

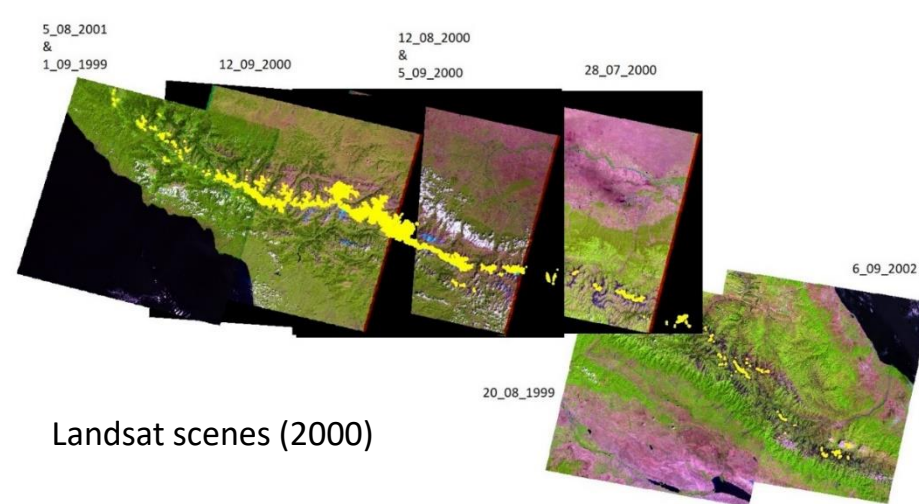
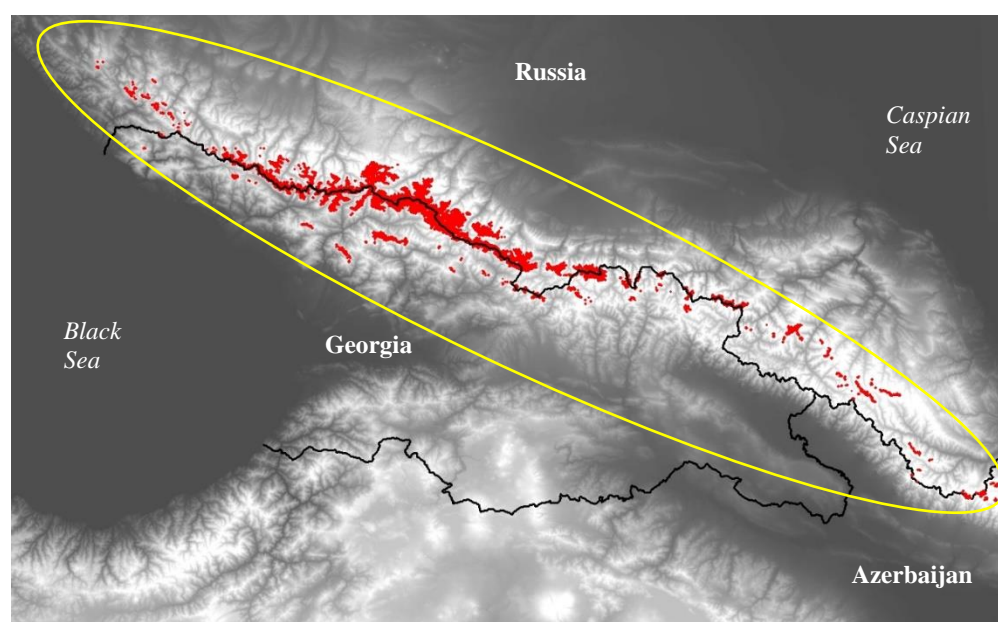
The New Caucasus Glacier Inventory

