Supplement to Maritime glacier retreat and terminus area change in Kenai Fjords National Park, Alaska, between 1984 and 2021

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# TABLES

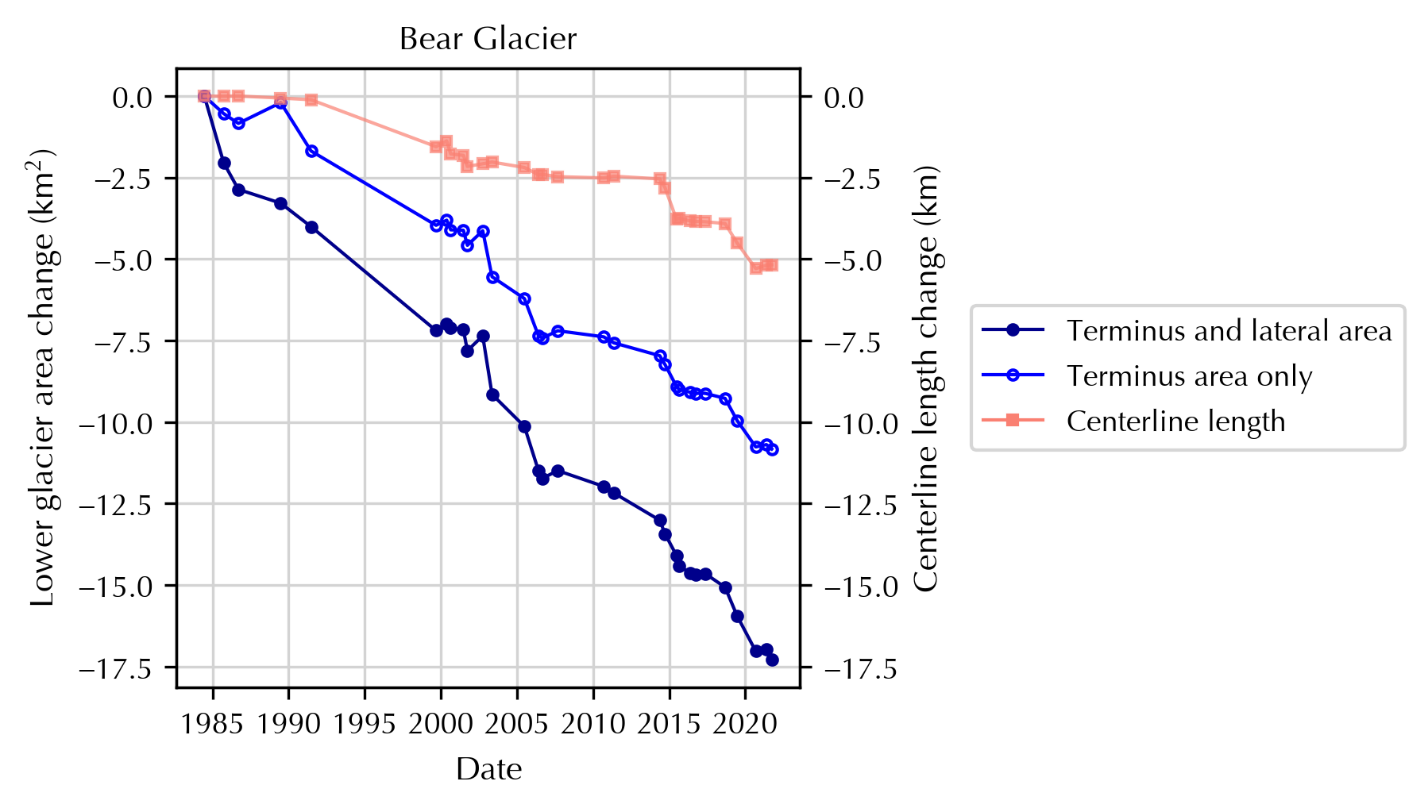
**Table S1.** Net and decadal length change rates for each glacier. All values are in m a-1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Glacier** | **Net dL/dt** | **1980s dL/dt** | **1990s dL/dt** | **2000s dL/dt** | **2010s dL/dt** | **2020s dL/dt** |
| Bear Glacier | -139 | -12 | -146 | -115 | -172 | -294 |
| Aialik Glacier | -0 | 111 | -53 | -6 | 1 | 11 |
| Pedersen Glacier | -86 | 3 | -22 | -70 | -206 | 31 |
| Holgate Glacier | 13 | 57 | -30 | 17 | 20 | 53 |
| South Holgate Glacier - West | -10 | 6 | -7 | -8 | -5 | -97 |
| South Holgate Glacier - East | -34 | 31 | 1 | -55 | -52 | -164 |
| Northeastern Glacier | -56 | -44 | -63 | -46 | -57 | -83 |
| Northwestern Glacier | -42 | -6 | -154 | 1 | -0 | 7 |
| Ogive Glacier | 1 | -10 | 5 | 4 | -1 | 10 |
| Anchor Glacier | -3 | 33 | -2 | 5 | -13 | -75 |
| Reconstitution Glacier | -8 | 10 | -16 | -15 | -13 | 33 |
| Southwestern Glacier | -42 | -69 | -7 | -11 | -57 | -162 |
| Sunlight Glacier | -16 | -13 | -13 | -49 | 12 | -65 |
| Paguna Glacier | 6 | 32 | 10 | 4 | 0 | -11 |
| McCarty Glacier | -20 | 18 | -23 | -46 | -6 | -25 |
| Dinglestadt Glacier | -24 | 12 | -11 | -32 | -27 | -92 |
| Split Glacier | -15 | -60 | 9 | -29 | -12 | -69 |
| Yalik Glacier | -61 | -50 | -43 | -58 | -65 | -158 |
| Petrof Glacier | -28 | -68 | -22 | -13 | -35 | -36 |

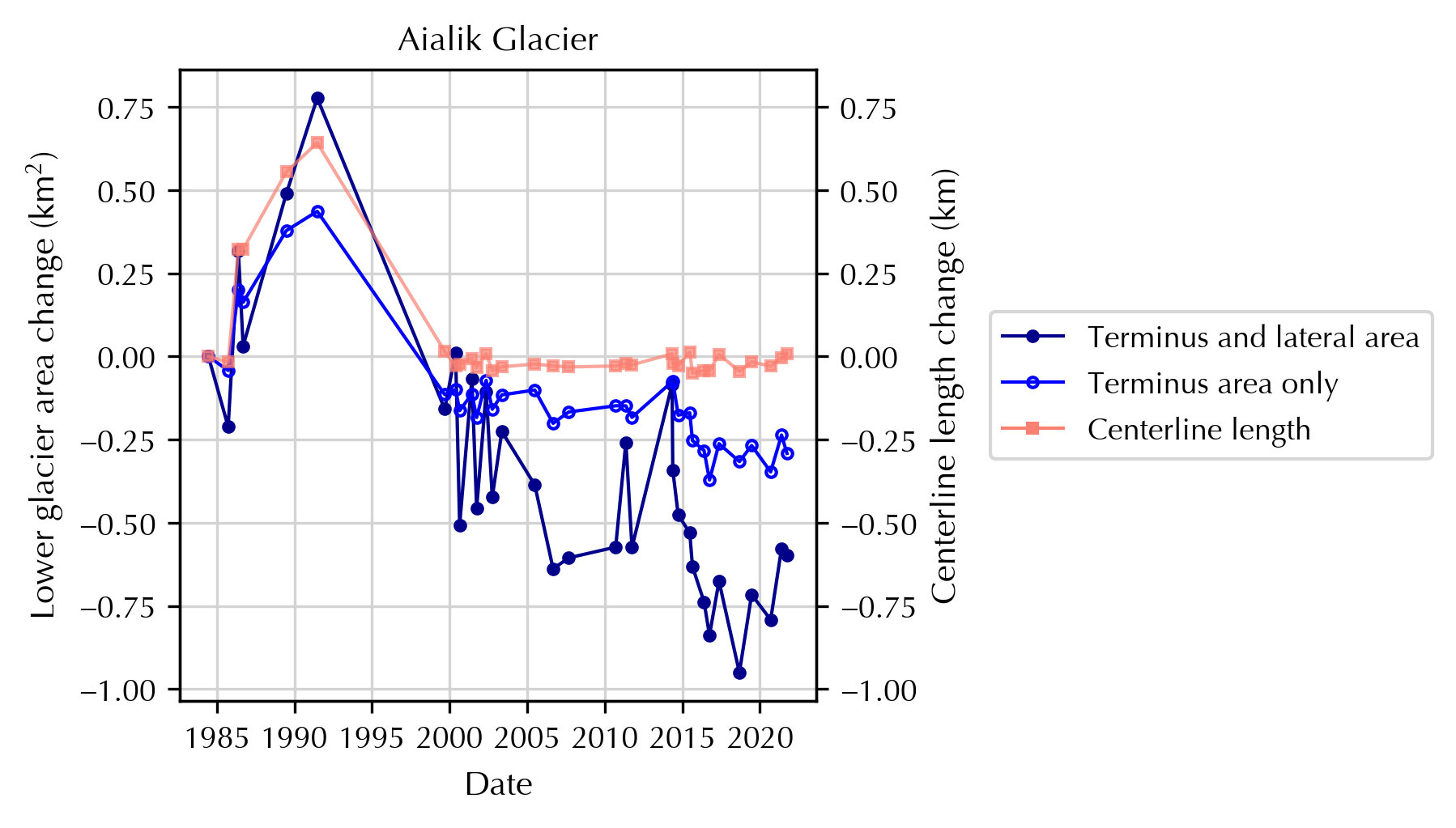
**Table S2.** Net and decadal area change rates for each glacier. All values are in km2 a-1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Glacier** | **Net dA/dt** | **1980s dA/dt** | **1990s dA/dt** | **2000s dA/dt** | **2010s dA/dt** | **2020s dA/dt** |
| Bear Glacier | -0.463 | -0.654 | -0.383 | -0.537 | -0.378 | -0.587 |
| Aialik Glacier | -0.016 | 0.098 | -0.063 | -0.056 | -0.009 | 0.052 |
| Pedersen Glacier | -0.114 | -0.077 | -0.033 | -0.202 | -0.158 | 0.003 |
| Holgate Glacier | 0.006 | 0.070 | -0.057 | 0.034 | 0.005 | 0.052 |
| South Holgate Glacier - West | -0.006 | 0.004 | -0.002 | -0.014 | -0.002 | -0.034 |
| South Holgate Glacier - East | -0.013 | 0.020 | -0.013 | -0.028 | -0.009 | -0.050 |
| Northeastern Glacier | -0.066 | -0.073 | -0.063 | -0.040 | -0.074 | -0.114 |
| Northwestern Glacier | -0.044 | 0.012 | -0.177 | 0.005 | 0.002 | -0.020 |
| Ogive Glacier | -0.002 | 0.005 | -0.013 | 0.010 | -0.002 | -0.009 |
| Anchor Glacier | -0.003 | 0.020 | -0.003 | 0.001 | -0.010 | -0.038 |
| Reconstitution Glacier | -0.011 | 0.008 | -0.022 | -0.017 | -0.008 | -0.001 |
| Southwestern Glacier | -0.037 | -0.043 | -0.007 | -0.034 | -0.058 | -0.061 |
| Sunlight Glacier | -0.024 | -0.079 | -0.015 | -0.047 | -0.012 | -0.003 |
| Paguna Glacier | -0.001 | 0.011 | 0.007 | -0.003 | -0.002 | -0.052 |
| McCarty Glacier | -0.049 | 0.012 | -0.001 | -0.170 | -0.036 | -0.031 |
| Dinglestadt Glacier | -0.020 | 0.007 | -0.011 | -0.031 | -0.022 | -0.050 |
| Split Glacier | -0.018 | -0.029 | 0.001 | -0.032 | -0.010 | -0.112 |
| Yalik Glacier | -0.185 | -0.415 | -0.093 | -0.231 | -0.176 | -0.371 |
| Petrof Glacier | -0.062 | -0.084 | -0.058 | -0.061 | -0.067 | -0.047 |

