



Western Canada's glaciers losing ice at near-record rates

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Glaciers in Western Canada continue to melt at an alarming rate, with researchers recording a five-and-a-half metre ice surface loss on the Athabasca Glacier in the past year.



*The Athabasca Glacier flowing out of the Columbia Icefield.
Gavin Young / Calgary Herald*

The popular tourist attraction, part of the Columbia Icefield along Highway 93 North, is being monitored by the Changing Cold Regions Network.

“We measured, up until early September, about five-and-a-half metres of ice melt this year, which is quite substantial,” said co-principal investigator [John Pomeroy](#), who’s also the director of the Centre for Hydrology at the University of Saskatchewan. “It would certainly be one of the higher measurements recorded there.”

The near-record melt comes after a similar measurement last year on the Athabasca Glacier, which flows into the Pacific, Atlantic and Arctic oceans.

It’s part of a pattern around the world — a [concern for future water supply](#).

According to a paper released in August, glacier decline in the first decade of the 21st century has reached a historical record since the start of direct observations.

The [study by the World Glacier Monitoring Agency](#), which includes glaciologist Mike Demuth from Natural Resources Canada, suggested the global phenomenon will continue even without further climate change.

Two of Canada's glaciers included in the research are the Athabasca and Peyto Glaciers, which are also being studied by Pomeroy and his team.

The Athabasca, where monitoring started a year ago, has lost more than five metres of ice thickness for each of the last two years.

"To have two right after each other is a concern," said Pomeroy.

They saw an early melt season as the ice became exposed as early as May. It continued to be exposed throughout the summer until some snow hit the glacier in September.

"So earlier melt, but also faster melt because of the very warm temperatures," said Pomeroy, noting the temperatures on the ice surface hit 13 C in June and 16 C in July. "That's pretty warm for the middle of the Columbia Icefield.

It meant the snow cover melted early and, once the white snow melts and the ice is exposed, the glacier absorbs more solar radiation and also melts.

It didn't help that the ice was dark due to debris and soot from the forest fires in British Columbia this summer, he said.

On the Wapta Icefield, which has been monitored since the 1960s, Pomeroy said there's been exposed ice for at least the past two years.

"The top is normally the accumulation zone, where the glaciers accumulate snow, which forms ice and then slows down, but the accumulation zone is melting," he explained. "That's a disaster for a glacier."

The Wapta Icefield feeds the Peyto Glacier, which is also disappearing.

"It's retreated so much that there's a big lake at the bottom of it now and it's actually calving bergs into this lake," he said.

It has become hazardous for his research teams to get up on the glacier, but it's also noticeable from the ground.

"When you are looking up at it from the right hand side, there's no more ice feed off the Wapta Icefield," said Pomeroy. "That's cut off now so it's starting to disintegrate and the movement of ice downward is slowing and the ice that's left is melting away.

"The Peyto is probably in its last 10 years of existence."

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