**Severe Weather**

1. Flash Floods
	1. Precipitation exceeds infiltration rate and/or river carrying capacity
	2. Where? desert, valleys, coast, flood plains
	3. Most deadly disaster
2. Thunderstorm = Low pressure systems
	1. Conditions for formation:
		1. Source of moisture (ocean, lake, etc.)
		2. Lifting of air mass (cold front pushes warm air up)
		3. Unstable atmosphere (surrounding air is cooler = cloud formation)
	2. Stages:
		1. Cumulus Stage: air rises = updraft = water vapor condenses = cumulonimbus cloud formation = latent heat released = cloud droplet size increases = droplets too heavy = precipitation
		2. Mature Stage: updraft-downdraft convection cell
		3. Dissipation Stage: supply of warm, moist air depleted
	3. Heavy rain, lightning, thunder, strong winds, hail
	4. When occur most often: Summer when air is warm, moist, & unstable
	5. Supercells = large single-cell thunderstorms with strong rotating updrafts; produce tornadoes
3. Hail = ice pellets
	1. Updraft-downdraft cycle; water freezes in upper part of cloud, ice sinks & rises increasing in size; when too heavy – falls
4. Tornado (Fujita scale F-0 to F5 (40 – 200+ mph winds) = Low pressure system
	1. Large temperature variation between ground & atmosphere
	2. Air rises rapidly
	3. Air condenses rapidly
	4. Clouds & Thunderstorm forms
	5. Updrafted air reaches tropopause
	6. Jetstream sucks air from top of thunderstorm
	7. Increase updraft from ground
	8. Wind & turbulence forces air to spin
	9. Vortex (mesocyclone) forms
	10. Funnel touches ground
5. Cyclones over water = Low pressure systems
	1. Atlantic = Hurricane; Tropical storm-- Saffir-Simpson Scale Category 1 – 5 (74 -156+ mph winds)
	2. Pacific = Typhoon
	3. Indian Ocean = cyclone
6. Anticyclone = high pressure systems = calm, sunny weather
7. Blizzard = freezing temps, 35+ mph winds, blowing snow reduces visibility, 3+ hours