

Supplementary Material for

Evolution of the Chongce Glacier in the northwestern Tibetan

Plateau during 1970-2020

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Table S1. Landsat image pairs used for velocity determination in this study.

No.	Sensor	Date1	Date2	Resolution (m)	Time Span (day)
1	TM-TM	1990-02-16	1991-02-19	30	368
2	TM-TM	1991-02-19	1992-02-22	30	368
3	TM-TM	1992-02-22	1993-02-24	30	368
4	TM-TM	1993-01-23	1993-12-25	30	336
5	TM-TM	1993-01-23	1993-04-29	30	96
6	TM-TM	1993-12-09	1993-12-25	30	16
7	TM-TM	1994-05-18	1994-06-19	30	32
8	TM-TM	1994-10-09	1994-10-25	30	16
9	TM-TM	1994-10-09	1994-12-12	30	64
10	TM-TM	1994-10-25	1994-12-12	30	48
11	TM-TM	1994-12-12	1995-03-18	30	96
12	TM-TM	1996-03-04	1996-05-07	30	64
13	TM-TM	1996-03-04	1996-09-12	30	192
14	TM-TM	1996-03-04	1996-10-30	30	240
15	TM-TM	1996-03-04	1996-11-15	30	256
16	TM-TM	1996-03-04	1996-12-01	30	272
17	TM-TM	1996-05-07	1996-09-12	30	128
18	TM-TM	1996-05-07	1996-10-30	30	176
19	TM-TM	1996-05-07	1996-11-15	30	192
20	TM-TM	1996-05-07	1996-12-01	30	208
21	TM-TM	1996-09-12	1996-10-30	30	48
22	TM-TM	1996-09-12	1996-11-15	30	64
23	TM-TM	1996-09-12	1996-12-01	30	80
24	TM-TM	1996-10-30	1996-12-01	30	32
25	TM-TM	1996-12-01	1997-11-02	30	336
26	TM-TM	1997-01-02	1997-02-03	30	32

27	TM-TM	1997-02-03	1997-10-01	30	240
28	TM-TM	1997-10-01	1997-11-02	30	32
29	TM-TM	1997-10-01	1998-10-04	30	368
30	TM-ETM+	1997-10-01	1999-10-31	30	760
31	TM-ETM+	1998-10-04	1999-09-29	30	360
32	ETM+-ETM+	1999-10-31	2001-10-20	15	720
33	ETM+-ETM+	2000-12-04	2001-10-20	15	320
34	ETM+-ETM+	2001-10-20	2002-11-24	15	400
35	ETM+-ETM+	2002-03-29	2003-04-01	15	368
36	TM-TM	2007-09-27	2009-10-02	30	736
37	TM-TM	2008-12-18	2010-12-24	30	736
38	TM-TM	2009-11-03	2011-11-09	30	736
39	TM-TM	2010-07-17	2011-08-05	30	384
40	TM-OLI	2011-11-09	2013-11-30	30	752
41	OLI-OLI	2013-09-27	2014-09-30	15	368
42	OLI-OLI	2014-11-17	2015-11-20	15	368
43	OLI-OLI	2015-12-06	2016-12-08	15	368
44	OLI-OLI	2016-09-19	2017-09-22	15	368
45	OLI-OLI	2017-09-22	2018-09-25	15	368
46	OLI-OLI	2018-06-05	2020-06-26	15	752

Table S2. Landsat images used for terminus delineation in this study.

No.	Senser	Date	Resolution (m)
1	MSS	1977-06-23	30
2	TM	1990-02-16	30
3	TM	1995-03-18	30
4	TM	1995-12-31	30
5	TM	1996-09-12	30
6	TM	1996-12-01	30
7	TM	1997-02-03	30
8	TM	1997-10-01	30
9	ETM+	1999-09-29	15
10	TM	2008-11-16	30
11	OLI	2020-09-30	15

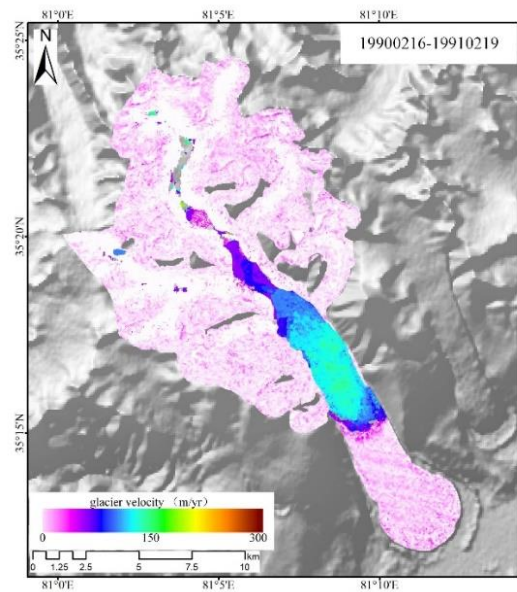


Figure S1. Flow velocities of the Chongce Glacier during the period of 19900216-19910219.

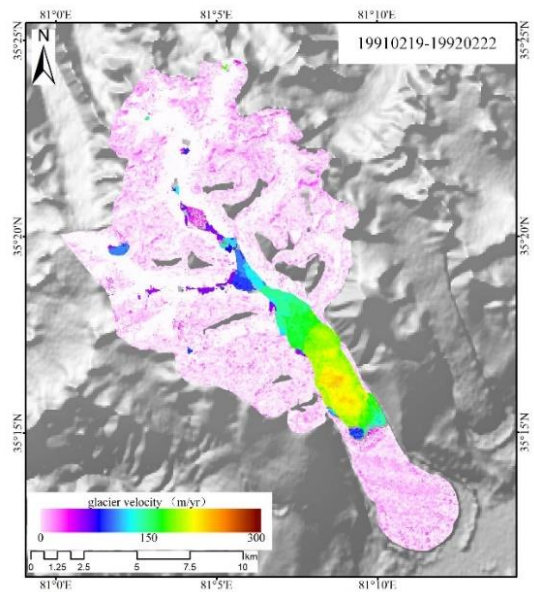


Figure S2. Flow velocities of the Chongce Glacier during the period of 19910219-19920222.

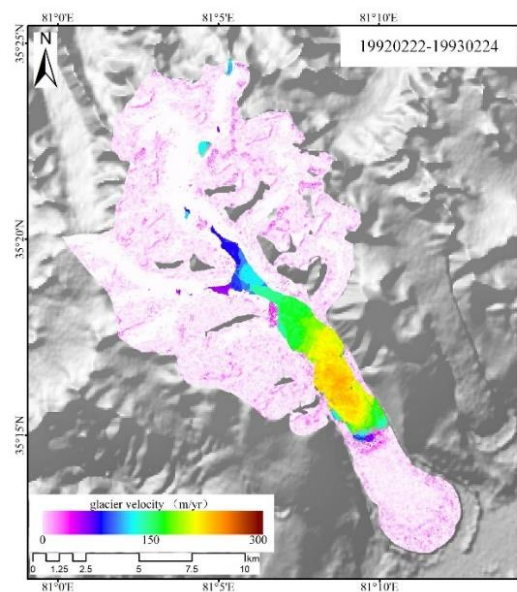


Figure S3. Flow velocities of the Chongce Glacier during the period of 19920222-19930224.

