

### III.

## Energy in the Atmosphere

- Earth's systems have internal and external heat engines, which create heat.
  - Internal: friction, radioactivity left over from formation.
  - External: SUN
- Precipitation / Weather results from the heating of the atmosphere from the sun.
- The transfer of energy from the atmosphere, hydrosphere, and the Earth's interior results in the formation of regions with different Densities.
- Density differences between regions results in motion of air and weather.

### IV.

## Hazardous Weather

- Loss of property, personal injury, and loss of life can be reduced by effective emergency preparedness.
  - Thunderstorms - updrafts and downdrafts of air occur because of unequal heating.
  - Strong up and down drafts keep water droplets up in the air longer. Because of the up and down movements electrical charges build up.
  - Sparks are given off in the form of lightning.
  - Stay away from trees, don't use electrical appliances, telephone, shower (any plumbing).
- Tornadoes are small, brief disturbances that usually develop over land from intense thunderstorms (from hot/wet air mixing with cold/dry air).
  - Narrow - 100 feet in diameter, can last up to an hour, wind speeds up to 320 mph
  - Go into the basement, cover your head and body, stay away from windows
  - Occur in the spring and summer in the plains and in the SE.
- Hurricanes regions of very low pressure, cyclones, that form over open water, huge swirling wind mass.
  - Lose energy as they travel over land
  - Have high winds 74 mph or more, storm surges, causes massive flooding
  - Occur from June to November along the SE coastlines.
  - Evacuation from homes

