SUPPLEMENT TO

Sudden large-volume detachments of low-angle mountain glaciers – more frequent than thought

Table S1: Existing literature for the low-angle glacier detachment events and summary remarks where and how the present study extends existing knowledge.

Name of event	Literature	Contribution from the present work
Devdorak	Reineggs, 1796; Viskovatov, 1864; Statkowski, 1877, 1879; Stebnitsky, 1877; Khatisyan, 1889; Zaporozhchenko, Chernomorets, 2004; Petrakov et al., 2008; Chernomorets, 2014; Tavasiev, Galushkin, 2014; Dokukin et al., 2015; Asoyan, Rototaeva, 2016; Chernomorets et al., 2016; Tielidze et al., 2019	Compilation of referenced work and interpretation with respect to glacier detachments in general. Existing work supplemented by own satellite observations, development after 2014, slopes and permafrost conditions.
Kolka	Haeberli et al., 2004; Kotlyakov et al., 2004; Huggel et al., 2005; Drobyshev, 2006; Evans et al., 2009b	Compilation and interpretation of existing work; glacier slope and permafrost information added; interpretation modified
Rasht	Dokukin et al. 2019	Many new observations added to the short descriptions available in literature, and discussion with respect to glacier detachments in general
Aru	Tian et al., 2017; Kääb et al., 2018; Gilbert et al., 2018	Summary of existing work and discussion with respect to glacier detachments in general
Amney Machen	Paul, 2019	Most information based on literature, but the 2019 event was added, some date estimates improved, permafrost information added, and interpretations modified.
Sedongpu	Tong et al., 2018; Liu et al., 2019; Chen et al., 2020	Mainly own observations and conclusions, compared to list of events available in literature (focus in literature is on river damming), and discussion with respect to glacier detachments in general
Flat Creek	Jacquemart et al., 2020; Jacquemart and Loso, 2019	Volume estimation of 2016 event is new, otherwise mainly summary of existing work and discussion with respect to glacier detachments in general.
Aparejo	Ugalde et al., 2015; Ugalde, 2016; Ugalde et al., 2017; Marangunic, 1980	Mainly summary of existing work
Leñas	Falaschi et al., 2019	Mainly summary of existing work and discussion with respect to glacier detachments in general
Tinguiririca	Iribarren Anacona et al., 2015	Many new observations and interpretations added to existing short description in literature, and discussion with respect to glacier detachments in general

Supplementary Figures

Fig. S1: Situation of Kolka Glacier, 14 Sept 2019 (© GoogleEarth, CNES/Airbus).

Fig. S2: Rasht valley glacier that detached in 2019 on 30 Jul 2007 (© GoogleEarth, Maxar)

Fig. S3: Later deposit area of the Rasht 2019 detachment showing features of a potential earlier ice-rock avalanche (streamlined features to the middle and lower part; rough chaotic microtopography to the upper right). (© GoogleEarth, Maxar).

Fig. S4: Situation of the two Aru glaciers in July 2020 (© Planet).
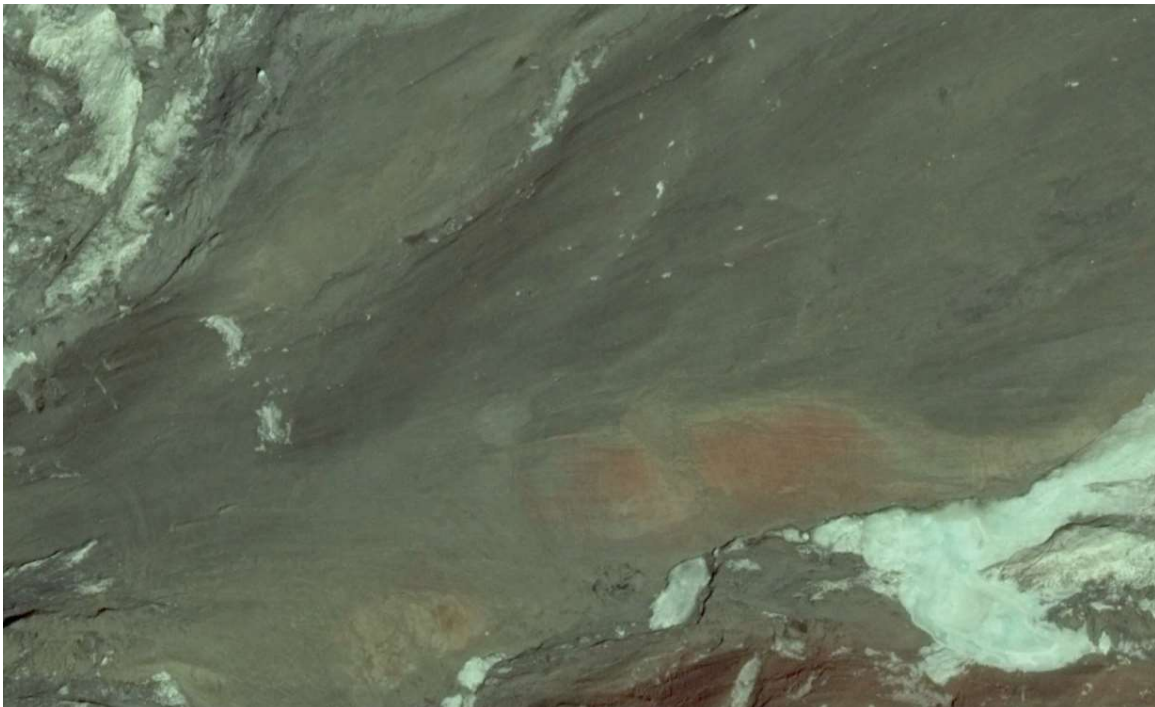
Fig. S5: Striations in the path of the Aru-1 avalanche. 27 Feb 2017 (© GoogleEarth, Maxar).

