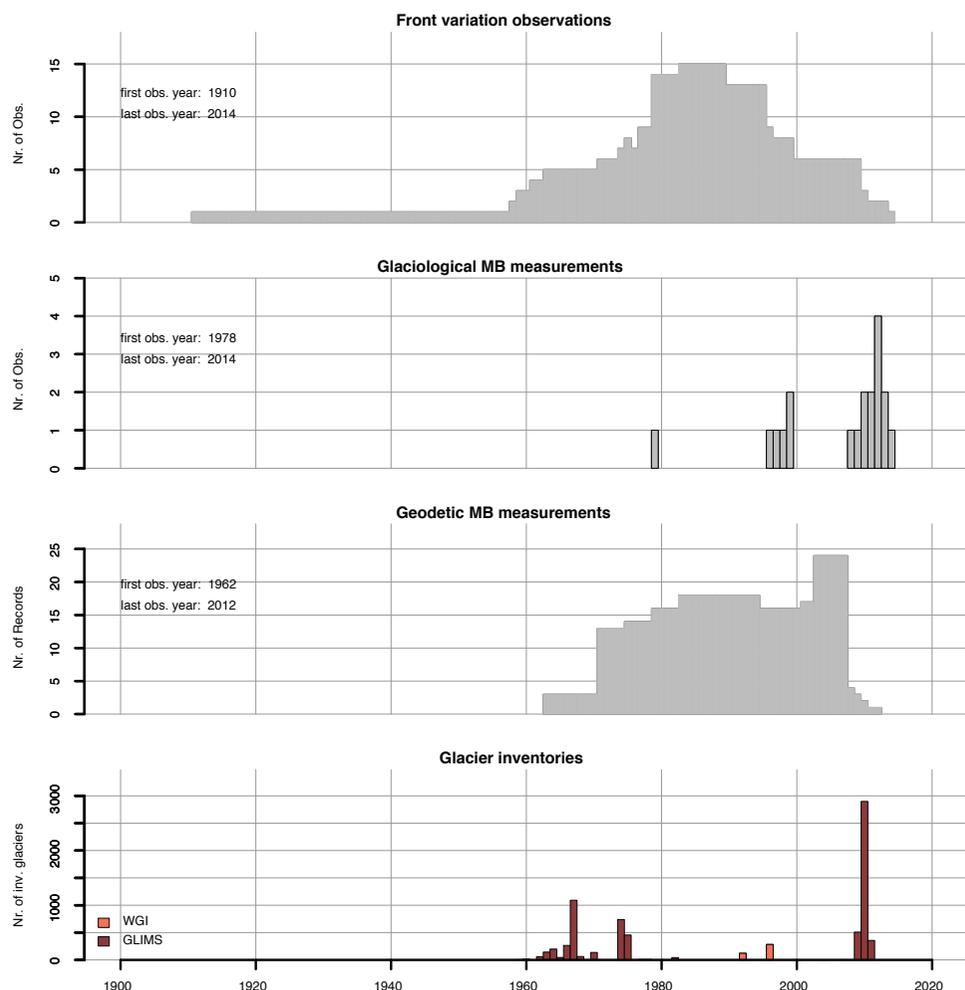


GLACIER MONITORING: NEPAL

The more than 3000 glaciers in Nepal and their related hazards (GLOF's) play an important role for the country. Glacier monitoring is naturally limited by the complex topography but remote sensing techniques are ideally exploited.

Available series



Even though 13 FV series and 5 MB series are available from Nepal, these only consist of an average of 4 observations. Continuous long-term series are sparse. Remote sensing tools, however, have been widely incorporated in the glacier monitoring process. The GLIMS database for Nepal is very comprehensive (covering 180% of the RGI area) and covers three decades of glaciated area.

Key statistics

	Front Variation	Mass Balance	Thickness Change
total glaciated area:	3'330 km ²	13	5
total coverage WGI:	85 %	Average length [years]:	16
total coverage GLIMS:	180 %	Average number of observations:	4
Number of series:	13	5	13
Average length [years]:	16	8	5
Average number of observations:	4	4	3

Present state

First attempts to coordinate national glacier monitoring. Most observations related to international research projects.

No long-term and detailed monitoring program.

Some mass balance measurements available from a few glaciers.

About a dozen front variation and geodetic observations covering the second half of the 20th century.

Partial coverage in the WGI, full coverage around 1960s and 2010 in the GLIMS database.

Future potential/needs

Strengthen national glacier monitoring activities and coordinate with glaciologists from neighbouring countries.

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

Continue and extend mass balance network, aim for good coverage of different glacier regions.

Encourage the use of remotes sensing data for assessing glacier changes in length and volume.

Plan next repeat inventory towards 2020.

Spatial distribution of series

Glaciers in Nepal are situated in the Himalaya mountain range. Compared to the large number of glaciers in the Nepal Himalayas, few glaciers are under (long-term) observation in the country, although individual studies have been made of the AX010, Mera, Yala, and Rikha Samba glacier.

The remoteness and inaccessibility of most glaciers naturally limits the number of systematic in-situ monitoring programs. Remote sensing techniques are therefore of great value as these enable the preparation of a comprehensive glacier status assessments.

