SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION – Pleasanton, TEXAS

SEEDING REPORT – August 23, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a trough over the Rockies, shortwave impulses over the Central Plains and an inverted trough over the northwestern Gulf of Mexico. At the surface, low/trough axes across much of the southern and western half of the country with two fronts extending through the middle of the country. The flow at upper levels is mainly light and variable with it light and east southeasterly at the surface. The current dew point temperature is in the lower to middle 70s and environmental temperature in the middle to upper 70s with scattered to broken clouds in our area. For today, expect another uptick in moisture that will lead to afternoon and evening thunderstorms due to an area of disturbed weather off the Gulf coast and an outflow boundary across west-central Texas. With daytime heating, weakness in the upper levels and available moisture along a sea-breeze courtesy of the inverted trough off-shore will provide the necessary ingredients for convection later in the day. I'm not expecting widespread coverage but a couple isolated to scattered thunderstorms are forecast for areas east of the I-37. A few storms could also make their way south across the southern Hill Country over the Bandera and Uvalde Counties this afternoon from a line of weakness extending all the way from northeastern Mexico to the Texas Panhandle. Any storms from this over our area could produce gusty winds from downdrafts. Overnight, thunderstorms decrease due to the loss of heating. However, there still could be a few storms lingering near the coast and over parts of the Hill Country. For Saturday, active weather to continue as the inverted trough over the Gulf of Mexico shifts eastward and upstream trough slide across West Texas. The moisture level will be high enough and with daytime heating, another round of showers and thunderstorms is expected by then. For Sunday, the axis of the trough moves over our region with much of the moisture to our east. Any storm activities will be confined to the coastal plains and the eastern zone. A subtropical ridge of high pressure begins to build in from the west that will dry us out early next week. Expect Monday to be mainly dry with the highs getting back into the triple digits. The highs are progged to be in the middle 90s and lower 100's with the lows in the middle to upper 70s through the end of the forecast period.

LIFTING MECHANISM:
Outflow boundary, Inverted Trough, Sea-Breeze

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4919.59	CAPE (J/Kg)	1667.4
Precipitable Water (inches)	2.08	CINH (J/Kg)	57.75
LCL	772.99	LI(°C)	-3.72
CCL	1130.22	PB	-3.72
CRP ICA	-19.80	Cloud Base Temp (°C)	23.3
Cloud Base (meters)	1827.20		
Warm Cloud Depth (meters)	2092.39		

DISCUSSION:
The day started mainly quiet with weak cells that develop along the coast during the afternoon hours. As the day matured with further heating, cells

became more pronounced. 57AA was launched across the Bandera county as a couple of cells worked their way across the northwestern side of the target area. 57AA was able to seed a cell there. After this was done, 57AA was launched over the Uvalde County where it seeded another cell across its northern border. There was a strong cell that moved across a county to the north of the Bandera County that the aircraft tried to target; however, it was unsuccessful during the two attempts. 57AA continued to seed another cell across the Uvalde county before it headed over to the east. Storms developed along an afternoon sea-breeze across the counties near the coast. 57AA travel from Uvalde county all the way to Karnes county was a young strong cell moved in from the off the coast into the target eastern target area. The pilot was able to seed that cell before it divided into small secondary cells. After seeding that cell 57AA was ordered to return to Uvalde airport when a cell developed across the southern Atascosa County. 57AA investigated that cell as was able to release some of the seeding materials in it. As cells, began to diminish and decrease in quantity, 57AA returned to the airport without any intentions of heading back out for the evening.

WATCHES/WARNINGS:
Hail

SEEDED CELL ID'S:

781	913	979	1075	813	1360				

FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
20:36	57AA	In Air	
21:12	57AA	302° @ 71 nm	Bandera
21:12	57AA	302° @ 72 nm	Bandera
21:14	57AA	301° @ 73 nm	Bandera
21:15	57AA	301° @ 74 nm	Bandera
21:16	57AA	300° @ 73 nm	Bandera
21:23	57AA	294° @ 81 nm	Uvalde
21:24	57AA	293° @ 82 nm	Uvalde
22:07	57AA	291° @ 80 nm	Uvalde
22:08	57AA	291° @ 78 nm	Uvalde
22:17	57AA	290° @ 81 nm	Uvalde
22:17	57AA	290° @ 80 nm	Uvalde
22:18	57AA	289° @ 81 nm	Uvalde
22:42	57AA	110° @ 25 nm	Karnes
22:43	57AA	108° @ 27 nm	Karnes
22:44	57AA	108° @ 29 nm	Karnes
22:46	57AA	107° @ 32 nm	Karnes
24:03	57AA	187° @ 15 nm	Atascosa
24:03	57AA	186° @ 15 nm	Atascosa
24:06	57AA	195° @ 15 nm	Atascosa
24:42	57AA	Landed	

Seeding operations were conducted in Atascosa (6+0H), Bandera (10+0H), Karnes (8+0H) and Uvalde (14+0H) Counties. 38 flares plus 0 hygroscopic flares were burned within 6 clouds. This is the 6th day for seeding in August and the 26th day for seeding during the season.