

Review for Test 3

ESC 115 Physical Geology

Last Revised: Spring, 2015

Chapter 12

1. What is the definition of risk, including its two components? What are the two main approaches to estimating probabilities of hazardous events? Apply the concept to auto insurance, earthquakes, floods, and other natural hazards.
2. What lessons can past earthquakes provide us for improving future success in surviving them?
3. What are the three approaches to risk analysis that we discussed in class? (See web site at <http://www.daleeasley.com/resources/Essays/RiskAnalysis.html>.) Apply them to a decision.
4. How do earthquakes transmit energy? How does this allow us to determine the epicenter? What scales are used to quantify earthquakes?
5. What is the relationship between plate tectonics and the location of earthquakes and volcanoes?
6. Why are earthquakes at subduction zones likely to cause tsunamis? How does their depth compare to earthquakes at other locations?

Chapter 6

1. What is viscosity? How are mafic and felsic magmas related to temperature, viscosity, and explosivity?
2. What are the different types of volcano landforms (shield, etc.)? How do they compare in shape and size? What are their hazards?
3. What are fissure eruptions?
4. What are precursor events?
5. How can we reduce risk from volcanic eruptions and tsunamis?

Chapter 14

1. How has global climate changed throughout geologic history?
2. What is the difference between scientific prediction and an ethical decision?
3. What is beach nourishment?
4. What is a shoreline? How does it move? Why?
5. What is relative sea level? How does it differ from absolute sea level? What causes changes in absolute sea level?
6. What are the differences between waves and tides?
7. What are wetlands? What is an estuary?
8. How does a wave travel and break?
9. Explain wave refraction and longshore drift.
10. Who was Oetzi? What did we learn from him?
11. What causes ice ages? What are some effects? —I What are the two main types of glaciers? How do they move?
12. What evidence currently exists of past glaciation?

Chapter 16

1. The area encompassing much of Nevada has interior drainage. What does that mean?
2. What is a drainage divide?
3. What are the major drainage patterns? How are they influenced by the underlying geology?
4. How does a stream change as it goes towards its mouth in terms of discharge, velocity, sediment load, channel morphology, and sediment size?
5. How are meandering and braided streams different? Where are you likely to find a braided stream?
6. What are three ways a stream transports sediment?
7. What is runoff and base flow?
8. What is urbanization? What are its effects upon flooding and base flow?
9. What is a delta?
10. What commonly causes floods? What caused the 1993 Mississippi River flood?

Fatal Flood

1. The timeline for the video is at <http://www.pbs.org/wgbh/amex/flood/timeline/index.html>
2. What part of the country is the focus of the video?
3. What was the history of the Percy family with respect to government and the Klan?
4. What is sharecropping? How was it often abused?
5. How were blacks and whites treated differently during the flood?
6. What was Will Percy's solution? How was he undermined by his father? What did Will then decide to do?
7. What was the effect on internal migration? on national politics?

Thought Questions

1. Why have many early civilizations developed on deltas?
2. How does geology connect to the types of drainage patterns that develop?
3. How does geologic history connect to risk from natural hazards? Think of three hazards.
4. How does geology connect to Herbert Hoover being elected President?