Levan G. Tielidze^{1,*}, Gennady Nossenko², Tatiana Khromova²

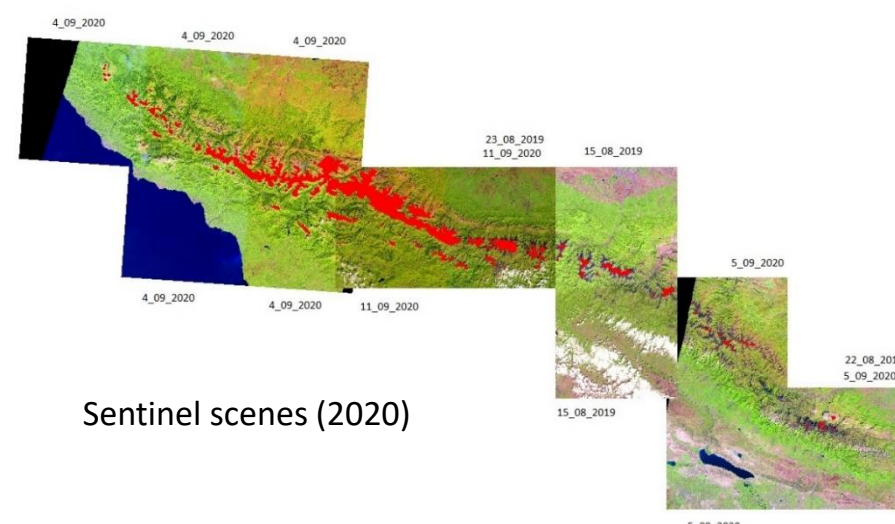
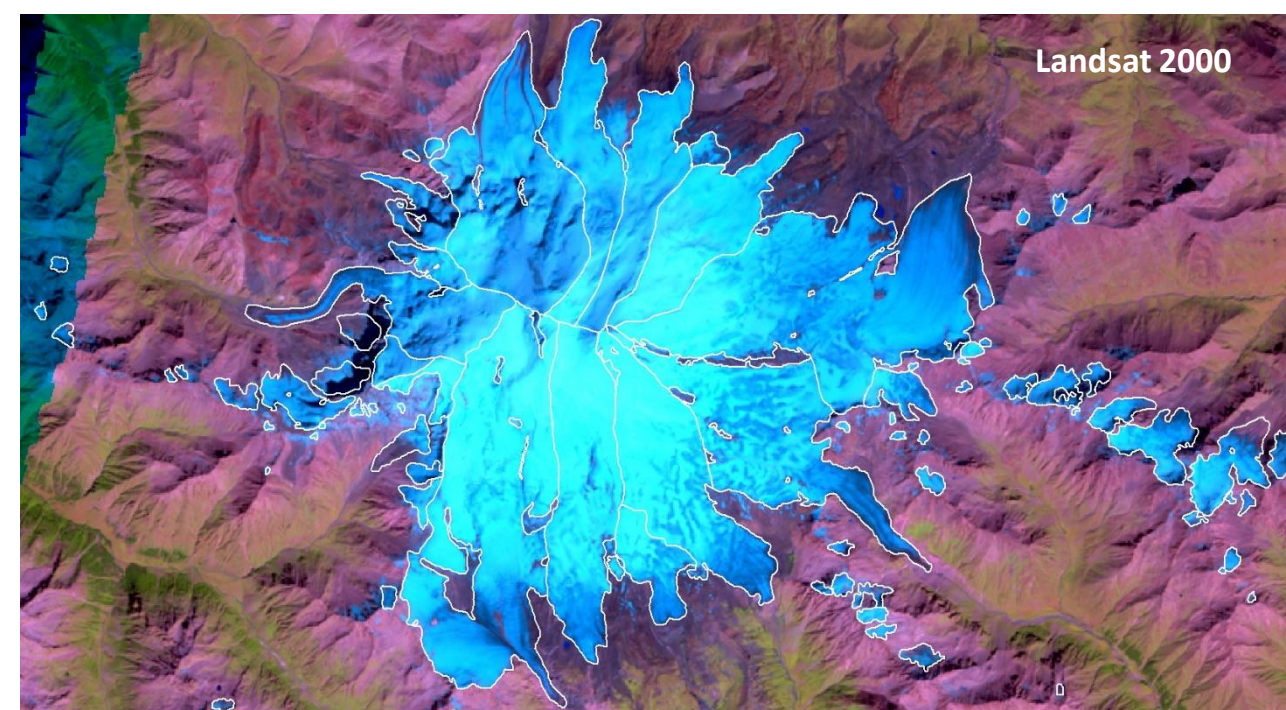
¹Antarctic Research Centre, Victoria University of Wellington, New Zealand

