

1 **Spatiotemporal Pattern of PM_{2.5} Concentrations in Mainland China and**
2 **Analysis of Its Influencing Factors using Geographically Weighted**
3 **Regression**

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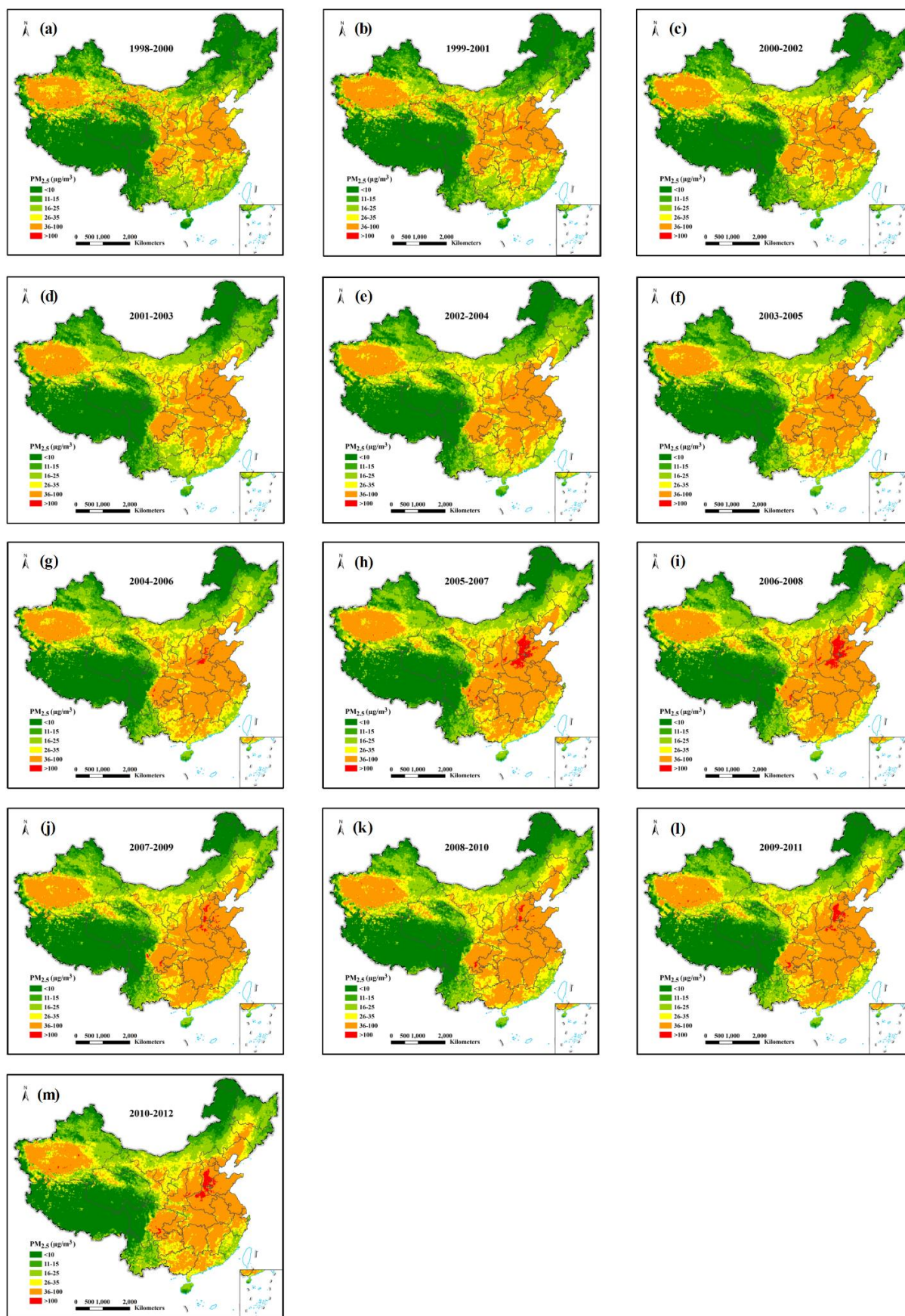


