



West Texas Weather Modification Association

Monthly Operations Report

September 2018 Operations Report

The month of September contained 2 days of operations.

Date	Flares	Counties seeded
2	92+1H	Tom Green, Irion, Crockett, Schleicher, Sutton
3	28+1H	Schleicher
TOTAL		

September 2018 will be month to remember for some areas due to heavy rainfall and localized flash flooding. The month was dominated early by strong southeaster surface winds advecting plentiful moisture into our region. Dew points in the upper 60's to low 70's fueled showers and thunderstorms on both the 2nd and 3rd of September which resulted in weather modification operations on both days. On the 3rd, seeding took place near the town of Eldorado with very low cloud bases. In fact, seeding could only take place for an hour or so before clouds got dangerously low on us. Once the flash flooding started on the 4th, operations could not be conducted for a variety of reasons. First, flash flood watching, and quick trigger warnings were in place for much of the period. Additionally, unsafe flying conditions were present with very low cloud bases, low visibilities and heavily embedded convection. Regardless, seeding was not needed as very efficient showers and storms took over, especially across portions of Crockett, Schleicher and Sutton Counties. Rainfall totals of 10-15", and in some cases exceeding 15", took place for the month. Damaging flooding took place in the city of Sonora were several homes were unfortunately damaged. Drier conditions did take place to end the month and continued into the first part of October. However, looking ahead into the month of October, more wet weather could be on the way.

Precipitation totals for all areas were well above normal. However, certain areas saw monthly rainfall totals exceed 10". The areas hardest hit was in Schleicher and Sutton Counties. Over 15" fell in Eldorado with totals likely higher just ENE of Eldorado. For San Angelo, rainfall totals at Mathis Field were 6.66" which is 4.20" above the monthly average of 2.46". This takes the annual total to 20.19" exceeding the average of 16.53" by 3.66". Abilene also saw rainfall above average for the month with a total of 5.75". Despite being 3.51" above average, the annual total of 17.91" is still short of the annual average by 1.29". Although Midland did not see the impressive totals compared to the Concho Valley, the 2.69" recorded was still 0.83" above average. A deficit remains for the annual, but only by 0.39". The annual total so far for Midland this year is now 11.19". Temperatures were cooler than average in both San Angelo and Abilene. Abilene recorded a monthly temperature of 74.1°F with San Angelo at 75° even. Midland was a bit warmer with a monthly average of 75.2°F which is 0.7°F above average.

Historically, this was the 3rd wettest September for San Angelo since 1950, and the 6th wettest on record (since 1904). Additionally, this September was the coolest since 2009. San Angelo only recorded 2 days of temperatures exceeding 90°F, second lowest on record with only 1967 having fewer (1).



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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.

September 2018 (Averages of 1.86" from Midland to 2.24 in San Angelo)

Crockett County		Reagan County		Tom Green	
Ozona 32SW	4.29	Big Lake (TTU)	6.64	Wall	9.42
Ozona 20.9SSW	6.68	Big Lake (NWS)	3.15	San Angelo 7NW	8.03
Ozona 19.6S	4.88	Cope Ranch		Knickerbocker	8.27
Ozona 15SSW	5.54	Sterling County		Carlsbad	5.50
Ozona Airport	4.95	Sterling City (MES)	5.22	Miles 6.5SSE	6.12
Irion County		Sterling City (TTU)	4.74	San Angelo (NWS)	6.66
Mertzon (TTU)	6.44	Sterling City 0.7NW	5.55	Out of Target Area	
Mertzon (S)	6.21	Sutton County		Junction (Kimble)	7.22
Barnhart	5.02	Sonora Average	10.40	Midland (Midland)	2.69
Schleicher County		Sonora Airport	12.21	Abilene (Taylor)	5.75
Eldorado 0.2	15.11	AREA AVERAGE		St. Lawrence (Glasscock)	2.36
Eldorado 22.6ENE	13.79	7.33		Lees (Glasscock)	-

Year to Date (Averages of 11.58" from Midland to 16.53" in San Angelo)

Crockett County		Reagan County		Tom Green	
Ozona 32SW	12.53	Big Lake (TTU)	11.92	Wall	24.50
Ozona 20.9SSW	15.28	Big Lake (NWS)	9.23	San Angelo 7NW	22.47
Ozona 19.6S	16.51	Cope Ranch		Knickerbocker	17.07
Ozona 15SSW	13.70	Sterling County		Carlsbad	18.00
Ozona Airport	9.60	Sterling City (MES)	13.50	Miles 6.5SSE	18.69
Irion County		Sterling City (TTU)	15.15	San Angelo (NWS)	20.19
Mertzon (TTU)	16.46	Sterling City 0.7NW	16.59	Out of Target Area	
Mertzon (S)	15.04	Sutton County		Junction (Kimble)	16.33
Barnhart	11.87	Sonora Average	23.56	Midland (Midland)	11.19
Schleicher County		Sonora Airport	24.53	Abilene (Taylor)	17.91
Eldorado 0.2	25.73	AREA AVERAGE		St. Lawrence (Glasscock)	8.0
Eldorado 22.6ENE	22.14	16.75		Lees (Glasscock)	-