

Supplementary Material

Assessment of the Stability of Passive Microwave Brightness Temperatures for NASA Team Sea Ice Concentration Retrievals

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Table S1. Antarctic annual average and standard deviation (SD) of daily brightness temperature histogram distribution water and ice peak values for F17 and differences between F16 and F18 with F17. The NASA Team F17 open water and FYI (Type A) tiepoint (TP) values are also provided for reference.

Antarctic		Annual Avg. Peak Value (K)			Annual Avg. SD Peak Value (K)		
Year	Sensor	19V	19H	37V	19V	19H	37V
Water	<i>OW TP</i>	187.7	118.4	208.9			
2009	F17	182.9	113.7	207.1	1.2	2.8	1.3
2012	F17	183.2	114.0	207.2	1.2	2.7	1.3
2018	F17	182.5	113.4	206.5	1.2	2.9	1.3
2009	F16-F17	-0.5	-0.5	0.0	0.4	0.6	0.1
2012	F16-F17	-0.4	-0.5	0.1	0.5	-0.1	0.2
2018	F16-F17	0.2	-0.3	0.6	0.2	0.2	0.5
2012	F18-F17	-1.5	-0.1	-0.5	-0.1	-1.2	0.1
2018	F18-F17	-0.9	-0.2	0.2	0.6	0.7	0.2
Ice	<i>FYI TP</i>	256.2	241.1	246.6			
2009	F17	242.9	215.1	242.2	20.9	29.9	10.9
2012	F17	244.8	221.7	242.8	20.3	24.9	11.3
2018	F17	241.6	217.0	242.3	21.4	28.4	11.3
2009	F16-F17	0.4	0.6	0.1	5.5	11.8	3.0
2012	F16-F17	0.5	-0.1	0.2	6.6	13.8	3.7
2018	F16-F17	0.2	0.2	0.5	10.0	19.4	2.6
2012	F18-F17	-0.1	-1.2	0.1	8.1	15.5	3.7
2018	F18-F17	0.6	0.7	0.2	7.4	18.1	2.0

