

EPSC 2301 Atmospheric Science – Review Sheet for Exam #1

Textbook Chp. 1

Definitions:

Temperature	Barometric Pressure	Isobar
Wind Direction	Sky Cover	Warm Front
Relative Humidity (RH)	Cold Front	Water Vapor Capacity
Dew Point Temperature	Water Vapor Content	

Concepts:

- What time of day does the highest (or lowest) temp. occur?
- What time of day does the highest (or lowest) RH occur?
- What are the different types of precipitation?
- Describe the RH when dew point temperature equals actual air temperature.
- Describe the different types satellite imagery.
- How does weather radar work?
- What are the characteristics associated with high and low pressure systems?
- Know the four basic types of air masses
- What is a mid-latitude cyclone and what are the three principal features associated with this type of storm system?

Textbook Chp. 2

Definitions:

Atmosphere	Climatology	Weather
Meteorology	Climate	Troposphere
Stratosphere	Ionosphere	Tropopause

Concepts:

- What are the major gasses in the atmosphere?
- What are the minor gasses in the atmosphere?
- What gas can exist in variable abundances in the atmosphere?
- What is the basis for defining the atmosphere into different layer?
- How do meteorologists determine how temperature changes with altitude?
- Know the three general sources of information used by meteorologist to describe the atmosphere

Textbook Chp. 3

Definitions:

Electromagnetic Spectrum	Wein's Displacement Law	
Stefan-Boltzmann Law	Solar Altitude	CFC's

Visible Light	Micrometer (μm)	IR
Summer (Winter) Solstice	Equinox	UV
Equator	Tropics of Cancer and Capricorn	
Arctic and Antarctic Circles	Albedo	Microwaves
Absorptivity	Transmissivity	Blackbody
Greenhouse Effect	Ozone Depletion	Pyrometer

Concepts:

What is the difference between UV, visible light, and IR radiation?

How does the energy carried by light changes with wavelength?

Is it true that IR light carries less energy than visible light? If so how does the less energetic IR light produce heat in the atmosphere?

Be able to describe the solar radiation budget for the earth.

Know what albedo is and how it can differ for various surfaces?

How is solar radiation measured?

How does solar altitude change over the course of a day?

When is the amount of radiation striking the earth the greatest? When solar altitude is the high or low?

What causes the seasons?

Be able to describe how solar altitude changes in Laredo throughout a year?

During which season is the solar altitude of the noonday sun the greatest (least)?

In general, how does the length of daylight change with the seasons?

How does the length of daylight change with the seasons in the low latitudes (high latitudes)?

In detail, describe how the greenhouse effect warms the earth's atmosphere, include all of the steps outlined in lecture.

Can the observed increase in greenhouse gasses be unequivocally connected with the increase in global average temperature over the last century?

What is the difference between ozone in the troposphere and stratosphere.

What compounds can trigger an increase in stratospheric ozone destruction resulting in a depletion of the ozone layer?