

June 18, 2014 Severe Weather Event in Midland

During the evening of June 18, 2014 a line of severe thunderstorms moved through the Midland, TX area accompanied by very heavy rain, hail up to an inch in diameter, and damaging winds. The thunderstorms formed along a surface convergence line west of Midland late in the afternoon and moved east; reaching Midland around 8 PM CDT.

The radar at the Weather Forecast office in Midland was able to show the structure of these storms as well as the near surface winds. Figure 1 is the 8.0 degree angle slice of the velocity profile which shows the rear inflow jet which led to “bowing” of the line of severe thunderstorms (7:44 PM CDT). The bright green color shows the winds moving toward the radar (KMAF). Winds were in excess of 60 kt moving toward the radar.

Figure 1: Velocity profile at the 8.0 degree angle.

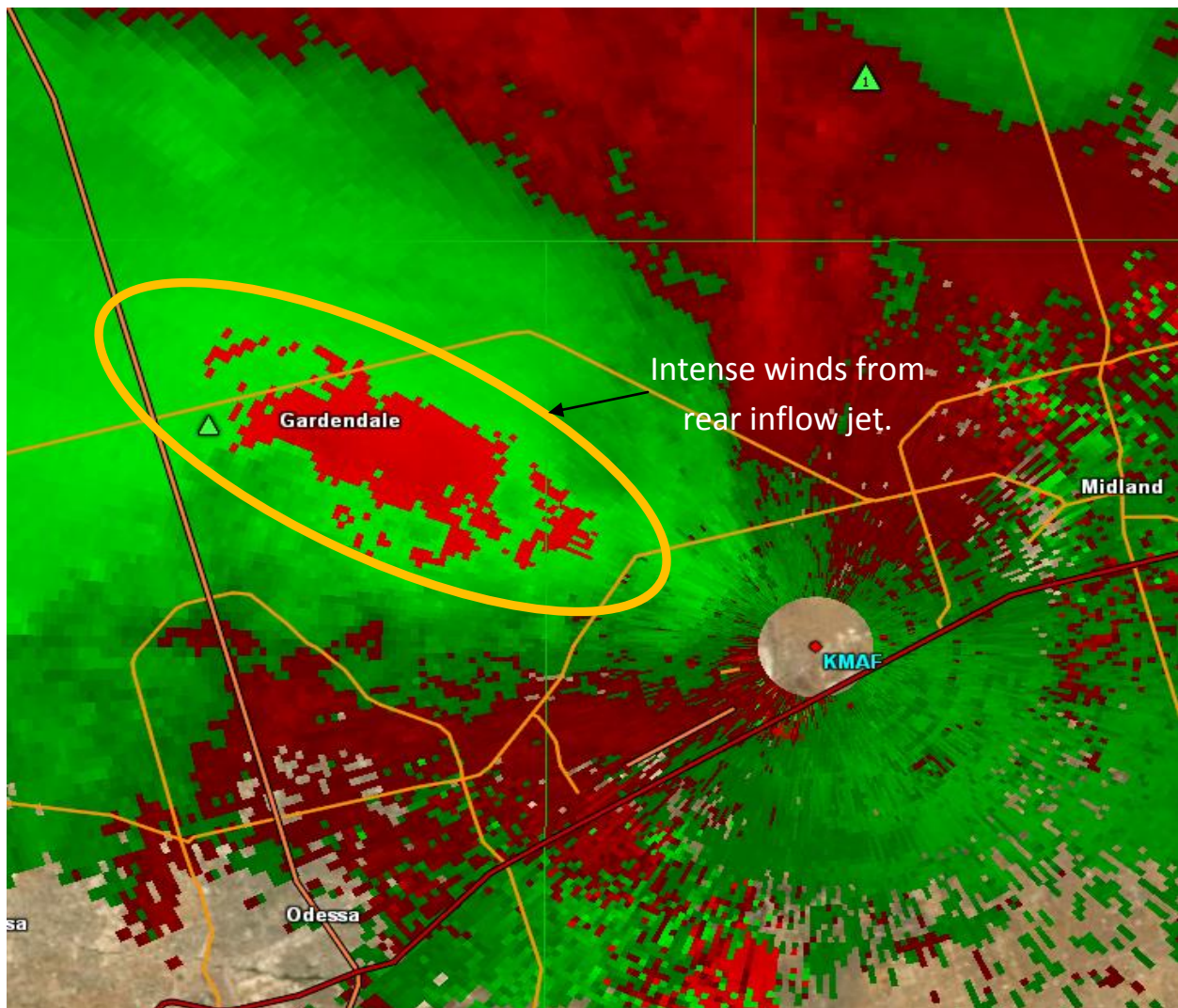


Figure 2 is the 8.0 degree angle slice of the reflectivity profile which shows drying from the rear inflow jet as well as the “bowing” of the line of severe thunderstorms (7:44 PM CDT).

