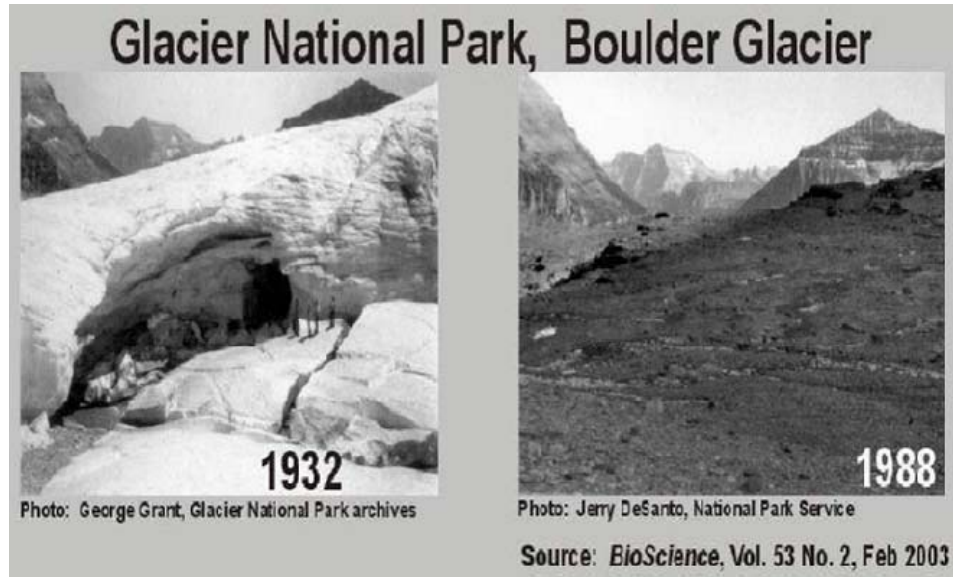


Impacts of Climate Change on the western United States

- 1) The glaciers in Glacier National Park are disappearing due to increased average temperatures. Glacier's ecosystems are also changing.

See: http://www.nrmssc.usgs.gov/research/glacier_model.htm



- 2) Lodgepole and other pines in Colorado are currently being decimated by bark beetles. The beetles only attack mature trees, which are common in Colorado due to heavy logging a century ago. Beetle populations are controlled by harsh winters, which are more infrequent due to global warming. Canadian forests are at risk if warming trends continue.

See: <http://www.coloradocollege.edu/stateoftherockies/07ReportCard/Forests.pdf>

- 3) Other predicted problems with invasive species include invasions of aspen stands by gypsy moth. Some invasive plants will be favored over native species due to increased CO₂ concentrations in the atmosphere.

See: http://www.agci.org/pdf/Canary/ACIA_Executive_Summary.pdf

- 4) In general, the West is predicted to be warmer and drier. From 1999 to 2007 the levels of Lake Mead and Lake Powell have each dropped about 50%. For Lake Mead, this is from 25 million acre-feet to 12.5 million acre feet. An average family uses 1 acre-foot of water annually.

- 5) A drier West and the presence of diseased forests due to beetle infestation will increase the incidence of severe wildfires. The average fire may eventually be 50% larger than historic fires.

See: <http://www.sciencedaily.com/releases/2003/06/030616090805.htm> and
http://www.agci.org/pdf/Canary/ACIA_Executive_Summary.pdf and
<http://www.coloradocollege.edu/stateoftherockies/07ReportCard/Forests.pdf>

- 6) A warmer West will affect the distribution of species and ecosystems. As upper elevations warm, lower elevation species will colonize higher elevations. High alpine ecosystems will be at the greatest risk of species extinction.

See: http://www.agci.org/pdf/Canary/ACIA_Executive_Summary.pdf

- 7) A warmer West means that more precipitation will fall as rain and less as snow. Snowpack throughout the Rocky Mountains is predicted to fall sharply by 2085, by 50% on average. The Telluride area is predicted to fall by 83%. Under intensive fossil fuel use scenarios, the Aspen area may no longer support skiing as early as 2100.

See: <http://www.coloradocollege.edu/stateoftherockies/07ReportCard/Water.pdf>
and http://www.agci.org/pdf/Canary/ACIA_Executive_Summary.pdf

- 8) In Western areas reliant on snowpack for water resources, like the Rocky Mountains, spring runoff is predicted to occur earlier. Summer streamflow is predicted to decline. Impacts to agriculture and commercial rafting businesses are predicted.

See: http://www.isse.ucar.edu/water_climate/html_map.html#6 and
http://www.agci.org/pdf/Canary/ACIA_Executive_Summary.pdf