



Summer 2007



The February 24th, 2007 southeast Arkansas severe weather event Chris Buonanno / Brian Smith

A powerful storm system affected much of the Mid South on February 24, 2007. Over twenty tornadoes were reported, eight of which affected southeastern Arkansas. Thirty nine injuries were reported as a result of the tornadoes in Arkansas with the community of Dumas, taking a direct hit.

Early in the morning of February 24, a powerful storm system approached Arkansas from the west.

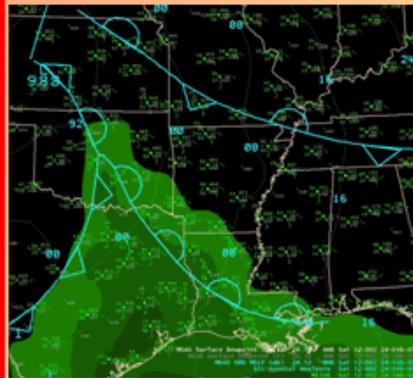


Figure 1. Surface analysis from 6am on February 24, 2007.

By early afternoon, this system had entered Arkansas. An area of warm, moist, and unstable air had entered southern portions of the state. This warm sector region was coincident with a pronounced region of wind shear; that is, winds that change direction and speed with height.



Figure 2. Surface analysis from noon on February 24, 2007.

This particular orientation of wind shear, along with the distribution of instability provided an environment where...

- 1) thunderstorms that formed could develop into supercell thunderstorms, and
- 2) supercell thunderstorms that did form would have the potential to produce tornadoes.

Although there were many thunderstorms that occurred during the daylight hours of February 24, only storms that formed in, and remained in the warm sector were able to grow large enough to produce tornadoes.

