Melting Columbia Glacier

Alaska, located in the far northwestern region of North America. This vast expanse of land encompasses diverse landscapes, but one of its most notable features is its extensive glacier-covered terrain.

For example, the Columbia Glacier is a glacier in Prince William Sound on the south coast of the U.S. state of Alaska, is one of the fastest moving glaciers in the world, but has been retreating since the early 1980s.



-2000





This is an annual mass balance map of Columbia Glacier (from 1986 - 2020). Although it contains several positive values, suggesting an accumulation of glacier mass in corresponding years, the predominant trend among glaciers is melting.

The Columbia began to recede during the latter half of the 20th Century due to the impacts of climate change.

This is the map to illustrate the rapid retreat of Columbia Glacier, and the growth of water during 2016 - 2020. Melting glacier can be served as a supplement of the glaciers lake.

In the 1990s and early 21st century, the annual average mass of glaciers was exceptionally low, possibly even the lowest in nearly two decades. Research has indicated that the terminus of the Columbia Glacier has retreated significantly to the point where it floats on the water's surface, further destabilizing the glacier and leading to the fragmentation of larger icebergs from its surface. As a result, glaciers within the blue-bordered region now float on the water, accumulating or melting in re-





Projection: Alaska Albers Equal Area Conic; WGS 1984 UTM Zone 6N Data Source: NSIDC(https://nsidc.org/data/g10040/versions/1#anchor-1); Basemap(https://livingatlas.arcgis.com/wayback). Xun Gong/12.12.2023