
Supporting Material

Gaseous Oxidized Mercury Dry Deposition Measurements in the Four Corners Area and Eastern Oklahoma, U.S.A.

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Contents

Additional Detailed Information Regarding GOM Monitoring Sites and Seasonal GOM Data.

Table S1. GOM dry deposition monitoring sites locational and meteorological characteristics;

Year 1 = August 4, 2009-August 3, 2010; Year 2 = August 3, 2010-August 2, 2011.

Table S2. Seasonal GOM dry deposition (dep.) and mercury wet deposition estimates for Four Corners and Eastern Oklahoma sites.

Figure S1. Elevation, mercury deposition estimates from the 2009-2011 Four Corners/Eastern Oklahoma GOM dry deposition monitoring study, and locations of coal-fired power plants

(bottom of bars) within 100 km of the mercury deposition monitoring sites with coal-generated electricity capacity greater than or equal to 100 megawatts (MW). For site NM97 the closest coal-fired power plant was within about 150 km (Escalante).

Figure S2. GOM Dry Deposition Monitoring Stand at the Valles Caldera National Preserve site (NM97, at left), and detailed schematic of the aerodynamic sampler head (at right).

Figure S3. Precision in terms of relative percent difference (RPD) of the Frontier Atmospheric Dry Deposition (FADD) filter membrane field sample duplicates for the 2009-2011 Four Corners Area and Eastern Oklahoma GOM Dry Deposition Monitoring Study; N=194.

Figure S4. Modeled Tekran GOM deposition estimates based on deposition velocities (V_d) of 0.9 cm/s and 2.4 cm/s compared to measured GOM from passive surrogate surfaces at the Stilwell, OK site (OK99).

Figure S5. Back trajectory analysis for the Mesa Verde National Park site (CO99) for April 26 – May 10, 2011. Seven contiguous 48-hour back trajectories ending at 1000 LST on May 10, 2011. End date of each 48-hour back trajectory plotted for each trajectory trace (e.g. 4/28 represents 48-hour back trajectory for 4/26 – 4/28); Coal-fired power plant locations are located at center of open circles.

Figure S6. Back trajectory analysis for the Mesa Verde National Park site (CO99) for June 7 – June 21, 2011. Seven contiguous 48-hour back trajectories ending at 1000 LST on June 21, 2011. End date of each 48-hour back trajectory plotted for each trajectory trace (e.g. 6/9

represents 48-hour back trajectory for 6/7 – 6/9); Coal-fired power plant locations are located at center of open circles.

Figure S7. Back trajectory analysis for the Mesa Verde National Park site (CO99) for December 9 – December 22, 2009. Seven contiguous 48-hour back trajectories ending at 1000 LST on December 22, 2009 (except for December 9-10 which is a 24-hour back trajectory). End date of each 48-hour back trajectory plotted for each trajectory trace (e.g. 12/22 represents 48-hour back trajectory for 12/20 – 12/22); Coal-fired power plant locations are located at center of open circles.

Figure S8. Back trajectory analysis for the Mesa Verde National Park site (CO99) for December 22, 2009 – January 5, 2010. Seven contiguous 48-hour back trajectories ending at 1000 LST on January 5, 2010. End date of each 48-hour back trajectory plotted for each trajectory trace (e.g. 1/5 represents 48-hour back trajectory for 1/3 – 1/5); Coal-fired power plant locations are located at center of open circles.

Figure S9. Back trajectory analysis for the Mesa Verde National Park site (CO99) for February 2 – February 16, 2010. Seven contiguous 48-hour back trajectories ending at 1000 LST on February 16, 2010. End date of each 48-hour back trajectory plotted for each trajectory trace (e.g. 2/16 represents 48-hour back trajectory for 2/14 – 2/16); Coal-fired power plant locations are located at center of open circles.

Additional Detailed Information Regarding GOM Monitoring Sites and Seasonal GOM Data

Table S1 contains detailed GOM monitoring site characteristics, including latitude, longitude, summary meteorological information, and distances to the largest coal-fired power plants (Four Corners Power Plant for the Four Corners area and Muskogee Power Plant for eastern Oklahoma). Table S2 contains the detailed seasonal GOM and wet mercury deposition estimates for all 7 sites for each year of the two year study from August, 2009 – August, 2011. The seasons were defined for each year as follows:

Seasons (year 1): Aug-Oct (8/4/09–10/27/09), Nov-Jan (10/27/09-2/2/10), Feb-April (2/2/10-4/27/10), May-July (4/27/10-8/3/10).

