

Rio Grande Valley Autumn 2024 Review

Autumn 2024 Weather Story for the Rio Grande Valley:
Summer Just Never Really Quit

Record to Near-Record Seasonal Heat; Rainfall “Winners” Near the Lower Texas Coast

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Autumn (Sept. through Nov.) 2024 Temperature Rankings
Record to Near-Record Warmth Sets Stage for a Similar Finish for the Year

Weather Forecast Office

Brownsville/Rio Grande Valley, TX



Maximum 91-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	79.6	2024-11-30	0
2	79.6	2016-11-30	0
3	78.5	2023-11-30	0
4	78.5	2021-11-30	0
5	78.0	2004-11-30	0
6	78.0	2012-11-30	0
7	77.9	1900-11-30	0
8	77.9	2015-11-30	0
9	77.9	2020-11-30	0
10	77.7	1919-11-30	0

Period of record: 1878-01-01 to 2024-12-12

Maximum 91-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	82.4	2016-11-30	0
2	81.0	2024-11-30	0
3	79.5	2015-11-30	0
4	79.4	2011-11-30	0
5	79.2	2017-11-30	0
6	78.9	1985-11-30	0
7	78.8	2012-11-30	0
8	78.5	2004-11-30	0
9	78.5	2020-11-30	1
10	78.4	2021-11-30	0

Period of record: 1911-06-01 to 2024-12-12

91-Day Mean Avg Temperature
for WESLACO, TX

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

Ending Date	Missing Days
2024-12-01	5
1998-12-01	4
1931-12-01	14
1946-12-01	9
1985-12-01	7
1927-12-01	0
1983-12-01	12
2021-12-01	12
1919-12-01	11
1977-12-01	0

Period of record: 1914-02-18 to 2024-12-13

Maximum 91-Day Mean Avg Temperature
for PORT MANSFIELD, TX

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

Rank	Value	Ending Date	Missing Days
1	78.2	2016-12-01	4
2	77.6	2024-12-01	1
3	77.2	2023-12-01	10
4	77.1	1973-12-01	6
5	76.9	2004-12-01	3
6	76.7	2017-12-01	9
7	76.3	2015-12-01	7
8	76.1	2006-12-01	4
9	76.0	2012-12-01	5
10	75.9	2005-12-01	7

Period of record: 1958-02-07 to 2024-12-13

Maximum 91-Day Mean Avg Temperature
for RIO GRANDE CITY, TX

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

Rank	Value	Ending Date	Missing Days
1	80.7	1901-12-01	3
2	79.7	2024-12-01	7
3	79.0	1902-12-01	0
4	78.9	1931-12-01	0
5	78.8	2016-12-01	0
6	78.5	1947-12-01	6
7	77.6	2021-12-01	0
8	77.3	1905-12-01	0
9	77.0	1996-12-01	3
10	77.0	2023-12-01	2

Period of record: 1897-01-01 to 2024-12-12

Maximum

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

Rank	Value
1	79.0
2	78.9
3	78.5
4	78.3
5	78.1
6	77.9
7	77.7
8	77.6
9	77.4
10	77.3

Period of record: 1897-01-01 to 2024-12-12

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*For stations with 15 or fewer days missing

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Figure 1. Summer never really ended in autumn 2024 across the Rio Grande Valley, it just faded very slowly away. Record to near record heat (shown are total average day/night temperatures combined) for September through November 2024, for available locations with the longest and most complete periods of record.

