

Supplementary Information
**Estimation of the long-term contribution of residential solid fuel burning
to ambient PM_{2.5}: a fuzzy clustering approach**

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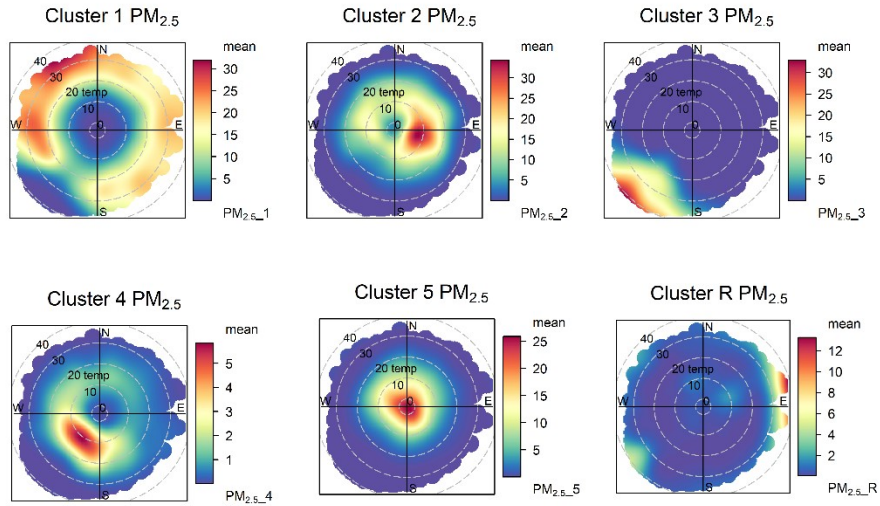


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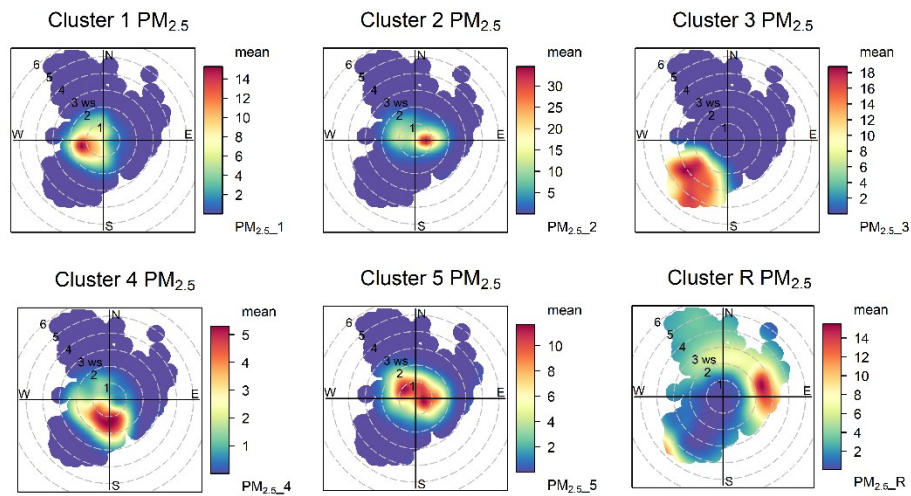


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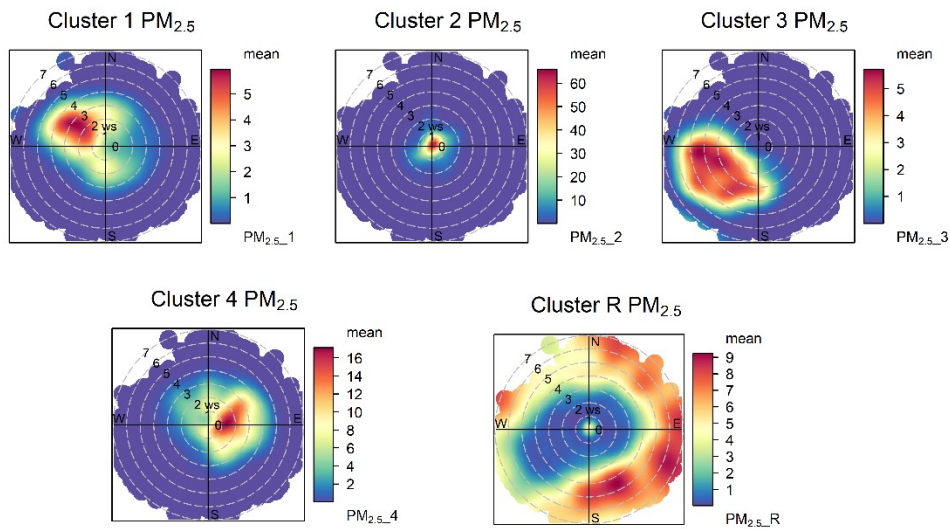