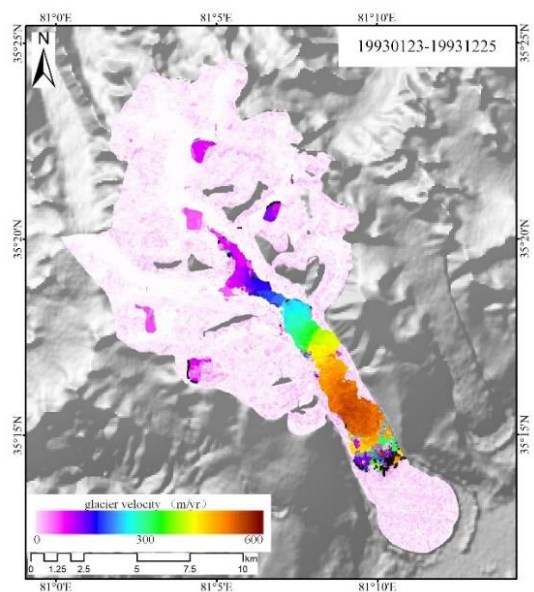


Figure S4. Flow velocities of the Chongce Glacier during the period of 19930123-19931225.

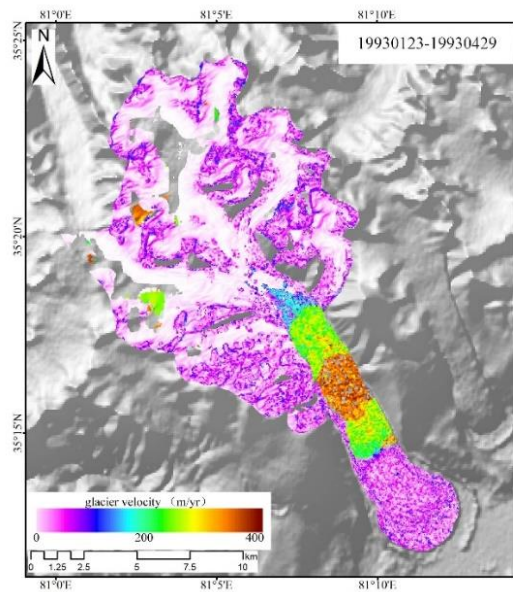


Figure S5. Flow velocities of the Chongce Glacier during the period of 19930123-19930429.

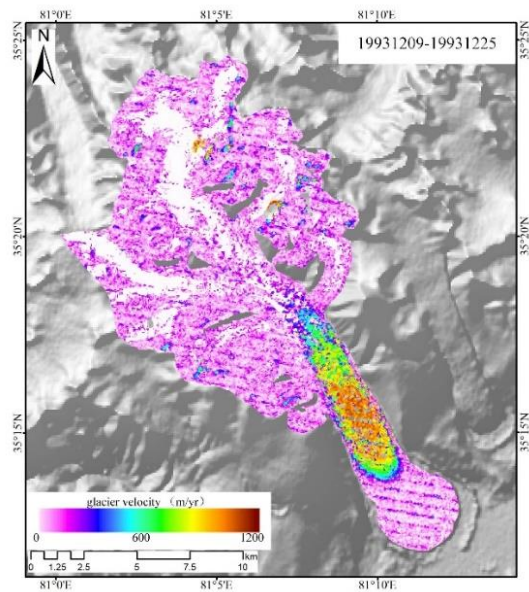


Figure S6. Flow velocities of the Chongce Glacier during the period of 19931209-19931225.

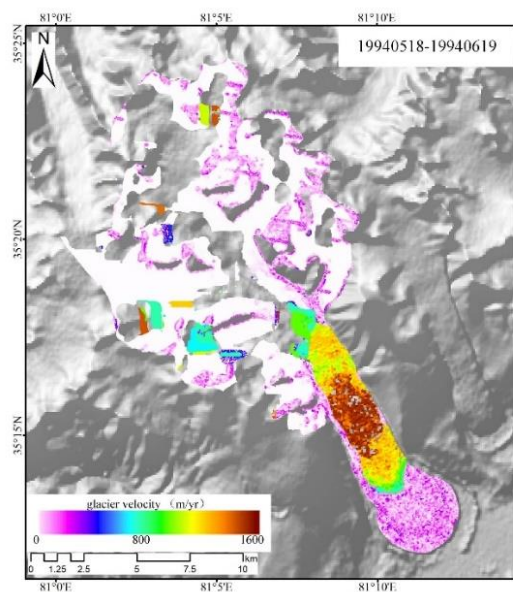


Figure S7. Flow velocities of the Chongce Glacier during the period of 19940518-19940619.

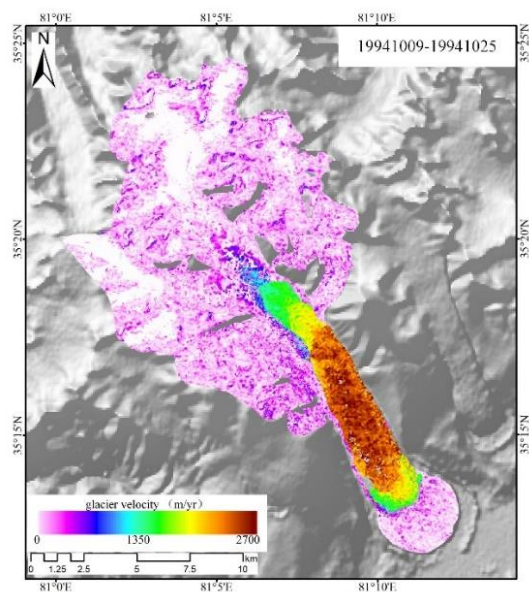


Figure S8. Flow velocities of the Chongce Glacier during the period of 19941009-19941025.

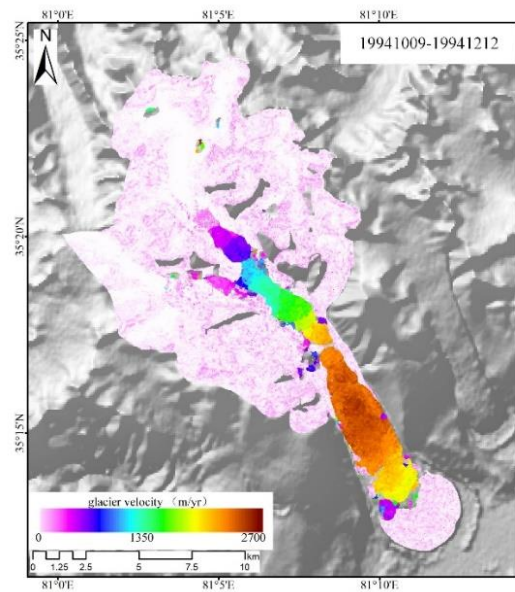


Figure S9. Flow velocities of the Chongce Glacier during the period of 19941009-19941212.