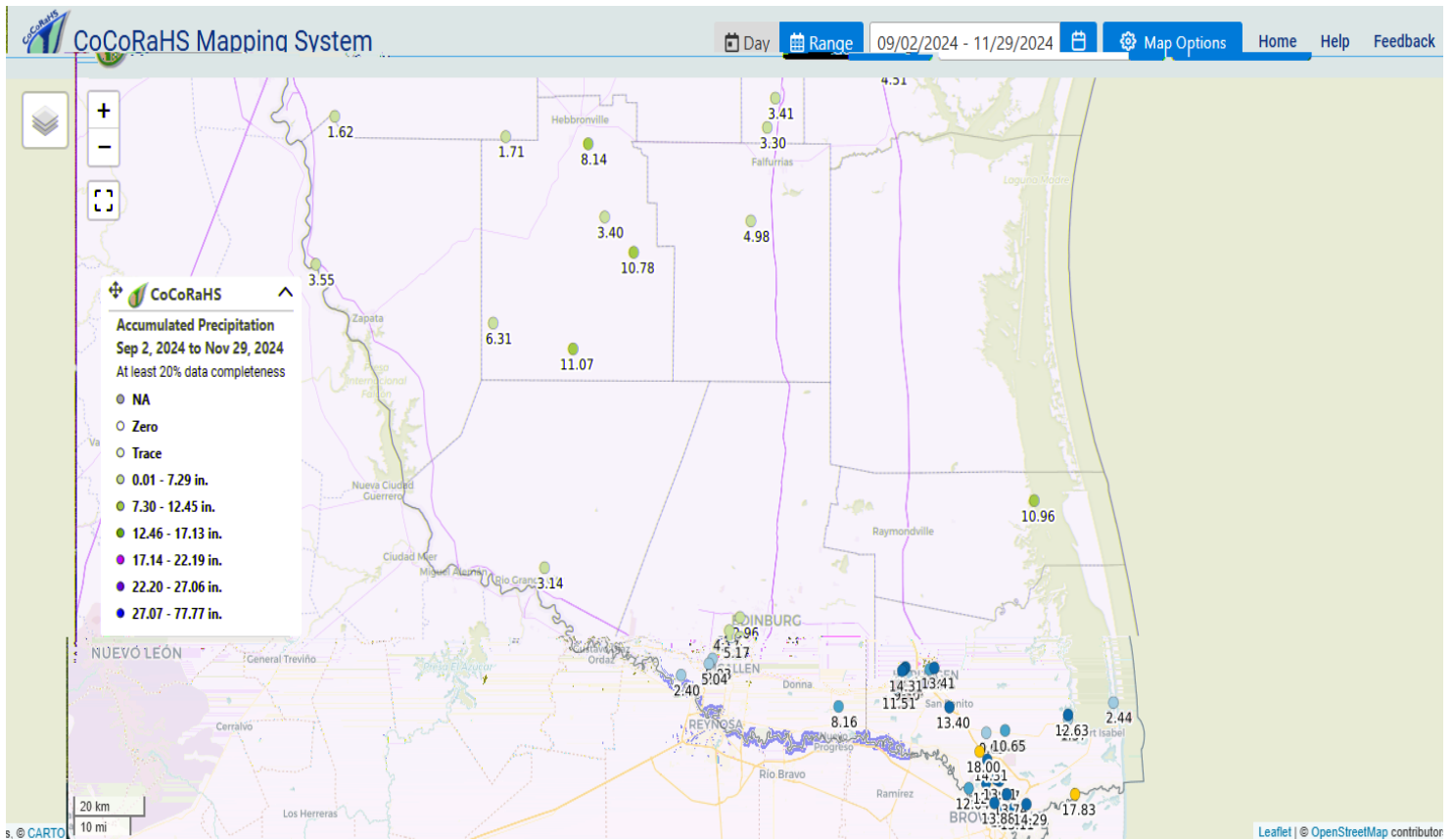


Figure 2: Winners...and losers: Copious rainfall fell on Cameron and parts of Willacy County, especially during September 2024 – while inland counties from Hidalgo and Brooks to Zapata County saw notably lower rainfall – in most cases below the 30-year and period of record averages. Credit Tropical Storm Francine in early September, and a small but potent thunderstorm cluster on September 15th, for providing more than 75% of the total rainfall.

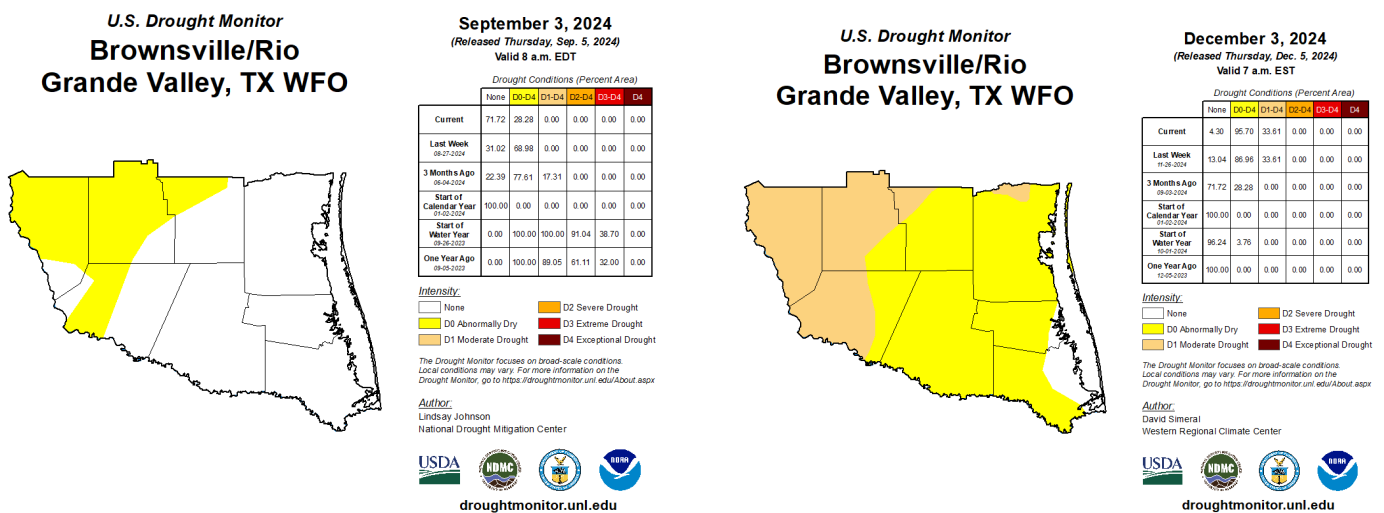


Figure 3. U.S. Drought Monitor showed dryness/drought conditions developed and worsened gradually through autumn. Eastern Cameron and southeastern Willacy remained drought/dryness free, while the remainder of the region saw slowly wilting grasses and brush, most common across the Brush Country and Rio Grande Plains by the end of November.

