

Supplement of The Cryosphere, 12, 205–225, 2018
<https://doi.org/10.5194/tc-12-205-2018-supplement>
© Author(s) 2018. This work is distributed under
the Creative Commons Attribution 4.0 License.



Supplement of

Seafloor geomorphology of western Antarctic Peninsula bays: a signature of ice flow behaviour

Y. P. Munoz and J. S. Wellner

Correspondence to: Yuribia P. Munoz (ypmunoz@uh.edu)

The copyright of individual parts of the supplement might differ from the CC BY 4.0 License.

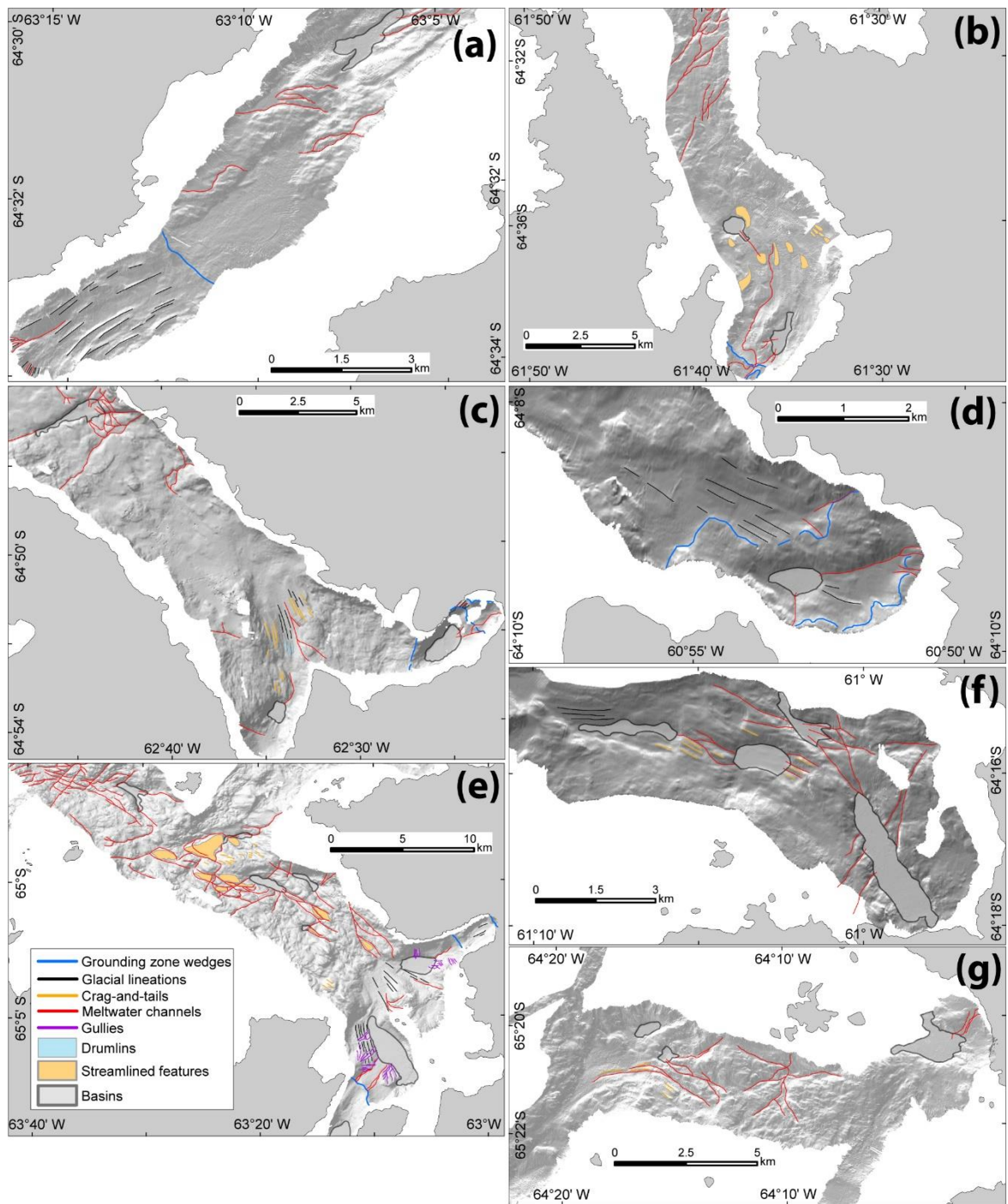


Figure S1. Interpretation of geomorphic features with hillshade as background in western Antarctic Peninsula bays: (a) Fournier Bay, (b) Charlotte Bay, (c) Andvord Bay, (d) Cierva Cove, (e) Flandres Bay, (f) Brialmont Cove, and (g) Collins Bay. Multibeam data shown in figures 2-7.

