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**Supplemental Materials**  
**The Atmospheric Mercury Network: Measurement and initial  
examination of an ongoing atmospheric mercury record across North  
America**

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Site	Year	Variable	N	Mean	Std. Deviation	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Minimum	Maximum
<b>AL19</b>	2009	GEM	2814	1.9	4.6	1.6	1.5	1.9	0.4	237.7
		GOM	2723	17.3	74.5	3.4	1.2	10.9	0.0	2305.2
		PBM	2725	8.9	31.9	4.2	2.1	7.6	0.0	1035.8
	2010	GEM	3551	2.0	1.2	1.7	1.6	2.1	1.0	36.6
		GOM	3357	15.1	49.9	4.6	2.1	11.5	0.0	909.7
		PBM	3359	11.1	46.5	5.2	2.7	10.3	0.0	2201.7
	2011	GEM	1872	2.1	1.1	1.7	1.6	2.0	1.3	13.5
		GOM	1570	17.0	68.0	3.6	1.4	9.7	0.0	1018.4
		PBM	1582	8.9	18.6	4.4	1.9	8.6	0.0	333.3
<b>CA48</b>	2010	GEM	2103	1.5	0.2	1.5	1.4	1.6	0.9	2.4
		GOM	2012	0.8	1.1	0.6	0.1	1.1	0.0	14.1
		PBM	1975	2.4	2.4	1.7	0.7	3.5	0.0	18.6
	2011	GEM	2055	1.5	0.1	1.5	1.4	1.6	1.1	2.3
		GOM	1999	0.7	1.2	0.3	0.0	1.0	0.0	10.7
		PBM	1727	4.3	3.9	3.5	1.6	5.8	0.0	39.0
<b>FL96</b>	2009	GEM	4041	1.2	0.1	1.3	1.2	1.4	0.7	1.7
		GOM	3853	2.7	5.4	1.4	0.4	3.3	0.0	126.1
		PBM	3851	2.6	2.8	1.9	0.9	3.5	0.0	76.8
	2010	GEM	3275	1.3	0.1	1.3	1.2	1.4	0.9	2.8
		GOM	3050	2.1	4.6	0.7	0.0	2.4	0.0	110.2
		PBM	3056	4.1	5.0	2.6	1.3	5.0	0.0	66.7
	2011	GEM	3733	1.3	0.1	1.3	1.2	1.3	0.8	3.2
		GOM	3232	1.2	2.3	0.0	0.0	1.4	0.0	27.3
		PBM	3249	2.9	2.4	2.5	1.3	4.1	0.0	25.3
