

# Describing Weather

What is Weather?

- It is the short-term condition of the atmosphere and the changes that occur within the atmosphere or troposphere.
  - Changes are mainly the result of unequal heating by solar radiation (sunlight) of the Earth's landmasses, oceans and atmosphere.
  - Atmospheric variables are the characteristics of the atmosphere that change: temperature, pressure, dew point, humidity and wind.
  - Atm. variables are interrelated and interactions are complex.
- meteorologists scientists that study the weather) make field charts of these variables and then can make predictions (forecasts).

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## Atmospheric Variables

A. Temperature given off  
• measure of the amount of heat energy.

- More heat energy = greater temperature

Sun -

- What is the main source of heat energy for our atmosphere?
- The amount of heat energy emitted from the sun is fairly constant but the amount that reaches the earth varies because of the following:

i. The angle at which solar radiation strikes the earth.

- 1. straight on = overhead = hotter
- 2. angle = low = cooler

ii. The number of hours of solar radiation per day.

- 1. summer = more hours = hotter
- 2. winter = less hours = cooler

iii. The amount of cloud cover.

- 1. Solar radiation is reflected, refracted or absorbed.
- 2. more cloud cover during the day = \* cooler
- 3. more cloud cover at night = \* warm

iv. The type of surface that absorbs solar radiation

- 1. dark, rough surfaces (land) absorbs faster = hotter
- 2. light-colored, smooth (oceans) absorbs slower = cooler

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Why does the air temperature change through out the day?

Why does the seasonal temperature change?

- Temperature is measured with a thermometer
- Continuous temperature readings are made with a thermograph.
- What causes air to move in our atmosphere?

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