

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - June 28, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows troughing over much of the West, ridging over the Rockies and parts of the Central Plains, a developing inverted trough over the Southern Mississippi Valley. At the surface, weak low pressure is across to the west, and high pressure is to the east. The flow at upper levels is northerly with it light and variable at the surface. The current dew point temperature is in the low to mid 70's and environmental temperature the same with broken to overcast skies and fog in our area. For today, expect a warm and humid day similar to that of yesterday. With plenty of instability, day time heating, low-level moisture, and mainly an uncapped region, expect showers and thunderstorms this afternoon. However, coverage of storms should be confined to the coast. Many models do not suggest any storms development this afternoon not even the ARW which has been overly aggressive since the start of the season. The latest HRRR, on the other hand, does indicate some convection this afternoon. Any storm development should be brief with moderate to heavy rainfall. By this evening, active weather should begin to settle with the loss of daytime heating and a cap re-establishes across south-central Texas. Overnight, expect mainly quiet conditions; however, there may be lingering left over from the day that should be taper off before midnight. By Saturday, drier weather should finally be present with lower humidity values, and a dry atmospheric column will be in place throughout the day courtesy of a high moving a bit north. The inverted trough across Mississippi will translate Southeast Texas on Saturday. The GFS brings in showers and storms as early as overnight Saturday into Sunday whereas the rest of the models keeps us dry. The inverted through progress further westward on Sunday bringing cooler temperature due to cloud cover and a slight chance for showers and thunderstorms mainly for the central and eastern zone. By Monday, the center of the mid-level low associated with the inverted trough sets up over the Rio Grande area. For now, will keep forecast dry by then due to the lack of cloud coverage. The highs are forecast to be in the upper 80's and mid 90's with the lows in the upper 60's to low 70's through the end of the period.

LIFTING MECHANISM:

Low Moisture Advection, Sea-Breeze, Outflow Boundary

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4378.3	CAPE (J/Kg)	2433.9
Precipitable Water (inches)	1.64	CINH (J/Kg)	69.77
LCL	783.86	LI (°C)	-7.38
CCL	1339.97	PB	-7.38
CRP ICA	-26.09	Cloud Base Temp (°C)	18.2
Cloud Base (meters)	1737.4		
Warm Cloud Depth (meters)	2640.9		

DISCUSSION:

The start of the day was pretty quiet with areas of patchy fog and very low cloud bases. As the day went by the cloud base heights increased with a decrease in cloud coverage. By the afternoon, a cell developed far south of the McMullen County, and the moved up that county by mid to late afternoon hours. The cell developed due to a weak sea breeze with sufficient instability and an uncapped atmosphere. This was due to a well-defined

outflow boundary that originated from the south. Surprisingly, it lasted up into Bexar County. Other small cells developed across far south of the Frio County and the parts of the Karnes and Wilson County. 60P was first launched across the McMullen County then it went over the Atascosa County before and seeded a cell before it landed at Pleasanton Airport to refuel. After 60P departed the airport; it seeded another cell across the Atascosa County before heading to Karnes County to land for a while. Sometime after 60P landed in Karnes County, it was called into the air to seed a few cells across the Karnes and Wilson County. However, even though 60P seeded the cells, it was not able to release the full dosages of seeding materials as some of the cells were eventually the same as the parent cell. 60P headed back to the airport after it finished seeding the cells as conditions became more settled.

WATCHES/WARNINGS:

Hail

SEEDED CELL ID'S:

4	145	212	389						
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
21:04	60P	In Air	
21:23	60P	159° @ 32 nm	McMullen
21:24	60P	162° @ 31 nm	McMullen
21:25	60P	164° @ 29 nm	McMullen
21:26	60P	165° @ 26 nm	McMullen
21:28	60P	174° @ 24 nm	McMullen
21:42	60P	94° @ 4 nm	Atascosa
21:43	60P	61° @ 4 nm	Atascosa
21:44	60P	330° @ 4 nm	Atascosa
21:45	60P	293° @ 2 nm	Atascosa
21:47	60P	308° @ 2 nm	Atascosa
21:56	60P	Refueled	
20:05	60P	In Air	
22:13	60P	258° @ 17 nm	Atascosa
22:15	60P	255° @ 19 nm	Atascosa
22:59	60P	Recon	
23:44	60P	In Air	
23:52	60P	70° @ 36 nm	Karnes
23:53	60P	69° @ 37 nm	Karnes
23:54	60P	65° @ 38 nm	Karnes
23:55	60P	60° @ 38 nm	Wilson
23:58	60P	70° @ 37 nm	Wilson
23:59	60P	72° @ 37 nm	Wilson
24:14	60P	Landed	

Seeding operations were conducted in Atascosa (14+0H), Karnes (6+0H) and Wilson (6+0H) Counties. 26 flares plus 0 hygroscopic flares were burned within 4 clouds. This is the 6th day for seeding in June and the 13th day for seeding during the season.