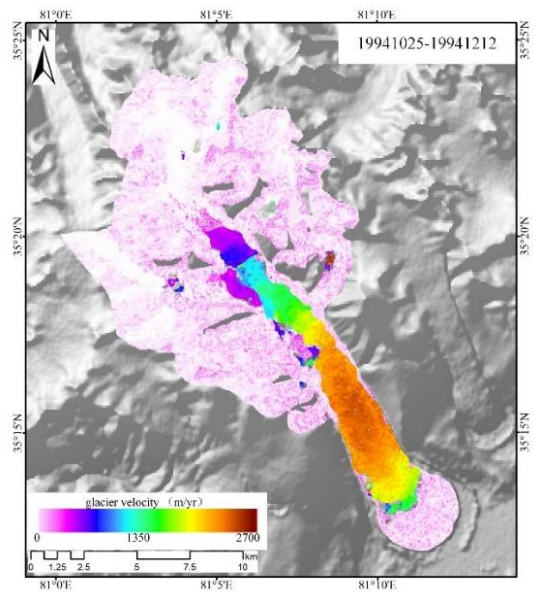


Figure S10. Flow velocities of the Chongce Glacier during the period of 19941025-19941212.

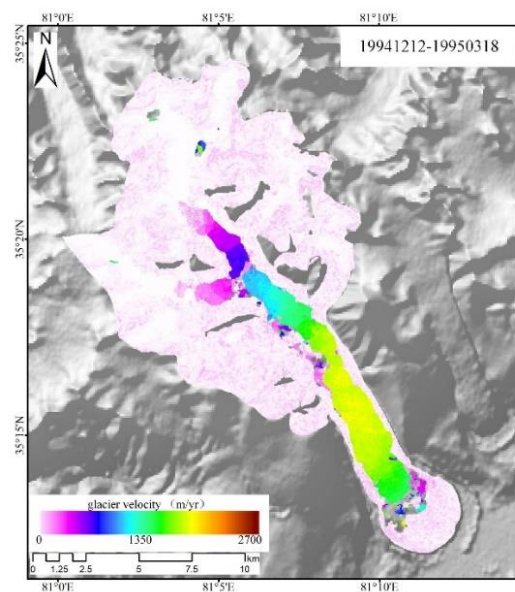


Figure S11. Flow velocities of the Chongce Glacier during the period of 19941212-19950318.

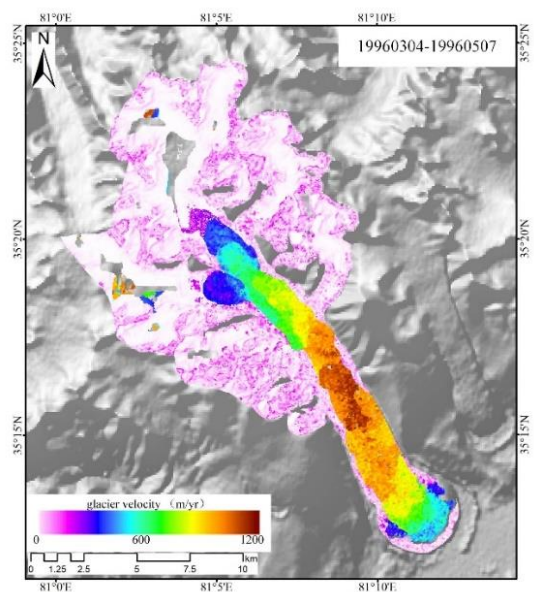


Figure S12. Flow velocities of the Chongce Glacier during the period of 19960304-19960507.

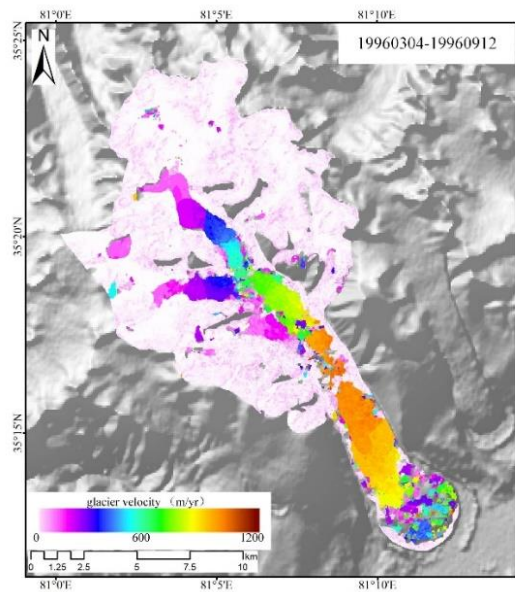


Figure S13. Flow velocities of the Chongce Glacier during the period of 19960304-19960912.

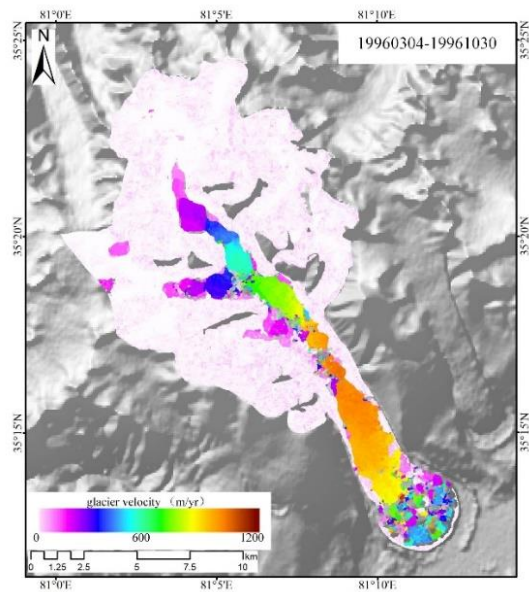


Figure S14. Flow velocities of the Chongce Glacier during the period of 19960304-19961030.

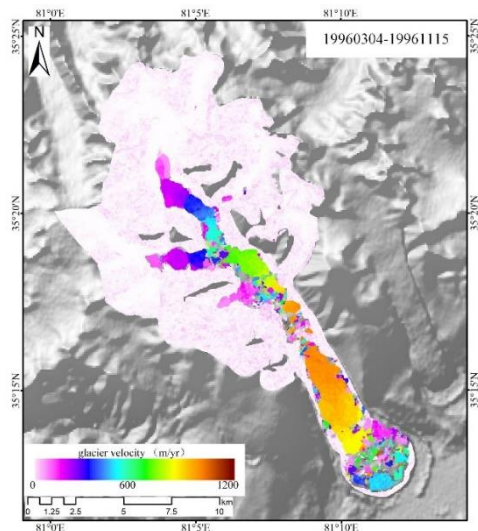


Figure S15. Flow velocities of the Chongce Glacier during the period of 19960304-19961115.