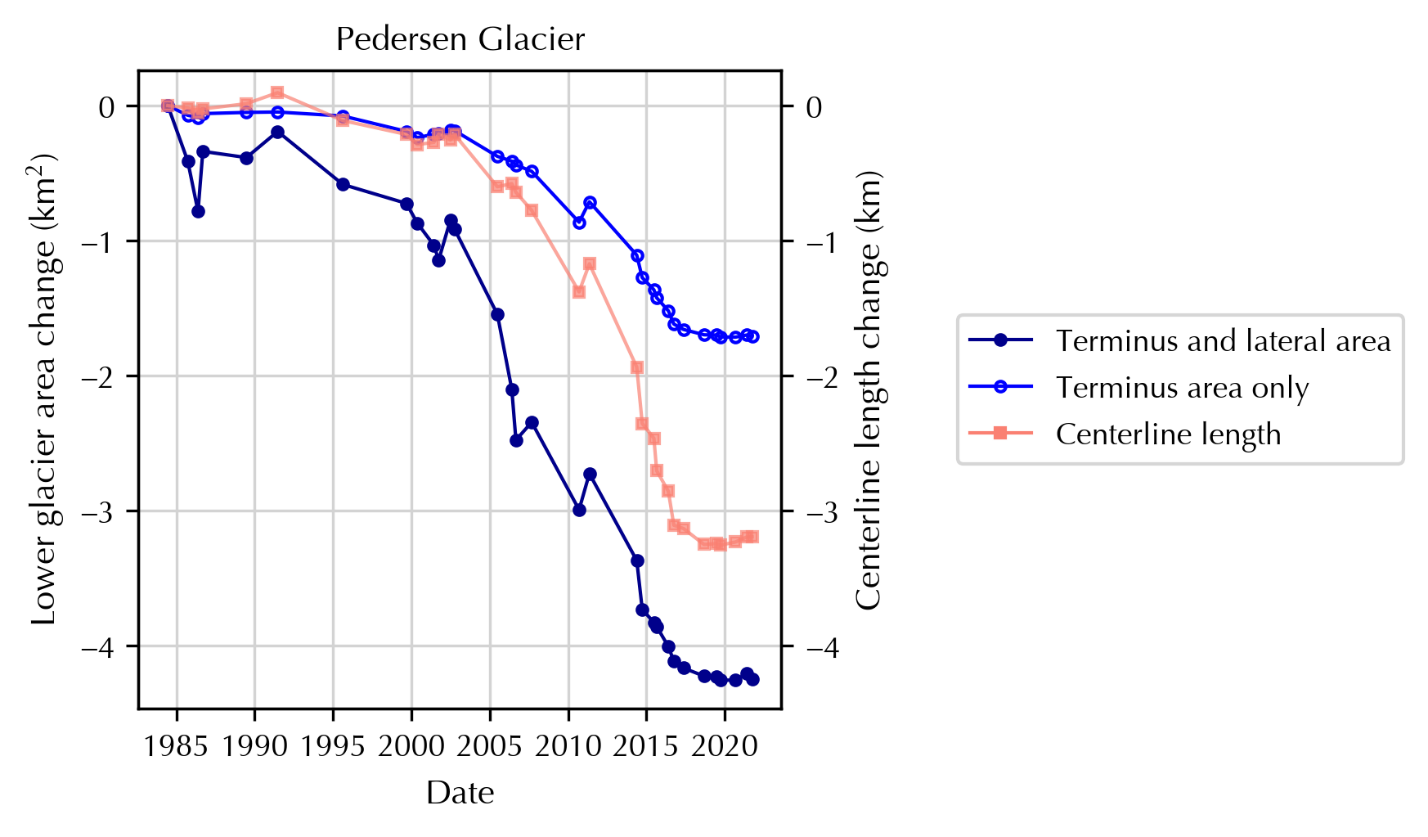
# FIGURES



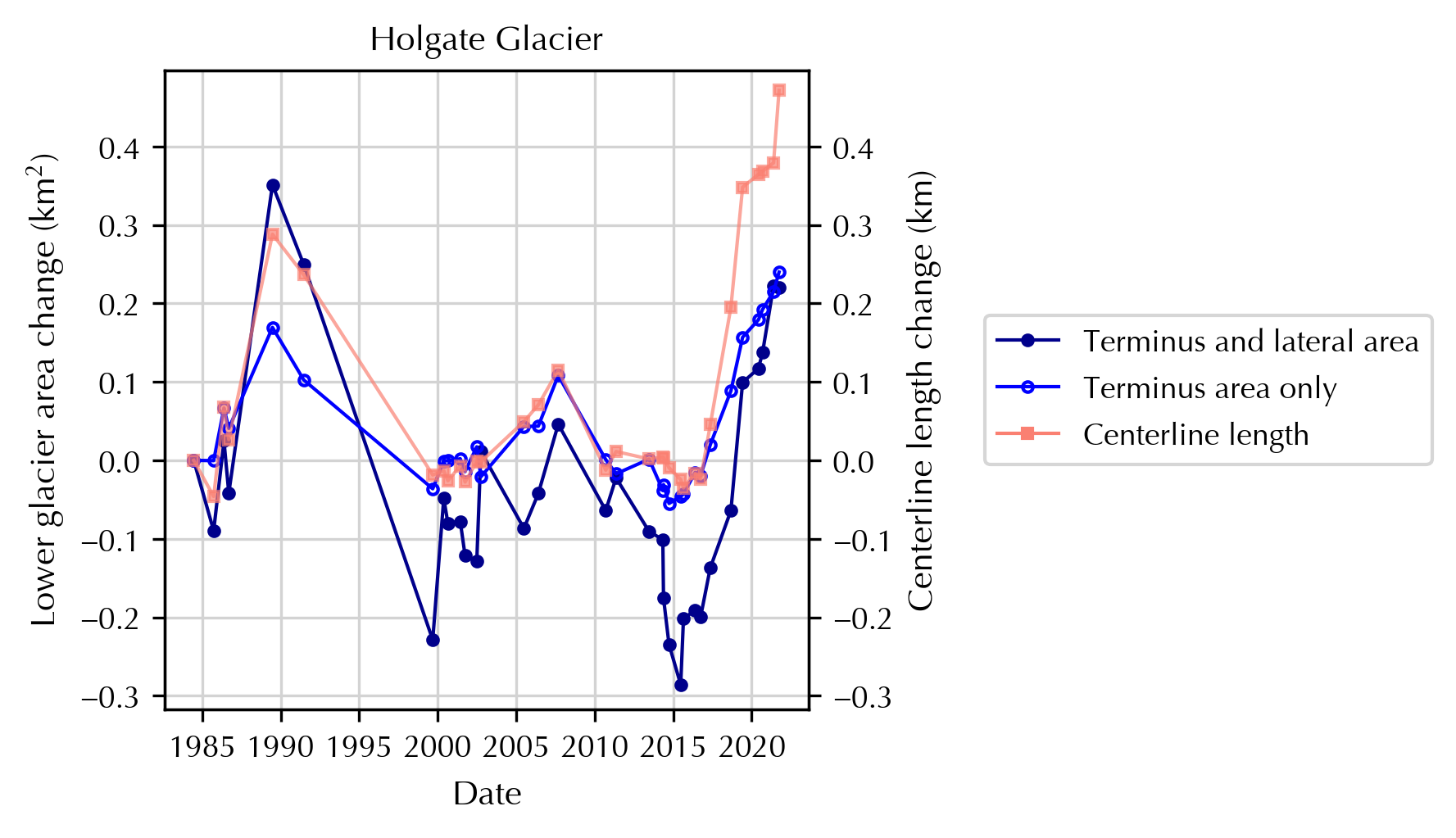
**Fig. S1.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Bear Glacier.



