GSA Data Repository 2017310

Fountain et al., 2017, The changing extent of the glaciers along the western Ross Sea, Antarctica: Geology, doi:10.1130/G39240.1.

Supplementary Material

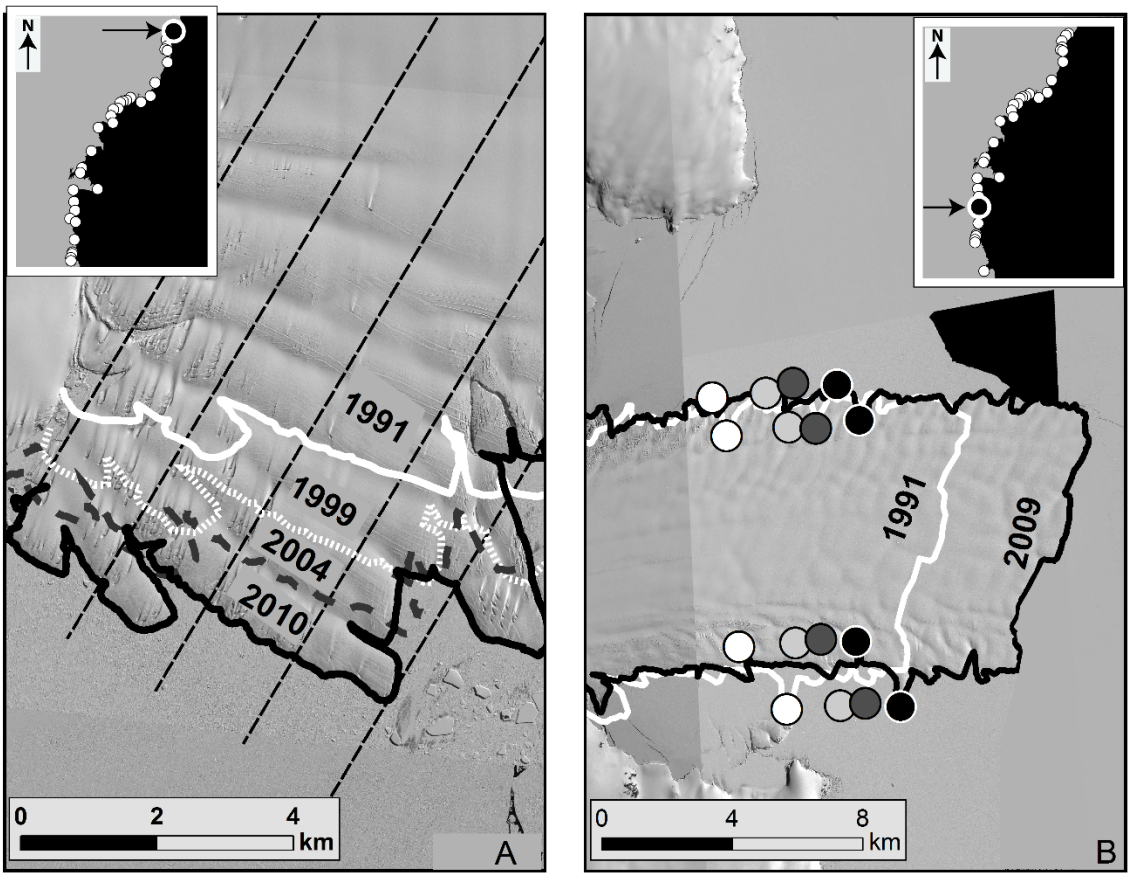

Figure DR1. Assessing change in glacier extent. A. Moubray Glacier, the white, thin grey, black dashed and black lines indicate the terminus position for the year indicated. The straight lines are guides for measuring change in terminus position. B. Wylde Glacier, dots represent features at different times (white 1991, black 2009, grey in between) that were tracked for glacier velocity. In this case the features were spurs of ice or crack indentations. Both images are from Polar Geospatial Center's 2008-2012 mosaic. The black angular block in B is a region of non-overlap between images.

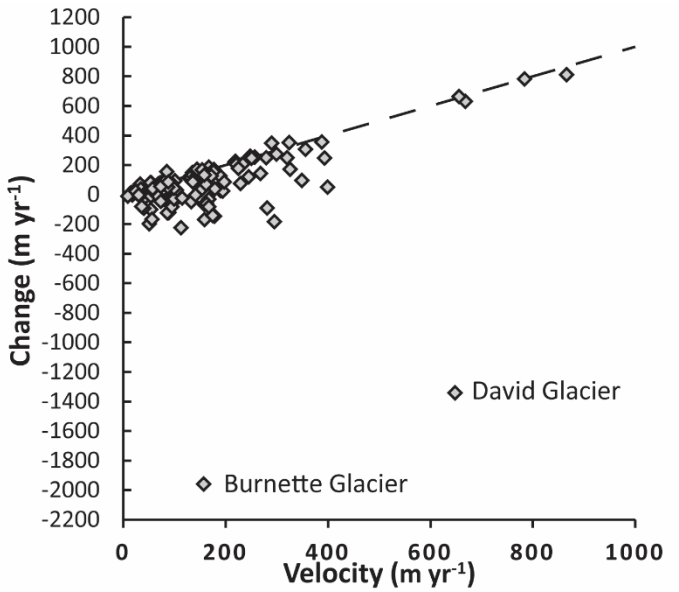

Figure DR2. Rate of change in terminus position vs. velocity plotted for each time interval (table DR3). The two outliers, Burnette Glacier and David Glacier/Drygalski Ice Tongue, result from major calving events. The dashed line represents equal velocity and terminus change.