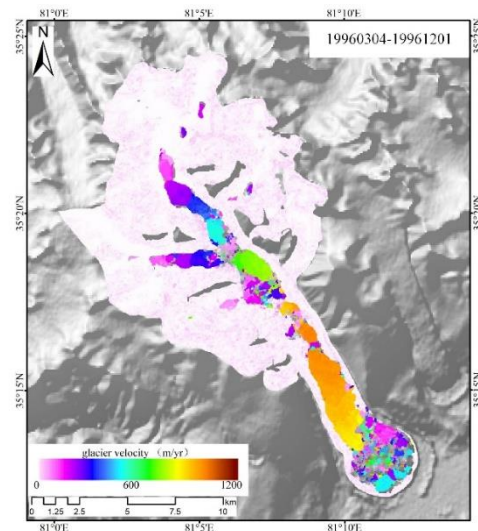


Figure S16. Flow velocities of the Chongce Glacier during the period of 19960304-19961201.

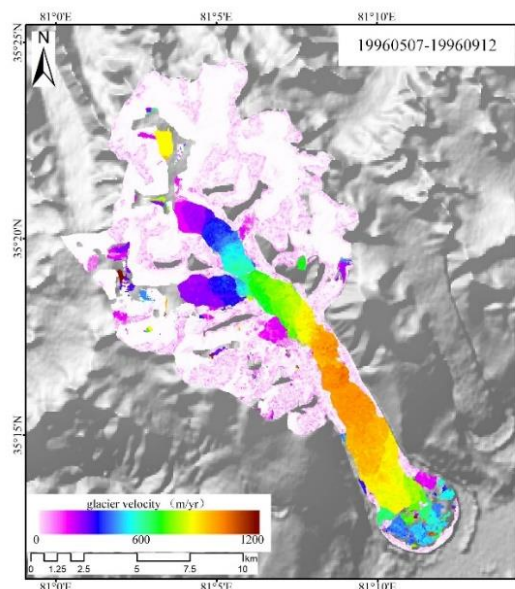


Figure S17. Flow velocities of the Chongce Glacier during the period of 19960507-19960912.

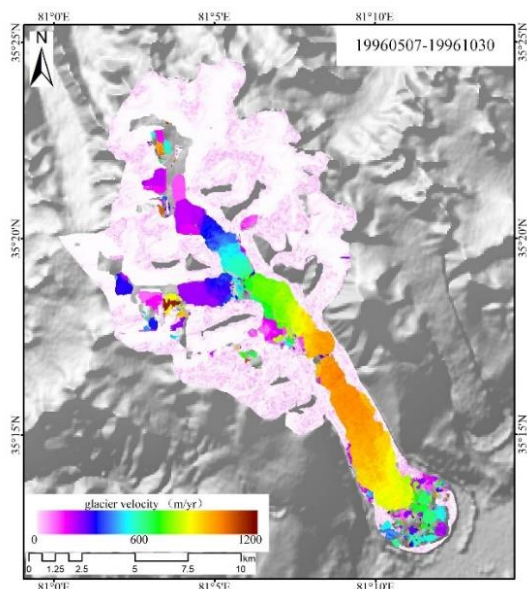


Figure S18. Flow velocities of the Chongce Glacier during the period of 19960507-19961030.

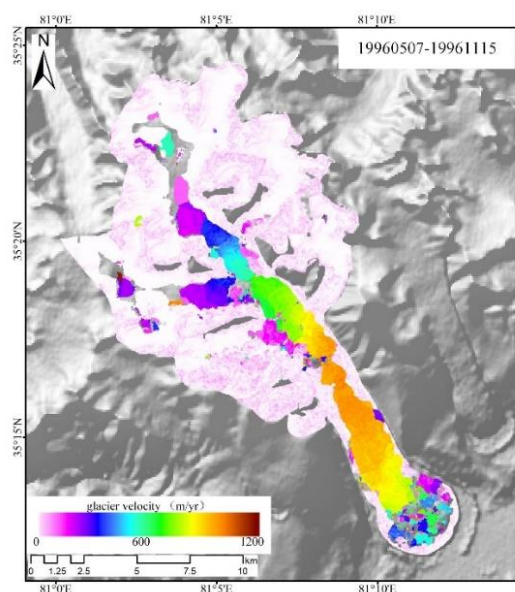


Figure S19. Flow velocities of the Chongce Glacier during the period of 19960507-19961115.

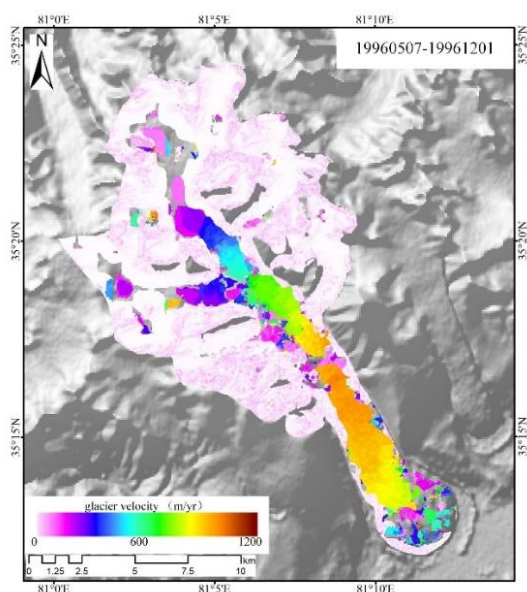


Figure S20. Flow velocities of the Chongce Glacier during the period of 19960507-19961201.

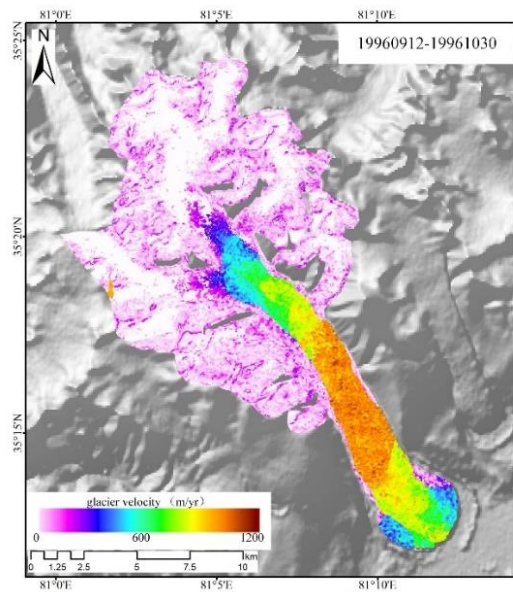


Figure S21. Flow velocities of the Chongce Glacier during the period of 19960912-19961030.

