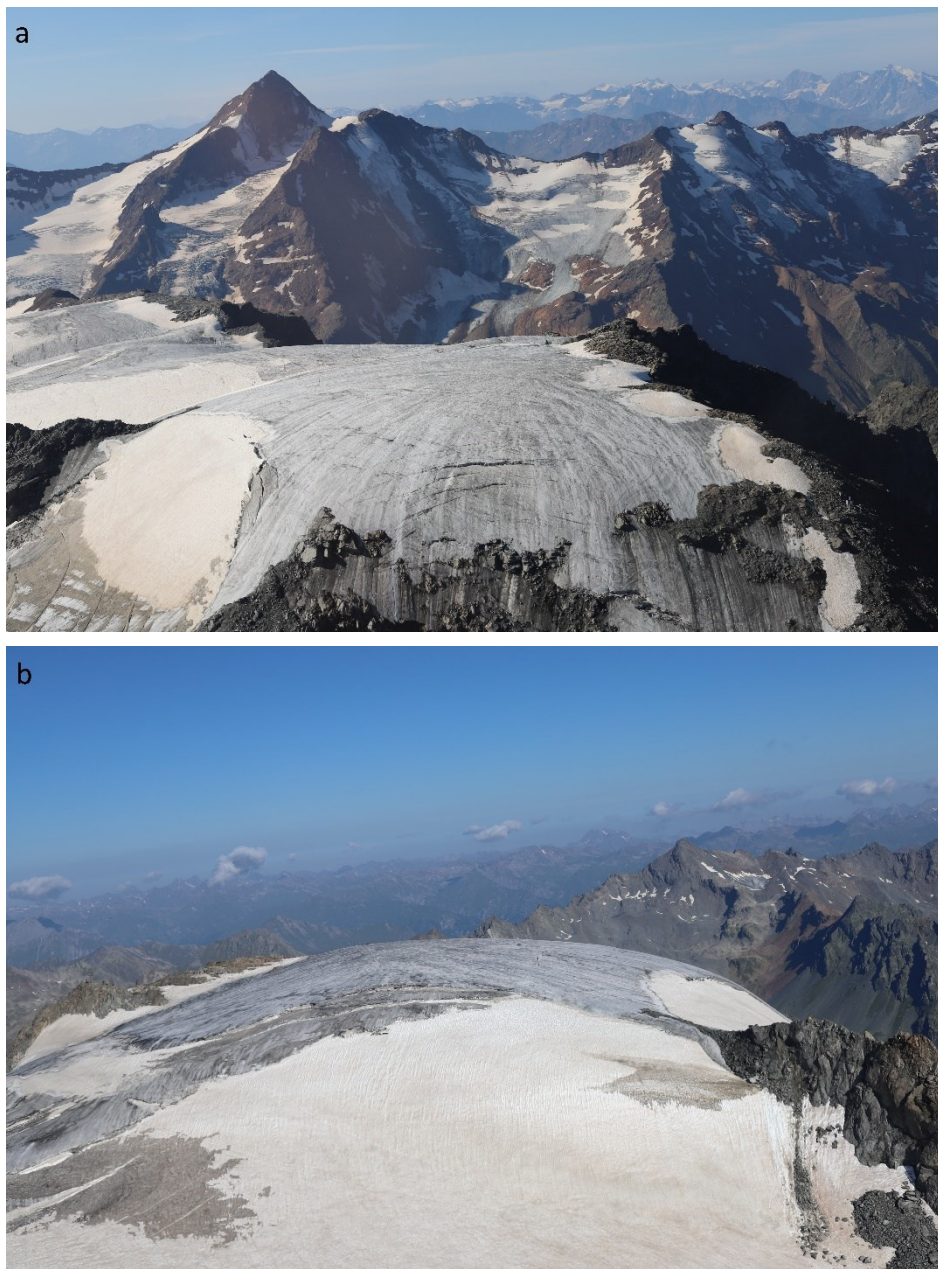
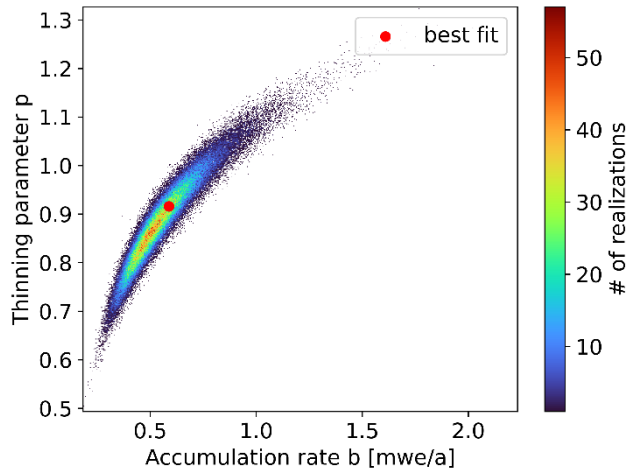
Supplementary Information

5   **Figure S1: Aerial photos taken from the WSS summit region from August 2024. (a) from NE (b) from SE**

Figure S2: Photo of the summit region of the WSS summit glacier. The uniformly appearing dust layer due to ablation indicates the homogeneous common depth horizon across the summit region. Photo taken by A. Fischer.

10   **Figure S3: Parameter distribution of the 10^5 MC realizations of the 2p model. The best fit was obtained by fitting the measured values, while all other realizations stem from MC sampling from the age distributions and the variation of the LSS parameters.**