

SUPPLEMENTAL MATERIAL

eTable 1. Description of 24h-averages (9:00 A.M. to 8:00 A.M on the following day) of NO₂, PM₁₀ and meteorological variables, from December 2002 to July 2006 (Nancy and Poitiers areas, France).

Area	Location	Station type	Variable	N	Mean	SD	Min	25%	Median	75%	Max	IQR
Nancy	Tomblaine	Peripheral	NO ₂ (µg/m ³)	1301	18.1	8.3	3.1	11.8	16.4	23.0	62.2	11.2
Nancy	Nancy-Kennedy	Urban	NO ₂ (µg/m ³)	1319	38.1	13.1	10.6	29.0	36.7	45.5	89.4	16.5
Nancy	Nancy-Brabois	Peripheral	NO ₂ (µg/m ³)	1310	22.4	11.9	1.0	13.1	20.9	29.7	76.2	16.6
Nancy	Fléville	Peripheral/Industrial	NO ₂ (µg/m ³)	1303	26.0	11.3	3.0	17.6	24.9	32.6	77.6	15.0
Nancy	Fléville	Peripheral/Industrial	PM ₁₀ (µg/m ³)	1292	20.1	9.1	3.7	13.5	18.6	25.0	70.4	11.5
Nancy	Epinal	Urban	NO ₂ (µg/m ³)	1271	21.3	11.6	1.8	12.4	18.8	28.4	75.2	16.0
Nancy	Remiremont	Urban	NO ₂ (µg/m ³)	1306	23.6	10.5	2.7	15.9	21.9	29.8	66.3	13.8
Nancy	Gérardmer	Urban	NO ₂ (µg/m ³)	1308	22.9	12.9	2.5	14.4	18.9	28.4	86.4	14.0
Nancy	Vittel	Peripheral	NO ₂ (µg/m ³)	1276	12.2	7.6	0.1	6.8	10.7	16.1	63.8	9.3
Nancy	St-Nicolas-de-Port	Industrial	NO ₂ (µg/m ³)	1315	21.1	9.7	4.7	13.8	19.1	26.7	65.5	12.9
Nancy	Neuves-Maisons	Urban	NO ₂ (µg/m ³)	1326	19.8	10.6	1.6	11.7	17.9	26.4	64.9	14.8
Nancy	Neuves-Maisons	Urban	PM ₁₀ (µg/m ³)	1303	25.8	15.2	2.1	15.4	22.1	32.3	113.0	17.0
Nancy	Frolois	Industrial	PM ₁₀ (µg/m ³)	1298	23.1	10.4	3.7	15.6	21.1	29.2	84.3	13.5
Nancy	Héming	Industrial	NO ₂ (µg/m ³)	1325	16.1	9.3	1.2	9.5	14.2	20.3	64.6	10.8
Nancy	Héming	Industrial	PM ₁₀ (µg/m ³)	1296	18.9	8.6	2.7	12.7	17.1	23.8	70.5	11.0
Nancy	Bar-Le-Duc	Urban	NO ₂ (µg/m ³)	1316	23.0	11.2	2.2	14.2	21.2	30.0	73.1	15.8
Nancy	Bar-Le-Duc	Urban	PM ₁₀ (µg/m ³)	1296	19.8	9.1	2.0	13.5	18.5	24.6	72.3	11.1
Nancy	Jonville	Rural	NO ₂ (µg/m ³)	1289	9.5	8.7	0.0	3.5	7.1	12.1	67.9	8.6
Nancy	Jonville	Rural	PM ₁₀ (µg/m ³)	1284	19.7	9.0	1.8	13.4	18.0	24.5	79.5	11.0
Nancy	Nancy-CharlesIII	Urban	NO ₂ (µg/m ³)	716	27.6	12.1	2.6	18.4	26.7	36.1	85.2	17.7
Nancy	Nancy-CharlesIII	Urban	PM ₁₀ (µg/m ³)	694	20.0	9.8	2.0	13.4	18.0	24.4	78.5	11.0
Nancy	Nancy-Poincaré	Urban	NO ₂ (µg/m ³)	614	55.3	17.9	16.0	42.0	54.8	68.0	122.2	26.0
Nancy	Nancy-Poincaré	Urban	PM ₁₀ (µg/m ³)	618	29.0	14.2	5.8	19.3	27.2	35.5	135.5	16.2
Nancy	Longlaville	Peripheral	NO ₂ (µg/m ³)	1262	19.9	11.2	2.2	12.0	16.9	25.0	80.9	13.0

