



Supplement of

The long-term impact of biogenic volatile organic compound emissions on urban ozone patterns over central Europe: contributions from urban and rural vegetation

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List of Airbase stations used in the study

Ozone

117 background stations selected below 800 m ASL from Austria, Czechia, Germany, Hungary, Slovakia and Poland

Rural areas:

AT30202, AT10002, AT60151, AT53055, AT60190, AT72538, AT30103, AT30502, AT0ENK1, AT31904, AT30403, AT0PIL1, AT2WO35, AT31701, AT2SP10, AT56071, AT31204, AT60185, AT30701, AT32101, AT30801, AT30603, AT0ILL1, AT30302, CZ0MJES, CZ0BKUC, CZ0LSOU, CZ0JKMY, CZ0TSTD, CZ0SONR, CZ0USNZ, CZ0ZSNV, CZ0TCER, CZ0PPRM, CZ0ULOM, CZ0UTUS, CZ0BMIS, CZ0CKOC, CZ0ESVR, CZ0JKOS, DENI060, DENI059, DEBE032, DESL019, DERP016, DEBY004, DEBW087, DERP017, DEUB001, DESH013, DESH014, DEBW004, DENI058, DERP028, DEBE027, DEBY047, DEHE024, DEHE060, DEUB005, DENI063, DEUB028, DENW065, DEBY013, DEHE046, DEBE062, DEBB053, DEMV012, DEMV017, DEBB066, DEMV004, DEHE028, DERP013, DETH026, DESN076, DEBB065, DESN074, DEBY109, DETH042, DESN079, DESN080, DEST089, DESN051, DEST098, DENW081, DETH061, DENW068, DEUB030, DERP014, DEBE056, DEHE026, DEBY049, DERP015, DESH008, DEHE042, DENI031, DENW064, DESH001, DEBY072, DEHE043, HU0002R, HU0040A, PL002R, PL0028A, PL0005R, PL0014A, PL0077A, PL0094A, PL0105A, PL0121A, PL0128A, PL0150A, PL0182A, PL0211A, PL0243A, PL0247A, SK0041A, SK0006R

For cities, urban and suburban background stations were selected: Berlin – DEBE034,DEBE051,DEBE010 Budapest – HU0036A,HU0022A,HU0042A Munich – DEBY089,DEBY039" Prague – CZ0ALIB,CZ0AKOB,CZ0ASTO,CZ0ASUC,CZ0ARIE Vienna – AT900ZA,AT90LOB,AT90LAA,AT9STEF Warsaw – PL0044A,PL0141A,PL0143A

 NO_2

105 stations – subset of the "ozone" stations above

AT30202, AT10002, AT60151, AT53055, AT72538, AT30502, AT0ENK1, AT31904, AT30403, AT0PIL1, AT2WO35, AT31701, AT2SP10, AT31204, AT0ILL1, AT30302, AT32604, CZ0MJES, CZ0TSTD, CZ0USNZ, CZ0TCER, CZ0PPRM, CZ0ULOM, CZ0UTUS, CZ0BMIS, CZ0JKOS, CZ0HPLO, DENI060, DENI059, DEBE032, DESL019, DERP016, DEBY004, DEBW087, DERP017, DEUB001, DENI058, DERP028, DEBE027, DEHE024, DEHE060, DEUB005, DENI063, DEUB028, DENW065, DEBY013, DEHE046, DEBE062, DEBB053, DEMV012, DEMV017, DEBB066, DEMV004, DEHE028, DERP013, DETH026, DESN076, DEBB065, DESN074, DEBY109, DETH042, DESN079, DEST089, DESN051, DEST098, DENW081, DETH061, DENW068, DERP014, DEHE026, DERP015, DESH008, DEHE042, DENI031, DEBY072, DEHE043, DENI077, DEST104, DEHE039, DEBY124, DEBY123, DEBW004, DEUB030, DEBE056, DEBY049, DENW064, DEMV024, DEMV026, DEHE050, HU0040A, PL0028A, PL0014A, PL0077A, PL0094A, PL0105A, PL0121A, PL0128A, PL0150A, PL0182A, PL0211A, PL0243A, PL0247A, PL0349A, PL0068A, PL0561A

For cities, urban and suburban background stations were selected:

Berlin - DEBE034, DEBE051, DEBE010 Munich - DEBY089, DEBY039 Prague - CZ0ALIB, CZ0AKOB, CZ0ASUC, CZ0ARIE Vienna - AT900ZA, AT90LOB, AT90LAA, AT9STEF Budapest - HU0036A, HU0022A, HU0042A Warsaw - PL0141A, PL0143A

Figures and tables

Figure S1: The average JJA impact of all BVOC emissions on the maximum daily 8hour ozone (MDA8) for each simulated years in ppbv.



Figure S2: The average JJA relative impact of all BVOC emissions on the maximum daily 8hour ozone (MDA8) for each simulated years in %.



1 2 4 6 8 10 12 15 20 25

Figure S3: The average JJA impact of all BVOC emissions on the maximum daily hourly OH for each simulated years in pgm⁻³.



-0.5 -0.2 -0.1 -0.05-0.02-0.010.01 0.02 0.05 0.1 0.2 0.5

Figure S4: The average JJA relative impact of all BVOC emissions on the maximum daily hourly OH for each simulated years in %.



-80 -60 -40 -20 -15 -10 -5 5 10 20 40 60 80

Figure S5: The average JJA impact of all BVOC emissions on the daily mean FORM for each simulated years in ppbv.



Figure S6: The average JJA relative impact of all BVOC emissions on the daily mean FORM for each simulated years in %.



0 1 2 5 10 15 20 30 40 60 80