

Glacial Movement

Glacier National Park, Montana

The rugged glacial landscape in the park was formed during the same Wisconsinan glaciation that created the moraines beneath Bloomington-Normal. That glaciation ended 10,000 years ago. Now there are only small, cirque glaciers left in the park. The decrease in the size of the glaciers around the world is used as evidence of global warming.

See the following links for photographs of the two glaciers we are working with:

<http://nrm-sc.usgs.gov/repeatphoto/agassiz-b.htm>

http://nrm-sc.usgs.gov/repeatphoto/gg_trail10-98.htm

http://nrm-sc.usgs.gov/repeatphoto/gg_mt-gould.htm

Below is a table of data for two of the cirque glaciers in Glacier National Park.

Glacier	1850 Area (km ²)	1993 Area (km ²)
Agassiz	4.06	1.02
Grinnell	2.33	0.88

- Using the data table, figure the percentage by which each of the glaciers decreased in size between 1850 and 1993.
 - Agassiz Glacier
 - Grinnell Glacier
- What was the rate in km²/yr that each of the glaciers receded between 1850 and 1993?
 - Agassiz Glacier
 - Grinnell Glacier
- Based on the rates calculated above, in what year will each of these glaciers have completely melted?
 - Agassiz Glacier
 - Grinnell Glacier
- What is an explanation for why the glaciers seem to be shrinking at different rates?