Nancy	Longlaville	Peripheral	PM ₁₀ (µg/m ³)	1267	19.2	11.8	1.8	11.0	16.6	23.7	86.6	12.6
Nancy	Moyeuvre	Peripheral	NO ₂ (µg/m ³)	968	13.2	10.4	0.3	5.8	10.3	16.9	71.5	11.0
Nancy	Moyeuvre	Peripheral	PM ₁₀ (µg/m ³)	971	15.3	15.1	0.2	5.4	11.9	21.3	207.6	15.9
Nancy	Blénot lès Pont-à-Mousson	Peripheral/Industrial	NO ₂ (µg/m ³)	1266	18.1	11.1	0.6	9.3	15.8	24.5	63.8	15.1
Nancy	Metz-Sablon	Urban	NO ₂ (µg/m ³)	830	29.0	14.3	4.0	18.3	26.7	37.2	107.9	18.9
Nancy	Metz-Sablon	Urban	PM ₁₀ (µg/m ³)	1150	13.1	11.5	0.0	3.9	10.9	18.7	74.0	14.8
Nancy	Scy-Chazelles	Peripheral	PM ₁₀ (µg/m ³)	1303	18.2	8.6	1.4	11.9	16.8	23.1	65.8	11.3
Nancy	Thionville-Piscine	Urban	NO ₂ (µg/m ³)	1222	28.2	13.7	4.8	17.4	24.9	37.0	83.1	19.5
Nancy	Thionville-Piscine	Urban	PM ₁₀ (µg/m ³)	1302	10.3	9.4	0.0	3.0	7.4	15.3	66.7	12.3
Nancy	Thionville-Centre	Urban	NO ₂ (µg/m ³)	1131	30.6	14.2	3.6	20.1	27.8	39.0	92.1	18.9
Nancy	Thionville-Centre	Urban	PM ₁₀ (µg/m ³)	1163	18.5	12.2	0.0	9.9	16.2	24.6	103.0	14.8
Nancy	Thionville-Garche	Urban	NO ₂ (µg/m ³)	1012	19.5	10.7	0.7	11.4	17.2	25.4	59.0	14.0
Nancy	St-Avold Centre	Urban	NO ₂ (µg/m ³)	1312	25.8	12.8	2.6	16.0	24.7	33.9	75.0	18.0
Nancy	St-Avold Centre	Urban	PM ₁₀ (µg/m ³)	1285	19.1	8.9	2.2	12.9	17.6	24.0	89.9	11.1
Nancy	Averaged measurements of several monitoring sites.	Peripheral	NO ₂ (µg/m ³)	1334	20.4	9.8	3.7	13.0	18.5	26.3	65.2	13.3
Nancy	Averaged measurements of several monitoring sites.	Peripheral	PM ₁₀ (µg/m ³)	1308	24.5	12.1	3.5	15.8	22.0	30.8	98.6	15.0
Nancy	Averaged measurements of several monitoring sites.	City center	NO ₂ (µg/m ³)	1334	26.2	10.5	6.2	18.3	24.9	32.4	69.5	14.1
Nancy	Averaged measurements of several monitoring sites.	City center	PM ₁₀ (µg/m ³)	1292	20.1	9.1	3.7	13.5	18.6	25.0	70.4	11.5
Nancy			Air temperature (°C)	1333	10.0	8.0	-9.1	3.4	10.3	16.2	31.4	12.8
Nancy			Relative humidity (%)	1333	76.3	14.3	25.7	66.7	79.3	88.1	98.3	21.4
Nancy			Barometric pressure (hPa)	1333	1018.0	7.7	985.9	1013.5	1018.1	1023.0	1039.7	9.5
Poitiers	Airvault	Industrial	NO ₂ (µg/m ³)	1311	11.5	6.5	1.0	6.7	9.8	15.0	50.2	8.3
Poitiers	Les Couronneries	Peripheral	NO ₂ (µg/m ³)	1276	16.0	9.7	0.9	9.1	13.7	21.1	84.7	12.0
Poitiers	Les Couronneries	Peripheral	PM ₁₀ (µg/m ³)	1254	17.5	8.1	2.1	11.8	15.9	21.3	89.9	9.5
Poitiers	Place du Marché	Urban	NO ₂ (µg/m ³)	1288	34.7	15.6	5.0	22.7	33.8	44.4	107.6	21.7
Poitiers	Place du Marché	Urban	PM ₁₀ (µg/m ³)	1316	18.9	7.7	2.8	13.5	17.5	22.5	81.0	9.0

