Supplementary Material

Predicting the Risk of Glacial Lake Outburst Floods in Karakorum

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Contents of this file
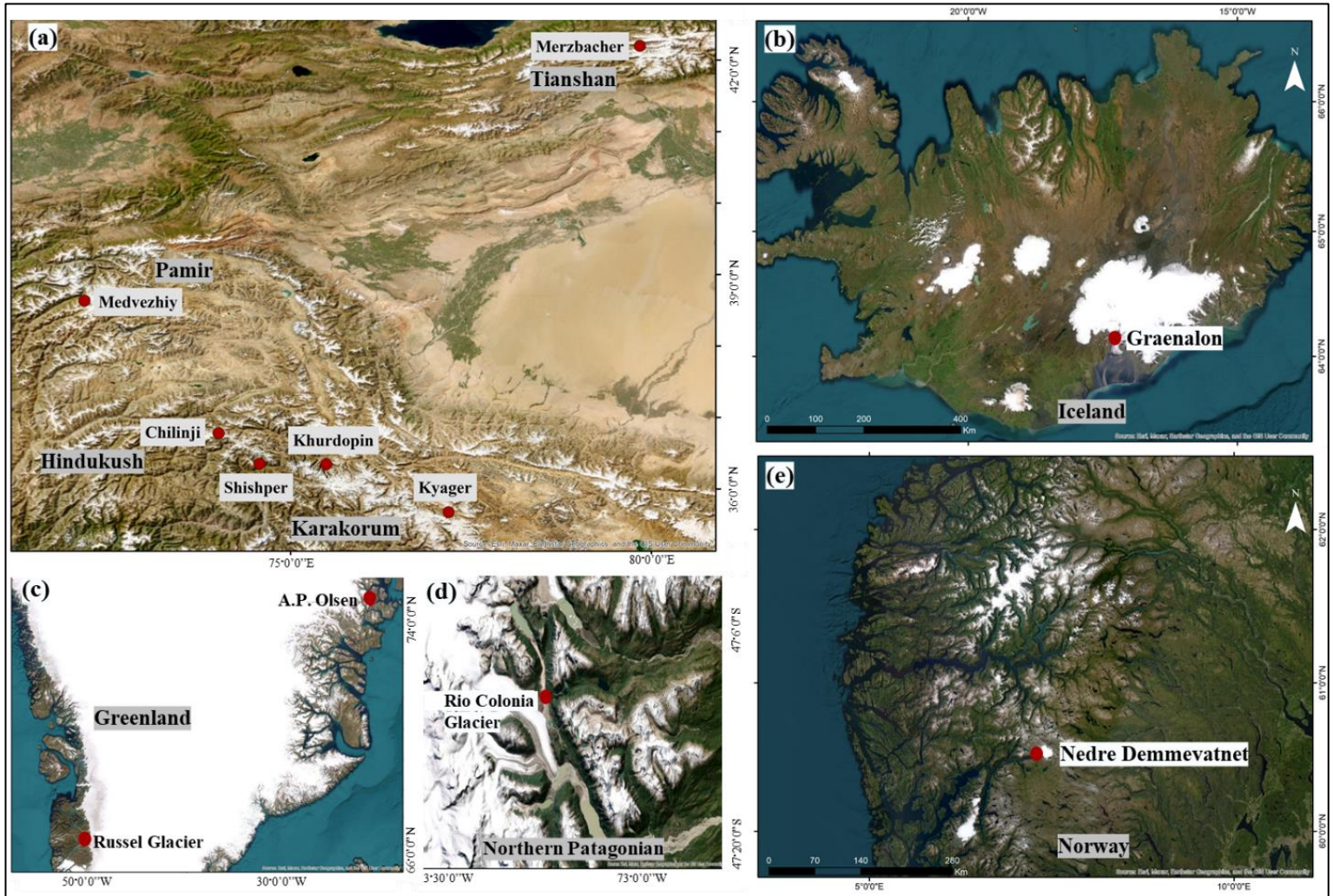
Fig. S1: The locations of mountain ranges and ice-dammed lakes around the world. The images used here are sourced from © Google Earth.

Table S1. Sources for the remote sensing data and spatial resolution employed in the present study for capturing the Glacial lakes and surge movements of glaciers from 1970 to 2022

Satellite	Sensor	Total used Scene	Launch Year	No. of MS bands (Nominal resolution)	Panchromatic resolution (nominal) (m)	Thermal band resolution
Landsat 1	MSS	17	1972	80 m (band 4)	-	-
Landsat 2	MSS	66	1975	80 m (band 4)	-	-
Landsat 3	MSS	17	1978	80 m (band 4)	-	-
Landsat 4	MSS	152	1982	30 m (band 6)	-	120 m (1)
Landsat 5	MSS		1984		-	
Landsat 7	ETM+	106	1999	30 m (band 6)	15m	60 m (1)
Landsat 8 and 9	ETM+	232	2013	30 m (band 8)	15m	100 m (2)
Sentinel-2	Multispectral Instrument	45	2015	60 m (Band 1, 9, 10)	10 m (Band 2, 3, 4, 8)	-
ASTER	state-of-the-art instrument	55	1999	30 m (Band 4-9)	15 m (Band 1-3b)	90 m (Band 10-14)
Gaofen-1 (GF-1)		12	2013	8 m	2 m	-
Gaofen-2 (GF-2)	RTD	23	2014	3.2 m	0.8 m	-
SPOT 6 and 7	NAOMI	11	2012 2014	1.5 m	1.5 m	-
Global Planet imagery	EO	5	2013 and 2014	-	3 m	-

40

Table S2. Sources of the list of Digital elevation models used in this study

S.No.	Satellite/Sensor	Resolution (m)	Resample	Glacier Sites	Source
1	UAV	0.6311	-	Shishper and Khurdopin	Generated from the field data
2	SRTM	90	30		https://lta.cr.usgs.gov/ SRTM1Arc
3	ASTER	30	30		https://asterweb.jpl.nasa.gov/gdem.asp
4	PALSAR-DEM	30	30		http://www.eorc.jaxa.jp/ALOS/en/aw3d30/
5	KH-9	0.61			http://earthexplorer.usgs.gov/