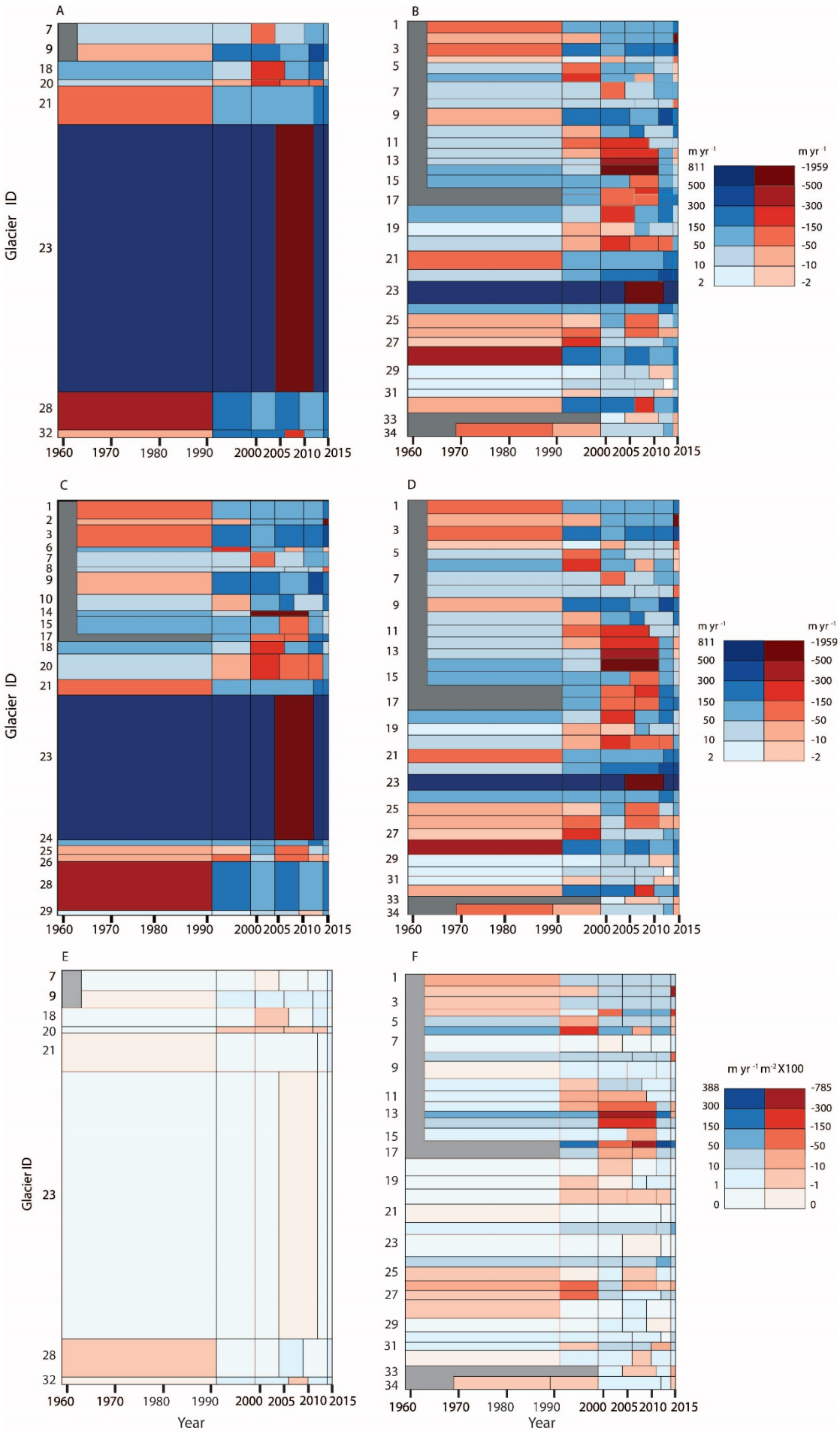
A
B
C
D
E
F
Glacier ID
Year
1960
1970
1980
1990
2000
2005
2010
2015
m yr -1
811
500
300
150
50
10
2
-1959
-500
-300
-150
-50
-10
-2
m yr -1 m-2 X100
388
300
150
50
10
1
0
-785
-300
-150
-50
-10
-1
0

Figure DR3. Rate of glacier advance/retreat with time and position using different methods of presentation. On the vertical axis, glaciers are arranged from north (1) to south (34); on the horizontal is time and available imagery and maps define the interval. Darker red color indicates increased rates of glacier recession and darker blue colors indicate increased rates of glacier advance. Dark grey is no data. For panels A and B, height of boxes scales with glacier area normalized by the area of the David Glacier/Drygalski Ice Tongue, linear and logarithmic scaling, respectively. For panels C and D, the height of the boxes scales to glacier discharge normalized to the discharge of David Glacier, linear and logarithmic scales, respectively. For panels E and F height of boxes scales to glacier area normalized by the area of David Glacier/Drygalski Ice Tongue and the rate of change of the terminus is scaled by the area of the glacier, linear (left) and logarithmic (right) scales, respectively. Color of boxes represents average annual linear terminus change normalized to glacier area. Many of the glaciers are too small to plot on the linear scale panels (A,C,E) hence the missing glacier IDs.