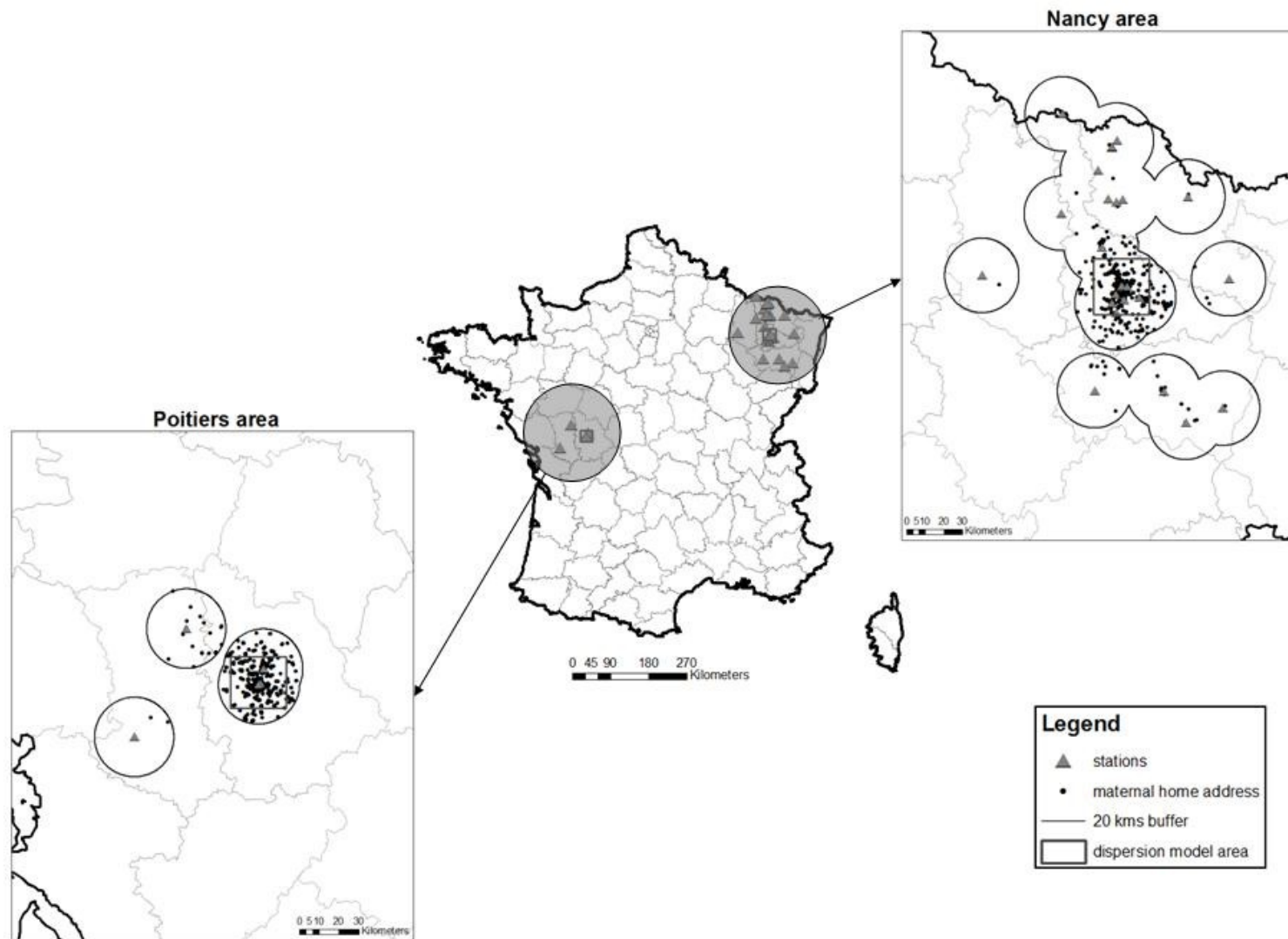
Poitiers	Chasseneuil	Peripheral	NO ₂ (µg/m ³)	1295	14.3	8.0	1.1	8.7	12.2	18.1	59.1	9.4
Poitiers	Chasseneuil	Peripheral	PM ₁₀ (µg/m ³)	1312	18.7	7.7	1.9	13.1	17.2	22.8	72.4	9.7
Poitiers	J.Ferry	Urban	NO ₂ (µg/m ³)	1301	21.3	10.0	4.5	13.9	19.1	26.8	70.8	12.9
Poitiers	J.Ferry	Urban	PM ₁₀ (µg/m ³)	1296	18.7	7.0	4.0	13.9	17.2	22.0	57.8	8.1
Poitiers	Averaged measurements of several monitoring sites.	City center	NO ₂ (µg/m ³)	1334	21.6	10.4	4.1	13.8	20.0	27.5	83.1	13.7
Poitiers	Averaged measurements of several monitoring sites.	City center	PM ₁₀ (µg/m ³)	1334	18.3	7.6	2.3	13.0	17.0	22.1	81.1	9.1
Poitiers			Air temperature (°C)	1335	11.9	7.3	-6.0	6.3	11.7	17.5	30.4	11.2
Poitiers			Relative humidity (%)	1335	76.0	12.7	29.7	67.2	77.9	86.1	98.0	19.0
Poitiers			Barometric pressure (hPa)	1335	1018.2	7.6	984.0	1013.6	1018.4	1023.1	1039.3	9.5

