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TOP STORY

## Area glaciers continue losing ice

By KIMBERLY CAUVEL @Kimberly\_SVH 3 hrs ago



**MOUNT BAKER** — With the summer heat having melted much of the snow on Mount Baker, a rocky peak covered with light blue sheets of glacial ice has been revealed.

That ice has been fast disappearing in recent years — a trend seen in glaciers throughout the North Cascades.

“When I first came here in the 1980s, the glacier was still just above that waterfall there,” geologist Jon Riedel said while looking out from a rocky ridge at Easton Glacier on the south side of Mount Baker.

The ridge, carved out of the landscape during the last ice age by the once massive Easton Glacier, towers above the valley below where a brown Rocky Creek spills from beneath the remaining glacier.

“This was once full of ice,” Riedel said while looking across the exposed valley to the opposite ridge.

Riedel does glacier monitoring for North Cascades, Mount Rainier and Olympic national parks. He also does work for the U.S. Forest Service and does independent research, largely focused around Mount Baker and the greater North Cascades.

He recently documented that in North Cascades National Park east of Mount Baker, glaciers shrunk an estimated 19 percent between 1959 and 2015. That amounts to about 12.4 square miles of ice cover and hundreds of billions of gallons of water no longer held in reserve.

That trend — the region’s glaciers losing more ice during summer than they accumulate during winter — continued in 2016.

Each year, Riedel takes measurements at four glaciers in North Cascades National Park. Those measurements show him how much ice is gained or lost, or what he calls the mass balance.

To calculate the mass balance, Riedel measures how deep and dense the snowpack is on the glaciers in April and how much snow and ice has melted by late September.

Since Riedel began monitoring Noisy Creek, North Klawatti, Sandalee and Silver glaciers in 1993, each has lost a significant amount of ice.

Noisy Creek and North Klawatti glaciers suffered their biggest losses of ice in 2015, the year the state experienced a snowpack drought, according to Riedel’s data.

In 2016, those two glaciers continued to lose ice while Sandalee and Silver glaciers each gained some.

Those gains are slight when compared to the losses amassed since 2002. The gains are about one-fifteenth of what has been lost at Silver Glacier and about one-thirtysixth at Sandalee Glacier.

Riedel said the gains are even less significant when compared to the amount of ice lost since 1959 based on U.S. Geological Survey data and maps.

Riedel is now preparing to collect September melt measurements at the four North Cascades glaciers. He said after the hot summer the region endured this year, he expects to see the trend of more melt than growth continue.

Easton Glacier has also been the subject of some of Riedel's work. Similar to the glaciers in North Cascades National Park, Easton Glacier has thinned and shrunk over time, exposing more of the brown surface of Mount Baker.

As glaciers throughout the area are shrinking, losing ice means losing water.

Each summer, glacial melt provides a portion of the water flowing in the Skagit River. That water is needed for fish, farms and communities throughout the watershed.

The glacial melt flowing into Rocky Creek from Easton Glacier eventually goes into Baker Lake, the Baker River and then the Skagit River.

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