

Study Guide GEOG 141 Where? What? Why?

Refer to all class notes, TEXT BOOK readings and diagrams

Chapter 5. Humidity – relative and specific

Creation of dew, frost. Advection Fog, Scenario for evaporation fog; radiation fog

Types of Cloud forms; Know where types of clouds are found (low, med high altitude or combination).

Air mass definition. Types of air masses (cT, cP mT cT) and be able to locate on a map.

Air mass modification (how and why air masses change character).

4 Mechanisms for atmospheric lifting; see Quiz. Be able to list and briefly explain ALL of them and give examples.

Chapter 6 Hydrologic Cycle figure

Surface Water and Groundwater pathways (model)

See Annual River runoff maps p. 205 DOES IT MAKE INTUITIVE SENSE?

Infiltration Percolation

Evaporation + Transpiration = Evapotranspiration

Precipitation **patterns** in US (not numbers) 100th Meridian and what is the significance?

Hydrologic Storage

Hygroscopic water

Gravitational water

Capillary water

Surface tension

Field capacity

Wilting point

Ground water Storage and terminology

Ground water movement map

Porosity

Size and shape of aquifer material importance

Permeable

Impermeable

Zone of saturation

Aquifer

Water table

Cone of depression

Aquiclude

Confined aquifer

Spring

Drafting and Recharge of aquifer

Artesian well

Effluent Conditions (gaining stream)

Influent Conditions (losing stream)

Sectors of water usage by society = agriculture ,domestic, industry. Since environmental

movement natural waters for fish and plants are now being included. Video: Cadillac Desert –

Last Oasis 3

Chapter 7

Climate vs. weather

Climate classification 2 types: 1) Empirical 2) Genetic

Global climate patterns

Climographs – what information is on them? Know distinctive characteristic and general locations of

Tropical Rain Forest climate

Tropical monsoon Climate

Tropical Savannah Climate

Humid Sub-tropical Climate

Mediterranean Climate

Humid Continental Climate

Sub-Arctic Climates

Desert Climates

Steppe Climates

Understand the genetic reasons behind their location. See class notes.

You will be asked to match **Climographs** to the climate types.

What do vegetation and plant communities have to do with climate?

MAP Questions: You will be asked to use genetic classification using **critical thinking** to determine conditions of particular locations on a map. I will offer students several location

choices (**where**) and you will **write about one**. Tell me (**what**) climate **conditions** are like, and **why (what is the cause)**. To do this review 1) *ocean basin currents* 2) *wind directions*, 3) *types of air masses, continental or marine, polar or tropical* 4) *Latitude* 5) *ITCZ location and cloud cover* 6) *Subtropical high location*, 7) *seasonality; seasonal patterns such as 4 distinct seasons or wet dry seasons (why)* 8) *mountain ranges (topography)* , *rain shadow concepts* 10), and other pertinent information from Ch 2-7 that will help answer this question. **I give more points for critical thinking and using/explaining concepts in your writing about WHY. Not important to “name” the climate type.**

Chapter 8 Dynamic Planet

Endogenic and Exogenic processes

Endogenic processes (internal driven) Exogenic processes (external driven)

Define Super-position

Uniformitarianism

UPPER MOST MANTLE + CRUST = LITHOSPHERE

ATHENOSPHERE

GEOMORPHOLOGY = study of landform evolution; Landform examples – delta, volcano, fjord, plain, basin, mountain ranges , river valley, ridge line, glacial valley, flood plain etc.

Depositional landforms = adding material (building a landform like a delta or volcanic cinder cone, sedimentary basin)

Erosional landforms =taking material away (carving into a landform like a glacial valley, river channel, landslide)

What major elements make up the earth’s crust? oxygen, silica, aluminum and iron

CONTINENTAL crust= granite OCEANIC crust = basalt crust main rock types

Denudation

Extrusive rock; from lava (i.e. molten rock exposed at the surface); fast cooling; volcano eruptions; lava flows on surface

Intrusive rock; from magma (i.e. molten rock NOT exposed to surface initially but later exposed from erosion); plutons;(a general term) more explicit terms are batholiths, dikes, sills, volcanic necks. *All are exposed after erosion takes away softer material.*

Isostasy = balance between buoyancy and gravity = tension of Exogenic and Endogenic processes.

Rock cycle-

Igneous	Sedimentary	Metamorphic
Intrusive-Pluton-magma Granite	1) Clastic type sandstone	heat/ pressure Gneiss, slate, marble
Extrusive-flow- lava Basalt, obsidian	2)Chemical limestone, dolomite	
	Strata or layers	foliated texture

Variance in Crystal size
Viscosity differences

Cementation
or Lithification
(To solidify sediments)

Crystal structure change form

Building Crust; craton, shield, p. 303 sedimentation, batholith (largest Pluton or intrusive body of rock) accreted terranes p.305 Orogenesis and Orogeny = mountain building processes
Transform faulting on Ocean floor along plate boundaries

Chapter 9 Tectonic earthquakes and volcanoes

Topography = lay of the land

Plate tectonics: Convergent and Divergent plates,
Subduction zones, Where? What Why?
Sea-floor spreading centers,
Continental Drift, examples of hot spots.

Crustal Deformation-

Tectonic activity and landforms;

Ductile Rock v. Brittle rock What is the importance of this to landform topography?

Folded mountains vs

Fault Block mountains vs

Volcanic Mountains

Where? locations of each type in the US, **What?** form taken? **Why?** causes/forces involved.

3 Types of forces and resulting landscape fault types and features

Compression

Tension

Shear

Reverse fault

Normal Fault

Strike Slip Fault

Folded mountains

Fault block mountains

not necessarily mountain building

Folded Mountains have syncline- anticline topography; have “more” ductile material
Basin and Range topography fault block mountains associated rift zones, tension
Volcanic activity due to crustal thinning, tension also associated with rift zones

All of these can come together in areas due to complexities of nature.

Earth quakes Common locations of quake activity

Seismic waves foci epicenter asperities Elastic rebound theory

Volcanism Common locations of volcanic activity

Explosive vs effusive landform features, conditions, viscosity and characteristics

Landform features: composite volcanoes, shield volcano, flood basalts, sill, dike, batholiths, fissure