Seasons (year 2): Aug-Oct (8/3/10-10/26/10), Nov-Jan (10/26/10-2/1/11), Feb-April (2/1/11-4/26/11), May-July (4/26/11-8/2/11).

For the mercury data this resulted in a 6-7-6-7 sample number split throughout the four quarters for both years.

Table S1. GOM dry deposition monitoring sites locational and meteorological characteristics; Year 1 = August 4, 2009-August 3, 2010; Year 2 = August 3, 2010-August 2, 2011.

Site	Estimated distance and heading to Four Corners Power Plant (Muskogee Power Plant for Stilwell site)	Latitude (decimal degrees)	Longitude (decimal degrees)	Annual Humidity (%)		Annual Temperature Means (deg. F)		Annual Precipitation (inches)	
				Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Mesa Verde National Park (CO99)	55.5 km, 179 deg.	37.1981	-108.4903	44	43	49	50.5	14.38	14.49
Substation (NM95)	12 km, 179 deg.	36.797625	-108.480153	na	na	52.4	54.3	na	na
Farmington Airport (NM99)	22.5 km, 256 deg.	36.737467	-108.23369	na	na	na	na	na	na
Valles Caldera National Preserve (NM97)	199 km, 298 deg.	35.8584	-106.5214	61	53	38.5	42.1	21.96	16.13
Navajo Lake (NM98)	75.5 km, 260 deg.	36.8097	-107.6515	na	na	48.4	50	na	na
Molas Pass (CO96)	138 km, 211 deg.	37.7514	-107.6853	na	na	na	na	na	na
Stilwell (OK99)	56 km, 271 deg.	35.7514	-94.6717	74	70	57.8	59.5	62.64	49.11

Table S2. Seasonal GOM dry deposition (dep.) and mercury wet deposition estimates for Four Corners and Eastern Oklahoma sites.

Season	Site	Year 1 (August 4, 2009-August 3, 2010)				Year 2 (August 3, 2010-August 2, 2011)			
		GOM dry dep. estimate (ng/m ²)	Mercury wet dep. estimate (ng/m ²)	GOM dry dep. + mercury wet dep. estimates (ng/m ²)	GOM dry dep. % of total mercury dep. estimate	GOM dry dep. estimate (ng/m ²)	Mercury wet dep. estimate (ng/m ²)	GOM dry dep. + mercury wet dep. estimates (ng/m ²)	GOM dry dep. % of total mercury dep. estimate
Summer/Fall (August-October)	Mesa Verde National Park (CO99)	1 451	1 949	3 400	43	2 451	3 215	5 666	43
	Substation (NM95)	1 427	na	na	na	1 706	na	na	na
	Farmington Airport (NM99)	1 134	na	na	na	1 343	na	na	na
	Valles Caldera National Preserve (NM97)	1 024	2 701	3 725	27	1 021	2 081	3 102	33
	Navajo Lake (NM98)	1 054	1 848	2 902	36	1 410	3 738	5 148	27
	Molas Pass (CO96)	491	2 065	2 556	19	594	3 361	3 955	15
	Stilwell (OK99)	148	3 979	4 127	4	503	2 161	2 664	19
Fall/Winter (November-January)	Mesa Verde National Park (CO99)	1 299	2 819	4 118	32	1 683	627	2 310	73
	Substation (NM95)	890	na	na	na	1004	na	na	na

	Farmington Airport (NM99)	669	na	na	na	763	na	na	na
	Valles Caldera National Preserve (NM97)	556	846	1 402	40	1 238	316	1 554	80
	Navajo Lake (NM98)	479	588	1 067	45	692	484	1 176	59
	Molas Pass (CO96)	747	1 477	2 224	34	671	1 417	2 088	32
	Stilwell (OK99)	303	1 116	1 419	21	452	1 388	1 840	25
Winter/Spring (February-April)	Mesa Verde National Park (CO99)	1 159	996	2 155	54	2 603	937	3 540	74
	Substation (NM95)	963	na	na	na	1 884	na	na	na
	Farmington Airport (NM99)	864	na	na	na	1 744	na	na	na
	Valles Caldera National Preserve (NM97)	795	595	1 390	57	2 002	1 638	3 640	55
	Navajo Lake (NM98)	862	778	1 640	53	1 600	1 023	2 623	61
	Molas Pass (CO96)	713	1 288	2 001	36	814	3 217	4 031	20
	Stilwell (OK99)	423	1 509	1 932	22	647	5 225	5 872	11
Spring/Summer	Mesa Verde	2 356	2 529	4 885	48	4 151	3 510	7 661	54

