



Supplement of

Glacier mass balance and its response to 2022 heatwaves for Kangxiwa Glacier in the eastern Pamir: insights from time-lapse photography

Ying Xie et al.

Correspondence to: Wei Yang (yangww@itpcas.ac.cn)

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Supplementary Figures

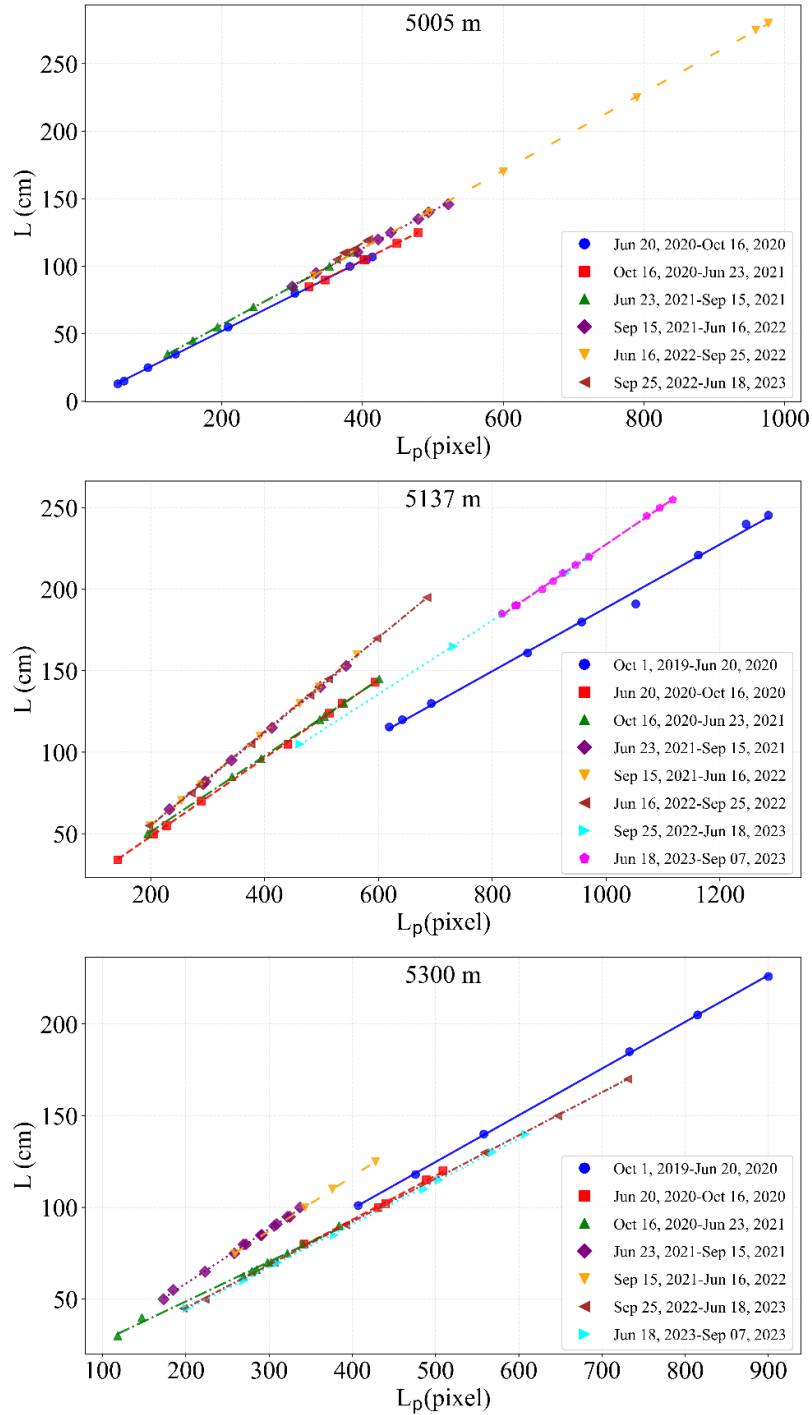
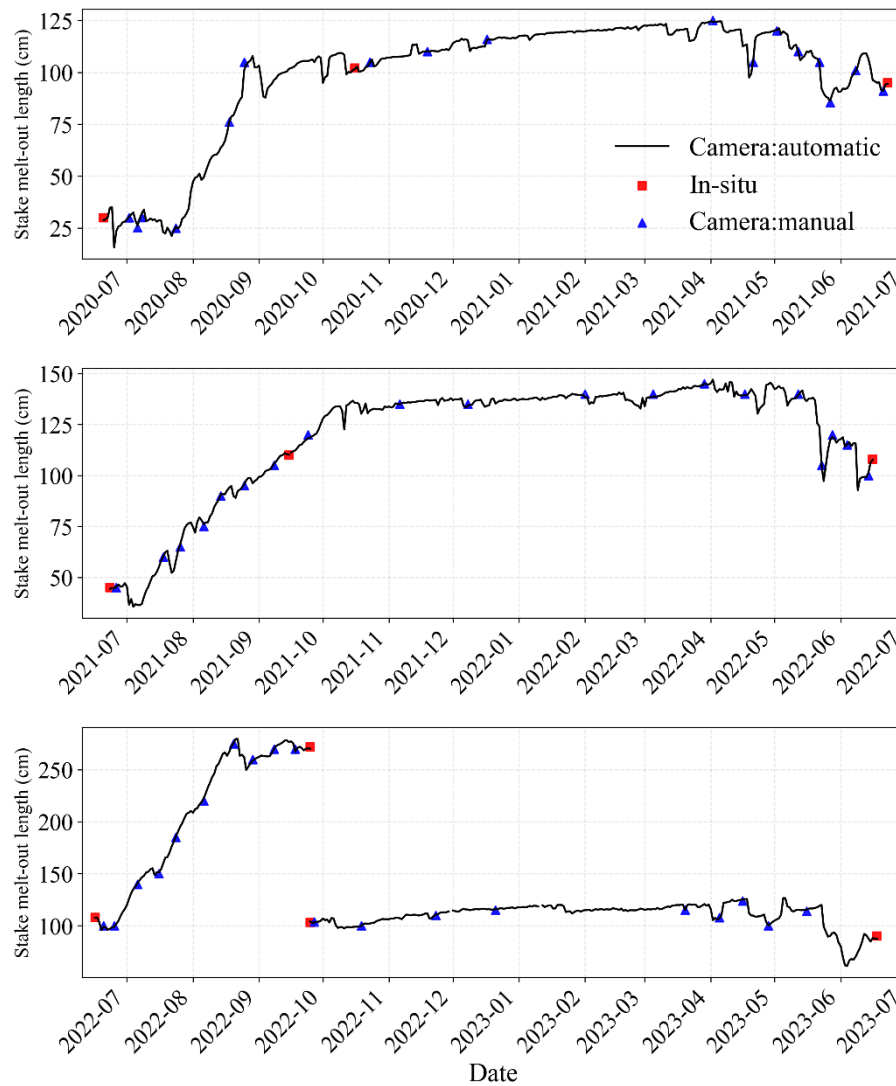
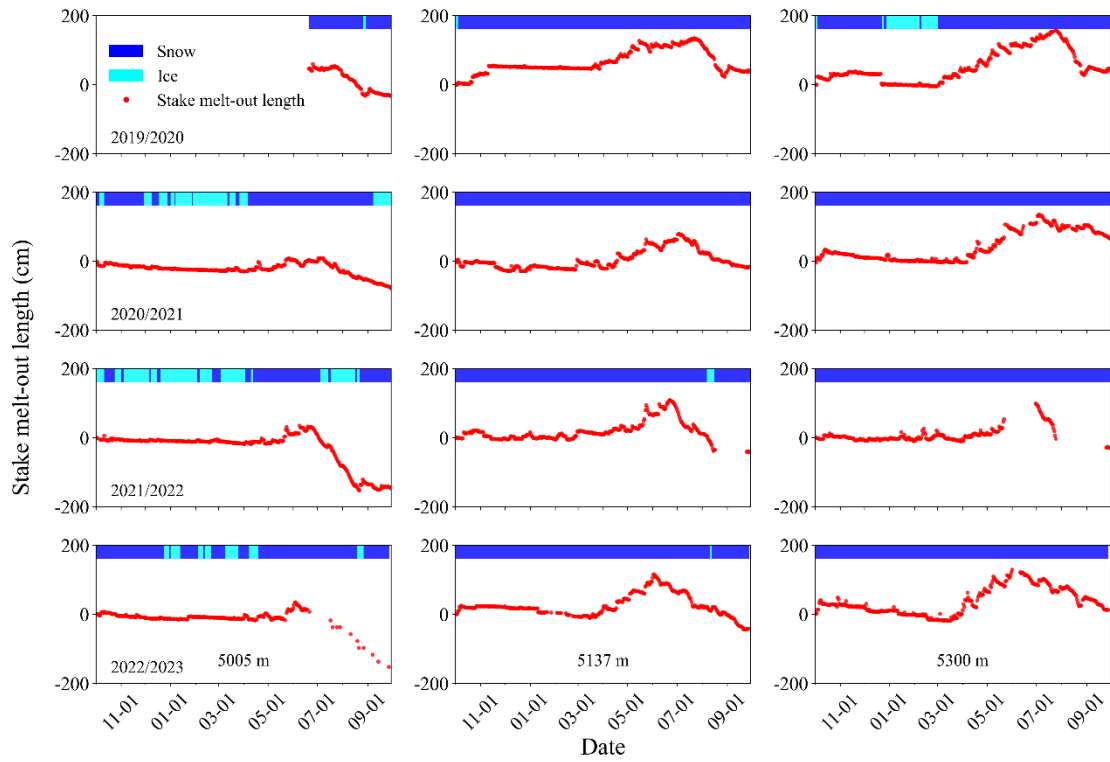


