Supplemental Digital Content

Parks RM, Nunez Y, Balalian A, Gibson EA, Hansen J, Raaschou-Nielsen O, Ketzel M, Khan J, Brandt J, Vermeulen R, Peters S, Goldsmith J, Re DB, Weisskopf MG, Kioumourtzoglou MA, Long-term traffic-related air pollutant exposure and amyotrophic lateral sclerosis diagnosis in Denmark: A Bayesian hierarchical analysis.

eTable 1. Summary of 5-year average pollutant concentrations of controls by socioeconomic status (all in $\mu g/m^3$).

eTable 2. Summary of 5-year average pollutant concentrations of controls by civil status (all in $\mu g/m^3$).

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eFigure 1. Sensitivity of percentage change in odds of ALS diagnosis to (B) inclusion of O_3; (C) inclusion of parish-level SES; (D-F) single-pollution models; (G-N) various hyperpriors; and (O-P) more iterations per chain.

eFigure 2. Average concentration of included pollutants (NO_x, EC, $PM_{2.5}$, CO, O_3) in 1 km x 1 km resolution for year 2000 (middle of study period 1989-2013).

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Summary of 5-year average pollutant concentrations of controls by socioeconomic status (all in μg/m^3).

Pollutant	Overall, N = 19,298[1]	Group 1 (Highest), N = 1,886[1]	Group 2, N = 2,340[1]	Group 3, N = 3,575[1]	Group 4, N = 5,522[1]	Group 5 (Lowest), N = 3,702[1]	Group 9 (Unknown), N = 2,273[1]
NOX	27 (20)	29 (20)	27 (20)	25 (17)	27 (20)	27 (19)	30 (23)
CO	237 (105)	244 (103)	233 (104)	225 (89)	237 (104)	237 (102)	258 (130)
EC	0.85 (0.42)	0.89 (0.42)	0.84 (0.42)	0.79 (0.37)	0.85 (0.42)	0.84 (0.41)	0.92 (0.48)
non-EC PM2.5	11.76 (2.37)	11.75 (2.21)	11.54 (2.24)	11.58 (2.30)	11.69 (2.34)	11.93 (2.43)	12.13 (2.62)
O3	52.0 (6.0)	51.1 (5.9)	52.0 (5.9)	53.0 (5.6)	51.9 (5.9)	52.2 (5.9)	50.7 (6.4)

[1]Mean (SD)

eTable 2. Summary of 5-year average pollutant concentrations of controls by civil status (all in μg/m^3).

Pollutant	Overall, N = 19,298[1]	Married, N = 11,747[1]	Divorced, N = 2,270[1]	Widower, N = 3,498[1]	Never married, N = 1,783[1]
NOX	27 (20)	25 (17)	31 (23)	30 (23)	30 (22)
CO	237 (105)	228 (92)	252 (124)	252 (123)	247 (114)
EC	0.85 (0.42)	0.81 (0.37)	0.92 (0.48)	0.90 (0.48)	0.91 (0.46)
non-EC PM2.5	11.76 (2.37)	11.68 (2.33)	11.71 (2.33)	12.09 (2.51)	11.63 (2.31)
O3	52.0 (6.0)	52.5 (5.6)	50.8 (6.4)	51.3 (6.5)	51.1 (6.3)

[1]Mean (SD)

eTable 3. Summary of 5-year average pollutant concentrations of controls by last reported place of residence (all in μg/m^3).

Pollutant	Overall, N = 19,298[1]	Greater Copenhagen, N = 1,552[1]	Big cities of Denmark, N = 7,795[1]	Rest of Denmark, N = 9,946[1]	Greenland, N = 5[1]
NOX	27 (20)	53 (33)	28 (18)	23 (15)	15 (4)
CO	237 (105)	379 (184)	237 (91)	216 (77)	181 (20)
EC	0.85 (0.42)	1.39 (0.65)	0.87 (0.38)	0.75 (0.32)	0.59 (0.14)
non-EC PM2.5	11.76 (2.37)	12.96 (2.67)	11.80 (2.33)	11.53 (2.29)	10.42 (1.49)
O3	52.0 (6.0)	43.2 (6.3)	51.5 (5.2)	53.7 (5.1)	58.3 (4.7)

