

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - June 17, 2018

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a subtropical ridge of high pressure moving into the lower Mississippi Valley with a trough across the west and an inverted trough over southwestern Gulf of Mexico. At low levels, mainly ridging across the south with a low centered across the Upper Mississippi Valley. The flow at upper levels is from the east southeast with mainly calm winds near the surface. The current dew point temperature is in the low to mid 70's with our area under scattered low base clouds. For today, expect the subtropical ridge to continue to build in across the Lower Mississippi Valley with Tropical Storm Bub moving up western Mexico today through Saturday. This will erode the ridge a little with moisture remaining generally to the west of the target areas. Expect another day of as sea-breeze type pattern with a little deeper moisture from the Gulf of Mexico moving into our area. Showers and thunderstorms are forecast to begin before noon today and last through 02UTC Saturday. For Saturday, the inverted trough will gradually to make its way near the coast as the as the ridge breaks down and shift to the east allowing for some increasing tropical moisture to impact the coastal and inland counties. Expect for today and tomorrow, scattered showers and thunderstorms across much of the target areas. The dew point temperature is forecast to be in the low to mid 70's which will impact feel like temperature. The heat index value is expected to be again in the low 100's even though the actual temperature is expected to be near the mid 90's. Come Sunday, we will begin to tap into much more deeper tropical moisture as the inverted trough makes landfall. This broad area of disturbance will bring much needed rainfall to the southwest Texas through the end of the forecast period. The precipitable water is forecast to be between 2.0 and 2.7 inches which can lead to substantial amount of rainfall through Monday. Steady rainfall amounts can range anywhere between 1.5 and 4 inches with possibly higher amounts under areas of heavy rainfall due to thunderstorms by Monday evening.

LIFTING MECHANISM:

Upper Trough, Surface Low, Low Level Moisture Advection

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	5723.02	CAPE (J/Kg)	509.30
Precipitable Water (inches)	2.15	CINH (J/Kg)	8.85
LCL	685.08	LI (°C)	-1.53
CCL	933.40	PB	-1.53
CRP ICA	-16.03	Cloud Base Temp (°C)	22.6
Cloud Base (meters)	1437		
Warm Cloud Depth (meters)	4286.02		

DISCUSSION:

A tropical disturbance off shore has been producing showers and thunderstorms mainly along the coast and far eastern counties. Cells started to roll and hold out across the eastern target zone after 19UTC. The cells appeared over Karnes and Wilson Counties at first before developing across the Bee and Live Oak Counties. Aircraft 160P was first launched across the Wilson County where it successfully seeded a cell before flying back down the Karnes County to intercept a type-b cloud near the eastern county line. Aircraft 47P was then launched across the south counties where is seeded one cell over the Bee

County area. While 47P was seeding, 160P began to seed a cell moving in from the east towards the Wilson and Karnes Counties. 160P performed operations on this cell along the eastern Wilson County line. After that, 160P flew down to the south to help 47P seed additional clouds. 47P went ahead and released seeding materials across the McMullen County while 160P seeded over the Bee County area. Aircraft 160P was able to seed two and a half cells while 47P continued operations mainly across McMullen County but at times over the Live Oak County as well depending on where the cells were located. Eventually, 160P head to the Atascosa County to carry out operations on a cell that formed over the county. Aircraft 47P was then sent to the Bee County for additional seeding but by the time the aircraft arrived the cells were non-seedable due to very weak inflow or no cloud bases. After 160P was done with the cell across the Atascosa County it headed to the south over the McMullen County to seed a cell that had just developed. When, 47P was unsuccessful across the Bee County, it was directed to go over to the Atascosa County to seed a cell that developed very close to the cell that 160P seeded. However, when 47P arrived the cells were joined and 47P was just able to release a few flares into the cell. While 47P was performing operations to the north, 160P seeded a cell across the McMullen County. Finally, 160P was sent to a developing cell across the Live Oak area where 2 flares were released because aircraft ran out them. It was not worth sending 47P to that cell as it did not hold out long enough. All in all, this day of seeding was a great success where we were able to seed ten cells. This has been the most seeded cells in one day for the season.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

236	461	71	304	528	584	523	621	763	792
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
20:07	160P	In Air	
20:27	160P	39° @ 39 nm	Wilson
20:28	160P	41° @ 39 nm	Wilson
20:29	160P	40° @ 40 nm	Wilson
20:30	160P	39° @ 40 nm	Wilson
20:31	160P	39° @ 39 nm	Wilson
20:40	47P	In Air	
20:48	47P	113° @ 39 nm	Bee
20:52	47P	116° @ 42 nm	Bee
20:54	160P	59° @ 43 nm	Wilson
20:54	47P	116° @ 51 nm	Bee
20:55	160P	56° @ 44 nm	Wilson
20:56	160P	56° @ 45 nm	Wilson
20:58	47P	119° @ 40 nm	Bee
20:58	160P	55° @ 44 nm	Wilson
20:59	160P	56° @ 42 nm	Wilson
21:21	47P	169° @ 44 nm	McMullen
21:27	160P	114° @ 52 nm	Bee
21:28	47P	172° @ 43 nm	McMullen
21:28	160P	117° @ 56 nm	Bee
21:29	160P	116° @ 53 nm	Bee
21:30	160P	116° @ 52 nm	Bee
21:31	160P	117° @ 52 nm	Bee
21:32	47P	166° @ 44 nm	McMullen
21:38	47P	164° @ 43 nm	McMullen
21:38	47P	166° @ 43 nm	McMullen

21:39	160P	129° @ 57 nm	Bee
21:39	160P	128° @ 57 nm	Bee
21:39	160P	129° @ 57 nm	Bee
21:40	47P	165° @ 43 nm	McMullen
21:40	160P	128° @ 57 nm	Bee
21:42	160P	130° @ 57 nm	Bee
21:47	47P	161° @ 47 nm	McMullen
21:50	47P	157° @ 49 nm	Live Oak
21:52	47P	157° @ 49 nm	Live Oak
21:56	160P	115° @ 43 nm	Bee
22:14	160P	147° @ 19 nm	Atascosa
22:16	160P	153° @ 18 nm	Atascosa
22:16	160P	149° @ 19 nm	Atascosa
22:18	160P	148° @ 19 nm	Atascosa
22:19	160P	152° @ 18 nm	Atascosa
22:32	160P	174° @ 35 nm	McMullen
22:32	160P	175° @ 35 nm	McMullen
22:33	160P	178° @ 35 nm	McMullen
22:34	160P	177° @ 35 nm	McMullen
22:35	160P	174° @ 36 nm	McMullen
22:35	160P	173° @ 36 nm	McMullen
22:44	47P	161° @ 18 nm	Atascosa
22:46	47P	163° @ 13 nm	Atascosa
22:48	160P	155° @ 44 nm	Live Oak
23:09	47P	Landed	
23:39	160P	Landed	

Seeding operations were conducted in Atascosa (14+9H), Beeville (30+17H), Live Oak (6+8H), McMullen (36+33H) and Wilson (20+0H) Counties. 106 flares plus 67 hygroscopic flare were burned within 10 clouds. This is the 7th day for seeding in June and the 10th day for seeding during the season.