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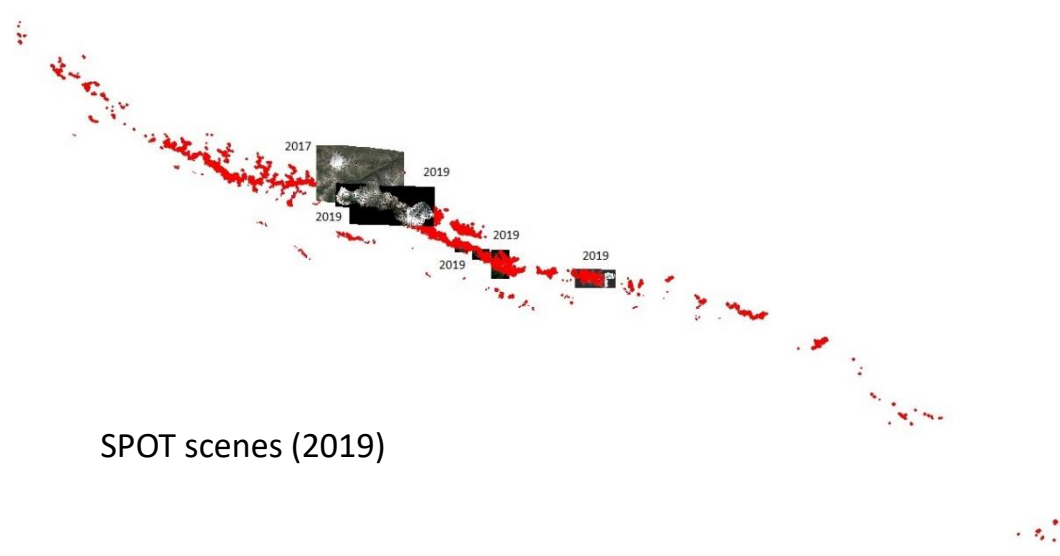
*Correspondence author: tielidzelevan@gmail.com



