Spain is active in glacier monitoring in the main country as well as in Antarctica. The number of glaciers in Spain and the glaciated area, respectively, is very small, so is the number of observation series.

Available series

Front variation observations

Glaciological MB measurements

Geodetic MB measurements

Glacier inventories

Key statistics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Front Variation</th>
<th>Mass Balance</th>
<th>Thickness Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of series</td>
<td>31</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Total coverage WGI:</td>
<td>176%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average length [years]:</td>
<td>32</td>
<td>22</td>
<td>3</td>
</tr>
<tr>
<td>Average number of observations:</td>
<td>4</td>
<td>23</td>
<td>2</td>
</tr>
</tbody>
</table>

Present state

Nationally coordinated glacier monitoring, including activities in Antarctica.

Future potential/needs

Continue national monitoring activities and coordination with neighbouring countries.

Detailed mass balance programme at Maladeta glacier.

Continue monitoring programme at Maladeta glacier.

One glaciological measurements series.

Continue monitoring programme at Maladeta glacier.

A few dozen front variation series covering the second half of the 20th century. Geodetic surveys of about a dozen glaciers for the end of the 20th century.

Complement front variation measurements with remote sensing data. Encourage geodetic volume change assessment.

Full coverage in WGI, no coverage in GLIMS. [=> Why do the WGI point not show up in the Factsheet?]

Reconstruct glacier inventories with remote sensing data and maps. Plan next repeat inventory towards 2020.

Spatial distribution of series

The very few glaciers in Spain are situated in the far North of the country, in the Pyrenees, and build Europe's southernmost ice bodies. A lot of series were stopped in the last decade.

Front variation measurements started in the late 1940s and showed a peak in the 1980s. Nowadays the number of series decreased significantly. MB observations are available for one glacier, Maladeta glacier, from 1991 on. Thickness change measurements are available for about a dozen glaciers for the 1980s and 1990s.