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## Supporting Information for

### **Glacier changes on the Tibetan Plateau derived from Landsat imagery: mid-1970s – 2000 – 2013**

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### **Introduction**

This supporting information provides the supplementary figure and tables on images and results of glacier data set comparisons.

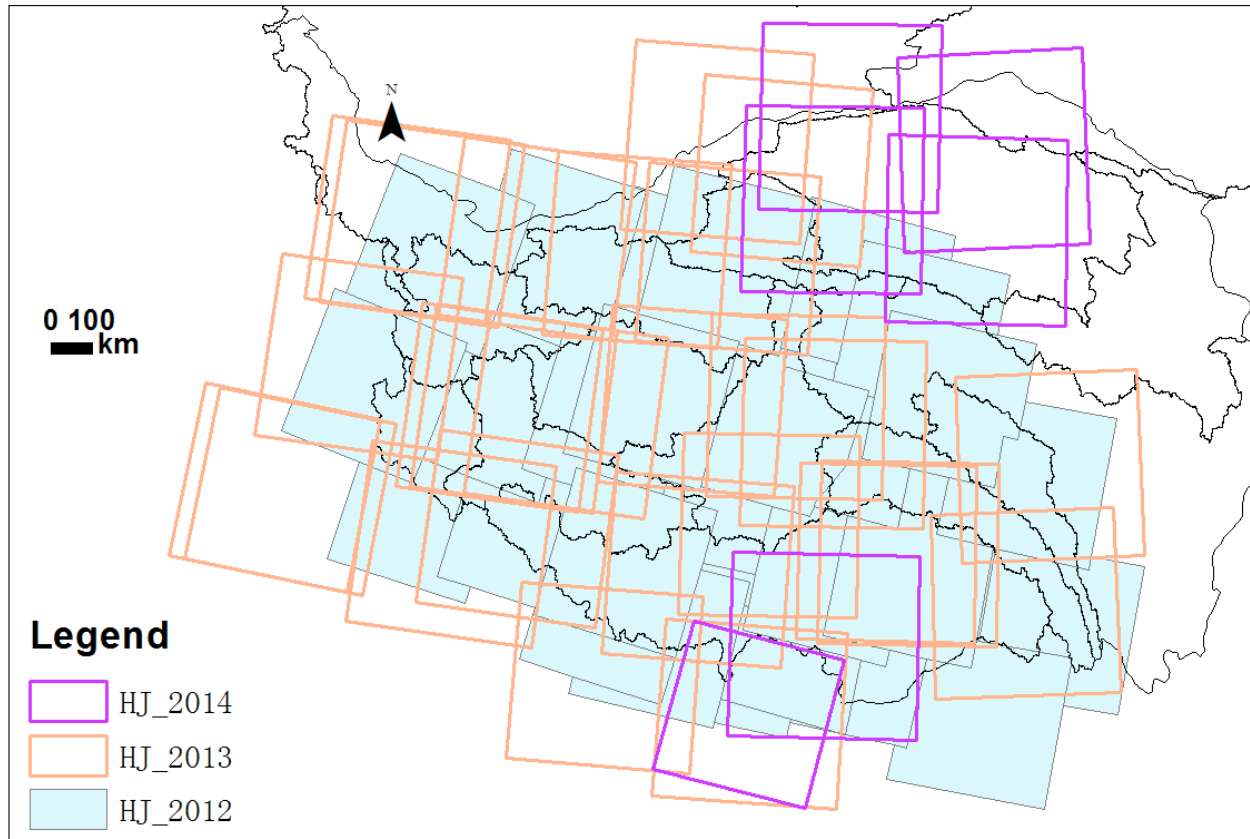


Figure S1 Satellite HJ-1A/1B data of which supplementary use was made for glacier delineation in this study.