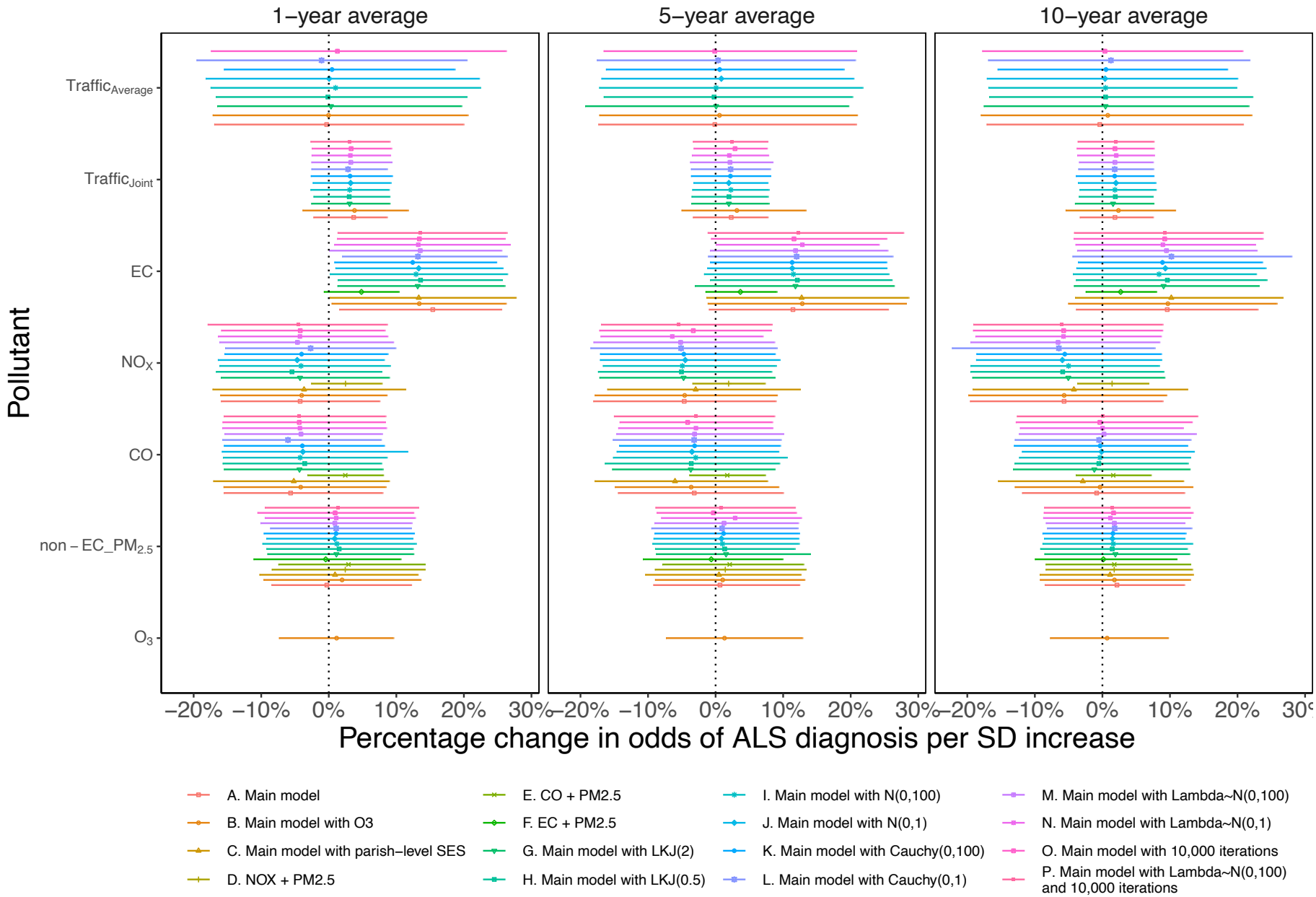
[1]Mean (SD)

eTable 4. Summary of 5-year average pollutant concentrations by place of birth (all in $\mu g/m^3$).