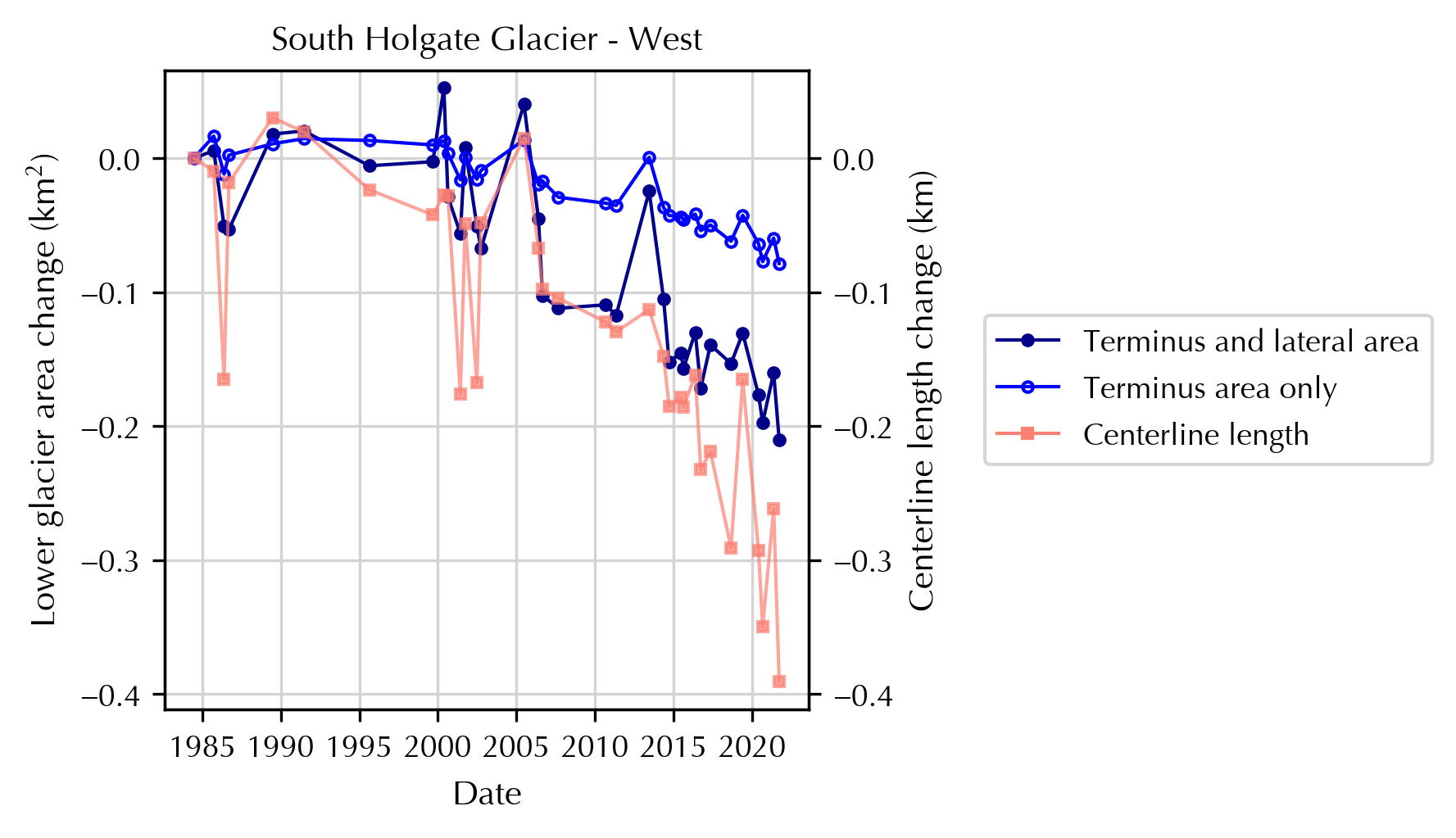
**Fig. S2.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Aialik Glacier.



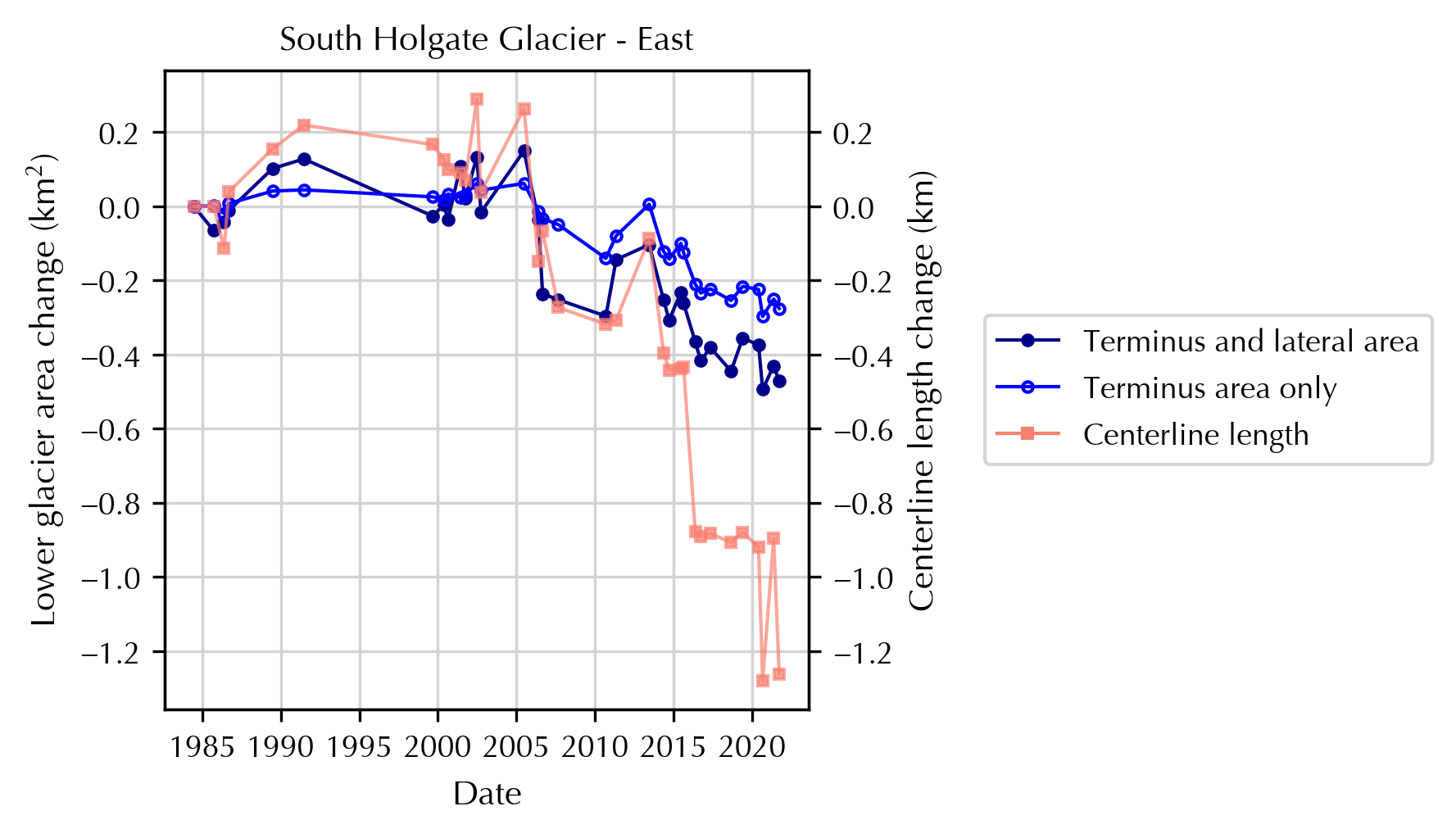
**Fig. S3.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Pedersen Glacier.