Table S1 Satellite data that were used for glacier outlines in this study

M1970s_IMAGE_NAME	Year	Month	Area_image	year_code
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lm21400381975223xxx01.img	1975	8	21352.500000000000	1
lm21430331977197tgs03_b4.img	1977	7	29785.000000000000	1
lm21430371977251aaa03.img	1977	9	26383.400000000000	1
lm21430401976293xxx01.img	1976	10	33176.800000000000	1
lm21440331977180gmd03_b4.img	1977	6	13834.500000000000	1
lm21460321975301aaa04_b4.img	1975	10	2063.720000000000	1
lm21460371977218aaa02_b4.img	1977	8	3868.150000000000	1
lm21470361976315tgs03_b4.img	1976	11	21160.800000000000	1
lm21470401976351tgs03.img	1976	12	33518.700000000000	1
lm21500341976354aaa05_b4.img	1976	12	9668.280000000000	1
lm21500361977204aaa03_b4.img	1977	7	13875.400000000000	1
lm21510411976337aaa03_b4.img	1976	12	7956.640000000000	1
lm21510411977079aaa05_b4.img	1977	3	14544.600000000000	1
lm21520361976284xxx01.img	1976	10	11976.300000000000	1
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lm21530361976285xxx01_b4.img	1976	10	779.383000000000	1
lm21530361976321aaa05_b4.img	1976	11	19597.200000000000	1
lm21530371976321aaa05.img	1976	11	21904.900000000000	1
lm21530371977081aaa04_b4.img	1977	3	1357.460000000000	1
lm21530391976321aaa03_output.img	1976	11	34706.200000000000	1
lm21540391976286xxx01_b4.img	1976	10	19347.900000000000	1
lm21550361976305xxx01_b4.img	1976	10	15403.600000000000	1
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lm21560351976306xxx01.img	1976	11	26759.800000000000	1
lm21560361976342aaa02.img	1976	12	29205.300000000000	1
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lm21570351976325aaa07.img	1976	11	21472.700000000000	1
lm21570371976307xxx01.img	1976	11	21647.500000000000	1
lm21570381976307xxx01.img	1976	11	25588.700000000000	1
lm21570381977229aaa03_b4.img	1977	8	99.633900000000	1
lm21580351976308aaa02.img	1976	11	24324.800000000000	1

lm21580361976308aaa02.img	1976	11	31365.40000000000	1
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lm21620331977234aaa03_b4.img	1977	8	34435.30000000000	1
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p157r36_2m19761120_01.img	1976	11	10678.30000000000	1
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p158r35_2m19770309_01.img	1977	3	3215.99000000000	1
p159r033_1dm19730806_z44_10.img	1973	8	22906.70000000000	1
p159r34_2m19750812_01.img	1975	8	11095.20000000000	1
p159r35_3m19780718_01.img	1978	7	20228.10000000000	1

p160r33_2m19770820_01.img	1977	8	22373.70000000000	1
p160r34_2m19770820_01.img	1977	8	29645.10000000000	1
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p161r33_1m19720907_01.img	1972	9	3938.89000000000	1
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p143r034_7t19990915_z45.img	19990915	1999	9
p142r035_7t20010711_z45.img	20010711	2001	7
p141r035_7t19990917_z45.img	19990917	1999	9
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p145r035_7t19991031_z44.img	19991031	1999	10
p146r035_7t19991022_z44.img	19991022	1999	10
p147r035_7t20001031_z44.img	20001031	2000	10
p148r035_7t20010518_z43.img	20010518	2001	5
p142r036_7t20020527_z45_nn20.img	20020527	2002	5
p143r036_7t20010920_z45.img	20010920	2001	9
p144r036_7t20011013_z44.img	20011013	2001	10
p145r036_7t20011020_z44.img	20011020	2001	10
p146r036_7t20001008_z44.img	20001008	2000	10
p147r036_7t20001031_z43.img	20001031	2000	10
p141r036_7t19990917_z45.img	19990917	1999	9
p148r034_7t19990630_z43.img	19990630	1999	6
p147r034_7t20000929_z44.img	20000929	2000	9
p149r034_7t20010930_z43.img	20010930	2001	9
p150r034_7t19990815_z43.img	19990815	1999	8
p150r033_7t20011007_z43.img	20011007	2001	10
p149r033_7t19990925_z43.img	19990925	1999	9
p151r033_7t20000824_z43.img	20000824	2000	8
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p145r037_7t20011020_z44.img	20011020	2001	10