(May-July)	National Park (CO99)								
	Substation (NM95)	2 125	na	na	na	3 740	na	na	na
	Farmington Airport (NM99)	1 643	na	na	na	3 182	na	na	na
	Valles Caldera National Preserve (NM97)	1 529	4 991	6 520	23	2 488	2 917	5 405	46
	Navajo Lake (NM98)	1 643	2 672	4 315	38	2 868	1 078	3 946	73
	Molas Pass (CO96)	949	2 975	3 924	24	1 028	3 443	4 471	23
	Stilwell (OK99)	245	6 848	7 093	3	748	4 489	5 237	14

Figure Captions

Figure S1. Elevation, mercury deposition estimates from the 2009-2011 Four Corners/Eastern Oklahoma GOM dry deposition monitoring study, and locations of coal-fired power plants (bottom of bars) within 100 km of the mercury deposition monitoring sites with coal-generated electricity capacity greater than or equal to 100 megawatts (MW). For site NM97 the closest coal-fired power plant was within about 150 km (Escalante).

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Figure S1

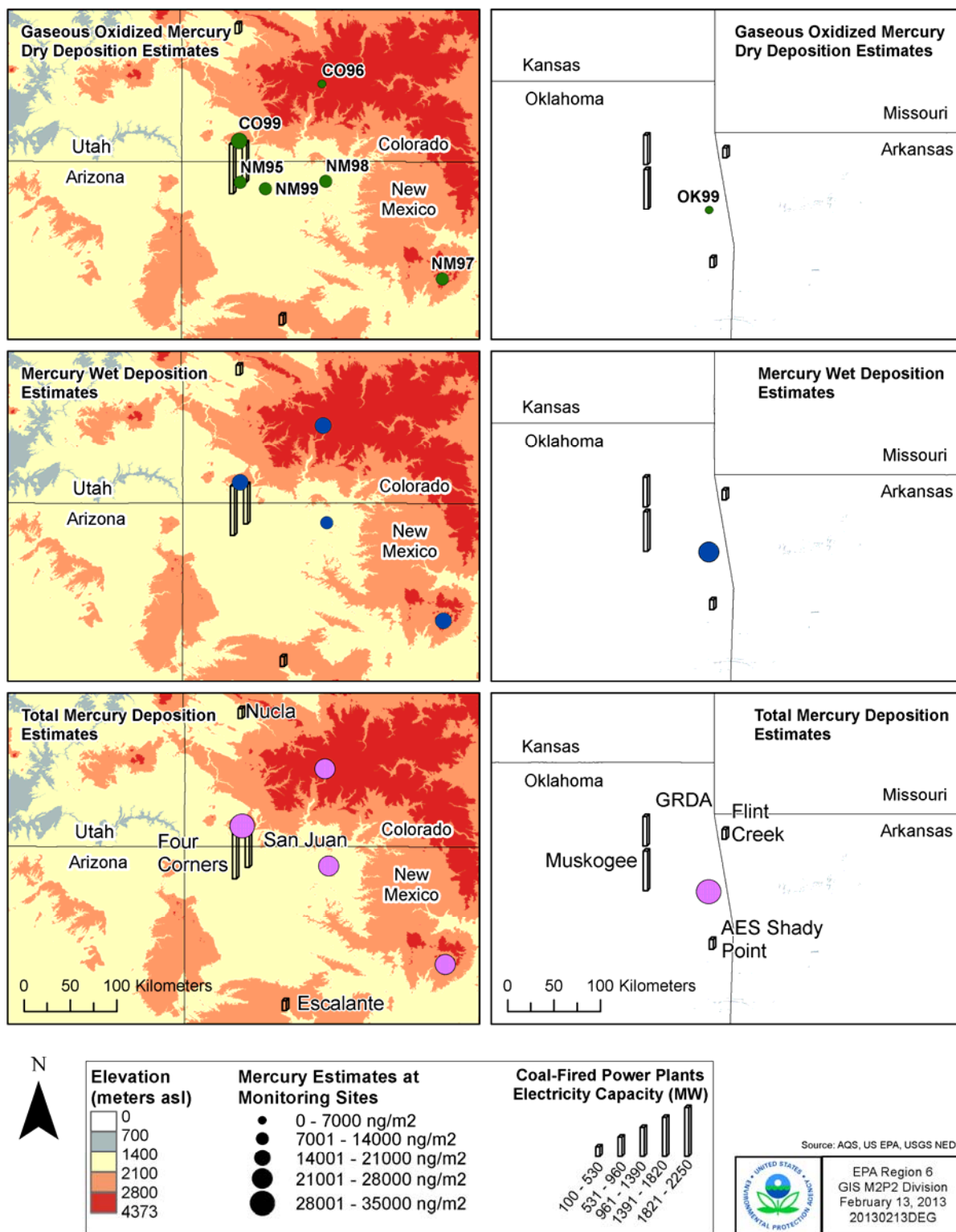


Figure S2

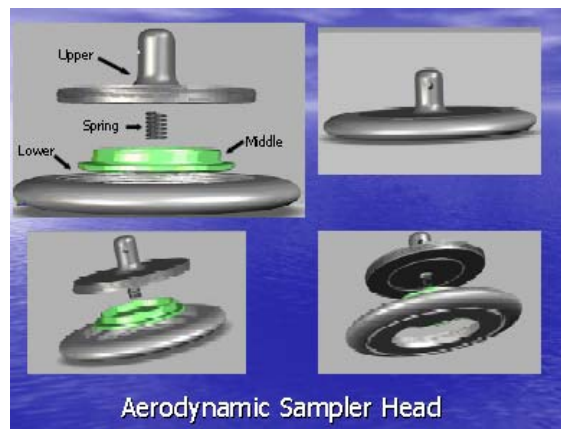


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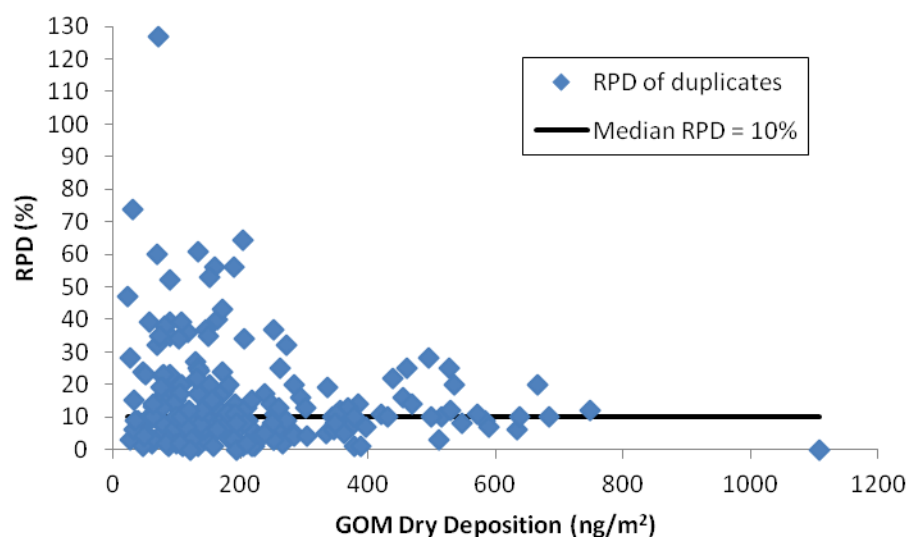