eTable 2. Adjustment factors selected in mixed models of associations between air pollutants and SBP and DBP.

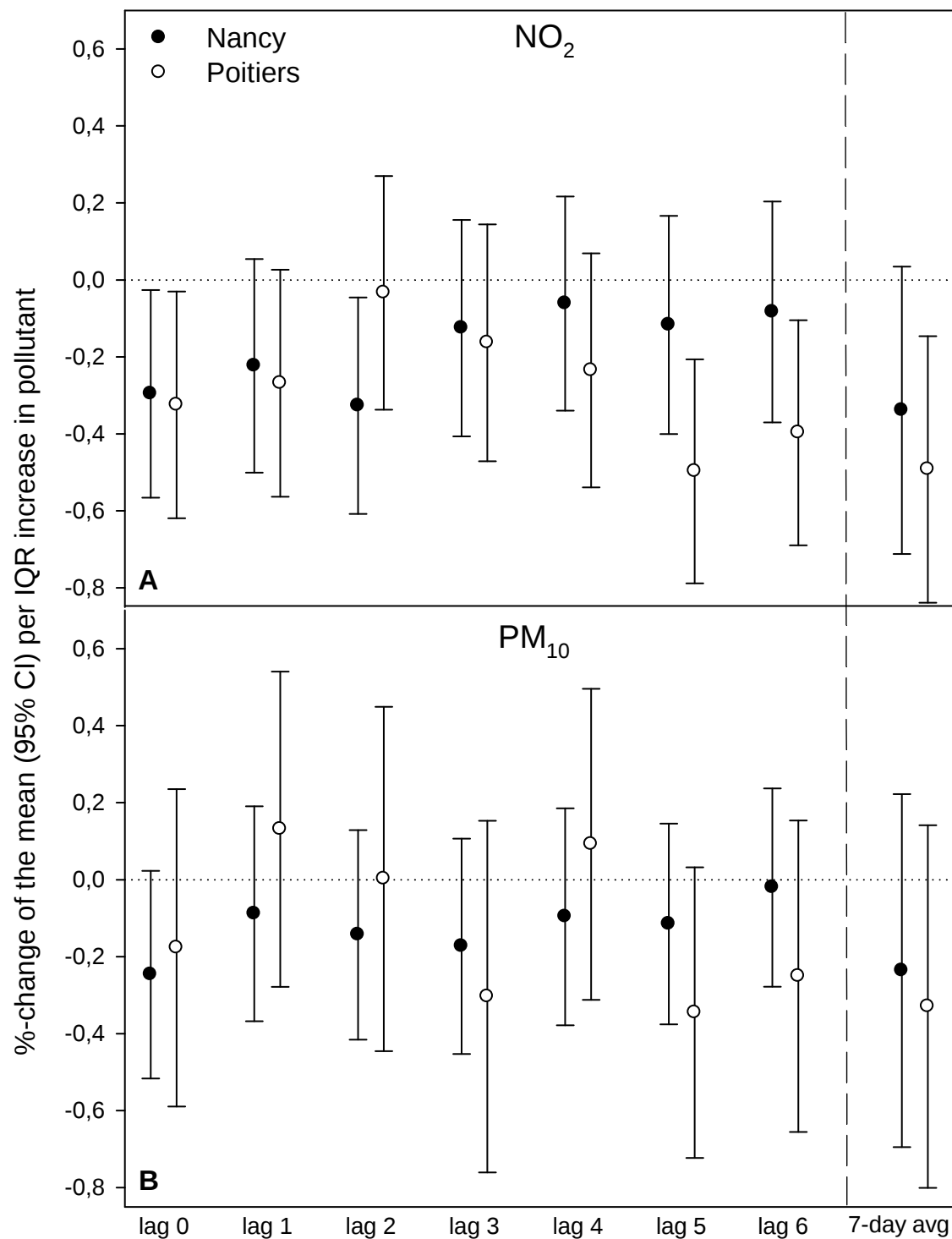
Outcome	Covariate	Shape
SBP	Gestational age (weeks)	Cubic
	BMI before pregnancy	Linear
	Previous pregnancies	Categorical
	Age	Cubic
	Smoking (first trimester)	Yes vs. no
	Passive smoking (first trimester)	Yes vs. no
	Time trend	Cubic
	Month	Categorical
	Air temperature	Lag 0, linear
	Relative humidity	Lag 4, quadratic
DBP	Gestational age (weeks)	Cubic
	BMI before pregnancy	Linear
	Previous pregnancies	Categorical
	Age	Cubic
	Smoking (first trimester)	Yes vs. no
	Passive smoking (first trimester)	Yes vs. no
	Time trend	Linear
	Month	Categorical
	Air temperature	Lag 4, linear
	Relative humidity	Lag 3, linear
	Barometric pressure	Lag 1, linear
	Weekday	Categorical

SBP: Systolic blood pressure, DBP: diastolic blood pressure, BMI: Body Mass Index.

