

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - Pleasanton, TEXAS

SEEDING REPORT - July 12, 2019

SYNOPTIC/MESOSCALE CONDITIONS:

Upper air analysis shows a board ridge centered the four corners, Tropical Storm Barry over the northern Gulf of Mexico. At the surface, low/trough axes across the western half of the country with high pressure across the Central Plains and Great Lakes area with a meso-low associated with the aforementioned tropical storm off the coast of Louisiana. The flow at upper levels is light a from the east northeast with it calm to light and variable at the surface. The current dew point temperature is in the upper 60s and environmental temperature in the upper 70s with clear skies to scattered clouds in our area. For today, the upper-level ridge of high pressure will remain over the West with Tropical Storm Barry over Louisiana coast sending a few high clouds our way from it's outer-bands. The flow continues to be light from the and north lowering the dew point temperature slightly with heat index values somewhat a little more comfortable earlier this week. There are still some places with heat index values in the low 100's for this afternoon. Precipitable water values are expected to be around 1.5in across much of the target area with it closer to 2in near the coast; thus, this can lead to some isolated showers and a few thunderstorm activities that will be confined to the coastal region later in the day. With enough moisture and afternoon and evening, heating cell development is possible, especially where there is a high moisture influx. I'm not expecting scattered thunderstorms but an isolated one or two is possible across parts of the target area mainly near the coast and possibly near the Uvalde area as per the ARW model. Both the latest HRRR and the Texas Tech WRF keeps much of our area storm-free including Uvalde with it a little more active near the coast. Overnight, should be quiet; however, can't rule out a shower or thunderstorm with Barry rotating across the Gulf drawing night the Louisiana coast. This storm is expected to make landfall between 12 and 18UTC Saturday leaving us on the western dry side of this system. I expect both Saturday and Sunday to be mainly hot and dry due to subsidence upwind of the meso-low and downwind of the synoptic ridge. If there should be any showers or storms it will be across the eastern zone as moisture wraps around Barry as it lifts northward over parts of the Southern Mississippi Valley. Overnight Sunday into Monday, the flow near the surface returns to southeasterly that will increase the dew point temperature and humidity. The highs are progged to be in the mid to upper 90s with the lows in the lower to upper 70s through the end of the forecast period.

LIFTING MECHANISM:

Outflow Boundary, Warm Moist Air Advection, Upper-Level Low

THERMODYNAMIC INDICES (12Z KCRP)

Freezing Level (m)	4892.19	CAPE (J/Kg)	1443.5
Precipitable Water (inches)	2.08	CINH (J/Kg)	53.73
LCL	1240.00	LI (°C)	-5.28
CCL	1423.46	PB	-5.83
CRP ICA	-22.98	Cloud Base Temp (°C)	25.1
Cloud Base (meters)	1737.36		
Warm Cloud Depth (meters)	3154.83		

DISCUSSION:

The started off mainly quiet the turned semi-active during the afternoon hours with feeder bands moving into Tropical Storm Barry. With enough moisture and daytime heating, isolated cells developed over the northern half of the target area as well as dropped in from the north. 57AA was first launched over the Uvalde County where a few cells formed. 57AA was able to seed one cell with the full dosages of seeding materials. The other cell was too weak by the time the aircraft had gotten to it. Both cells were side by side each other. The aircraft then directed to go to the Bandera County with it successfully seed a second cell. 57AA returned to base when cell ceased to develop. Eventually, cells began to redevelop with the proximity of the Uvalde airport. 57AA was called back to the air for another round of seeding. However, the pilot had some issues shooting out the flares, either it was mechanical or electrical; thud, 57AA was not able to seed the rest of the evening. Seeding was suspended for the evening as no other pilots were available to fly.

WATCHES/WARNINGS:

N/A

SEEDED CELL ID'S:

426	483								
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FLIGHT INFORMATION:

TIME (Z)	Plane	Flare Location	County
20:15	57AA	In Air	
20:20	57AA	29.00 N, 99.80 W	Uvalde
20:24	57AA	29.35 N, 99.79 W	Uvalde
20:26	57AA	29.33 N, 99.81 W	Uvalde
20:32	57AA	279° @ 73 nm	Uvalde
20:37	57AA	278° @ 73 nm	Uvalde
20:59	57AA	311° @ 59 nm	Bandera
20:01	57AA	311° @ 60 nm	Bandera
20:03	57AA	310° @ 60 nm	Bandera
20:06	57AA	312° @ 61 nm	Bandera
20:11	57AA	307° @ 60 nm	Bandera
21:42	57AA	Recon	
22:24	57AA	In Air	
22:46	57AA	Landed	

Seeding operations were conducted in Bandera (10+0H) and Uvalde (10+0H) Counties. 20 flares plus 0 hygroscopic flares were burned within 2 clouds. This is the 3rd day for seeding in July and the 17th day for seeding during the season.