

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - September 4, 2020

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a shortwave trough over Texas, a longwave trough over the Northeast, a ridge over the West, and Southeast. At the surface, high pressure is across much of the country with low pressure across the far Northeast and the West. The flow at upper levels is mainly variable with it light and variable at the surface. The current dew point temperature is in the lower to upper 70s and the environmental temperature more or less the same with scattered to broken clouds across our area. For today, expect a continuation of showers and thunderstorms across the entire target area due to an outflow moist boundary from Mesoscale Convective Vortex and the upper-level shortwave trough over Texas. Expect non-severe scattered to numerous showers and thunderstorms beginning later this morning. Models are in disagreement with the actual placement of the cells but most areas should see precipitation; however, I do not anticipate widespread coverage and any Mesoscale Convective System. The precipitable water values are forecast to be around 2in and any slow-moving storms could produce heavy downpours and minor flooding. Moderate DCAPE suggests the potential for strong wind gust with the strongest storms. Expect shower and thunderstorms to decrease tonight as we lose daytime heating and the upper-level trough weakens and drifts southwestward. Another round of showers and thunderstorms are likely on Saturday with moisture in place, daytimes heating, and weak upward forcing from the weakening shortwave trough and moving in afternoon inverted trough. Due to an increase in cloud and precipitation coverage, both the max the min temperature both today and tomorrow will be below to climatological normal for this time of the year. With remnant moisture and the upper-level trough weakening, active weather will begin to decrease. However, with weakness in the mid to upper level, expect additional showers and thunderstorms to occur mainly in the afternoon. Monday should be dry and a shortwave ridge moves in. There may be a stray shower or two near the coast but generally speaking, expect mainly quiet weather at the start of next week. The highs are progged to be in the middle 80s and middle 90s with the lows in the upper 60s and middle 70s through the end of the forecast period.

LIFTING MECHANISM:

Outflow Boundary, Low-Level Moisture Advection, Sea-Breeze

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4786.49	CAPE (J/Kg)	2777.30
Precipitable Water (inches)	2.03	CINH (J/Kg)	0.14
LCL	652.26	LI (°C)	-6.35
CCL	696.16	PB	-6.35
CRP ICA	-25.32	Cloud Base Temp (°C)	27.1
Cloud Base (meters)	951.92		
Warm Cloud Depth (meters)	3834.57		

DISCUSSION:

Isolated to scattered showers and thunderstorms this afternoon led me to launch 57AA from Uvalde airport to all the way east where most of the activities were. I waited for good heating of the day before beginning operations.

Unfortunately, 60P was not available at the time to seed to the eastern target area at the time, so it was just 57AA out there. When 57AA approached eastern Medina county a couple of cells merged to become one large cell; thus, 57AA successfully seeded it with the full dosage of seeding materials. From there 57AA was sent to FR/AT county. 57AA shot the full dosage of silver iodide into that cell. I had intended for 57AA to go small cells across the Atascosa county but by the time it arrived at the cells, they merged with the cell that was already seeded to become the same cell. 57AA headed back to Frio county where it started seeding a cell but that cell too merged with the cell, we had already seed to become the same cell; thus, there was no point in continuing to seed it. There were a few smaller weaker cells around the area where I had 57AA to go and try to target. However, while seeding one of them, 57AA ran into some technical difficulties with the flare rack. Also, the cell that 57AA was seeding across southwestern Medina county eventually merged with the cell that was already seeded becoming the same cell. 57AA returned to base to reflare thereafter. While 57AA was reflaring, I encountered internet connection issues; thus, operations had to be placed on standby for a little while. When the internet connection came back, unfortunately, 57AA could not have been launched as there were strong crosswinds along the runway at Uvalde airport. When 57AA was able to get airborne and data began entering titan, the pilot was only able to seed a cell over Uvalde before returning to the airport as conditions began to deteriorate such as the winds. 57AA returned to base for the evening as conditions began to settle across the western target area. A couple of hours after a few sea-breeze cells developed along near and along the Coastal Plains. Only one good decent cell was able to be seeded across the Bee county. Finally, 60P was launched to go over the southern Bee county where it released the full dosages of seeding materials into that cell. After seeding that cell, it returned to base for the evening as the rest of the cells was outside of the target area and while weakening before ever making any attempt to enter target counties near the coast.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

302	2647	2691	2924	3274	3784					
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
17:35	57AA	In Air	
18:02	57AA	298° @ 33 nm	Medina
18:02	57AA	299° @ 33 nm	Medina
18:03	57AA	300° @ 33 nm	Medina
18:03	57AA	301° @ 33 nm	Medina
19:03	57AA	300° @ 33 nm	Medina
18:22	57AA	251° @ 18 nm	Frio
18:23	57AA	250° @ 18 nm	Frio
18:24	57AA	248° @ 18 nm	Frio
18:25	57AA	249° @ 17 nm	Atascosa
18:25	57AA	249° @ 18 nm	Frio
18:43	57AA	258° @ 27 nm	Frio
18:44	57AA	257° @ 27 nm	Frio
18:55	57AA	263° @ 35 nm	Frio
18:55	57AA	266° @ 37 nm	Frio
19:06	57AA	274° @ 46 nm	Medina
19:07	57AA	275° @ 48 nm	Medina
19:26	57AA	Reflare	
21:04	57AA	In Air	

21:07	57AA	52, 58°	Uvalde
21:08	57AA	53, 56°	Uvalde
21:08	57AA	54, 56°	Uvalde
21:10	57AA	277° @ 73 nm	Uvalde
21:11	57AA	278° @ 72 nm	Uvalde
21:20	57AA	Landed	
23:00	60P	In Air	
23:18	60P	118° @ 54 nm	Bee
23:18	60P	119° @ 53 nm	Bee
23:19	60P	121° @ 53 nm	Bee
23:20	60P	124° @ 51 nm	Bee
23:21	60P	128° @ 50 nm	Bee
23:40	60P	Landed	

Seeding operations were conducted in Atascosa (2+0H), Bee (10+0H), Frio (16+0H), Medina (13+1H), and Uvalde (10+1H) Counties. 51 flares plus 1 hygroscopic flare were burned within 6 clouds. This is the 3rd day for seeding in September and the 35th day for seeding during the season.