

1. Describe how Arctic sea ice extent has varied over the period of satellite measurements? What about the Antarctic? Based on these trends what can you say about future sea ice conditions? Describe two positive feedback loops that might be amplifying sea ice loss.
2. What can mountain glacier extent tell us about climate? How are these features dated? What are some of the problems associated with using glacial features to identify climate change events?
3. According to Bill Ruddiman when and how did people begin to impact the atmosphere? How did this impact the climate system? What would the climate be like now without the human component.
4. Sketch the Laurentide ice sheet at the last Glacial Maximum showing approximate ice thickness using contour lines and extent. Where were the major drainage points? How might this have impacted ocean circulation and therefore the transfer of heat from the tropics to the arctic?
5. Graph sea level rise vs time for the last 20,000 years and be sure to label the plot. Did sea level rise occur at a continuous rate or in pulses? How was this determined? What has sea level done during the Holocene?
6. Explain one plausible cause of the Younger Dryas cold reversal. When did this occur? Did it happen abruptly? How long did it last?
7. How has solar forcing affected the earth's climate over the last 1,000 years? How?
Multiple Choice.