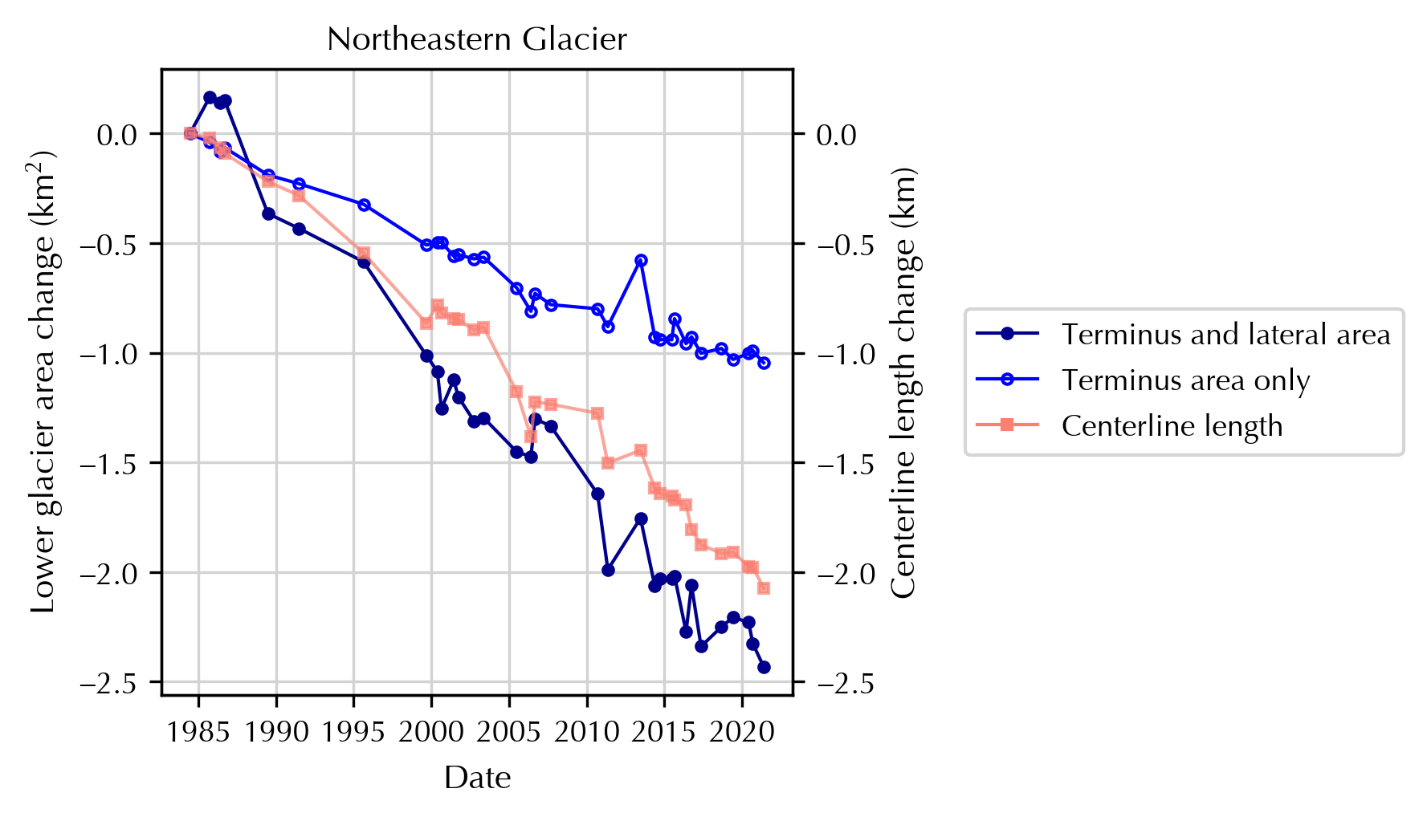
**Fig. S4.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Holgate Glacier.



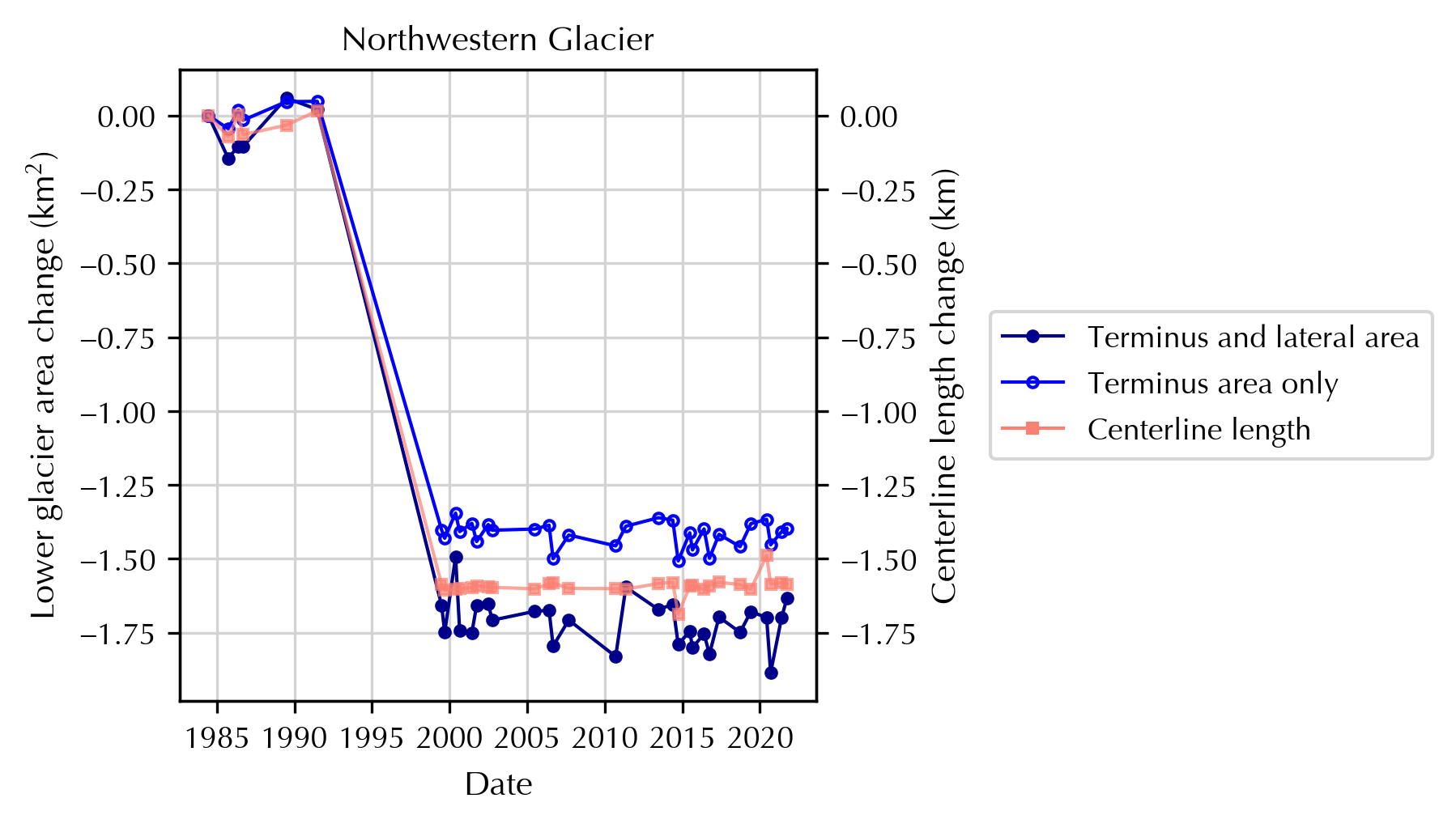
**Fig. S5.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at South Holgate Glacier – West.



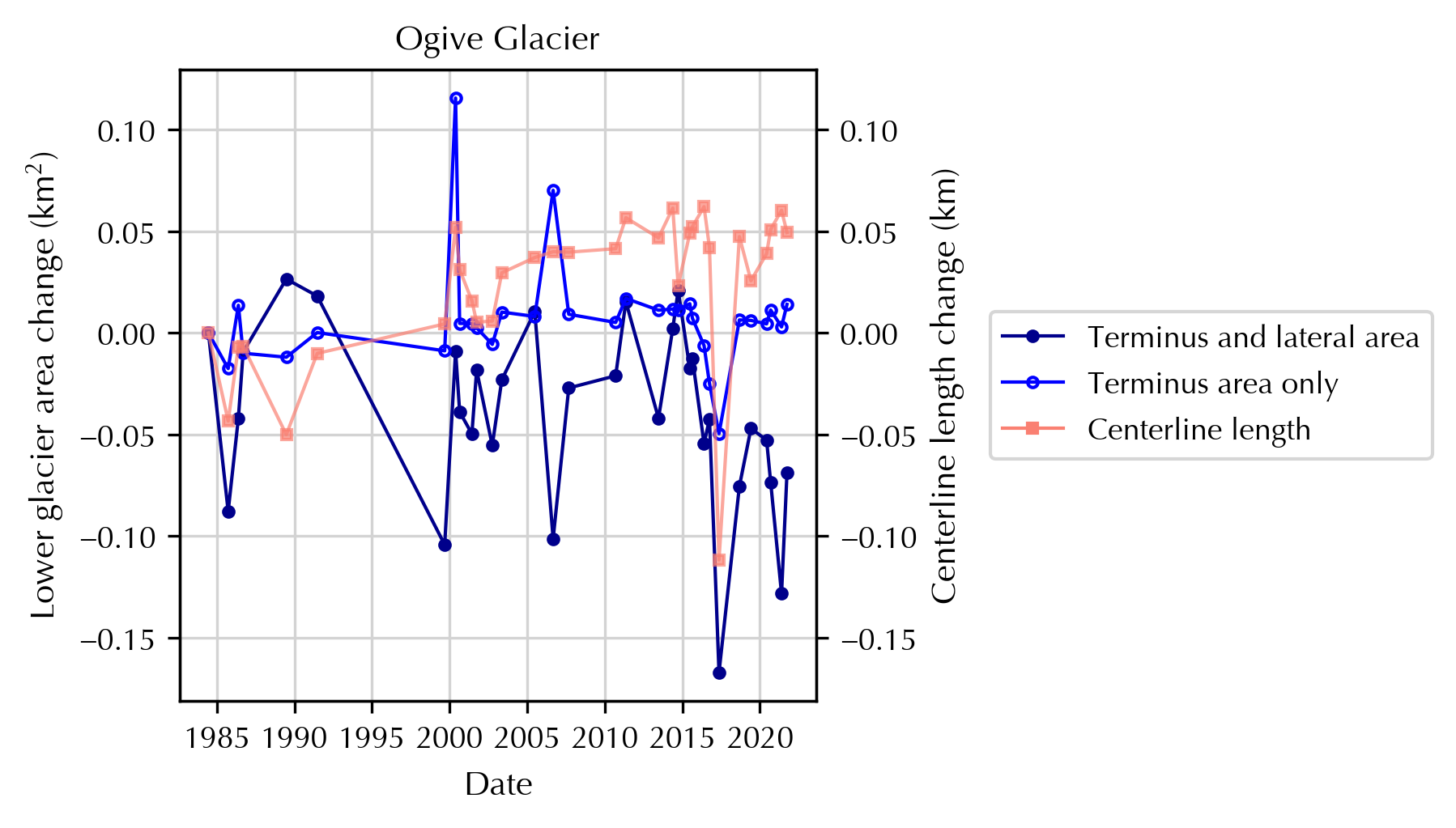
**Fig. S6.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at South Holgate Glacier – East.



