Atmospheric
Chemistry
and Physics
Discussions

Supplement of

Evaluation of size segregation of elemental carbon emission in Europe: influence on atmospheric long-range transportation

Y. Chen et al.

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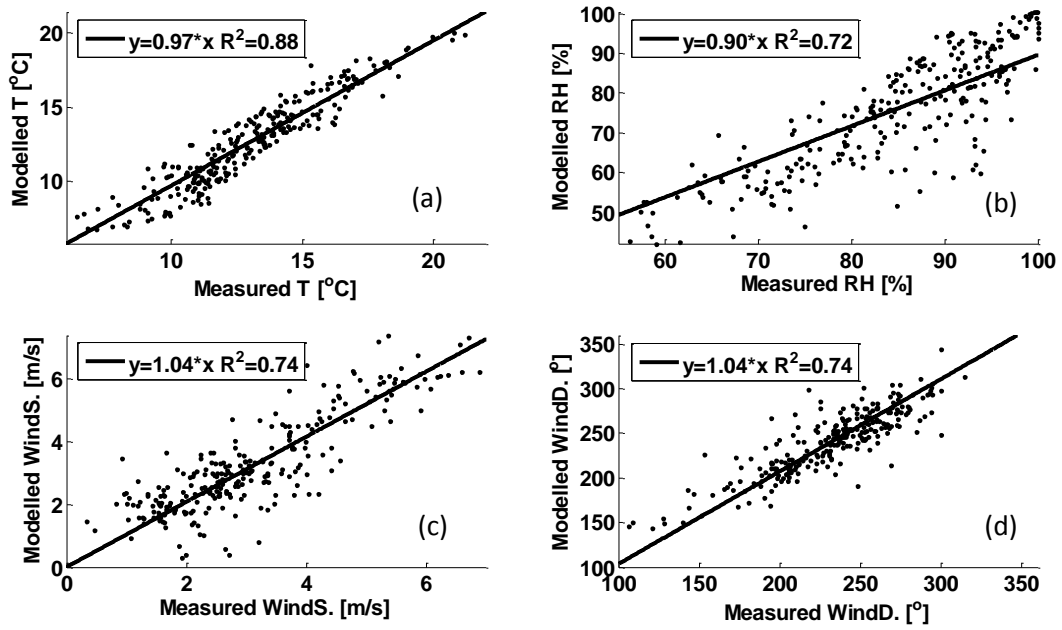
Figure S1. Comparison of meteorological variables between Melpitz ground-based measurements and WRF-Chem D04 result. (a) Temperature; (b) Relative Humidity; (C) Wind Speed; (D) Wind Direction.
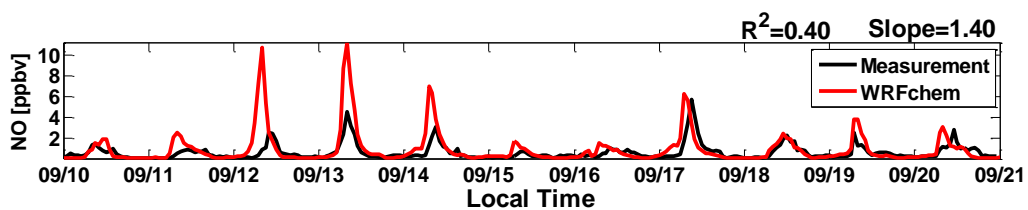
Figure S2. Comparison of NO concentration between Melpitz measurements and WRF-Chem D04 results. Model results indicated by the red lines and measurements by the black lines. The correlation coefficient (R^2) and linear fit slope are shown on the top of picture.
