



Glacier of the Month

August 2024



MOUNT RAINIER GLACIERS

1970s Courtesy of NPS/Loren Lane

Carbon Glacier



2023 Courtesy of Unknown

Carbon Glacier



Mount Rainier, a volcano in the US State of Washington, is the highest peak in the Cascade Range at 4,392 m and is home to 28 named glaciers and numerous unnamed snowfields covering an area of around 78 km². The glaciers of Mount Rainier are important indicators of climate change and a crucial source of water, as they supply five major watersheds and are a critical source of water for the Puget Sound region near Seattle.

Three of the largest glaciers in the contiguous United States are located on the north and east slopes of Mount Rainier: Carbon Glacier, Winthrop Glacier and Emmons Glacier.

Each of the three glaciers has an extensive blanket of supraglacial debris at its terminus. However, recent research shows that each glacier has responded to the climate changes of the late 20th and early 21st Centuries in different ways. Winthrop Glacier has remained constant, while Emmons Glacier has the largest area (11.1 km²) and has thickened and advanced. Carbon Glacier has thinned and retreated since 1970, although it has the largest volume of any glacier on the mountain, due to its unusual thickness. This glacier has shaped the landscape of Mount Rainier and the history of Mount Rainier National Park. It also plays an important role in shaping the future of the mountain and its national park.

Carbon Glacier has the lowest terminus elevation of any active glacier in the 48 contiguous states (1,102 m). Its highest point is at 3,722 m asl*, with an elevation range of 2,620 m asl*. During one episode in the last major ice age, the glacier probably flowed into the Puget Sound and merged with the Puget lobe of the Cordilleran Ice Sheet.

(*Carbon Glacier Statistics as of 2021 – Beason et al., 2023)