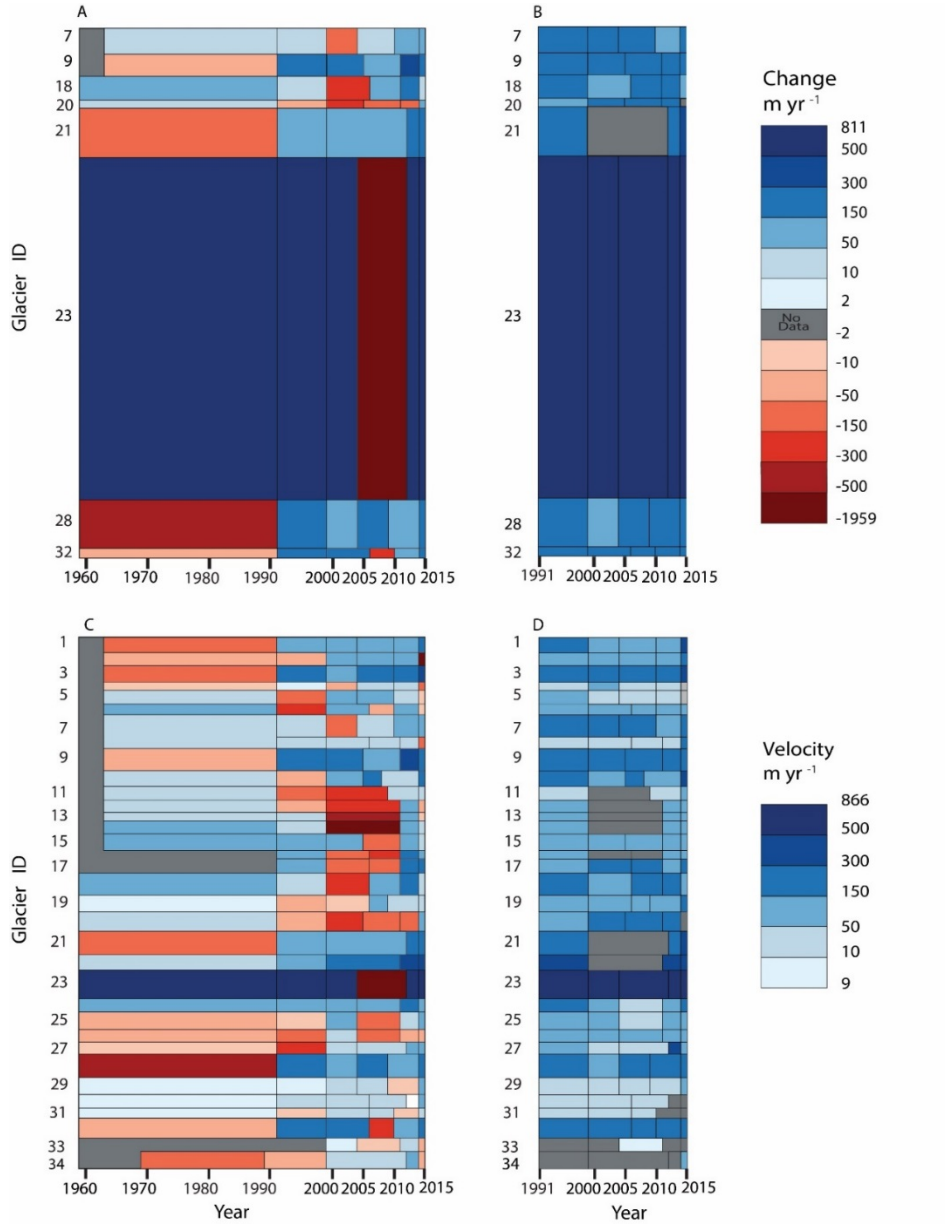

Figure DR4. Rate terminus change with time and position (A, C) displayed next to glacier velocity (B, D). Glaciers are arranged from north (1) to south (34); the time interval is defined by available imagery and maps. For Panels A and C darker red color indicates increased rates of glacier recession and darker blue colors indicate increased rates of glacier advance. In Panels B and D dark blue represents faster velocities of glaciers. Dark grey is no data. For panels A and B, height of boxes scales with glacier area normalized by the area of the David Glacier/Drygalski Ice Tongue, linearly. Box height for C and D are the same as panels A and C, but displayed using a logarithmic scale.