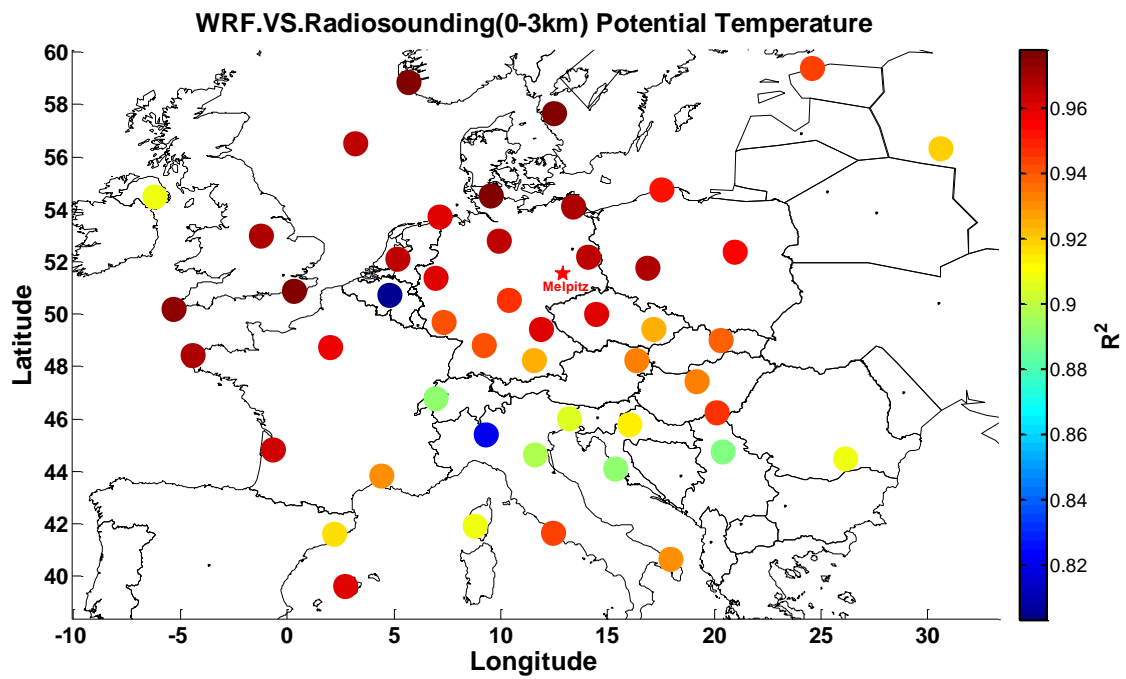
Figure S3. Correlation coefficient (R^2) map of the potential temperature under 3 km between WRF-Chem model and radio-sounding measurements. Melpitz is marked as red star.
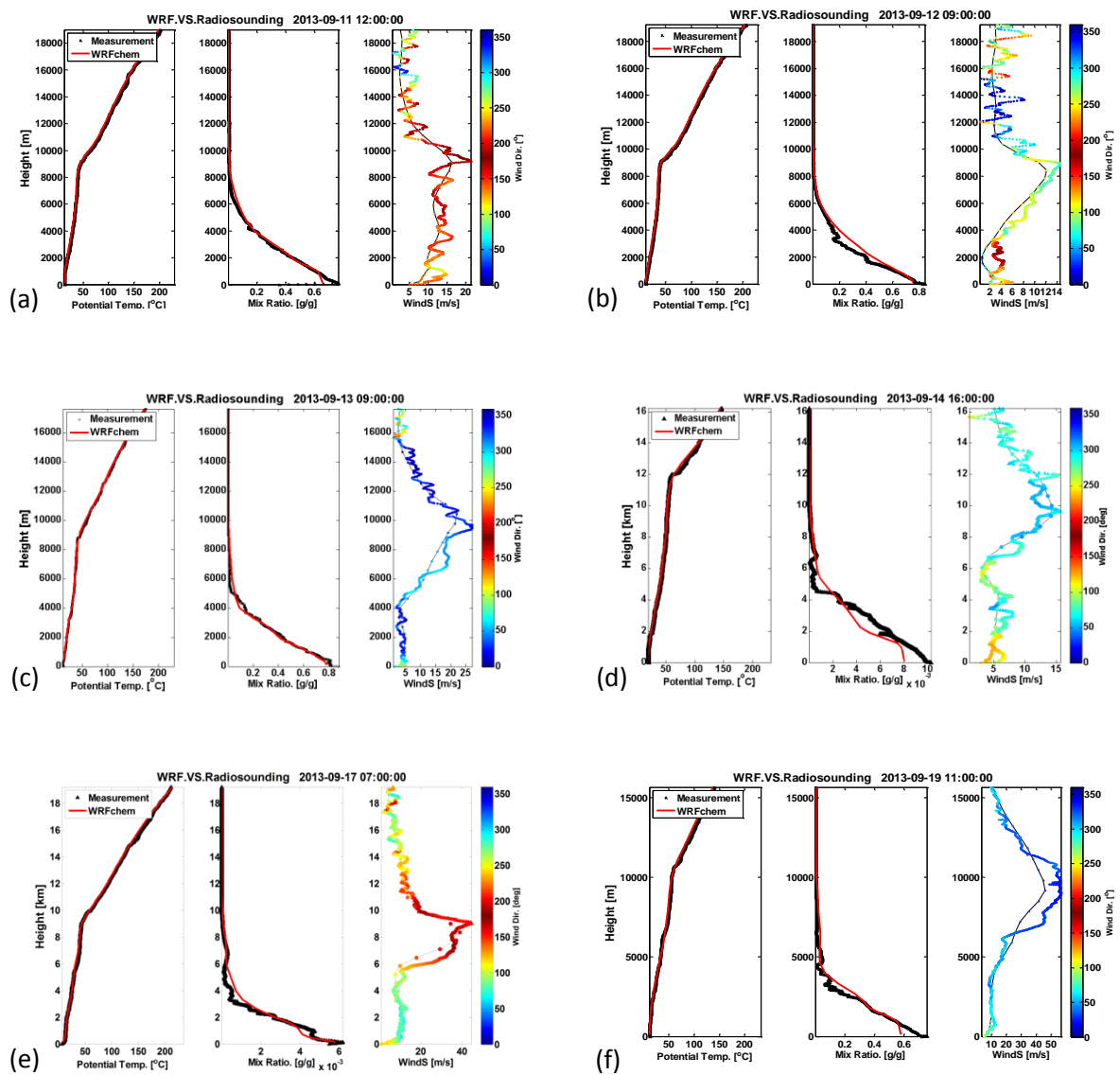
Figure S4. Some examples for meteorological variables comparison between Melpitz radio-sounding and WRF-Chem. (a) 2013-09-11 12:00; (b) 