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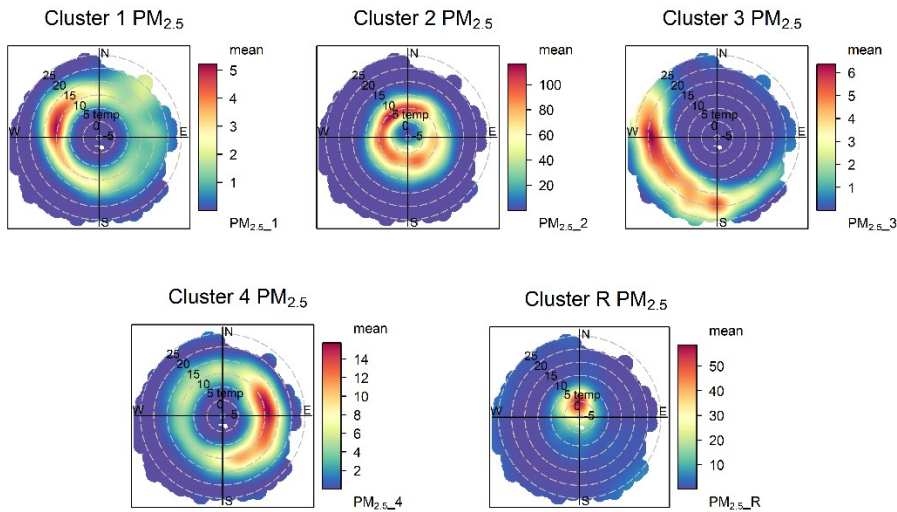


Figure S5: Bivariate plots wind direction /wind speed for the solution of clusters found for the city of Krakow

