

Review for second exam = Important Points to Know for Each Chapter

Mass Wasting (Landslides/ Mass Movement) – Chapter 9

1. What is mass wasting?
2. What is the controlling force or driving force of mass wasting?
3. How do the following factors influence mass wasting? –
extra water, oversteepened slopes, removal of vegetation, earthquakes.
4. What is the difference between a rock fall, a rock slide, and a debris flow?
5. What is slump and what are some topographic indicators?
6. What is a lahar and how do they develop?
7. What is creep, how fast does it move, and what do the tombstones and tree trunks look like?
8. What are the major types of mass movement and their relative speed?
9. What factors favor mass movement?
10. How can you identify old landslides, creep, debris flows, rock slides, and rock falls?

Rivers - Chapter 10

1. What is the hydrologic (water) cycle? and what are its various processes? (precipitation, infiltration, runoff, transpiration, evaporation, evapotranspiration)
2. What controls infiltration capacity?
3. What is gradient?
4. What is discharge? Which U.S. river has the largest discharge and largest drainage area?
5. What is base level? ultimate base level, local base level?
6. What is the difference between bedload and suspended load and dissolved load?
7. Describe deposits of streams (point bars, braided streams, floodplain, natural levees, deltas, meanders, oxbow lakes, and stream terraces).
8. Know where the river is fastest on a meander.
9. Know these drainage patterns: dendritic, radial, rectangular, trellis.
10. What are flash floods and where do they occur?
11. What are ephemeral streams?
12. What are drainage basins and drainage divides?
13. What are the variables that control the behavior of rivers?
14. What are deltas? What are distributaries? How do they form?
15. How and where do alluvial fans and bajadas form?
16. What are the features of meandering streams and their floodplains?
17. How do superposed streams develop?

Groundwater

1. Describe the main processes in the water cycle (hydrologic cycle).
2. Describe the terms: permeability, permeable, impermeable, porosity, aquifer, confined aquifer, water table, saturated zone, vadose zone, recharge area, artesian water, drawdown, cone of depression.
3. What are the hazards of groundwater withdrawal (groundwater mining)?
4. How do confined and unconfined aquifers differ?
5. What is the origin of artesian water, confined aquifers, aquitards?
6. What is a perched water table? How does it form?
7. How does recharge and discharge of ground water occur?
8. Where do springs form?
9. What happens to the water table when wells are pumped?
10. What is the origin of geysers and thermal springs?
11. What are the chemical reactions that cause the dissolution of carbonate rocks?
12. What features and type of rock are characteristic of karst topography?
13. What are speleothems? Know which is on the ceiling and floor (stalagmite, stalactite). How do they form?
14. Discuss the factors that contribute to groundwater contamination.

Glaciers and Glaciation

1. What are valley or alpine glaciers and what shape are the valley cross sections?
2. What are continental glaciers or ice sheets and where are two examples?
3. What will happen to sea level when the ice sheets melt?
4. Describe the two types of glacial movement (plastic flow and basal slip). What are surges.
5. What are crevasses and what do they indicate about the forces and the terrain below?
6. What are the zone of accumulation, snowline, zone of wastage, and calving and creation of icebergs.
7. What are differences between the two types of glacial erosion (plucking and abrasion) and what do they produce?
8. Describe the landforms created by glacial erosion (horn, arete, truncated spur, cirques, pater noster lakes, tarns, glacial trough). Describe the landforms created by glacial deposition (glacial drift - both till and stratified drift, lateral moraine, medial moraine, end or terminal moraine, ground moraine, recessional moraines, kettles, eskers).
9. What is the effect of global warming on sea level and why?
10. How far south did the continental glaciers or ice sheets get in North America during the present Ice Age?
11. What are the astronomical theories of how ice advances/retreats recur every 20 or so thousand years (Milankovitch) and what are the plate tectonics theories of what causes the ice ages every 250 million years or so?
12. What are the different shapes called and what do they look like of drowned river valleys – in drowned glacial troughs, and in drowned river valleys?

Deserts and Winds –

1. What determines *dry climate*?
2. What factors influence the location of the world's deserts?
3. Where are the low-latitude deserts (latitude and Tropics of ?—), what causes them, and what are some examples.
4. Where are the middle-latitude deserts, what causes them, and what are some examples?
5. How do rain shadow deserts form?
6. What is an ephemeral stream?
7. Describe the typical features of the Basin and Range province (interior drainage, playa, alluvial fan, bajada, inselberg).
8. What is the process of saltation?
9. How does desert pavement form?
10. What are cross beds, how are they formed, and how can you tell wind direction from them?
11. What are ventifacts? How do they form?
12. What are the differences between the shape, sand supply, and wind direction between: barchan dunes, transverse dunes, longitudinal dunes, parabolic dunes, and star dunes?
13. What are the two common sources of windblown silt for loess deposits?

Shorelines - (Chapter 15)

1. How is an ocean wave described, how does it move, and what causes them?
2. Where is wave erosion the greatest on coastlines?
3. Describe the features produced by this erosion (sea stack, sea arch, sea cave, sea cliff, wave cut terrace, tombolo).
4. Describe the depositional features associated with barrier island coastlines (spit, baymouth bar, barrier island)?
5. What effects do storms have on coastlines?
6. What causes longshore drift?
7. How do marine terraces form? Why are they commonly flat?
8. What is the shape of an equilibrium shoreline?
9. What is a storm surge? What are the features produced by storm surges?
10. What are groins and jetties and why are they built?
11. How are barrier islands formed and eroded?
12. Why do waves make big surf at coastlines?
13. What is wave refraction and what is its effect on irregular shorelines?
14. Why are most beaches that are supplied by rivers composed mostly of quartz sand?