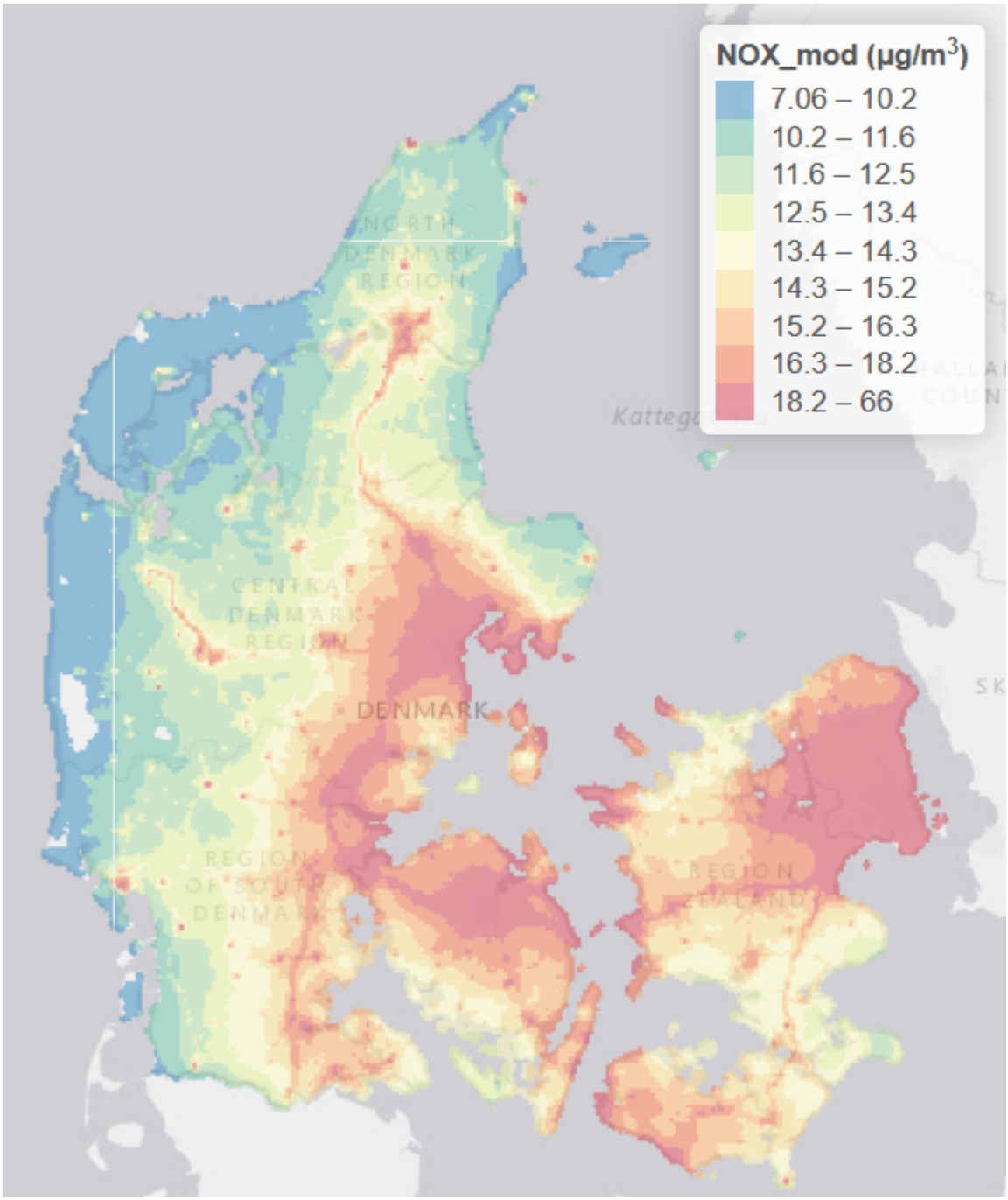
Pollutant	Overall, N = 19,298[1]	Greater Copenhagen, N = 4,027[1]	Big cities of Denmark, N = 6,566[1]	Rest of Denmark, N = 7,461[1]	Greenland, N = 190[1]	Foreign, N = 943[1]	Unknown, N = 111[1]
NOX	27 (20)	35 (25)	26 (18)	23 (16)	30 (17)	33 (22)	28 (18)
CO	237 (105)	275 (136)	230 (96)	220 (86)	254 (92)	256 (111)	242 (96)
EC	0.85 (0.42)	1.01 (0.51)	0.83 (0.40)	0.76 (0.35)	0.92 (0.36)	0.97 (0.43)	0.84 (0.36)
non-EC PM2.5	11.76 (2.37)	12.07 (2.39)	11.66 (2.35)	11.68 (2.38)	12.07 (2.32)	11.59 (2.12)	12.32 (2.68)
O3	52.0 (6.0)	48.9 (6.4)	52.4 (5.5)	53.6 (5.3)	50.3 (5.6)	49.3 (5.8)	52.2 (5.8)

