

ADDITIONAL WEATHERING QUESTIONS

Instructions: Use **FIGURE 9-3**, "Dominant type of weathering for various climatic conditions" to answer the following questions.

1. What is the mean annual precipitation and mean annual temperature for Poughkeepsie, NY?

2. What are the dominant types of weathering in Poughkeepsie, NY?

3. Why would Phoenix, Arizona have "very slight weathering" compared to all the other cities on the diagram?

4. Which climate listed below would have the most chemical weathering?

- a. A mean annual temperature of 5° C and a mean annual precipitation of 40 cm.
- b. A mean annual temperature of 25° C and a mean annual precipitation of 50 cm.
- c. A mean annual temperature of 10° C and a mean annual precipitation of 75 cm.
- d. A mean annual temperature of 20° C and a mean annual precipitation of 150 cm.

ANSWER _____

5. Why does location "I" (Yakutsk, Siberia), have more frost action than location "G" (Verkhoyanski, Siberia) even though its mean annual temperature is higher than location "G"?

6. Where would the most hydrolysis take place?

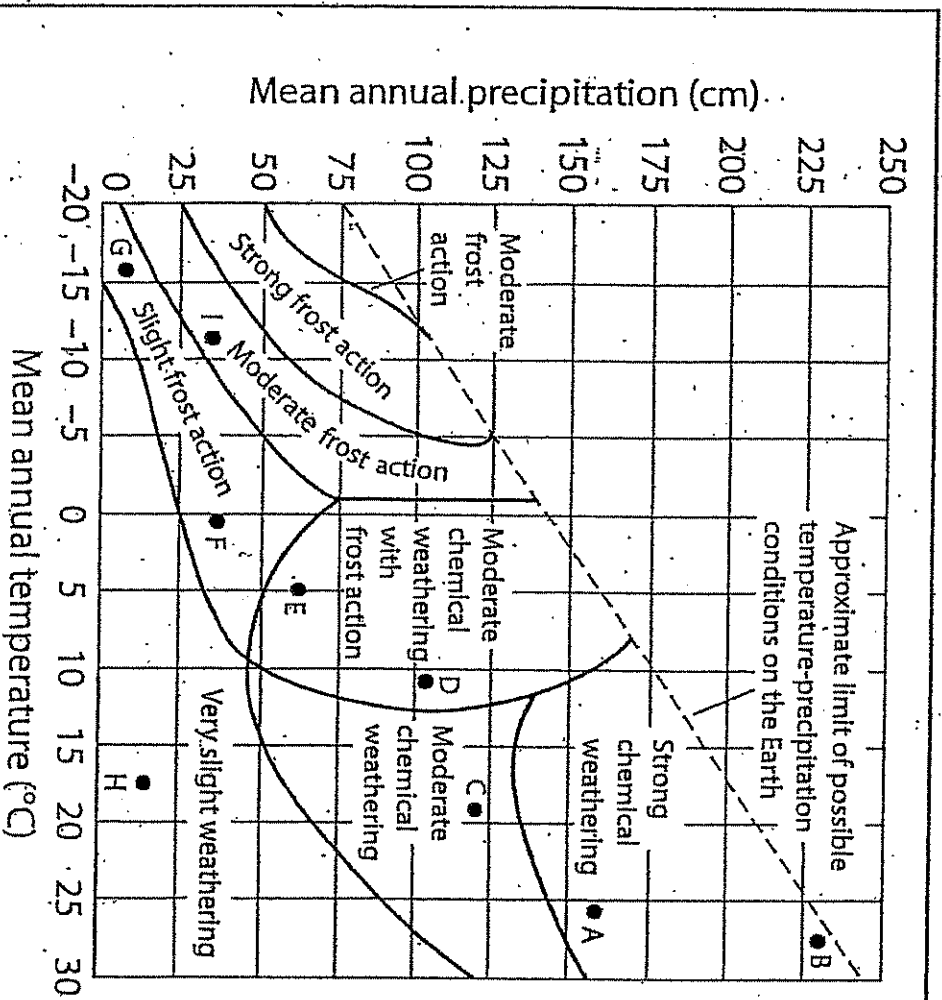
- a. Location I b. Location F c. Location D d. Location A

7. Where would soil formation take place at the fastest rate?

- a. Location B b. Location H c. Location G d. Location D

8. Explain your answer to #7: _____

9. Why are there no cities listed above the dotted line on this graph?



- A: San Juan, Puerto Rico
- B: Amazon Valley, Brazil (near equator)
- C: Charleston, South Carolina
- D: Poughkeepsie, New York
- E: Minneapolis, Minnesota
- F: Anchorage, Alaska
- G: Verkhoyanski Siberia (Russia)
- H: Phoenix, Arizona
- I: Yakutsk, Siberia (Russia)

Figure 9-3. Dominant type of weathering for various climatic conditions: Notice that for an area with a mean annual temperature of 15°C and a mean annual precipitation of 100 cm, moderate chemical weathering is the dominant type. The upper left region of the graph represents extreme conditions that almost never occur on Earth.