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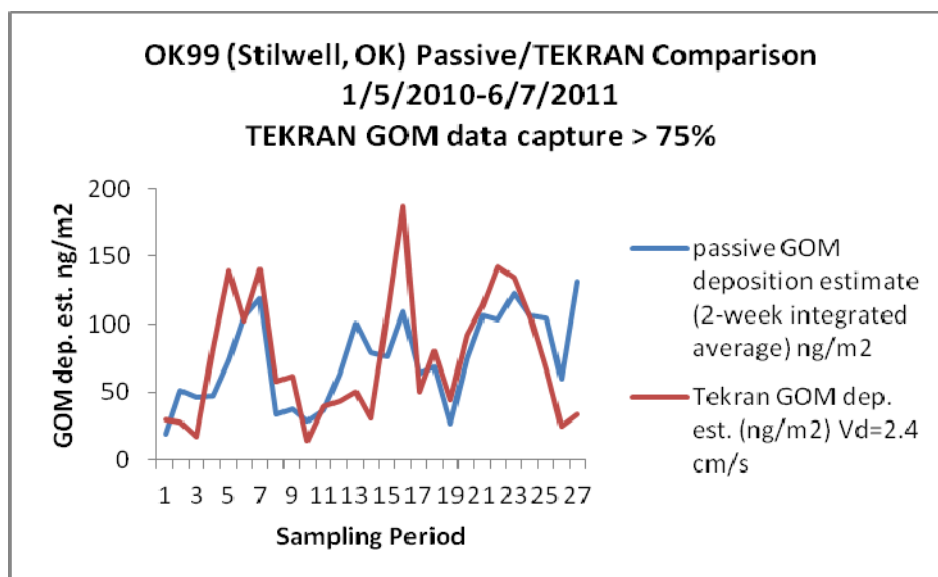
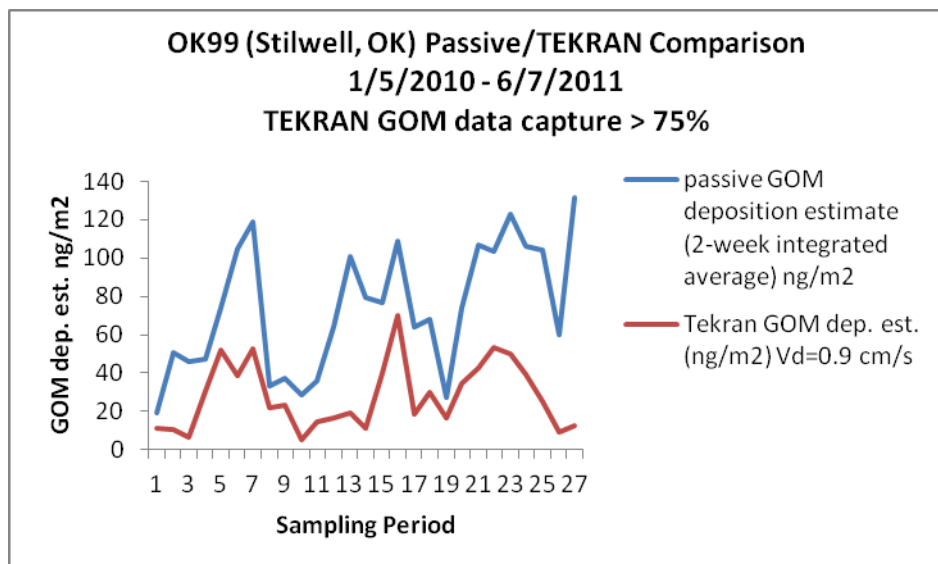