Figure 2: Reflectivity profile at the 8.0 degree angle.

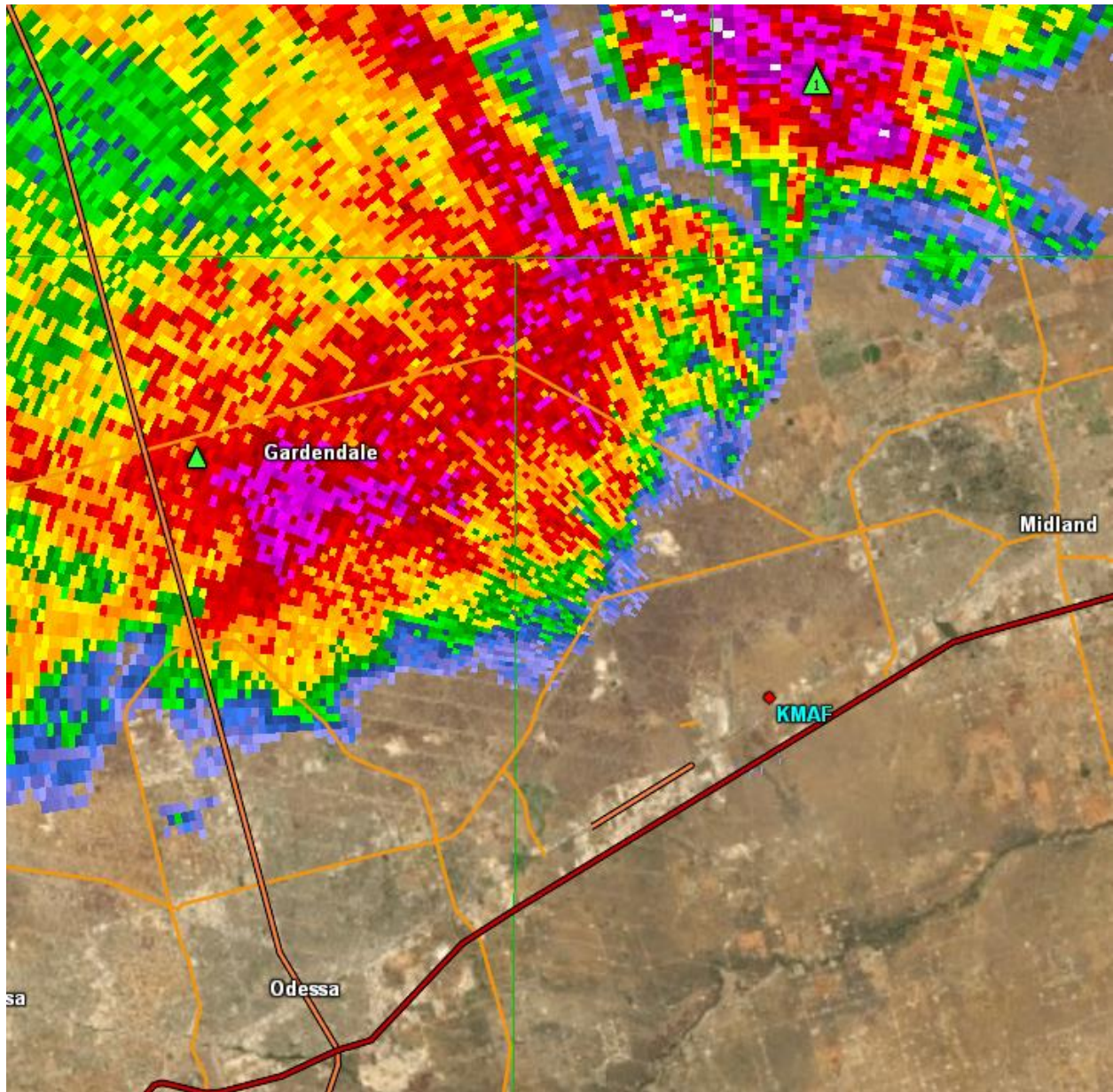


Figure 3 is the 0.5 degree angle slice (lowest slice near the surface) of the velocity profile which shows near surface winds in excess of 55 kt moving toward the radar (KMAF) (7:44 PM CDT).

Figure 3: Velocity profile at the 0.5 degree angle.

