Supplement to "Towards an online-coupled chemistry-climate model: evaluation of COSMO-ART"

Knote, C., Brunner, D., Vogel, H., Allan, J., Asmi, A., Äjällä, M., Carbone, S., Denier van der Gon, H., Jimenez, J. L., Kiendler-Scharr, A., Mohr, C., Poulain, L., Prevot, A., Swietlicki, E., and Vogel, B.

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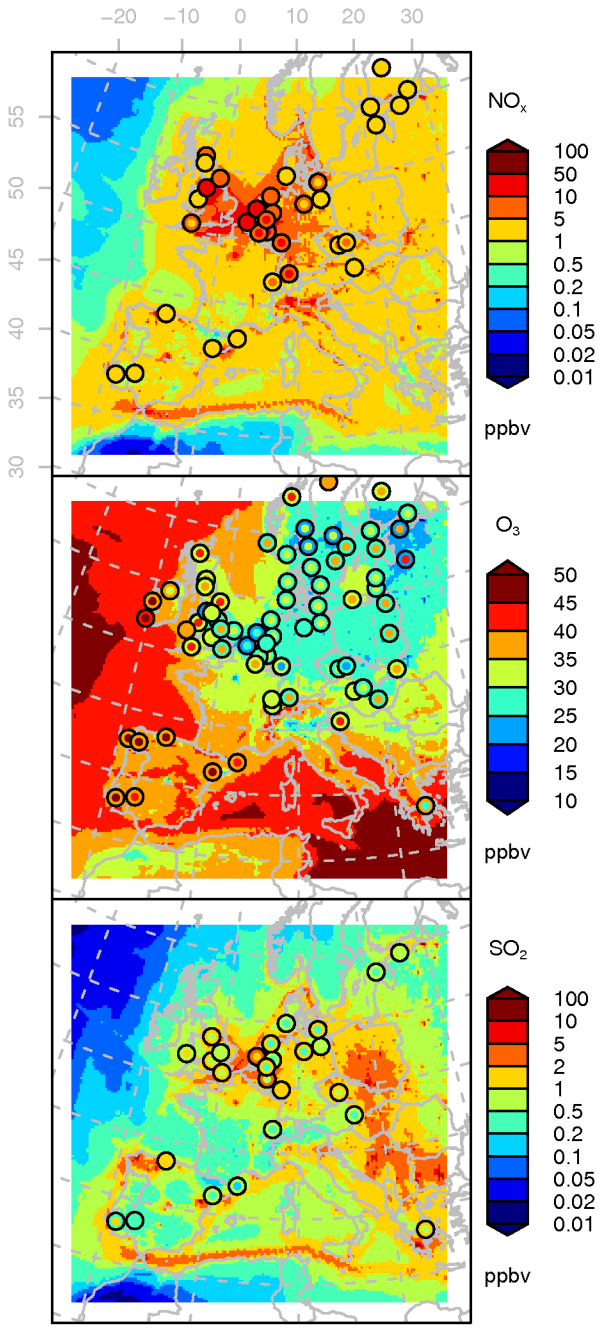

Figure 12: Overview of mean afternoon (hours 12 -18) NO_x, O_3 and SO_2 concentrations like in Figure 4 but for the spring 2009 period.