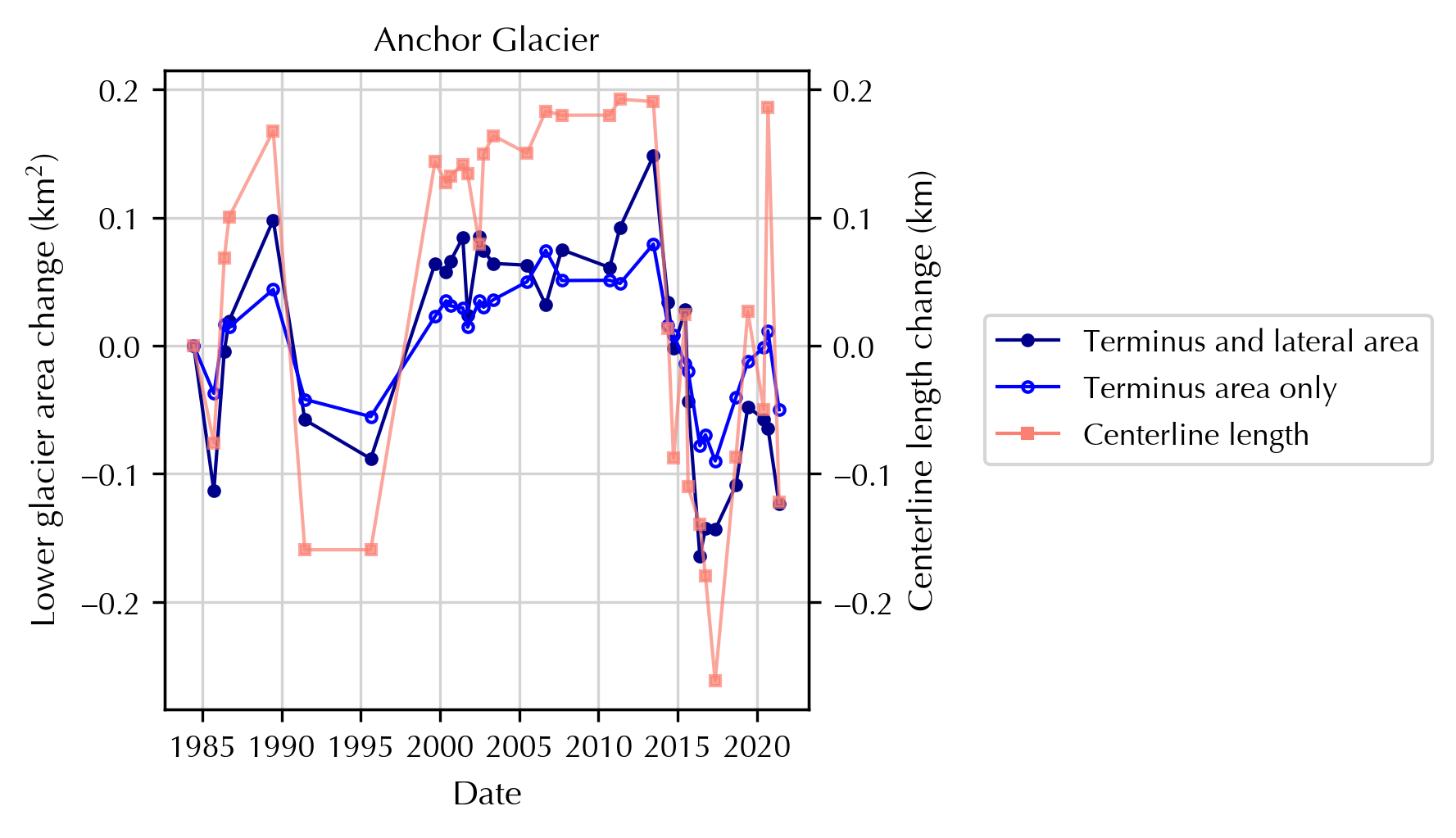
**Fig. S7.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Northeastern Glacier.



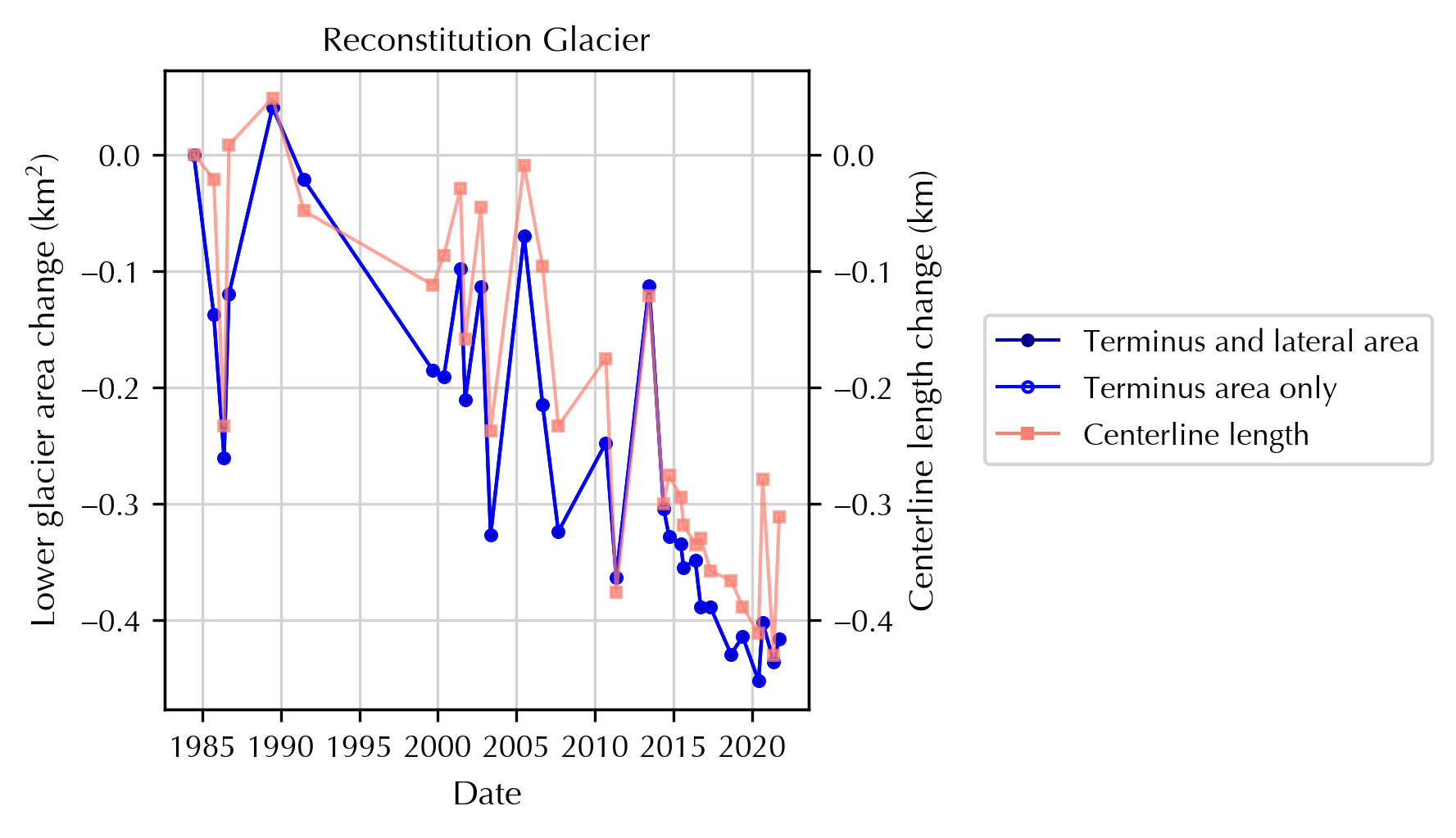
**Fig. S8.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Northwestern Glacier.



