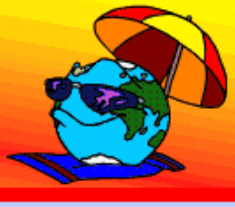
Summer 2007



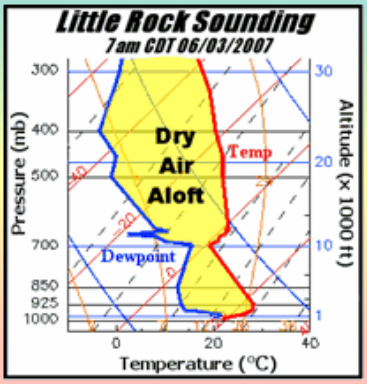
Summer Storms...

John Lewis

When Summer arrives, mostly dry and hot weather take over in Arkansas...with lesser chances for severe weather (than in the Spring). Even so, severe storms can still occur...and they are most likely during the heat of the afternoon and evening. Pulse storms are the most common type of severe storm in Summer. They generally develop vertically very quickly, and then collapse just as fast (a life cycle of 30 minutes or less). Due to weak steering winds aloft, they remain nearly stationary.

In the picture: A look at a pulse severe storm near England (Lonoke County) from 25 miles away at the North Little Rock Airport on 08/18/2007.

As a pulse storm grows, warmth and moisture are driven into a somewhat dry atmosphere aloft. Given this, some of the moisture will evaporate at first...which creates cooling. The more cooling that occurs, the more the air aloft will have a tendency to sink toward the ground. The cooling process and sinking motion can become extreme on a hot (temperatures approaching 100 degrees) and dry day, with strong to damaging winds driven toward the ground.



In the picture: A sounding (temperature and dewpoint profile) at Little Rock (Pulaski County) as of 7 am CDT on 06/03/2007. The sounding showed limited moisture was available (temperatures and dewpoints far apart), but there was just enough to create isolated thunderstorms

These "downburst" winds spread out once they hit the ground, and are often marked by outflow boundaries on the WSR-88D (Doppler Weather Radar). As the boundaries spread out, storms are cut off from their fuel supply (warmth and moisture)...and they tend to weaken quickly.

Before they collapse, pulse storms can produce heavy to excessive rainfall in a small area (especially if they last longer than their normal life cycle). Motorists can go from not even a drop of rain to a deluge and possible flash flooding almost instantly.