<b>GA40</b>	2009	GEM	3846	1.2	0.1	1.2	1.1	1.3	0.5	2.3
		GOM	3685	3.0	6.3	1.3	0.5	3.3	0.0	174.4
		PBM	3671	3.0	2.5	2.5	1.2	4.2	0.0	31.0
	2010	GEM	3996	1.2	0.2	1.2	1.1	1.3	0.4	6.5
		GOM	3801	3.6	6.0	1.5	0.6	4.1	0.0	93.4
		PBM	3805	6.2	9.0	4.2	2.5	7.1	0.0	403.6
	2011	GEM	3418	1.3	0.3	1.3	1.2	1.4	0.6	11.3
		GOM	3261	3.7	8.2	1.3	0.3	3.8	0.0	223.4
		PBM	3271	6.8	9.5	4.1	1.9	7.7	0.0	106.8
<b>HI00</b>	2010	GEM	6	1.5	0.2	1.6	1.3	1.7	1.2	1.7
		GOM	6	89.1	24.3	85.3	80.1	112.8	52.0	118.8
		PBM	6	20.8	13.6	23.4	8.6	31.3	2.9	35.3
	2011	GEM	3783	1.4	0.5	1.4	1.1	1.7	0.4	8.2
		GOM	3674	143.3	106.0	115.6	53.6	221.7	0.2	555.0
		PBM	3571	90.8	92.1	60.0	25.8	120.9	0.0	555.6
<b>MD08</b>	2009	GEM	2516	1.3	0.2	1.3	1.1	1.4	0.5	3.2
		GOM	2319	17.5	24.4	7.1	4.0	18.2	0.7	207.4
		PBM	2321	4.6	5.0	3.0	1.7	5.6	0.0	57.4
	2010	GEM	2682	1.4	0.2	1.4	1.3	1.5	0.6	2.0
		GOM	2505	9.3	13.8	4.6	2.1	10.7	0.0	174.3
		PBM	2516	4.3	3.1	3.7	2.2	5.6	0.0	28.5
	2011	GEM	2478	1.4	0.2	1.5	1.3	1.5	0.7	1.9
		GOM	2350	7.1	9.0	4.3	1.6	8.9	0.0	99.8
		PBM	2381	3.7	3.1	3.0	1.6	4.9	0.0	25.3

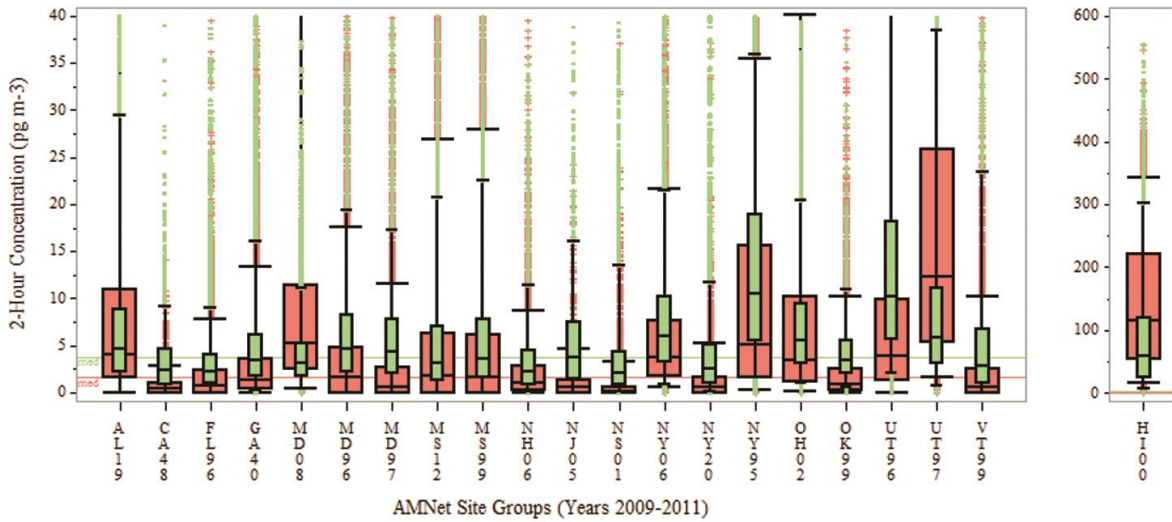
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42 Supplemental Table 1: Observations of GEM (ng m<sup>-3</sup>) and GOM, and PBM<sub>2.5</sub> (pg m<sup>-3</sup>), by  
43 site and year, including valid-only number, means, medians and data ranges. Data are  
44 inclusive for valid samples January 2009 through December 2011. Several sites were  
45 unavailable for this study.

