

Supplementary for

Spatiotemporal Variability of Surface Velocities of Monsoon Temperate Glaciers in the Kangri Karpo Mountains, Southeastern Tibetan Plateau

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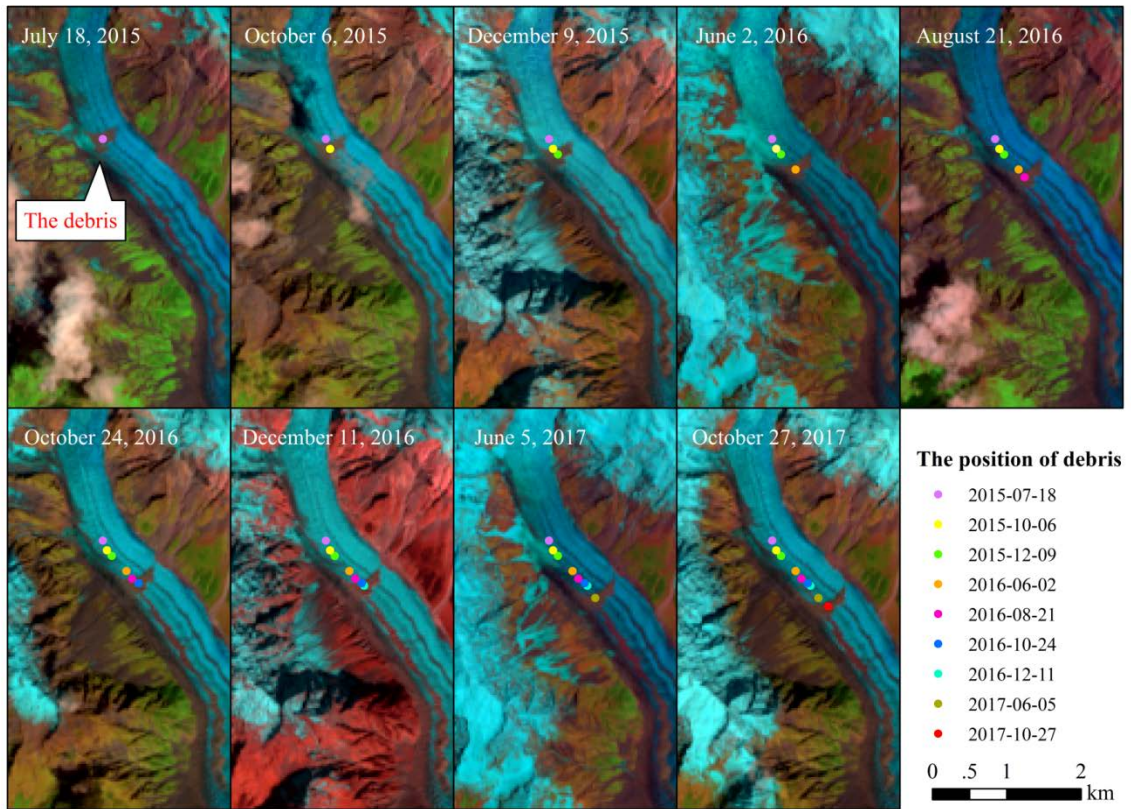


Figure S1. Coloured circles show that some debris came from the rockfall in Ata Glacier and moved downward $> 450 \text{ m a}^{-1}$ during 2015–2017.

Table S1. Details of processed image pairs. ^aTemporal separation.