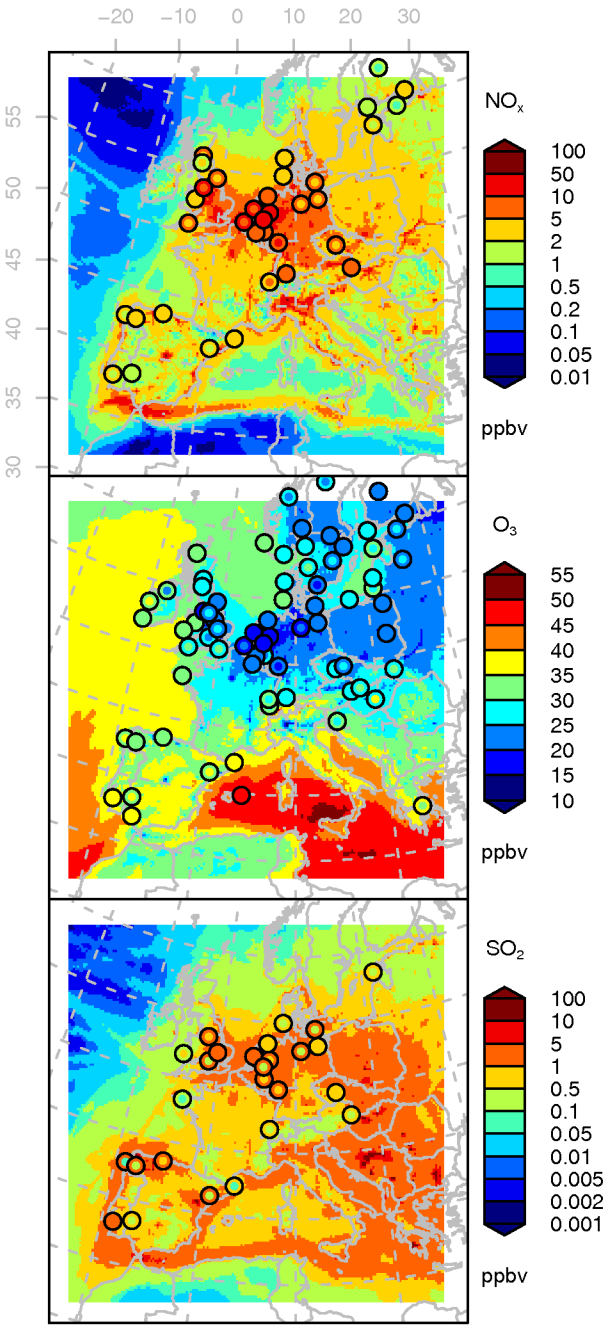

Figure 13: Overview of mean afternoon (hours 12 -18) NO_x, O_3 and SO_2 concentrations like in Figure 4 but for the autumn 2008 period.