Site	Year	Variable	N	Mean	Std. Deviation	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Minimum	Maximum
MD96	2009	GEM	2911	1.3	0.2	1.3	1.1	1.5	0.5	3.8
		GOM	2794	4.6	9.3	1.0	0.0	5.7	0.0	120.9
		PBM	2793	7.1	14.3	3.6	0.0	8.9	0.0	286.8
	2010	GEM	3027	1.5	0.4	1.4	1.3	1.5	0.9	21.8
		GOM	2775	8.4	147.4	1.9	0.2	4.8	0.0	7694.8
		PBM	2830	7.8	16.9	5.0	2.5	8.1	0.0	545.5
	2011	GEM	3658	1.5	0.2	1.5	1.4	1.6	0.8	4.4
		GOM	3504	3.8	7.7	1.5	0.3	4.1	0.0	140.7
		PBM	3510	6.7	7.5	5.1	2.8	8.3	0.0	132.5
MD97	2009	GEM	3542	1.3	0.2	1.3	1.2	1.4	0.5	4.7
		GOM	3363	3.7	8.3	0.8	0.0	3.9	0.0	123.6
		PBM	3377	7.1	14.6	4.4	1.9	8.1	0.0	454.8
	2010	GEM	3349	1.5	0.4	1.4	1.3	1.5	0.7	21.7
		GOM	3150	4.4	107.5	0.5	0.0	2.2	0.0	6000.4
		PBM	3165	6.7	20.0	4.7	2.3	7.9	0.0	835.1
	2011	GEM	3535	1.5	0.2	1.4	1.4	1.5	0.7	4.1
		GOM	3376	2.2	5.1	0.6	0.0	2.4	0.0	117.7
		PBM	3400	6.1	7.5	4.2	2.2	7.5	0.0	144.2
MS12	2009	GEM	3238	1.4	0.2	1.4	1.3	1.5	0.8	7.8
		GOM	3061	5.3	9.3	2.0	0.0	6.2	0.0	130.2
		PBM	2942	4.1	4.8	2.5	1.1	5.5	0.0	46.5
	2010	GEM	3899	1.4	0.1	1.4	1.3	1.5	0.9	4.5
		GOM	3782	6.1	12.2	1.7	0.0	6.1	0.0	121.5
		PBM	3736	9.4	18.3	4.2	1.6	9.7	0.0	305.7
	2011	GEM	3889	1.5	0.2	1.5	1.4	1.6	0.8	2.6
		GOM	3770	6.1	11.2	1.6	0.0	6.5	0.0	122.2
		PBM	3620	5.1	6.9	2.9	1.4	6.3	0.0	112.2
MS99	2009	GEM	3517	1.4	0.2	1.4	1.3	1.4	0.7	6.5
		GOM	3240	5.2	9.4	1.4	0.0	5.9	0.0	94.6
		PBM	3155	3.8	4.6	2.2	0.9	5.0	0.0	50.5
	2010	GEM	3345	1.4	0.1	1.4	1.3	1.5	0.9	2.6
		GOM	3229	6.1	12.3	1.7	0.0	6.4	0.0	130.5
		PBM	3103	11.2	19.7	5.6	2.3	12.4	0.0	371.5
	2011	GEM	3704	1.4	0.1	1.4	1.4	1.5	0.9	2.5
		GOM	3579	6.3	11.5	1.8	0.4	6.4	0.0	103.1
		PBM	3481	6.2	7.8	3.7	2.0	7.3	0.0	107.4
NH06	2009	GEM	2703	1.3	0.2	1.3	1.1	1.5	0.4	2.4
		GOM	2288	3.1	4.5	1.7	0.7	4.0	0.0	60.4
		PBM	2204	3.9	5.0	2.1	0.8	4.9	0.0	51.6
	2010	GEM	2584	1.3	0.1	1.3	1.3	1.4	0.5	1.9
		GOM	2222	2.0	3.4	0.9	0.3	2.2	0.0	37.7
		PBM	2227	2.8	2.7	2.0	0.9	3.8	0.0	34.8
	2011	GEM	2398	1.4	0.2	1.4	1.2	1.5	0.6	2.6
		GOM	2303	1.9	3.7	0.9	0.2	2.2	0.0	61.5
		PBM	2269	4.1	4.8	2.7	1.3	5.1	0.0	83.4

Site	Year	Variable	N	Mean	Std. Deviation	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Minimum	Maximum
NJ05	2009	GEM	1882	1.4	0.2	1.4	1.3	1.5	1.0	2.5
		GOM	1406	0.9	1.3	0.5	0.0	1.2	0.0	13.9