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p141r037_7t20010922_z45.img	20010922	2001	9
p145r038_7t20001102_z44.img	20001102	2000	11
p144r038_7t19991109_z44.img	19991109	1999	11
p143r038_7t20011022_z44.img	20011022	2001	10
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p141r038_7t20010922_z45.img	20010922	2001	9
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p145r039_7t19991015_z44.img	19991015	1999	10
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p143r039_7t20001003_z44.img	20001003	2000	10
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p141r039_7t20010922_z45.img	20010922	2001	9
p143r040_7t20011225_z44.img	20011225	2001	12
p142r040_7t19991213_z44_nn20.img	19991213	1999	12
p141r040_7t20001122_z45.img	20001122	2000	11
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p137r036_7t20010708_z46.img	20010708	2001	7
p137r037_7t20010708_z46.img	20010708	2001	7
p138r036_7t20011003_z46.img	20011003	2001	10
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Table S2 Data sources comparison between TPG and previous studies

Region	Data set	Glacier area	Local study_Result	AD(km <sup>2</sup> )	AP%	Year
Mt. Naimona'Nyi	CGI-1	107.95	85.81	22.14	25.80	1974
	CGI-2	73.23	75.33	-2.10	-2.79	2007/2007
	1976TPG	81.53	84.41	-2.88	-3.41	1976
	2001TPG	77.02	80.37	-3.35	-4.17	1999
	2013TPG	74.10	73.82	0.28	0.38	2014
Mt. Qomolangma	CGI-1	155.69	154.88	0.81	0.52	1974
	CGI-2	129.75	130.8	-1.05	-0.80	2010/2007
	1976TPG	140.20	141.08	-0.88	-0.63	1976
	2001TPG	137.46	141.34	-3.88	-2.75	2000
	2013TPG	130.65	129.64	1.01	0.78	2014
Mt. Geladandong	CGI-1	998.51	937.03	61.48	6.56	1969
	CGI-2	845.17	846.81	-1.64	-0.19	2007/2002
	1976TPG	911.59	937.03	-25.44	-2.71	1969
	2001TPG	866.72	846.81	19.91	2.35	2002
	2013TPG	857.74	846.81	10.93	1.29	2002

Table S3 Glacier area comparison between TPG and previous studies

Region	Glacier data	Data sources	Resolution (m)	Date	Path/row	Glacier Area	
Mt. Qomolangma	CGI-1					155.69	
	CGI-2	Landsat5-TM	30	4/9/2010	140/40	140/41	129.75
	1976TPG	Landsat MSS	78	12/19/1976	150/41		140.20
	2001TPG	Landsat7-ETM+	30	10/30/2000	140/41		137.46
	2013TPG	Landsat8-OLI	15	11/30/2014	140/41		130.65
	1974	topographic maps		1974			154.88
	2000	Landsat7-ETM+	30	10/30/2000	140/41		141.34
	2007	ALOS/AVNIR	10	10/24/2008			130.80
	2014	Landsat8-OLI	15	9/27/2014	140/41		129.64
	CGI-1						107.95
Mt. Naimona'Nyi	CGI-2	Landsat7-ETM+	30	9/12/2007	144/39		73.23
	1976TPG	Landsat2 MSS	78	12/6/1976	155/39		80.73
	2001TPG	Landsat7-ETM+	30	10/3/2001	144/39		74.12
	2013TPG	Landsat8-OLI	15	9/23/2014	144/39	39/80	71.20
	1974	topographic maps		1974 年			85.81
	2000	Landsat7-ETM+	30	11/9/1999	144/39		80.37
	2007	ALOS/AVNIR	10	9/9/2007			75.33
	2014	Landsat8-OLI	15	9/23/2014	144/39		73.82
	CGI-1						998.51
	CGI-2	Landsat5-TM	30	5/5/2007	138/37		845.17
Mt. Geladandong	1976TPG	Landsat2 MSS	78	1976/12/17(1973/6/10)	148/37	149/37	911.59
	2001TPG	Landsat7-ETM+	30	2002/5/15(2000/10/7)	138/37	139/37	866.72
	2013TPG	Landsat8-OLI	15	2013/8/9(2014/12/9)	138/39	139/39	857.74