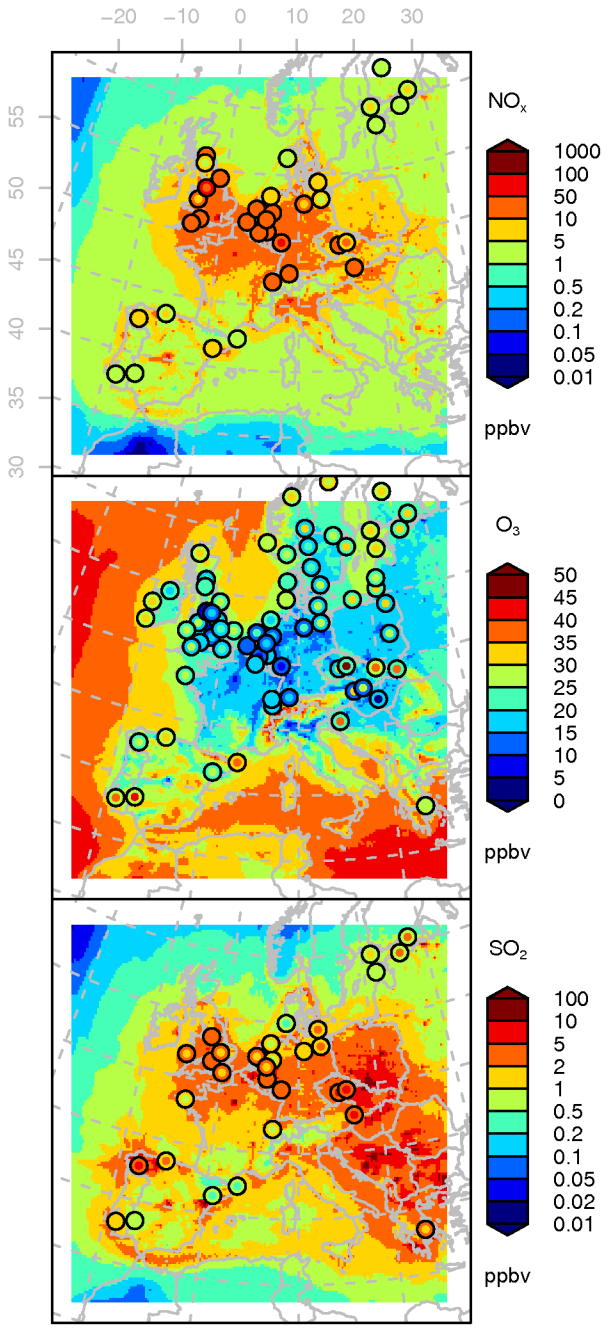

Figure 14: Overview of mean afternoon (hours 12 -18) NO_x, O_3 and SO_2 concentrations like in Figure 4 but for the winter 2006 period.

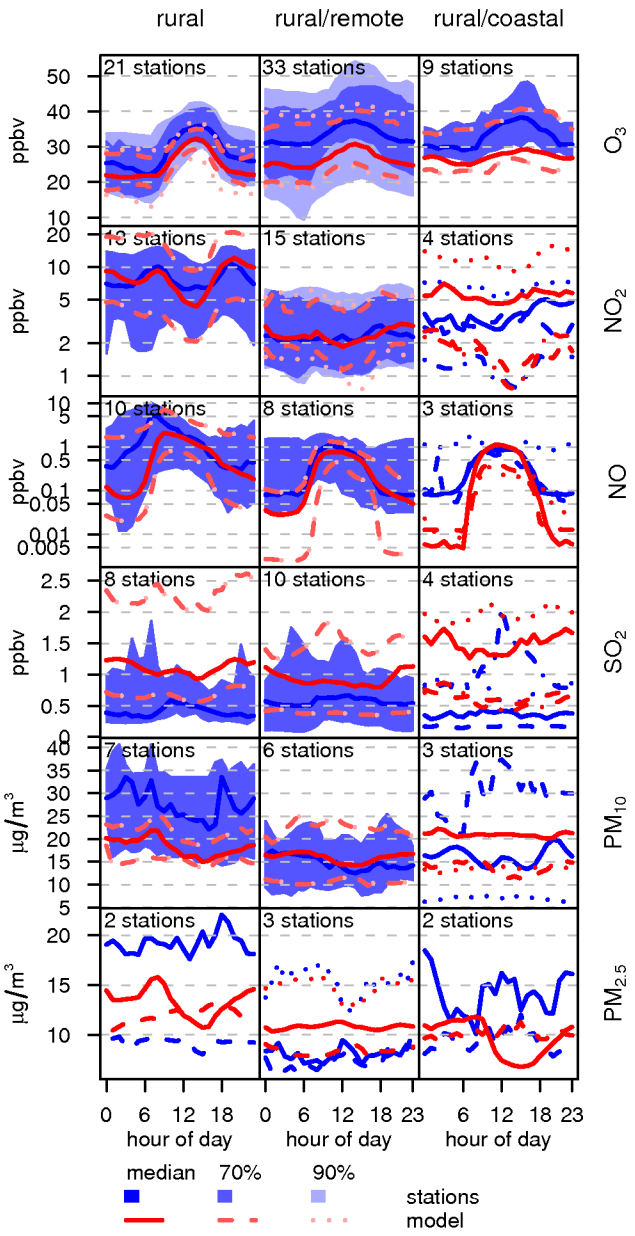

Figure 15: Statistics of mean diurnal cycles of several compounds for model and AIRBASE data. Like Figure 5 but for the spring 2009 period.

