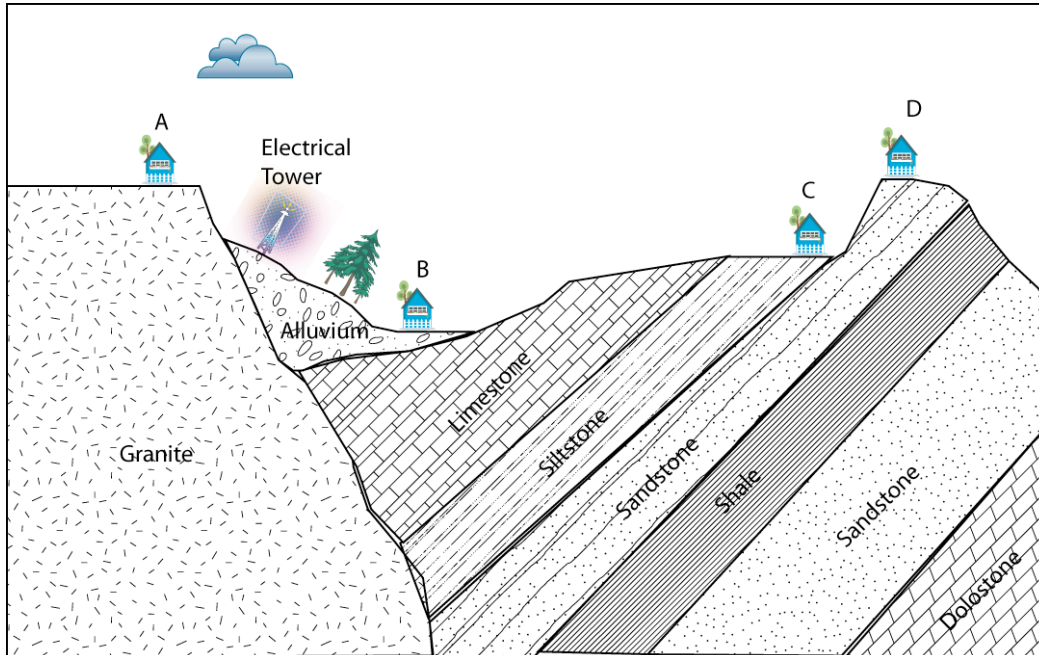


CHAPTER 15: MASS WASTING

- (1) Describe at least 6 factors that influence or control mass wasting. For each factor, discuss how that factor might favor or prevent the occurrence of mass wasting.
- (2) Describe the process of creep. What features might you look for on a slope to determine if it was failing by creep.
- (3a) Evaluate each of the houses (A-D) in the cross section below for mass wasting hazards.
- (3b) Which house is probably the safest with respect to mass wasting hazards?



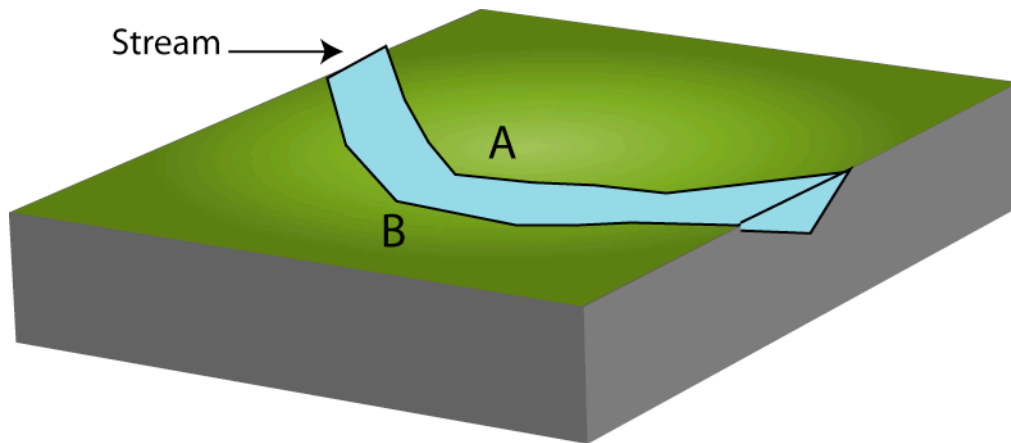
CHAPTER 16: STREAMS & RUNNING WATER

- (4) Define the following terms relating to streams:
 - a. competence
 - b. capacity
 - c. discharge
 - d. velocity
 - e. headwaters
 - f. mouth
 - g. drainage basin
 - h. drainage divide
 - i. perennial stream
 - j. intermittent stream
 - k. stream gradient
 - l. base level
- (5) Whether a particular segment of a stream will flood depends on the weather/climate where?
- (6) Describe the behavior of a high gradient stream.

- (7a) What are the two main types of low gradient streams?
 (7b) Why does one form instead of the other?