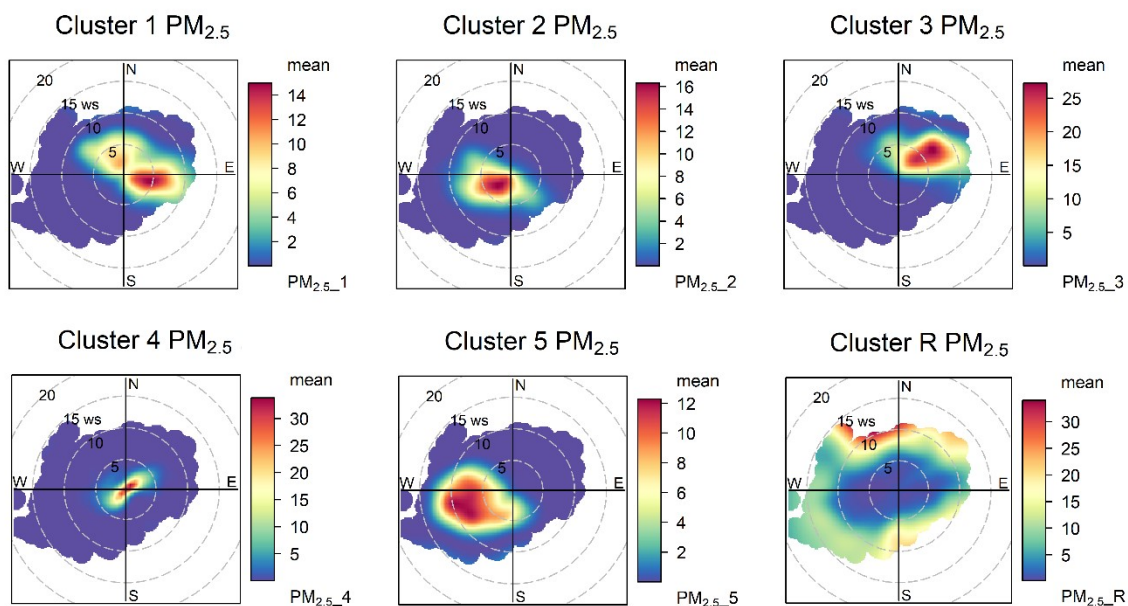


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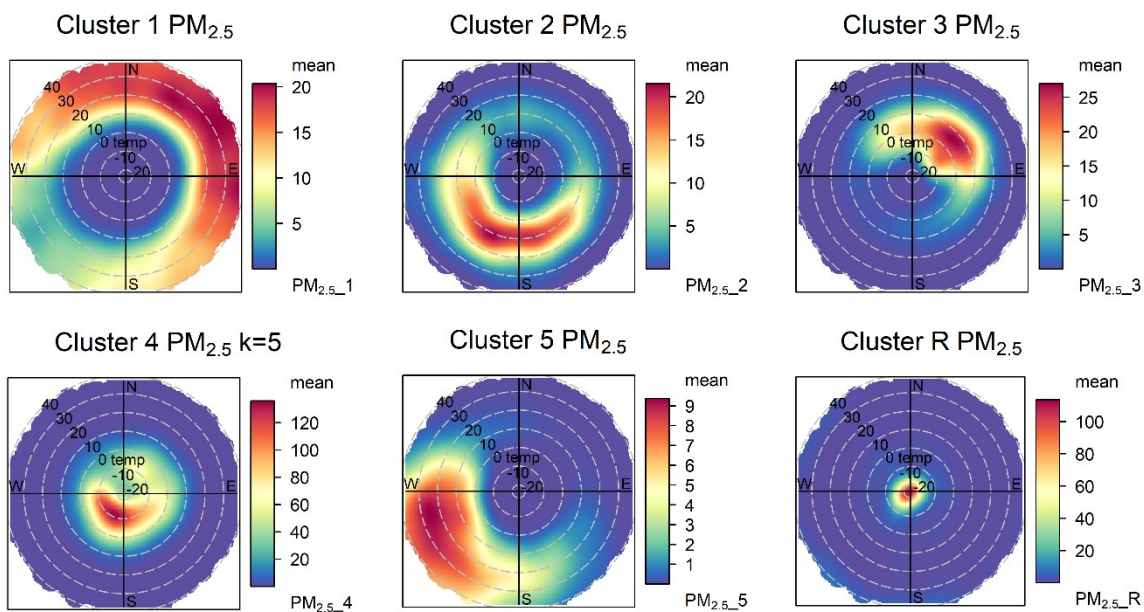