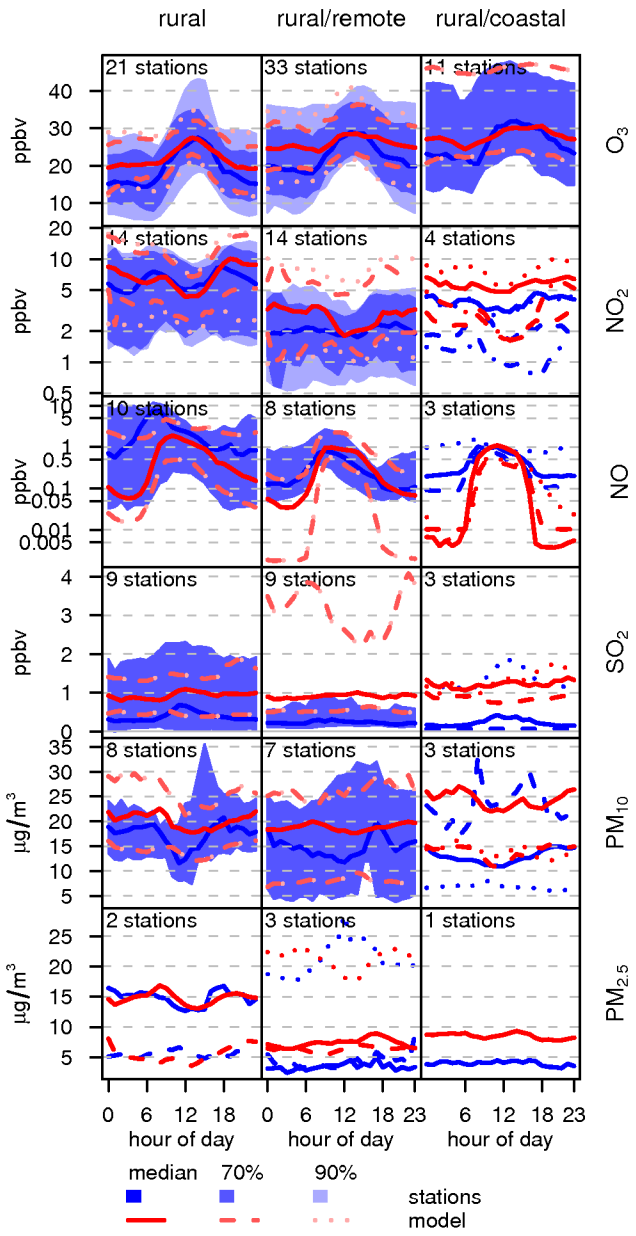

Figure 16: Statistics of mean diurnal cycles of several compounds for model and AIRBASE data. Like Figure 5 but for the autumn 2008 period.