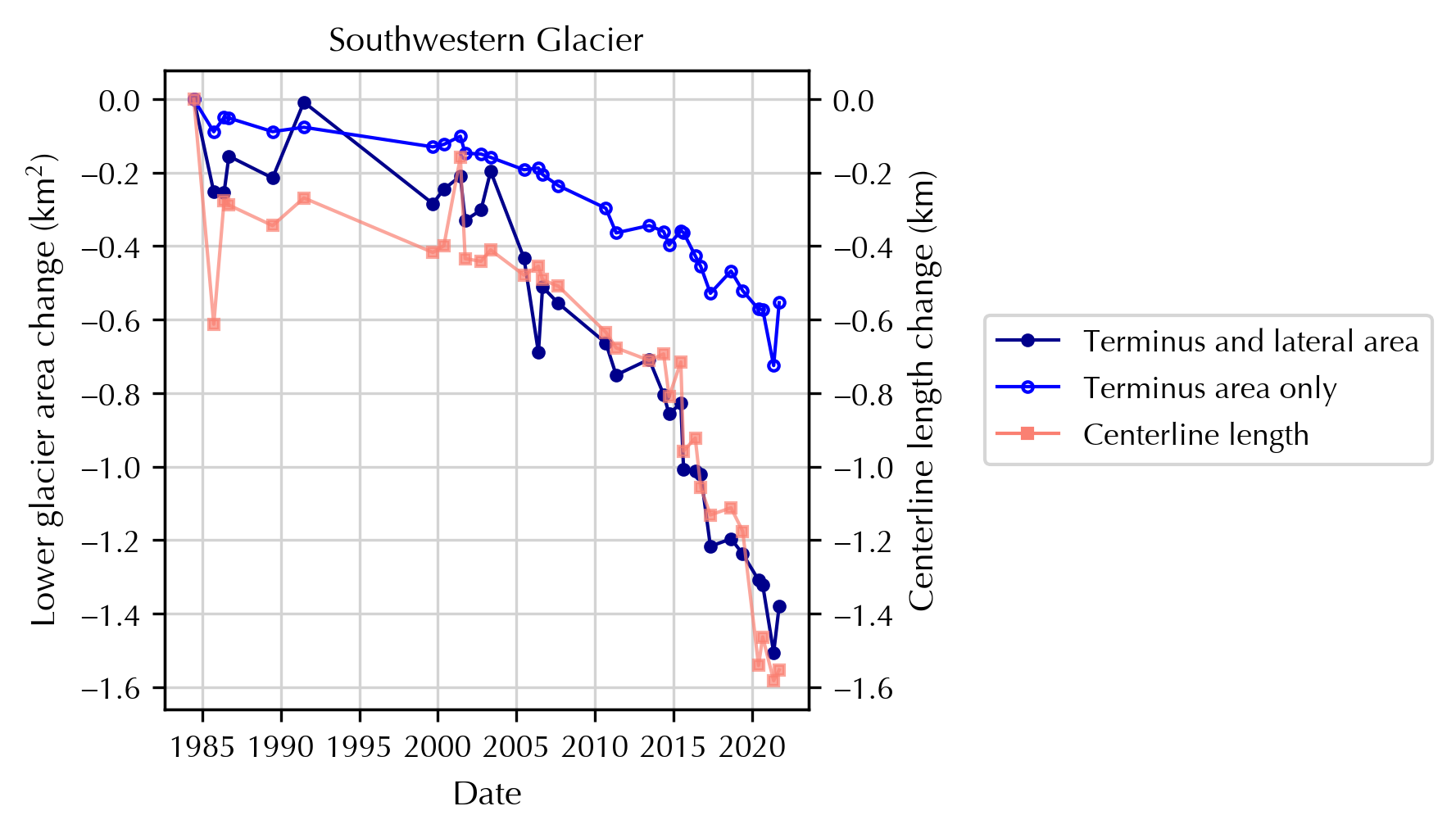
**Fig. S9.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Ogive Glacier.



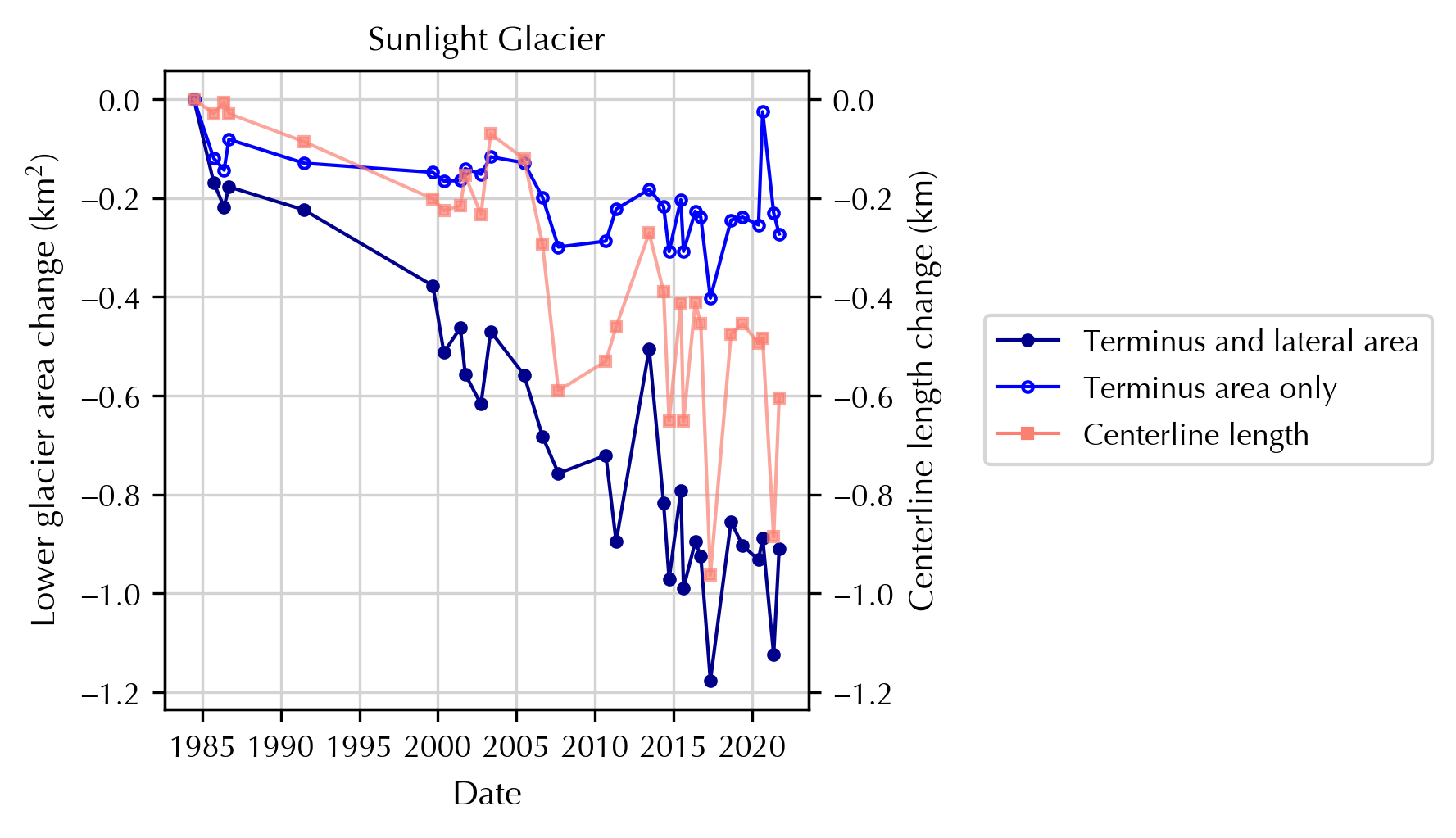
**Fig. S10.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Anchor Glacier.



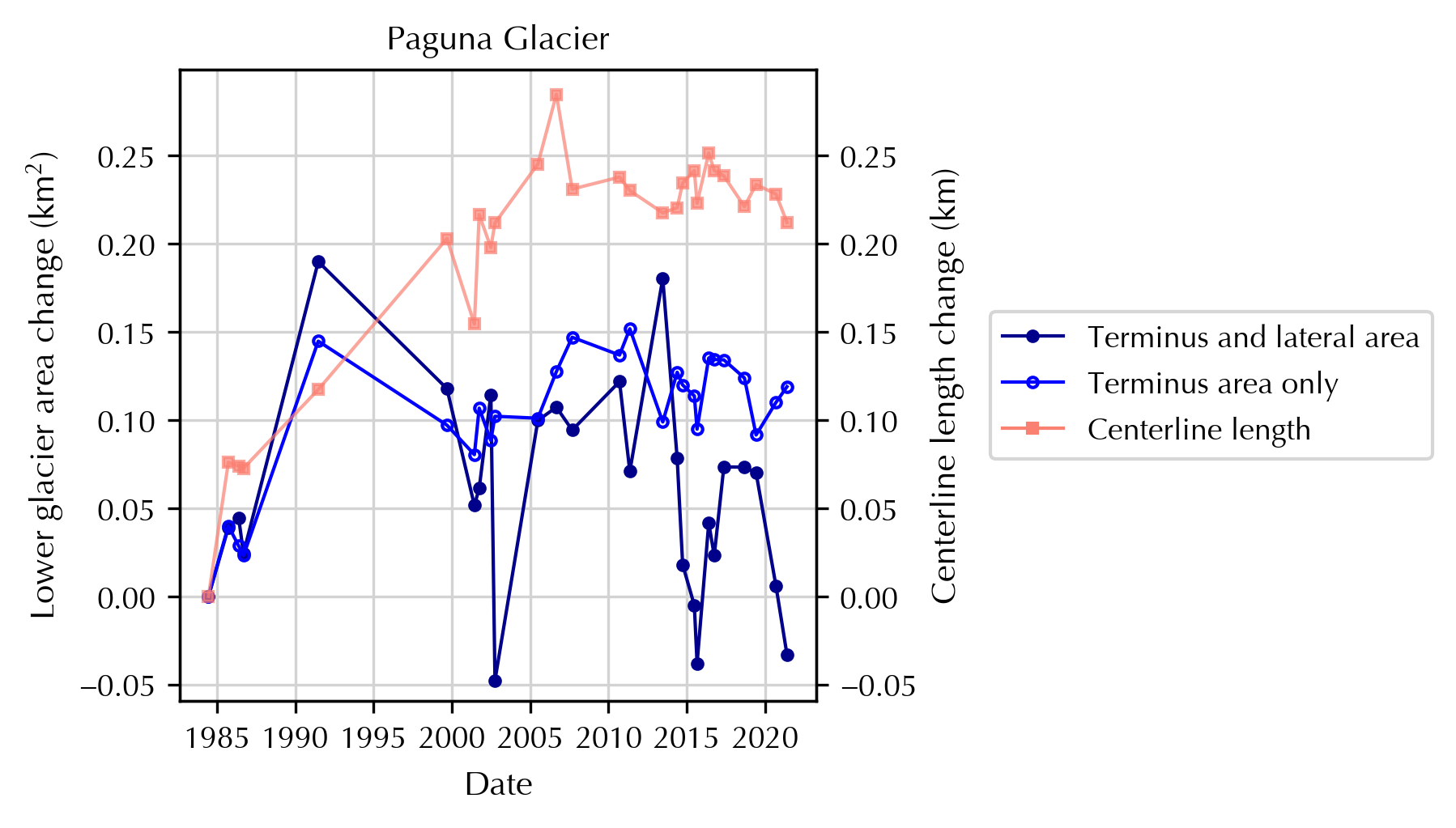
**Fig. S11.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Reconstitution Glacier.