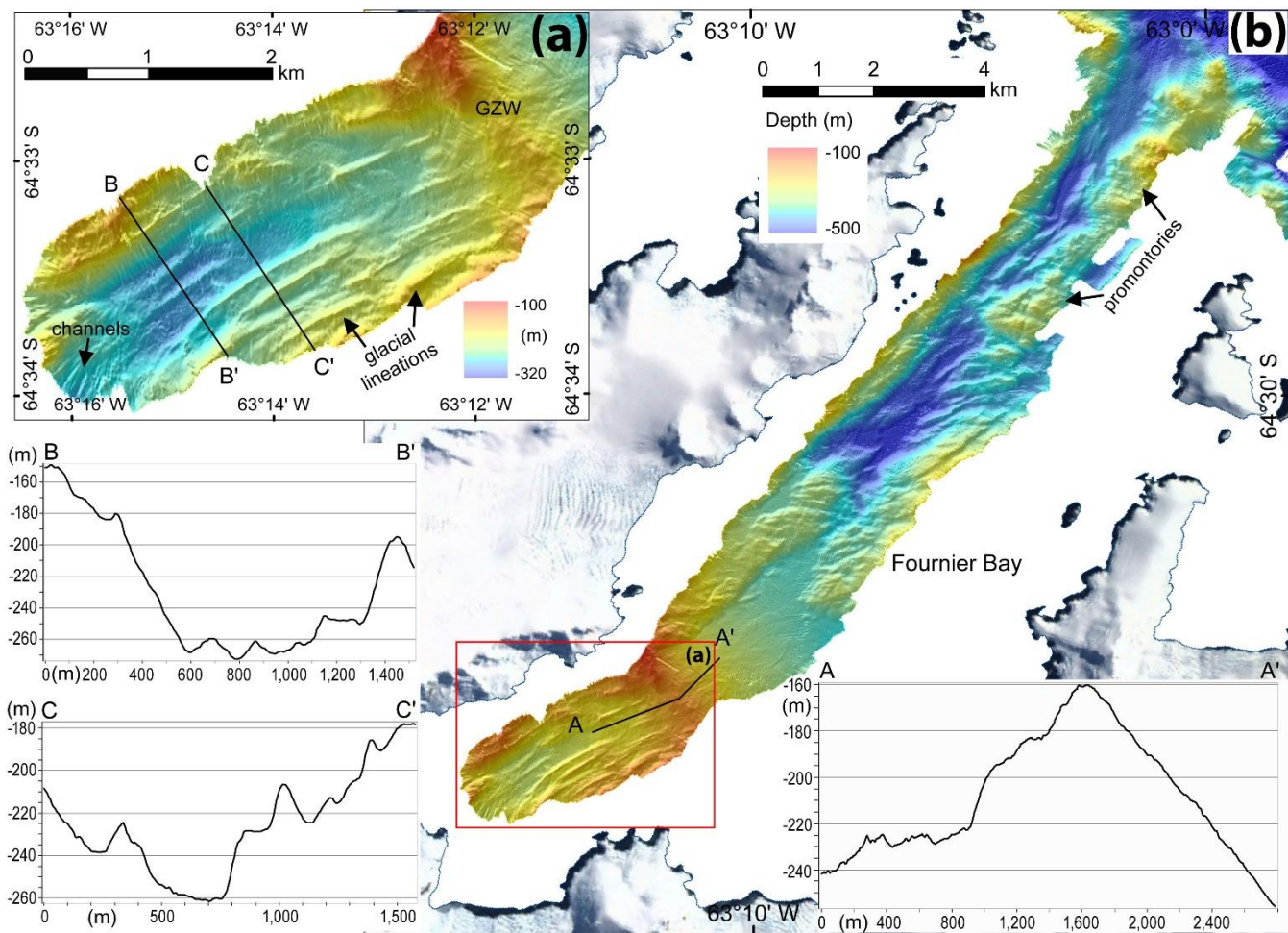


Figure S2. Multibeam bathymetry map of Fournier Bay. Vertical exaggeration is 5x in (a) and 3x in (b)