Figure S1. Linear relationship between L_p and L for each monitoring period at each camera site.



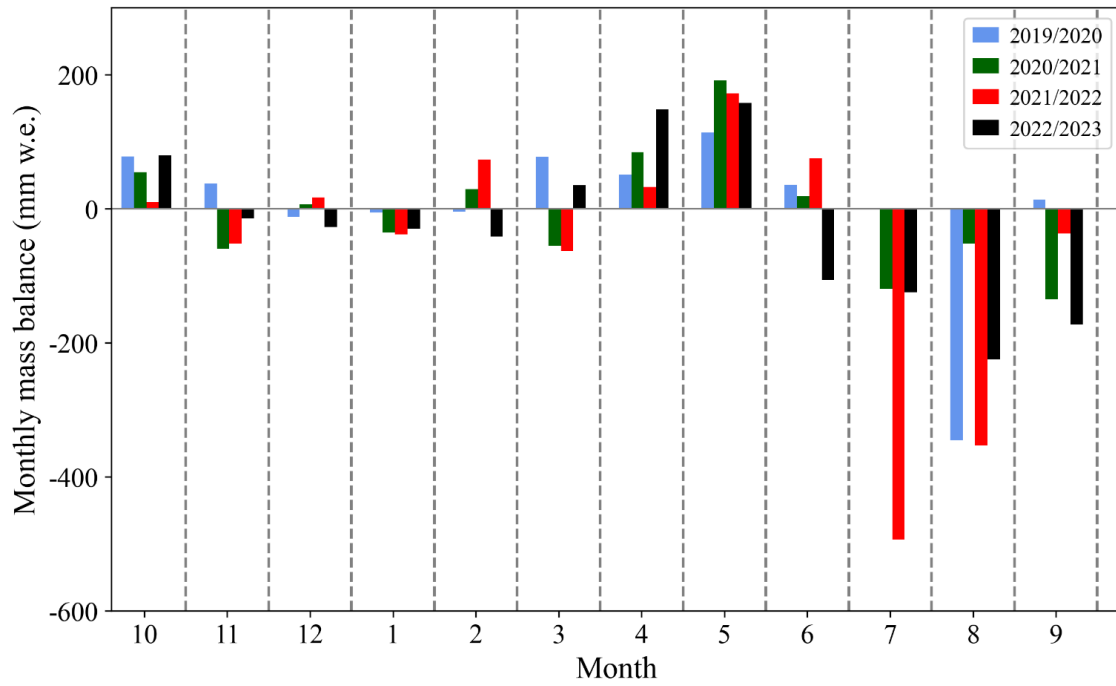
625 **Figure S2.** The performance of stake melt-out lengths derived automatically from time-lapse cameras (black line), compared with in-situ observations (red square) and manual inspections (blue triangle) for a stake at the elevation of 5005 m asl. Noted that the camera monitoring systems were maintained in June and September in each year during the period from 2020 to 2023.