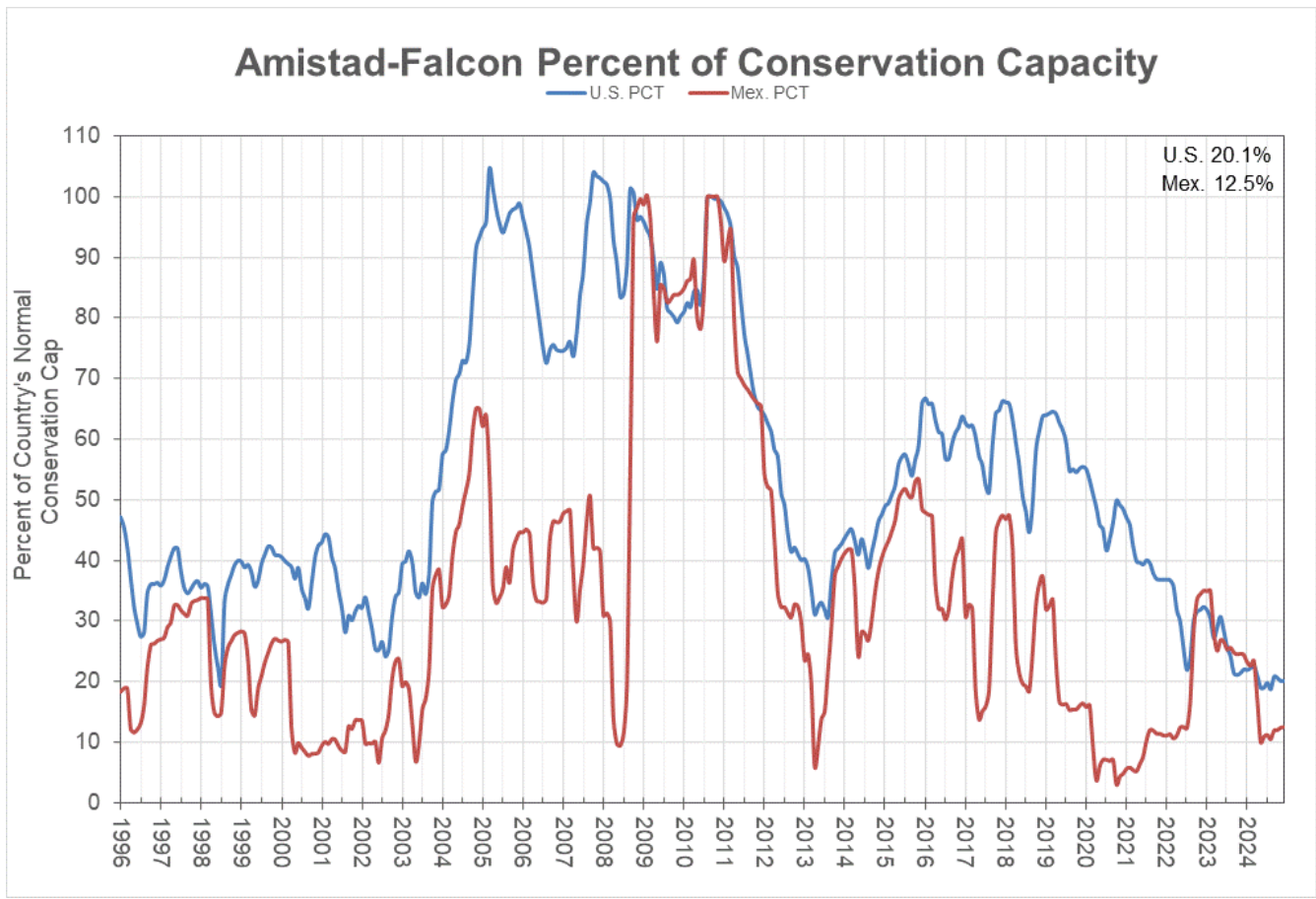


Figure 4. U.S. International Boundary and Water Commission (IBWC) combined percentage of conservation capacity for Amistad and Falcon International Reservoirs, as of the start of December 2024. The combined low values remained at the lowest on record for early December since each dam was constituted (Falcon in 1954; Amistad in 1971) – as meager inflows, even during the normally wetter September and early October period – prevailed. Water levels for the Rio San Juan basin (El Cuchillo and Marte Gomez) – set up to maximum storage by Tropical Storm Alberto, a follow-up wave in late June, and additional rains in July – remained above 100 percent through autumn. A recent minute ([Minute 331](#)) – an amendment -, to the 1944 Water Treaty allowed some of the distributions to be used (diverted) into the Lower Valley for agriculture and municipal use during the 2024/2025 winter. Something is better than nothing.

