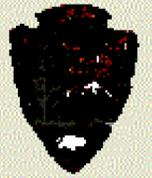
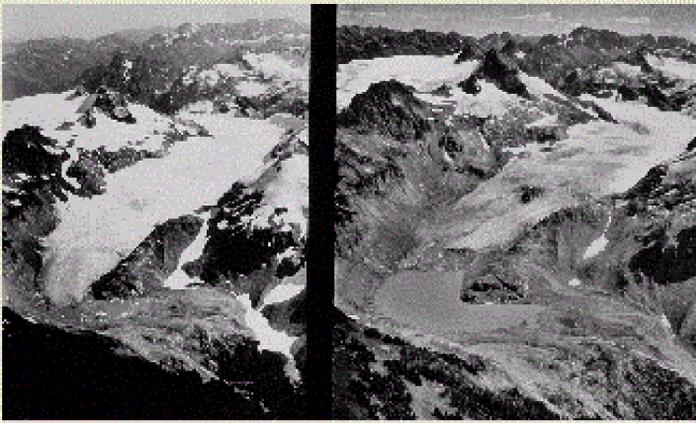


# Glacier Monitoring at North Cascades National Park



North Cascades National Park has 312 glaciers that cover nearly forty square miles. These glaciers are dramatic indicators of climate change, habitat for certain species, and provide vast amounts of meltwater to park lakes and streams during the summer drought. Evidence indicates that North Cascades National Park has lost approximately 40% of its glaciers in the past 150 years.