		PBM	521	3.1	3.6	2.2	0.6	4.4	0.0	23.2
	2010	GEM	1192	1.5	0.1	1.5	1.4	1.5	1.2	2.1
		GOM	1135	1.6	3.2	0.5	0.0	1.6	0.0	31.9
		PBM	1118	6.6	6.7	4.8	2.3	8.8	0.0	50.3
NS01	2009	GEM	2100	1.4	0.3	1.4	1.2	1.5	0.4	4.8
		GOM	1893	1.9	4.0	0.5	0.2	1.8	0.0	52.0
		PBM	1919	4.5	5.9	2.4	0.9	5.2	0.0	48.8
	2010	GEM	2687	1.3	0.2	1.4	1.2	1.5	0.5	1.9
		GOM	2631	0.4	1.0	0.1	0.0	0.5	0.0	12.2
		PBM	2633	3.4	4.5	2.0	1.0	3.7	0.0	33.9
	2011	GEM	2680	1.4	0.2	1.5	1.3	1.5	0.6	2.2
		GOM	2618	0.4	1.0	0.0	0.0	0.4	0.0	15.6
		PBM	2625	3.7	4.5	2.3	1.0	4.7	0.0	48.5
NY06	2009	GEM	2496	1.5	0.3	1.4	1.3	1.6	0.6	4.1
		GOM	2219	7.3	10.3	4.0	2.0	8.3	0.0	104.6
		PBM	2295	7.9	8.4	5.3	2.7	9.9	0.0	83.8
	2010	GEM	1585	1.5	0.3	1.4	1.3	1.6	0.9	4.5
		GOM	1468	6.6	8.6	3.9	1.9	8.0	0.0	142.3
		PBM	1445	8.6	13.8	5.9	3.7	9.8	0.0	384.8
	2011	GEM	2516	1.5	0.3	1.4	1.3	1.6	1.0	6.9
		GOM	2409	6.2	28.4	3.5	1.6	6.9	0.0	1351.8
		PBM	2437	8.7	17.6	6.6	3.8	10.5	0.0	670.6
NY20	2009	GEM	2489	1.2	0.3	1.3	1.1	1.5	0.2	2.0
		GOM	2284	1.0	1.9	0.4	0.0	1.3	0.0	31.6
		PBM	2329	2.4	3.7	1.4	0.7	2.6	0.0	39.4
	2010	GEM	2364	1.4	0.6	1.3	1.2	1.5	0.2	10.5
		GOM	2164	2.1	3.3	0.9	0.4	2.7	0.0	42.5
		PBM	2190	4.7	4.3	3.9	2.3	6.0	0.0	48.1
	2011	GEM	2255	1.2	0.3	1.2	1.1	1.4	0.4	2.4
		GOM	2050	1.0	1.9	0.4	0.0	1.0	0.0	36.5
		PBM	2125	5.0	7.3	2.9	1.0	6.4	0.0	102.4
NY95	2009	GEM	2426	1.4	0.2	1.4	1.3	1.5	1.0	2.8
		GOM	2285	8.9	10.7	4.7	2.2	12.5	0.0	103.8
		PBM	2289	11.3	8.4	9.0	5.3	15.2	0.3	96.6
	2010	GEM	2491	1.4	0.2	1.4	1.3	1.5	0.7	4.6
		GOM	2182	17.8	14.3	15.0	6.8	25.8	0.0	99.8
		PBM	2260	20.5	12.3	18.7	11.2	27.3	0.3	93.8
	2011	GEM	2185	1.3	0.2	1.3	1.2	1.4	0.9	3.0
		GOM	1904	3.8	7.7	1.7	0.6	4.1	0.0	183.6
		PBM	1898	9.8	35.2	6.3	3.1	10.7	0.0	1021.6

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Site	Year	Variable	N	Mean	Std. Deviation	Median	25 <sup>th</sup> Percentile	75 <sup>th</sup> Percentile	Minimum	Maximum
OH02	2009	GEM	2807	1.3	0.2	1.3	1.2	1.4	0.7	3.7
		GOM	2694	10.7	17.6	3.8	1.3	11.9	0.0	229.6
		PBM	2675	7.7	7.5	5.4	2.9	9.7	0.0	68.5
	2010	GEM	2681	1.4	0.2	1.4	1.3	1.5	0.8	2.6
		GOM	2600	9.9	16.8	4.0	1.2	10.6	0.0	174.9
		PBM	2601	7.8	6.5	6.0	3.6	10.0	0.0	49.3
	2011	GEM	2316	1.4	0.2	1.4	1.2	1.5	0.6	3.3
		GOM	2241	7.5	13.3	2.9	1.0	8.1	0.0	182.1