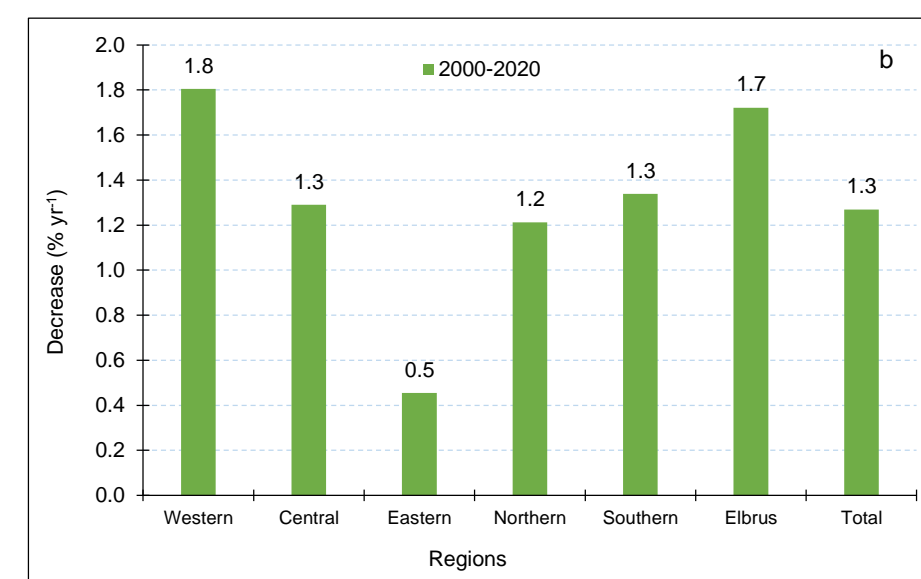
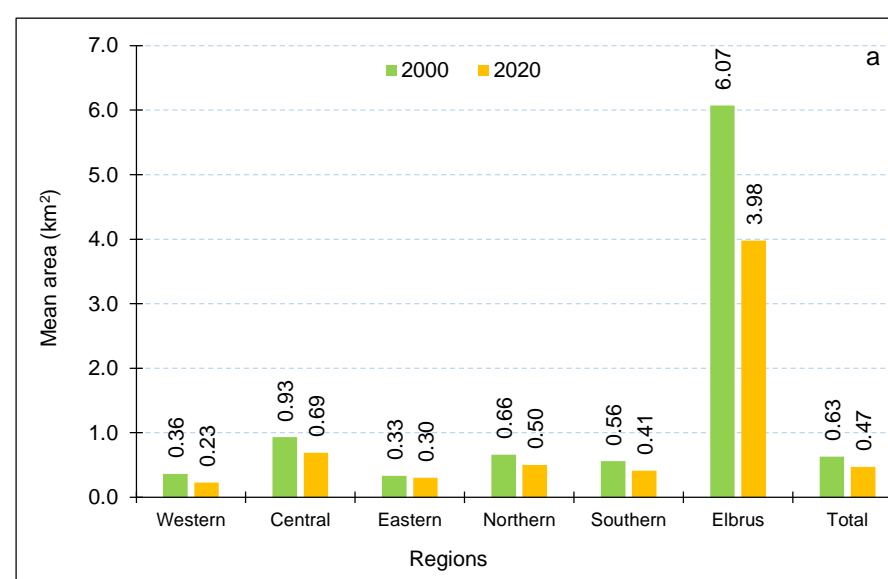
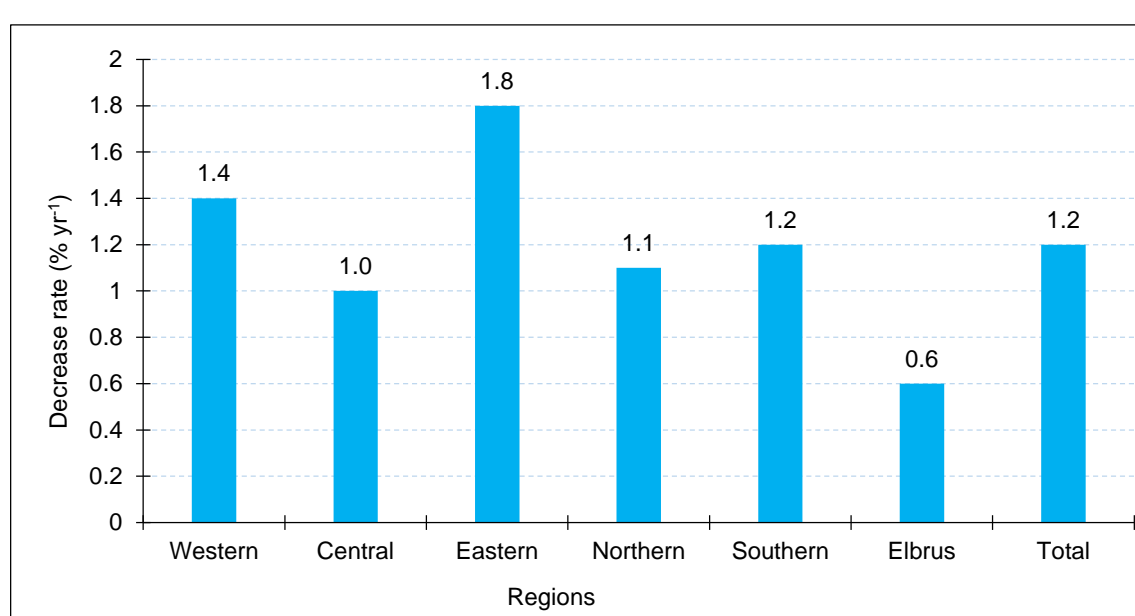
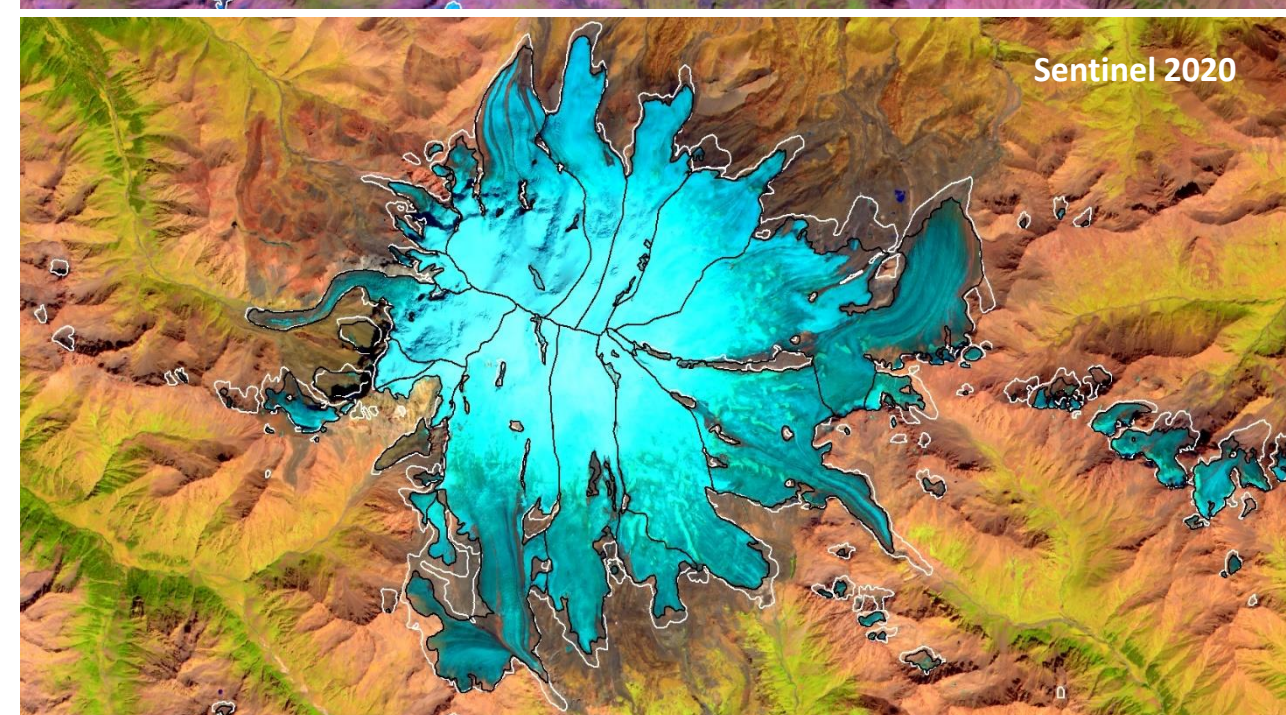
Landsat scenes (2000)