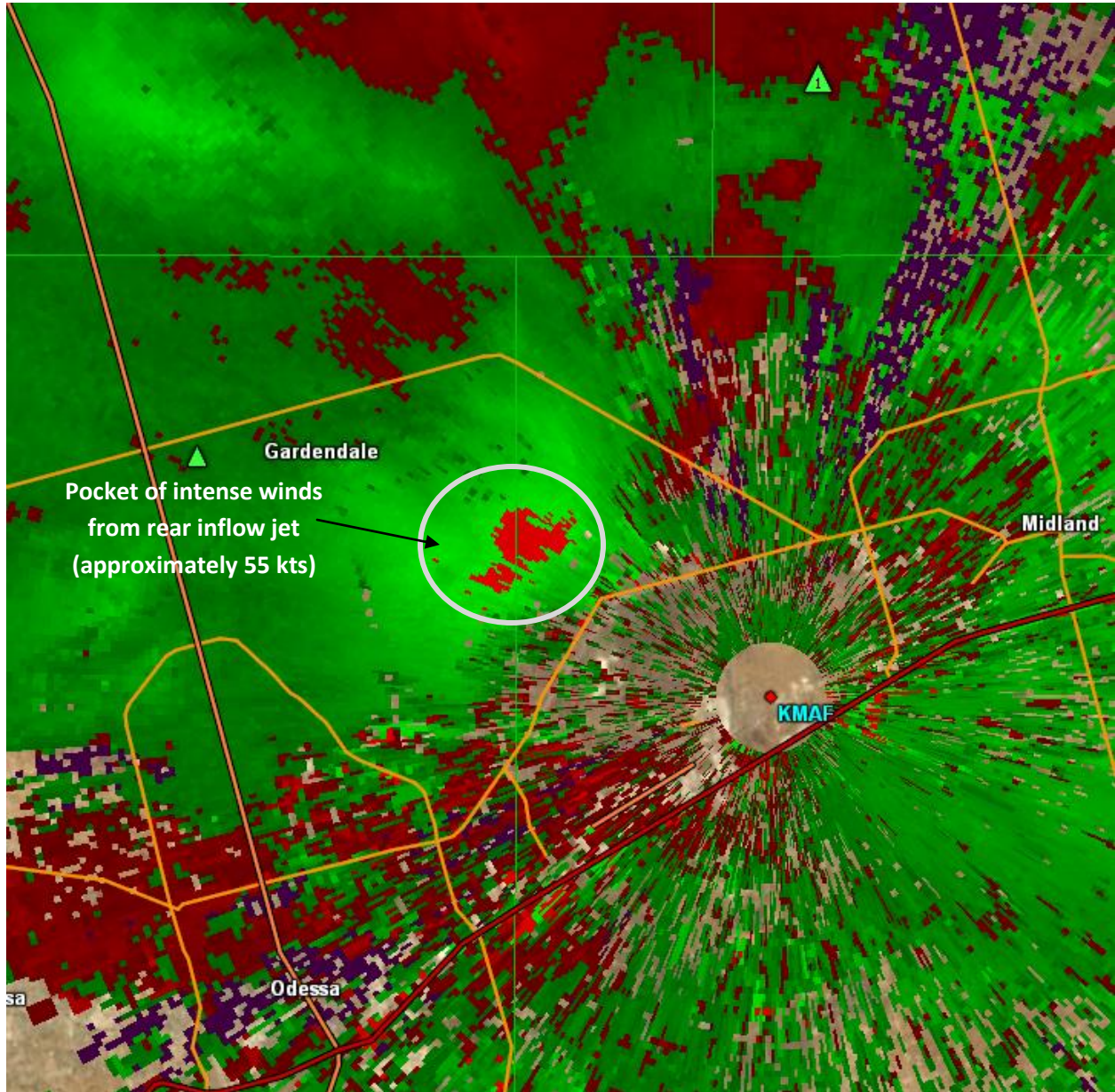
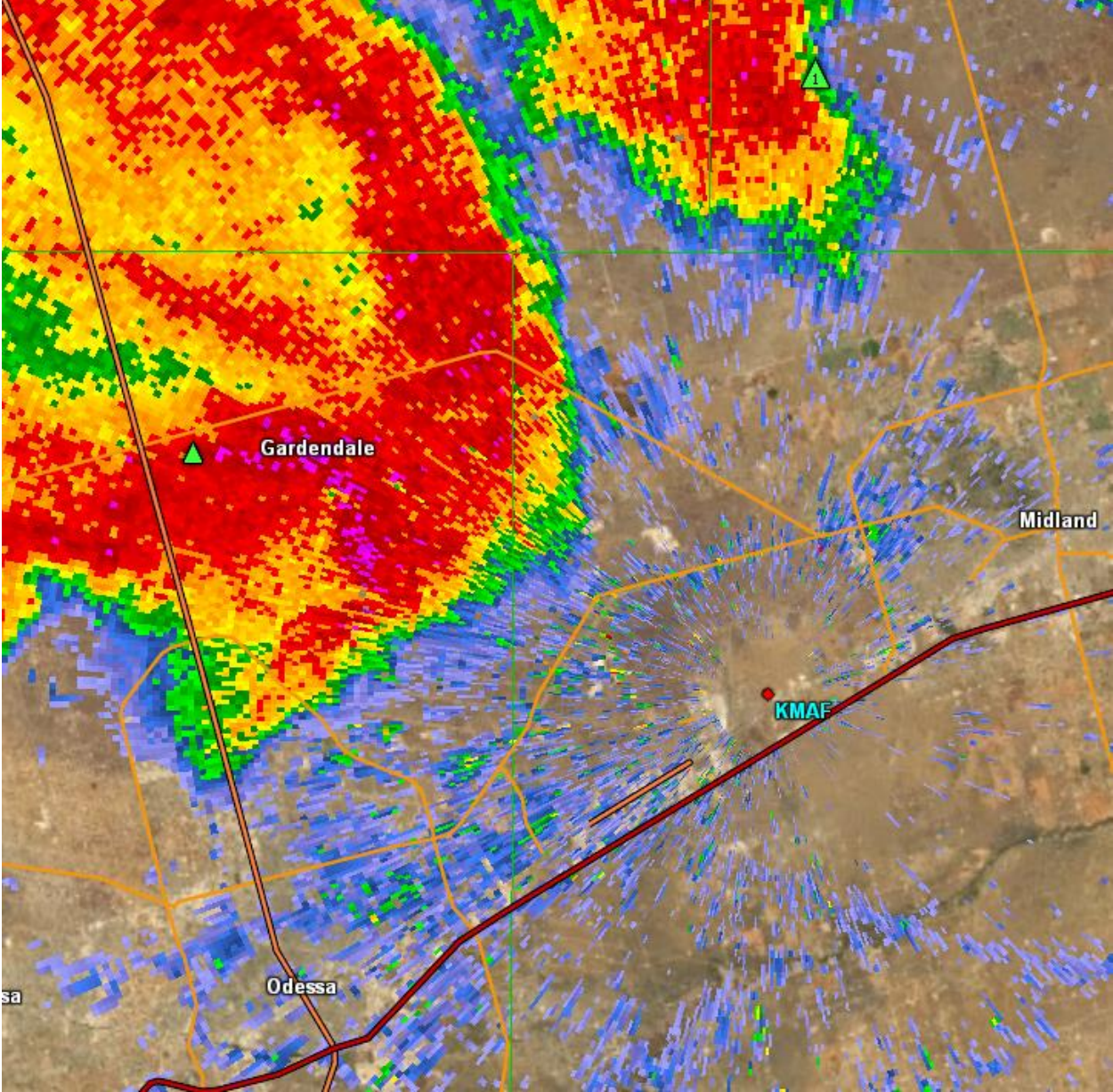