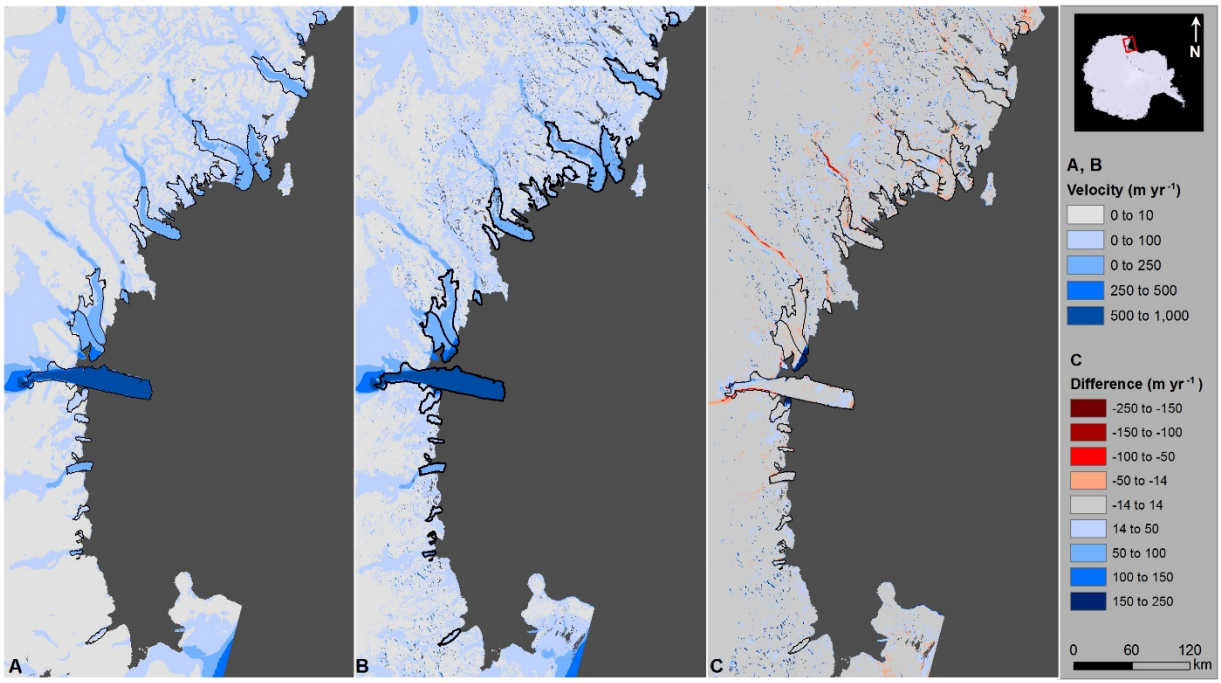

Figure DR5. Glacier speed and speed changes along the western Ross Sea from 2008 and 2014. Figure A is data from the MEaSUREs InSAR-Based Antarctica Ice Velocity Map compiled from data collected January to December 2008 (Rignot et al, 2011); B is velocity data for spring/summer 2014 (Oct. 2013 to March 2014) from LISA (Fahnestock et al., 2015). Light grey areas represent velocities within our uncertainty (10 m yr^{-1}) and darker blue represent higher velocities. Figure C shows the velocity difference between A and C. Light grey represents values within our uncertainty (± 14 m yr^{-1}). Red values indicate where the ice has slowed down, and blue indicates where ice is speeding up. Geolocation issues with the MEaSURES data set cause a slight offset of velocities relative to LISA, resulting in apparent speed changes in some of the margins, e.g., thin red areas along southern ice margins of the larger glaciers.

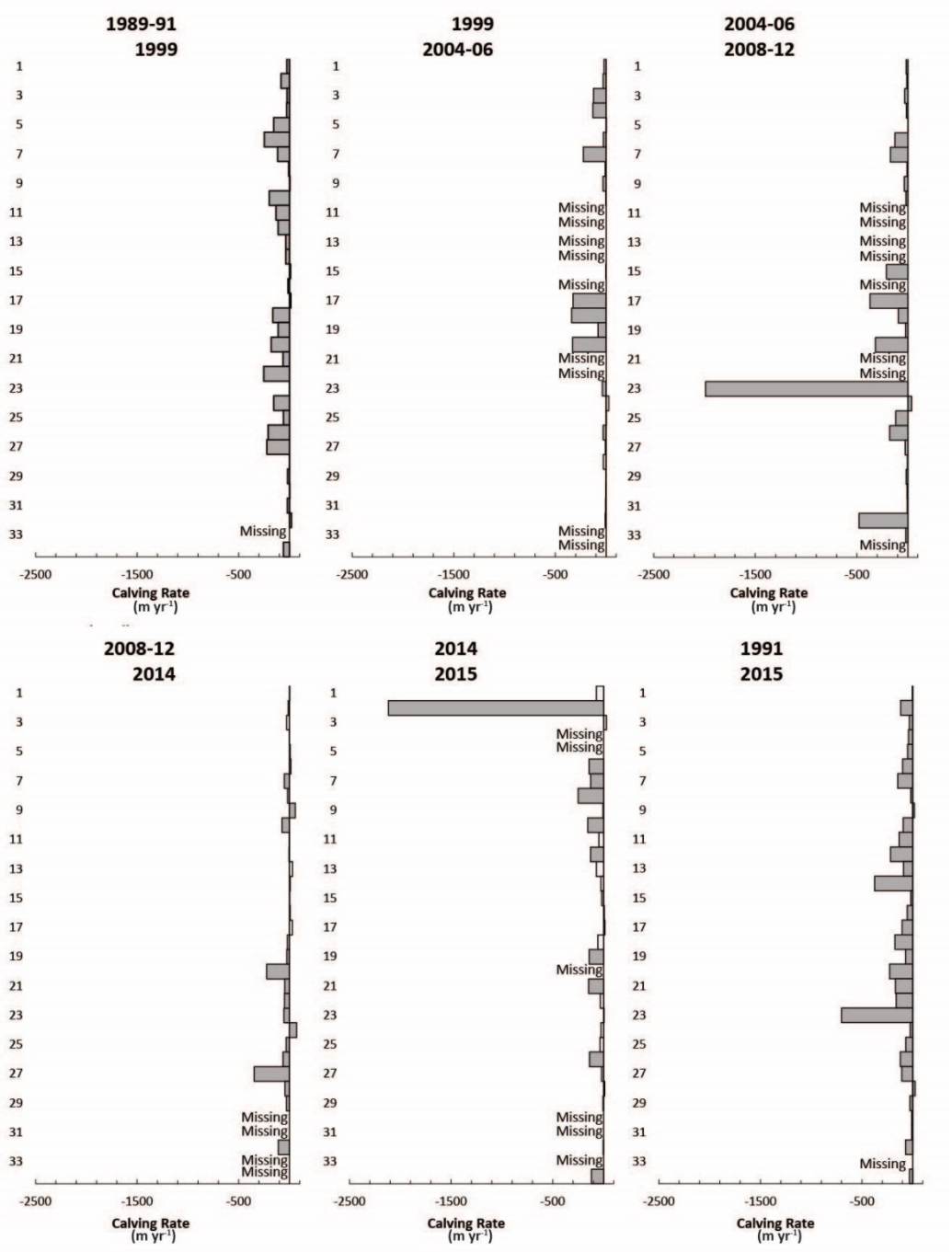

Figure DR6. Calving rates for the glaciers along the western Ross Sea. Vertical axis is glacier ID from north (top) to the south (bottom) and glacier ID is listed in **Table DR2.** Light grey boxes represent calving rates smaller than uncertainty.