Month-by-Month Summary

September was the month of note for rainfall – but even then, the climatologically wettest month of the calendar year only achieved in Cameron and parts of Willacy County. In fact, many locations overachieved in each county based on their periods of record; Brownsville’s September finished 14th (10.75”) based on records back to 1878; Port Isabel finished 17th (8.64”) (gaps in the database included nearly 30 years in the early 20th century and other five to ten year gaps through the late 2010s) and Port Mansfield 13th (8.29”), records back to 1958. The main stories in September included:

- [Tropical Storm Francine](#), which skirted east of the Lower Texas Coast but dropped between 5 and 7.5” of rain along and east of Interstate Highway 69E in Cameron County. Local inundation of water depth 2 to 3 feet was noted in poor drainage locations from east Brownsville out toward Port Isabel and South Padre Island.
- An organized, but small, cluster of thunderstorms that dropped between 3 and 6 inches of rain in Cameron County between Harlingen and downtown Brownsville on September 15th. Pockets of heavy rainfall between 2 and 4 inches also occurred in southern Willacy, rural eastern Hidalgo, and around Edinburg (where a pocket of poor drainage flooding was noted around the courthouse area) (Figure 6). Rapid-onset urban flooding occurred, mostly in poor drainage locations, from Brownsville to Harlingen. Some of the water entered vehicles and properties from this event.

Otherwise, temperatures for September ended up a hair above the recent 30-year averages (1991-2020) – but still among the top 10 to 15 percent warmest on record. Brownsville, at 83.7°F, ranked 15th hottest (records back to 1878); Harlingen, at 83.2°F, ranked 23rd hottest (records back to 1912), and McAllen, at 85.9°F, ranked 9th hottest (records back to 1942).