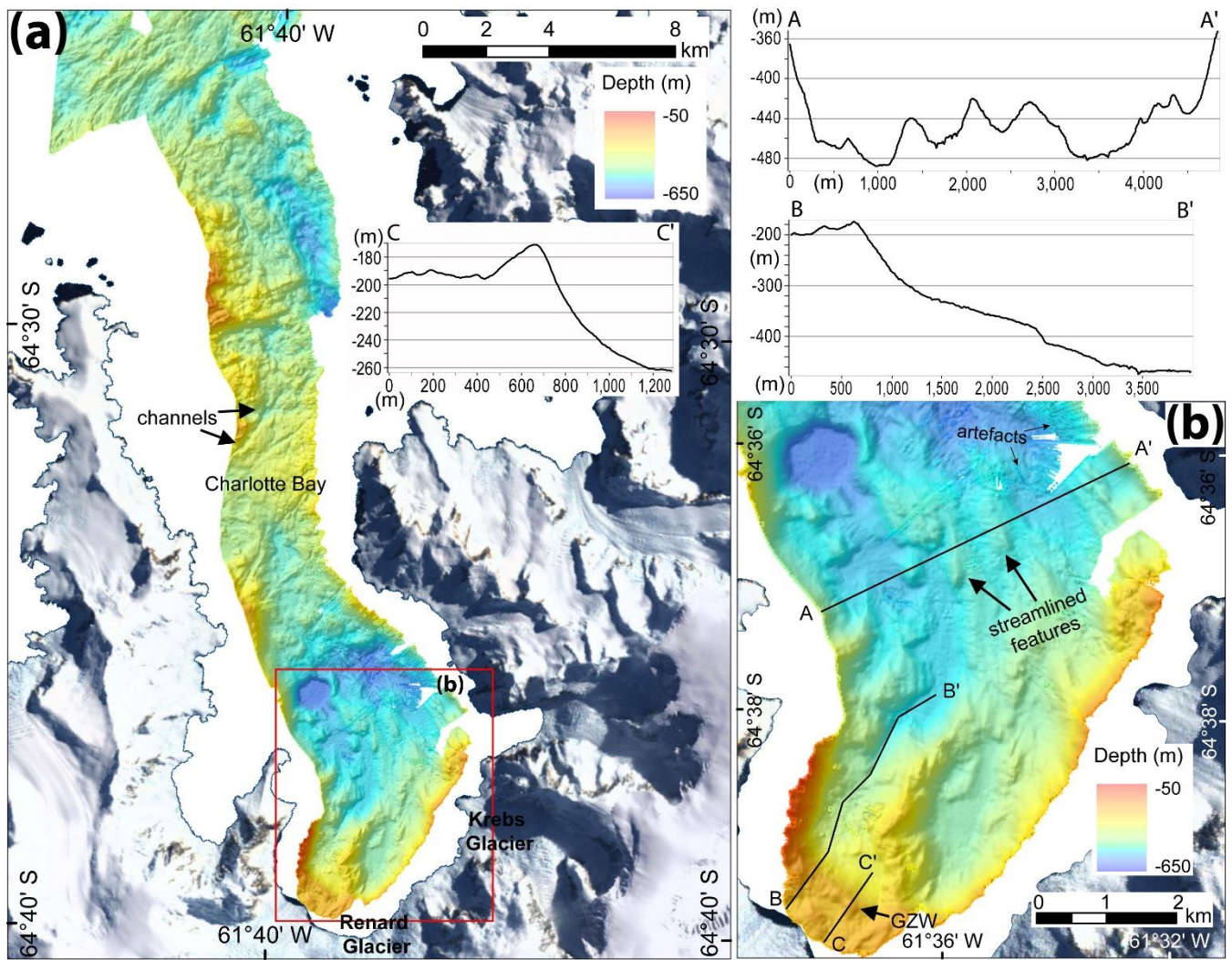


Figure S3. Multibeam bathymetry map of Charlotte Bay. Vertical exaggeration is 5x in (a) and (b).