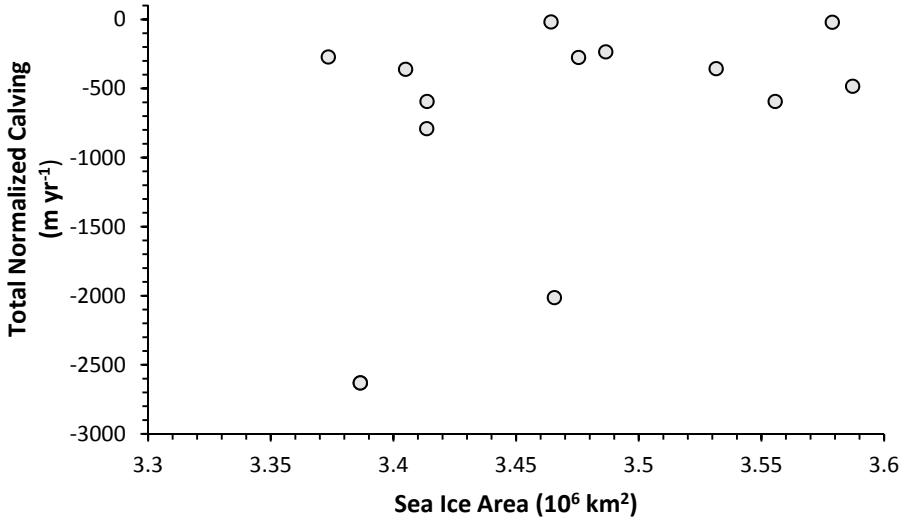

Figure DR7. Total normalized calving rate (the sum of all calving rates for all glaciers) versus sea ice area. Sea ice area in Ross Sea calculated by averaging the highest monthly sea ice from each year terminus change was measured.

Table DR1. Summary of the 49 images and maps used to measure terminus change of the 34 glaciers. For Satellites, 'Year' refers to the year the image was taken. Each map was constructed from imagery collected over a maximum of three years except for the Mount Melbourne quadrangle, used imagery collected over 5 years in two different intervals. We used the average date of image acquisition for the analysis

Map Name or Scene	Year	Sensor	Source	Data Provider
Cape Hallett	1961-64	Map	USGS	www.pgc.umn.edu
Coulman Island	1962-64	Map	USGS	www.pgc.umn.edu
Mount Melbourne	1955-57 1960-63	Map	USGS	www.pgc.umn.edu
Relief Inlet	1957-60	Map	USGS	www.pgc.umn.edu
Franklin Island	1957-60	Map	USGS	www.pgc.umn.edu
Ross Island (revised 1967-70)	1956-60	Map	USGS	www.pgc.umn.edu
LT40551161989029XXX04	1989	Landsat 4	USGS	earthexplorer.usgs.gov
LT40621141991004XXX01	1991	Landsat 4	USGS	earthexplorer.usgs.gov
LT50621111991028XXX01	1991	Landsat 5	USGS	earthexplorer.usgs.gov
LT50621121991028XXX01	1991	Landsat 5	USGS	earthexplorer.usgs.gov
LT50621131991028XXX01	1991	Landsat 5	USGS	earthexplorer.usgs.gov
LT50641131991042XXX01	1991	Landsat 5	USGS	earthexplorer.usgs.gov
LE70571151999359EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70601111999364EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70601121999348EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70601131999348EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70601141999348EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70641121999360EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
LE70641131999360EDC00	1999	Landsat 7	USGS	earthexplorer.usgs.gov
QB02_04JAN212114278-P1BS	2004	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
QB02_05OCT222204493-P1BS	2005	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
QB02_05OCT222204527-P1BS	2005	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
QB02_05OCT222205063-P1BS	2005	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
QB02_06NOV232143325-P1BS	2006	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
QB02_04JAN212114278-P1BS	2004	Quickbird-2	DigitalGlobe	www.pgc.umn.edu
AST_L1B_00301082006143659	2006	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00301092006134223	2006	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00301092006134223	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00302032004135615	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00302032004135624	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00312142004133628	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00312312004124157	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00312312004124206	2004	ASTER	NASA	reverb.echo.nasa.gov
AST_L1B_00312162004132408	2004	ASTER	NASA	reverb.echo.nasa.gov
AntarcticaMosaic50cmPanchromatic	2008-12	Worldview-2	DigitalGlobe	www.pgc.umn.edu
LE70621120103828ED	2010	Landsat 7	USGS	earthexplorer.usgs.gov
WV01_12SEP292135519-P1BS	2012	Worldview-1	DigitalGlobe	www.digitalglobe.com
LC80571152014072LGN00	2014	Landsat 8	USGS	earthexplorer.usgs.gov

LC80621132014043LGN00	2014	Landsat 8	USGS	earthexplorer.usgs.gov
LC80631112014002LGN00	2014	Landsat 8	USGS	earthexplorer.usgs.gov
LC80631122014066LGN00	2014	Landsat 8	USGS	earthexplorer.usgs.gov
LC80631142014050LGN00	2014	Landsat 8	USGS	earthexplorer.usgs.gov
L080621112015062LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
LC80581152015066LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
LC80601132015064LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
LC80601142015064LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
Lc80621122015046LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
LC80631132015053LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov
LC80641122015028LGN00	2015	Landsat 8	USGS	earthexplorer.usgs.gov

Table DR2. Summary of glacier characteristics. The "ID" refers to the sequential number we gave each glacier from north to south. The 'Name' refers to the officially recognized name of the glacier (several glaciers have no official name). The latitude and longitude define the approximate center of the glacier terminus on the 2008-2012 mosaic. Iron/Honey is an abbreviation for Ironside / Honeycomb glaciers, and Fitz/Ice is Fitzgerald/Icebreaker glaciers, and David/Drygal refers to David Glacier and Drygalski Ice Tongue. Avg Width is the average width defined at the grounding zone of the glacier.