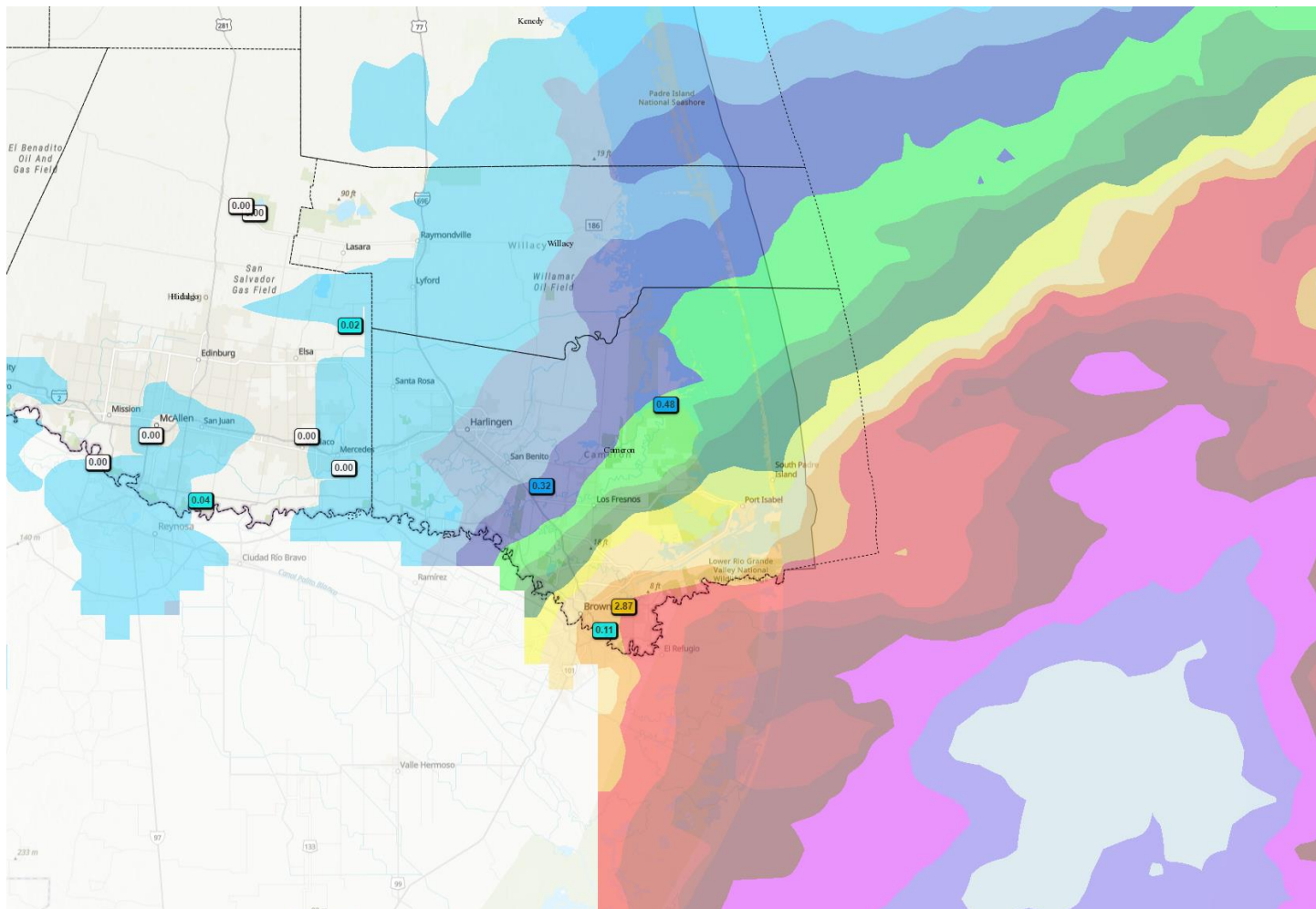


Figure 5. Radar estimated rainfall for the 24 hour period between 7 AM September 9th and September 10th, 2024. These estimates do not include the continuation of heavy rainfall through mid to late morning on the 10th, particularly around the Harlingen area and in southeast Willacy County. The tight gradient of rainfall was real, however; between 7 AM September 9th and 7 AM September 10th, Brownsville received 3.77 inches (airport) while Harlingen/Valley International Airport only received 0.22”.

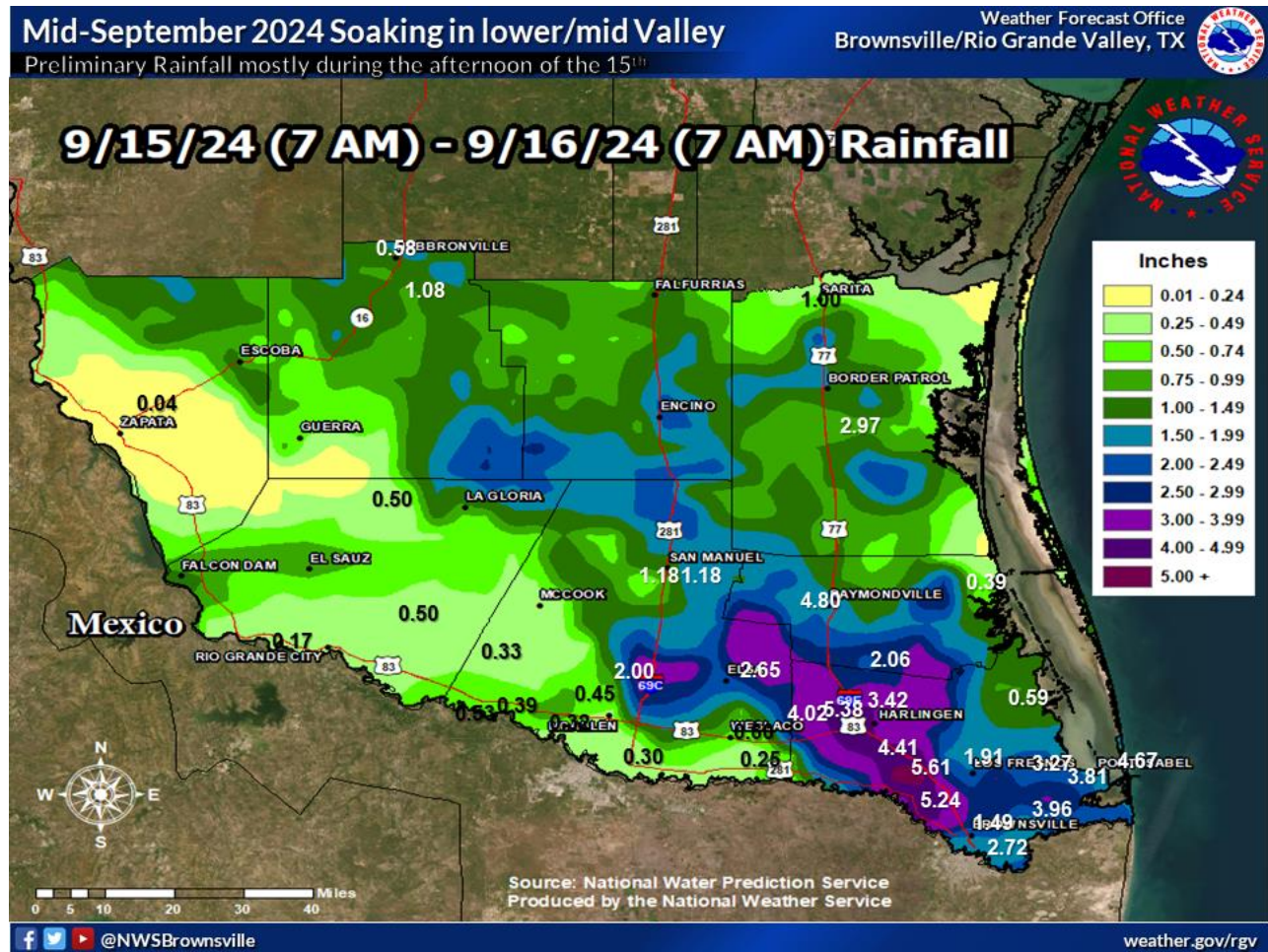


Figure 6. Radar estimated rainfall (annotated with CoCoRaHS, ASOS, AWOS, and Mesonet data) for the 24 hour period between 7 AM September 15th and September 16th, 2024. Once again, much of Cameron County, with some extension into eastern Hidalgo and southern Willacy, were the winners – though urban flooding cause notable impacts especially from Olmito to north Brownsville.