Sentinel scenes (2020)



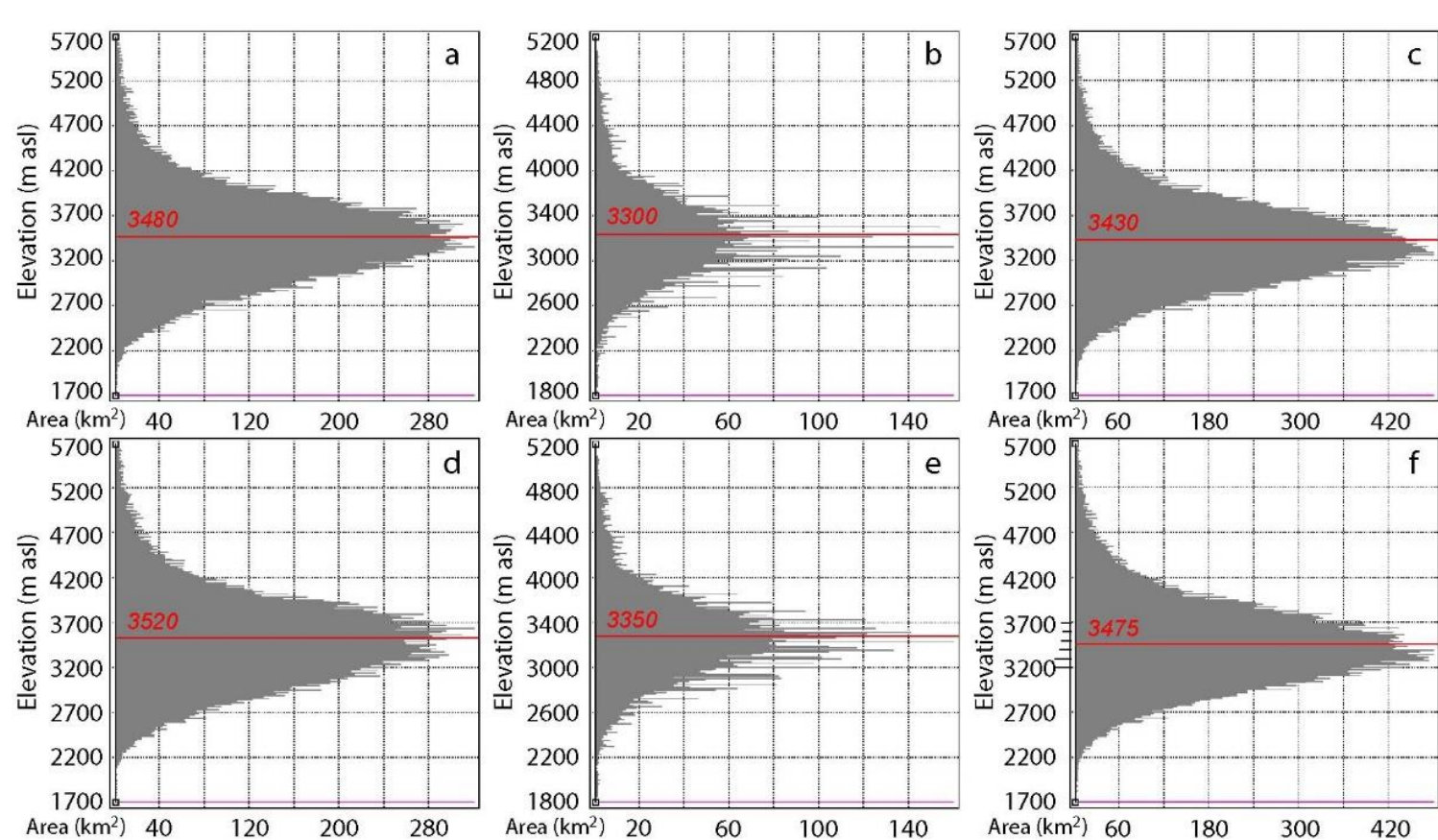
SPOT scenes (2019)