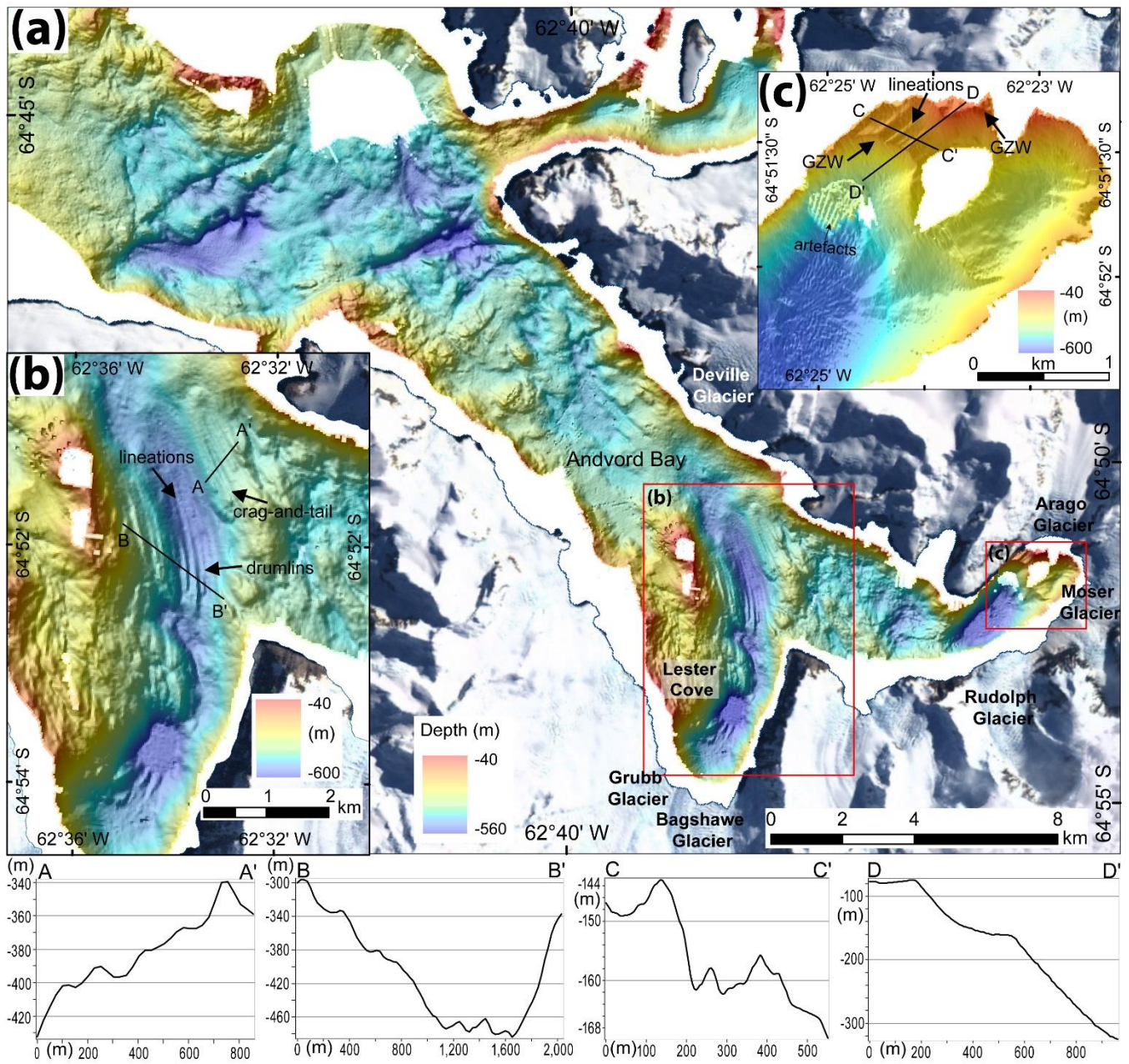


Figure S4. Multibeam bathymetry map of (a) Andvord Bay, (b) Lester Cove, and (c) Moser Glacier Cove. Vertical exaggeration is 5x in all images.