October featured two specific rain events – once again favoring Cameron and Willacy County on the 4th and 5th. The events of October 4-5 were the result of an upper-level tropical wave just south of the U.S./Mexico border, which led to a weak coastal trough that assisted the local downpours. Thereafter, the only pocket of “scary” rain fell late Halloween afternoon and just into the start of the trick-or-treat hours across mainly rural Hidalgo and much of Brooks County. Fortunately, the showers and embedded thunderstorms dissipated before reaching the populated Rio Grande Valley – and the warm/sticky end to October was fitting for yet another month of the same. Once again, the “winners” of the October rainfall contest were Cameron and Willacy County, with parts of Brooks and Kenedy seeing some benefits (Figure 7). However, inflow regions to Falcon and Amistad were on the dry side...a harbinger of things to come in November.

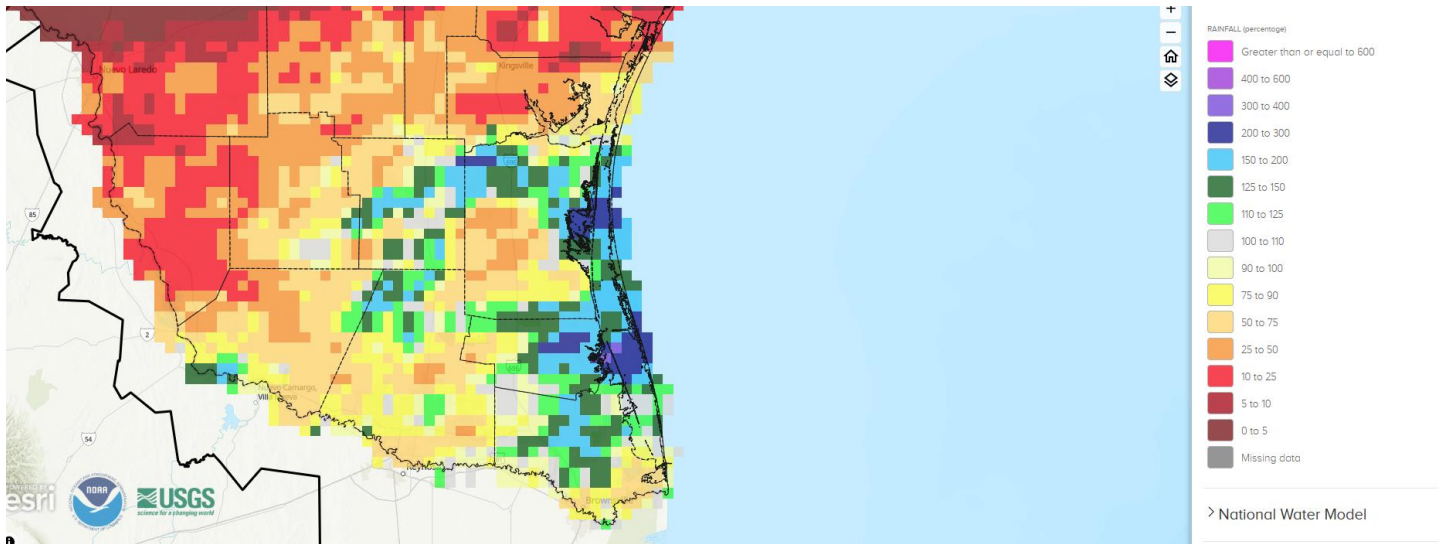


Figure 7. Precipitation percentage of average for October 2024. Courtesy of <https://water.weather.gov> .

Temperatures for October were once again above the 1991-2020 average by 1 to near 3°F – placing the month among the top ten warmest all-time for all available locations.

October’s warmth set the stage for **November**, which was dominated by “endless summer” fading heat for nearly all of the month. Surf temperatures held at or above 80 until the week before Thanksgiving, when the season’s first “dry” front plunged morning temperatures into the comfort zone for the first time this season (lower 40s to lower 50s) – and the coolest morning temperatures (21st) since February 19th, 2024. The morning chill wasn’t enough to keep full sunshine from warming things back into the lower 80s. A Thanksgiving Day (November 28th) was modest but notable in cooling things down following a near 90°F Thanksgiving Eve Day, and “Black Friday” was the coolest daytime for most of the Valley of the autumn...yet still in the 60 to 65°F range for most. Some years, November sees a day and night temperature plunge into the 30s and 40s. 2024 was not one of those years.

Rainfall was sparse, with just a pocket of locally heavy rain (just over an inch) around Harlingen on the 5th. November, typically a dry month, lived up to its billing and then some. Climatological average rainfall (generally 1 to 1.8” from west to east) was only achieved in very small pockets. Once again, the Brush Country/Rio Grande Plains saw virtually no rain (less than 10 percent of the average in most locations, Figure 8), which led to the development of moderate (level 1 of 4) drought conditions there by month’s end.

The lack of notable rainfall and a much above average atmospheric pattern led to a record-warm (hot) month for most locations, as comparative to the warmer 1991-2020 averages showed between 3.5 and nearly 6°F above them. Figure 9 shows the rankings.

