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Supplement of

Aircraft vertical profiles during summertime regional and Saharan dust scenarios over the north-western Mediterranean basin: aerosol optical and physical properties

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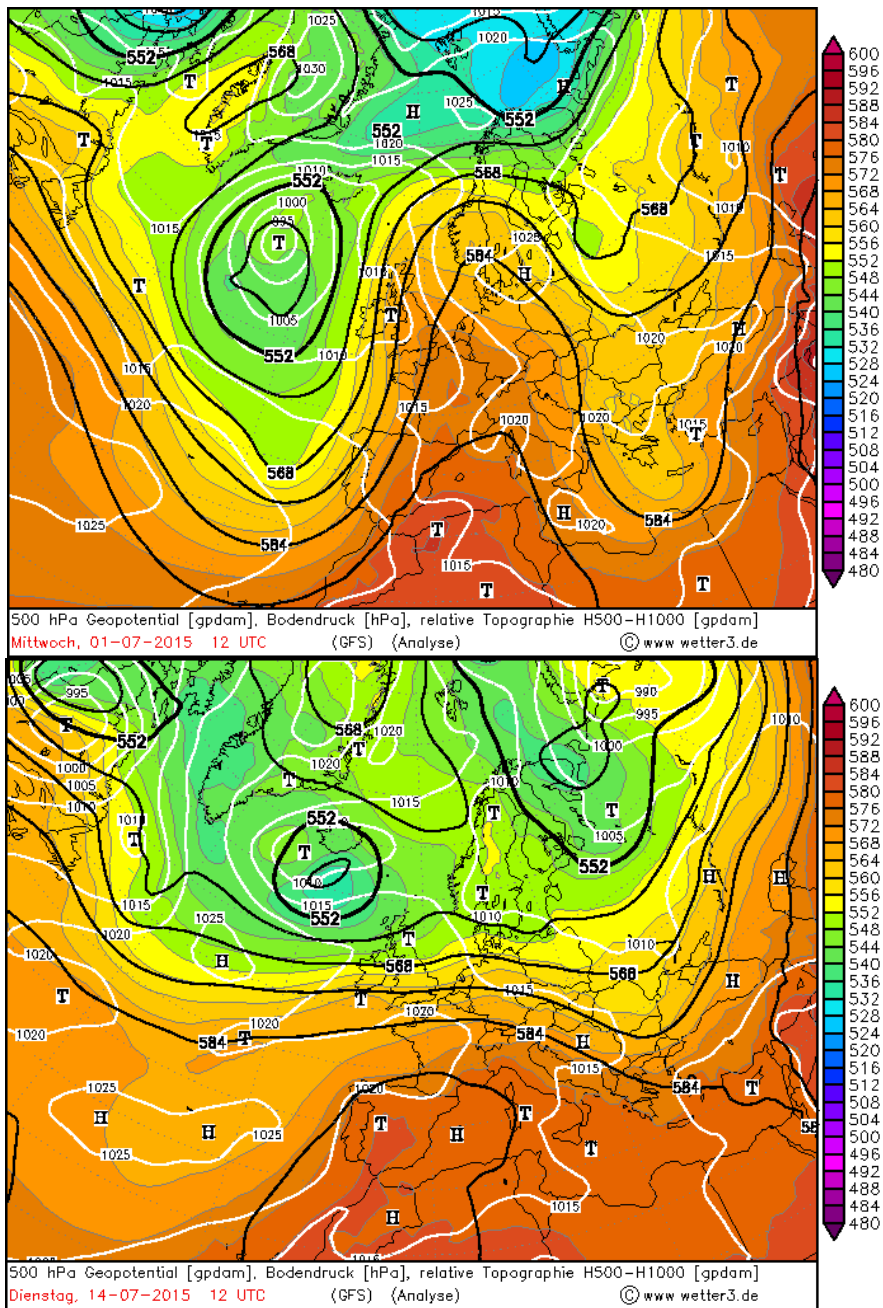


Figure S1: Synoptic meteorology with the 500 hPa Geopotential and surface pressure at 12:00 UTC for the 7th and 16th of July of 2015 as modelled by the reanalysis model ERA-INTERIM, © www.wetter3.de.