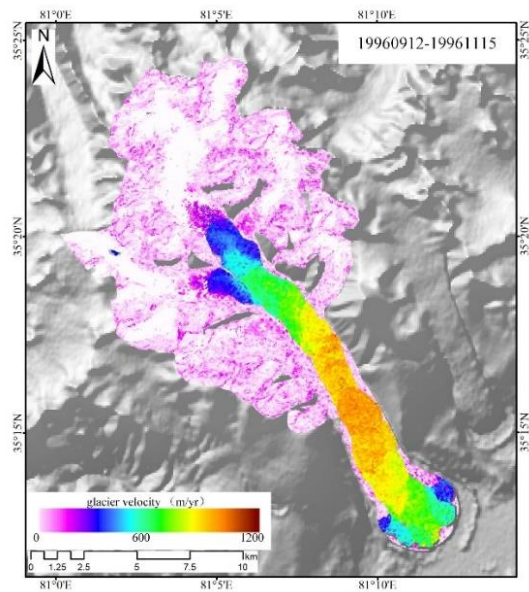


Figure S22. Flow velocities of the Chongce Glacier during the period of 19960912-19961115.

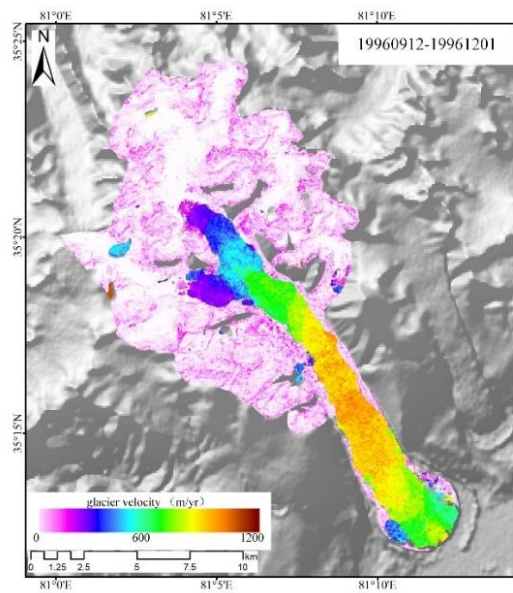


Figure S23. Flow velocities of the Chongce Glacier during the period of 19960912-19961201.

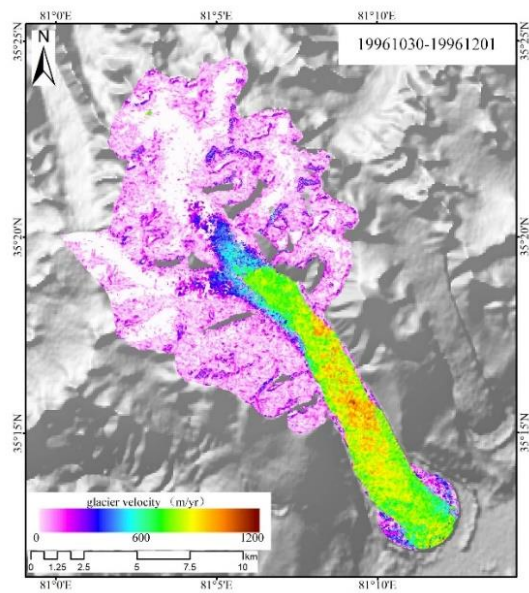


Figure S24. Flow velocities of the Chongce Glacier during the period of 19961030-19961201.

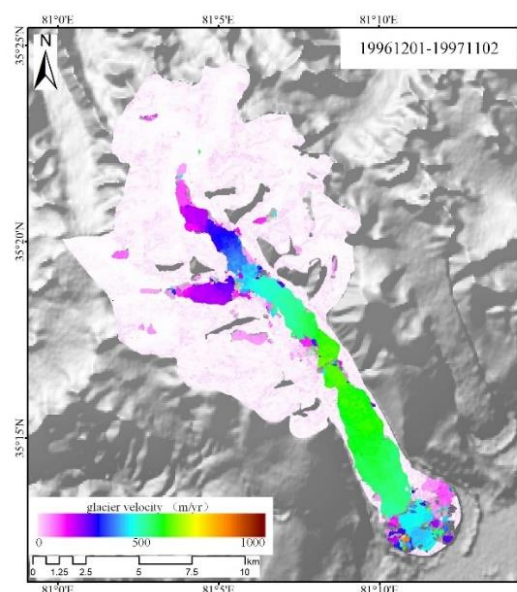


Figure S25. Flow velocities of the Chongce Glacier during the period of 19961201-19971102.

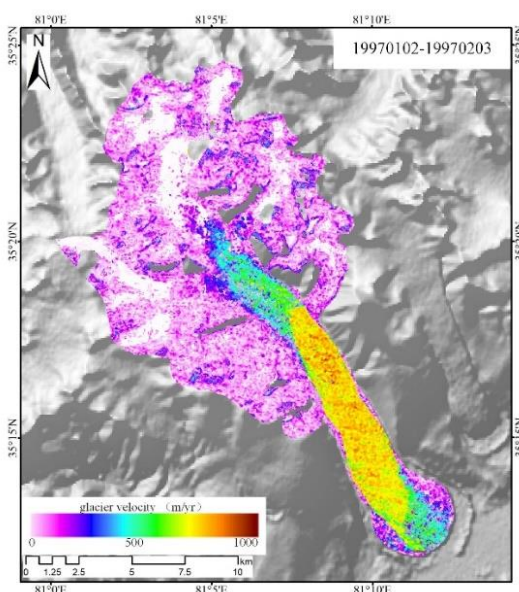


Figure S26. Flow velocities of the Chongce Glacier during the period of 19970102-19970203.

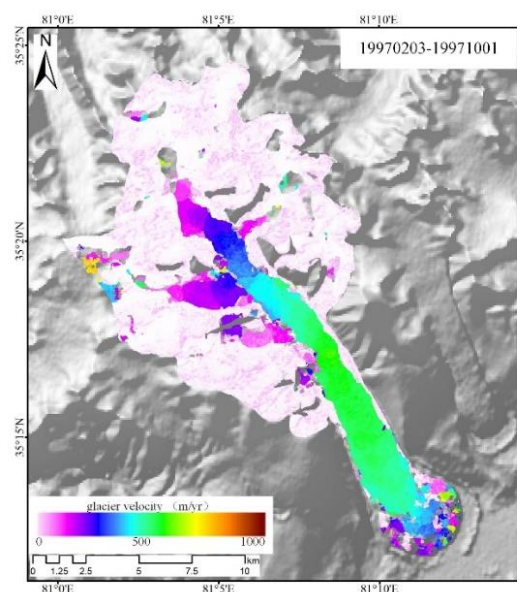


Figure S27. Flow velocities of the Chongce Glacier during the period of 19970203-19971001.

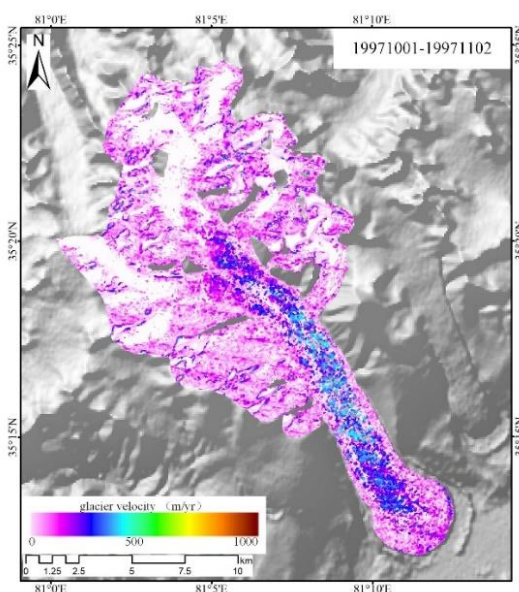


Figure S28. Flow velocities of the Chongce Glacier during the period of 19971001-19971102.