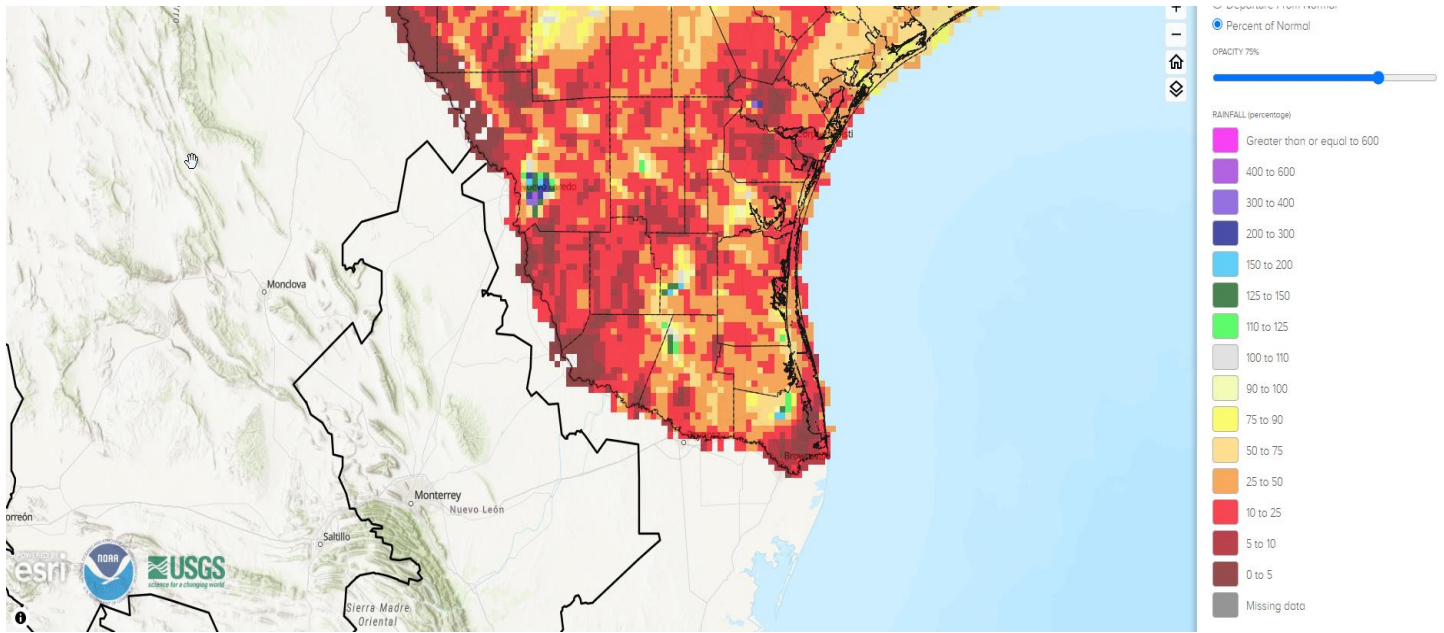


Figure 8. Percent of average rainfall for south Texas, November 2024. Average rainfall is 1 to 1.8” across the region, lowest across the Brush Country and highest across the Cameron/Willacy area.

November 2024 Temperature Rankings

Weather Forecast Office
Brownsville/Rio Grande Valley, TX

Record to Near-Record Warmth Sets Stage for a Similar Finish for the Year

Maximum 30-Day Mean Avg Temperature for Brownsville Area, TX (Thread 1):
Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	75.8	2024-11-30	0
2	74.7	1909-11-30	0
3	74.5	1973-11-30	+1.1 degrees
4	74.3	2020-11-30	0
5	73.9	2017-11-30	0
-	73.9	1994-11-30	0
7	73.9	1927-11-30	0
8	73.6	2015-11-30	0
9	73.3	2016-11-30	0
10	73.2	1945-11-30	0

Period of record: 1878-01-01 to 2024-12-12

Maximum 30-Day Mean Avg Temperature for McAllen Area, TX (Thread 2):
Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	75.1	2024-11-30	0
2	75.6	2016-11-30	0
-	75.6	1994-11-30	0
4	74.1	2020-11-30	0
5	74.1	1945-11-30	+0.5 degrees
6	74.0	1973-11-30	0
7	74.0	1985-11-30	0
8	73.6	2017-11-30	0
9	72.4	1983-11-30	0
10	72.4	1965-11-30	0

Period of record: 1941-06-01 to 2024-12-12

Maximum 30-Day Mean Avg Temperature for RIO GRANDE CITY, TX
Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	74.5	2024-12-01	+1.7 degrees
2	73.8	1901-12-01	2
3	73.8	1902-12-01	0
4	72.8	1994-12-01	0
5	71.9	2016-12-01	0
6	71.3	1931-12-01	0
7	71.2	1946-12-01	5
8	71.2	1905-12-01	0
9	70.7	1973-12-01	0
10	70.5	1965-12-01	0

