Supplement of

Evaluation of Ground-based Retrievals of Cloud Droplet Number Concentration in Marine Stratocumulus with *In Situ* Aircraft Measurements

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Table S1 Compare r_{em} retrievals and *in situ* probe measurements for the 12 selected flight days.

Numbers in parathesis is the absolute relative difference of r_{em} with respect to $r_{em\_FCDP.}$

Date	r_{em_FCDP} µm	r_{em_CAS} µm	r_{em_mpl} µm	r_{em_rl} µm	r_{em_radar} µm	r_{em_vap} µm
2017/06/21	9.6	9.4 (-0.2)	10.8 (1.2)	n/a	9.7 (0.1)	7.8 (-1.8)
2017/06/28	6.6	7.6 (1.0)	10.9 (4.3)	13.7 (7.1)	9.0 (2.4)	8.0 (1.4)
2017/06/30	6.4	7.2 (0.8)	6.5 (0.1)	6.0 (-0.4)	9.1 (2.7)	7.3 (0.9)
2017/07/06	9.6	10.0 (0.4)	9.0 (-0.6)	8.5 (-1.1)	10.4 (0.8)	9.8 (0.2)
2017/07/08	7.8	8.4 (0.6)	9.8 (2.0)	12.7 (4.9)	9.1 (1.3)	8.0 (0.2)
2017/07/18	12.7	13.1 (0.4)	13.5 (0.8)	15.9 (3.2)	12.7 (0.1)	12.9 (0.2)
2018/01/19	12.5	12.6 (0.1)	13.5 (1.0)	11.9 (-0.6)	11.6 (-0.9)	14.0 (1.5)
2018/01/25	11.6	11.6 (0.0)	13.6 (2.0)	11.1 (-0.5)	12.5 (0.9)	14.8 (3.2)
2018/01/26	11.0	10.8 (-0.2)	11.2 (0.2)	9.5 (-1.4)	12.0 (1.0)	10.3 (-0.7)
2018/01/30	9.5	9.4 (-0.1)	11.1 (1.6)	9.5 (0.0)	10.7 (1.2)	11.6 (2.1)
2018/02/07	10.0	9.8 (-0.2)	9.9 (-0.1)	7.5 (-2.6)	10.5 (0.5)	10.3 (0.3)
2018/02/12	8.1	8.4 (0.3)	9.9 (1.8)	7.9 (-0.2)	9.6 (1.5)	9.5 (1.4)
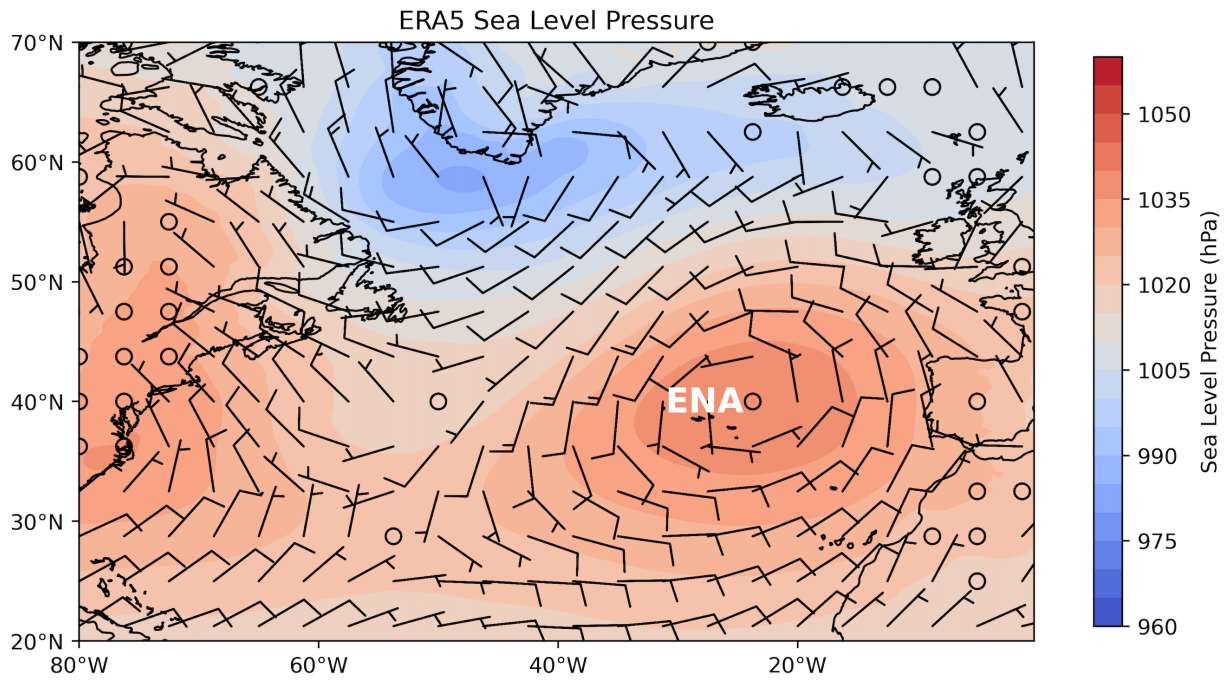
Fig. S1. The average mean sea level pressure and 10-meter wind across the ENA observatory

between 5:00 UTC January 25 and 12 UTC January 27, 2018 based on the hourly ECMWF

ERA5 reanalysis data (Hersbach et al., 2020).
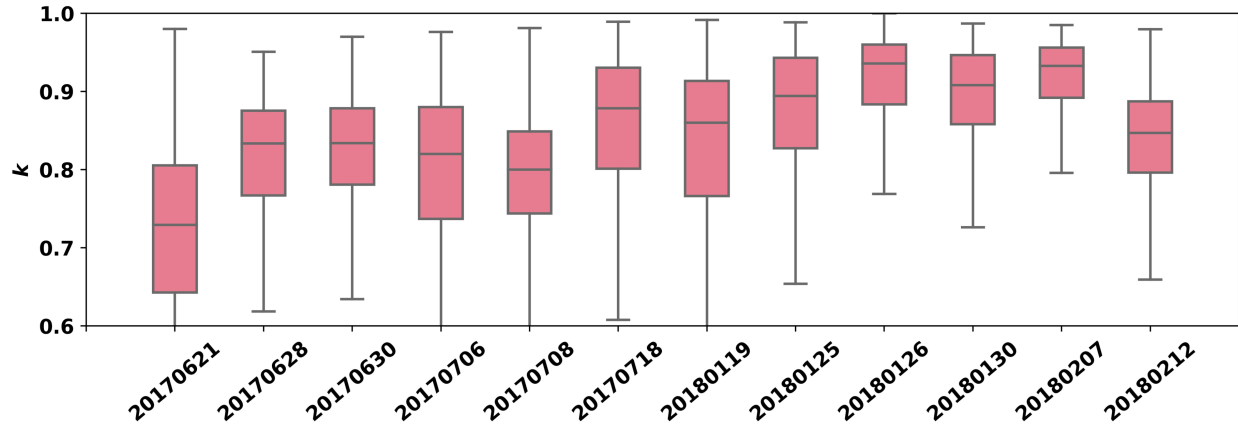
Fig. S2. The *k* parameter values during the 12 selected flight days.

References

Hersbach, H, Bell, B, Berrisford, P, et al. The ERA5 global reanalysis. *Q J R Meteorol Soc*. 2020; 146: 1999– 2049. https://doi.org/10.1002/qj.3803.