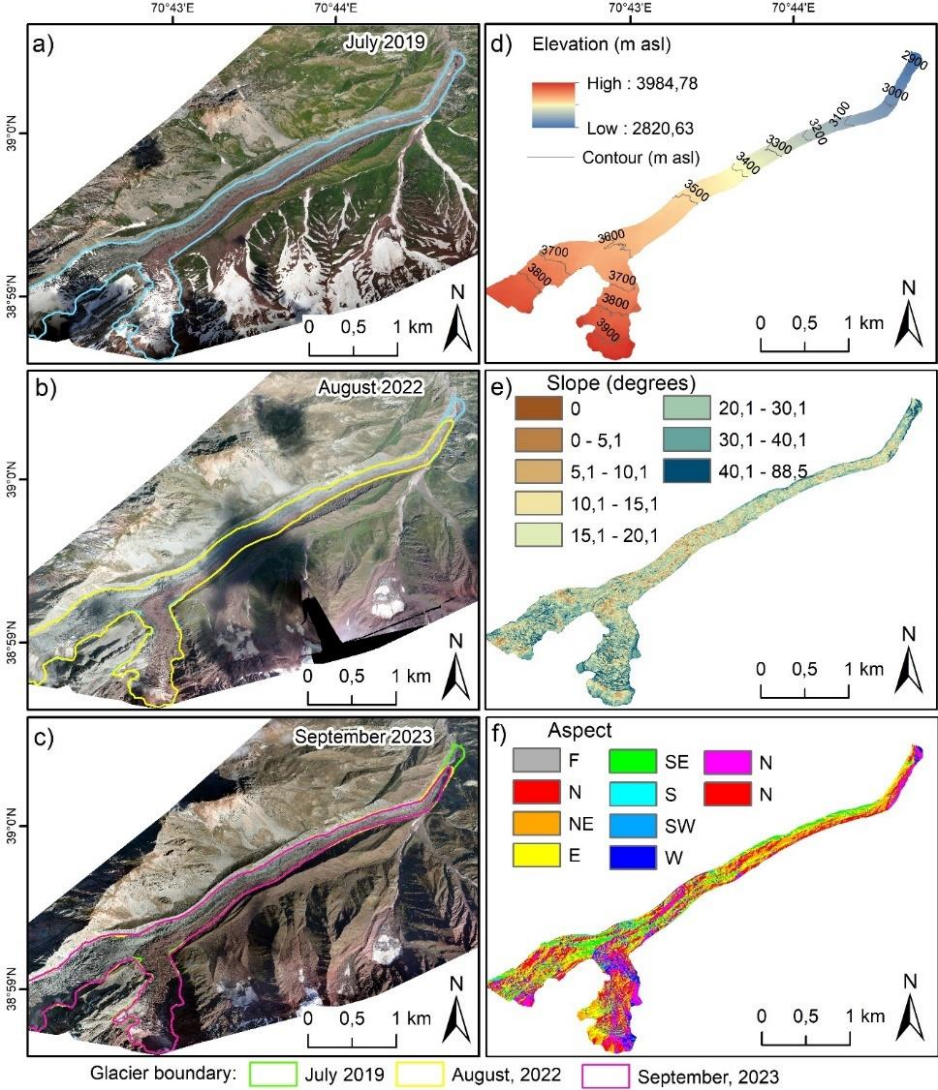


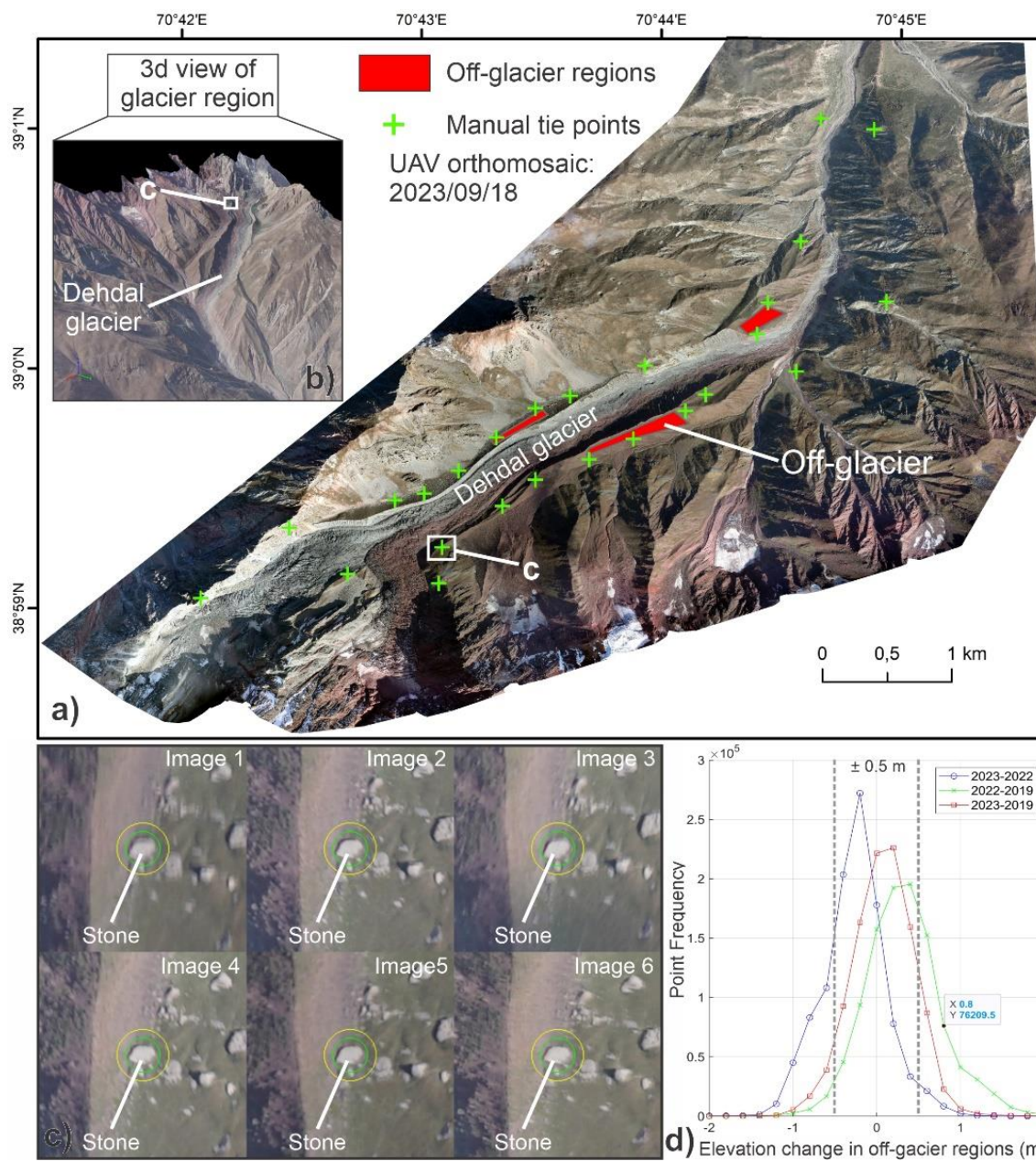
Implications of glacier detachment triggered by a surge event at Dehdal Glacier in the Pamir Mountains, using daily PlanetScope imagery

Supplementary Figures



5

Supplementary Figure S1. UAV-derived orthomosaics of the Dehdal Glacier acquired in July 2019, August 2022, and September 2023, showing changes in glacier extent and surface morphology before the 2025-2026 surge (a-c). Glacier outlines for each survey are indicated. Panels (d-f) show glacier surface elevation, slope, and aspect derived from the 2023 UAV DEM.



Supplementary Figure S2. DEM co-registration and uncertainty assessment based on off-glacier stable terrain. (a) Distribution of manually selected tie points and off-glacier reference areas used for DEM alignment. (b) Examples of stable reference features used for co-registration. (c) Histograms of elevation differences over off-glacier regions for different DEM pairs, indicating residual vertical uncertainty within ± 0.5 m.