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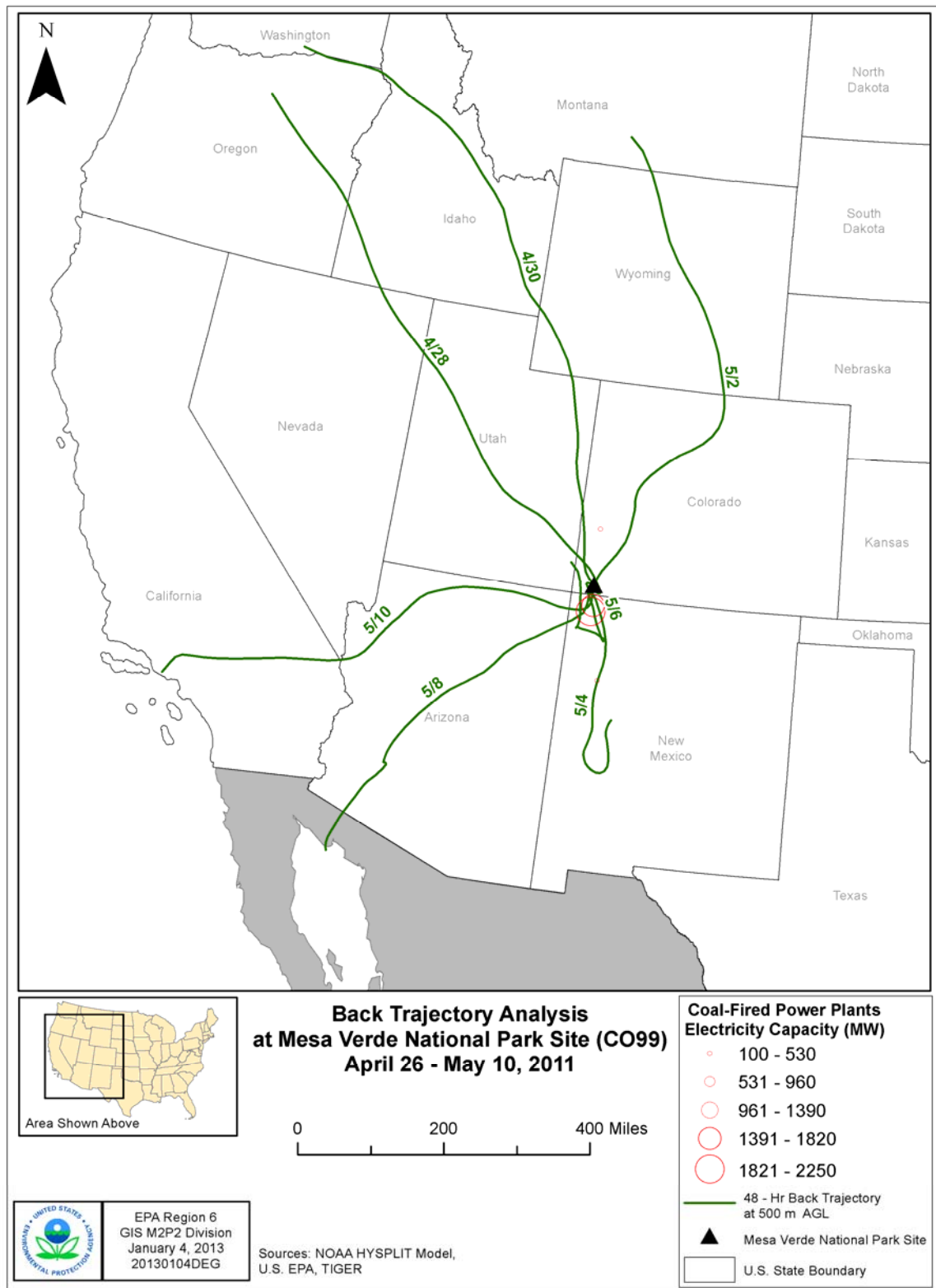