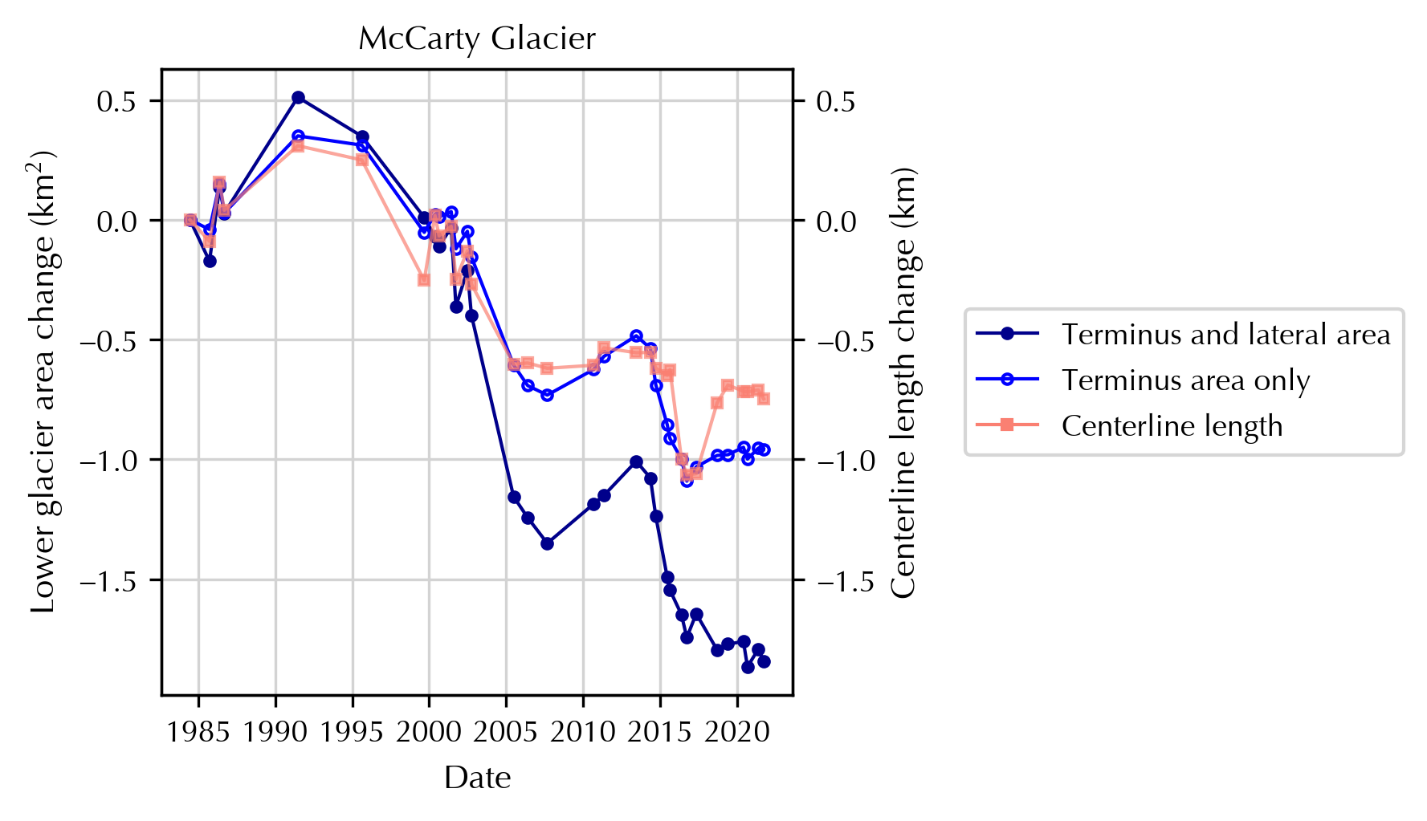
**Fig. S12.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Southwestern Glacier.



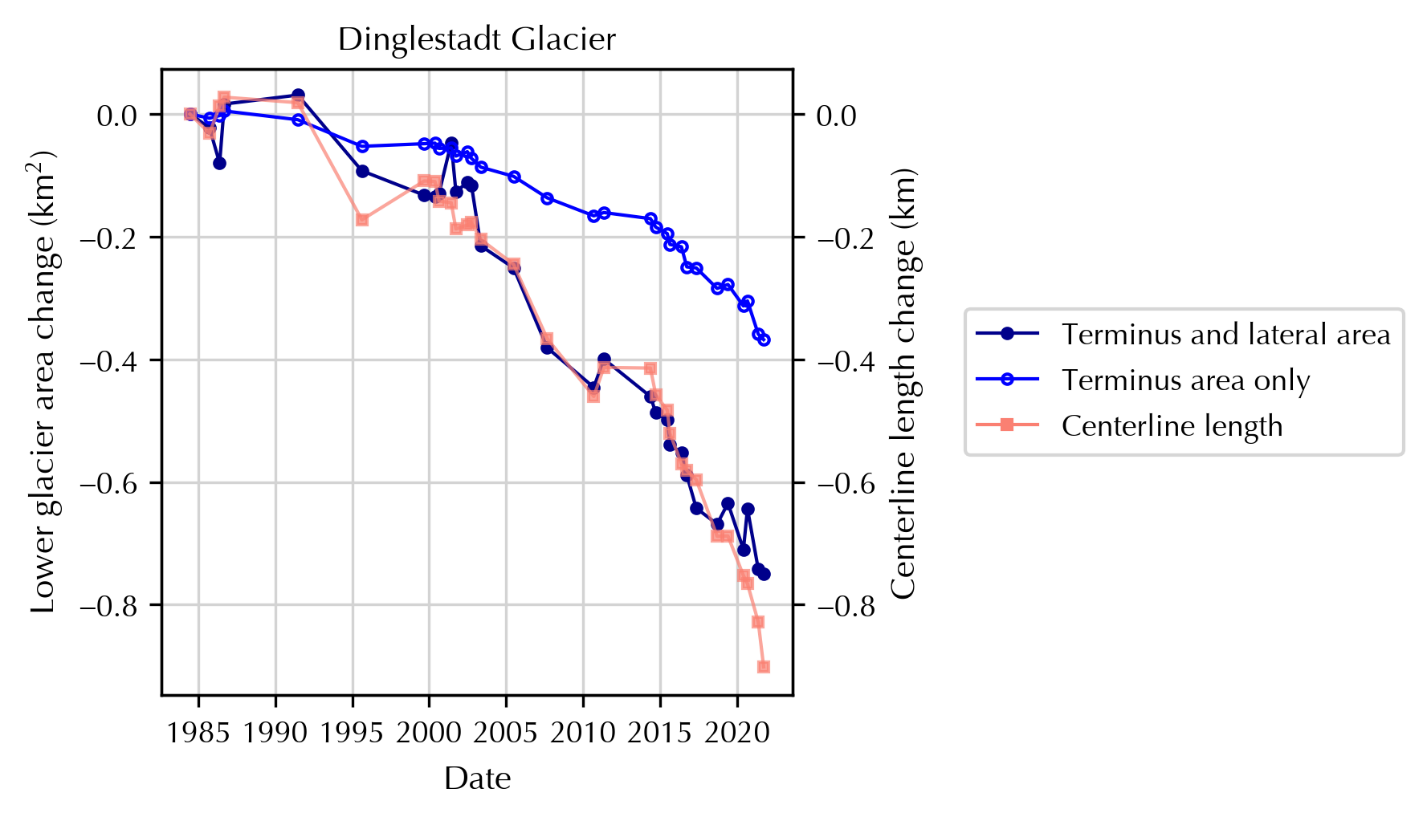
**Fig. S13.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Sunlight Glacier.



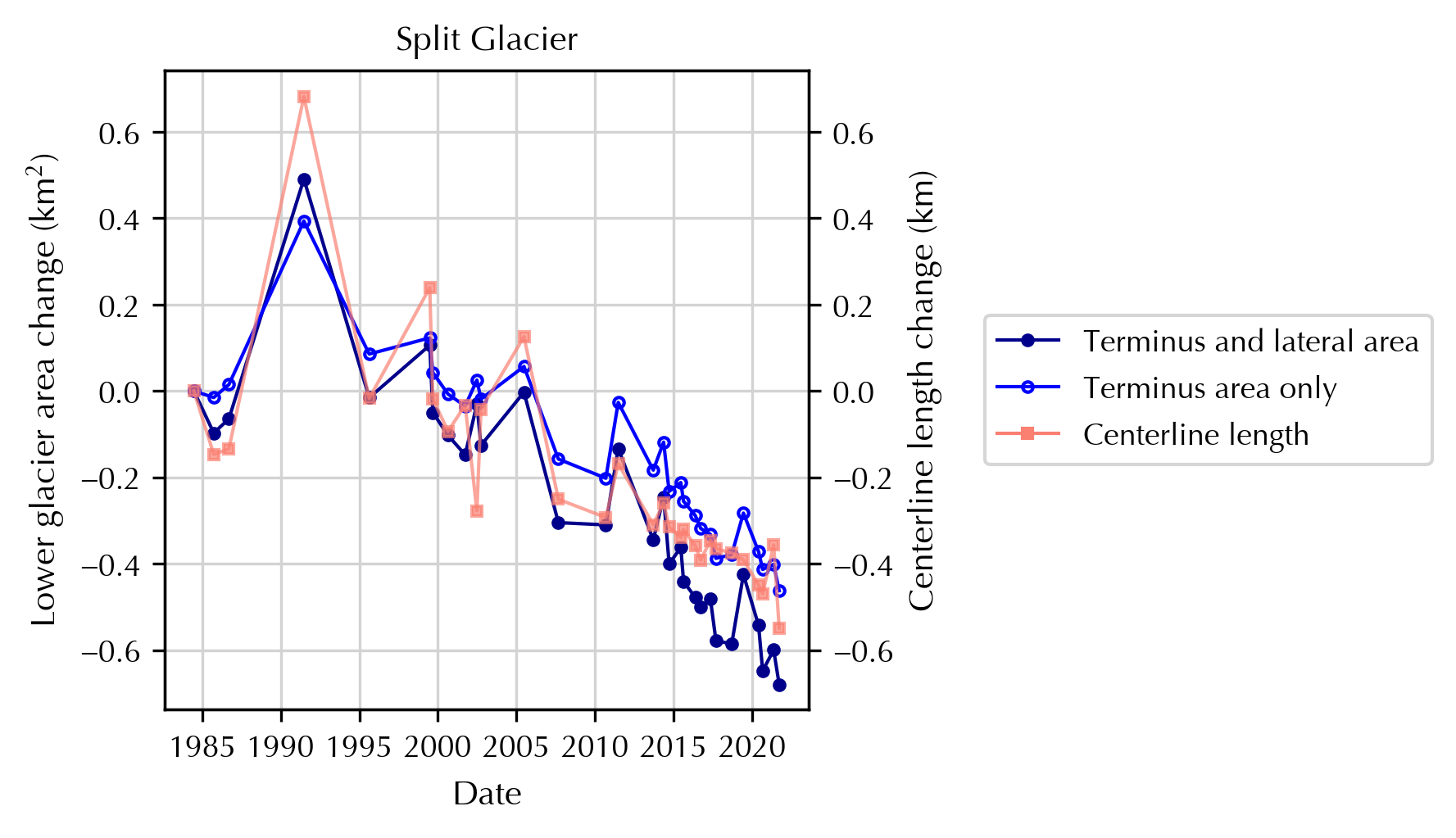
**Fig. S14.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Paguna Glacier.



