1. Early morning. Clear skies overnight allow “radiative cooling” of the ground. Low surface temperatures result in an “inversion” of the column near the surface. Dew or fog may be seen.

5. Evening. Storms. Low-level air has become sufficiently buoyant to break through the inversion aloft, it rises rapidly. Convection, turbulent motion and precipitation mixes air throughout the column.

2. Morning. Skies still clear. Sunlight warms the surface, destroying the night-time inversion and creating an “unstable” profile.


3. Mid-day. Developing cumulus clouds. Surface warming makes air near the surface buoyant. After this air rises, or “convepts,” it creates a “capping inversion,” a layer of stable air aloft.

4. Afternoon. Cloudy. Surface air, trapped by the inversion aloft, warms and becomes increasingly unstable.