Figure S6

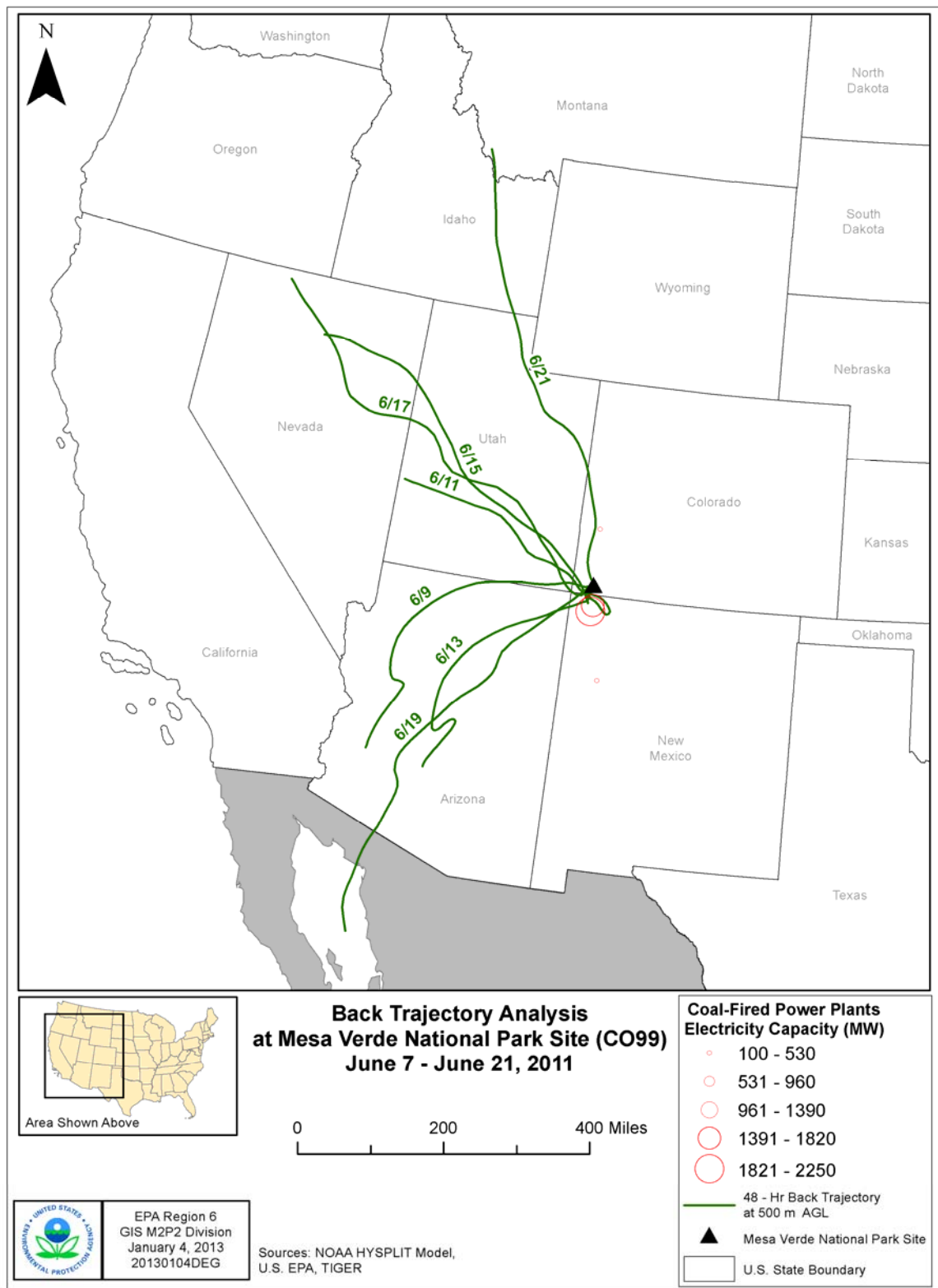


Figure S7

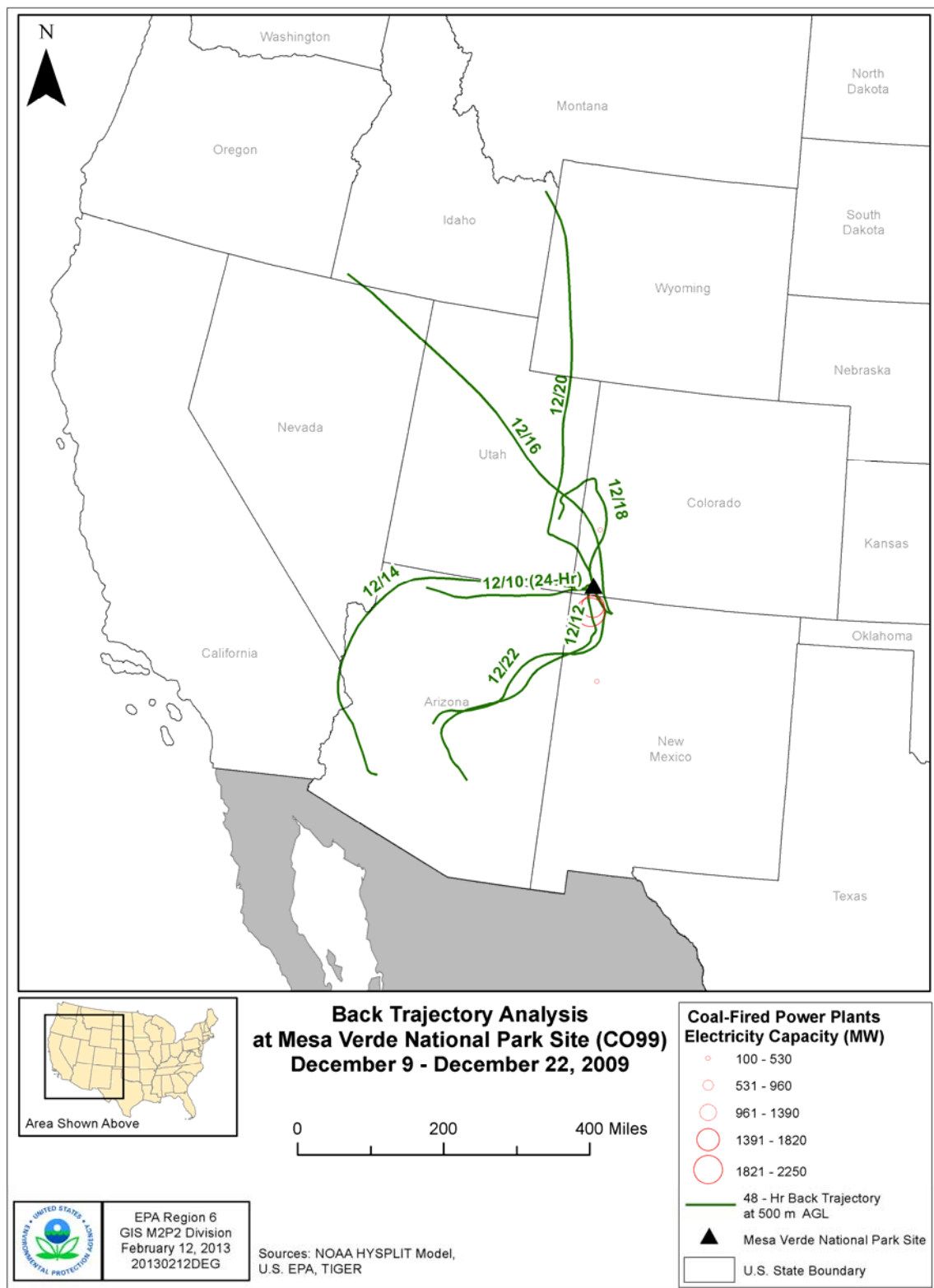


