

**APPENDIX B**

**NWS DISCUSSIONS**

**EXCEPTIONAL EVENTS DEMONSTRATION FOR 2023 PM<sub>2.5</sub> EXCEEDANCES AT  
ATASCOSA, HIDALGO, TARRANT, AND WEBB COUNTIES**

August 5, 2025

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
P.O. BOX 13087  
AUSTIN, TEXAS 78711-3087

## APPENDIX B: NWS DISCUSSIONS AND FORECASTS

### B.1: GROUP 2 – FEBRUARY 26 AND FEBRUARY 27, 2023

Area Forecast Discussion

National Weather Service Fort Worth TX

232 PM CST Sun Feb 26 2023

...New Long Term...

.SHORT TERM... /Issued 1240 PM CST Sun Feb 26 2023/

/Through Monday Afternoon/

Key Impacts:

- \* Gusty winds will develop this afternoon and continue overnight. Most of the area can expect south winds of 20-30 mph and gusts of 35-40 mph.
- \* Wind speeds will be strongest this evening between about 8 PM and midnight when peak gusts of 40-50 mph are expected.
- \* A line of strong to severe thunderstorms should develop over the Panhandles late this afternoon and move across Oklahoma tonight. The line of storms is expected to weaken by the time it moves into our North Texas counties with a low threat of damaging wind gusts this evening primarily west of I-35/35W and north of I-20. Further south and east, the severe threat is near zero with low thunderstorm chances.

**Figure B-1: NWS Area Forecast Discussion on February 26, 2023 (2:32 p.m. CST) from the Fort Worth/Dallas NWS Weather Forecast Office, Covering the Haws Athletic Center and Fort Worth Northwest Monitoring Area**

Area Forecast Discussion  
National Weather Service Fort Worth TX  
649 PM CST Sun Feb 26 2023

...New Short Term, Aviation...

.SHORT TERM... /NEW/  
/Tonight through Monday Night/

A powerful storm system is ejecting into the Plains this evening with widespread severe weather ongoing across parts of the Texas Panhandle into western Oklahoma along a cold front. A rapidly deepening surface cyclone across southwest Kansas is being aided by intense wind fields above the surface. This has led to a full on dust storm across parts of West Texas where visibilities are zero and winds have gusted to near 80 mph. A recent gust to 76 mph was reported at Lubbock with 0 SM visibility. While these intense winds will generally stay well to our west, we will see an uptick in wind speeds through the late evening as the surface low spreads eastward. Gusts have been a little intermittent across North Texas this evening, but should become more common ahead of the approaching cold front. Wind gusts to 50 mph will be possible ahead of the front through at least midnight.

**Figure B-2: NWS Area Forecast Discussion on February 26, 2023 (6:49 p.m. CST) from the Fort Worth/Dallas NWS Weather Forecast Office, Covering the Haws Athletic Center and Fort Worth Northwest Monitoring Area**

Area Forecast Discussion...UPDATED  
National Weather Service Fort Worth TX  
559 AM CST Mon Feb 27 2023

...New Short Term, Aviation...

.SHORT TERM... /NEW/  
Update:  
/Through Tuesday Afternoon/

Both synoptic and mesoscale features/trends through tomorrow remain unchanged from the earlier discussion below.

Only brief change was an hour or two of spotty and light blowing dust that resulted in causing minor restrictions to visibilities. This was mainly a brief impact to early morning commercial aviation. Things have improved the past hour and any additional dust will likely be more elevated and have little impact here at the surface outside of some collection of dust on dew-coated vehicles that were parked outdoors this morning. I imagine area car washes will be seeing some increased business the next 3 or 4 days.

**Figure B-3: NWS Area Forecast Discussion on February 27, 2023 (5:59 a.m. CST) from the Fort Worth/Dallas NWS Weather Forecast Office, Covering the Haws Athletic Center and Fort Worth Northwest Monitoring Area**

Area Forecast Discussion  
National Weather Service Fort Worth TX  
250 PM CST Mon Feb 27 2023

...New Long Term...

.SHORT TERM... /Issued 1222 PM CST Mon Feb 27 2023/  
/Through Tuesday/

Westerly winds will prevail in the wake of a departing front. The downsloping component will offset any cold advection, and abundant sunshine will help temperatures reach the 70s regionwide. This update lowers dew point values with current trends, the unseasonably warm temperatures this afternoon dropping the relative humidity below 25 percent regionwide. Locations west of the I-35 corridor may see the relative humidity dip below 15 percent. Some West Texas dust remains aloft at midday but will continue to disperse this afternoon.

