

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - May 30, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows troughing over much of the country with a closed low located over Iowa with ridging over the deep Southeast. At the surface, low pressure is across Mexico with an associated trough axis, another low centered across Iowa with an associated cold front extending through central Texas and high pressure across to the Southeast. The flow at upper levels is west southwesterly with it easterly at the surface. The current dew point temperature is in the mid 60's to low 70's and environmental temperature in the upper 60's to upper 70's with broken clouds to overcast skies with one or two isolated showers across our area. For today, expect showers and thunderstorms associated with sagging front south across our region mainly during the morning hours. With daytime heating, this afternoon, available moisture and a frontal boundary expect a couple of isolated thunderstorms across our area. The CAPE values are forecast to be between 2000-3000 J/kg with bulk shear values less than 40kts leads to a marginal risk for severe thunderstorms this morning. Later this afternoon diurnal heating will increase the instability values to our west. The Storm Prediction Center (SPC) has our western counties under a slight risk for severe thunderstorms mainly this afternoon through very early Friday morning. Storms that do develop have the potential for producing damaging winds and large hail. A low-level jet develops this evening coupled with a westerly flow at mid-levels will cause thunderstorms that form over the Rio Grande area to move eastward where storms may cross the slight risk areas. Expect a continuation of active weather this evening through the overnight hours across the western and northern counties of the target area. A few get away storms may also move through the rest of the target area through Friday morning. The cluster of thunderstorms may develop into a Mesoscale Convective System (MCS) as they propagate eastward. The front washes out on Friday, but with remnant moisture, weak convergent boundary and daytime heating will result in spotty showers and one or two isolated thunderstorms by then. Mid-level moisture will remain in place across south-central Texas Saturday with the axis of high amounts will be confined to our west along the higher Terrain of Mexico and west Texas. A mid to upper-level ridge of high pressure builds in across Texas from of the Gulf reducing the chances for precipitation. There may be still a chance for an isolated stubborn shower or two under this ridge on Saturday as the precipitable water values are progged to be between 1.5 and 2.0in. Mainly quiet weather is in the forecast for both Saturday and Sunday courtesy of this ridge. The highs are expected to be in the mid 80's to low 90's with the lows in the low to mid 70's through the end of the forecast period.

LIFTING MECHANISM:

Upper-Level Dynamics, Low-level Jet, Cold Front

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4884.53	CAPE (J/Kg)	2092.2
Precipitable Water (inches)	1.88	CINH (J/Kg)	64.69
LCL	642.67	LI (°C)	-8.07
CCL	767.00	PB	-8.07
CRP ICA	-27.28	Cloud Base Temp (°C)	26.1
Cloud Base (meters)	875.79		
Warm Cloud Depth (meters)	4008.74		

DISCUSSION:

The day started mainly quiet with a few isolated light showers during the morning hours in the vicinity. As the day progressed, the cells began to develop across the eastern zone. Also, one or two cells developed northwest on Bandera County that headed east southeast the northern parts of that county. With go enough heating, cells began to develop rapidly across the Wilson and parts of the Karnes Counties. Aircraft 60P was launched across the Wilson County first as cells grew. There were times when that aircraft would hit individual cells that looked great on the radar but had weak inflow or no bases. Aircraft 60P was able to seed a couple of cells across the Wilson County before it seeded cells across the northern Karnes County. Many of the cells that were seeded split into small cells but with sufficient updrafts to sustain deep convection through the afternoon and evening hours. Before the cells divided, 60P was able to release the full dosages of seeding materials in the cells. When 60P was done, it headed back to the airport as no other seedable cells were in the area. While 60P was ordered back to the airport 57AA was launched across the northern Bandera County was a cell across the Southwestern Hill Country moved in. The aircraft reported low visibility due to haze and had to be directed every now and again. Finally, 57AA approached an area close by the cell where it was able to get good inflow. It was able to seed that cells but was not able to release the full dosages of seeding material as that cells were weakening somewhat with decaying inflow. 57AA then headed to a smaller cell that developed across the northern Medina County possibly moved in the southern Bandera County but when the aircraft approached that cell it no base; thus, 57AA was unable to seed it. 57AA returned to base due to the time of day. Active weather began after seeding period across the western zone.

WATCHES/WARNINGS:

Severe Thunderstorm

SEEDED CELL ID'S:

1048	1334	1369	1132						
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
22:46	60P	In Air	
23:09	60P	59° @ 36 nm	Wilson
23:10	60P	60° @ 37 nm	Wilson
23:14	60P	53° @ 33 nm	Wilson
23:18	60P	53° @ 32 nm	Wilson
23:28	60P	69° @ 33 nm	Karnes
23:29	60P	69° @ 32 nm	Karnes
23:30	60P	69° @ 31 nm	Karnes
23:32	60P	70° @ 34 nm	Karnes
23:36	60P	74° @ 31 nm	Karnes
23:37	60P	75° @ 43 nm	Karnes
23:39	60P	74° @ 44 nm	Karnes
23:41	60P	74° @ 40 nm	Karnes
23:50	57AA	In Air	
24:00	60P	Landed	
24:11	57AA	312° @ 66 nm	Bandera
24:13	57AA	312° @ 67 nm	Bandera
24:13	57AA	312° @ 67 nm	Bandera
01:10	57AA	Landed	

Seeding operations were conducted in Bandera (6+0H), Karnes (16+0H) and Wilson (8+0H) Counties. 30 flares plus 0 hygroscopic flares were burned within 4 clouds. This is the 7th day for seeding in May and the 7th day for seeding during the season.