		PBM	2244	7.0	7.5	5.1	3.0	8.1	0.0	121.9
OK99	2009	GEM	2072	1.3	0.2	1.3	1.2	1.4	0.7	2.0
		GOM	1924	2.1	3.4	1.0	0.3	2.5	0.0	47.6
		PBM	1912	4.1	3.0	3.4	2.1	5.4	0.0	25.8
	2010	GEM	2468	1.4	0.2	1.4	1.3	1.5	0.6	2.1
		GOM	2322	2.2	4.0	0.7	0.2	2.3	0.0	52.5
		PBM	2248	4.2	3.5	3.3	2.0	5.4	0.0	30.6
	2011	GEM	2152	1.4	0.2	1.4	1.3	1.5	0.7	3.6
		GOM	1985	2.9	5.1	1.0	0.3	3.1	0.0	73.3
		PBM	2002	4.7	4.1	3.6	2.2	6.0	0.0	77.0
UT96	2009	GEM	1162	1.5	0.2	1.5	1.4	1.6	0.9	5.2
		GOM	1126	10.9	16.3	5.3	2.0	11.8	0.0	132.6
		PBM	1094	17.7	19.2	12.2	6.8	20.4	0.0	155.1
	2010	GEM	2237	1.7	1.0	1.6	1.5	1.8	0.9	43.8
		GOM	2041	11.8	25.0	3.1	1.1	10.3	0.0	234.3
		PBM	2013	16.5	41.7	9.6	5.4	17.5	0.0	1411.6
	2011	GEM	1103	1.7	0.2	1.6	1.5	1.8	0.7	3.0
		GOM	852	6.4	10.2	3.7	1.4	7.0	0.0	141.6
		PBM	815	18.3	28.8	9.2	5.5	16.7	0.0	244.5
UT97	2009	GEM	3728	2.2	0.9	2.0	1.8	2.3	1.2	37.4
		GOM	2912	23.0	35.4	12.4	4.8	26.0	0.0	693.0
		PBM	2659	14.9	76.8	7.2	4.3	12.7	0.0	3687.2
	2010	GEM	1795	2.0	0.4	2.0	1.8	2.2	1.3	7.3
		GOM	1448	24.0	25.2	17.8	8.8	28.8	0.3	408.4
		PBM	1155	4.2	7.3	1.9	0.9	4.1	0.0	80.7
	2011	GEM	1763	1.8	0.8	1.7	1.5	1.9	1.1	30.5
		GOM	1532	15.6	18.5	8.4	4.4	19.6	0.0	173.5
		PBM	1535	13.5	22.6	6.6	4.3	12.6	0.0	411.7
VT99	2009	GEM	2676	1.4	0.2	1.4	1.2	1.6	0.8	3.0
		GOM	2576	2.5	6.1	0.8	0.0	2.5	0.0	162.4
		PBM	2637	9.1	10.1	5.0	2.7	11.8	0.0	82.2
	2010	GEM	2642	1.5	0.2	1.5	1.4	1.6	1.0	2.6
		GOM	2571	3.0	5.5	1.3	0.0	3.3	0.0	81.4
		PBM	2572	5.3	7.8	2.2	0.9	5.8	0.0	78.2
	2011	GEM	2448	1.5	0.2	1.4	1.3	1.6	0.7	1.9
		GOM	2358	1.5	3.8	0.0	0.0	1.4	0.0	72.5
		PBM	2358	2.9	3.9	1.8	0.0	3.6	0.0	37.3



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57 Supplemental Figure 1: Box and whisker plots of gaseous oxidized and particulate  
58 bound mercury (GOM in red,  $PBM_{2.5}$  in green,  $pg\ m^{-3}$ ) observations for each site for  
59 years 2009 to 2011. Each box includes the median (midline), 25<sup>th</sup> and 75<sup>th</sup> percentiles  
60 (box edges), 5<sup>th</sup> and 95<sup>th</sup> percentiles (whiskers), and individual values outside these  
61 limits (dots/pluses). Values above  $40\ pg\ m^{-3}$  are not shown. The respective medians of  
62 all observations are shown for reference (red and green lines, without HI00).