Figure S1. Spatial distribution of annual average $\text{PM}_{2.5}$ concentrations across Mainland China during 1998-2012. (a) 1998-2000, (b) 1999-2001, (c) 2000-2002, (d) 2001-2003, (e) 2002-2004, (f) 2003-2005, (g) 2004-2006, (h) 2005-2007, (i) 2006-2008, (j) 2007-2009, (k) 2008-2010, (l) 2009-2011, (m) 2010-2012. All the maps were generated in ArcGIS10.2, URL: <http://www.esrichina-bj.cn/softwareproduct/ArcGIS/>

Table S1 Basic information of 61 sample points which were extracted from 34 relevant studies.

No	Sites	Longitude	Latitude	Ground-based values ($\mu\text{g}/\text{m}^3$)	Sampling period	Reference
1	Beijing	116.28	39.54	154.26	2001-2003	Wang et al.(2005) ¹
2	Beijing	116.4	39.9	121.85	2003.1,7	Cao et al.(2007) ²
3	Beijing	116.34	40	77.8	2003	Wang et al.(2010) ³
4	Beijing	116.3	39.9	87.7	2005-2007	Zhao et al.(2009) ⁴
5	Beijing	117.1	40.6	54.2	2005-2007	Zhao et al.(2009) ⁴
6	Beijing	115.43	39.97	33.3	2009.9-2011.9	Xin et al.(2014) ⁵
7	Beijing	116.3	40.35	59.2	2005.6.20-8.6	Wu and Wang(2007) ⁶
8	Beijing	116.3	40.35	68	2005.6.29-8.2	Pathak et al.(2011) ⁷
9	Changchun	125.3	43.9	100.05	2003.1,7	Cao et al.(2007) ²
10	Chengdu	104.02	30.66	165.1	2009.4-2010.1	Tao et al.(2013) ⁸
11	Chengdu	104.07	30.68	165.1	2009.4.29-5.17,7.6-8.6,10.26-11.26, 2010.1.1-1.31	Zhang et al.(2013) ⁹
12	Chongqing	106.5	29.5	214.05	2003.1,7	Cao et al.(2007) ²
13	Chongqing	106.48	29.48	131.9	2012.2-12	Ren et al.(2014) ¹⁰
14	Chongqing	106.49	29.59	104	2010.3-2011.7	Zhang et al.(2012a) ¹¹
15	Fuzhou	119.3	26.11	44.33	2007.4-2008.1	Xu et al.(2012) ¹²
16	Fuzhou	119.32	26.08	44.33	2007.4-2008.1	Xu et al.(2012) ¹²
17	Guangzhou	113.2	23.1	102.55	2003.1,7	Cao et al.(2007) ²
18	Guangzhou	113.26	23.13	102.9	2004.10.5-11.5	Andreae et al. (2008) ¹³
19	Guangzhou	113.53	22.7	113	2007.10.23-11.24	Ding et al.(2011) ¹⁴
20	Guangzhou	113.35	23.12	76.8	2009.4-2010.1	Tao et al.(2012) ¹⁵
21	Guangzhou	113.53	22.7	70.8	2010.11.02-12.26	Wang et al.(2012) ¹⁶
22	Guangzhou	113.31	23.16	127	2003.7-2004.6	Li et al. (2005) ¹⁷
23	Guangzhou	113.31	23.1	62	2008	Zhu et al.(2013) ¹⁸
24	Guangzhou	113.31	23.1	50	2009	Zhu et al.(2013) ¹⁸
25	Guangzhou	113.31	23.1	55	2010	Zhu et al.(2013) ¹⁸
26	Guangzhou	113.35	23.12	103.3	2010.1.1-31	Tao et al.(2012) ¹⁵
27	Guangzhou	113.35	23.12	79.2	2007.4.1-30	Tao et al.(2009) ¹⁹
28	Guangzhou	113.62	22.6	59	2004.5.15-27	Pathak et al.(2011) ⁷
29	Hangzhou	120.1	30.2	129.6	2003.1,7	Cao et al.(2007) ²
30	Jinchang	101.1	38.3	83.1	2003.1,7	Cao et al.(2007) ²
31	Ling'an	119.75	30.28	90	1999.10-11	Xu et al.(2002) ²⁰
32	Nanjing	118.73	32.21	135.33	2002.12-2003.10	Fan et al.(2005) ²¹
33	Nanjing	118.79	32.06	122.5	2002.12-2003.10	Fan et al.(2005) ²¹
34	Qingdao	120.44	36.11	49.36	1998–2000	Hu et al.(2002) ²²
35	Qingdao	120.3	36	79	2003.1,7	Cao et al.(2007) ²

