SUPPLEMENTARY INFORMATION FOR:

Revisiting glacier mass balance sensitivity to surface air temperature using a data-driven regionalization

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Supplementary Figures S1 – S20

These figures provide further detail on the representativeness of glaciers, the clustering result and how it compares with RGI zones.

Figure S1: Comparison of the set of all monitored glaciers, the set of reference glaciers, and the RGI for three key variables: minimum and maximum elevation, and area (in logarithmic scale). For elevations the bar plot used 500-m bins. It is clear that the set that considers all monitored glaciers is much less biased than reference glaciers, relative to the RGI, as almost every bin of the RGI is accompanied by a bar of the set. This is not the case for the set of reference glaciers, as all plots show some bins no represented at all, with a clear bias towards low elevation glaciers. This is especially important for minimum and maximum elevations, key factors in determining the climatic regime according to our results, as the set of monitored glaciers fills all bins. In the case of area, that in our analysis resulted unimportant for classification at this global scale, only very small glaciers, below the threshold normally applied for defining a glacier, seem underrepresented in the set of all monitored glaciers (~2.5 is the log of 0.08 km²). This clearly contrasts with the bias in reference glaciers (data source: Randolph Glacier Inventory and the World Glacier Monitoring Service).
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