

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - May 15, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a weakened low across the Southern Mississippi Valley, high pressure across parts of the Rockies and Central Plains with a weak shortwave over northern Mexico. At the surface, high pressure is located across much of the country with low/trough axis along the deep south Texas and Gulf coast. The flow at upper levels is westerly with it calm to light and variable at the surface. The current dew point temperature is in the upper 60's to low 70's and environmental temperature in the low 70's with broken clouds to overcast skies in our area. For today, expect similar conditions to yesterday with afternoon and early evening isolated thunderstorms. Remnant energy in the mid to upper levels from the weakened low that moved across Central Texas yesterday plus moisture from of the Gulf coupled with daytime heating will produce some sea-breeze effect that will initiate a couple cells later on the on the day preferably this afternoon. Can't rule out isolated storms across the southern Hill Country near the Uvalde, Bandera and Medina Counties. I'm not expecting it to be that active as yesterday but all eyes will be focus near the coast for possible developments. Both Hi-res model solutions are more or less in agreement now than with the much of the past events. The ARW has been over doing with storms across that target zone whereas, the HRRR has been more modest. Now the ARW has suggested a few isolated cells across the eastern counties together with the HRRR. How far inland should the cells reach and the strength the cells are uncertain, thus; I was inclined to mention a low chance for showers and thunderstorms. Overnight, expect mainly quiet weather with early evening spotty showers and possibly a thunderstorm or two. Thursday should be less active with possible an isolated cell or two to our far eastern counties as high pressure really begins to take a toll on our weather. Friday is forecast to be mainly quiet with breeze conditions ahead of system that will bring severe weather from western Texas all the way up into South Dakota Friday through Saturday based on Storm Predication Center (SPC). A deep trough of low pressure currently across the Pacific Southwest will move in beginning overnight Friday into Saturday. Along with this a dryline interacting with a cold front could produce cluster of thunderstorms that could develop into super cells that could then lead to Mesoscale Convective System (MCS) along and ahead of the boundary. The tail end of the front is forecast to slide south Texas with anticipated showers and thunderstorms on Saturday through Saturday evening. Even though much of the activities will be to the north of our area, expect isolated thunderstorms to the be strong to severe due to favorable atmospheric conditions and the time of year. The highs are expected to be in the 80's and the lows in the upper 60's to low 70's through the end of the period.

LIFTING MECHANISM:

Upper Level Dynamics, Weak Low Pressure, Cold Air Aloft

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4079.68	CAPE (J/Kg)	1118.6
Precipitable Water (inches)	1.57	CINH (J/Kg)	47.30
LCL	673.33	LI (°C)	-2.47
CCL	860.96	PB	-2.47
CRP ICA	-14.65	Cloud Base Temp (°C)	22.9
Cloud Base (meters)	1489.71		

Warm Cloud Depth (meters)	2589.97		
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DISCUSSION:

Another unsettled day similar to yesterday with low morning cloudy skies and with partly sunny skies in the afternoon. The upper level low shifted eastward while weakening. However, there has been a change in the forecast from early this morning as cells development were confined to Hill Country than near the Bee County like it did yesterday. There were a few passing isolated light showers across the southern parts of the Bee County in the afternoon but they were not cells. Much of the cells along the coast were to our far east away from the target area. Focusing now our attention to the higher terrains of the Uvalde and Bandera Counties where cells developed with moisture advected up the hills with daytime heating later in the afternoon. As orographic cells began to develop and hold out long enough for an aircraft to get to them, 57AA was launched first across the northern areas of the Uvalde County where it seeded two cells. However, it was unable to release the full dosages of seeding materials as the cell were not that impressive. After seeding across the Uvalde County, the aircraft was sent to the Bandera County where it was able to seed one cell with over a little half of the required seeding amounts. When 57AA was done with the cell across the Bandera County it was sent back to Uvalde County as a cell looked to be strong enough for seeding. The cell began to weaken as the aircraft was intercepting it, thus; seeding was halted after one release of two silvers on that cell. Also, the aircraft visited a cell a little outside of the Uvalde county that was not too impressive however it was unable to seed it as the cell did not have any good inflow as was to be expected from viewing it on the radar. Keep in mind that much of the cells that were over both the Uvalde and Bandera Counties were cells that moved in from areas outside them known as b-type clouds. After the cells started to die down, 57AA was ordered to return to the airport for the evening as conditions began to settle.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

43	31	44	80	-					
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
21:44	57AA	In Air	
21:55	57AA	291° @ 71 nm	Uvalde
21:57	57AA	292° @ 72 nm	Uvalde
22:06	57AA	289° @ 83 nm	Uvalde
22:14	57AA	290° @ 88 nm	Uvalde
22:31	57AA	307° @ 71 nm	Bandera
22:43	57AA	306° @ 77 nm	Bandera
22:45	57AA	307° @ 77 nm	Bandera
23:05	57AA	288° @ 87 nm	Uvalde
23:49	57AA	Landed	

Seeding operations were conducted in Bandera (6+0H) and Uvalde (10+0H) Counties. 16 flares plus 0 hygroscopic flares were burned within 4 cloud. This is the 5th day for seeding in May and the 5th day for seeding during the season.