**Activity: Climate Trends in the Greater Yellowstone Ecosystem (GYE) and Global Trends**

Grab a laptop and highlight your assigned 2 graphs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Mean Annual Temperature and Precipitation | 1. Stream flow | 1. Snow level on Snake River | 1. Tree rings | 1. Snow melt |
| 1. Whitebark Pine bioclimate projections | 1. Frost Free Days | 1. CO2 and Global Temperature | 1. Natural and Human factors |  |

**My graphs:**

Either on your own or with the other students assigned your graphs, fill out the table below to help you understand the meaning of the graphs

|  |  |
| --- | --- |
| **1st Graph Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | **2nd Graph Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| 1. Sketch the graph below, and draw a trend line. If the graph goes up and down dramatically, you may draw more then one trend line    1. Don’t forget to include the units on the axis, and the starting and ending values! | 1. Sketch the graph below, and draw a trend line. If the graph goes up and down dramatically, you may draw more then one trend line    1. Don’t forget to include the units on the axis, and the starting and ending values! |
| 1. What system or cycle does this graph relate to? Select all that apply   Carbon Cycle Water Cycle Atmosphere Temperature Foodchain/Foodweb Climate Systems Weather Patterns | 1. What system or cycle does this graph relate to? Select all that apply   Carbon Cycle Water Cycle Atmosphere Temperature Foodchain/Foodweb Climate Systems Weather Patterns |
| 1. What does this graph tell you about how these cycles are changing? | 1. What does this graph tell you about how these cycles are changing? |

Go back to your table groups and share your information. **Fill out as much information in the table below as you can!**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Evidence** | **What do you observe?** | **Time span of data collection?** | **Describe the trend you observe.** |
| 1. **Mean Annual Temperature and Precipitation** |  |  |  |
| 1. **Stream flow** |  |  |  |
| 1. **Snow level on Snake River** |  |  |  |
| 1. **Tree rings** |  |  |  |
| 1. **Snow melt** |  |  |  |
| 1. **Whitebark Pine bioclimate projections** |  |  |  |
| 1. **Frost Free Days** |  |  |  |
| 1. **CO2 and Global Temperature** |  |  |  |
| 1. **Natural and Human factors** |  |  |  |

Answer the following analysis questions on the next page of your journal:

1. What graph were you assigned? State the name, and describe it.
2. Based on **your graph**, what conclusion can you draw about the Global Climate Trends?
3. Based on **all the graphs**, what conclusion can you draw about the Global Climate Trends? Is that different then number 2?
4. What factor(s) do you and your group think could be the most responsible for these trends?
5. What trends do you and your group see happening in the Greater Yellowstone Ecosystem?
6. What are the connections between the different pieces evidence (different graphs)?
7. Based on what we learn about these trends and the conclusions we draw at this time, what kind of predictions can we make about the future?
8. Are there primary causes that can be addressed to manage or even reverse these trends?
9. What else do you wish you knew about this evidence?

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