8) Describe the behavior of low gradient streams. Using the diagram below:

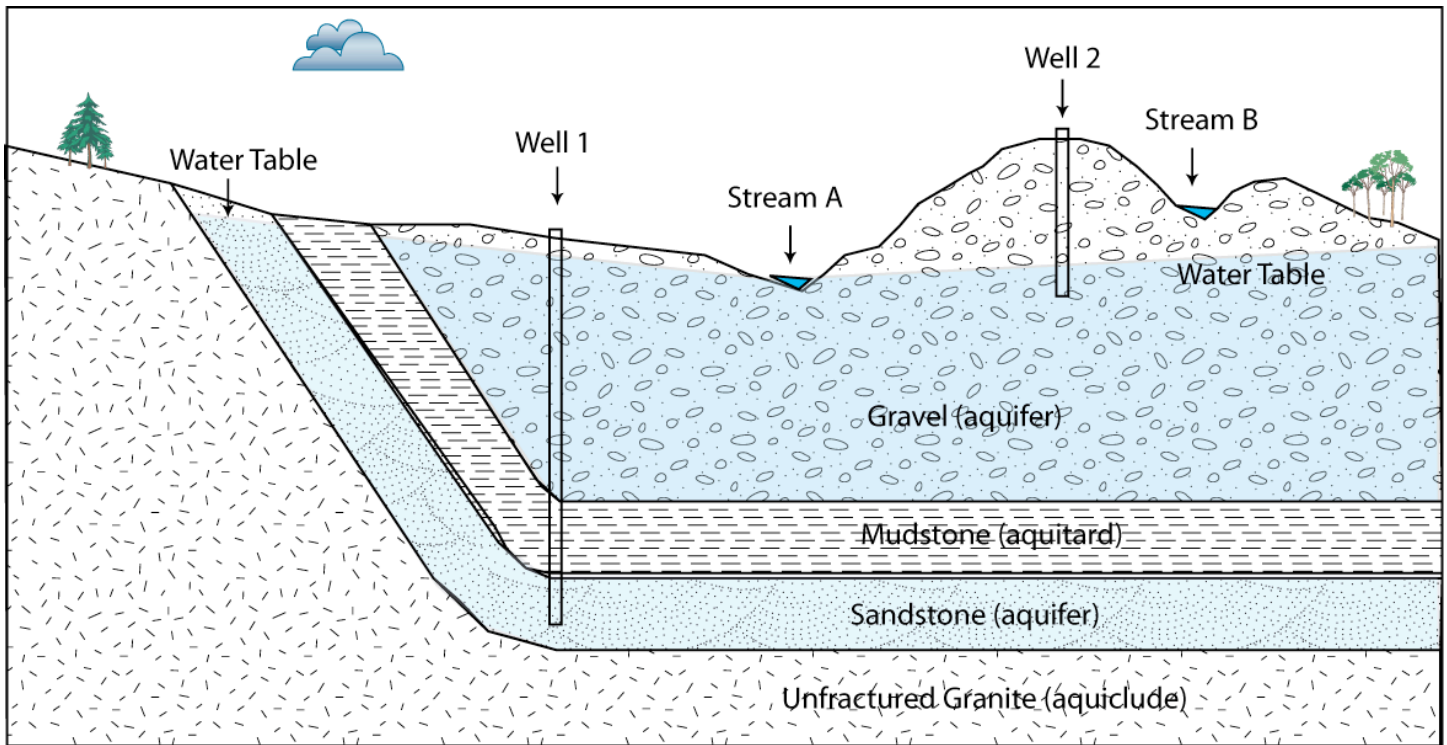
- (8a) Where is the stream moving the fastest? Slowest?
 (8b) Where is the stream depositing sediment? Eroding?
 (8c) Where is the channel deepest? Shallowest?
 (8d) How will the stream evolve over time?



- (9) Describe the formation of stream terraces (what causes them to form). In a set of terraces, which terrace is the oldest? Draw these if necessary.
- (10) How could you distinguish a landscape that evolved from the parallel retreat of slopes from one that had evolved through the gradual change of slope angle? Draw pictures to aid in your description.
- (11) Staring out the window of an airplane, you notice that the drainages below you form a dendritic pattern. What does that tell you about the geology of the area beneath you? Trellis pattern? Radial pattern?

CHAPTER 17: GROUNDWATER

- (12) Define the following terms relating to groundwater:
- Aquifer
 - Aquitard/aquiclude
 - Zone of saturation
 - Water table
 - Recharge/Discharge
 - Open aquifer/Closed aquifer
 - Gaining stream/Losing stream
 - Spring
- (13a) Name at least 3 geologic materials that would make good aquifers.
 (13b) Name 3 geologic materials that would not make good aquifers.



(14) In the diagram above, identify:

- a. The losing stream
- b. The gaining stream
- c. The confined (closed) aquifer
- d. The unconfined (open) aquifer
- e. The artesian well
- f. The non-artesian well
- g. Which well would be contaminated if pollutants were dumped into Stream A upstream?
- h. Which well would be contaminated if pollutants were dumped into Stream B upstream?
- i. Is Well 2 in the best place to retrieve groundwater?
- j. The recharge zone of the sandstone aquifer.
- k. The recharge zone of the gravel aquifer.

(15a) What landscape features would indicate the presence of karst topography?

(15b) List two major rock types that would be susceptible to the development of karst topography.