Sensor/Path- Row	ID		Date		Cloud Cover (%)		Span (d) ^a	Resolution (m)	Uncertainty		
	Primary	Secondary	Primary	Secondary	Primary	Secondary			Mean (m a ⁻¹)	STD (m a ⁻¹)	Number of points
Landsat TM/134-40	LT51340401987362BKT00	LT51340401988301BJC00	12/28/1987	10/27/1988	4.02	33.41	304	30	25	35	9357
	LT51340401997005SGI00	LT51340401998024BKT00	01/05/1997	01/24/1998	32.03	11.22	384	30	28	33	8842
	LT51340402000366BJC00	LT51340402001352BJC00	12/31/2000	12/18/2001	35.73	36.12	352	30	29	38	8178
	LT51340402003326BJC00	LT51340402004345BJC00	11/22/2003	12/10/2004	21.65	53.28	384	30	30	36	7962
Landsat OLI/134-40	LC81340402014004LGN00	LC81340402014356LGN00	01/04/2014	12/22/2014	7.21	5.25	352	15	20	25	12548
	LC81340402014356LGN00	LC81340402015343LGN00	12/22/2014	12/09/2015	5.25	11.43	352	15	22	28	11739
	LC81340402015343LGN00	LC81340402016346LGN00	12/09/2015	12/11/2016	11.43	3.8	368	15	20	24	12833
	LC81340402016346LGN00	LC81340402017316LGN00	12/11/2016	11/12/2017	3.8	5.21	336	15	18	21	13545
	LC81340402017316LGN00	LC81340402018335LGN00	11/12/2017	12/01/2018	5.21	1.93	384	15	15	23	12691
	LC81340402018335LGN00	LC81340402019338LGN00	12/01/2018	12/04/2019	1.93	21.73	368	15	22	26	12196

Table S2. Detailed analysis of 15 glaciers in Kangri Karpo Mountains.

Slope	Glacier data							Flowline data			Multiyear velocity	
	Glacier name	Glacier ID	Area (km ²)	Max elevation (m)	/Min (m)	Max length (km)	Mean slope (°)	Max/Min elevation (m)	Max length (km)	Mean slope (°)	Mean velocity (m a ⁻¹)	Max velocity (m a ⁻¹)
North	Danong	CN5O282B0002	15.46	6017/4640		6.3	23	5637/4666	5.6	10.9	18	52
North	Parlung No.4	CN5O282B0004	13.52	5974/4618		7.8	19	5622/4641	7.5	8.3	15	28
North	Zuoqiupu	CN5O282B0023	7.46	5864/4460		6.0	16	5588/4484	5.5	12.1	13	26
North	Bimaque	CN5O282B0025	26.71	5807/4420		8.0	16	4992/4451	7.6	4.4	17	43
North	Yanong (branch1)	CN5O282B0037	191.43	6606/3950		32.5	15	5774/3958	31.7	3.9	182	664
North	Yanong (branch2)	CN5O282B0037	191.43	6606/3950		32.5	15	5373/3956	19.2	4.5	155	438
North	Yanong (branch3)	CN5O282B0037	191.43	6606/3950		32.5	15	5670/3955	19.7	5.7	118	243
North	Gongzha (branch1)	CN5O282B0083	31.78	6585/3840		8.3	24	5479/3849	7.6	12.8	25	152
North	Gongzha (branch2)	CN5O282B0083	31.78	6585/3840		8.3	24	5574/3909	6.2	16.5	15	84
South	Songyu	CN5O291B0104	29.99	6606/3270		8.2	35	4230/3307	6.4	10.1	13	36
South	RGI60-15.12540	CN5O291B0108	14.57	6487/3100		7.6	30	4646/3107	5.1	17.0	7	26
South	RGI60-15.12566	CN5O291B0113	19.34	6550/3560		7.7	34	4233/3584	5.6	7.4	11	25
South	RGI60-15.12587	CN5O291B0117	11.80	6830/3680		15.7	29	5180/3737	7.9	10.3	8	29
South	Xueyougu	CN5O291B0179	21.65	6882/2610		13.1	28	5218/2639	7.5	9.6	15	157
South	Ata	CN5O291B0181	13.75	5334/2450		16.7	11	3682/2482	25.0	6.0	96	689
South	RGI60-15.12627	CN5O291B0188	7.09	5716/3860		7.1	18	4980/3897	4.9	16.4	8	28
South	RGI60-15.12644 (branch1)	CN5O291B0196	56.46	6190/3830		14.7	19	5089/3845	6.5	12.2	13	37
South	RGI60-15.12644 (branch2)	CN5O291B0196	56.46	6190/3830		14.7	19	5277/4391	9.4	5.9	35	91
South	RGI60-15.12644 (branch3)	CN5O291B0196	56.46	6190/3830		14.7	19	5102/4212	7.5	7.6	29	95
South	RGI60-15.12693	CN5O291B0200	14.66	5700/3735		7.7	19	5007/3762	6.1	12.3	21	57