

WATER IN THE ATMOSPHERE

Chapter 18.1

GREENHOUSE EFFECT

- **Carbon Dioxide** = Increases *global* temps
- **Water Vapor** = Source of *condensation* and *precipitation*
- **Greenhouse Gases** (Absorbs heat energy)
- Leads to **Greenhouse Effect** (Traps Sun energy in lower atmosphere)

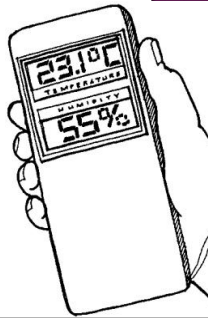
HUMIDITY

- Quantity of **water vapor** in *air* (*content*)



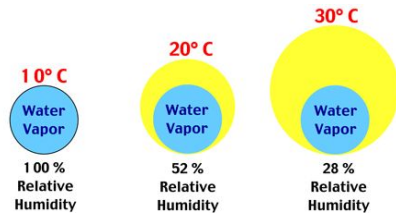
HUMIDITY

- **Saturated** - **Max** amount of **water vapor** that air can hold (*capacity*)



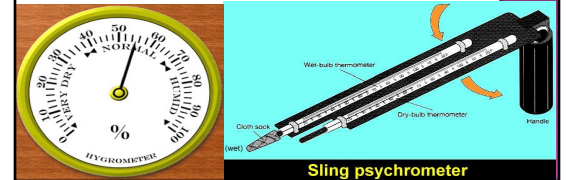
RELATIVE HUMIDITY

- **RATIO** of air's water vapor *content* compared to its *capacity*



MEASURING RELATIVE HUMIDITY

- **Hygrometer** - **Moisture** content in atmosphere
- **Psychrometer** - **dry-bulb/wet-bulb** thermometers
- Measures **difference** in temp



DEW POINT

- **Temp** to which **air** needs to be **cooled** to reach **saturation**

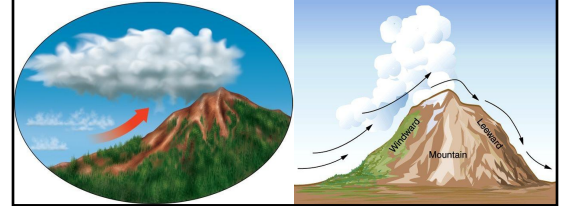


CLOUD FORMATION

Chapter 18.2

PROCESSES THAT LIFT AIR

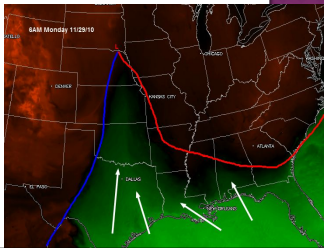
- **Orographic Lifting** - **Wind** encounters a **mtn** and travels **UP**
 - Air **expands** & **cools** producing clouds



PROCESSES THAT LIFT AIR

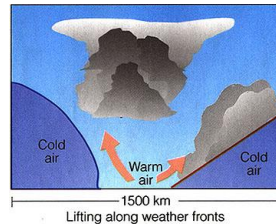
- **Frontal Wedging** - **Warm** air & **cold** air **collide**

- **Warmer** (**less dense**) air **rises** above **cool** (**denser**) air



PROCESSES THAT LIFT AIR

- **Localized Convective Lifting** - **Surface** air **warmer** than **surrounding** air due to **unequal** heating of Earth



CLOUD TYPES

Chapter 18.3

STRATUS CLOUDS

- **"Layer"**
- **Low** clouds
- **Sheets/layers** covering much of sky
- **Light** precip



CUMULUS CLOUDS

- **"Pile"**
- Often has **flat base**
- Rising **domes** or **towers**
- **Storm** clouds



CIRRUS CLOUDS

- **"Curl of hair"**
- **High, wispy,** and **thin**
- **Feathery** appearance
- **NOT** precip clouds, but **warning**

