 45 days during the season; Rio Grande City* had 38 days, Harlingen ranged from 8 (cooperative) to 13 (Valley Int'l Airport), and Brownsville reported 4 days.

While the "just-in-time" rainfall was helpful to some crops, the persistence of heat, especially across the Brush Country, created declines in the quality of rangeland/pastureland and some cattle herds were culled. Cotton

fared well, as it appeared the periodic mid and late-August rainfall was not sufficient to damage or destroy bolls. The dominance of heat was enough to maintain burn bans across all but Kenedy County.

The southwest Gulf/Bay of Campeche struggled as a tropical cyclone producer, as atmospheric dry air or wind shear suppressed true development. That said, the pocket of deep atmospheric moisture that was sufficient for short-lived Tropical Storm Barry near Tampico may have provided the necessary "vitamins" to the atmosphere in central Texas that ultimately produced the very high rainfall and rainfall rates early on July 4th which preceded the catastrophic, historical Hill Country Flood on the Guadalupe River, as well as other deadly flooding in that region.

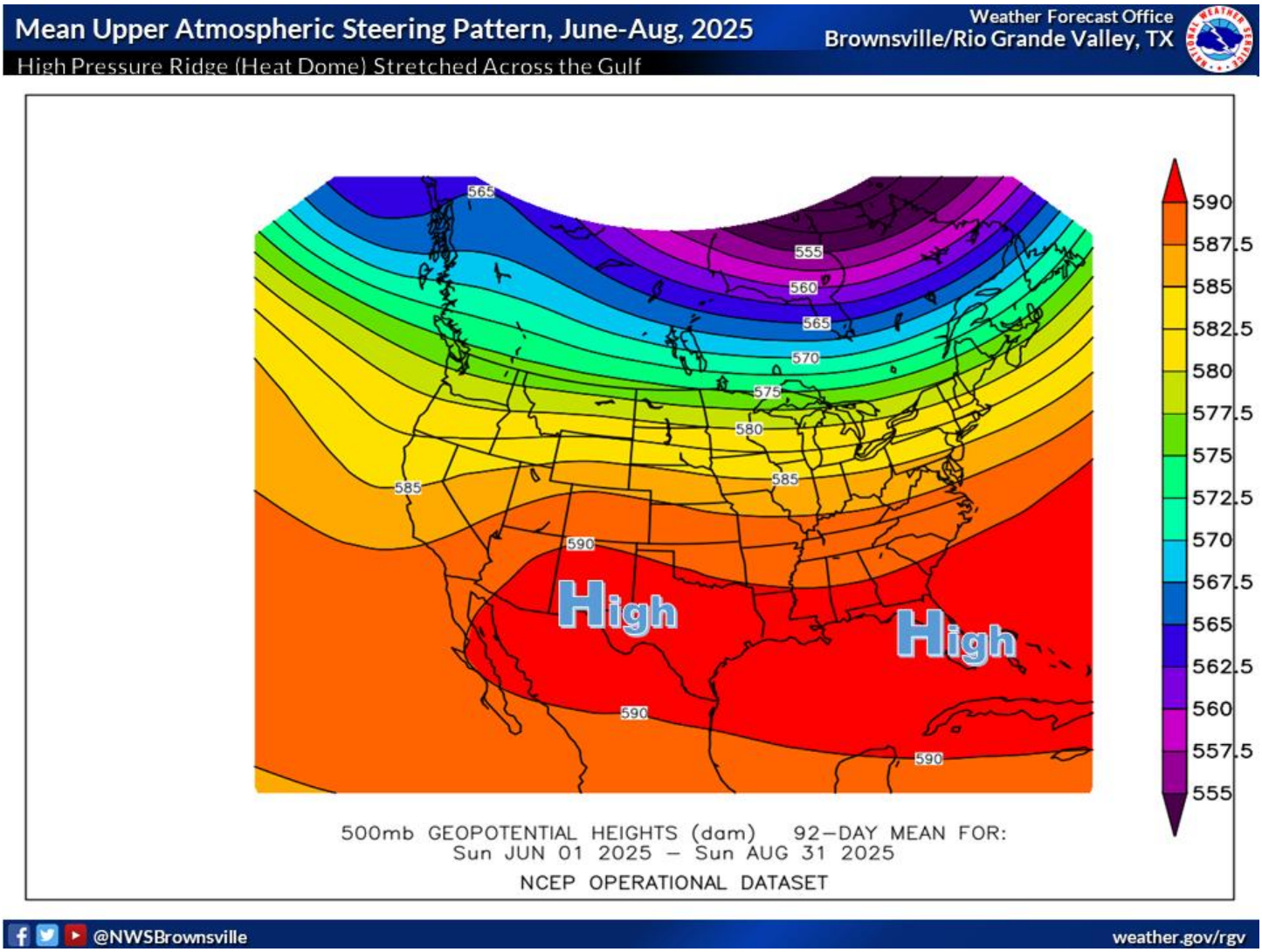


Figure 13. Summer (June-August) 2025 mean 500-mb steering pattern (~18,000 ft). High pressure ridges, or "heat domes", oscillated from Texas across to Florida, with limited duration of a pronounced "La Canicula" pattern (dominant high pressure across southwest Texas/northern Mexico into the western Gulf) . The limited duration was a likely reason for the Rio Grande Valley to not achieve top-five hottest seasonal temperatures in 2025.