

Journal: Regional Environmental Change

Article: Runoff from glacier ice and seasonal snow in High Asia: separating melt water sources in river flow

Authors: Richard L. Armstrong^{1,2}, Karl Rittger^{1,2}, Mary J. Brodzik^{1,2}, Adina Racoviteanu^{1,4}, Andrew P. Barrett^{1,2}, Siri-Jodha Singh Khalsa^{1,2}, Bruce Raup^{1,2}, Alice F. Hill^{1,2}, Alia Khan^{1,2}, Alana M. Wilson^{1,2}, Rijan Bhakta Kayastha⁴, Florence Fetterer^{1,2}, Betsy Armstrong^{1,2}

Affiliations: ¹National Snow and Ice Data Center, ²University of Colorado, ³Kathmandu University, ⁴Aberystwyth University, ⁵Institute of Arctic and Alpine Research

Corresponding author: Richard L. Armstrong, rlx@nsidc.org, 303-494-7040

Table S2: Total volume of discharge contributions of melt from: Snow on Land (SOL), Snow on Ice (SOI), and Exposed Glacier Ice (EGI), every 1000m, from 6000m to 1000m for each basin. 1,000m elevation bands are noted by the lower elevation threshold (i.e., “4,000m” represents 4,000-5,000m band).

Syr Darya				Amu Darya		
Elevation Band	Melt from Snow on Land (km ³)	Melt from Snow on Ice (km ³)	Melt from Exposed Glacier Ice (km ³)	Melt from Snow on Land (km ³)	Melt from Snow on Ice (km ³)	Melt from Exposed Glacier Ice (km ³)
6000	n/a	n/a	n/a	0.2	0.4	0.6
5000	1.2	1.1	0.8	8.1	2.7	4.3
4000	19.4	0.6	0.8	24.5	0.7	1.7
3000	30.8	0	0	23.7	0	0
2000	1.1	0	0	0.7	0	0
1000	0	0	0	0	0	0

Indus				Ganges		
Elevation Band	Melt from Snow on Land (km ³)	Melt from Snow on Ice (km ³)	Melt from Exposed Glacier Ice (km ³)	Melt from Snow on Land (km ³)	Melt from Snow on Ice (km ³)	Melt from Exposed Glacier Ice (km ³)
6000	7.3	7.8	2.7	8.8	4.6	1
5000	61.4	11.7	5.7	30.7	2.2	0.7
4000	83.5	0.6	0.6	22.1	0	0
3000	66	0	0	12.5	0	0
2000	1.1	0	0	0.2	0	0
1000	0	0	0	0	0	0

Brahmaputra			
Elevation Band	Melt from Snow on Land (km ³)	Melt from Snow on Ice (km ³)	Melt from Exposed Glacier Ice (km ³)
6000	87.7	18.4	2.2
5000	177.2	26.2	4.7
4000	121.2	1	0.5
3000	35.6	0	0
2000	0.4	0	0
1000	0	0	0