Figure S8

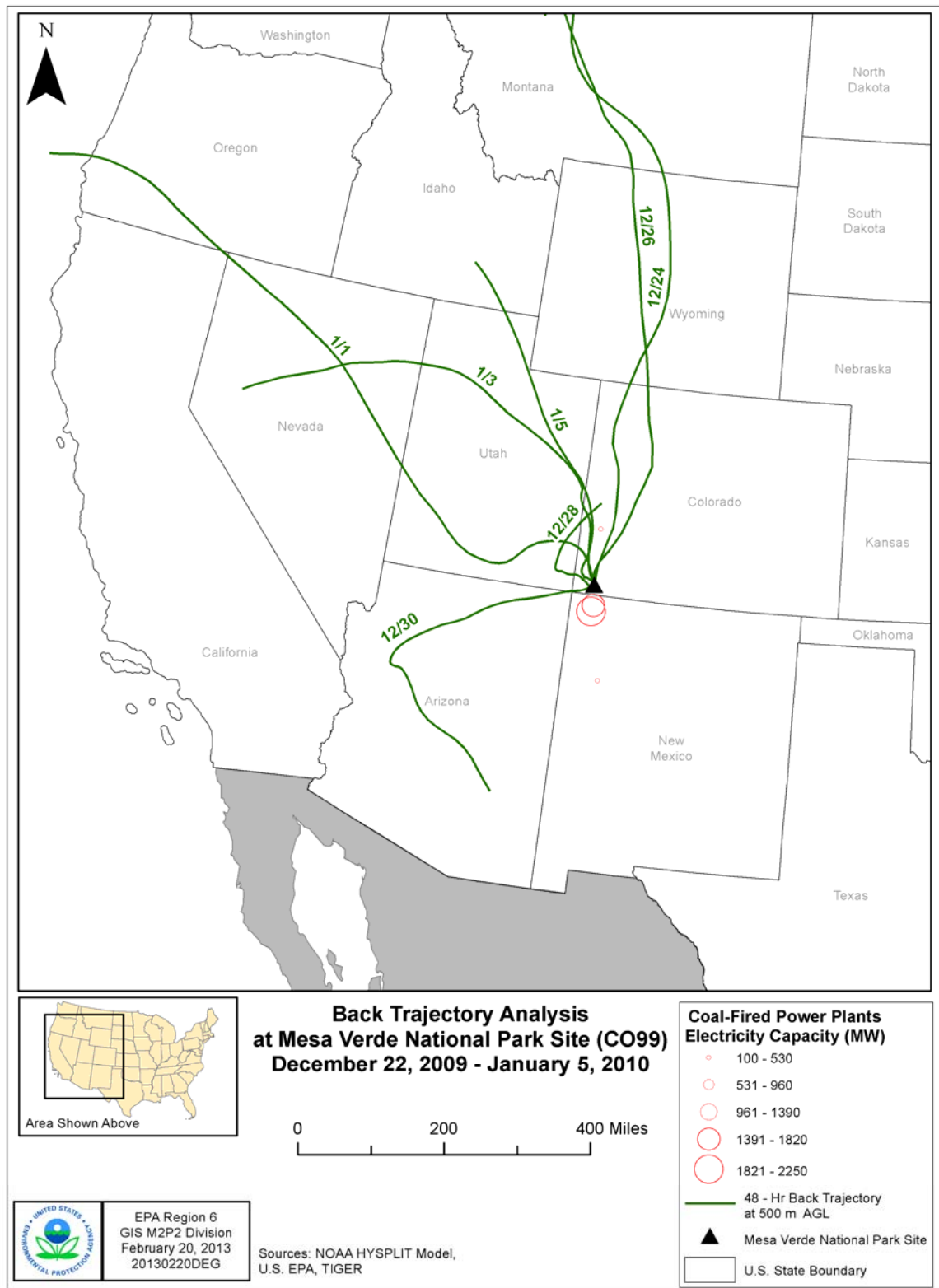


Figure S9

