



SEA TO SKY STORY: GLACIERS

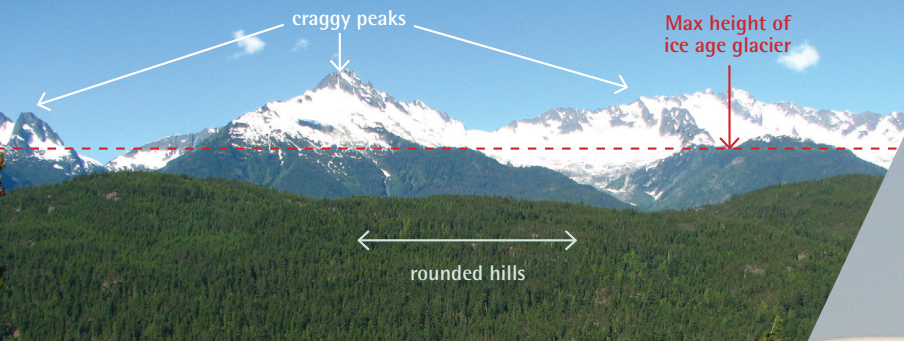
The Sea to Sky corridor from Vancouver to Whistler cuts deep into the Coast Range, the mountain wall that extends along the coast of British Columbia from Vancouver to the Alaska border. Moisture-laden air from the Pacific Ocean is forced up and over this range, leading to heavy winter snowfalls that, over thousands of years, have built vast ice fields and glaciers. These glaciers now inhabit high peaks, but the Sea to Sky highway offers some great opportunities for viewing glaciers, as does a trip up Whistler Mountain.

What are glaciers?

Glaciers form where snow accumulates faster than it melts. Over thousands of years, this snow compacts into dense masses of ice that move slowly downhill under the pull of gravity. An estimated 200,000 square kilometres of glaciers and ice fields cover the Canadian landscape - about two per cent of the country's total land area. Glaciers hold approximately three quarters of the fresh water on Earth. Such ice remains an important water source for communities in the Sea to Sky region.

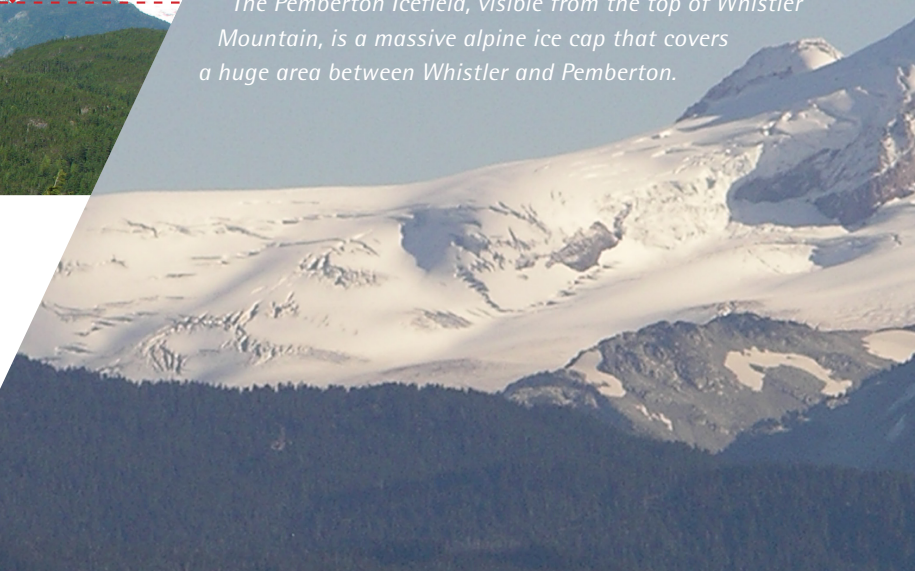


This photo taken from the Tantalus viewpoint shows the maximum height of ice during the last Ice Age. The grinding action of the moving ice rounded the lower hills and mountains. Only the highest peaks that protruded above the ice retained their craggy shape.



At the Tantalus viewpoint, 13 kilometres north of Squamish, you can see alpine glaciers on the north side of the high peaks of the Tantalus Range. Shaded, north-facing slopes favor glacier growth. A close look at the Tantalus Glacier reveals deep cracks, or crevasses, in the brittle blue glacial ice.

The Pemberton Icefield, visible from the top of Whistler Mountain, is a massive alpine ice cap that covers a huge area between Whistler and Pemberton.



Sea to Sky country once looked like Greenland

Glaciers once dominated the Sea to Sky corridor. At the height of the last Ice Age, two kilometres of ice covered the present-day sites of Squamish and Whistler. Evidence of how that ice shaped the landscape is still visible throughout the Sea to Sky corridor.

MASSIVE ICE FLOWS POLISHED THE SURFACE OF THIS ROCK NEAR THE BASE OF STAWAMUS CHIEF, THE SECOND LARGEST GRANITE MONOLITH IN THE WORLD. THE SMOOTH AND SCULPTED SURFACE WAS POLISHED BY FINE ROCK GRIT IN THE BASE OF GLACIER. PEBBLES IMBEDDED IN THE ICE LEFT SCRATCHES THAT MARK THE DIRECTION OF ICE FLOW.



A changing climate is shrinking glaciers rapidly:

Glaciers all over the world are shrinking and the ice fields of the Sea to Sky region are no exception. This glacial retreat is direct evidence of a warming climate resulting from an increase in greenhouse gases.



1979



1998

The Wedgemount Glacier, flanking Wedge Mountain about 11 kilometres northeast of Whistler, has shown significant glacial melting, as these photos from 1979 and 1998 attest. This loss is typical of glaciers in the Coast Mountains.

If you are interested in studying glaciers and plate tectonics, consider a career with Natural Resources Canada's Earth Sciences Sector.

For more information, contact the Geological Survey of Canada, or visit the Natural Resources Canada website:

625 Robson Street
Vancouver, B.C. V6B 5J3
Phone: (604) 666-0529
gscvan@nrcan.gc.ca

9860 West Saanich Road
Sidney, B.C. V8L 4B2
Phone: (250) 363-6500
pgc_info@pgc.nrcan.gc.ca

gsc.nrcan.gc.ca
seatosky.nrcan.gc.ca