

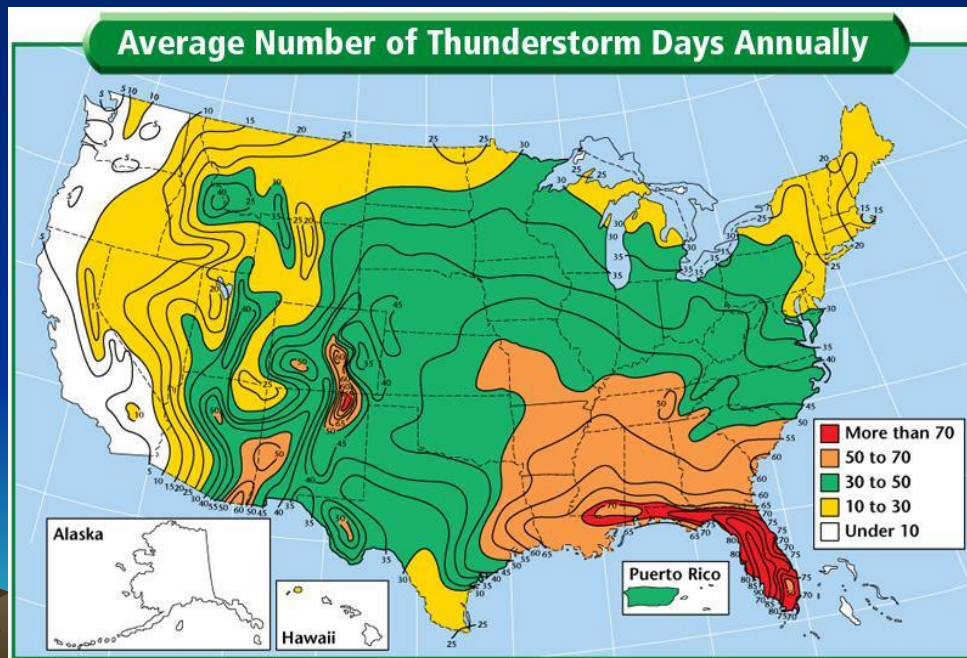
# Severe Weather

## Unit 8



# Formation of T-Storms

- **~2000** worldwide; Lasts **~30 mins**; **~15 miles** in diameter



# Formation of T-Storms



- Conditions:

- 1. Abundant moisture in lower atmosphere
- 2. Lifting of **air** to **condense** moisture and release latent heat

# *Classification of* T-Storms



# Air-Mass T-Storms



- Rising air due to unequal heating on Earth's **surface** within one **air mass**

# Frontal T-Storms

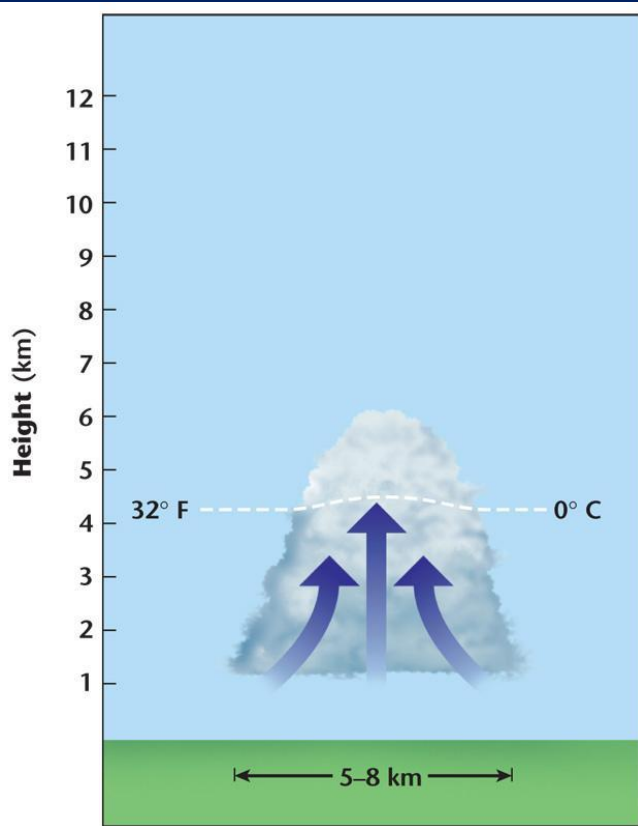
- Advancing **cold front** (air) replaces warm air