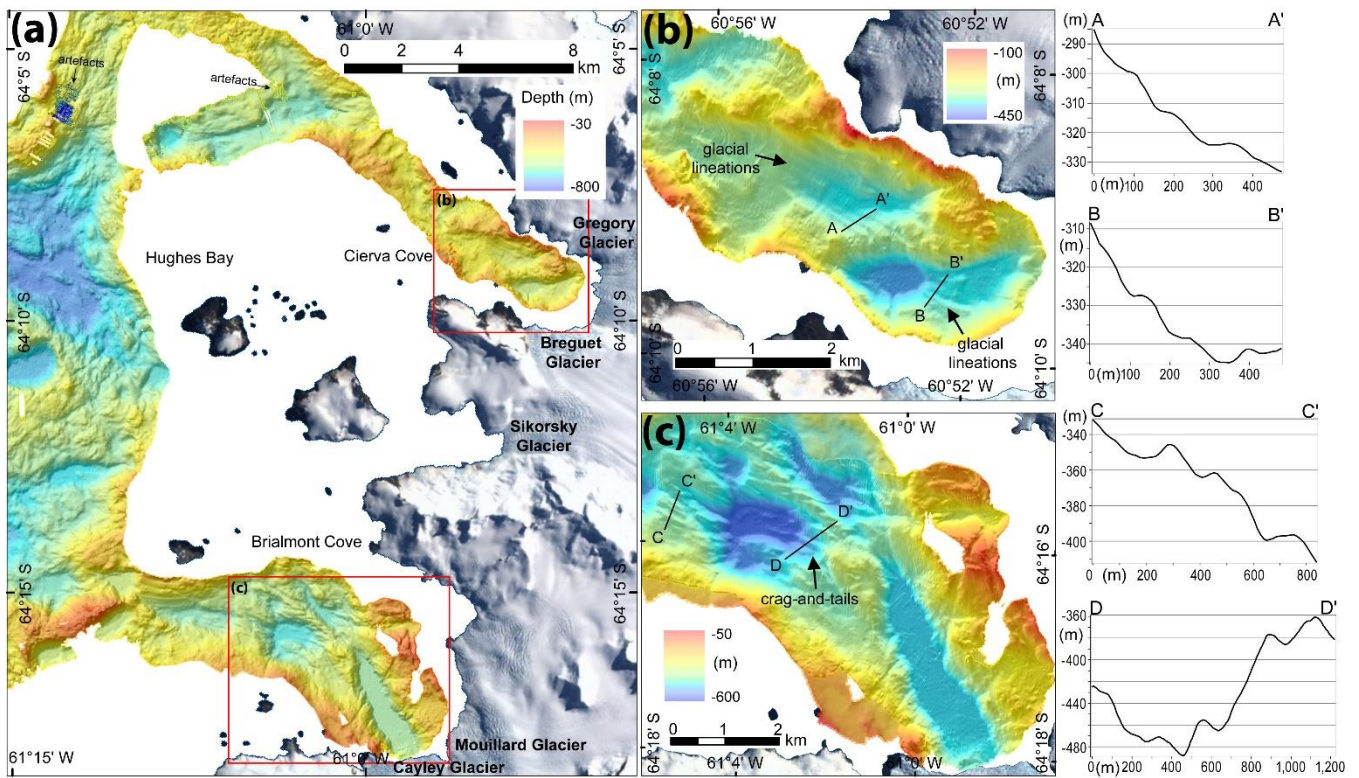


Figure S5. Multibeam bathymetry map of Hughes Bay, (b) Cierva Cove, and (c) Brialmont Cove. Vertical exaggeration is 3x in (a), and 5x in (b) and (c).

