

SOUTH TEXAS WEATHER MODIFICATION ASSOCIATION - PLEASANTON, TEXAS

SEEDING REPORT - JULY 20, 2009

SYNOPTIC/MESOSCALE CONDITIONS:

Weak diffluence at 250mb over south Texas; 500mb high centered over far northwestern Mexico with ridging over western half of country into SW half of Texas; 500mb trough over the eastern half of the country; shortwave at 500mb and 700mb moving southeast across west-central Texas with associated small MCS; surface high pressure over Gulf; marginal moisture availability, with PW values 1.35"-1.65"; weak to moderate instability, with CAPE values to 2000 J/kg and LI's to -5; convective temperatures 101°F at CRP and 107°F at DRT; seabreeze front moving inland during the afternoon/early evening; outflow boundary associated with decaying MCS moving south across target area.

LIFTING MECHANISM:

Intense surface heating; lift from approaching shortwave; convergence along seabreeze front; convergence from seabreeze/outflow collision.

DISCUSSION:

As was the case a couple days ago, a shortwave was riding southeast between the ridge to the west and the trough to the east. Associated with this shortwave was a small MCS that was moving slowly into the northwestern target area. A plane was sent up to intercept the incoming MCS with some seeding taking place along the leading edge. Plentiful cirrus blowoff from the MCS spread over much of the target area, limiting heating. An outflow boundary began to race out ahead of the MCS, which cut off inflow to the complex and it began to weaken. However, during the early evening hours it became apparent that the seabreeze front which was moving through the eastern target area would collide with the outflow boundary, and this occurred in a line from near Pleasanton northeast to near LaVernia, where explosive thunderstorm development took place. This activity was seeded quickly and early as it developed rapidly.

WATCHES/WARNINGS/LIMITATIONS:

Flood Advisory - Bandera Co.: 2129-2330 UTC.

Severe T-storm - E Atascosa/Karnes/Wilson Cos.: 0026-0130 UTC.

The pyrotechnics were 40g AgI flares and 1000g hygroscopic flares. 48 AgI flares were burned in Uvalde (2), Medina (16), Wilson (23) and Atascosa (7) counties, totaling 1920g of AgI. Three hygroscopic flares were burned in Medina (1), Wilson (1) and Atascosa (1) counties, totaling 3000g of CaCl.