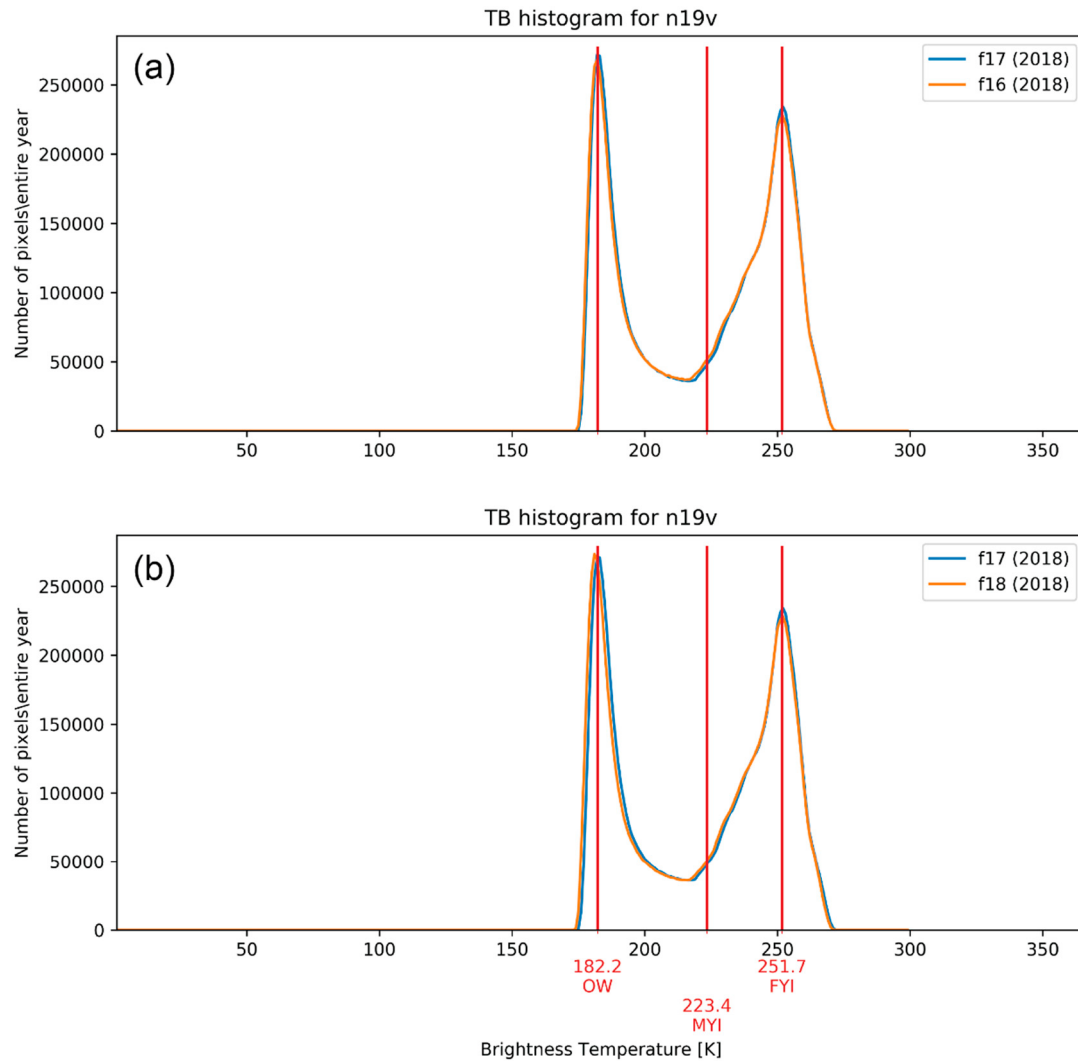


Figure S1. Annual histogram of Arctic (Northern Hemisphere) 19V TBs for 2018 for SSMIS on (a) F17 and F16, and (b) F17 and F18. The F17 tiepoint values for open water (OW), FYI, and MYI are overlaid in red.

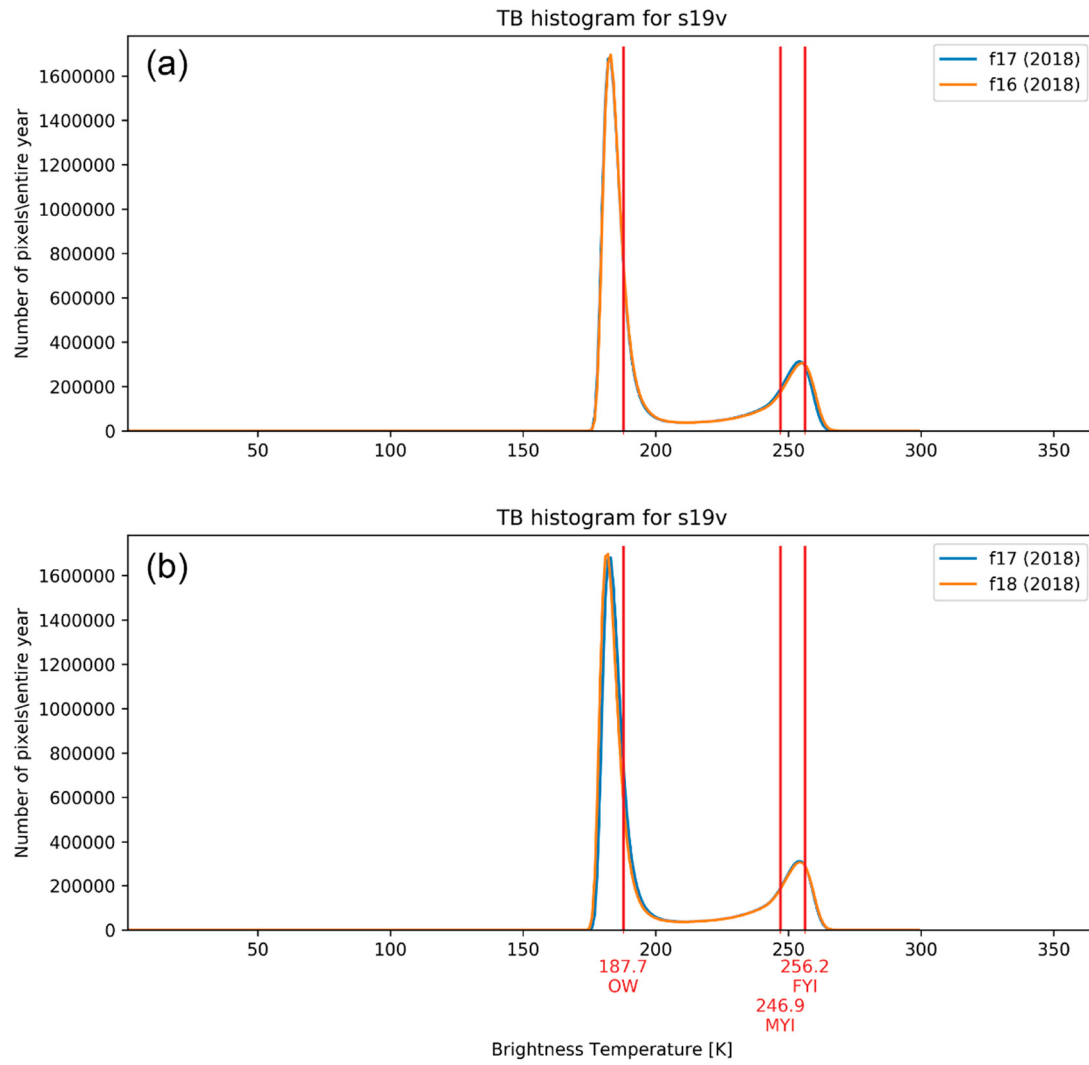


Figure S2. Same as S1 for Antarctic 19V.