Period of record: 1897-01-01 to 2024-12-12

Maximum 30-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	73.6	1994-12-01	0
2	73.5	1945-12-01	1
3	73.5	2020-12-01	1
4	73.5	2024-12-01	-0.1 degrees
5	73.4	1927-12-01	0
6	73.2	2016-12-01	0
7	72.8	1931-12-01	1
8	72.4	1985-12-01	1
9	72.2	1921-12-01	1
10	71.8	1913-12-01	0

Period of record: 1912-02-07 to 2024-12-13

Maximum 30-Day Mean Avg Temperature for WESLACO, TX
Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	75.1	1994-12-01	4
2	74.3	1985-12-01	5
3	73.7	1927-12-01	0
4	73.7	2024-12-01	1.4 degrees
5	73.6	1998-12-01	4
6	73.1	1965-12-01	0
7	73.0	1945-12-01	1
8	72.7	1988-12-01	0
9	72.5	1931-12-01	5
10	72.4	1921-12-01	0

Period of record: 1914-02-18 to 2024-12-13

*For stations with 5 or fewer days missing.

Figure 9. November 2024 temperature rankings for available locations across the Rio Grande Valley. Brownsville, McAllen, and Rio Grande City were between 0.5 and 1.7°F above their prior records. Harlingen came up just shy of their all-time record warm/hot November.

Autumn will be remembered for its persistent heat, but oh-so-frustratingly close proximity of the mid Valley (i.e. Weslaco, McAllen) to the repeated welcome rains that left the Cameron/Willacy area in good stead headed into December. In fact, early December saw multiple decent rain events in these same areas – ensuring that drought would be a long time returning. Not so for the thirsty areas of western Hidalgo/Brooks through Zapata (areas west of IH-69C and US 281) where the prospects were poor for sufficient rain to alleviate drought – and a likelihood of Severe (level 2 of 4) drought to develop by late December, along with an increasing potential for rapid wildfire spread behind strong, dry fronts (should any wildfires begin).

Autumn 2024 Rainfall Rankings
 Weather Forecast Office
 Brownsville/Rio Grande Valley, TX
 Winners and Losers: Cameron and Part of Willacy Do Well; Remainder of RGV/Brush Country Miss
 Many Events

Maximum 91-Day Total Precipitation for Brownsville Area, TX (ThreadEx)
 Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	31.60	1886-11-30	0
2	31.59	1887-11-30	0
3	28.12	1884-11-30	0
4	24.95	1925-11-30	0
...
29	14.55	1919-11-30	0
30	14.49	1888-11-30	0
31	14.22	1910-11-30	0
32	14.01	2009-11-30	0
-	14.01	1986-11-30	0
34	13.79	1976-11-30	0
35	13.55	1978-11-30	0
36	13.41	2024-11-30	0
37	13.34	1923-11-30	0
38	12.97	1987-11-30	0
39	12.92	1908-11-30	0
40	12.76	2010-11-30	0

Period of record: 1878-01-01 to 2024-12-12

Minimum 3-Month Total Precipitation for McAllen Area, TX (ThreadEx)
 Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
28	5.02	1968-11-30	0
29	5.03	2023-11-30	0
-	5.03	1959-11-30	0
31	5.15	2008-11-30	0
32	5.33	2020-11-30	0
33	5.53	1953-11-30	0
34	5.55	1955-11-30	0
35	5.63	1993-11-30	0
36	5.77	2024-11-30	1
37	5.79	2021-11-30	0
38	5.96	2019-11-30	0
39	6.20	1991-11-30	0
40	6.31	2004-11-30	0

Period of record: 1941-06-01 to 2024-12-12

Maximum 91-Day Total Precipitation for PORT MANSFIELD, TX
 Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	24.95	1967-12-01	0
2	23.11	2002-12-01	0
3	22.45	1998-12-01	1
4	22.35	1958-12-01	0
5	21.84	2014-12-01	2
6	20.75	1971-12-01	3
7	19.49	1984-12-01	0
8	16.64	1978-12-01	0
9	16.24	1997-12-01	0
10	14.28	2003-12-01	0
11	14.10	2024-12-01	4
12	13.94	1961-12-01	0
13	13.15	1974-12-01	0
14	13.06	1995-12-01	1
15	12.41	1976-12-01	0

Period of record: 1958-02-01 to 2024-12-13

Maximum 3-Month Total Precipitation for RAYMONDVILLE, TX
 Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
30	11.17	1948-11-30	0
31	10.99	2021-11-30	5
32	10.88	1991-11-30	0
33	10.64	1981-11-30	0
34	10.48	1977-11-30	0
35	10.42	2019-11-30	15
36	10.40	2024-11-30	10
37	10.38	2008-11-30	2
38	10.36	1965-11-30	0
-	10.36	1951-11-30	0
40	10.03	1924-11-30	0

Period of record: 1910-10-01 to 2024-12-06

***For stations with 15 or fewer days missing.**

Figure 10. Autumn 2024 rainfall rankings for available locations. It was feast or famine in a sense; While Cameron and Willacy locations (green bars) finished among their top 25% wettest autumns on record, McAllen (tan bar) finished among its top 45% driest autumns on record.