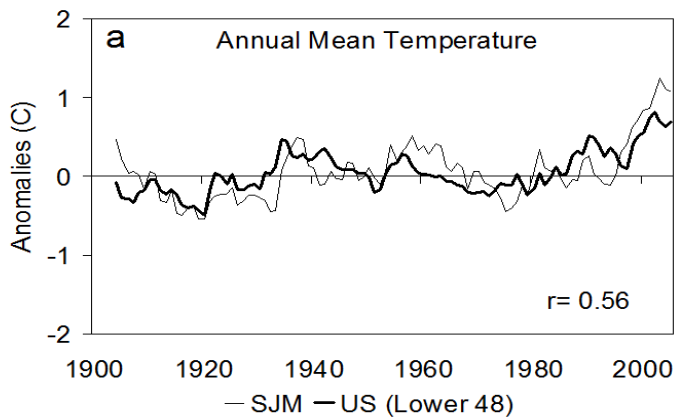


Climate Change in the San Juan Mountains Pre-Assessment

1. What do you know or have you heard about climate change in western Colorado in relation to recreational activities?
2. What observations have you made about the effects of climate change effects in the San Juan region?
3. What geographic features influence the climate of a region?
 - a) Earth's tilt
 - b) Latitude and longitude
 - c) Elevation
 - d) Water bodies
 - e) All of the above
4. Describe your understanding of the difference between weather and climate:
5. Graph Interpretation: Identify and compare the trends that you see between the San Juan Mountains and the US as a whole. When have the warmest years occurred? How have temperatures changed in the past 30 years?



6. Plot the following climate data on a line graph, and then average the temperatures to find the average temperature for the day and record your answer.

April 2, 2013 Durango, CO hourly temperatures

<i>Hour</i>	<i>Temp (F)</i>	<i>Hour</i>	<i>Temp (F)</i>
01	35.0 F	14	54.0 F
02	40.0 F	15	51.0 F
03	37.0 F	16	55.0 F
04	33.0 F	17	54.0 F
05	31.0 F	18	49.0 F
06	28.0 F	19	46.0 F
07	26.0 F	20	46.0 F
08	25.0 F	21	44.0 F
09	29.0 F	22	40.0 F
10	39.0 F	23	38.0 F
11	46.0 F	24	34.0 F
12	50.0 F		
13	55.0 F		

7. The _____ effect is a natural process where thermal radiation coming from the earth's surface is absorbed by certain atmospheric gases. This effect warms the atmosphere and causes it to emit thermal radiation both upward and back downward toward the surface.
8. Historic climate records can be deciphered from tree rings: T F
9. At high-elevation weather stations (<9,000 ft) what are some of the important data that needs to be collected?

10. How do humans contribute to the amount of CO₂ levels in the atmosphere? (circle all that apply)

- a) Burning fossil fuels
- b) Driving
- c) Producing hydropower
- d) Grazing
- e) Deforestation

11. Describe what a feedback loop is in terms of an earth-atmosphere system, and give an example:

12. The precipitation gathered on mountains provides water for much of the world's population¹:

T F

13. Describe how dust on top of snow contributes to climate change and water resources:

¹ M.F. Price. Food and Agriculture Organization of the United Nations. *Mountains: Globally Important Ecosystems*.