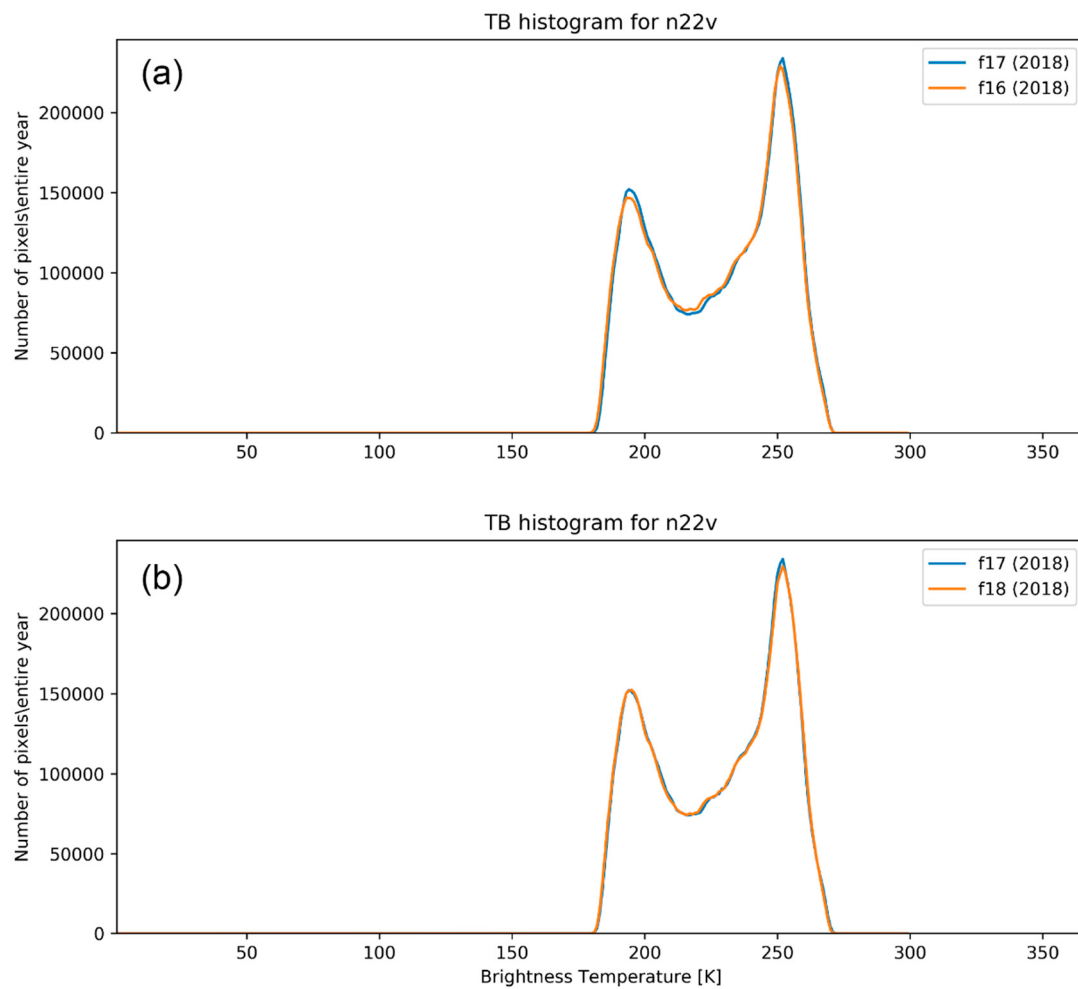


Figure S3. Same as S1 for Arctic 22V.