**Figure B-4: NWS Area Forecast Discussion on February 27, 2023 (2:50 p.m. CST) from the Fort Worth/Dallas NWS Weather Forecast Office, Covering the Haws Athletic Center and Fort Worth Northwest Monitoring Area**

# Intense winds, suffocating blowing dust and severe thunderstorms (26 February 2023)

Lubbock, TX  
Weather Forecast Office

[Weather.gov](#) > [Lubbock, TX](#) > Intense winds, suffocating blowing dust and severe thunderstorms (26 February 2023)

[Current Hazards](#) [Current Conditions](#) [Radar](#) [Forecasts](#) [Rivers and Lakes](#) [Climate and Past Weather](#) [Local Programs](#)

## Intense winds, suffocating blowing dust and severe thunderstorms

26 February 2023



*Thick blowing dust blowing approaching Lake Alan Henry Sunday evening (26 February 2023). The image is courtesy Lake Alan Henry Weather via Twitter.*

Figure B-5: Picture from the NWS Discussion on Blowing Dust in West Texas on February 26, 2023<sup>1</sup>

<sup>1</sup> <https://www.weather.gov/lub/events-2023-2023026-wind>

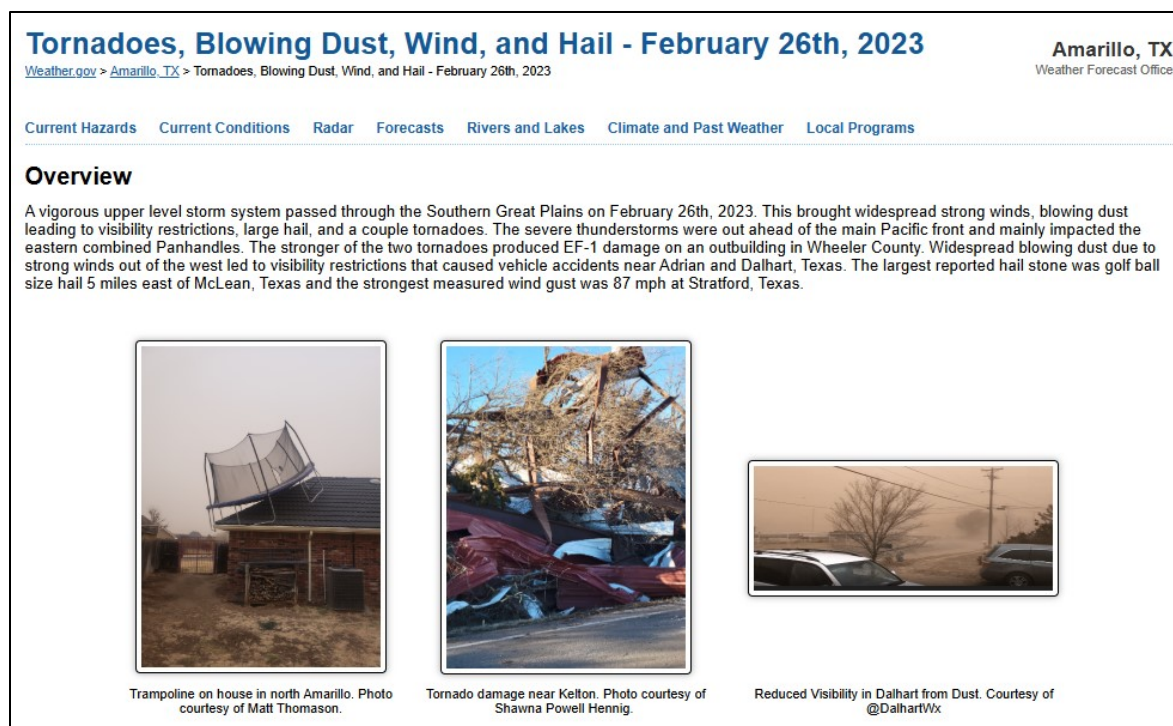


Figure B-6: NWS Discussion Describing Blowing Dust in West Texas on February 26, 2023<sup>2</sup>