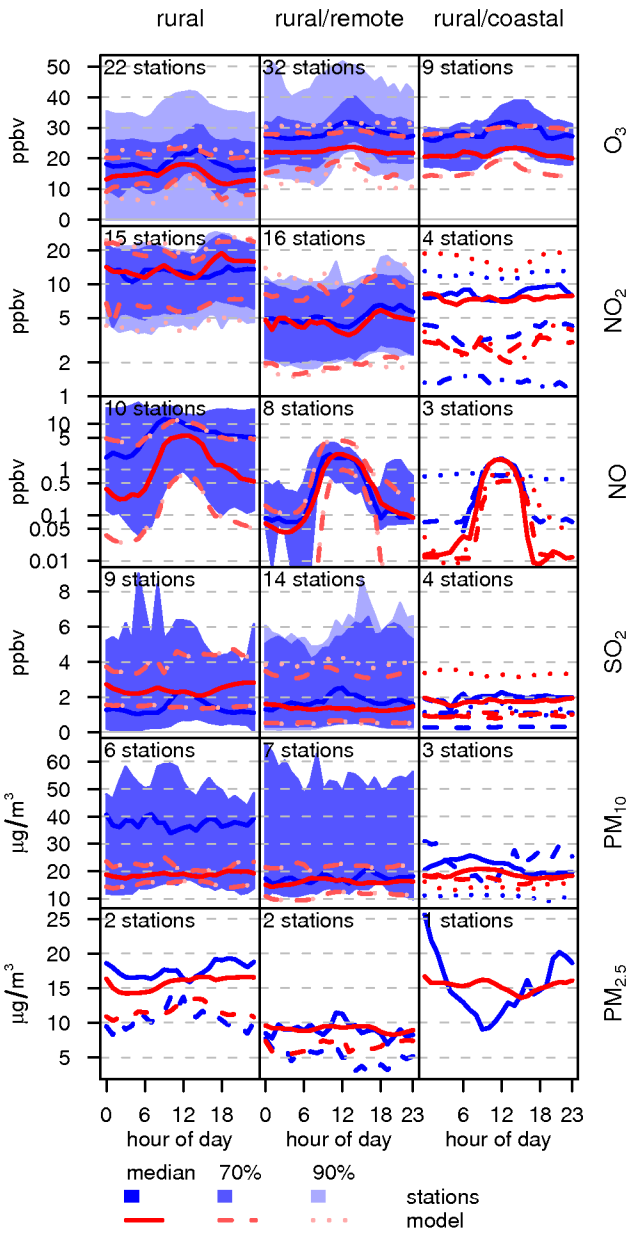

Figure 17: Statistics of mean diurnal cycles of several compounds for model and AIRBASE data. Like Figure 5 but for the winter 2006 period.

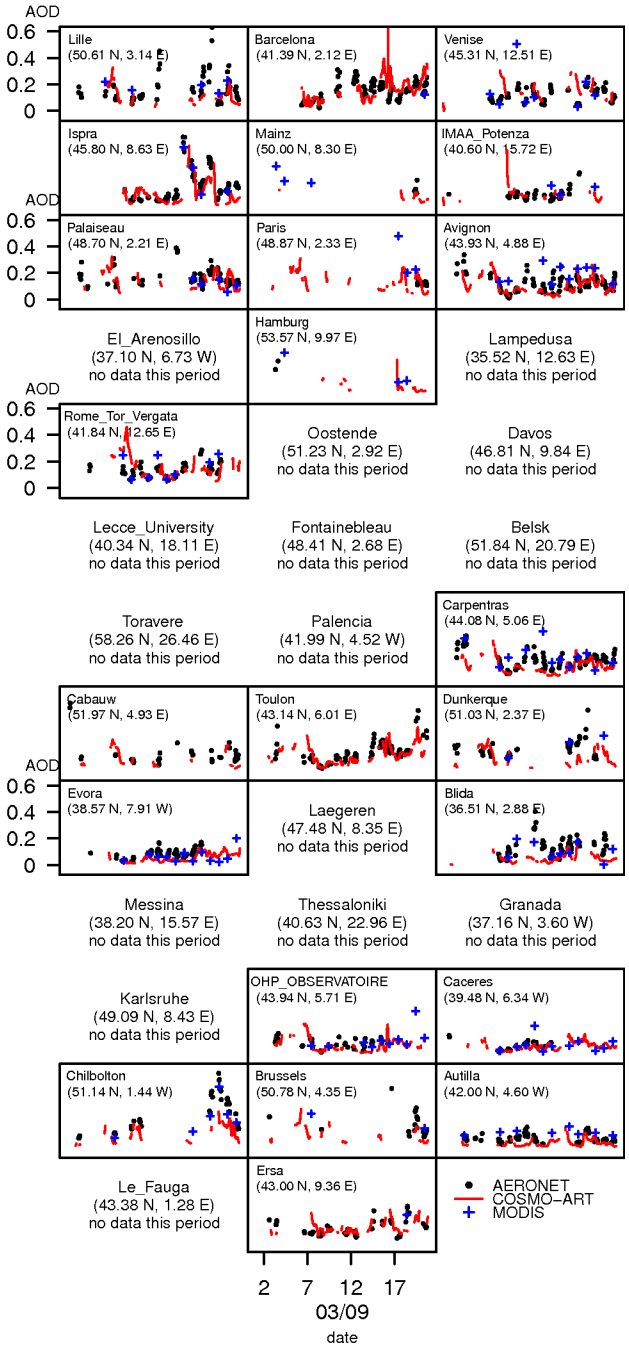

Figure 18: Timelines of aerosol optical depth (AOD) at several AERONET stations in Europe. Like Figure 8 but for the spring 2009 period.