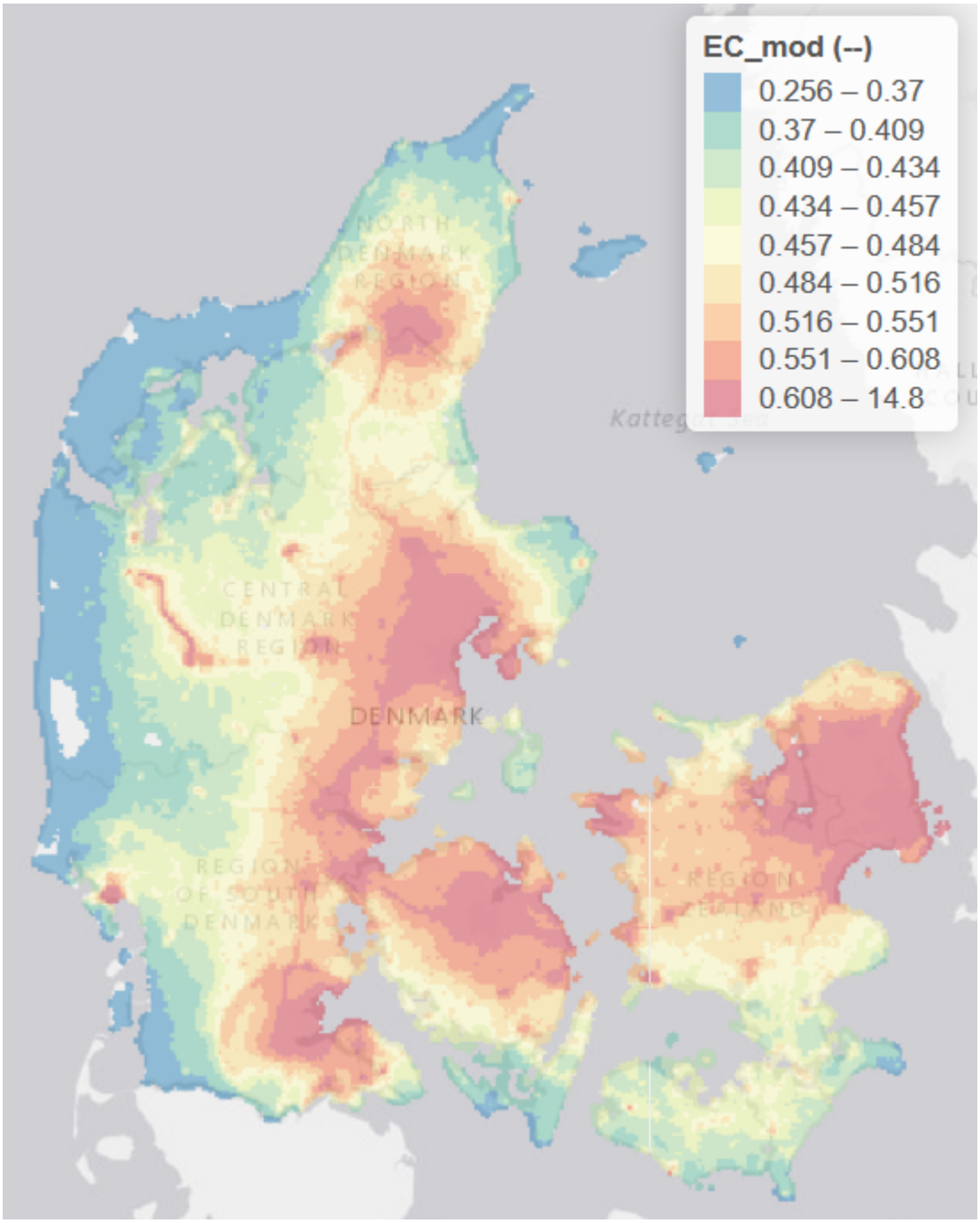
[1]Mean (SD)