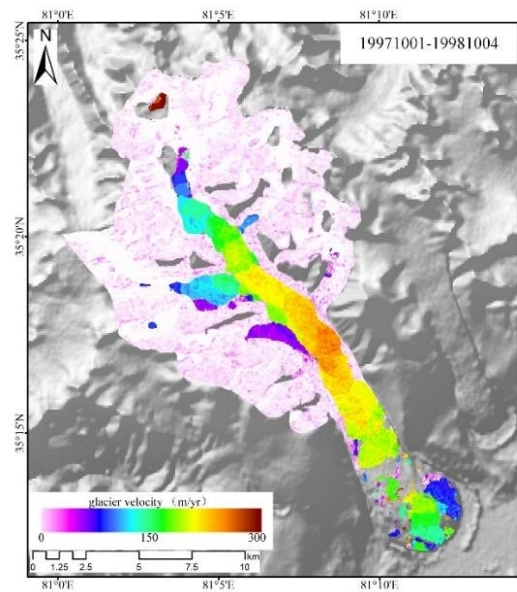


Figure S29. Flow velocities of the Chongce Glacier during the period of 19971001-19981004.

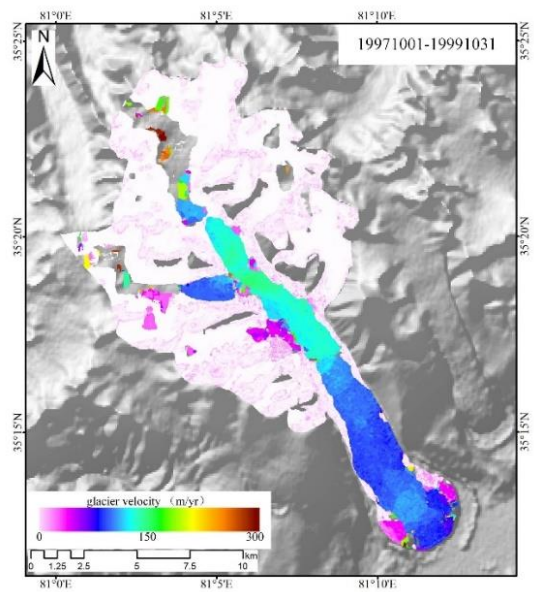


Figure S30. Flow velocities of the Chongce Glacier during the period of 19971001-19991031.

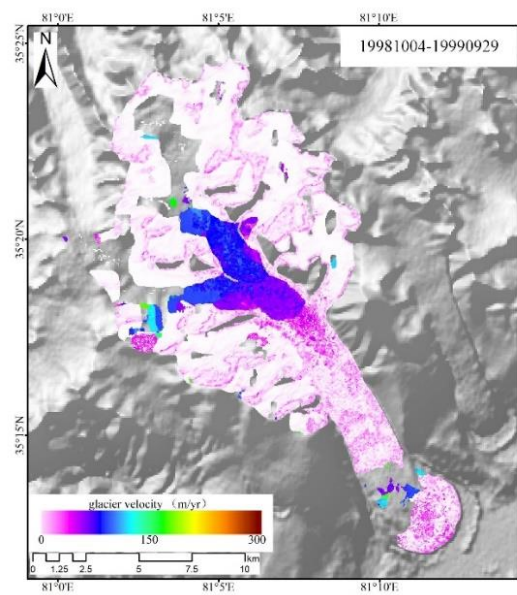


Figure S31. Flow velocities of the Chongce Glacier during the period of 19981004-19990929.

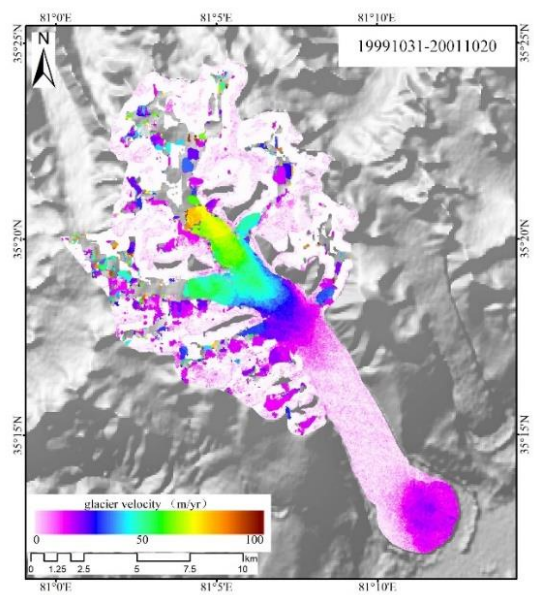


Figure S32. Flow velocities of the Chongce Glacier during the period of 19991031-20011020.

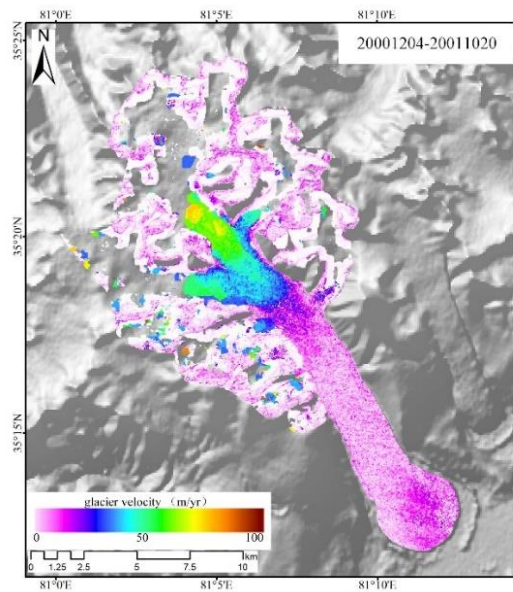


Figure S33. Flow velocities of the Chongce Glacier during the period of 20001204-20011020.

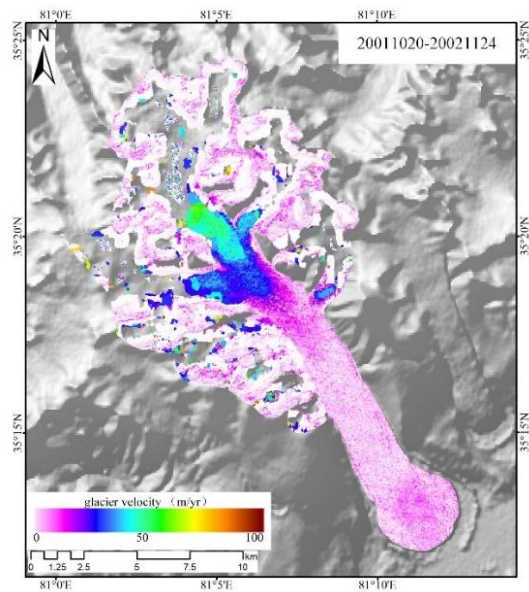


Figure S34. Flow velocities of the Chongce Glacier during the period of 20011020-20021124.