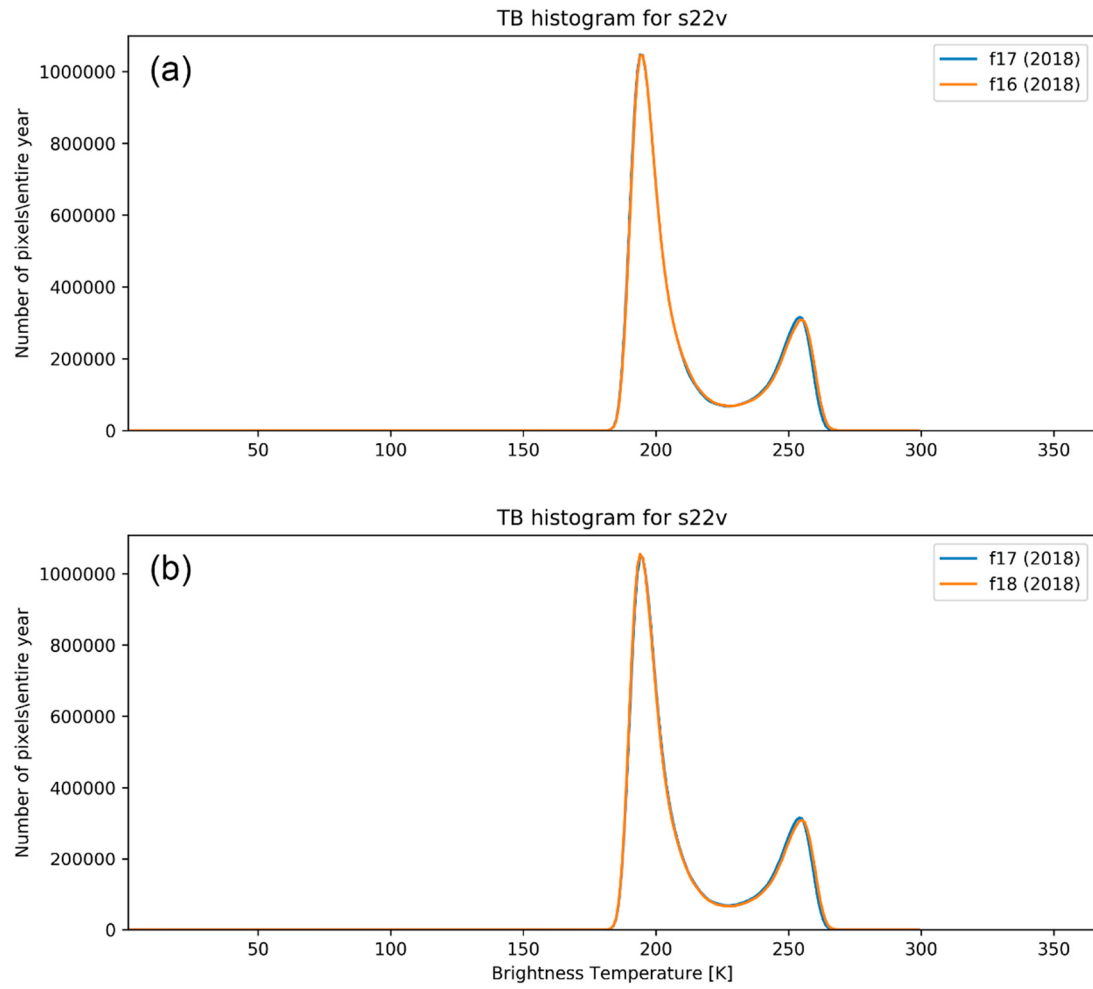


Figure S4. Same as S1 for Antarctic 22V.

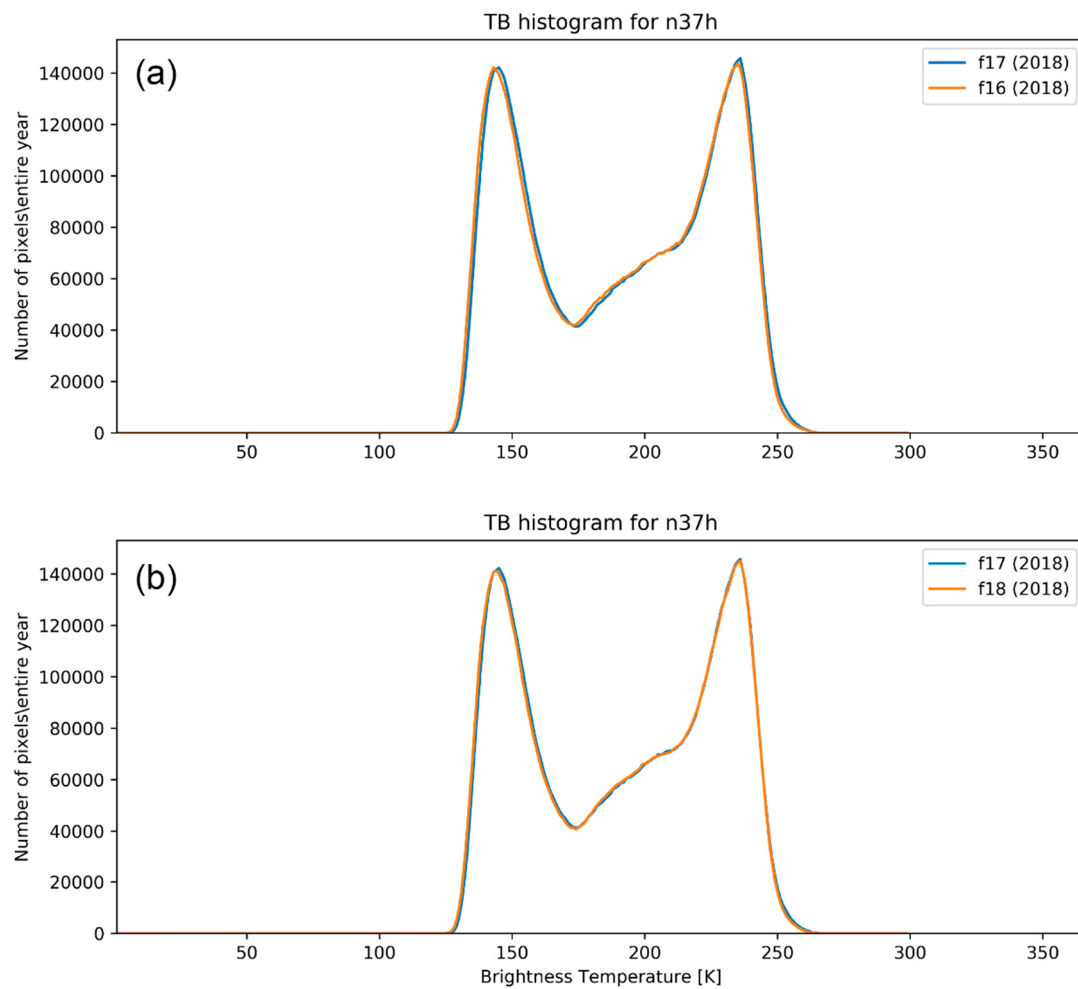


Figure S5. Same as S1 for Arctic 37H.