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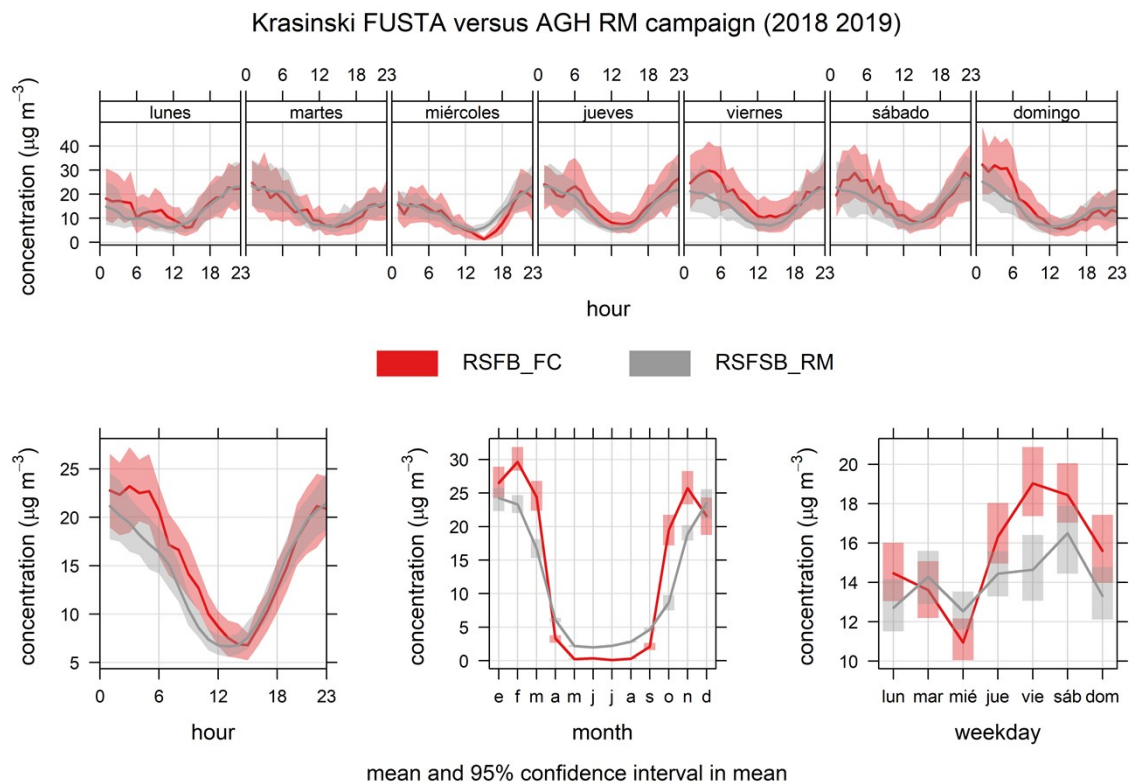
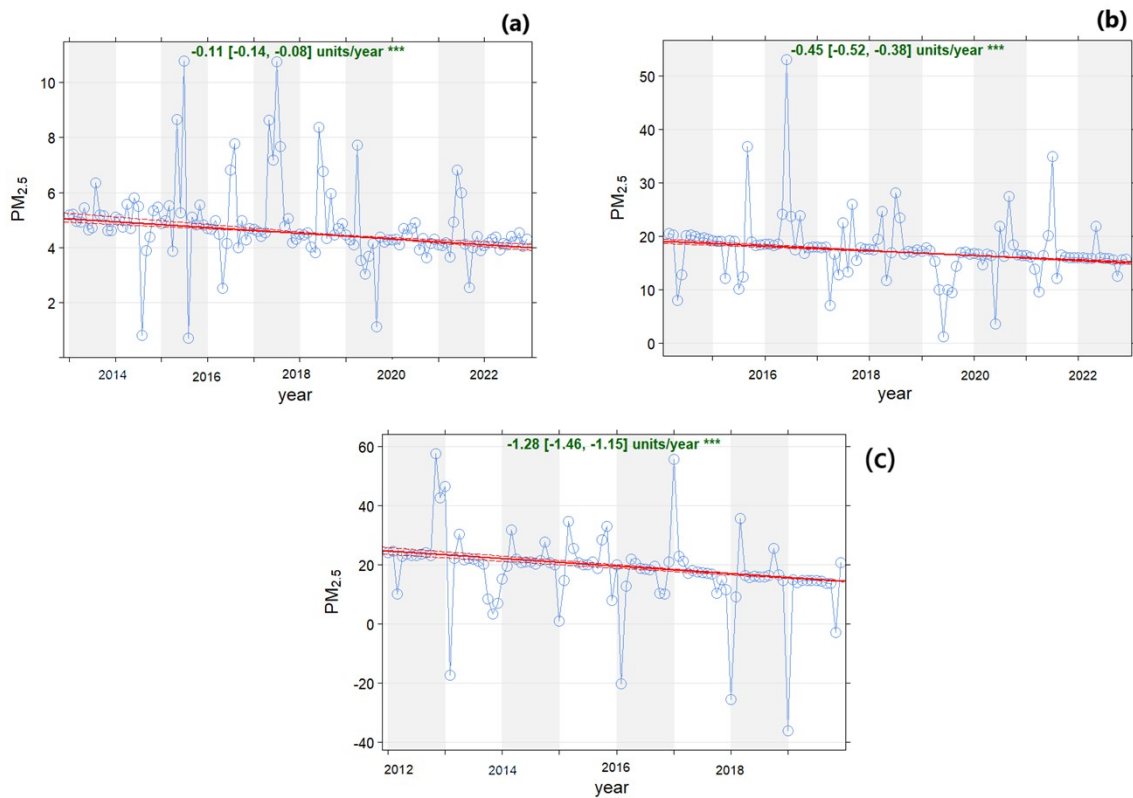


