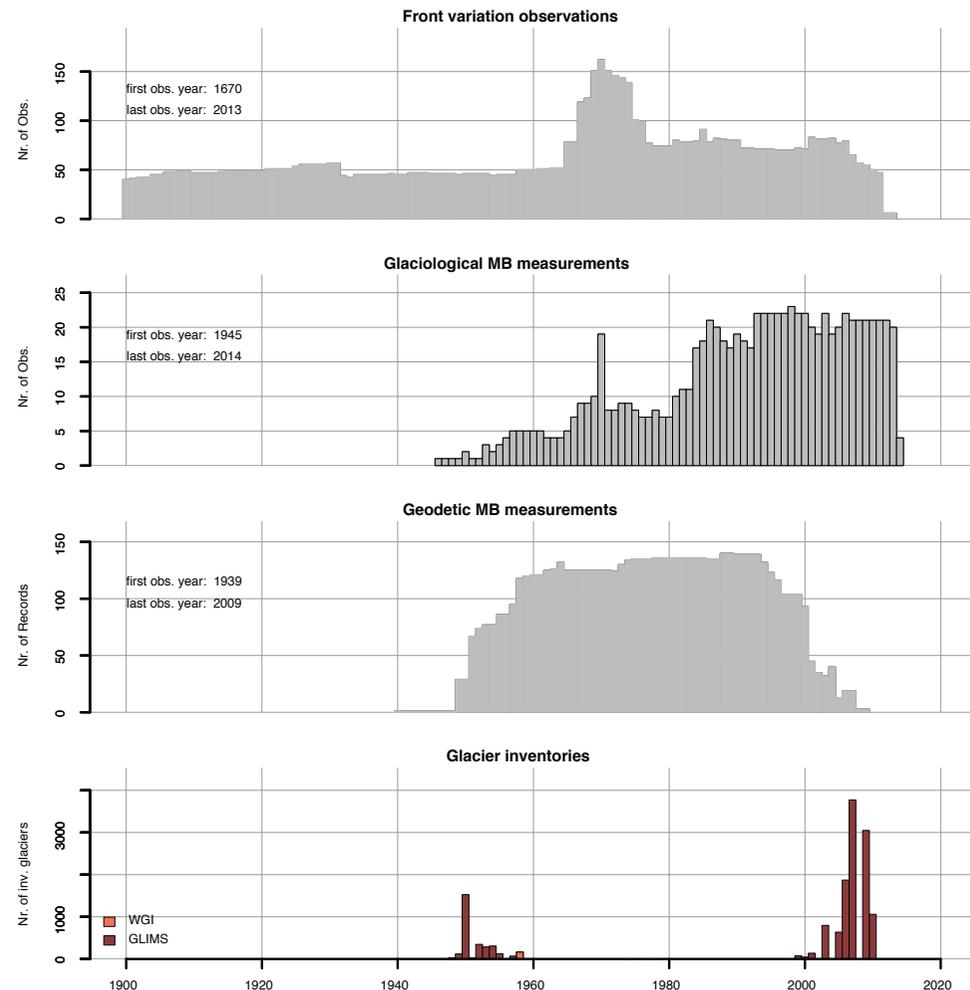


# GLACIER MONITORING: USA

The largest ice cover in the United States of America (USA) is found in coastal Alaska, where glaciers often extend down to the shore. Glaciers cover less than 1% of the country area, but still have a considerable impact on the landscape and water supply, especially in the conterminous United States.

## Available series



The longest observational FV series reach back to 1670! A peak of reported series (>100) is related to the Int. Hydrol. Decade. Long-term glaciological MB series come from South Cascade (Pacific Coast Range) with more than 60 years of continuous measurements. To date, 58 MB series have been reported. While the WGI Inventory only covers 34% of the glaciated area, the GLIMS data set covers an almost complete coverage with different timestamps.

## Key statistics

	Front Variation	Mass Balance	Thickness Change
total glaciated area: 62'896 km <sup>2</sup>	201	58	126
total coverage WGI: 34 %	Average length [years]: 36	14	5
total coverage GLIMS: 96 %	Average number of observations: 5	14	3

## Present state

National coordination of glacier monitoring which is mainly carried out by the USGS and different research groups.

A few glaciers with long-term mass balance programmes based on both glaciological and geodetic methods, partly including energy balance and flow velocity studies.

Well distributed network of mass balance glaciers, several ongoing long-term series.

About 50 front variation series reaching back to the 19th century with a peak during the Int. Hydrol. Decade. About 100 geodetic surveys covering the second half of the 20th century.

Low coverage in WGI, almost full coverage in GLIMS database.

## Future potential/needs

Strengthen the national coordination of glacier monitoring and foster the coordination with CA colleagues. Consider the setup of national website and data access.

Promotion of a few benchmark glaciers for continuation of long-term and detailed measurement programmes for process understanding and model calibration.

Continue and extend the long-term mass balance programmes.

Encourage remotely sensed assessments of glacier changes in length, area and volume.

Complete glacier inventories with remote sensing data. Plan next repeat inventory towards 2020.

## Spatial distribution of series

The glaciers and ice fields in the United States of America are mainly concentrated in the west of the country, along the Rocky

Mountains, which spread over more than 3 000 km from the Mexican border through the United States and into Canada and eastern Alaska. To the north they extend into the Alaska Range and the Brooks Range. The climate of the mountain ranges shows strong variations depending on latitude, altitude and proximity to the sea. Therefore, the glaciers in the south are much smaller and occur at higher elevations than in the higher latitudes, where some glaciers extend down to the shore.