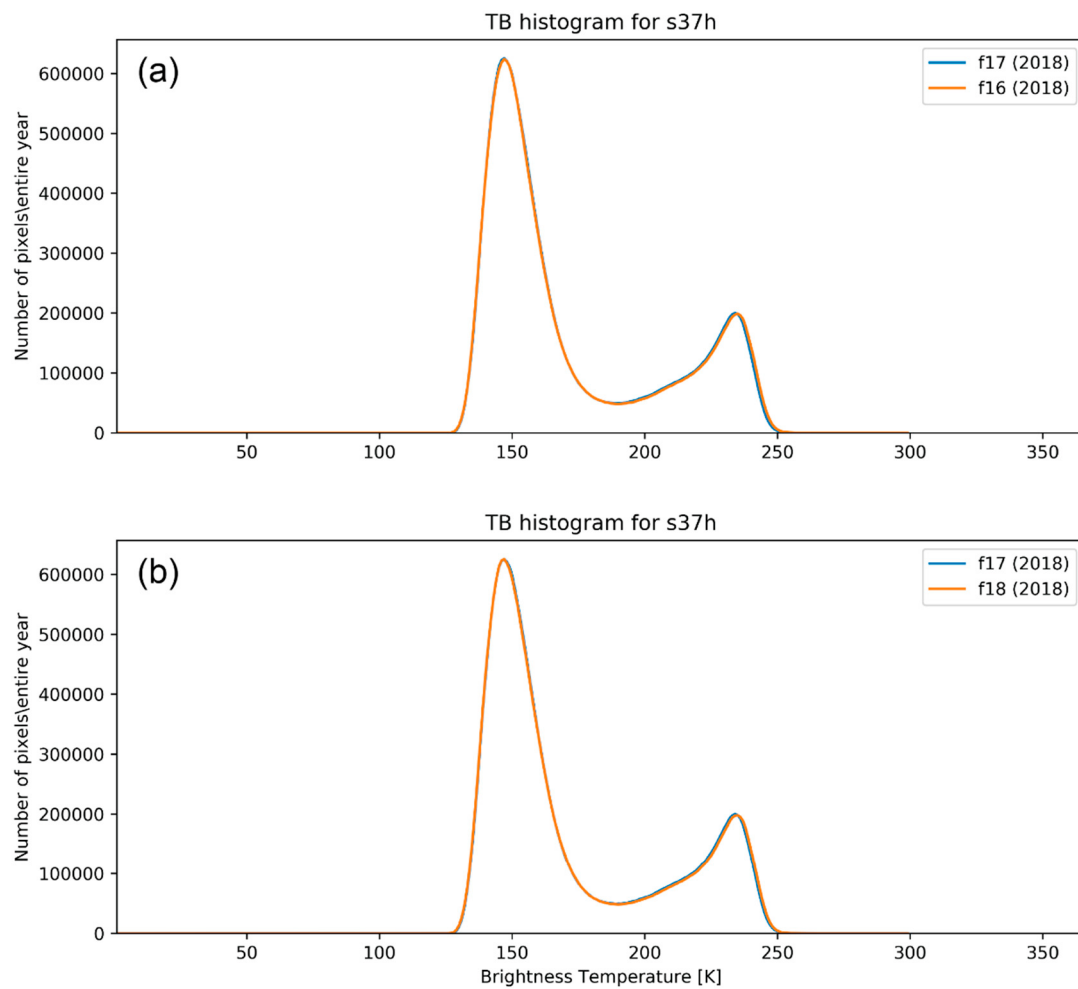


Figure S6. Same as S1 for Antarctic 37H.