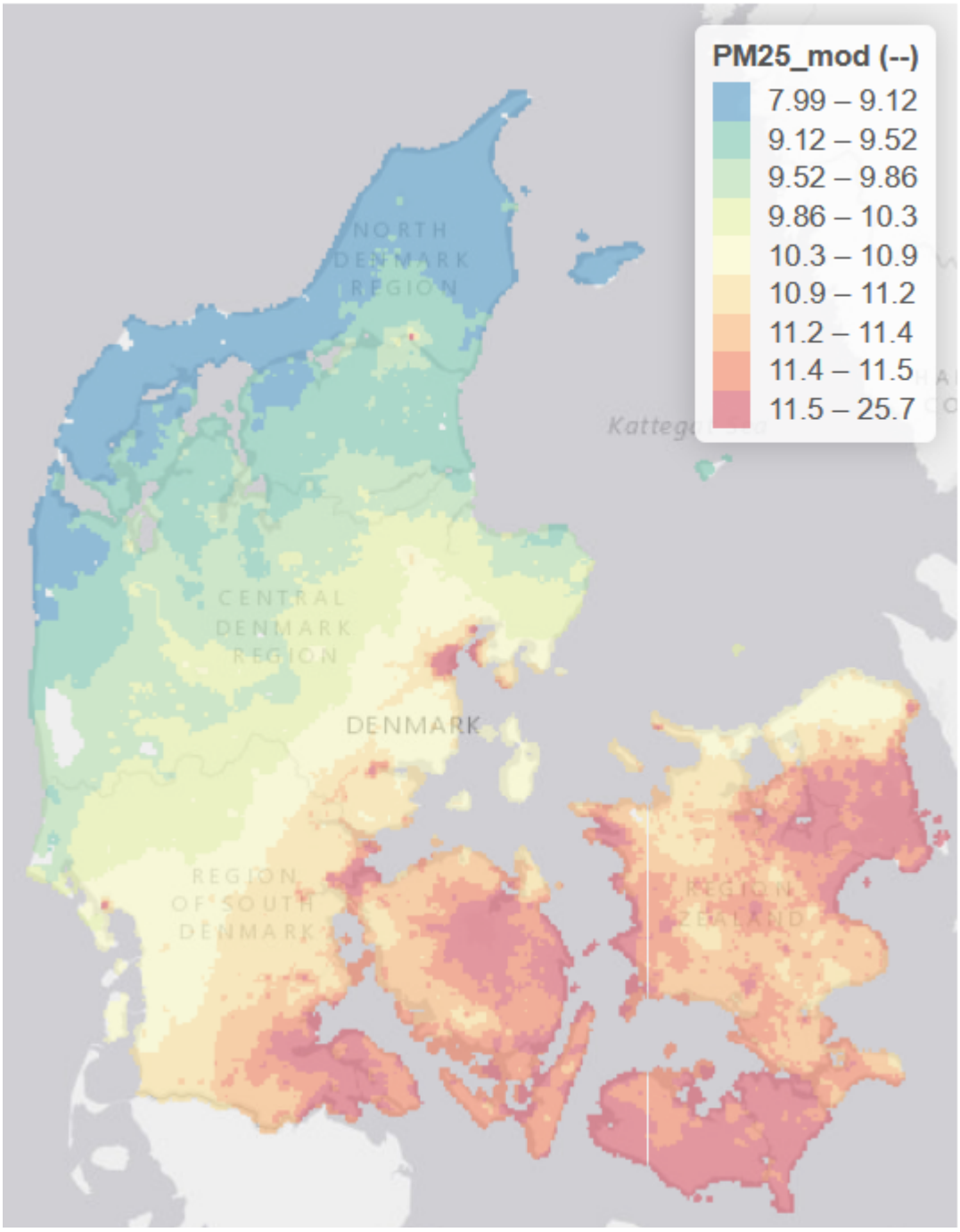
eFigure 1. Sensitivity of percentage change in odds of ALS diagnosis to (B) inclusion of O_3; (C) inclusion of parish-level SES; (D-F) single-pollution models; (G-N) various hyperpriors; and (O-P) more iterations per chain.