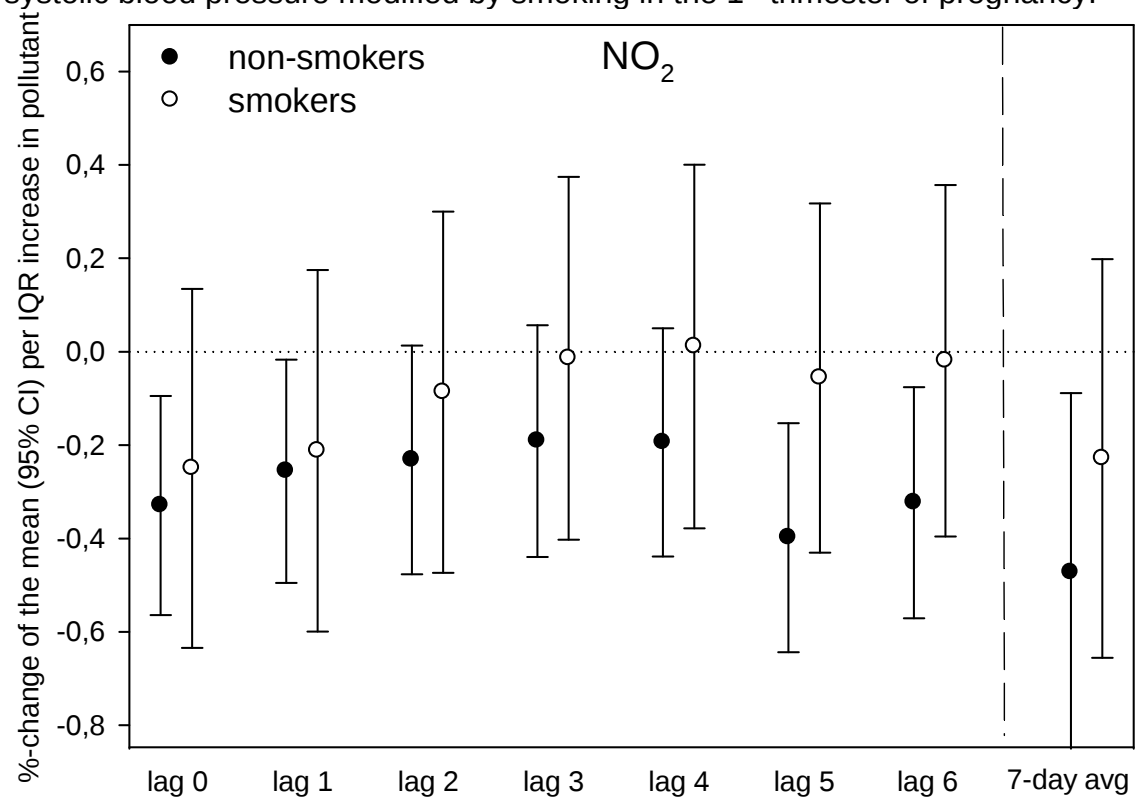
eFigure 1: Location of the air pollution monitoring stations in Poitiers and Nancy areas, respectively.



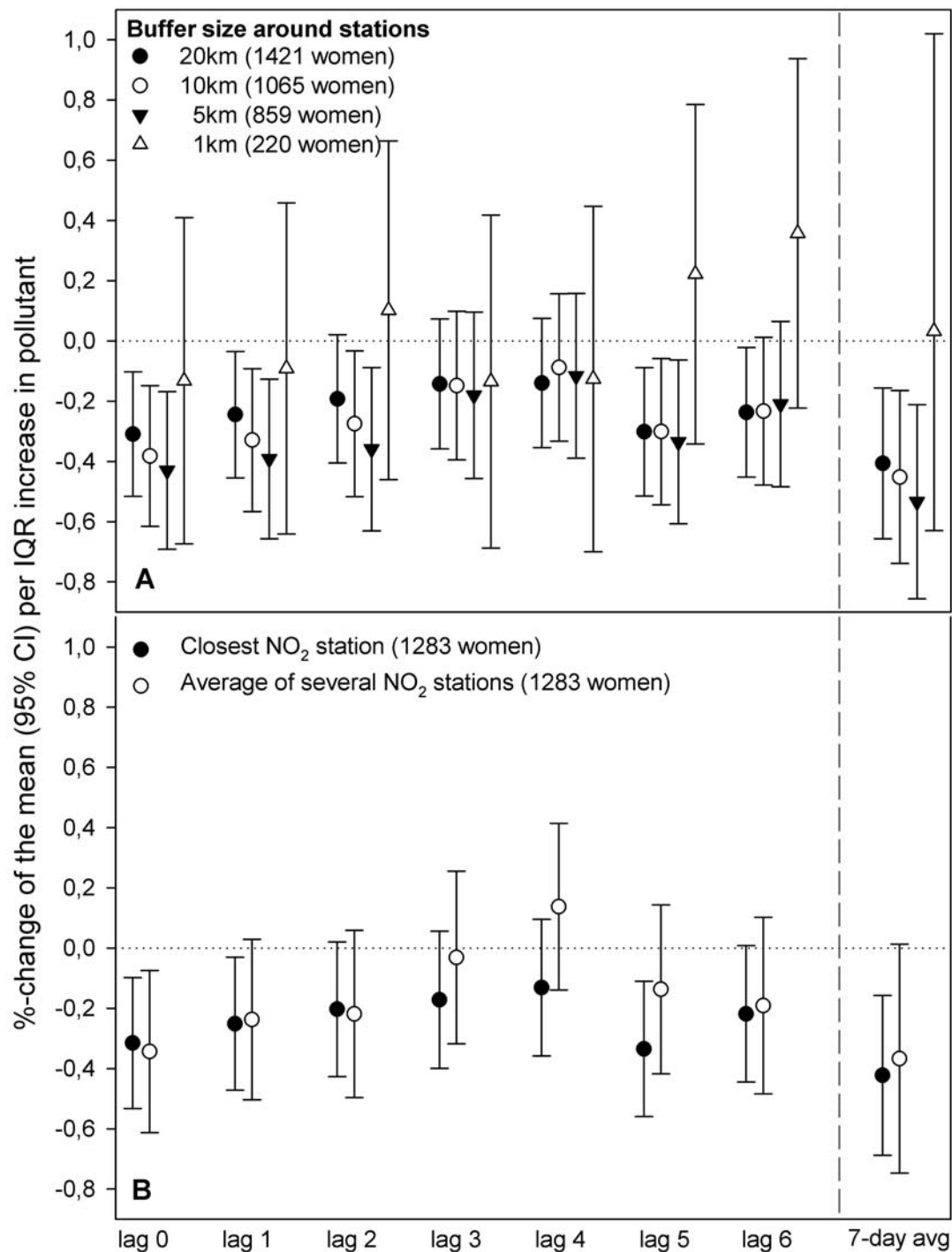
eFigure 2. Adjusted associations between 24-hour and 7-day NO_2 and PM_{10} averages and systolic blood pressure (interquartile range increases) modified by study center.