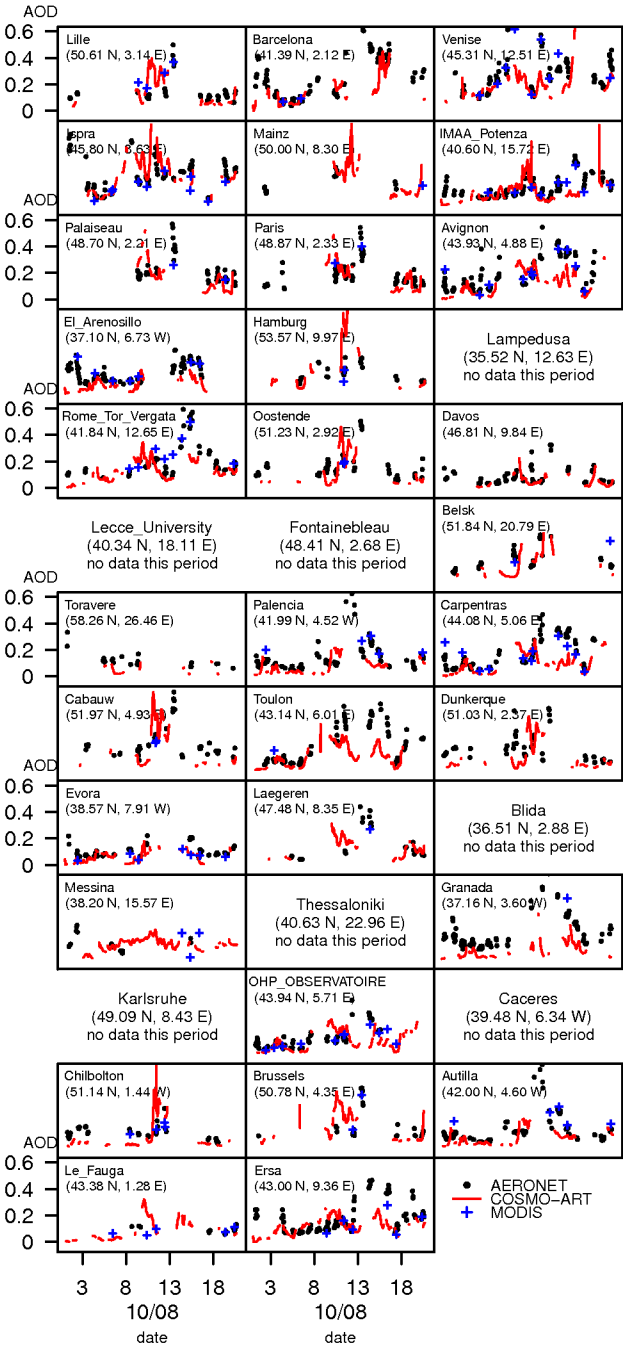

Figure 19: Timelines of aerosol optical depth (AOD) at several AERONET stations in Europe. Like Figure 8 but for the autumn 2008 period.