Fig. S6: Detail of Sedonpgu Glacier 4 Dec 2017 (© GoogleEarth, Maxar)

Advanced Zelunglung Glacier

Deposits of a former ice-rock avalanche ?
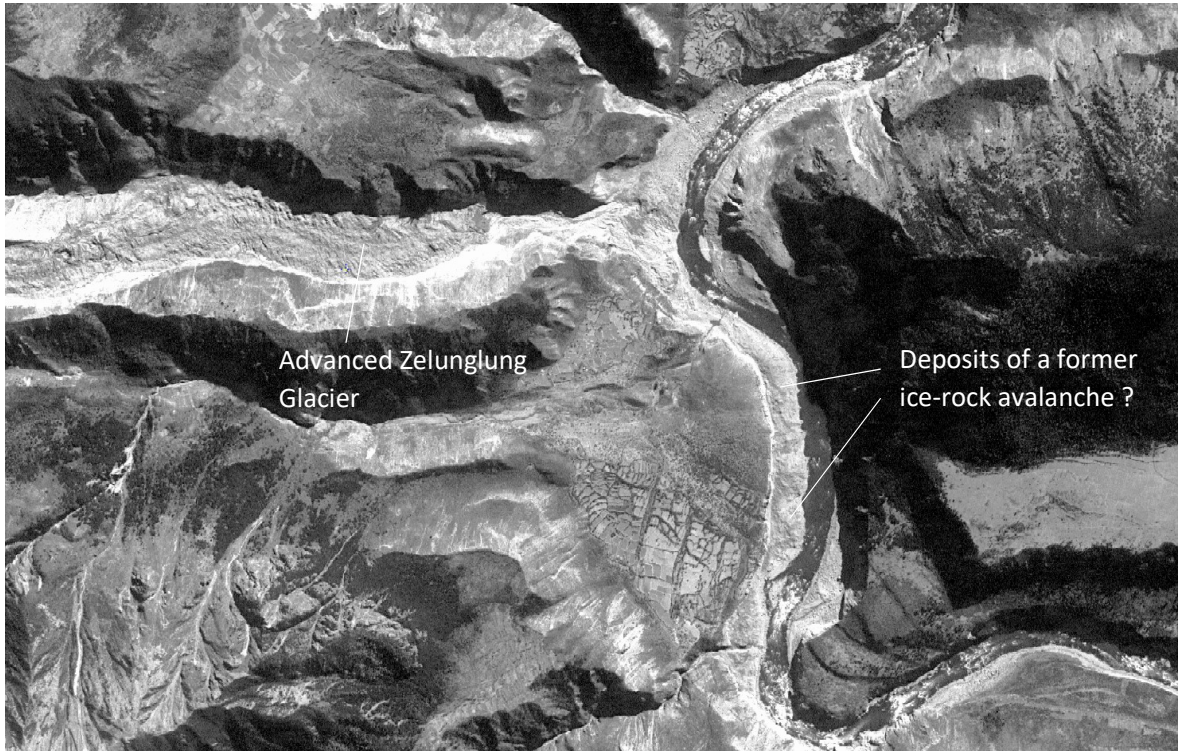
Fig. S6: Corona image of 1969 over Zelunglung Glacier.