eFigure 3. Adjusted associations between an increase in 24h-averages of NO₂ on systolic blood pressure modified by smoking in the 1st trimester of pregnancy.

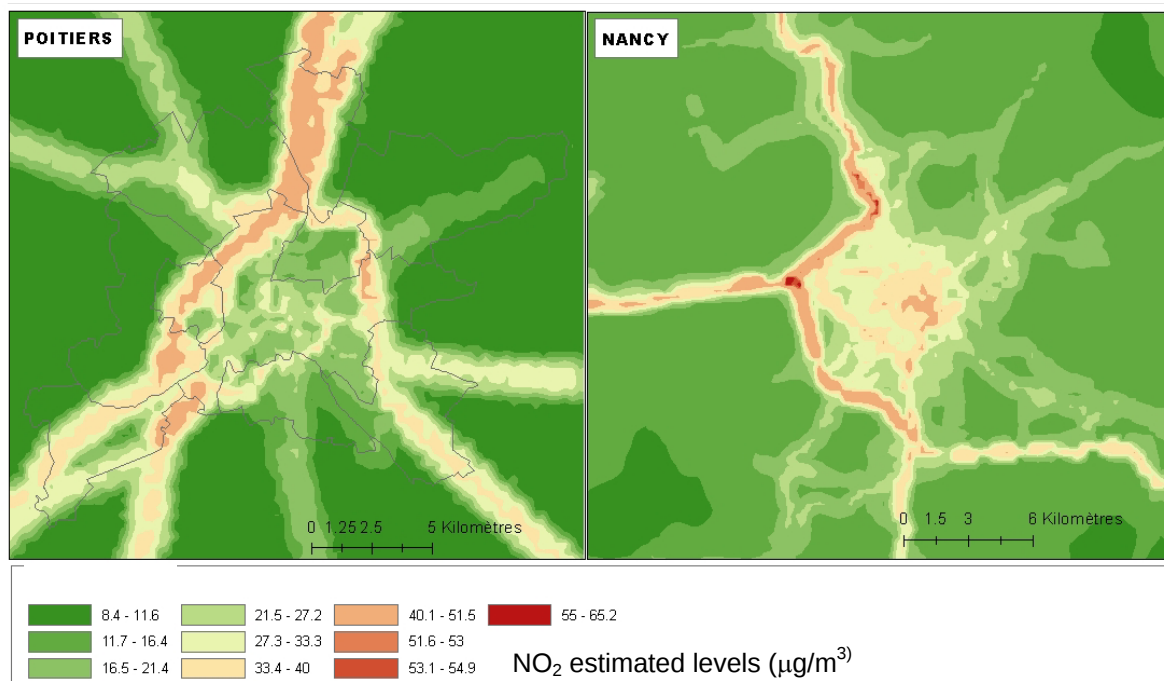


eFigure 4. A) Adjusted associations between an increase in 24h-averages of NO₂ on systolic blood pressure (SBP) in pregnant women living less than 20 km, 10 km, 5 km, and 1 km to the closest station. B) Adjusted associations between an increase in 24h-averages of NO₂ on SBP in pregnant women estimating NO₂ either from the closest air quality monitoring station or from an average of all stations from the area (based on the same women).