Figure 4 is the 0.5 degree angle slice (lowest slice near the surface) of the reflectivity profile which shows the “bowing” structure of the line (7:44 PM CDT).

Figure 4: Reflectivity profile at the 0.5 degree angle.



Very heavy rain fell in the Midland area, with most of the rain falling in a one hour period. There were numerous reports of flooding in and around Midland. Some of the flooding reports included:

- Water rose to the doors of Fannin Elementary School.
- Portions of Wadley Avenue were under 1.5 feet of water.
- Portions of Highway 191 near Loop 250 were flooded.

Here are some of the rainfall reports from the CoCoRaHS (Community Collaborative Rain, Hail, and Snow Network):

<u>Location</u>	<u>Amount</u>
Midland 3.0 WSW	1.85 inches
Midland 1.7 NW	1.66 inches
Midland 1.4 NW	1.59 inches
Midland 1.9 SSE	2.30 inches
Midland 1.1 WSW	1.82 inches
Midland 2.0 S	1.94 inches
Midland 2.7 S	1.27 inches
Midland 2.1 W	2.26 inches
Midland 1.9 WNW	1.62 inches

Damaging winds (gusting to an estimated 80 mph) were also reported as the line of severe thunderstorms moved across Midland. Midland International Airport recorded a gust to 64 mph at 8:02 PM CDT. Trained spotters reported wind damage across sections of Midland. Damage reports included:

- 7 to 8 power poles blown down in northeast Midland.
- 11 travel trailers blown over in northwest Midland.
- 1.5 inch diameter tree branches broken in northwest Midland.
- Tractor Trailer overturned in northeast Midland.
- A 5 foot diameter tree snapped and another was uprooted at the Greenwood Cemetary.

Figure 5: Overturned travel trailer in northeast Midland (courtesy of Chris Dewrell).



Figure 6: Overturned travel trailer in northeast Midland (courtesy of Chris Dewrell).



Figure 7: Overturned travel trailer in northeast Midland (courtesy of Chris Dewrell).



Figure 8: Snapped power poles in northeast Midland (courtesy of Chris Dewrell).



Figure 9: Snapped power poles in north Midland (courtesy of Russell Nix).