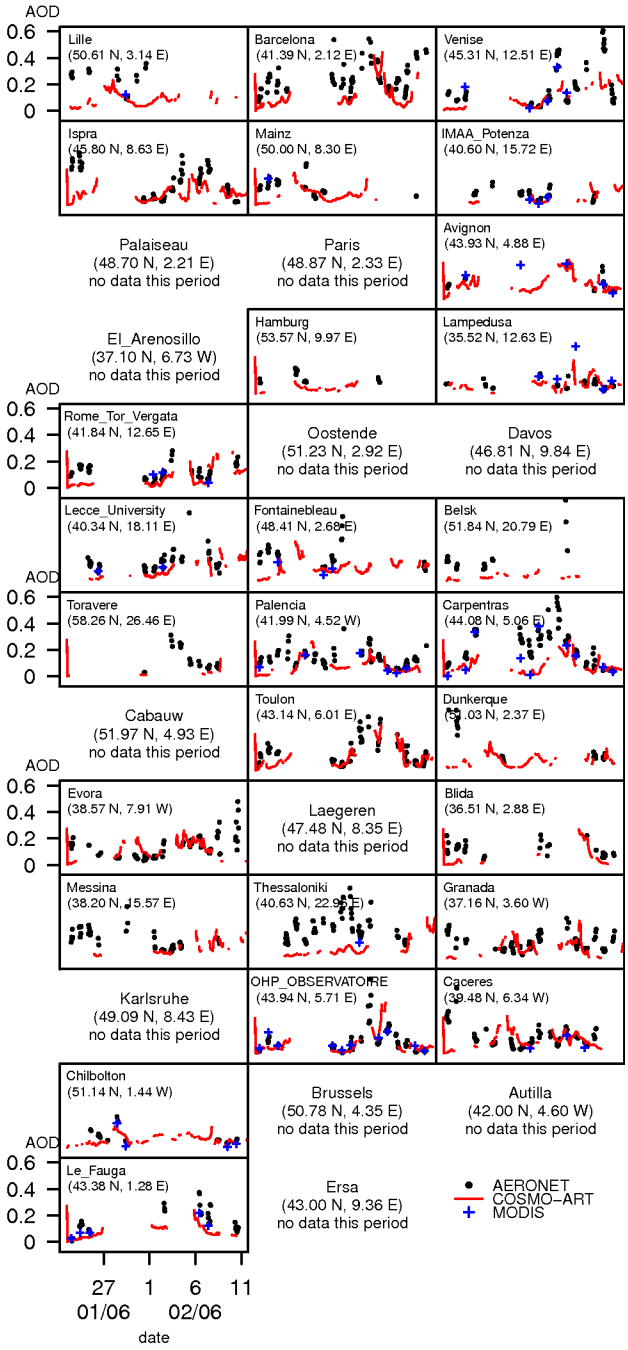

Figure 20: Timelines of aerosol optical depth (AOD) at several AERONET stations in Europe. Like Figure 8 but for the winter 2006 period.

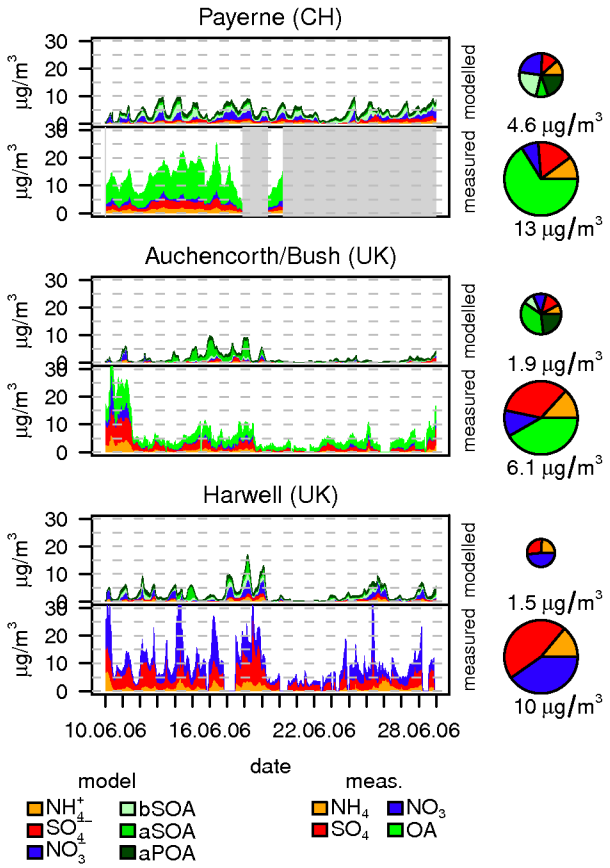

Figure 21: Timeline of aerosol chemical composition. Like Figures 9 and 10 a,b, but for the summer 2006 period.