## B.2:GROUP 4 – MARCH 27, 2023

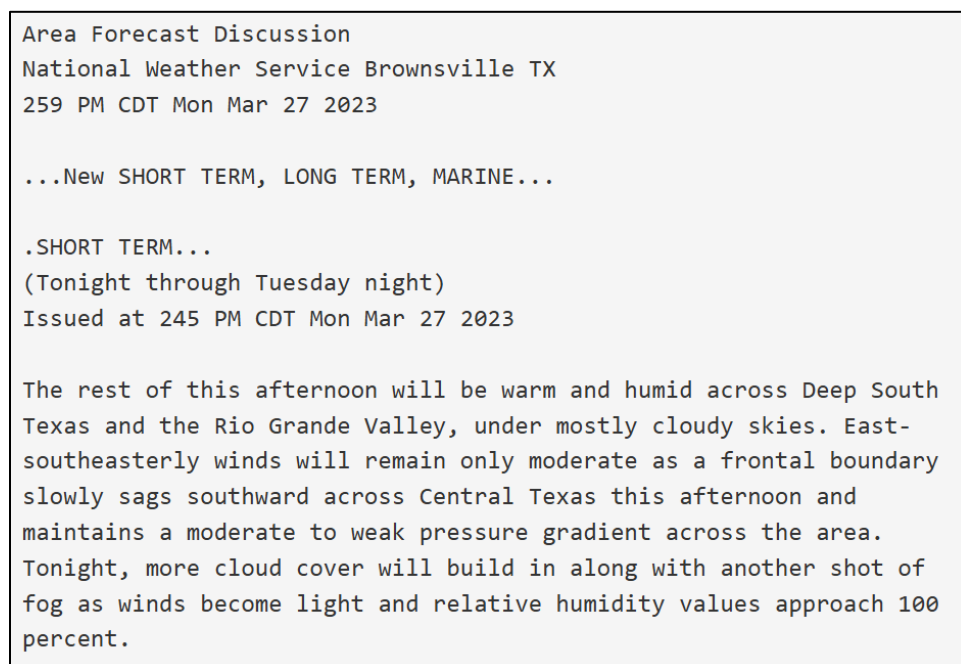


Figure B-7: NWS Area Forecast Discussion on March 27, 2023, from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area

<sup>2</sup> <https://www.weather.gov/ama/TornadoesDustWindHailFebruary26th2023>

### B.3: GROUP 5 - APRIL 4, 2023

Area Forecast Discussion  
National Weather Service Corpus Christi TX  
118 AM CDT Tue Apr 4 2023

...New AVIATION...

.SHORT TERM...

(Tonight through Tuesday night)

Issued at 335 PM CDT Mon Apr 3 2023

#### Key Messages:

- Max temperatures likely to exceed 100 degrees Tuesday across the Coastal Plains (50-60%) and the Rio Grande Plains (80-90%)
- New record highs possible Tuesday for Laredo (71%), Cotulla (91%), Alice (66%) and Corpus Christi (36%)

The quasi-zonal upper level flow will continue tonight before upper-level troughing begins to move into the region Tuesday. Strong southerly flow is expected to develop ahead of the approaching upper-level trough advecting warmer air into South Texas. 850mb temperatures Tuesday will range from 19.5-25 degrees Celsius, from east to west, which ranks in the top 10% of climatology for early April and approaches the daily maximum for that day of 25 degrees Celsius. The majority of South Texas could see temperatures reach or exceed 100 degrees Tuesday with a 50-60% chance across the Coastal Plains and 80-90% chance across the Brush Country and Rio Grande Plains, with temperatures forecast to peak around 104 degrees across the Rio Grande Plains. With the very warm temperatures tomorrow, several sites will have a chance to break their record highs with Laredo and Cotulla leading the way with a 71% chance and 91% chance, respectively. Nighttime lows tonight will remain mild in the lower to mid 70s and in the upper 60s to lower 70s tomorrow as the cold front approaches the region.

**Figure B-8: NWS Area Forecast Discussion on April 4, 2023, from the Corpus Christi NWS Weather Forecast Office, Covering North of the Edinburg East Freddy Gonzalez Drive Monitoring Area**

#### B.4: GROUP 6 - APRIL 15, 2023

Area Forecast Discussion  
National Weather Service Brownsville TX  
423 AM CDT Sat Apr 15 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...