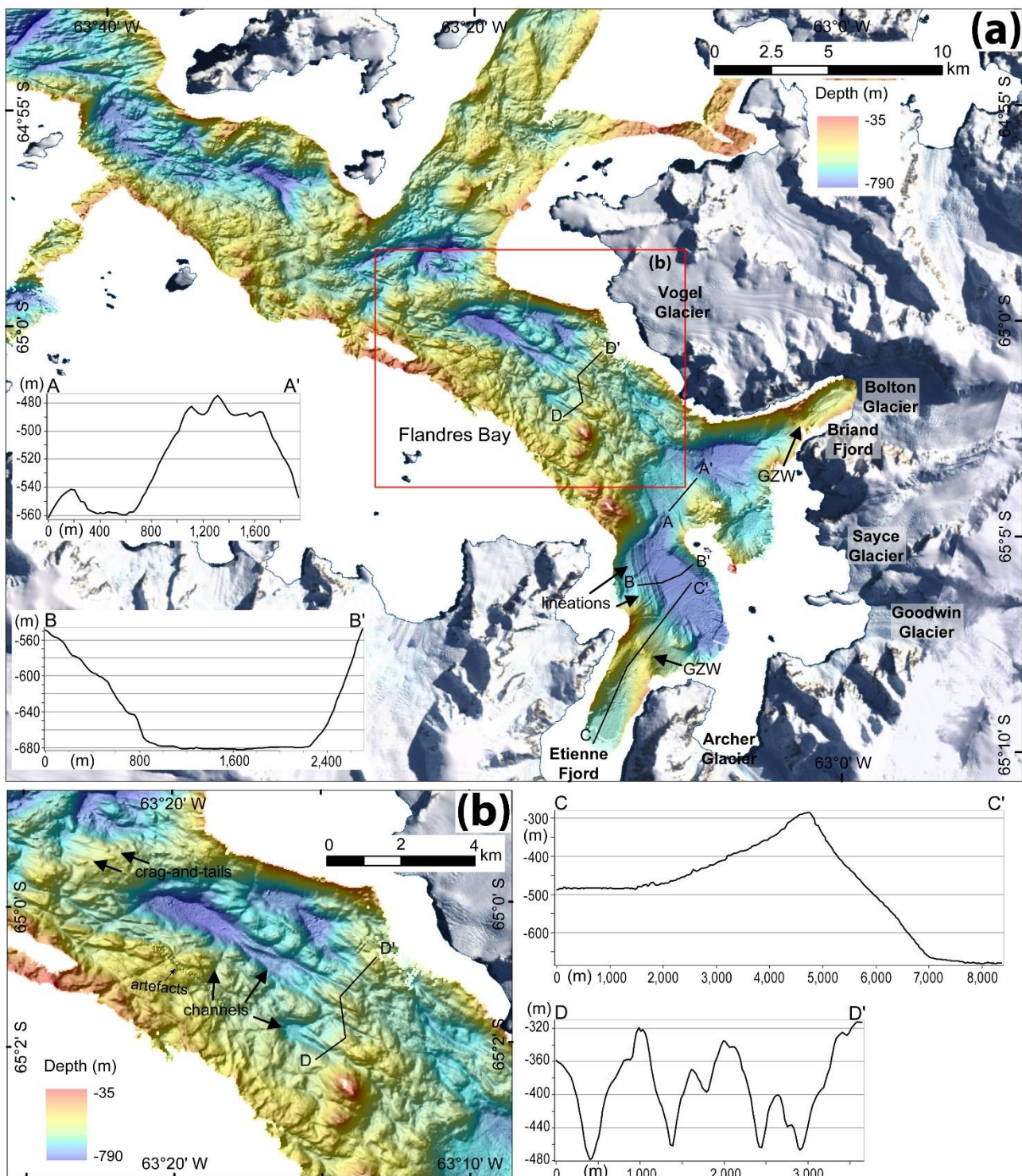