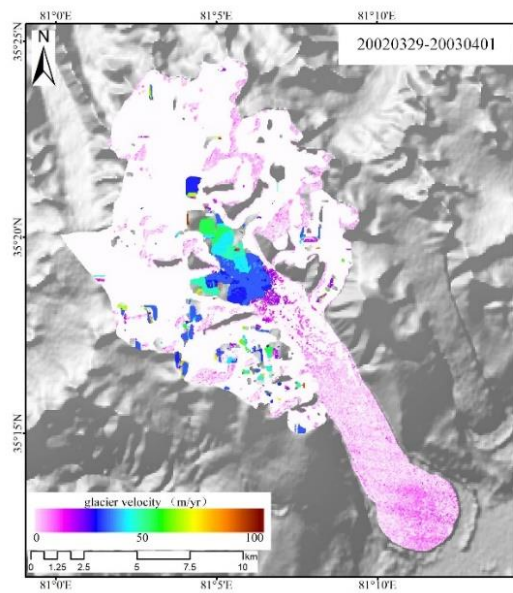


Figure S35. Flow velocities of the Chongce Glacier during the period of 20020329-20030401.

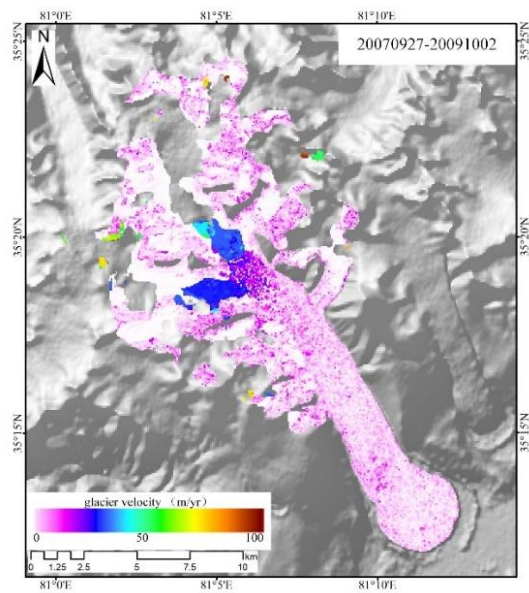


Figure S36. Flow velocities of the Chongce Glacier during the period of 20070927-20091002.

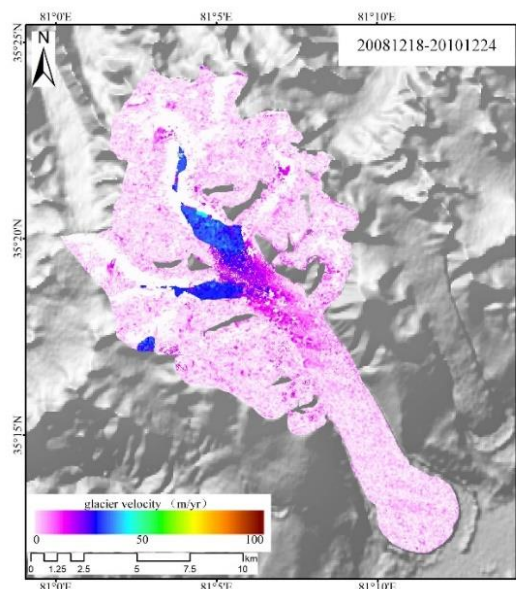


Figure S37. Flow velocities of the Chongce Glacier during the period of 20081218-20101224.

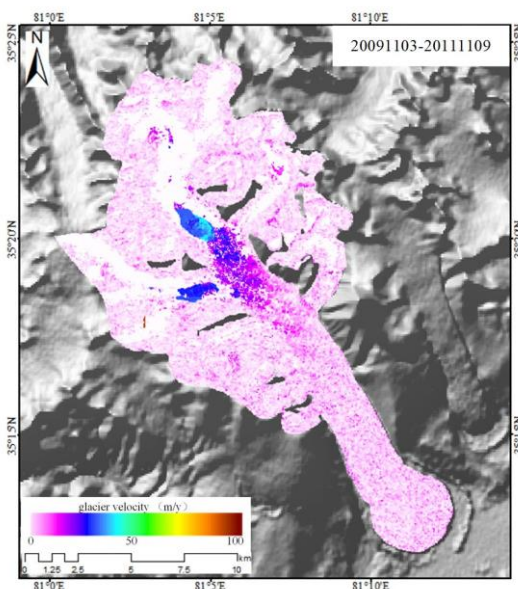


Figure S38. Flow velocities of the Chongce Glacier during the period of 20091103-20111109.

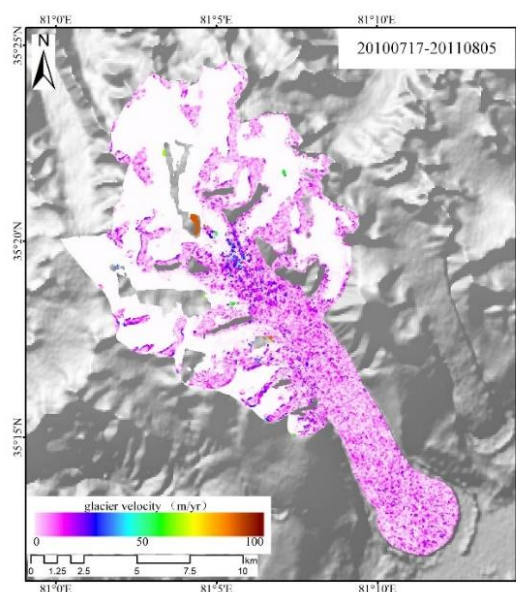


Figure S39. Flow velocities of the Chongce Glacier during the period of 20100717-20110805.

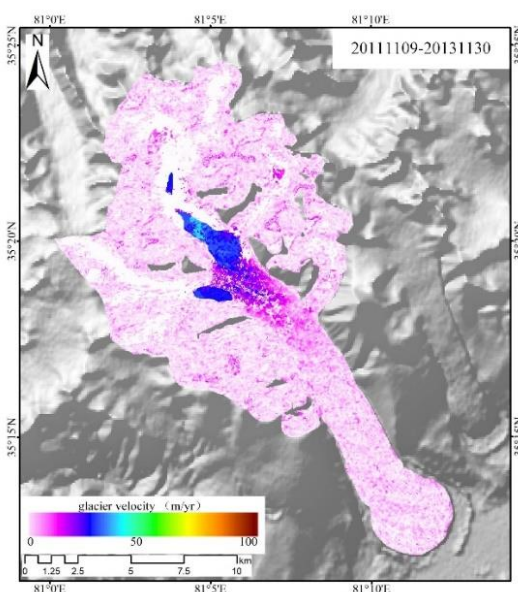


Figure S40. Flow velocities of the Chongce Glacier during the period of 20111109-20131130.