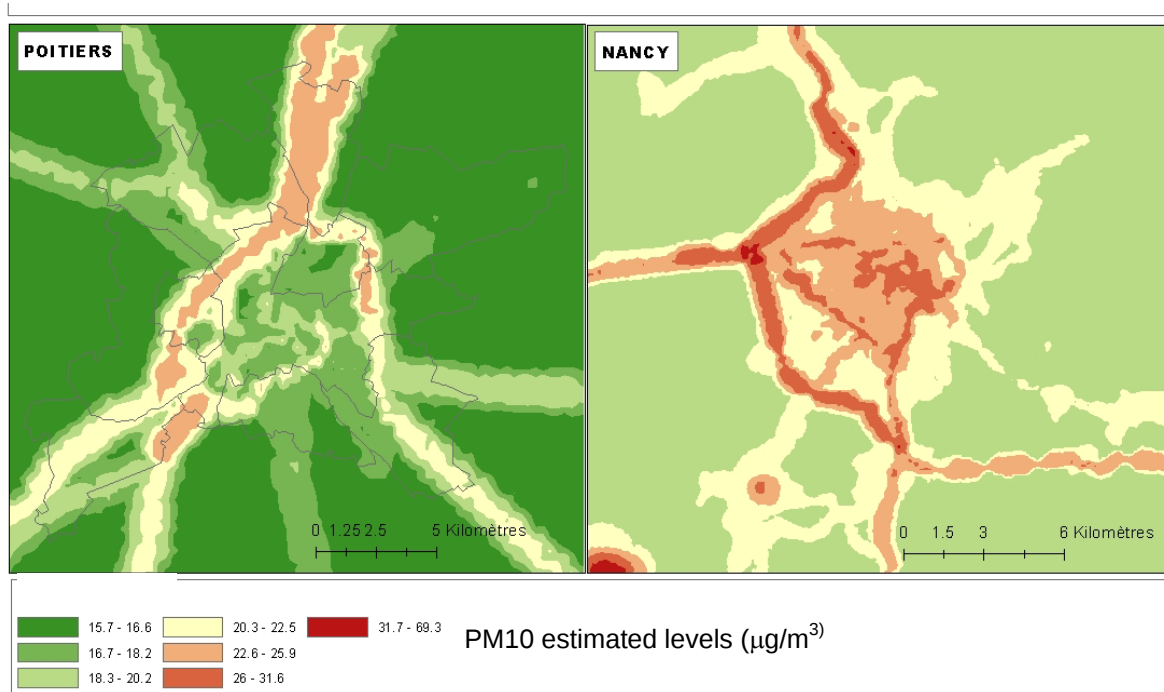


eFigure 5: Modeled NO₂ (A) and PM₁₀ (B) concentrations estimated by dispersion modeling in Poitiers and Nancy areas. Concentrations are yearly estimates for the year 2005; the model was implemented with ADMS-Urban software (CERC, Cambridge, UK). A. Hulin, V. Navel, F. Caïni, Atmo Poitou-Charentes and J. Galineau, Airlor.

A



B



eFigure 6. Adjusted associations between air pollutants (7-day averages, as estimated from the closest monitoring station or from a dispersion model) on blood pressure in pregnant women.