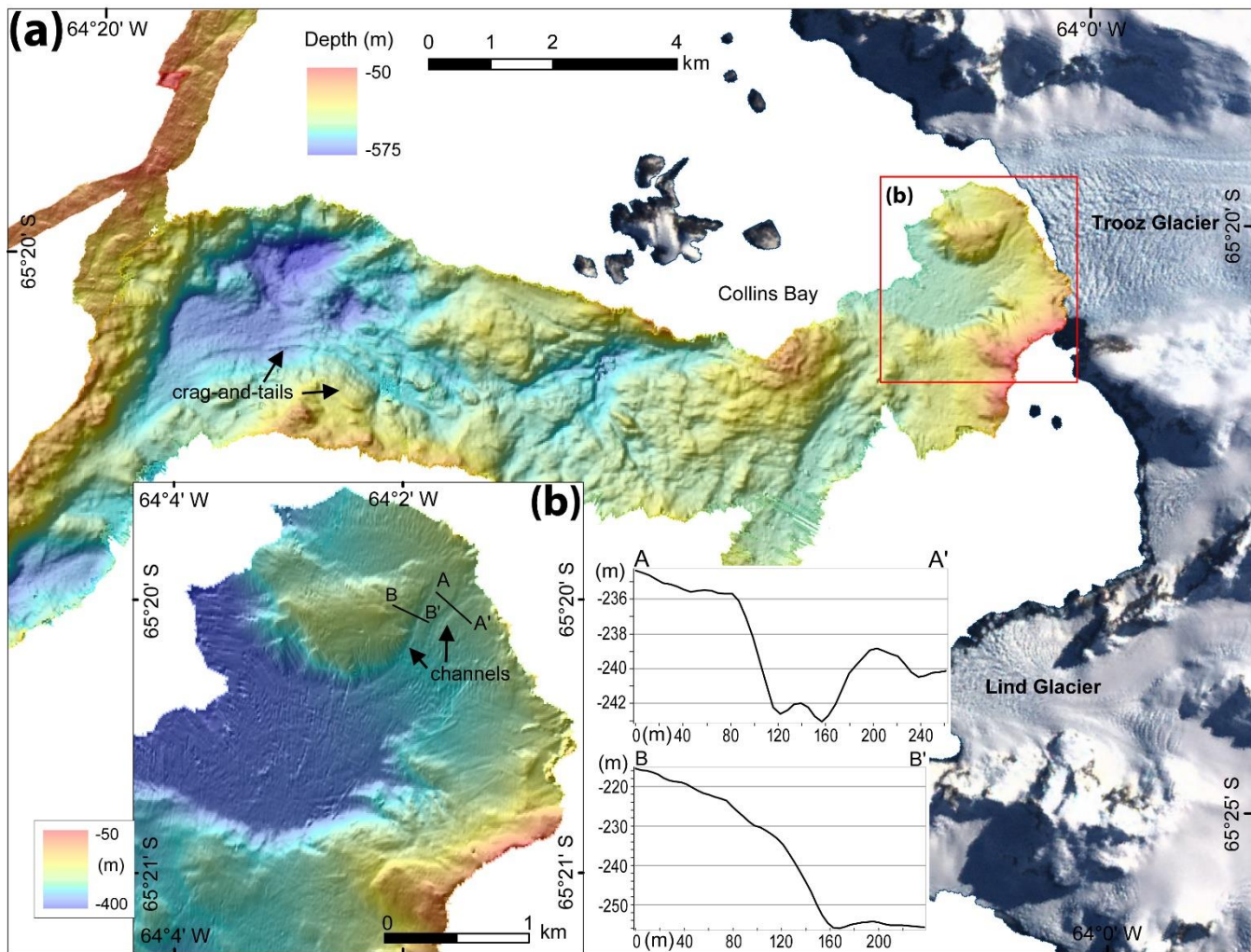