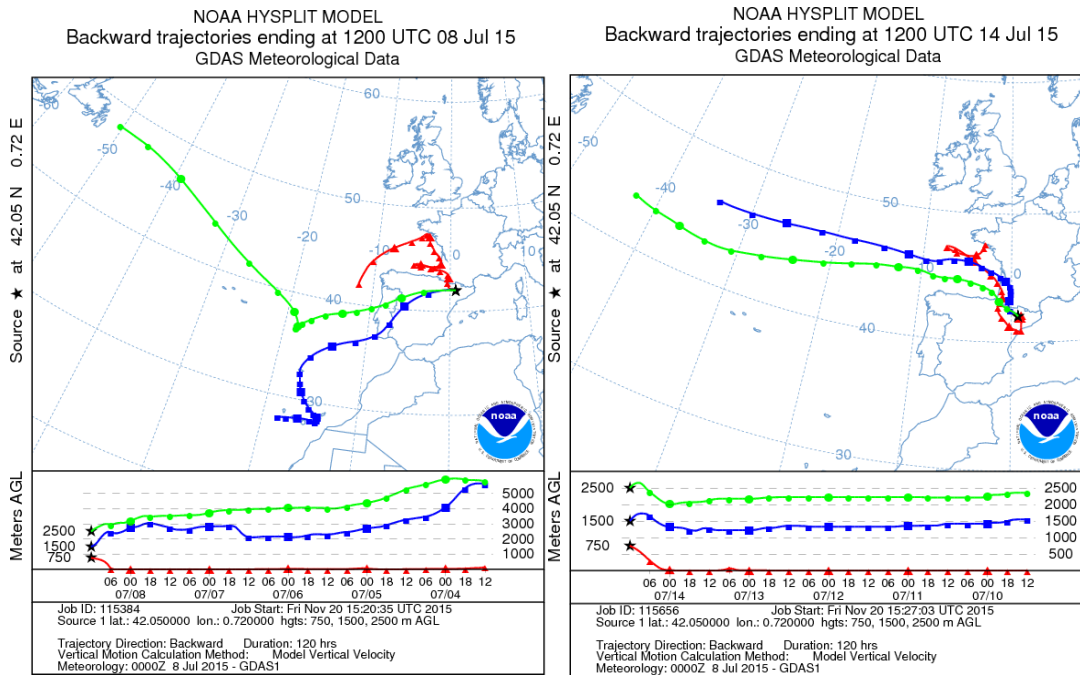


Figure S2: HYSPLIT backtrajectories for the 8th and 14th of July of 2015 at 12:00 UTC ending at MSA station.

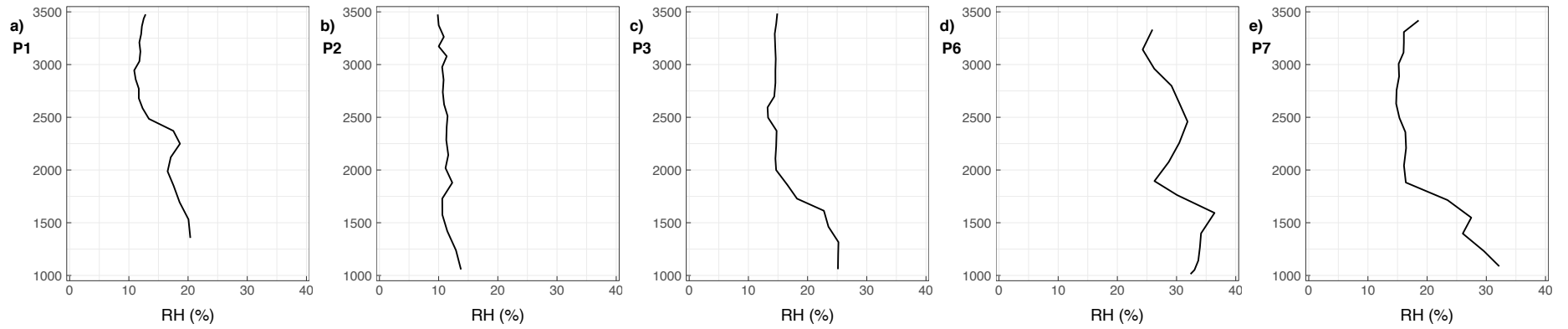


Figure S3: Vertical profiles of relative humidity (RH (%)) for a) P1, b) P2, c) P3, d) P6, and e) P7 as measured by the Kestrel unit placed in the aircraft.

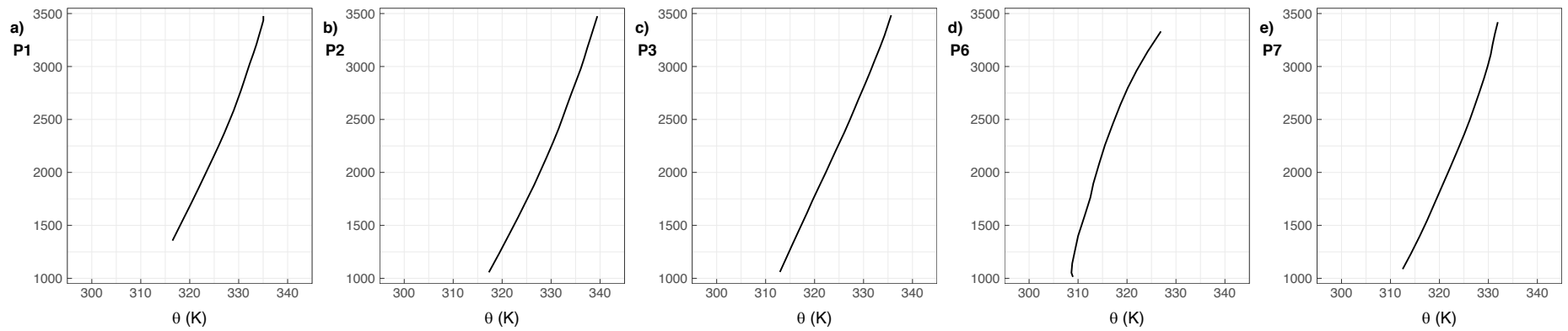


Figure S4: Vertical profiles of potential temperature (θ (K)) for a) P1, b) P2, c) P3, d) P6, and e) P7 as measured by the Kestrel unit placed in the aircraft.