(Today through Sunday)

Issued at 343 AM CDT Sat Apr 15 2023

Partly cloudy skies this morning will stick around throughout the day. Southeasterly winds are a bit breezier already this morning than they were yesterday and will stay elevated around 15 mph for most of the day. Highs are forecast to reach the lower 90s out west and mid 80s for the rest of the CWA. However, models were in disagreement regarding how warm we'd get today. This is most likely due to the cloud cover and where it sets up today. NBM was the warmest while a few of the other models were almost 5 degrees cooler. Used NBM but lowered it by a couple of degrees. Tonight, skies become mostly cloudy keeping us warm in the lower 70s again.

**Figure B-9: NWS Area Forecast Discussion on April 15, 2023, from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area**



## B.5: GROUP 7 – MAY 5 AND MAY 6, 2023

Area Forecast Discussion  
National Weather Service Brownsville TX  
222 PM CDT Fri May 5 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...  
(Tonight through Saturday night)  
Issued at 220 PM CDT Fri May 5 2023

All eyes and focus remains on convective initiation across the Rio Grande this afternoon. The Storm Prediction Center has kept portions of Deep South Texas west of I-69C in a Marginal Risk of severe thunderstorms this afternoon and tonight. Latest convective allowing model runs seem to agree on general location and timing of storm initiation (northern Nuevo Leon/Tamaulipas by mid-late afternoon) but continue to differ on the E/SE progression of the storms. Latest forecast soundings from around Zapata/Starr counties indicate a fairly stable boundary layer in place, though some destabilization occurs a few hours before 00z/7 PM. However, wind speeds below 700mb are fairly weak and are not very supportive to sustain any thunderstorms that are already ongoing. Nevertheless, organized storms that are able to cross the Rio Grande will be capable of tapping into a significant amount of CAPE (as well as bulk shear and steep mid-level lapse rates) and will be capable of producing large hail ( $\geq 1$ " ) and damaging wind gusts (in excess of 60 mph). Most CAMs show storms quickly eroding and dissipating by sunset this evening, with a couple of CAM outliers indicating storms keeping their energy and pushing east of the I-69C corridor. Not anticipating that extent of eastward progression at this time, but will monitor. Residents living along the Rio Grande in Zapata and Starr counties will need to keep vigilant over the next few hours.

Otherwise, mid-level ridging will maintain warm, humid, breezy, and hazy conditions through Saturday night. Skies become mostly cloudy again tonight but clouds should scatter out mid-late Saturday morning. Anticipate overnight low temperatures only reaching the mid-70 next couple of nights, while daytime highs on Saturday will soar into the mid-upper 90s for most locations (perhaps touching 100 degrees near and around Falcon Lake). With a very humid air mass in place, heat index values will approach 110 degrees across Zapata, Jim Hogg, Starr and western Hidalgo counties for a few hours during peak heating.

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**Figure B-10: NWS Area Forecast Discussion on May 5, 2023, from the Brownsville NWS Weather Forecast Office, Covering the World Trade Bridge and Edinburg East Freddy Gonzalez Drive Monitoring Area**

Area Forecast Discussion  
National Weather Service Corpus Christi TX  
400 AM CDT Sat May 6 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...

(Today through Sunday)

Issued at 316 AM CDT Sat May 6 2023

Key Messages:

- Heat indices from 105-109 across the Brush Country this afternoon
- Hazy conditions continue due to fires across Mexico

Water vapor imagery this morning paints a busy picture across the country. Decaying convection can be seen moving across eastern Texas as upper level ridging attempts to build in to its south. Looking west, another upper trough churns along the Pacific coast. At the surface, GOES Nighttime Microphysics imagery reveals a layer of low level stratus and patchy fog in place across the region. Fog looks to clear out shortly after sunrise with our stratus deck lingering through the morning hours. In addition to the fog, we can expect hazy conditions to persist through the morning hours as a result of fires in Mexico and Central America. The latest NASA/GMAO modeling shows concentration levels lowering through the afternoon hours as winds pick up. Therefore, introduced a mention of haze in the grids through the morning.

**Figure B-11: NWS Area Forecast Discussion on May 6, 2023, from the Corpus Christi NWS Weather Forecast Office, Covering South of the Von Ormy Highway 16 Monitoring Area**

## B.6: GROUP 9 – JUNE 14, JUNE 15, AND JUNE 16, 2023

Area Forecast Discussion  
National Weather Service Brownsville TX  
255 PM CDT Wed Jun 14 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...