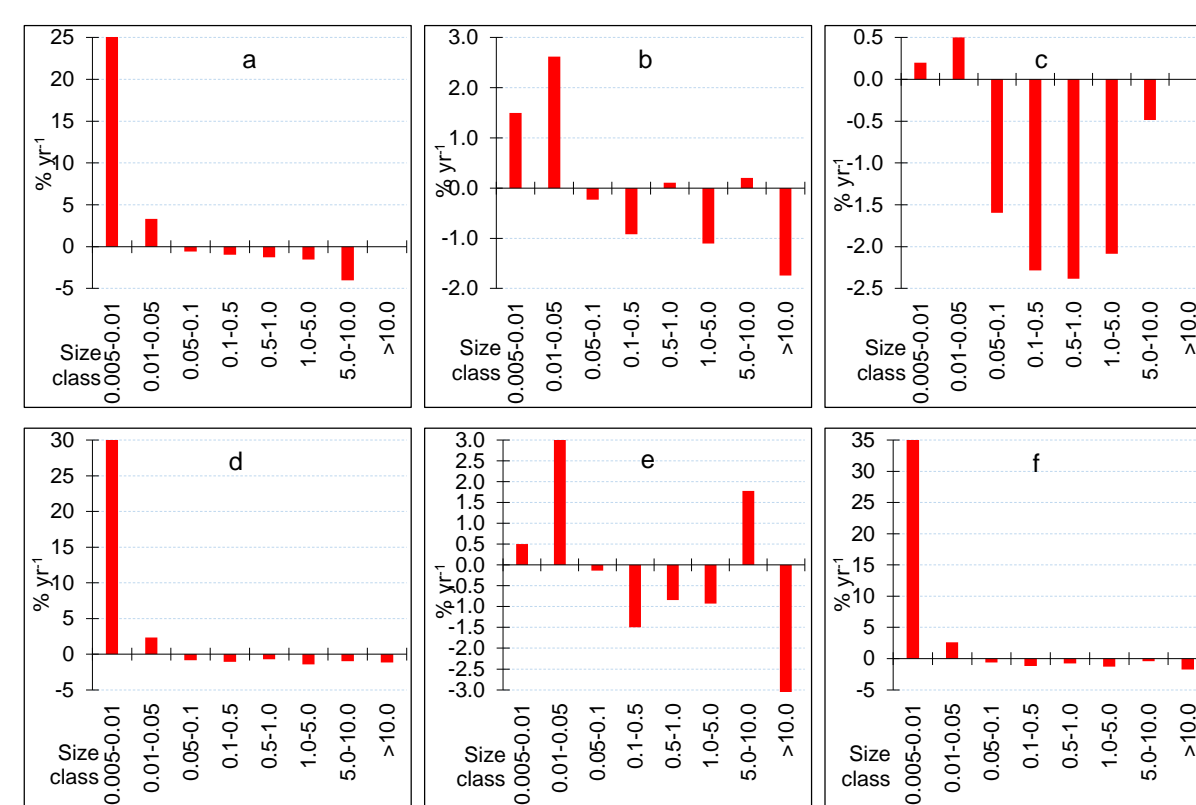
Greater Caucasus glacier area decrease by slopes and sections in 2000-2020.