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Figure S3. Changes in stake melt-out length derived by subtracting all data from the baseline values recorded on the first day of each hydrologic year on the Kangxiwa Glacier and evolutions of snow and bare ice surface conditions over the hydrological years 2019/2020 to 2022/2023.

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640 **Figure S4.** Comparison of monthly glacier mass balance of Kangixwa Glacier between four hydrological years of 2019/2020-2022/2023.

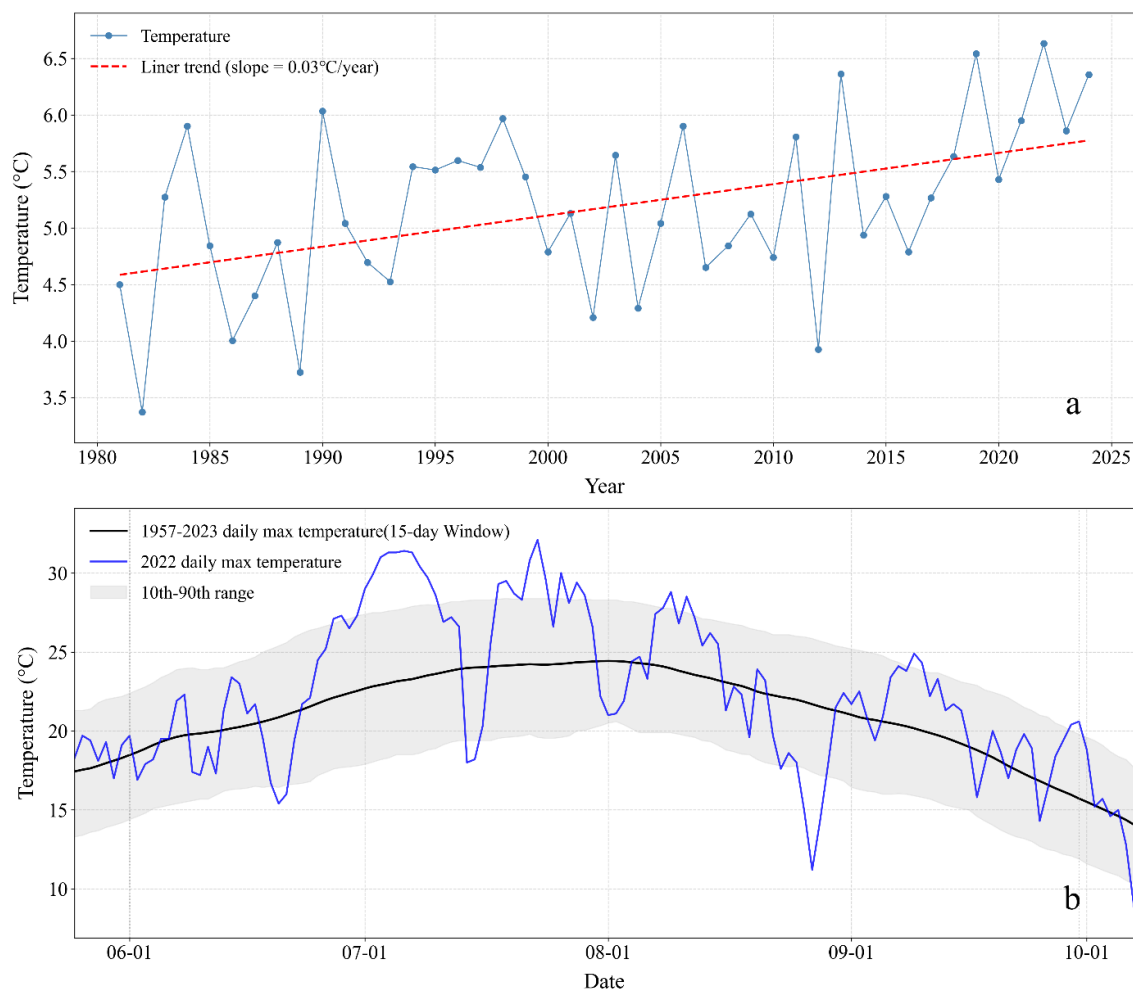


Figure S5. (a) Variation of mean ERA5-land air temperature in July-September at the corresponding grid point of Kangxiwa Glacier 645 during the period from 1981 to 2024. (b) Comparison of June-September daily max air temperature in 2022 with the 1957-2023 mean at Taxkorgan station.