(Tonight through Thursday night)

Issued at 236 PM CDT Wed Jun 14 2023

Short Term Highlights:

- Life-threatening heat continues
- Breezy to windy south-southeasterly winds (even overnight)
- Haze (especially near the coast)
- Dangerous currents at the beach

The main concern for the short term period continues to be the life- threatening heat that's expected to continue for the foreseeable future, thanks to the mid level ridge that's building over Deep South Texas and elevated surface dew points. Heat indices exceeded 100F by 9 AM this morning, and have begun to verify our Heat Advisory by early this afternoon with 111F+ across a good portion of Deep South Texas. While some wispy cirrus clouds will periodically help to block out a little bit of the solar radiation, they will likely only put a slight dent in the temperatures...but dew points are looking slightly drier than yesterday as the heat helps to dry some of soil moisture...so the combination of these two factors will help to keep heat indices slightly lower than yesterday. With that in mind and the current trend in temperatures and dew points for today, the Heat Advisory in effect until 8 PM should be sufficient...but dew points seem to be bouncing around this afternoon, with McAllen jumping between 108F and 120F in the last hour or two...so we'll continue to monitor for the potential need to upgrade to an Excessive Heat Warning for a few hours this afternoon.

Tonight, winds will remain elevated and heat indices are likely to only drop to around 90F like we saw last night...not much of a break from the heat. And haze could return...

Satellite imagery and Total Aerosol Optical Thickness (AOT) models show smoke from fires in Mexico continuing to stream into Deep South Texas through the short term. This uptick in AOT and high relative humidity values (especially overnight into the morning hours) will likely keep the haze around through the short term period. The haze will likely be densest along the coast where cooler water temperatures from upwelling will help to keep the relative humidity elevated. This also means that the air quality will be reduced as well.

**Figure B-12: NWS Area Forecast Discussion on June 14, 2023, from the Brownsville NWS Weather Forecast Office, Covering South of the World Trade Bridge Monitoring Area**

## B.7:GROUP 10 – JULY 15 AND JULY 16, 2023

### Area Forecast Discussion

National Weather Service Corpus Christi TX

341 AM CDT Sat Jul 15 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...

(Today through Sunday)

Issued at 259 AM CDT Sat Jul 15 2023

#### Key Messages:

- Dangerous heat continues with little change in weather pattern.

High pressure aloft will continue to bring dangerous heat to S TX today. A Heat Advisory is in effect until 8 PM for the Victoria Crossroads, northern Coastal Bend, Brush Country and Rio Grande Plains. An Excessive Heat Warning is in effect for the southern Coastal Bend where heat indices are expected to exceed 115 degrees.

A south to southeast wind will help only a little bit with gusts up to 30 mph across the southern Coastal Bend. Breezy conditions are expected across the north and west portions of the CWA, with gusts up to 25 mph. Skies could be a little hazy today and Sunday as Saharan Dust tracks across the Atlantic and toward the Gulf of Mexico.

**Figure B-13: NWS Area Forecast Discussion on July 15, 2023, from the Corpus Christi NWS Weather Forecast Office, Covering North of the Edinburg East Freddy Gonzalez Drive Monitoring Area**

Area Forecast Discussion

National Weather Service Brownsville TX

259 PM CDT Sun Jul 16 2023

...New SHORT TERM, LONG TERM, MARINE, FIRE WEATHER...

.SHORT TERM...

(Tonight through Monday night)

Issued at 257 PM CDT Sun Jul 16 2023

It remains hot, very hot, with some noticeable differences observed today which are likely to repeat Monday. As the dominate ridge approaches its forecast peak early this new week, deep drier air has mixed a bit more to the surface this afternoon. As of this writing dew points range from 49 degrees at Zapata (KAPY) to 73 at Brownsville and 72 at Bayview (KPIL). These are lowest dewpoints in some time and has so far kept the heat indices just shy of the heat advisory levels (111-115). However, ambient temperatures are running 2-4 degrees higher than 24 hours ago which will allow the heat advisory to verify, albeit short-lived and may not cover a large area of the upper and middle RGV where dpts are the lowest. Also, as mentioned from earlier discussions, the thermal gradient is weaker today as center of surface ridge over the Gulf has shifted slightly to the west and pressures over the Plains are not as low as yesterday which is resulting in winds not being as gusty as the last few afternoons. Finally, agricultural smoke from fires in neighboring Mexico infiltrated our area which was most noticeable this morning as visibility dropped 4 to 5 miles around sunrise. The smoke as since mixed-out but there remains hazy skies this afternoon. Air quality is in the moderate range and with on-going fires and winds decoupling and a shallow inversion redeveloping overnight would expect a repeat of the hazy conditions again early Monday.