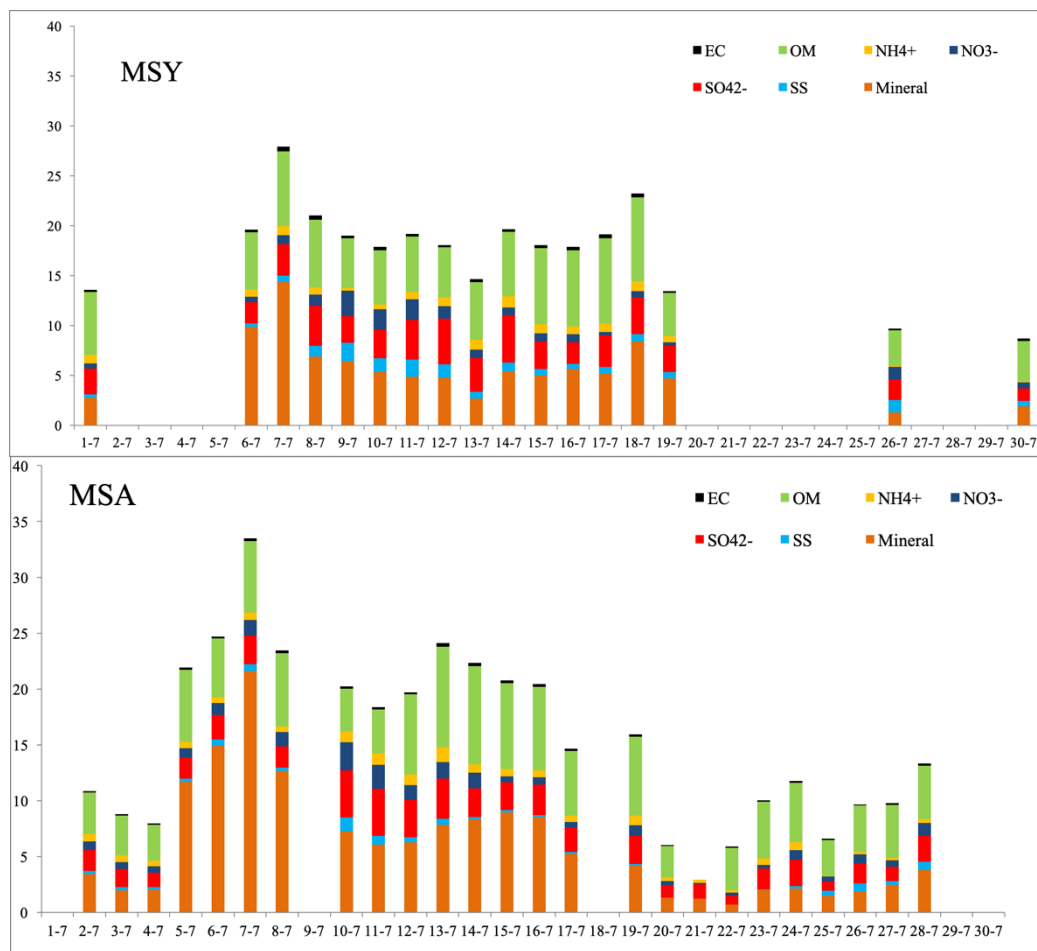


Figure S5: Daily off-line filter base chemistry analysis during the instrumented flights period of July 2015 for MSA (upper panel) and MSY (lower panel).

Table S1: Comparison between aircraft borne measurements for P1 versus the in-situ measurements of MSA station as a reference at the same time that the flight was at a height of 1500 m a.s.l. approximately.

	$PM_{10}(\mu g m^{-3})$	$PM_{2.5}(\mu g m^{-3})$	$PM_1(\mu g m^{-3})$	$PM_{1/10}$	$PM_{1/2.5}$	$\sigma_{sp\ 525\ nm}(Mm^{-1})$	$\sigma_{ap\ 590\ nm}(Mm^{-1})$	SAE	AAE	G	SSA
P1 – FLIGHT	20.3	18.38	13.38	0.66	0.73	37.85	2.59	0.93	1.76	0.59	0.87
P1 – MSA IN-SITU	38.4	20.8	14.2	0.37	0.68	41.44	3.06	0.90	2.12	0.62	0.86
DIFF (%)	47.1	11.6	5.8	-78.2	-6.6	8.7	15.36	-4.5	16.8	4.55	-0.22