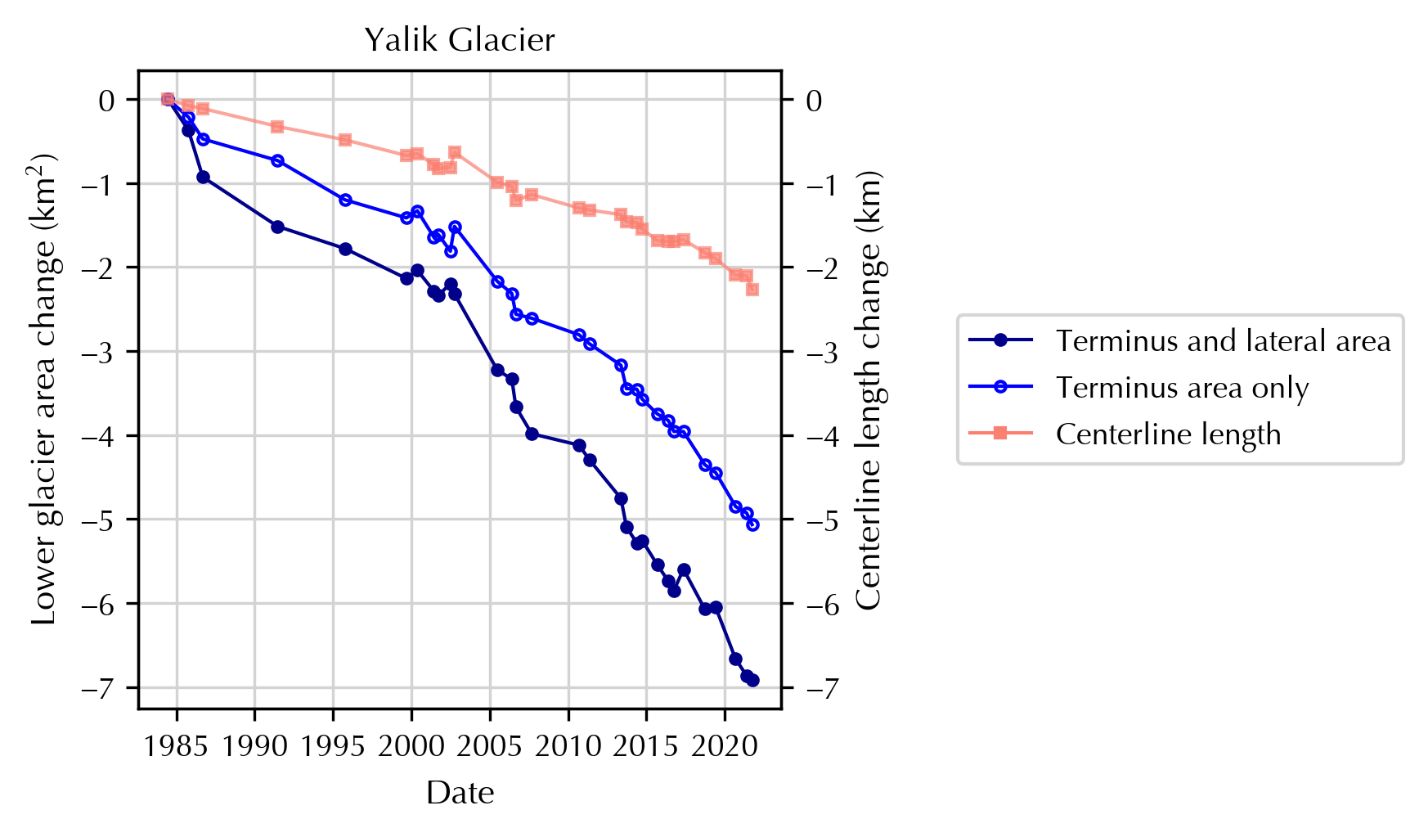
**Fig. S15.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at McCarty Glacier.

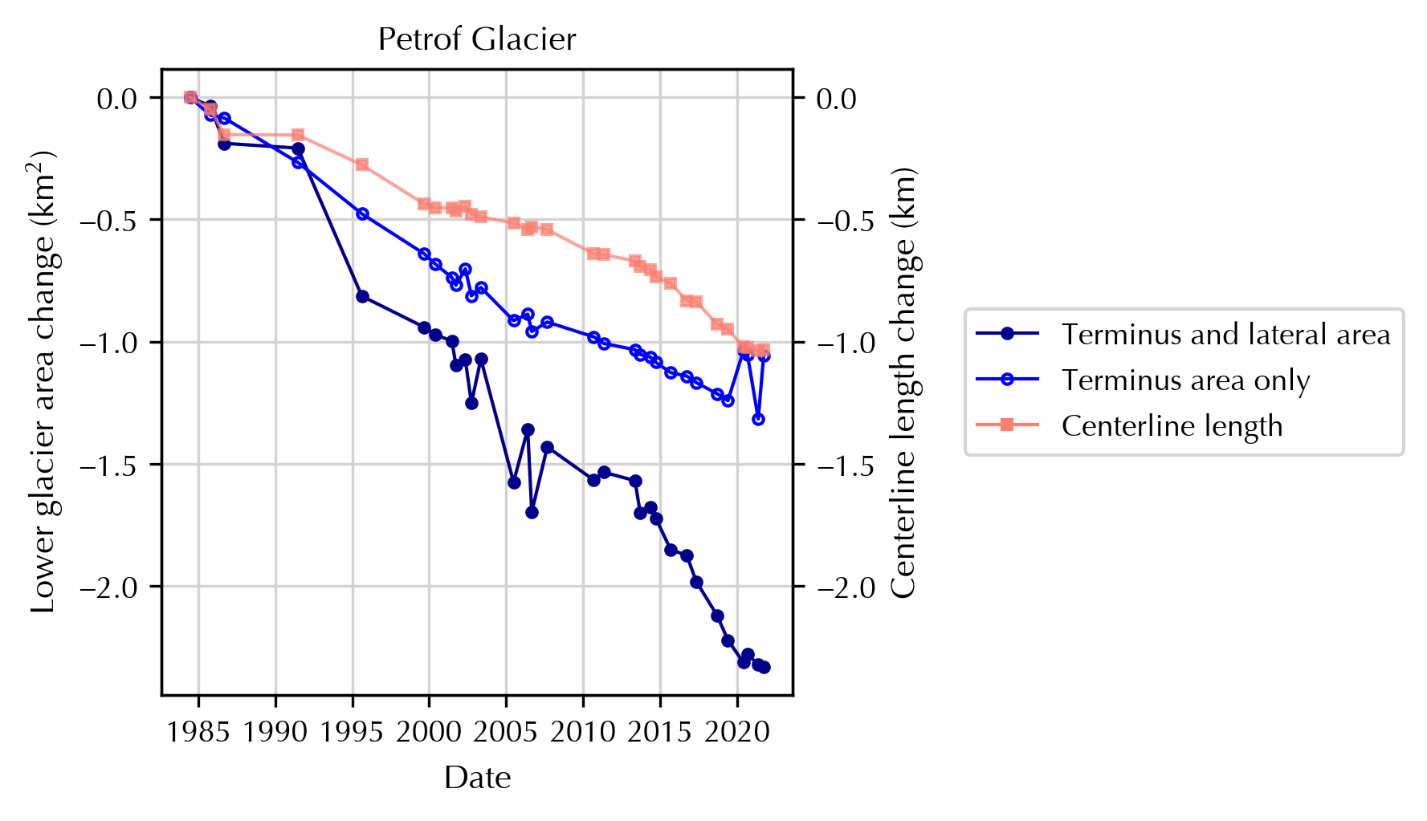


**Fig. S16.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Dinglestadt Glacier.



**Fig. S17.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Split Glacier.

**Fig. S18.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Yalik Glacier.



**Fig. S19.** Observed change in lower glacier area (dark blue, closed circles), terminus area (blue, open circles), and centerline length (pink, squares) at Petrof Glacier.