Figure S6. Multibeam bathymetry map of Flandres Bay, Briand Fjord, and Etienne Fjord. Vertical exaggeration is 5x in (a) and (b).



5 **Figure S7.** Multibeam bathymetry map of Collins Bay. Vertical exaggeration is 3x in (a) and 2x in (b).

Table S1. Measurements of western Antarctic Peninsula bays. Light grey shows narrow bays, dark grey shows broad and open bays.

Bay Name	Longitude	Latitude	Bay Length (km)	Bay Width (km)	Ratio length/width	Bay Geometry	Number of Glaciers in Total	Total Glacier Catchment Area (km ²)	Bay Area (km ²)
Maxwell-Marian Cove	-58.769	-62.213	3.8	1.2	3.2	narrow	1	14.99	4.868
Maxwell Bay	-58.848	-62.229	15	10.4	1.4	broad	4	92.14	140.666
Maxwell-Potter Cove	-58.687	-62.232	4.3	1.6	2.7	narrow	1	20.26	7.093
Hope Bay	-57.046	-63.407	5.8	2	2.9	narrow	4	27.36	11.448
Hughes-Cierva Cove	-60.87	-64.155	5	3	1.7	broad	2	256.36	14.056
Hughes-Brialmont Cove	-60.987	-64.281	11	7.5	1.5	broad	5	842.53	85.500
Lapeyrere's unnamed	-63.286	-64.37	4.6	1.8	2.6	narrow	2	60.05	7.959
Lapeyrere Bay	-63.284	-64.421	11	2.6	4.2	narrow	7	271.06	32.496
Fournier Bay	-63.178	-64.546	16	5.3	3.0	narrow	12	169.27	89.906
Charlotte Bay	-61.611	-64.614	15	7.5	2.0	narrow	13	238.14	103.153
Advord Bay	-62.566	-64.857	15	6	2.5	narrow	8	78.83	79.785
Advord-Moser Gl. cove	-62.425	-64.872	9	3.5	2.6	narrow	6	161.14	26.027
Advord-Lester Gl. cove	-62.58	-64.901	5	3.8	1.3	broad	2	276.33	16.997
Flandres-Briand Fjord	-63.021	-65.035	4.2	2	2.1	narrow	4	81.26	8.931
Flandres Bay	-63.148	-65.072	30	16	1.9	broad	23	774.64	453.073
Flandres-Etienne Fjord	-63.234	-65.171	8	3.2	2.5	narrow	7	244.5	24.587
Collins Bay	-64.054	-65.346	5.6	9.5	0.6	open	4	614.11	52.430
Beascochea-Lever Gl. cove	-63.723	-65.512	5.3	2.5	2.1	narrow	4	190.72	16.000
Beascochea Bay	-63.87	-65.515	24	10	2.4	narrow	17	155.02	235.377
Beascochea-Funk Gl. cove	-63.756	-65.58	4	2	2.0	narrow	2	157.77	7.874
Beascochea-Cadman Gl. cove	-63.812	-65.612	3	3	1.0	broad	1	307.04	8.915

5

Table S2. Seafloor features mapped in western Antarctic Peninsula bays. Light grey shows narrow bays, dark grey shows broad and open bays.

Bay name	crevasse squeeze ridges	moraines	GZW	lineations	drumlins	crag-and-tails	streamlined features	meltwater channels	gullies	basins	total features per bay
Maxwell-Marian cove	0	6	0	8	0	0	0	2	0	3	19
Maxwell Bay	0	0	0	0	0	0	15	6	30	2	53
Maxwell-Potter cove	14	8	0	0	0	0	0	1	0	1	24
Hope Bay	18	12	1	0	0	0	0	4	0	3	38
Hughes-Cierva cove	0	0	2	12	0	0	0	6	0	1	21
Hughes-Brialmont cove	0	0	0	3	0	9	0	20	0	4	36
Lapeyrere's unnamed	0	0	1	0	0	0	0	3	10	1	15
Lapeyrere Bay	0	0	1	8	0	0	3	20	60	2	94
Fournier Bay	0	0	1	30	0	0	0	14	0	1	46
Charlotte Bay	0	0	2	0	0	0	12	22	0	2	38
Advord Bay	0	0	0	8	4	12	0	25	0	1	50
Advord-Moser Gl. cove	0	0	3	4	0	0	0	5	0	1	13
Advord-Lester Gl. cove	0	0	0	0	0	5	0	4	0	1	10
Flandres-Briand fjord	0	0	2	3	0	0	0	1	10	1	17
Flandres Bay	0	0	0	14	0	17	12	42	20	6	111
Flandres-Etienne fjord	0	0	1	0	0	0	0	4	10	1	16
Collins Bay	0	0	0	0	0	6	0	16	0	3	25
Beascochea-Lever Gl. cove	0	0	2	28	0	0	0	0	0	1	31
Beascochea Bay	0	0	1	4	6	13	26	44	30	8	132
Beascochea-Funk Gl. cove	0	0	1	17	0	0	0	30	0	1	49
Beascochea-Cadman Gl. cove	0	0	1	0	0	0	0	0	20	1	22
total features per type:	32	26	19	139	10	62	68	269	190	45	860