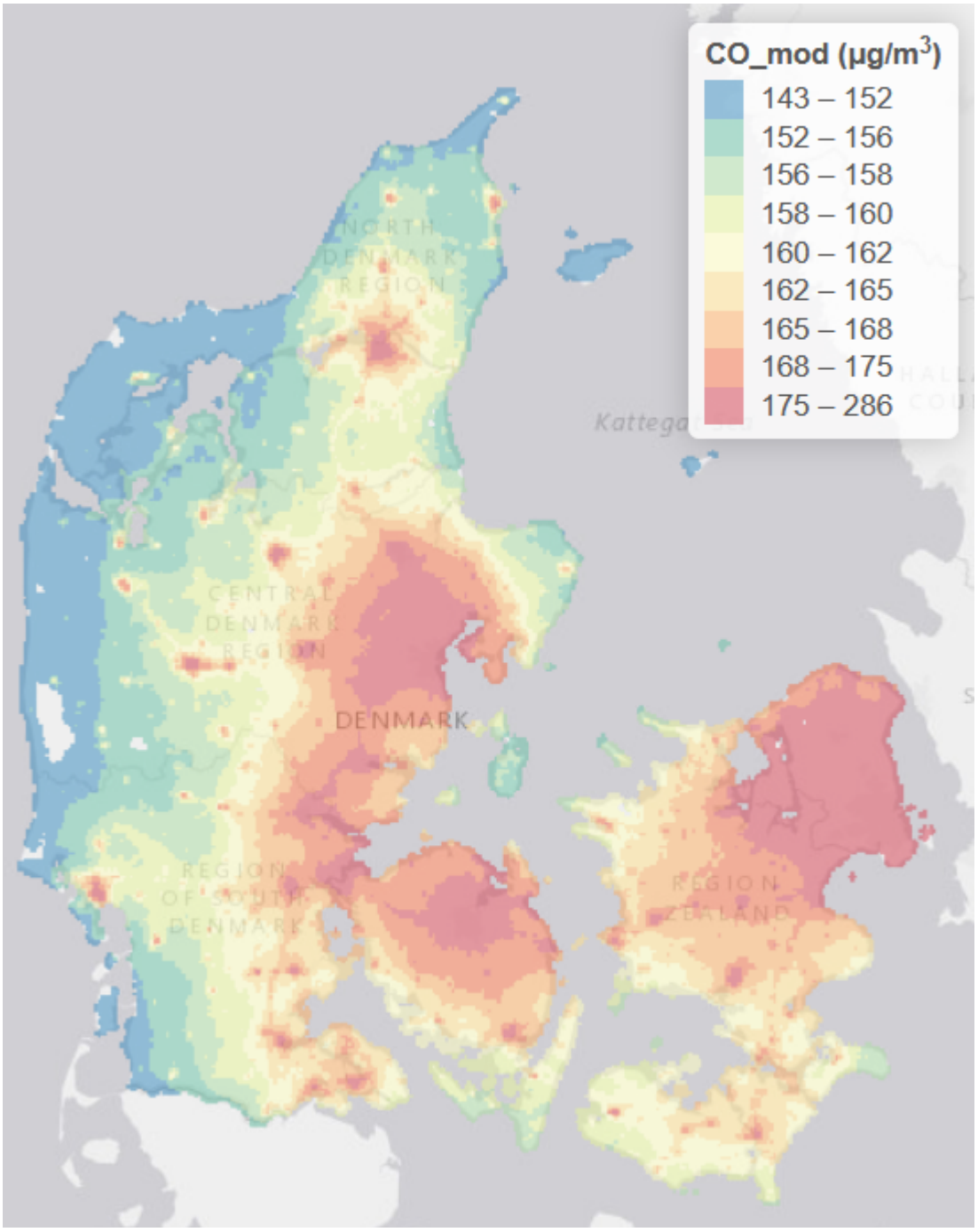


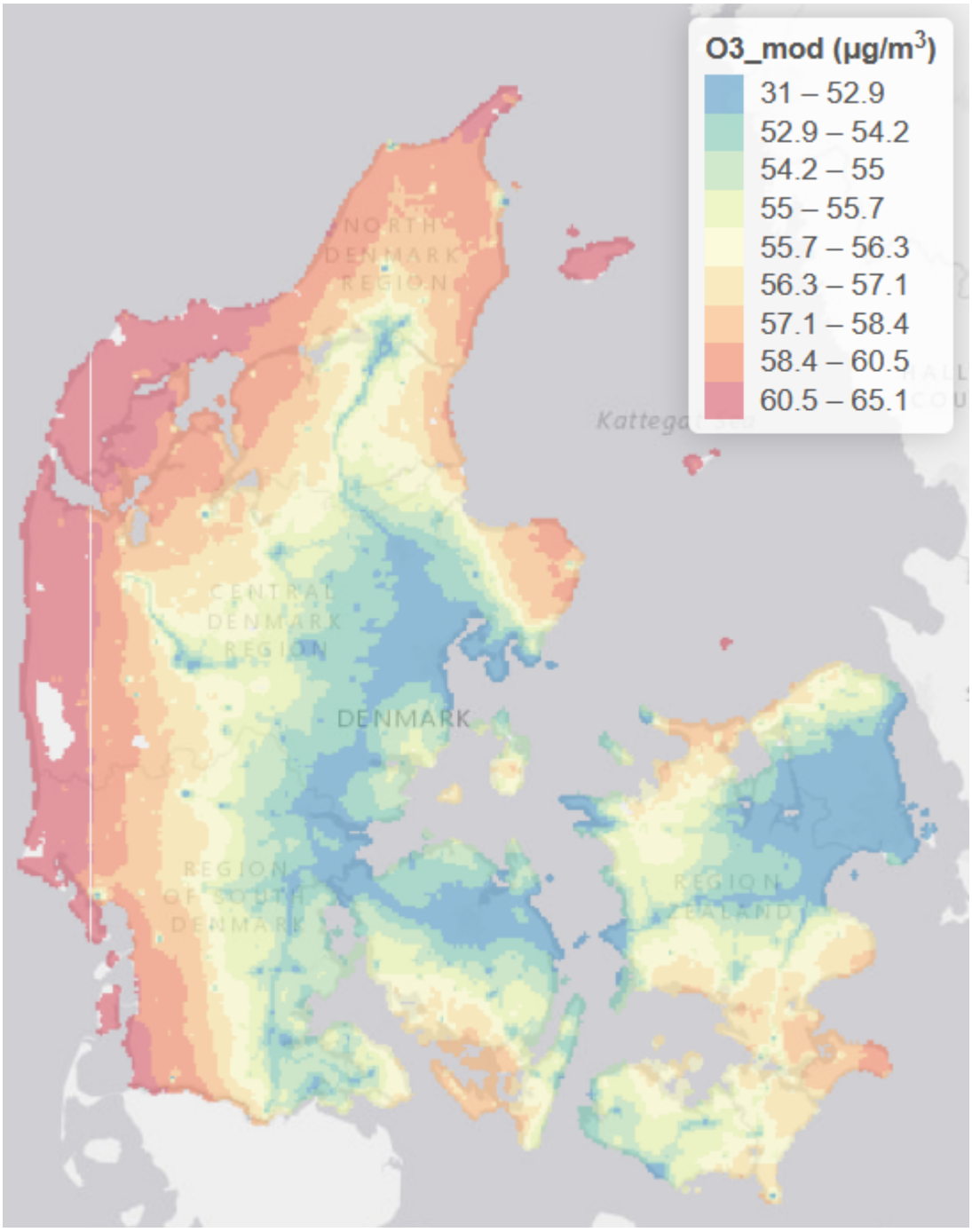
eFigure 2. Average concentration of included pollutants (NO_x, EC, $PM_{2.5}$, CO, O_3) in 1 km x 1 km resolution for year 2000 (middle of study period 1989-2013).




EC_mod (--)
0.256 – 0.37
0.37 – 0.409
0.409 – 0.434
0.434 – 0.457
0.457 – 0.484
0.484 – 0.516
0.516 – 0.551
0.551 – 0.608
0.608 – 14.8
NORTH DENMARK REGION
CENTRAL DENMARK REGION
DENMARK
REGION OF SOUTHERN DENMARK
REGION SJÆLLAND


PM25_mod (--)
7.99 – 9.12
9.12 – 9.52
9.52 – 9.86
9.86 – 10.3
10.3 – 10.9
10.9 – 11.2
11.2 – 11.4
11.4 – 11.5
11.5 – 25.7
NORTH DENMARK REGION
CENTRAL DENMARK REGION
DENMARK
REGION OF SOUTH DENMARK
REGION SJÆLLAND


CO_mod (µg/m3)
143 – 152
152 – 156
156 – 158
158 – 160
160 – 162
162 – 165
165 – 168
168 – 175
175 – 286
DENMARK


O3_mod (µg/m3)
31 – 52.9
52.9 – 54.2
54.2 – 55
55 – 55.7
55.7 – 56.3
56.3 – 57.1
57.1 – 58.4
58.4 – 60.5
60.5 – 65.1
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REGION ZEALAND