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Tables

Table S1: Coefficient of correlation between the cluster of RSFB for Santiago (PM_{2.5_5}) and other clusters in the same city

Cluster	r	r ²
PM _{2.5_1}	-0.25	0.06
PM _{2.5_2}	0.04	0.00
PM _{2.5_3}	-0.23	0.05
PM _{2.5_4}	-0.22	0.05

Table S2: Coefficient of correlation between the cluster of RSFB for Temuco (PM_{2.5_2}) and other clusters in the same city

Cluster	r	r ²
PM _{2.5_1}	-0.28	0.08
PM _{2.5_3}	-0.17	0.03
PM _{2.5_4}	-0.10	0.01

Table S3: Coefficient of correlation between the cluster of RSFB for Krakow (PM_{2.5_4}) and other clusters in the same city

Cluster	r	r ²
PM _{2.5_1}	-0.34	0.12
PM _{2.5_2}	-0.22	0.05
PM _{2.5_3}	-0.13	0.02
PM _{2.5_5}	-0.30	0.09

Table S4. Results of the Santiago L-Model Regression

Method	Intercept	Slope	Angle (degrees)	P-perm (1-tailed)
OLS	2.69	0.78	37.80	0.03
MA	1.92	0.91	42.34	0.03
SMA	1.84	0.92	42.76	NA
RMA	1.88	0.92	42.51	0.03

Table S5. Confidence Interval Regression for the Application of the Santiago L-Model

Method	2.5%-Intercept	97.5%-Intercept	2.5%-Slope	97.5%-Slope
OLS	-1.80	7.17	0.20	1.35
MA	-4.64	4.98	0.37	2.06
SMA	-2.40	4.19	0.51	1.67
RMA	-4.88	4.93	0.38	2.11

Table S6. Results of the Temuco L-Model Regression

Method	Intercept	Slope	Angle (degrees)	P-perm (1-tailed)
OLS	-1.88	0.93	42.89	0.02
MA	-2.97	0.95	43.68	0.02
SMA	-3.02	0.96	43.72	NA
RMA	-3.04	0.96	43.73	0.02

Table S7. Confidence Interval Regression for the Application of the Temuco L-Model

Method	2.5%-Intercept	97.5%-Intercept	2.5%-Slope	97.5%-Slope
OLS	-12.08	8.32	0.70	1.16
MA	-14.05	5.80	0.75	1.22
SMA	-13.57	5.33	0.76	1.21
RMA	-14.24	5.68	0.75	1.22

Table S8. Results of the Krakow L-Model Regression

Method	Intercept	Slope	Angle (degrees)	P-perm (1-tailed)
OLS	-1.30	1.20	50.27	0.01
MA	-5.22	1.49	56.18	0.01
SMA	-4.11	1.41	54.67	NA
RMA	-6.07	1.55	57.25	0.01

Table S9. Confidence Interval Regression for the Application of the Krakow L-Model

Method	2.5%-Intercept	97.5%-Intercept	2.5%-Slope	97.5%-Slope
OLS	-1.74	-0.85	1.19	1.22
MA	-5.52	-4.94	1.47	1.51
SMA	-4.35	-3.88	1.39	1.43
RMA	-6.38	-5.77	1.53	1.58

Table S10: Correlation coefficients between the receptor model for Santiago and other clusters within the same city.

Cluster	r	r ²
PM _{2.5} _1	-0.41	0.16
PM _{2.5} _2	0.56	0.32
PM _{2.5} _3	-0.85	0.73
PM _{2.5} _4	-0.77	0.59

Table S11: Correlation coefficients between the receptor model for Temuco and other clusters within the same city.

Cluster	r	r ²
PM _{2.5} _1	0.16	0.02
PM _{2.5} _3	-0.48	0.23
PM _{2.5} _4	0.00	0.00

Table S12: Correlation coefficients between the receptor model for Krakow and other clusters within the same city.

Cluster	r	r ²
PM _{2.5} _1	-0.43	0.18
PM _{2.5} _2	-0.18	0.03
PM _{2.5} _3	0.44	0.20
PM _{2.5} _4	-0.56	0.31