

Table S4. Annual and monthly mean cloud drop number concentrations over the Southern Ocean (over the region between 50°S and 60°S at around 1km altitude above sea level) in the original unconstrained sample and the sample of model variants constrained to ACESPACE campaign measurements (the sample used for Fig. 2, 3 and 4). Mean values and 95% credible interval values are shown for each sample, with interquartile ranges in brackets. For comparison, we show cloud drop concentrations calculated from MODIS instrument data following Grosvenor et al., (2018) for the year 2008 (SI Methods: Measurements).

	Annual	December	January	February	March	April
MODIS (cm ⁻³)	73	89	91	90	82	63
Unconstrained mean (cm ⁻³)	38	39	39	41	42	39
Unconstrained credible interval (cm ⁻³)	7-125 (112)	8-115 (103)	8-117 (109)	7-122 (115)	7-129 (122)	7-118 (111)
Constrained mean (cm ⁻³)	66	67	69	72	76	70
Constrained credible interval (cm ⁻³)	41-96 (55)	43-96 (53)	44-99 (55)	45-105 (60)	47-111 (64)	44-101 (57)