(16) What are the effects of overpumping groundwater?

CHAPTER 18: GLACIATION & GLOBAL CLIMATE

(17) Describe the concepts of glacial advance and retreat.

(18a) Describe the erosional and depositional features indicating that an alpine landscape had been glaciated.

(18b) Describe the erosional and depositional features indicating that a continental landscape had been glaciated.

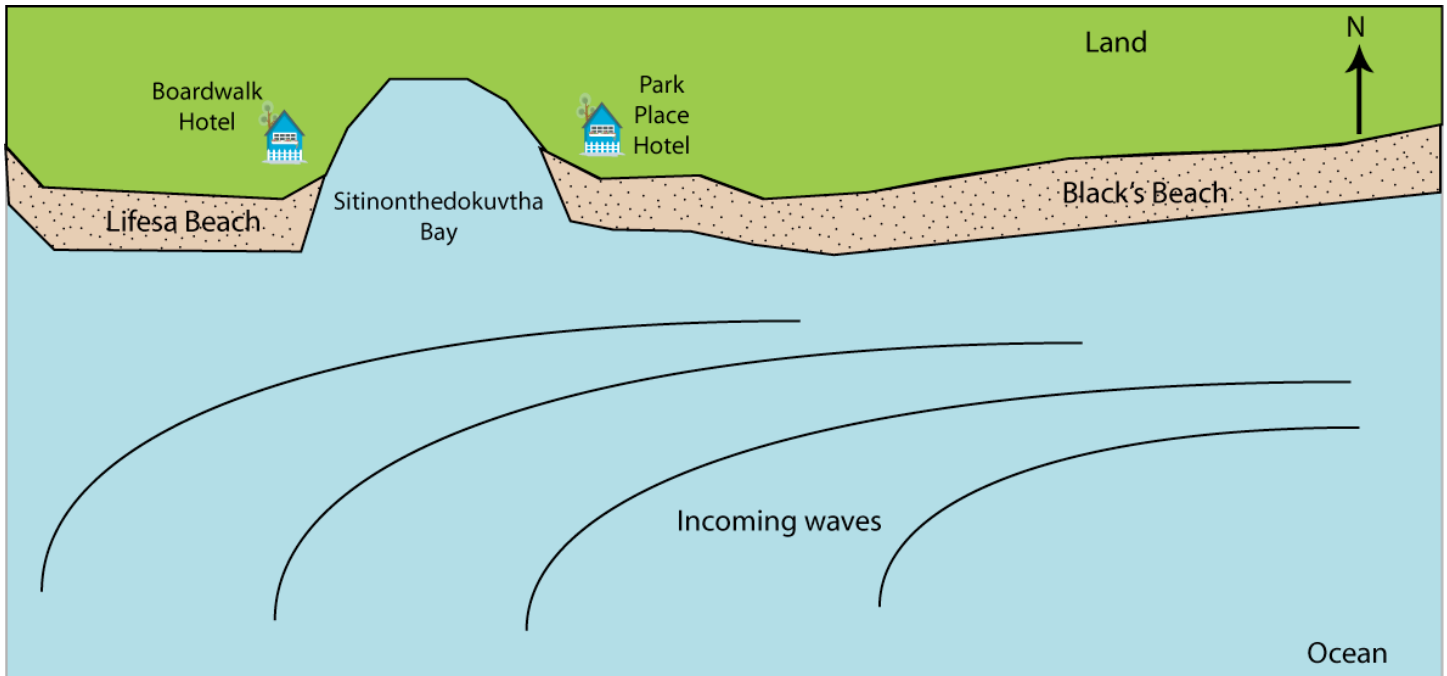
- (19a) How did Milankovich explain global climate change responsible for global ice ages (describe this in detail)?
- (19b) What other factors can cause the Earth's climate to cool? Warm?
- (20) How does sea level fluctuate with climate change?

CHAPTER 19: DESERTS

- (21) What is the geological definition of a desert?
- (22a) The distribution of deserts on the Earth is not random. Where are most deserts located and why?
- (22b) Arizona's desert is located at 30°N of the equator. Yet so is the humid climate of Georgia. Why is Arizona so dry relative to Georgia?
- (22c) How does the temperature of ocean currents affect climate and the location of deserts?
- (22d) What is El Nino? La Nina?
- (23a) What is the dominant means of erosion and transportation in deserts?
- (23b) What kinds of streams are found in deserts? (With respect to both stream and groundwater types)
- (24) What is desert varnish? Desert pavement?
- (25) Draw a cross section of a desert sand dune. Label the windward and slip faces and describe how the dune moves.

CHAPTER 20: SHORELINE PROCESSES

- (26) What are the major sources of sand on a beach?
- (27) What causes ocean waves?



(28) On the diagram above:

- a. Which way will the longshore current flow?
- b. If you build a breakwater in the ocean just south of the words "Black's Beach", what will be the effect on Black's Beach?
- c. If you build a jetty in the ocean just south of the Park Place Hotel, what will be the effect on the beach at the Park Place Hotel? The Boardwalk Hotel?
- d. If no structures are built, predict what would happen to Sitinonthedokuvtha Bay.