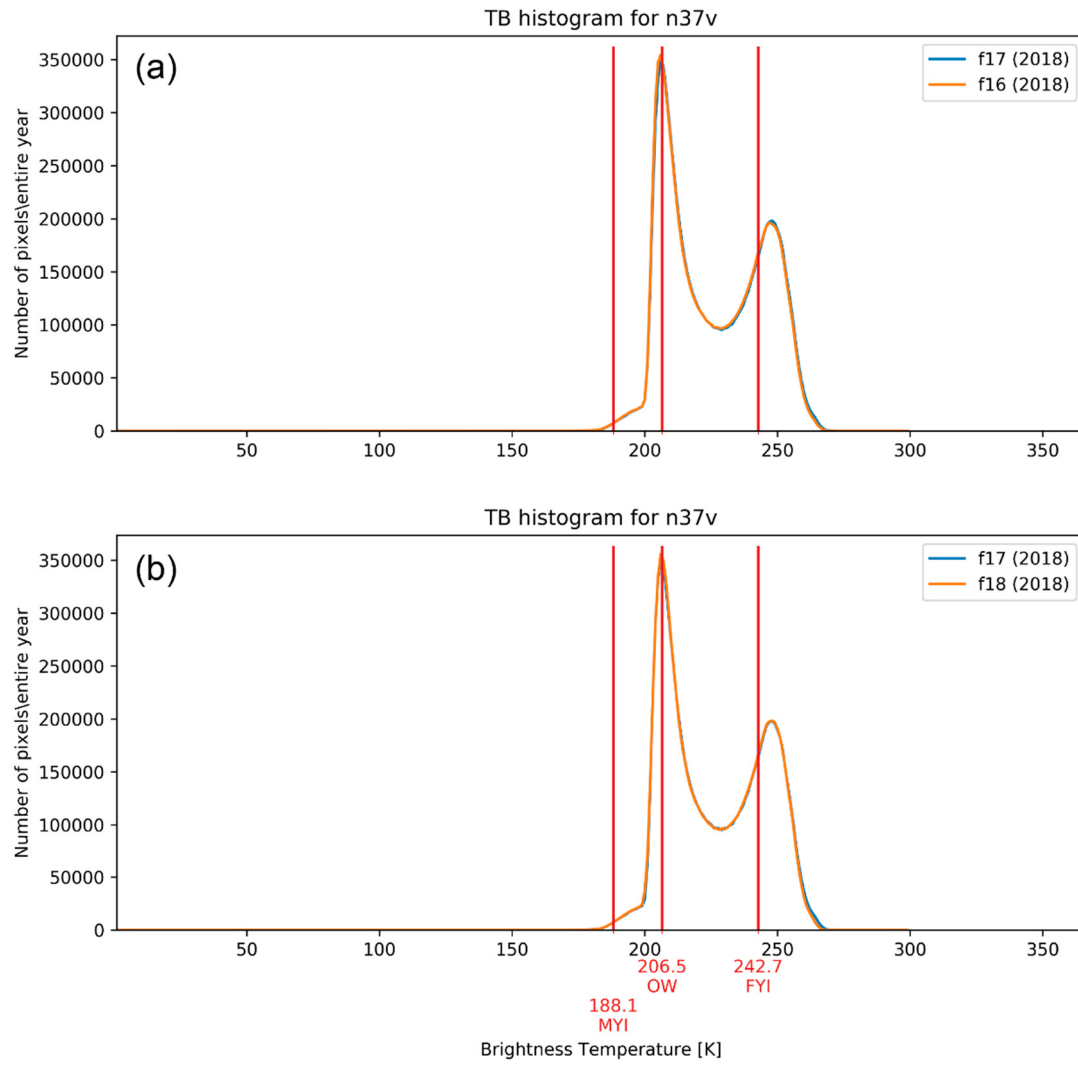


Figure S7. Same as S1 for Arctic 37V.

