

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - May 20, 2018

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a trough of low pressure across the southwest along the Great Basin with a ridge of high pressure across the deep south and a trough over the southeast. At the surface, low pressure continues to be centered across the Rockies with high pressure over the Gulf of Mexico. The flow at upper levels is generally from the northwest with it being mainly calm at the surface. The current dew point temperature is in the mid 60's with patchy fog in the vicinity. For today, high pressure ridge will continue to dominate our weather bringing dry and hot conditions throughout the day. Expect similar conditions as yesterday with mainly sunny skies and the temperatures way above average. High pressure aloft will shift slight to the east allowing for southwesterly flow. At low levels, the flow becomes southeasterly that will cause the high temperature to drop a degree of two from yesterday. The upper level ridge will block any convection that forms across the high terrains of northeastern Mexico and west of Edwards Plateau to enter the target areas today. The ridge will continue to dominate our weather on Saturday bringing again warm and hot conditions except for the high temperature being a few degrees lower than today's high. Come Sunday, a cold front drops in across the central Texas that will bring a chance for precipitation all the way into Monday as the front stalls. Better showers and thunderstorms chances will be northern target areas, but a few isolated storms are possible across the southern counties.

LIFTING MECHANISM:

Upper Level Dynamics, Cool Air Aloft, Cold Front

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4705	CAPE (J/Kg)	2041.99
Precipitable Water (inches)	1.66	CINH (J/Kg)	4.23
LCL	669.90	LI(°C)	-6.50
CCL	834.62	PB	-6.50
CRP ICA	-24.58	Cloud Base Temp (°C)	25
Cloud Base (meters)	1283		
Warm Cloud Depth (meters)	3422		

DISCUSSION: Trough of low pressure with an associated front across Central Texas produced showers and scattered storms across the target areas with much of the precipitation near the frontal boundary. At first there were marginally convective pop-up showers across the region but with further heating of the day the cells continued to grow as with the incoming front. There was sufficient instability with the cap already eroded before lunchtime. After midday, cells started to become more aggressive, so I launched one aircraft (47P) first to the Wilson county where seeding took place and then with the same aircraft to the Medina County thereafter. The aircraft reported lightning across eastern Medina. Another aircraft (160P) was deployed across the Frio county where successful seeding took place. This aircraft flew to the border of the Uvalde and Medina county, but the clouds bases were to low and the skies were overcast: thus, the aircraft made a U-turn and flew to the Atascosa county where it was able to operate. Meanwhile aircraft 47P was sent back to the Wilson county as there were two cells, one already developed while the other was developing. Aircraft 47P was not able to reach the developed cell but was able to seed the developing cell. After

flying a couple of times across the Wilson county aircraft 47P retired as the pilot needed to rest. Aircraft 160P continued to fly around the border of the Atascosa and Frio counties for possible seeding opportunities but was only able to seed cells mainly across the Atascosa county. 160P retired for the evening as the unseedable storm approach much of the target areas after 20:30UTC.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

923	2113	2024	2377	2383	2854	2852		
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
18:18	47P	In Air	
18:28	47P	54° @ 36 nm	Wilson
18:33	47P	31° @ 38 nm	Wilson
18:34	47P	31° @ 38 nm	Wilson
19:11	47P	313° @ 36 nm	Medina
19:20	160P	In Air	
19:36	47P	296° @ 29 nm	Medina
19:37	47P	297° @ 29 nm	Medina
19:40	47P	302° @ 28 nm	Medina
19:41	160P	256° @ 20 nm	Frio
19:45	47P	319° @ 23 nm	Bexar
19:47	47P	313° @ 26 nm	Bexar
19:49	47P	313° @ 23 nm	Bexar
19:51	160P	261° @ 16 nm	Frio
20:16	47P	58° @ 20 nm	Wilson
20:18	47P	55° @ 20 nm	Wilson
20:21	47P	59° @ 21 nm	Wilson
20:23	47P	59° @ 18 nm	Wilson
20:29	47P	62° @ 19 nm	Wilson
20:32	47P	72° @ 21 nm	Wilson
20:37	160P	271° @ 16 nm	Atascosa
20:39	160P	274° @ 14 nm	Atascosa
20:45	47P	Landed	
22:15	160P	Landed	

Seeding operations were conducted in Wilson (18+25H), Medina (14+24H), Frio (4+0H) and Atascosa (4+0H) Counties. Aircraft 47P burned 1 modular flare each across the Medina County. This aircraft also burned 1 modular flare each during the final fleet over the Wilson County. 40 flares and 49 hygroscopic were burned in 7 cells. This is the 1st day for seeding in May and the 1st day for seeding during the season.