

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - May 24, 2020

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a low continuing to be over the East, a shortwave trough over the Central Plains, and a parent longer wave trough over the Northwest. At the surface, low pressure across the Great Plains and the Southwest with high pressure off the east and west coasts. The flow at upper levels is mainly westerly with it generally east southeasterly at the surface. The current dew point temperature is in the upper 60s and upper 70s and the environmental temperature in the lower 70s and lower 80s with broken clouds to overcast skies. For today, low-level southeasterly flow will keep moisture in place across our area. Orographic flow over the northern mountains of Mexico coupled with the convergence of a dryline boundary could develop a few convective cells across to the west of the Mexico/Texas border. With a steering flow, these storms could make their way east of the border and end up in our area overnight. The latest HRRR does not suggest this but the ARW does. Also, both the Texas Tech WRF and latest HRRR do suggest a couple of popup storms this morning with the TT WRF storm continuing into on into the afternoon hours. The rest of the model solution does keep us dry; thus, I went ahead and introduce a slight chance for showers and thunderstorms mainly for this morning. Overnight, should the ARW verify the remnant showers and storms will weaken while dissipating with the strongest of storms across the far western counties? On Saturday, the parent trough across the Northwest will dig in across the Rockies with height field gradually decreasing slightly across south-central Texas especially during the overnight hours. During the day looks to be mainly quiet except for an isolated afternoon storm or two. By evening, an embedded disturbance will bring shower and thunderstorms across from west to east. Some of the storms could be strong at times, which could produce heavy rain. Active weather lingers into Sunday as the wave exits the region. Another shortwave impulse that looks to be somewhat stronger will move in on Sunday evening bringing another round of showers and thunderstorms across our region overnight Sunday into Monday. And the pattern continues thereafter as this upper trough across the Central Plains beginning to be blocked by a ridge to the west and to east. Expect anywhere between .5 to 3in+ of rainfall through the time frame with the cooler temperatures mainly the latter half of the weekend into early next week due to rain cool air and increased cloud coverage. The highs are progged to be in the middle 80s and lower 90s with the lows in the middle 60s and middle 70s through the end of the forecast period.

LIFTING MECHANISM:

Longwave Trough, Dry Line, Upper-Level Disturbance

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4513.11	CAPE (J/Kg)	1945.9
Precipitable Water (inches)	1.43	CINH (J/Kg)	290.52
LCL	975.85	LI (°C)	-7.40
CCL	2413.40	PB	-7.40
CRP ICA	-24.13	Cloud Base Temp (°C)	24.5
Cloud Base (meters)	1117.00		
Warm Cloud Depth (meters)	3396.11		

DISCUSSION:

An outflow boundary developed very weak cells across the Frio Country that did not last long enough for 57AA to get to them; however, there were some activities across the Uvalde area as the main storms began to move in from of the Mexico /Texas border while developing additional cells. 57AA had encountered a lot of strong violent turbulence where some of the cells it was not able to seed over the Uvalde County. The pilot reported it been dark and had to supposedly land in Hondo after it was done with Uvalde and seeded a cell across Medina Country, but instead, it landed in San Antonio. Because of this, I had 47P take over across the Frio Country. The cell that 57AA seeded merged with a cell across the Bandera and Frio County, but I still went ahead and had 47P seeded it even though the cell became one. 57AA was unable to reach the cell across the Bandera county after seeding the cell over the Medina County due to the aforementioned darkness and lack of visibility. While 57AA tried to land in San Antonio some cells developed across western Bexar County but 57AA was unable to get to them. Also, there were some interruptions in the communication where many times 57AA was unable to hear what I was saying via radio and phone due to bad weather conditions. 57AA landed safely at Stinson Airport in San Antonio. 47P was able to release the full dosages of seeding materials across Frio County while reporting a lot of cloud to ground lightning as the linear cell pushed eastward. When flares were out, 47P headed back to base and was done for the evening.

WATCHES/WARNINGS:

Severe Thunderstorm, Flash Flood, and Hail

SEEDED CELL ID'S:

1927	1553	2133					
------	------	------	--	--	--	--	--

FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
22:45	57AA	In Air	
23:07	57AA	282° @ 71 nm	Uvalde
23:08	57AA	284° @ 64 nm	Uvalde
23:09	57AA	281° @ 69 nm	Uvalde
23:43	57AA	270° @ 66 nm	Uvalde
23:43	57AA	271° @ 66 nm	Uvalde
23:44	57AA	270° @ 65 nm	Uvalde
23:45	57AA	269° @ 65 nm	Uvalde
00:04	57AA	296° @ 42 nm	Medina
00:05	57AA	297° @ 43 nm	Medina
00:06	57AA	296° @ 43 nm	Medina
00:06	57AA	296° @ 43 nm	Medina
00:07	57AA	295° @ 43 nm	Medina
00:29	47P	In Air	
00:54	47P	244° @ 26 nm	Frio
00:55	47P	246° @ 27 nm	Frio
00:56	47P	243° @ 28 nm	Frio
00:56	57AA	Landed	
00:57	47P	240° @ 29 nm	Frio
00:58	47P	239° @ 32 nm	Frio
01:39	47P	Landed	

Seeding operations were conducted in Frio (10 + 0H), Medina (10 + 20H) and Uvalde (14+28H) Counties. 34 flares plus 48 hygroscopic flares were burned within 3 clouds. This is the 5th day for seeding in May and the 6th day for seeding during the season.