36	Qingdao	120.41	36.23	168	2011.10.25-11.3,2012.2.15-22,3.28-29, 5.3-12,8.22-30	Wu et al.(2013) ²³
37	Qingdao	120.31	36.06	158	2011.10.25-11.3,2012.2.15-22,3.28-29, 5.3-12,8.22-30	Wu et al.(2013) ²³
38	Shanghai	121.5	31.2	66.1	1999.5–2000.3	Ye et al.(2003) ²⁴
39	Shanghai	121.4	31.2	101.65	2003.1,7	Cao et al.(2007) ²
40	Shanghai	121.5	31.3	94.64	2003.9-2005.1	Wang et al.(2006) ²⁵
41	Shanghai	121.3	31.3	92.9	2005.10-2006.7	Feng et al.(2009) ²⁶
42	Shenzhen	113.9	22.58	42.3	2008.12.30-2009.12.25	Yun et al.(2013) ²⁷
43	Shenzhen	114.12	22.56	31	2008.12.30-2009.12.25	Yun et al.(2013) ²⁷
44	Shenzhen	114.3	22.6	28.9	2008.12.30-2009.12.25	Yun et al.(2013) ²⁷
45	Tianjin	117.2	39.1	141.3	2003.1,7	Cao et al.(2007) ²
46	Urumqi	89.15	42.6	92.8	2011.1-12	Wang et al.(2016) ²⁸
47	Wuhan	114.2	30.5	118.7	2003.1,7	Cao et al.(2007) ²
48	Xiamen	118.1	24.4	47.7	2003.1,7	Cao et al.(2007) ²
49	Xiamen	118.06	24.61	86.16	2009.6-2010.5	Zhang et al.(2012b) ²⁹
50	Xi'an	108.9	34.2	253	2003.1,7	Cao et al.(2007) ²
51	Xi'an	108.54	34.16	183.8	2003.9-2007.7	Liu et al.(2009) ³⁰
52	Xi'an	108.54	34.16	189.1	2003.9-12	Liu et al.(2009) ³⁰
53	Xi'an	108.54	34.16	167.4	2004	Liu et al.(2009) ³⁰
54	Xi'an	108.54	34.16	183.8	2005	Liu et al.(2009) ³⁰
55	Xi'an	108.54	34.16	193.1	2006	Liu et al.(2009) ³⁰
56	Xi'an	108.88	34.23	182.2	2006.1-2008.12	Cao et al.(2012) ³¹
57	Xi'an	108.88	34.23	194.1	2006.3-2007.3	Zhang et al.(2011) ³²
58	Xi'an	108.54	34.16	192.8	2007.1-7	Liu et al.(2009) ³⁰
59	Xi'an	108.54	34.16	126.85	2008.7.5-2009.8.8	Liu et al.(2013) ³³
60	Xi'an	108.88	34.23	193.9	2012.12.1-31	Zhang et al.(2015) ³⁴
61	Yulin	109.8	38.3	100.55	2003.1,7	Cao et al.(2007) ²

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