

Test 2 – April 12, Tuesday (in your lab sections), Approx. 100pts

Two parts: Closed book content (multiple choice, short answer, fill in the blank) then Topographic skills & applied knowledge (The applied knowledge section will be open note)

Part 1 – Plate tectonics and Structural Geology

Part 2 – Earthquakes

Part 3 – Volcanoes

Part 4 – Climate Change Ch. 20 – (skip p. 744-760)

Part 5 – Maps

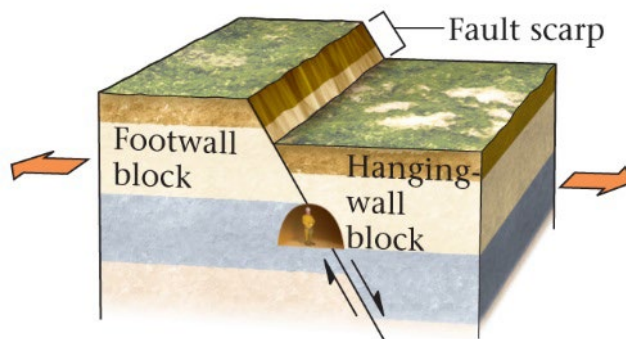
Important concepts and review questions –

1. Plate Tectonics

- A. What was Wegner's Continental Drift Hypothesis and what evidence moved it to a theory?
- B. The earth's internal energy drives plate tectonics, how after 4.6 Ga years is there any energy left?
- C. What is a marine magnetic anomaly, how do geologists use the Earth's magnetism to provide evidence toward plate tectonics?
- D. How does the oceanic crust differ from continental crust?
- E. Describe the three basic types of plate movements.
- F. Describe the driving forces behind plate tectonics.
- G. What is a Hot spot? Where are examples?
- H. What is the Midcontinent Rift? How old is it?
- I. How are geologic structures measured (using strike and dip)?
- J. What are anticlines and synclines? How do they form? What type of energy creates these features?

2. Earthquakes

- A. Know the difference between a normal and reverse fault and/or how to tell a left lateral from a right lateral strike slip fault.
- B. Understand where earthquakes tend to occur, the energy that powers earthquakes and the products of an earthquake. How does knowledge of earthquakes help us to understand more about the Earth's interior?
- C. What are the major two wave types produced by an earthquake?
- D. How does the time of minerals/rocks influence energy from an earthquake?
- E. How are earthquakes measured? Mercalli vs Richter scales...
- F. Where New Madrid Fault Zone, why is it significant?
- G. What is the name of a prominent fault in eastern Iowa?

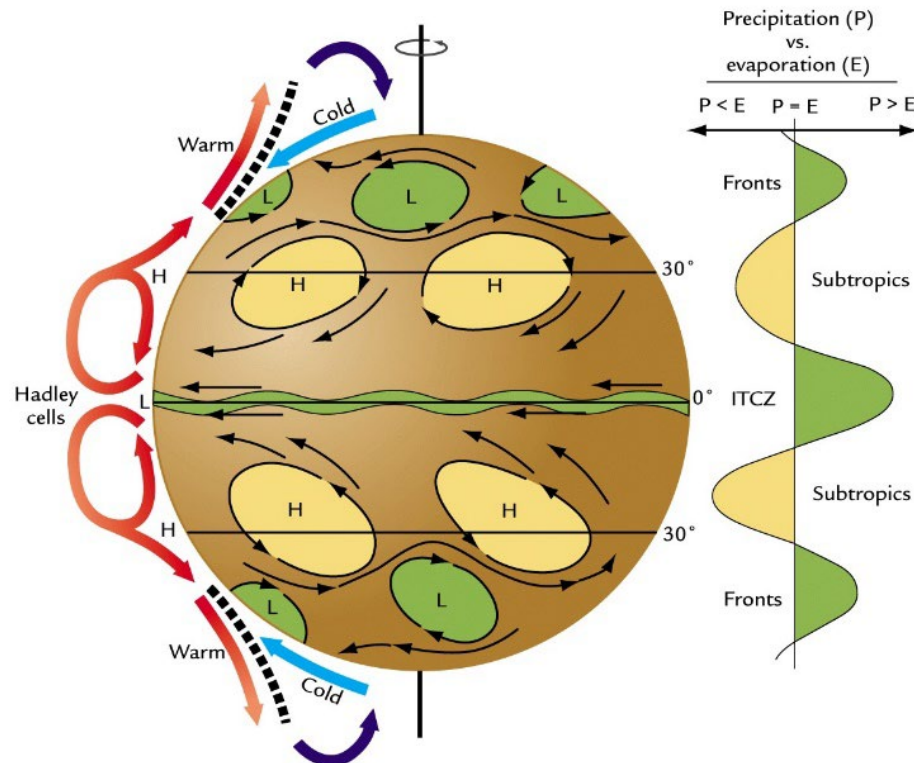


3. Volcanoes

- What factors lead to an explosive volcano, where are you most likely to find a dangerous volcano?
How about the factors leading to a gentle volcanic setting?
- Describe the three kinds of material that can erupt from a volcano.
- Compare and contrast a shield and stratovolcano.
- How are volcanoes monitored?
- What are the major geologic hazards?

4: Climate

- Where are the energy sources that drive the Earth's Climate?
- What does the term Earth System mean?
- What are greenhouse gases and how do they impact the Earth's climate?
- What are positive and negative feedbacks, how are they important to climate change?
- How do geologists study past climates?
- How do humans influence climate change? What evidence do scientists have that indicates humans are influencing the current global climate change trend?
- What are some likely scenarios for the short and long-term climate change, how are these trends predicted?
- What aspects of politics, media and culture impede climate change communication?
- How does energy move through the Earth's climate system?



5. Topographic Maps

- Measuring distance and elevation changes
- Using the Public Land Survey System (Township, Range, Section, 1/4s)
- Stating basic map info. (name, scale, contour interval)
- Using vertical exaggeration
- Making a topographic cross section
- Making a topographic map based on elevation data
- Using a topographic map to interpret landscape changes (rivers, hills, etc.)