2013-0-12 09:00; (c) 2013-09-13 09:00; (d) 2013-09-14 16:00; (e) 2013-09-17 07:00; (f) 2013-09-19 11:00.
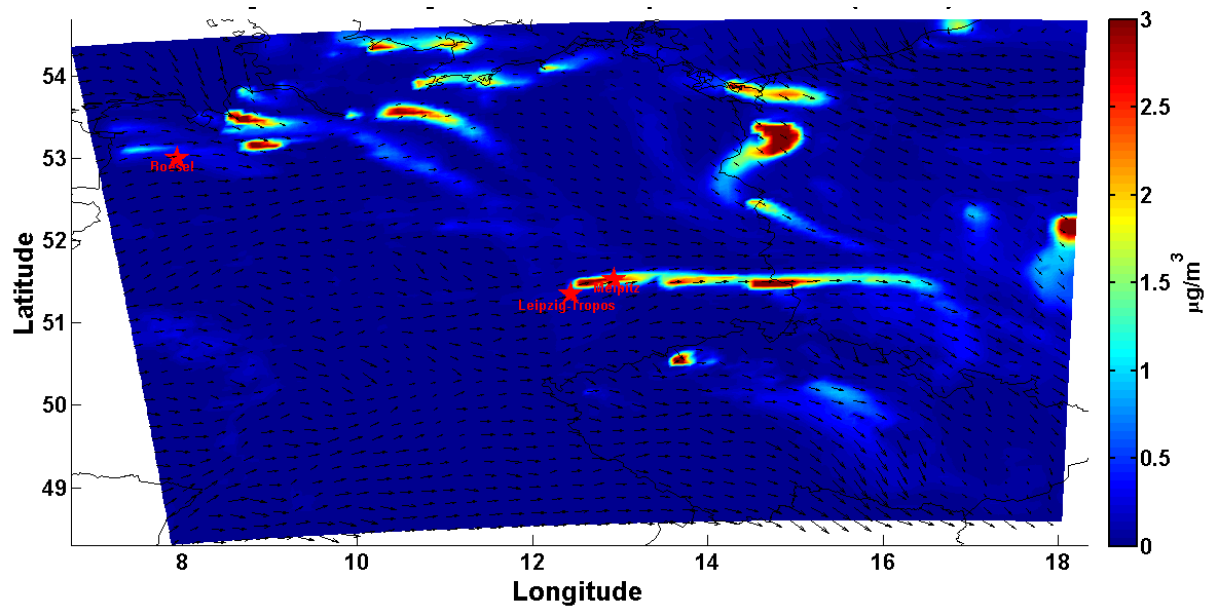
Figure S5. The model result of horizontal distribution for EC in bin08 [5-10 µm], at 08:00 13th Sep. 2013. Melpitz, Leipzig-TROPOS and B ösel are marked by red stars.
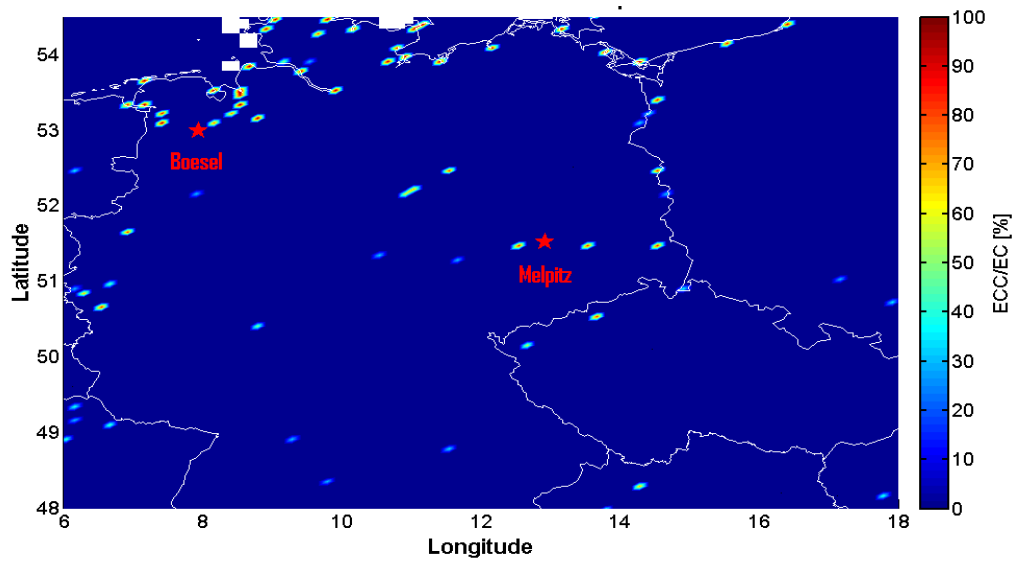
Figure S6. ECc emission fraction for point source in Germany and nearby region.

Table S1. Point source number for the different ECc emission fraction level in the different regions.

Point source ECc emission fraction unit: [%]	Number of point sources in each region		
	Germany and nearby region: 54.5°N 6°E 18°E 48°N	Melpitz region: 52°N 12°E 15°E 51°N	Bösel region: 54°N 7°E 9°E 53°N
90-100	22	0	8
80-90	15	3	2
60-80	5	0	2
30-60	18	0	0