

July 2009 Operations Report

July 1, 2009 - Seeding operations were conducted over Crockett (6) and Glasscock (2). 8 flares were burned within 2 clouds. A surface trough and sufficient surface heating produced marginally seedable clouds over the western target.

July 2, 2009 - Seeding operations were conducted over Crockett (4), Glasscock (20), Irion (18), Reagan (5), Schleicher (17), Sterling (10), Sutton (1), and Tom Green (1). 76 flares were burned within 29 clouds, some of which merged together. A surface trough and sufficient surface heating produced marginally seedable clouds over the target area.

July 4, 2009 - Seeding operations were conducted over Glasscock (3), Reagan (3), and Sterling (2). 8 flares were fired within 3 clouds. A surface trough and sufficient surface heating produced seedable clouds over the northern target.

July 17, 2009 - Seeding operations were conducted over Crockett (17), Reagan (10), Schleicher (2), and Sutton (12). 41 flares were fired within 6 clouds, which had multiple cells. Outflow boundaries produced clouds that moved into the eastern target and later the western target.

July 18, 2009 - Seeding operations were conducted over Schleicher (1) and Sutton (11). 12 flares were fired within 2 clouds. A frontal boundary produced clouds that moved into the eastern target.

July 20, 2009 - Seeding operations were conducted over Irion (3), Reagan (9), and Schleicher (3). 15 flares were fired within 5 clouds. Remnant MCS from overnight convection spawned an MCV causing additional thunderstorms.

July 22, 2009 - Seeding operations were conducted over Crockett (5), Irion (10), Schleicher (3), and Tom Green (5). 23 flares were fired within 7 clouds with multiple cells. MCS moving eastward and associated new convection produced some seedable conditions.

July 29, 2009 - Seeding operations were conducted over Crockett (2), Irion (29), Schleicher (7), and Tom Green (10). 48 flares were fired within 7 clouds with multiple cells. A frontal boundary and surface heating produced seedable conditions.

July 31, 2009 - Seeding operations were conducted over Crockett (12), Irion (8), Schleicher (14), and Tom Green (2). 34 flares were fired within 6 clouds with multiple cells. A frontal boundary produced seedable conditions. This is the ninth day for seeding in July and 35th day for seeding during the season.

The month of July contained 9 days of operations

Date	Flares	Counties seeded
1	8	Crockett, Glasscock
2	76	Crockett, Glasscock, Irion, Reagan, Schleicher, Sterling, Sutton, Tom Green
4	8	Glasscock, Reagan, Sterling
17	41	Crockett, Reagan, Schleicher, Sutton
18	12	Schleicher, Sutton
20	15	Irion, Reagan, Schleicher
22	23	Crockett, Irion, Schleicher, Tom Green
29	48	Crockett, Irion, Schleicher, Tom Green
31	36	Crockett, Irion, Schleicher, Tom Green
Total Flares: 267		

July 2009 began as June had left off with a persistent trough over Baja and a ridge over Texas and New Mexico. While the ridge maintained position over the region, surface troughs and high levels of moisture maintained convective activity during the first few days. The ridge moved east during the first week with center over parts of East Texas, dominating weather through the middle of the month. 100-degree afternoons persisted for 14 days while the ridge shifted east and back to the Desert Southwest mid Month. The ridge centered over Arizona and New Mexico allowed for shortwaves within north-northwesterly flow to influence West Texas during the late half of the month. Monthly precipitation pushed the region above the annual normal by the 20th of the month and an additional heavy rain event on the 22nd put the region well above normal. A drier period for the target area occurred from the 23rd to the 28th although thunderstorms were present outside the target area and within the target over some areas during the overnight hours. The upper ridge retained position over Baja and Mexico through the end of the month with shortwave influence over parts of Texas bringing chance thunderstorms. Surface frontal boundaries and outflow boundaries also provided subtle lifting mechanism for which bountiful surface moisture and surface heating could use to develop thunderstorms. A desert Southwest high pressure ridge began to strengthen end of the month, but ample moisture and a frontal boundary allowed for seedable thunderstorms once again.

Rainfall in July was very good over most of the target area. Areas to the north, such as Abilene, were left out of these Julys' heavy rains. Mathis Field in San Angelo recorded 4.64 inches; an 8th place highest rainfall. Midland international recorded 6.55 inches; a 5th place highest rainfall. Abilene recorded 2.56 inches in July and 11.47 inches this year. Monthly departures from normal were: Abilene +.86, San Angelo +3.54, Midland +4.66. Annual departures from normal were: Abilene -1.30, San Angelo +2.08, and Midland +2.79.

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.

NWS

4.64 Mathis Field
 2.56 Abilene
 3.81 Junction
 6.55 Midland
 1.71 Big Spring
 1.62 Sonora

CocoRahs

3.73 Eldorado
 1.97 Knickerbocker
 0.30 Ozona (26 SW)
 0.86 Iraan
 3.03 Garden City
 0.49 Sheffield

2.82 Cox Ranch
 0.43 Ozona (15mi SSW)
 0.90 Iraan

Other

4.82 San Angelo (7NW)
 4.55 St. Lawrence
 5.49 Mertzson
 6.86 NE Sutton

Wunderground

3.55 Sterling City
 3.39 Mertzson

Utah Mesonet

1.56 Barnhart