

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - June 22, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows two troughs, one over the western half of the country and the other the eastern half with a ridge across parts of the Central Plains. At the surface, strong low pressure is centered across parts of the Rockies and Central Plains with high pressure to our east. The flow at upper levels is west southwesterly with it south southeasterly at the surface. The current dew point temperature is in the mid 70's, and environmental temperature in the mid to upper 70's with broken to scattered clouds in our area. For today, another quiet but hot weather is in the forecast during the day with triple digit including high index values. The heat index value is expected to be below 112 degrees by mid to late afternoon. On Saturday, the near zonal flow aloft will shift to more of a southwesterly with a moist low-level southeasterly flow. A broad trough across the Pacific Northwest and parts of the Rockies will slowly drift eastward over the Montana and North Dakota by Saturday. This will continue to deepen as it crosses Canada but will send a shortwave across the four corners region on Sunday. With a persistent southwesterly flow aloft and southeasterly flow near the surface, expect slight chances for showers and thunderstorms. The models have been fluctuating and in disagreement on convection for this weekend; thus, I went ahead and mentioned a slight chance for precipitation late Saturday evening through Sunday night. The precipitable water values should be near 2in early next week, and any impulse that moves over the state embedded in the mean flow aloft could activate convections across our area. There is high confidence with storm activities Monday through Tuesday morning. However, there is low confidence with the placement on high rain chances. With increasing cloud cover and possible opportunities for rain, the ambient temperature is expected to cool down this weekend into early next week. With that being said, the heat index value should still be on the high side through Monday as the dew point temperature is expected to be in the dew point temperature is forecast to be in the 60's and 70's. The highs are progged to be in the lower 90's and low 100's with the lows in the lower to upper 70's through the forecast period.

LIFTING MECHANISM:

Trouthing, Warm Moist Air Advection, Weak Sea-Breeze

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4807.34	CAPE (J/Kg)	2604.8
Precipitable Water (inches)	1.86	CINH (J/Kg)	72.18
LCL	601.39	LI (°C)	-6.84
CCL	721.85	PB	-6.84
CRP ICA	-24.16	Cloud Base Temp (°C)	24.3
Cloud Base (meters)	965.17		
Warm Cloud Depth (meters)	3842.17		

DISCUSSION:

The day started off with a few light sprinkles and some passing low-level clouds. Much of the showers and thunderstorms were to the east of the target area with only a few isolated afternoon storms arrived across the McMullen and Wilson Counties. There were a few weaker ones across the Live Oak and Atascosa Counties. With good enough daytime heating, low level moisture convergence and instability, cells started to develop. This afternoon's

scenario was due to a weak sea breeze event. The cells did not last very long and when the pilot got to the individual cells, they had no real up drafts, bases or precipitation. Many of the cells if not all of them had small areas. Aircraft 60P was first launched over the southern parts of the Atascosa County where it investigated a developing cell. It turned out that the cell was no good as there was seedable inflow. The aircraft then headed down to the McMullen County. There it investigated a couple cells but was unsuccessful as there were only clusters of clouds with nothing seedable. Finally, 60P was able to seed a few cells across the Wilson County. However, it was not able to release the full dosages of seeding material in the last one as there were no good return signal on the radar. 60P flew a couple of times around the last cell but it was too weak. 60P then went to a cell across the southern parts of the Wilson County where it was unable to get any inflow. While 60P was over the Wilson County, a few better cells moved in from a county south of McMullen into southern McMullen County. How the first cell that 60P had tried to hit was looking very well on radar but the pilot reported that it had no rain shafts, and all there was were cluster of clouds with semi-high base. A cell developed across southwestern McMullen County while 60P was investigating the cell to the right of it. There was no real inflow and barely precipitation; thus, 60P decided to go to the Bee County to refuel. Also, this cell developed over a non-seeding area while 60P was on its way to Beeville airport. The aircraft refueled and headed back to the McMullen County only to find out that there was only virga, cloudy skies and no good inflow. Apparently that cell was too weak and only lasted less than half an hour outside the non-seeding area. Overall the better cells developed outside and in the non-seeding area of the McMullen County and were unreachable. The cells that were seeded over the Wilson grew somewhat and continued to live on through parts of the Bexar and its adjacent counties as it was moving northward. Despite a noneventful day, we were able to at least hit as many cells as we could even though almost all of them were non-seedable.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

728	N/A								
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
19:26	60P	In Air	
20:26	60P	39° @ 22 nm	Wilson
20:27	60P	39° @ 19 nm	Wilson
20:30	60P	34° @ 22 nm	Wilson
20:31	60P	34° @ 23 nm	Wilson
20:33	60P	31° @ 24 nm	Wilson
20:38	60P	39° @ 31 nm	Wilson
22:16	60P	Refueled	
22:32	60P	In Air	
23:32	60P	Landed	

Seeding operations were conducted in Wilson (12+0H) County. 12 flares plus 0 hygroscopic flares were burned within 2 clouds. This is the 2nd day for seeding in June and the 9th day for seeding during the season.