

August 2011 Operations Report

August 02, 2011 – Seeding operations were conducted over Schleicher (4) and Tom Green (4) Counties. Although clouds remained small 8 flares were burned within 3 small clouds. A southwesterly flow produced enough moisture and heating for convection to occur.

August 10, 2011 - Seeding operations were conducted over Schleicher (4), Crockett (2), Irion (8), Reagan (12), and Sterling (15) Counties. 41 flares were burned within 12 clouds. A southwesterly flow coupled with a weak boundary produced enough moisture, heating and lift for convection to occur.

August 11, 2011 - Seeding operations were conducted over Schleicher (12), Crockett (6), Irion (7), Sutton (34), Glasscock (9) and Sterling (11) Counties. 80 flares were burned within 15 clouds. A southwesterly flow coupled with a boundary produced enough moisture, heating and lift for convection to occur.

August 12, 2011 - Seeding operations were conducted over Crockett (4) County. 4 flares were burned within 2 marginal clouds. Circulation over the San Angelo area created overcast conditions throughout much of the target area. A few clouds were able to get enough heating and lift to develop, however only two became seedable.

August 14, 2011 - Seeding operations were conducted over Sutton (30), Schleicher (33) and Crockett (2) Counties. 65 flares were burned within 16 clouds. An outflow boundary provided enough lift to fire up storms.

August 25, 2011 - Seeding operations were conducted over Sutton (8), Crockett (31), Reagan (10), Glasscock (9) and Sterling (8) Counties. 66 flares were burned within 13 clouds. An extension of a cold front pushed through the area coupled with strong afternoon heating allowing for convection to occur.

August 28, 2011 - Seeding operations were conducted over Sutton (1), County. 1 flares were burned within 1 very small clouds. Day time heating surpassed the convective temperature allowing for showers and storms to produce east of target area.

August 29, 2011 - Seeding operations were conducted over Sutton (14), Crockett (9), Sterling (2), Irion (16) and Schleicher (51) Counties. 92 flares were burned within 16 clouds. Dryline coupled with daytime heating allowed enough lift to develop storms along the eastern target.

The month of August contained 8 days of operations

| Date | Flares | Counties seeded |
|-----------------------------|---------------|--|
| 02 | 8 | Schleicher, Tom Green |
| 10 | 41 | Schleicher, Crockett, Irion, Reagan, Sterling |
| 11 | 79+1H | Schleicher, Crockett, Irion, Sutton, Glasscock, Sterling |
| 12 | 4 | Crockett |
| 14 | 64+1H | Sutton, Schleicher, Crockett |
| 25 | 66 | Sutton, Crockett, Reagan, Glasscock, Sterling |
| 28 | 2 | Sutton |
| 29 | 91+1H | Sutton, Crockett, Sterling, Irion, Schleicher |
| | | |
| | | |
| Total Flares: 355+3H | | |

The beginning of August was dominated by a large high pressure and strong low level jet bringing the San Angelo area to 100+ degrees for the first 11 days of the month. Some small convection occurred early in the month in Schleicher and Tom Green counties however most of the target remained dry until the 10th of August. A surface low produced a boundary layer that draped across West Texas producing showers and thunderstorms in our northern and western counties on the 10th and 11th of August. On the 13th of August, a large scale rain system moved in from the north providing 5+ inches of rain in some areas of San Angelo. Flooding occurred throughout Tom Green county resulting in Flash Flood Warnings. Similar conditions occurred on the 14th however an outflow boundary and lack of cloud cover in the southern counties produced seedable clouds. The 12th (99°F), 13th (85°F) and 14th (91°F) were the only days of the month that did not reach the century mark due to the extensive cloud cover and rainfall. On the 15th of August a large ridge draped across Texas brought hot and dry weather back to the target area. Southerly flow and an 850 millibar thermal ridge brought 100°F temperatures back as well as dry conditions as no recorded precipitation occurred until the 25th. On the 25th a shortwave trough allowed for conditions to set up nicely for frontogenesis to occur allowing a lifting mechanism to produce rain showers and thunderstorms. Rain showers and storms occurred throughout most of the target area resulting in seeding operations over Sutton, Crockett, Reagan, Glasscock and Sterling Counties. The frontal boundary moved eastward allowing some dry weather to return, however a stray storm occurred on the 28th of August despite the lack of upper level dynamics. Daytime heating surpassed the forecasted convective temperature resulting in one small rain shower over Sutton County. One day later, on the 29th, a surface low pressure set up a dryline over the eastern half of the target area. Sutton, Crockett, Sterling, Irion and Schleicher Counties all had rain showers and storms. The 30th and 31st of August saw a return to hot and dry weather as zonal flow aloft prohibited any further development.

August held below average rainfall and above average temperatures for San Angelo and Midland. Abilene saw above normal rainfall and temperatures during August. San Angelo (Mathis Field) received a 1.64 inches of rain and was 0.51 inches below normal for August. Locally, however, more rainfall fell during the event from the 12-14th of August. Abilene received 3.91 inches of rainfall giving them 1.41 inches above normal for the month. Midland received a 0.45 inches of rain in August and was 1.33 inches below normal. All three sites are below normal for annual precipitation. San Angelo has recorded 4.58 inches, Abilene 10.39 inches, and Midland 0.61 inches for year-to-date. Respectively, each site was below normal by 9.38, 6.48, and 9.05 inches for the year.

Monthly rain gauge measurements from nearest locations inside and out of the target area recorded either by the National Weather Service, Weatherbug Sites, Wunderground or Mesowest sites are provided.

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|---------------------------------|------------------------|------------------|----------------------------|
| <u>NWS</u> | 0.24 | Cox Ranch | <u>Wunderground</u> |
| 1.64 Mathis Field | 0.00 | Ozona (15mi SSW) | 0.00 Mertzon |
| 3.91 Abilene | 1.26 | Sterling City | <u>Other</u> |
| 0.34 Junction | 0.59 | Christoval | 5.88 San Angelo (7NW) |
| 0.45 Midland | <u>CocoRaHS</u> | | 2.29 St. Lawrence |
| 0.30 Big Spring | 0.42 | Eldorado | 0.03 Big Lake |
| <u>Utah Mesonet/HADS</u> | 0.76 | Knickerbocker | 1.48 Wall |
| 0.00 Barnhart | 0.52 | Ozona (26.8 SW) | |
| 0.23 Sonora | 2.72 | Garden City | |