ID	Name	Latitude	Longitude	Area (km^2)	Avg Width (m)
1	Moubray	-71.983	170.35	715	10519
2	Burnette	-72.020	170.06	249	2616
3	Iron/Honey	-72.160	169.79	947	3545
4	---	-72.336	169.90	40	2756
5	---	-72.400	169.77	318	3553
6	---	-72.426	170.11	99	3279
7	Tucker	-72.664	170.00	12338	8261
8	---	-73.127	169.21	144	5679
9	Borchgrevnik	-73.164	168.65	10361	16515
10	Mariner	-73.256	167.09	825	17007
11	Ridgeway	-73.479	167.51	329	9120
12	---	-73.540	167.19	206	4563
13	---	-73.577	166.95	39	2444
14	Wylde	-73.583	166.73	263	5528
15	Fitz/Ice	-73.652	166.36	1144	12323
16	---	-73.759	166.21	39	1362
17	---	-73.851	165.85	388	2617
18	Aviator	-73.975	165.51	11424	13057
19	Tinker	-74.069	164.99	1298	6717
20	Campbell	-74.578	164.42	3754	6662
21	Priestley	-74.885	163.49	23325	10917
22	Reeves	-74.968	163.12	674	17475
23	David/Drygal	-75.328	162.29	162303	15765
24	---	-75.526	162.74	293	11494
25	Clarke	-75.728	162.80	1581	8461
26	Harbord	-75.925	162.72	197	4199
27	---	-76.088	162.42	159	1711
28	Nordenskjold	-76.190	162.48	23141	9439
29	---	-76.577	162.79	1472	7819
30	---	-76.828	162.60	313	3044
31	---	-76.871	162.58	67	1356
32	Mackay	-76.965	162.37	4653	3593
33	---	-77.021	162.44	298	949
34	Ferrar	-77.688	163.49	1466	6254
	Average			7790	7076
	Median			531	5966
	Minimum			39	949
	Maximum			162303	17475

Table DR3. Annual

average rate of terminus change and estimated ice speed (italics) of the ice tongue, both, m yr^{-1}, for the glaciers from Adare Peninsula south to the Ferrar Glacier, with --- indicating no data. Average is the unweighted average for each glacier (rows). Uncertainty is the square root of the sum of the uncertainty for the two images, divided by the time between images. The bottom row is the average (Avg) for all glaciers during the defined period and its uncertainty is the standard deviation.

