

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - July 24, 2018

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a broad ridge of high pressure across much of the Central and the Southwest with a deep trough across the deep Southeast and a low across the Great Lakes and the Northeast. At the surface, mainly ridging across much of the country with a with a stationary front located just northwest of the target zone and a warm front directly north of the zone associated with the system to the east. The flow at upper levels is mainly from the north with it mainly light and variable at the surface. The current dew point temperature is in the mid 70's with broken clouds hovering over much of our area. For today, semi active conditions as the front to the north pushes south across the target zone by this afternoon. The atmosphere is expected to be uncapped by around 20UTC with CAPE values above 1500J/kg. However, due to the weak frontal boundary and little to no upper level enhancement, I'm not expecting a lot of cells to fire up this afternoon at least for our area. In fact, the WRF have one or two cells over the Bee County after 22UTC while the HRRR has it over much of central and parts of the eastern counties after 21UTC. Mainly quiet conditions return on Wednesday through Friday behind the frontal passage with just a slight chance for residual precipitation along the Coastal Plains. This ridge will continue to linger over South Central Texas that will bring hot daytime temperatures throughout the forecast period. The ridge will weaken slowly each and every day by pushing slightly westward that will cause the high temperatures to be in the mid to upper 90 and low 100's. Also, the dew point temperature is forecast to be in the mid to upper 60's for much of the area counties by this afternoon. The feel like temperature is expected to be a 4 to 6 warmer than actual temperature across the target zone.

LIFTING MECHANISM:

Weak Upper Level Dynamics, Cool Air Aloft, Weak Stationary Front

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4849.04	CAPE (J/Kg)	79.46
Precipitable Water (inches)	1.39	CINH (J/Kg)	834.70
LCL	2094.66	LI(°C)	0.22
CCL	3690.89	PB	0.22
CRP ICA	-3.02	Cloud Base Temp (°C)	19.4
Cloud Base (meters)	1956.26		
Warm Cloud Depth (meters)	2892.78		

DISCUSSION:

A weak stationary frontal boundary impacted our weather today bringing late afternoon and early evening isolated showers and thunderstorms. Cumulus clouds developed earlier in the day but with further daytime heating, enough energy was able to break the cap and cause cells to develop. There was good enough instability to sustain storms. Storms that developed today, developed with eight minutes after atmospheric conditions became favorable. Usually cells would take time to grow but I have notice that cells blossomed very quickly within several minutes and would last long enough for the aircraft to reach them. As conditions became active, aircraft 160P was launched across the Karnes County as a cell look very impressive for seeding. Aircraft 160P was able to seed that cell successfully. There were intentions to have 160P

go the Medina County to seed a cell but much of the storm was already in the no seeding zone and it was moving southwesterly. Instead 160P had to return to base as no other cells developed. A little late after, 160P was relaunched as it really began to get active. 160P was sent to the McMullen County but the cell did not last long enough for the aircraft to seed it. 160P was then launched to the Atascosa County where there was a very good cell that looked seedable and so the aircraft was able to perform operations there. Another storm had fired-up at another location across the Atascosa County where I had initially intended to send 160P to seed but there was a hail warning; thus, I diverted 160P to another location. 160P flew to the eastern side of the Karnes County but when it arrived there it was too late as the cells were dying. While the across the Karnes County, the warning had been lifted from the cell across the Atascosa County. 160P was then sent back to the Atascosa County but when it arrived, the inflow was not very impressive. The pilot was able to seed only one time even though the cell was showing very strong signal on my end. While there, other cells began to develop, so I had the aircraft go and try to seed them, but their inflows were very weak and unseedable. Overall 160P was not able to seed most of cells that looked very healthy from looking at both the radar and satellite imagery due to very poor inflow rates. Aircraft 160P final headed back to base after spending time in the air unable to seed impressive cells.

WATCHES/WARNINGS:

Hail

SEEDED CELL ID'S:

7	113	118						
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
20:50	160P	In Air	
20:57	160P	84° @ 41 nm	Karnes
20:58	160P	87° @ 39 nm	Karnes
20:59	160P	86° @ 40 nm	Karnes
21:00	160P	85° @ 40 nm	Karnes
21:01	160P	86° @ 40 nm	Karnes
21:15	160P	Recon	
22:25	160P	In Air	
22:57	160P	185° @ 18 nm	Atascosa
22:58	160P	194° @ 16 nm	Atascosa
23:00	160P	198° @ 17 nm	Atascosa
23:01	160P	202° @ 18 nm	Atascosa
23:03	160P	212° @ 21 nm	Atascosa
23:46	160P	105° @ 10 nm	Atascosa
24:35	160P	Landed	

Seeding operations were conducted in Atascosa (12+1H) and Karnes (10+1H) Counties. 22 flares plus 2 hygroscopic flares were burned within 3 clouds. This is the 7th day for seeding in July and the 17th day for seeding during the season.