Going, Going, Gone

Do you see a glacier? From a distance, snowfields are often mistaken for glaciers until the annual snowfall melts away. As the global climate warms, however, the glaciers are melting as well. Visitors today see only 25% of the ice that existed in 1850, and projections are that the park's glaciers will be gone by 2030. Of the estimated 150 glaciers present in 1850, approximately 26 remain.

Glaciers provide an important source of cool, fresh meltwater supporting a series of natural relationships downstream. Once the annual snowpack melts, glaciers may be the only source of base flow in some mountain streams. When rain is sparse, as in the late summer and during drought years, stream temperatures will warm, or the streams may disappear altogether.

The park may look different on your next visit, because the recession of glaciers like Blackfoot and Jackson affects the entire ecosystem in many ways.

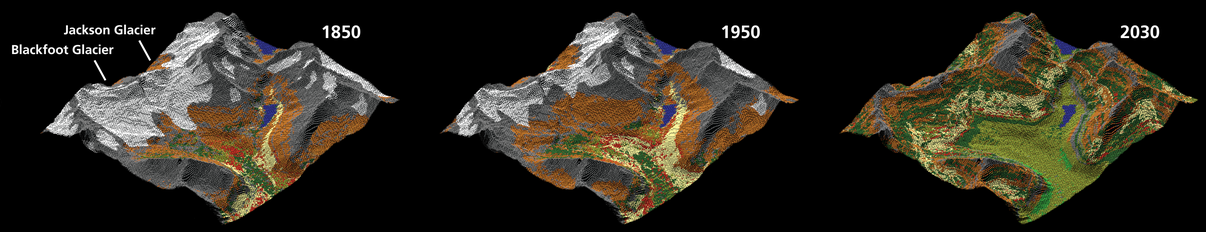
Aquatic Invertebrates at Risk

Fluctuating glacial meltwater will have major consequences for stream ecology. Many invertebrates that live in the park's waters are very temperature sensitive, and live within a narrow temperature range. Because aquatic invertebrates are at the base of the food chain, putting them at risk threatens the entire stream ecosystem.

Courtesy of *Flathead Lake Biological Research Station*

Glacial Recession at Blackfoot and Jackson Glaciers

These computer generated models show how Blackfoot and Jackson Glaciers have changed in the past and the expected future changes. With warmer temperatures and changes to the water cycle, Glacier National Park will be glacier-free by 2030. These changes will also have consequences for park vegetation, which will migrate up the mountains with temperature and moisture gradients. The actual rates of vegetation expansion could be slower than the model forecasts because of biological constraints such as plant dispersal and competition between species.



Glacial recession models courtesy of United States Geologic Survey, Hall and Fagre, 2003