ID	1955-70 1989-91	*1989-91* *1999*		1999 2004-06		2004-06 2008-12		2008-12 2014		2014 2015		Average	
1	-86 ± 6	133 ± 21	*(158)*	112 ± 27	*(132)*	128 ± 11	*(144)*	81 ± 23	*(80)*	249 ± 90	*(320)*	14 ± 3	*(143)*
2	-15 ± 6	-12 ± 21	*(72)*	64 ± 27	*(91)*	94 ± 11	*(101)*	60 ± 23	*(72)*	-1959 ± 90	*(157)*	-23 ± 3	*(87)*
3	-80 ± 6	275 ± 21	(299)	121 ± 27	*(245)*	250 ± 14	*(279)*	207 ± 27	*(234)*	351 ± 90	*(324)*	73 ± 3	*(252)*
4	-2 ± 6	4 ± 21	*(31)*	-39 ± 27	*(92)*	22 ± 11	*(35)*	23 ± 23	*(25)*	-100 ± 90	*(---)*	-3 ± 3	*(42)*
5	35 ± 6	-101 ± 21	*(54)*	52 ± 27	*(49)*	50 ± 11	*(48)*	39 ± 23	*(34)*	-4 ± 90	*(---)*	23 ± 3	*(46)*
6	61 ± 6	-197 ± 21	*(51)*	56 ± 17	*(81)*	-16 ± 6	*(108)*	71 ± 23	*(57)*	-2 ± 90	*(141)*	21 ± 3	*(74)*
7	10 ± 6	35 ± 21	*(153)*	-67 ± 27	*(158)*	23 ± 11	*(194)*	85 ± 23	*(136)*	142 ± 90	*(268)*	27 ± 3	*(166)*
8	18 ± 6	30 ± 21	*(37)*	19 ± 19	*(27)*	29 ± 13	*(35)*	30 ± 31	*(49)*	-82 ± 90	*(167)*	8 ± 3	*(41)*
9	-35 ± 6	224 ± 21	*(219)*	202 ± 20	*(231)*	132 ± 4	*(165)*	348 ± 31	*(290)*	245 ± 90	*(250)*	84 ± 3	*(181)*
10	43 ± 6	-32 ± 21	*(167)*	132 ± 20	*(135)*	204 ± 7	*(221)*	29 ± 15	*(104)*	171 ± 90	*(326)*	42 ± 3	*(157)*
11	19 ± 6	-94 ± 21	*(40)*	---	*(---)*	---	*(---)*	22 ± 18	*(24)*	33 ± 90	*(78)*	-35 ± 3	*(37)*
12	10 ± 6	-35 ± 21	*(77)*	---	*(---)*	---	*(---)*	67 ± 31	*(71)*	-29 ± 90	*(99)*	-67 ± 3	*(77)*
13	46 ± 6	33 ± 21	*(69)*	---	*(---)*	---	*(---)*	82 ± 31	*(53)*	-5 ± 90	*(66)*	-57 ± 3	*(65)*
14	57 ± 6	49 ± 21	*(86)*	---	*(---)*	---	*(---)*	79 ± 31	*(72)*	29 ± 90	*(56)*	-106 ± 3	*(80)*
15	76 ± 6	88 ± 21	*(77)*	69 ± 20	*(71)*	-123 ± 4	*(86)*	87 ± 31	*(83)*	40 ± 90	*(57)*	63 ± 3	*(78)*
16	---	114 ± 21	*(128)*	-50 ± 19	*(---)*	-171 ± 13	*(---)*	152 ± 31	*(145)*	87 ± 90	*(80)*	---	*(64)*
17	---	149 ± 21	*(135)*	-147 ± 19	*(178)*	-91 ± 13	*(281)*	172 ± 31	*(144)*	168 ± 90	*(154)*	---	*(121)*
18	68 ± 6	26 ± 21	*(190)*	-225 ± 19	*(113)*	70 ± 13	*(162)*	155 ± 31	*(176)*	42 ± 90	*(99)*	27 ± 3	*(156)*
19	3 ± 6	-35 ± 21	*(76)*	-8 ± 19	*(69)*	74 ± 21	*(95)*	38 ± 18	*(63)*	39 ± 90	*(179)*	5 ± 3	*(78)*
20	24 ± 6	-48 ± 21	*(133)*	-168 ± 24	*(159)*	-142 ± 3	*(175)*	-62 ± 31	*(163)*	64 ± 90	*(---)*	-46 ± 3	*(149)*
21	-90 ± 6	126 ± 21	*(189)*	---	*(---)*	---	*(---)*	178 ± 46	*(225)*	247 ± 90	*(393)*	4 ± 3	*(281)*
22	34 ± 6	95 ± 21	*(349)*	---	*(---)*	---	*(---)*	306 ± 31	*(356)*	356 ± 90	*(388)*	90 ± 3	*(364)*
23	671 ± 6	783 ± 21	*(784)*	631 ± 27	*(668)*	-1342 ± 8	*(648)*	811 ± 46	*(866)*	663 ± 90	*(656)*	392 ± 3	*(711)*
24	95 ± 6	76 ± 21	*(229)*	80 ± 27	*(55)*	72 ± 9	*(33)*	156 ± 31	*(85)*	133 ± 90	*(158)*	93 ± 3	*(115)*
25	- 26 ± 6	-3 ± 21	*(57)*	71 ± 27	*(68)*	-81 ± 9	*(36)*	45 ± 31	*(79)*	51 ± 90	*(87)*	-16 ± 3	*(57)*
26	-37 ± 6	-121 ± 21	*(89)*	47 ± 27	*(75)*	-83 ± 9	*(95)*	-10 ± 31	*(54)*	-23 ± 90	*(115)*	-22 ± 3	*(85)*
27	-6 ± 6	-167 ± 21	*(56)*	31 ± 27	*(37)*	16 ± 8	*(39)*	51 ± 46	*(399)*	55 ± 90	*(73)*	-19 ± 3	*(76)*
28	-475 ± 6	217 ± 21	*(218)*	123 ± 27	*(149)*	254 ± 13	*(257)*	127 ± 18	*(172)*	259 ± 90	*(248)*	-191 ± 3	*(168)*
29	3 ± 6	9 ± 21	*(26)*	29 ± 27	*(30)*	29 ± 13	*(44)*	-2 ± 18	*(30)*	85 ± 90	*(88)*	-1 ± 3	*(28)*
30	3 ± 6	26 ± 21	*(26)*	11 ± 19	*(15)*	11 ± 11	*(18)*	1 ± 46	*(---)*	59 ± 90	*(---)*	6 ± 3	*(17)*
31	1 ± 6	-3 ± 21	*(18)*	13 ± 17	*(17)*	30 ± 6	*(34)*	-7 ± 23	*(---)*	28 ± 90	*(---)*	4 ± 3	*(17)*
32	-26 ± 6	185 ± 21	*(167)*	169 ± 17	*(177)*	-184 ± 6	*(295)*	86 ± 23	*(197)*	248 ± 90	*(251)*	33 ± 3	*(200)*
33	---	---	*(---)*	9 ± 24	*(---)*	-10 ± 3	*(9)*	26 31	*(---)*	-45 ± 90	*(---)*	3 ± 3	*(6)*
34	-70 ± 9	-17 ± 12	*(43)*	---	*(---)*	---	*(---)*	90 ± 46	*(---)*	-46 ± 90	*(73)*	-26 ± 4	*(39)*
Avg	11 ±157	55 ± 171	*(136)*	49 ± 152	*(125)*	-28 ± 286	*(140)*	107 ± 151	*(151)*	46 ± *386*	*(191)*	12 ± 90	*(125)*
Min	-475 ± 6	-197 ± 21	*(18)*	-225 ± 19	*(15)*	-1342 ± 8	*(9)*	-62 ± 31	*(24)*	-1959 ± 90	*(56)*	-191 ± 3	*(6)*
Max	671 ± 6	783 ± 21	*(784)*	631 ± 27	*(668)*	254 ± 13	*(648)*	811 ± 46	*(866)*	663 ± 90	*(656)*	392 ± 3	*(711)*

Table DR4. Glacier speed for MEaSURES (2008) and LISA (2015) of the 34 glaciers derived from remote sensing (Rignot et al., 2011; Fahnestock et al. 2015), and Diff refers to the difference between LISA values from MEaSUREs. We used adjusted 2008 glacier outlines cut off at the grounding line as the area of interest when calculating the mean velocity. Diff values are an average of all cells within the 2008 glacier outline cut off at the grounding line. All units are m yr^{-1}. Values in grey are less than uncertainty.

