



# West Texas Weather Modification Association

Monthly Operations Report

## August 2023 Operations Report

The month of August contained 4 days of operations.

<b>Date</b>	<b>Flares</b>	<b>Counties seeded</b>
<b>8/10</b>	<b>31G+3H</b>	<b>Sterling, Irion, Tom Green</b>
<b>8/21</b>	<b>13G+1H</b>	<b>Crockett</b>
<b>8/26</b>	<b>30G+2H</b>	<b>Schleicher, Crockett, Tom Green</b>
<b>8/28</b>	<b>75G+8H</b>	<b>Sterling, Reagan, Irion, Schleicher</b>
<b>Total</b>	<b>149G+14H</b>	

August 2023 was once again dominated by high pressure aloft. This feature suppressed convective activity for much of the month while surface boundaries were lacking. Despite very hot conditions once again, storms were only able to develop on the 10<sup>th</sup>, 21<sup>st</sup>, 26<sup>th</sup>, and 28<sup>th</sup>. Operations were conducted each of these four days with the best coverage taking place on the 28<sup>th</sup> where 75 glaciogenic flares and 8 hygroscopic flares were used on numerous clouds. Development on this day merged later in the evening pushing through the entirety of the target area with much of Sutton and southern Crockett County receiving benefit. Overall, 149 glaciogenic flares and 14 hygroscopic flares were used through the month with a total of 12.1 flight hours.

San Angelo recorded 0.29” of precipitation during the month which is far below the monthly average of 2.42”. This brings the annual total only to 9.24” which is 4.71” below normal through August. Both Abilene and Midland are struggling as well with Midland’s annual total is only 1.58”. Through August, northern Tom Green County, parts of Sutton and Schleicher Counties, and parts of western Crockett and northern Sterling Counties are doing well, but certainly not well enough.

Looking ahead into fall, El Nino is present and strengthening. The response from this should be felt sooner than later. September does look to have better chances as frontal boundaries will become more common as the transitional season takes place. ENSO conditions are usually elevated during the fall and spring, and though models are not favoring either below or above average precipitation for the month, the thinking is that we’ll begin to see better conditions take place throughout the month and into October then we have seen for much of the year. The US Drought Monitor shows drought persisting through the month with extreme drought (D3) conditions spreading westward into Sutton and Schleicher Counties, with much of the rest of the target area in Severe Drought (D2).



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Monthly rain gauge measurements from nearest locations inside and out of the target area recorded either by the National Weather Service, Texas Tech University, Mesowest as well as CoCoRaHS.

### August 2023 (Normal's of 1.72" from Midland to 2.42" in San Angelo)

Crockett County		Sterling County		Area Average	
Ozona 32SW	0.76	Sterling City (TTU)	0.84	0.49	
Escondido Draw	0.49	Irion County			
Ozona 19.6S	-	Mertzon (TTU)	0.70	Out of Target Area	
Ozona Airport	0.02	Mertzon (S)	-	Junction (Kimble)	0.19
Fort Lancaster	0.31	Barnhart	0.37	Abilene (Taylor)	0.46
Reagan County		Tom Green		Midland (Midland)	0.00
Big Lake (TTU)	0.07	Wall	0.28	St. Lawrence (GL)	0.06
Acton Ranch	-	San Angelo 7NW	0.45	Lomax (Howard)	0.68
Schleicher County		Knickerbocker	0.13	Fort McKavett (MN)	0.90
Eldorado 0.2	1.47	Carlsbad	0.42	McCamey (Upton)	0.19
Eldorado 22.6ENE	-	Miles	0.52	Menard (Menard)	0.82
Eldorado 14.5ENE	0.27	San Angelo (NWS)	0.29		
Sutton County		Christoval	-		
Sonora	0.68	Water Valley	0.35		
Sonora 23.9E	0.88				

### Year to Date (Normal's of 9.33" from Midland to 13.95" in San Angelo)

Crockett County		Sterling County		Area Average	
Ozona 32SW	9.77	Sterling City (TTU)	9.23	9.09	
Escondido Draw	9.07	Irion County			
Ozona 19.6S	-	Mertzon (TTU)	11.69	Out of Target Area	
Ozona Airport	2.91	Mertzon (S)	-	Junction (Kimble)	8.97
Fort Lancaster	10.98	Barnhart	4.40	Abilene (Taylor)	16.19
Reagan County		Tom Green		Midland (Midland)	1.58
Big Lake (TTU)	4.54	Wall	10.96	St. Lawrence (GL)	6.06
Acton Ranch	-	San Angelo 7NW	14.36	Lomax (Howard)	7.75
Schleicher County		Knickerbocker	12.89	Fort McKavett (MN)	11.98
Eldorado 0.2	8.08	Carlsbad	10.87	McCamey (Upton)	3.78
Eldorado 22.6ENE	-	Miles	12.76	Menard (Menard)	10.13
Eldorado 14.5ENE	9.25	San Angelo (NWS)	9.24		
Sutton County		Christoval	-		
Sonora	9.54	Water Valley	8.67		
Sonora 23.9E	11.08				