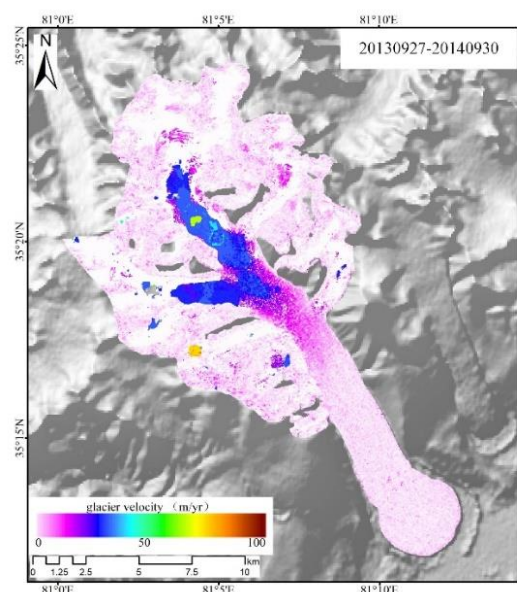


Figure S41. Flow velocities of the Chongce Glacier during the period of 20130927-20140930.

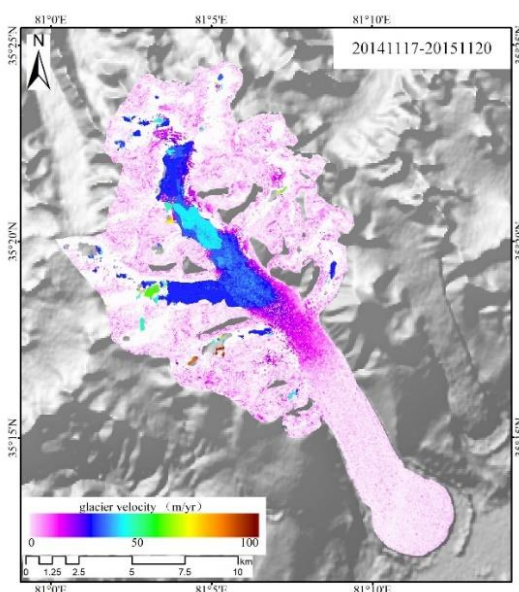


Figure S42. Flow velocities of the Chongce Glacier during the period of 20141117-20151120.

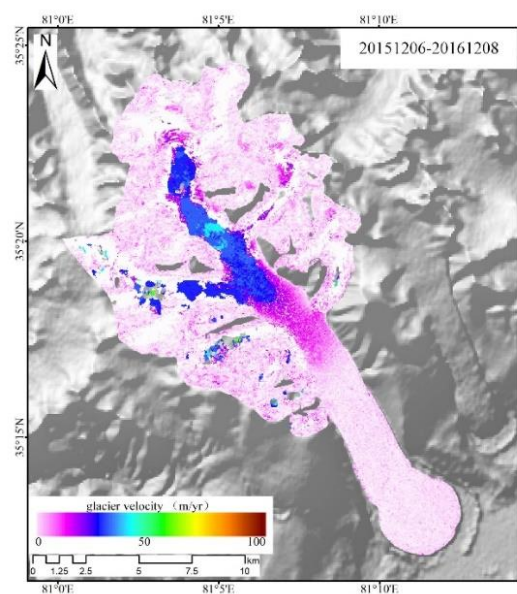


Figure S43. Flow velocities of the Chongce Glacier during the period of 20151206-20161208.

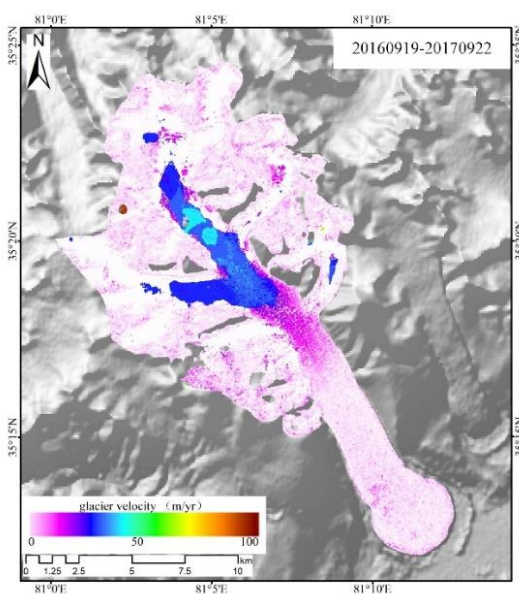


Figure S44. Flow velocities of the Chongce Glacier during the period of 20160919-20170922.

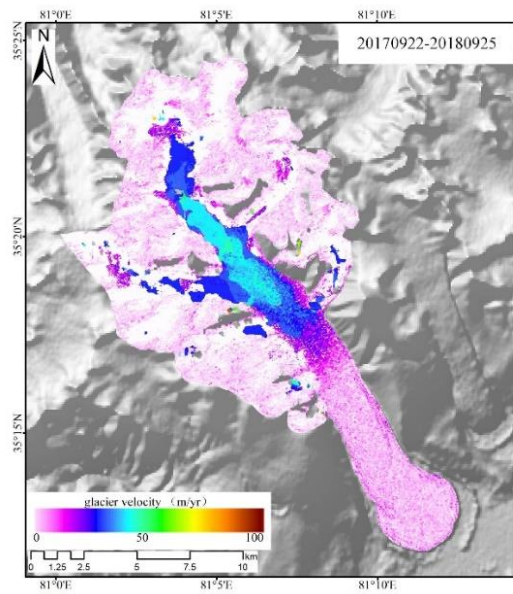


Figure S45. Flow velocities of the Chongce Glacier during the period of 20170922-20180925.

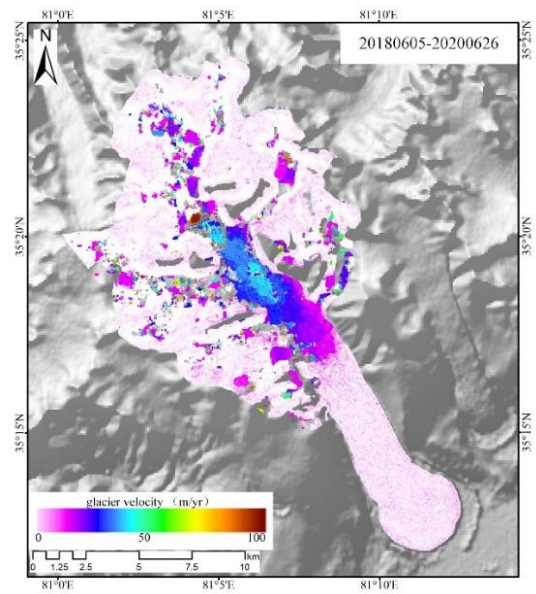


Figure S46. Flow velocities of the Chongce Glacier during the period of 20180605-20200626.