# Stages of Development



# 1. *Cumulus* Stage



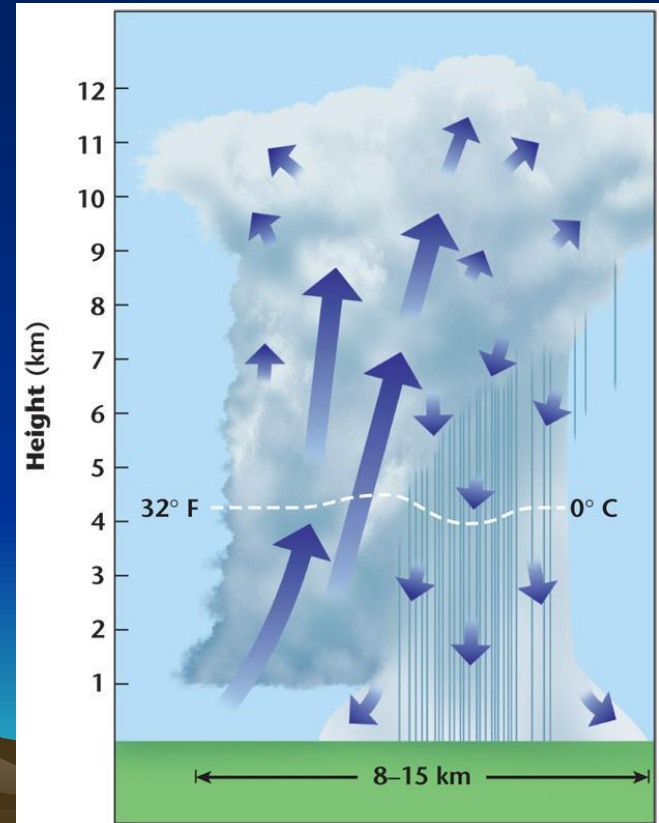
- Air rises vertically
- Cloud droplets coalesce (combine)

– Fall as precip

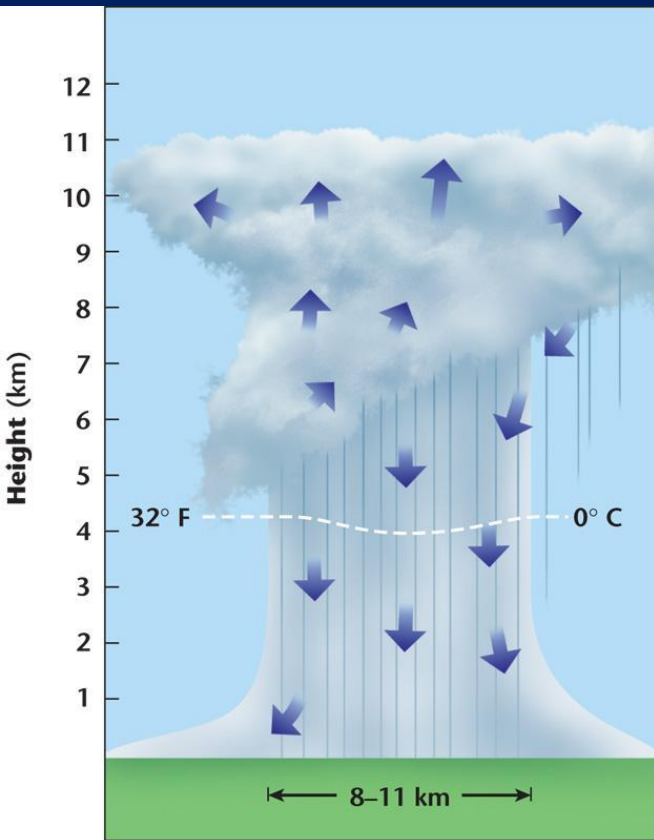


# 2. *Mature Stage*

- Precip sinks cool air
- Creates downdrafts
- Updrafts & downdrafts form convection cell



# 3. *Dissipation Stage*



–Supply of  
*warm, moist*  
air runs out

# *Classification* of *Lightning*



# LIGHTNING

- Continuous supply of surface moisture
- Lifts and condenses warm air



# LIGHTNING

- Electrical ***discharge*** caused by ***friction*** within ***cumulonimbus*** clouds



# LIGHTNING

- Heats air **~54 000°F**
- **Thunder** - Superheated air rapidly **expands** and **contracts**



# Classification of Tornadoes



# TORNADOES



- **Violent**, whirling **column** of air contacting ground
- Formed when wind **speed** and **direction** change suddenly with



# Classification of Tornadoes

- Fujita Scale – Classified according to **wind speed, duration, and destruction**

- Ranges from **F0 – F5**

- **F0 = Up to 75 mph**

- **F5 = >310 mph**

