

GEOG 1710 Earth Science

REVIEW

Exam 2

Chapter 7:

- Describe the origin of the Earth's waters, define the quantity of water that exists today, and list the locations of Earth's fresh water supply.
- Describe the heat properties of water, and identify the traits of its three phases: solid, liquid, and gas.
- Define humidity and the expressions of the relative humidity concept, and explain dew-point temperature and saturated conditions in the atmosphere.
- Define atmospheric stability and relate it to a parcel of air that is ascending or descending
- Illustrate three atmospheric conditions--unstable, conditionally unstable, and stable--with a simple graph that relates the environmental lapse rate to the dry adiabatic rate (DAR) and the moist adiabatic rate (MAR).
- Identify the requirements for cloud formation, and explain the major cloud classes and types, including fog.

Chapter 8:

- Describe air masses that affect North America and relate their qualities to source regions.
- Identify four types of atmospheric lifting mechanisms, and describe four principle examples.
- Analyze the pattern of orographic precipitation, and describe the link between this pattern and global topography.
- Describe the life cycle of a midlatitude cyclonic storm system, and relate this to its portrayal on weather maps.
- List the measurable elements that contribute to modern weather forecasting, and describe the technology and methods employed.
- Analyze various forms of violent weather and the characteristics of each, and review several examples of each from the text.

Chapter 9:

- Illustrate the hydrologic cycle with a simple sketch, and label it with definitions for each water pathway.
- Relate the importance of the water-budget concept to your understanding of the hydrologic cycle, water resources, and soil moisture for a specific location.
- Construct the water-balance equation as a way of accounting for the expenditures of water supply, and define each of the components in the equation and their specific operation.
- Describe the nature of groundwater, and define the elements of the groundwater environment.
- Identify critical aspects of freshwater supplies for the future, and cite specific issues related to sectors of use, regions and countries, and potential remedies for any shortfalls.

Chapter 10:

- Define climate and climatology, and explain the difference between climate and weather.
- Review the role of temperature, precipitation, air pressure, and air mass patterns used to establish climatic regions.
- Review the development of climate classification systems, and compare genetic and empirical systems as ways of classifying climate.
- Describe the principal climate classification categories other than deserts, and locate these regions on a world map.
- Explain the precipitation and moisture efficiency criteria used to determine the arid and semiarid climates, and locate them on a world map.
- Outline future climate patterns from forecasts presented, and explain the causes and potential consequences of climate change.

distribution of land and water on Earth?	Galveston hurricane
fresh water is located where?	hurricanes in the western Atlantic
clouds	when hurricanes move over
groundwater	parts of a hurricane
ice caps and glaciers	Precipitation
the major rivers and lakes of the world.	hydrologic cycle includes water
The term deposition refers to what?	percolation
water freezing to ice	infiltration
ice melting to water	Transpiration
water vapor freezing to ice	evaporation.
latent heat	zone of aeration
Most of the precipitation and evaporation on Earth takes place where?	zone of saturation
Relative humidity	water table
Areas between 25° to 35° latitude usually become what?	aquiclude
Air on windward and leeward side of a mountain	aquifer
vertical development clouds	porosity
What type of cloud that has a thin wispy appearance?	permeability
cP air mass	hygroscopic water
mT air mass	potentiometric surface
Summer afternoon thundershowers in the southeastern United States	water table
convectional lifting.	artesian wells
orographic lifting.	"cone of depression"
frontal lifting.	Climate
storm activity along a <u>cold</u>	With distance from the equator, how does climate change?
occluded stage of a midlatitude cyclone	coastal areas located adjacent to cold ocean currents
Hail	"Hot and wet" temperature and precipitation patterns
cloud types is associated with tornado development	Köppen classification system
Fujita scale	The Amazon equatorial rain forest of South America climate
	monsoon of South and Southeast Asia