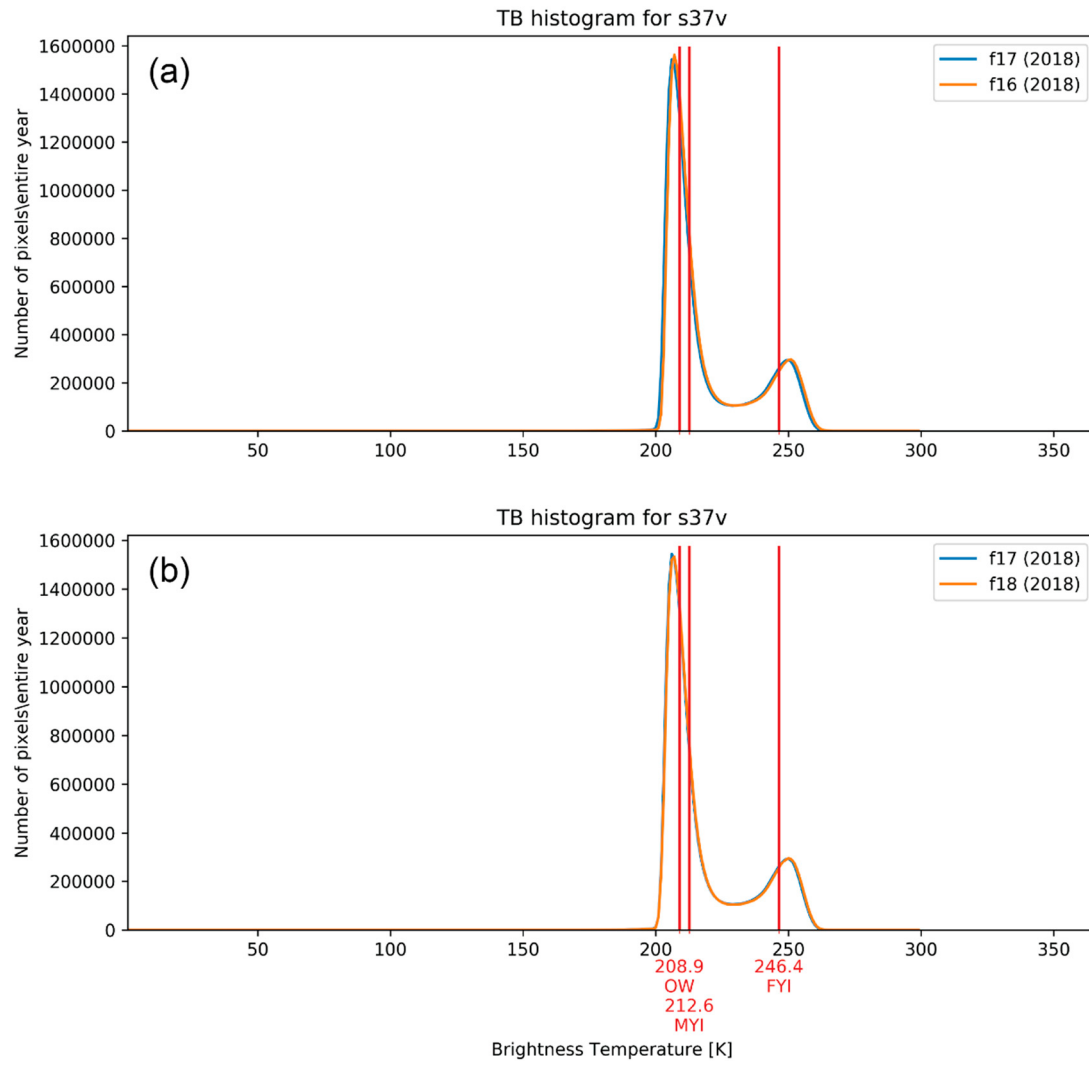


Figure S8. Same as S1 for Antarctic 37V.