a – Glacier mean area decrease by slopes and sections in 2000-2020

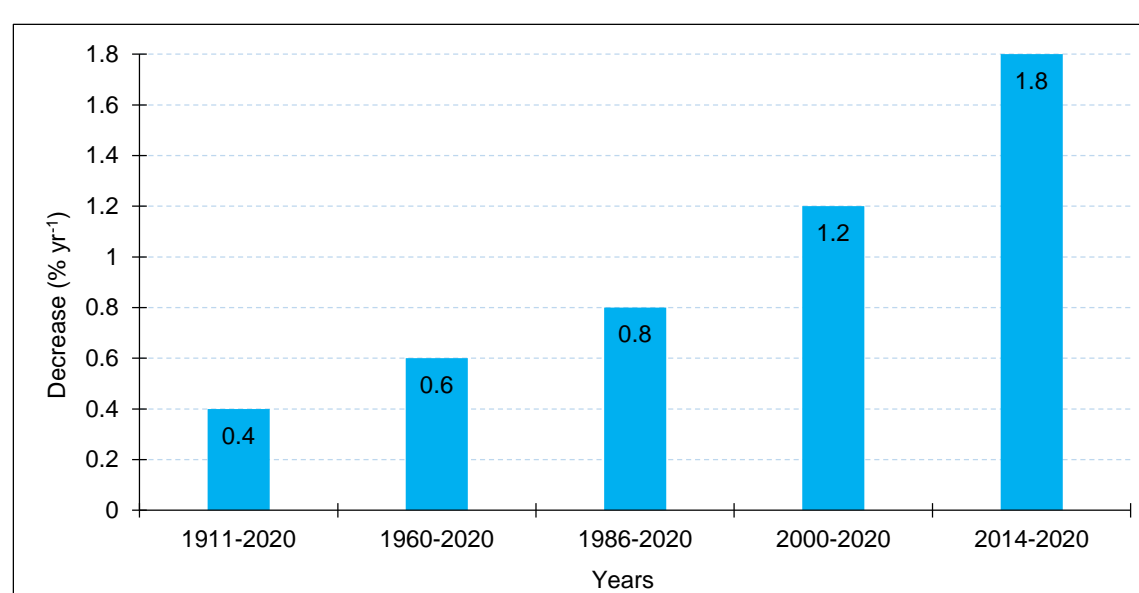
b – Annual decrease of the glacier mean area by slopes and sections in 2000-2020



Mean elevation change of the Greater Caucasus glaciers a – Northern 2000; b – Southern 2000; c – Entire Caucasus 2000 d – Northern 2020; e – Southern 2020; f – Entire Caucasus 2020



Annual area change for the eight glacier size classes in the (a) western, (b) central and (c) eastern sections, (d) northern and (e) southern slopes, and in (f) the entire Greater Caucasus in 2000-2020.



Greater Caucasus glacier area decrease in 1911–2020, 1960–2020, 1986–2020, 2000–2020, and 2014–2020.

Countries	Landsat 5-7, 1999-2002		Sentinel, 2019-2020		Decrease 2000-2020 (%)	Decrease 2000-2020 (% yr ⁻¹)
	Number	Area km ²	Number	Area km ²		
Russia	1358	931.6±2	1402	719.4±2	22.8	1.1
Georgia	804	446.6±2	821	340.8±2	23.7	1.2
Azerbaijan	24	3.4±2	14	0.8±2	76.5	3.8

Greater change by countries

Total, Greater Caucasus

2000 - 2186 glacier 1381.5±? Sq. km.

2020 - 2223 glacier 1060.9±? Sq. km.

Loss = 321 sq km. (23.2% or 1.2% yr⁻¹)