**Figure B-14: NWS Area Forecast Discussion on July 16, 2023, from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area**

## B.8:GROUP 11 – JULY 26 AND JULY 27, 2023

Area Forecast Discussion...UPDATED  
National Weather Service Brownsville TX  
1227 AM CDT Wed Jul 26 2023

...New AVIATION...

.SHORT TERM...

(Tonight through Wednesday night)

Issued at 208 PM CDT Tue Jul 25 2023

The first significant bout of Saharan Air Layer (SAL, or Saharan Dust) this season has arrived in Deep South Texas and the Rio Grande Valley. This dust has significantly dried out the mid-levels with precipitable water values (PWATs) now near 1.5" to 1.6" across the region, or near the 25th percentile for late July. While a stray shower or two has attempted to form along the sea breeze this afternoon, they quickly get gobbled up by the drier air and dissipate. Another couple of showers cannot be ruled out the rest of the afternoon and evening, but those chances stand at 20 percent or less for portions of Willacy, Kenedy, and Brooks Counties.

The SAL is expected to stick around through the forecast period. Add in PWATs forecast to drop to between 1.2" and 1.5" and rain will be difficult to come by again with rain chances around 10 percent. With the drier air in place, temperatures are forecast to be above normal tomorrow afternoon with widespread 100s expected away from the immediate coast. Dew points are also expected to be a degree or two lower Wednesday afternoon, which should limit the need for a Heat Advisory. Trends will be monitored in case one is needed though.

**Figure B-15: NWS Area Forecast Discussion on July 26, 2023 (12:27 a.m. CDT) from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area**

Area Forecast Discussion  
National Weather Service Brownsville TX  
238 PM CDT Wed Jul 26 2023

...New SHORT TERM, LONG TERM, MARINE, FIRE WEATHER...

.SHORT TERM...

(Tonight through Thursday night)

Issued at 235 PM CDT Wed Jul 26 2023

Hot, breezy, and dry. That sums up the forecast through the period. The Saharan Air Layer (SAL, or Saharan Dust) is still over the region and will squash any potential showers and storms that attempt to form along the sea breeze later this afternoon and again Thursday afternoon. Another thing limiting rain chances to less than 10 percent is the fact we have precipitable water values (PWATs) between 1" out west to 1.4" along the coast. Those values are at or below the 10th percentile for late July. In other words, it is dry! A little side note here: Brownsville (KBRO) had its lowest dew point, 68 degrees, since early June. And that was with a southeasterly breeze off the Gulf of Mexico. That shows you how dry it is aloft and the power of boundary layer mixing.

**Figure B-16: NWS Area Forecast Discussion on July 26, 2023 (2:38 p.m. CDT) from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area**

Area Forecast Discussion

National Weather Service Brownsville TX

231 PM CDT Fri Jul 28 2023

...New SHORT TERM, LONG TERM, MARINE...

.SHORT TERM...

(Tonight through Saturday night)

Issued at 229 PM CDT Fri Jul 28 2023

Latest KBRO doppler radar imagery shows a fairly disorganized, broken line of light- moderate showers (isolated thunderstorms embedded) developing along the afternoon seabreeze, generally along the I-69E corridor and riding westward as of 2 PM CDT. Some better and more organized convection has been observed over the Gulf of Mexico waters, just south of the BRO marine zones. Will continue to monitor for shower/thunderstorm development over the next few hours. Convection is having trouble being maintained and organized, most likely due to two factors: strong mid-level ridging producing dry/subsident air and the presence of the Saharan Air Layer (SAL) over South Texas. With that said, a few showers and an isolated thunderstorm or two cannot be rule out through about sunset this evening (10-20% chance).

**Figure B-17: NWS Area Forecast Discussion on July 28, 2023, from the Brownsville NWS Weather Forecast Office, Covering the Edinburg East Freddy Gonzalez Drive Monitoring Area**