GLACIER MONITORING: AFRICA

The few African glaciers are found in East Africa located on Ruwenzori (UG), Mount Kenya (KE), and Kilimanjaro (TZ). These ice bodies are situated in the tropical climate zone and their recession and vanishing since the late 19th century has been well documented in the three countries.

Available series

Glaciological studies on these three African mountains have a long tradition. 14 FV series document the glacier changes since 1893, one glaciological MB series was carried out on Lewis Glacier covering a period of 35 years. 11 geodetic series complement the record of tropical glaciers in Africa. About half of the current ice covered area has been inventorized in the WGI and the GLIMS database.

Key statistics

<table>
<thead>
<tr>
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<th>Front Variation</th>
<th>Mass Balance</th>
<th>Thickness Change</th>
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</thead>
<tbody>
<tr>
<td>Number of series:</td>
<td>14</td>
<td>58</td>
<td>35</td>
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<tr>
<td>Average length [years]</td>
<td>1</td>
<td>11</td>
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<tr>
<td>Average number of observations</td>
<td>7</td>
<td>22</td>
<td>4</td>
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Present state

Coordination of glacier monitoring activities in Africa through NC in US (during 1980s and 90s) and AT (after 2010).

Future potential/needs

- Initiated capacity building and twinning efforts to start national monitoring activities.
- Coordinate activities of and with international research teams.
- Document final years of glacier existence.
- Reconstruct glacier changes in length, area and volume from historical sources.

Spatial distribution of series

The few tropical glaciers in Africa are found near the equator and are located on the mountains Ruwenzori (5,109 m asl), Mount Kenya (5,199 m asl), and Kilimanjaro (5,895 m asl). The total ice covered area as based on the best estimate from the Randolph Glacier inventory (Version 5) is currently estimated at 4 km² with almost half of the glaciers vanishing in the 20th century. Hence, most of the FV series were abandoned before 2005. The only mass balance measurements are carried out on Lewis Glacier, where also the FV series is still continued.