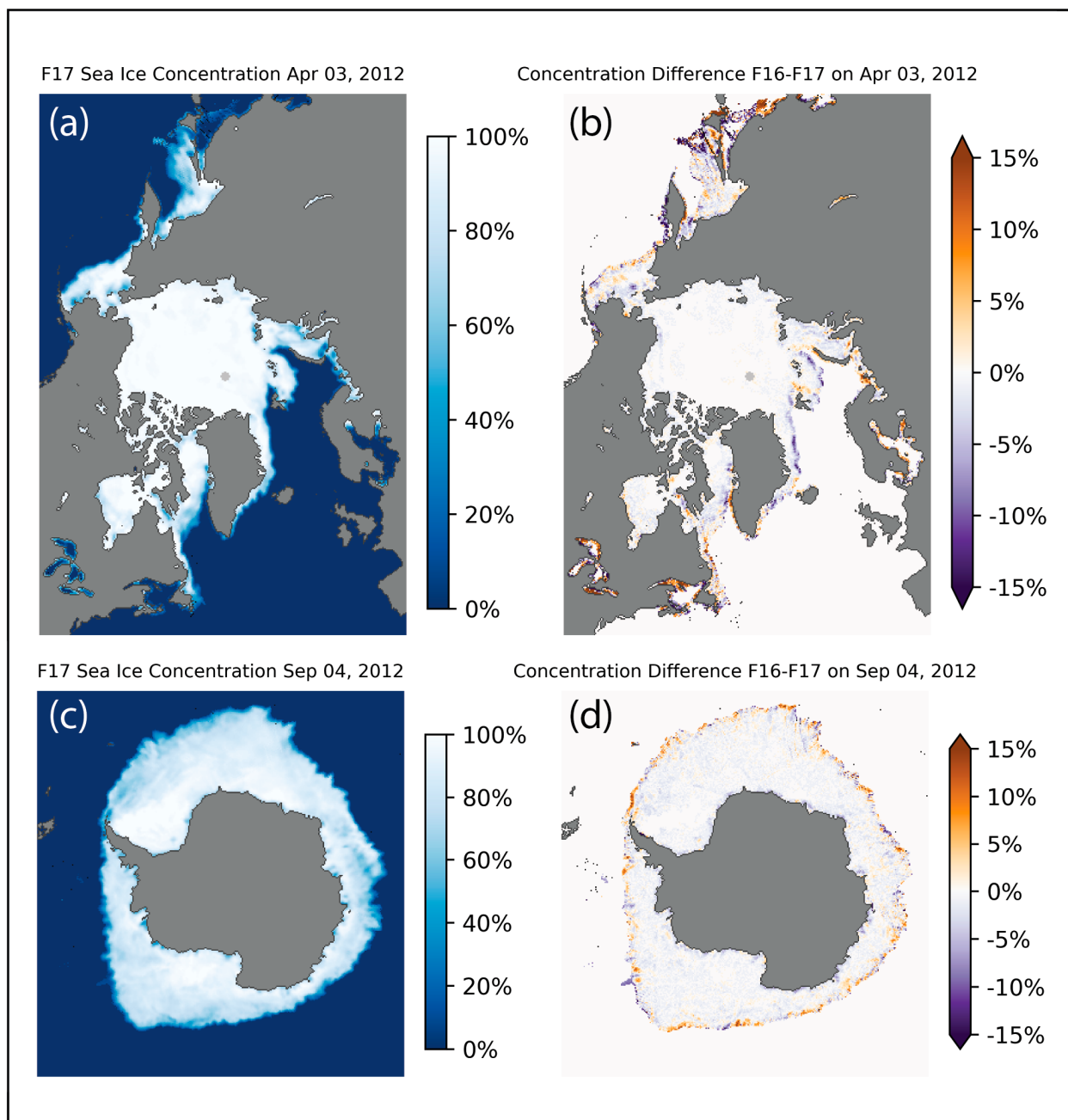


Figure S9. (a) 3 April 2012 SSMIS F17 Arctic sea ice concentration, (b) 3 April 2012 SSMIS F16 minus F17 Arctic concentration difference, (c) 4 September 2012 SSMIS F17 Antarctic concentration, (d) 4 September 2012 SSMIS F16 minus F17 Antarctic concentration difference.

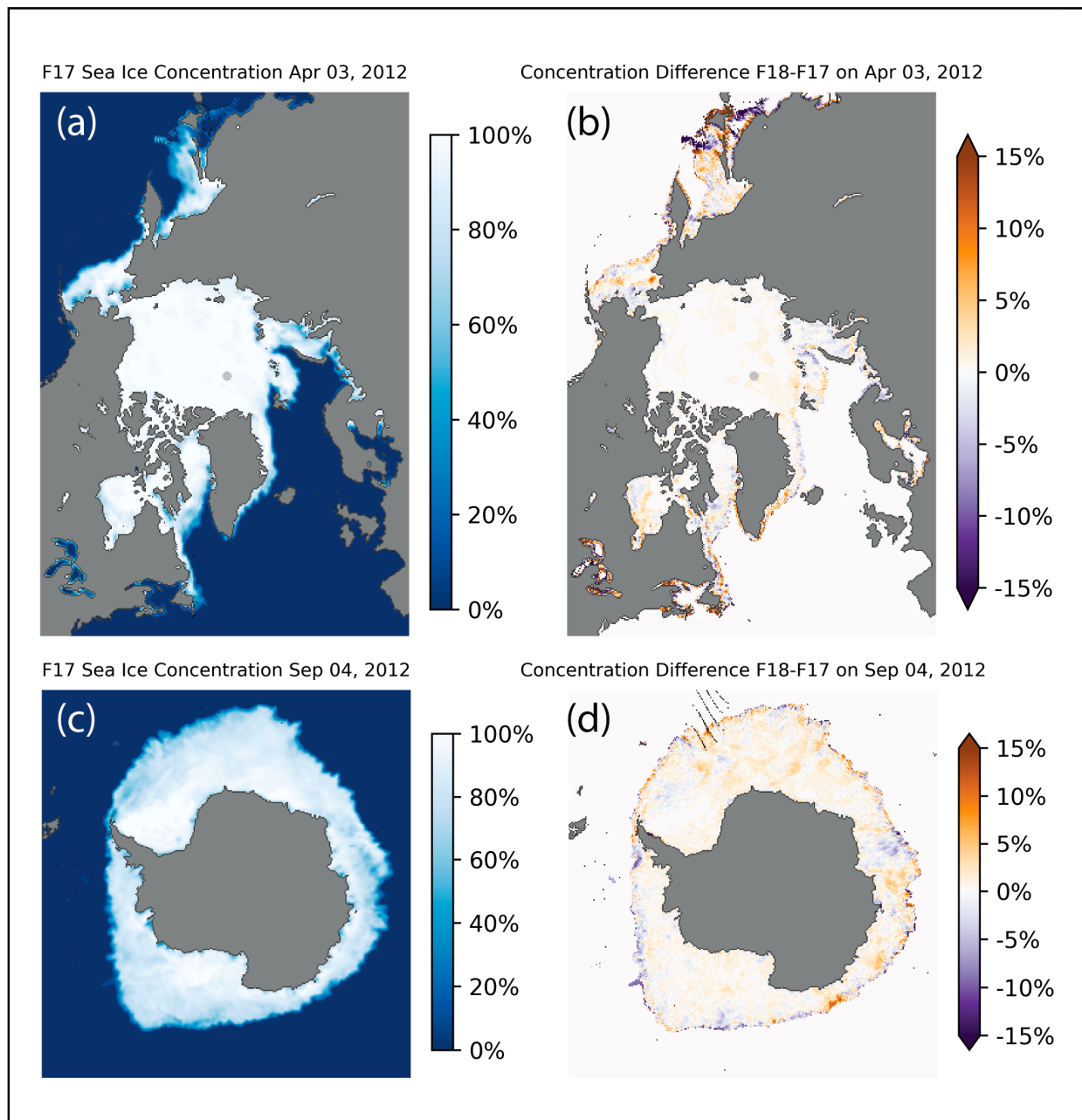


Figure S10. (a) 3 April 2012 SSMIS F17 Arctic sea ice concentration, (b) 3 April 2012 SSMIS F18 minus F17 Arctic concentration difference, (c) 4 September 2012 SSMIS F17 Antarctic concentration, (d) 4 September 2012 SSMIS F18 minus F17 Antarctic concentration difference.