Table 6: Number concentration comparisons, like in Table 3, but for the spring 2009 simulation.

station name	category	N_{30to50}		N_{50}		N_{100}		N_{250}	
		meas.	mod.	meas.	mod.	meas.	mod.	meas.	mod.
Aspvreten (SE)	rural/coastal	201	1084	645	1932	302	808	63	152
Cabauw (NL)	suburban	1466	2780	1894	3399	433	1248	20	187
Harwell (UK)	rural	746	2517	1453	2285	634	762	103	125
Ispra (IT)	suburban	904	2341	2921	2136	1451	776	157	116
K-Puszta (HU)	rural	855	2133	3104	3890	1673	1670	203	267
Mace Head (IE)	rural/remote	324	542	779	1199	418	569	108	127
Melpitz (DE)	rural	508	1380	1343	2868	762	1279	219	242
Kosetice (CZ)	rural/remote	467	1342	2032	3748	1282	1751	210	319
Vavihill (SE)	rural	402	1272	1496	2850	607	1266	171	236
Waldhof (DE)	rural/remote	652	1209	1744	2678	935	1241	227	248

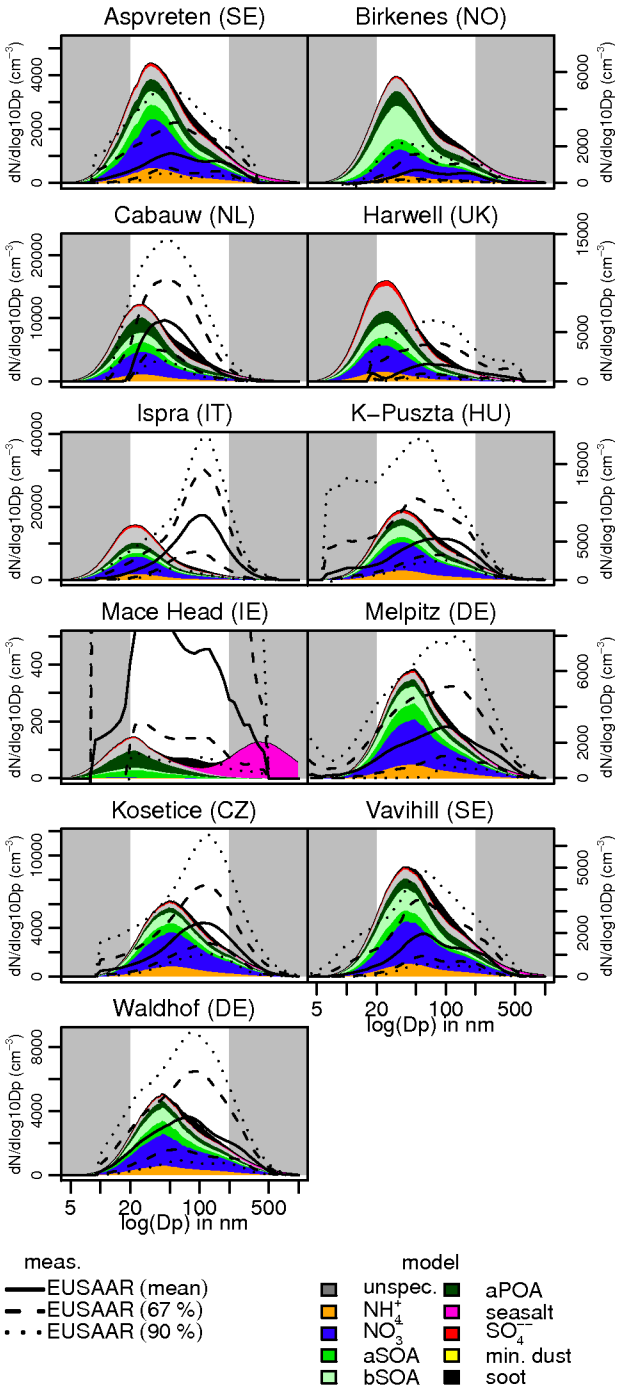

Figure 22: Comparison of modelled and measured aerosol size distributions at EUSAAR stations. Like Figure 11 but for the spring 2009 period.