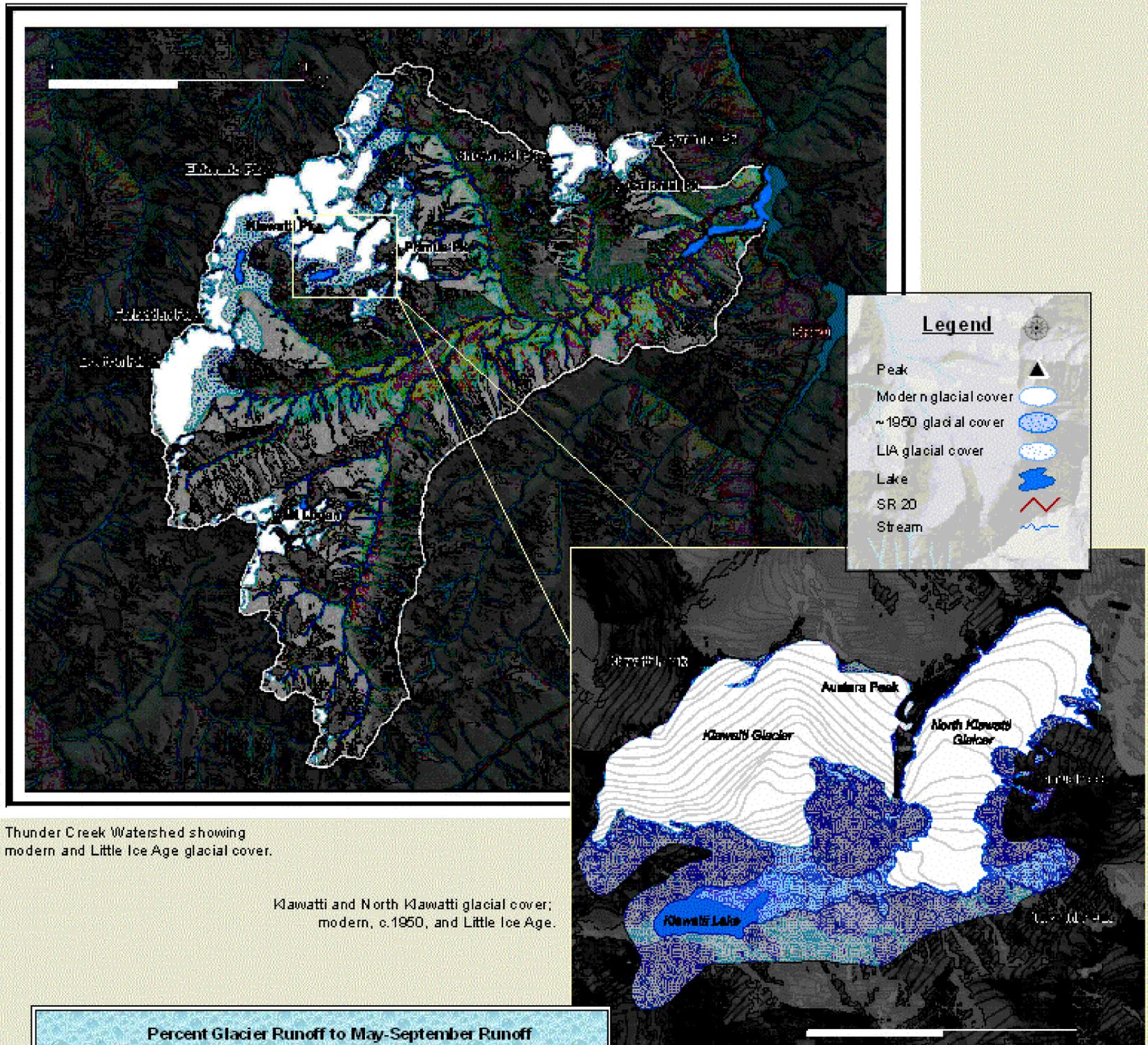


Comparison of South Cascade Glacier in 1958 on left (photo by A. Post) and 2003 on right (photo by Scurlock).



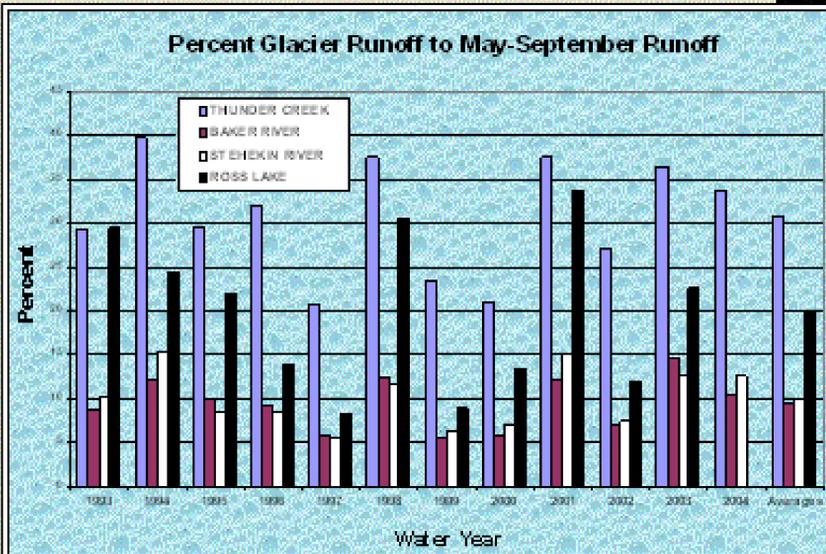
A National Park Service technician uses a World War II era tank antenna to probe the depth of the previous winter's snowpack.

Thunder Creek Watershed is one of the most glacierized basins in the North Cascades at 12% glacier area. A highly glacierized basin's hydrologic response (compared to a non-glacierized basin) has a delayed peak flow and higher late summer discharge.



Thunder Creek Watershed showing modern and Little Ice Age glacial cover.

Klawatti and North Klawatti glacial cover; modern, c.1950, and Little Ice Age.



Glacier monitoring data is used to quantify the glacial contribution to summer flow in four watersheds.

Glacier monitoring at North Cascades National Park is focused on measuring seasonal changes in the mass of four park glaciers. Cumulative balance charts reveals the trend in a glacial mass balance over time.

