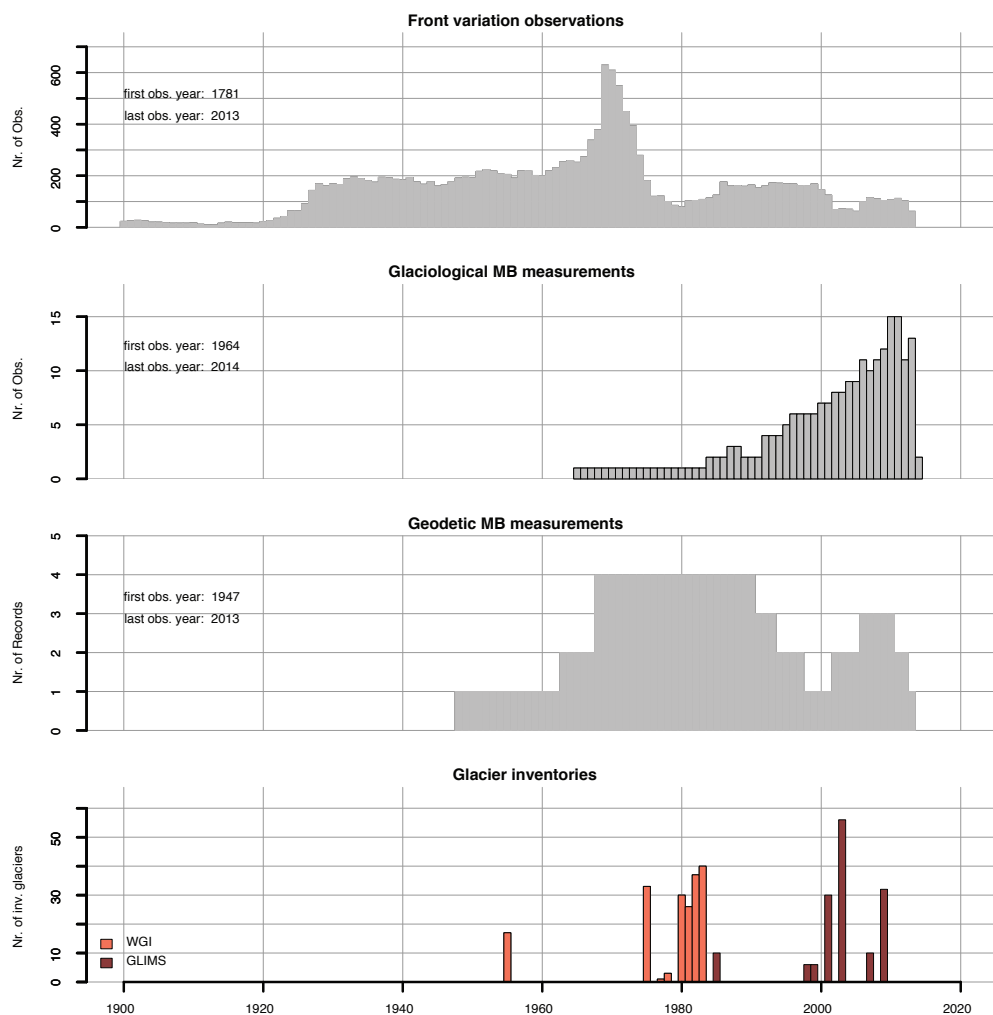


GLACIER MONITORING: ITALY

Italy is very active and well-coordinated in glacier monitoring. There are several glaciers with detailed and long-term information, but several are endangered to vanish within the next decades.

Available series



Front variation observations in Italy reach back to 1781 and show a high and relative constant number since 1920, with a peak in the 1960s. Mass balance measurements started in the 1960s; nowadays there are several glaciers with more than a decade of measurements. Geodetic mass balance data are available from the 1940s on, but cover only a few glaciers. Several glacier inventories are available but they do not fully cover the glaciers of Italy.

Key statistics

	Front Variation	Mass Balance	Thickness Change
total glaciated area: 383 km ²	406	18	7
total coverage WGI: 81 %	49	12	7
total coverage GLIMS: 14 %	23	13	05
Number of series:			
Average length [years]:			
Average number of observations:			

Present state

Nationally well-coordinated glacier monitoring with periodically published data reports.

Several glaciers with glaciological mass balance programmes of more than a decade, Carèser - with observations since 1966 – has disintegrated and is about to melt away.

Good spatial distribution of mass balance series. Under current climate change scenarios, several glaciers with monitoring programmes are endangered to vanish within next decades.

Good spatial distribution of long-term front variation series. Few geodetic change assessment available.

Only partial inventories available at the time of this assessment.

Future potential/needs

Consider the setup of national website and data access. Foster regional coordination and knowledge exchange with neighbouring countries in the Alps and across Europe.

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

Continue long-term mass measurement programmes. Early start replacement measurements for vanishing glaciers.

Continue long-term FV series, extend sample size with decadal length change assessments from remote sensing. Encourage geodetic change assessments for large glacier samples.

Make available national inventories from around 1850, 1980s as well as around 2000 and plan next repeat inventory towards 2020.

Spatial distribution of series

Beside a few glaciers in the Apennin, glaciers in Italy are mainly concentrated in the far north, in the Alps. While the inventories do not fully cover all the glaciers, the in-situ observations (front variation and mass balance) nevertheless show a very good spatial distribution.