ID	MEaSUREs	LISA	Diff
1	100	97	-3
2	65	88	22
3	204	213	9
4	0	18	1
5	30	39	8
6	62	78	15
7	103	117	10
8	35	41	6
9	125	142	10
10	108	114	5
11	24	37	13
12	32	53	18
13	5	50	10
14	63	71	6
15	55	69	10
16	61	126	65
17	186	214	28
18	122	139	14
19	59	74	15
20	178	194	16
21	98	109	11
22	190	232	42
23	589	606	16
24	38	88	49
25	47	61	13
26	72	78	6
27	30	40	9
28	173	181	8
29	14	22	8
30	6	25	18
31	5	18	13
32	145	173	28
33	1	51	49
34	15	18	3

Table DR5. Calving rates of the glaciers along the western Ross Sea. No data is indicated by "---". The net calving rate over the entire period is in the last column. Calving rate for each glacier (row) was calculated by subtracting average terminus change per year from velocity divided by the time interval. The bottom row is the average for all glaciers with uncertainty (1 std. dev.). Two glaciers (9 and 24) exhibit spurious positive calving rates (indicated by "*") exceeding the uncertainty, but they have a complex geometry near the terminus and interaction with adjacent glaciers make the results suspect.

ID	1989-91 1999	1999 2004-06	2004-06 2008-12	2008-12 2014	2014 2015	1989-91 2015
1	-26 ± 21	-20 ± 27	-16 ± 11	2 ± 23	-70 ± 90	-4 ± 6
2	-84 ± 21	-28 ± 27	-7 ± 11	-12 ± 23	-2116 ± 90	-119 ± 6
3	-24 ± 21	-124 ± 27	-29 ± 14	-27 ± 27	27 ± 90	-33 ± 6
4	-27 ± 21	-130 ± 27	-14 ± 11	-2 ± 23	---	-42 ± 6
5	-155 ± 21	3 ± 27	2 ± 11	6 ± 23	---	-50 ± 6
6	-248 ± 21	-26 ± 17	-124 ± 6	14 ± 23	-142 ± 90	-98 ± 6
7	-118 ± 21	-225 ± 27	-171 ± 11	-50 ± 23	-126 ± 90	-147 ± 6
8	-7 ± 21	-8 ± 19	-6 ± 13	-20 ± 31	-249 ± 90	-18 ± 6
9	5 ± 21	-29 ± 20	-33 ± 4	58* ± 31	-5 ± 90	16 ± 6
10	-198 ± 21	-4 ± 20	-17 ± 7	-75 ± 15	-155 ± 90	-93 ± 6
11	-134 ± 21	---	---	-2 ± 18	-46 ± 90	-134 ± 6
12	-111 ± 21	---	---	-4 ± 31	-128 ± 90	-219 ± 6
13	-36 ± 21	---	---	29 ± 31	-70 ± 90	-91 ± 6
14	-37 ± 21	---	---	7 ± 31	-27 ± 90	-375 ± 6
15	10 ± 21	-2 ± 20	-209 ± 4	4 ± 31	-17 ± 90	-18 ± 6
16	-14 ± 21	---	---	7 ± 31	8 ± 90	-54 ± 6
17	14 ± 21	-325 ± 19	-372 ± 13	27 ± 31	14 ± 90	-104 ± 6
18	-163 ± 21	-339 ± 19	-92 ± 13	-21 ± 31	-57 ± 90	-174 ± 6
19	-111 ± 21	-77 ± 19	-21 ± 21	-25 ± 18	-140 ± 90	-71 ± 6
20	-181 ± 21	-328 ± 24	-317 ± 3	-225 ± 31	---	-228 ± 6
21	-63 ± 21	---	---	-47 ± 46	-146 ± 90	-170 ± 6
22	-254 ± 21	---	---	-50 ± 31	-32 ± 90	-163 ± 6
23	-1 ± 21	-37 ± 27	-1990 ± 8	-55 ± 46	6 ± 90	-700 ± 6
24	-153 ± 21	26 ± 27	39* ± 9	71* ± 31	-25 ± 90	-24 ± 6
25	-60 ± 21	2 ± 27	-117 ± 9	-34 ± 31	-36 ± 90	-69 ± 6
26	-210 ± 21	-28 ± 27	-178 ± 9	-64 ± 31	-138 ± 90	-122 ± 6
27	-223 ± 21	-6 ± 27	-23 ± 8	-348 ± 46	-18 ± 90	-108 ± 6
28	-2 ± 21	-26 ± 27	-2 ± 13	-45 ± 18	11 ± 90	24 ± 6
29	-17 ± 21	-2 ± 27	-16 ± 13	-32 ± 18	-4 ± 90	-27 ± 6
30	0 ± 21	-4 ± 19	-6 ± 11	---	---	-10 ± 6
31	-21 ± 21	-4 ± 17	-4 ± 6	---	---	-9 ± 6
32	18 ± 21	-8 ± 17	-479 ± 6	-111 ± 23	-3 ± 90	-71 ± 6
33	---	---	-19 ± 3	---	---	---
34	-60 ± 12	---	---	---	-119 ± 90	-30 ± 4
Avg	**-82 ± 84**	**-70 ± 112**	**-162 ± 395**	**-34 ± 80**	**-136 ± 394**	**-107 ± 135**