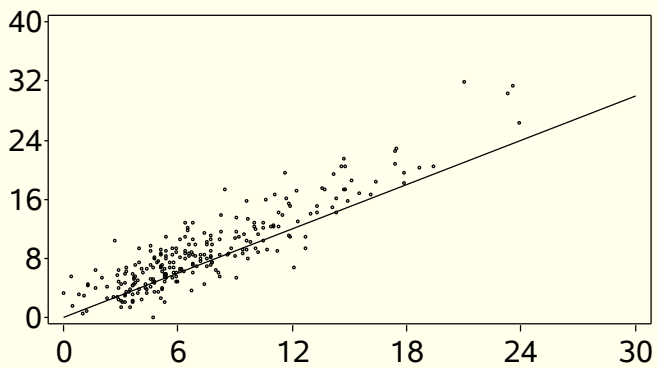
PM 2.5 Continuous Monitor Comparability Assessment

Site 25-013-0016: Springfield, MA

FRM: R & P Model 2025 PM-2.5 Sequential Air Sampler w/VSCC-Gravimetric (145), PM2.5 - Local Conditions (88101), POC=1
Cont: Met-One BAM-1020 W/PM2.5 SCC-Beta Attenuation (731), Acceptable PM2.5 AQI & Speciation Mass (88502), POC=3

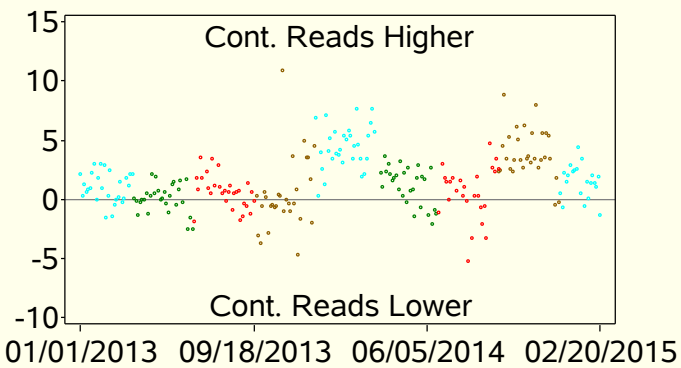
Cont. (y) vs. FRM (x) PM 2.5 ($\mu g/m^3$)



y = 1.12x + 0.70
R = 0.90

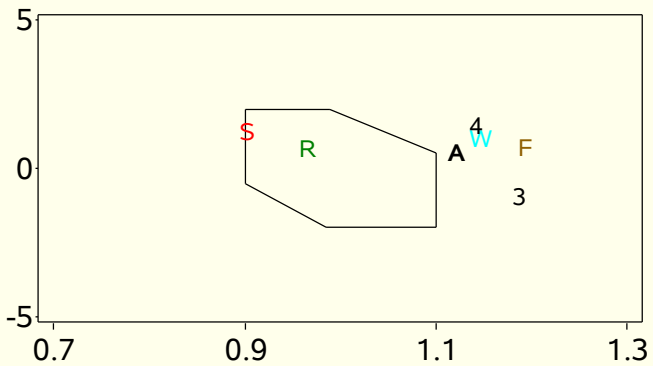
— 1:1 line

Cont. minus FRM PM 2.5 ($\mu g/m^3$)



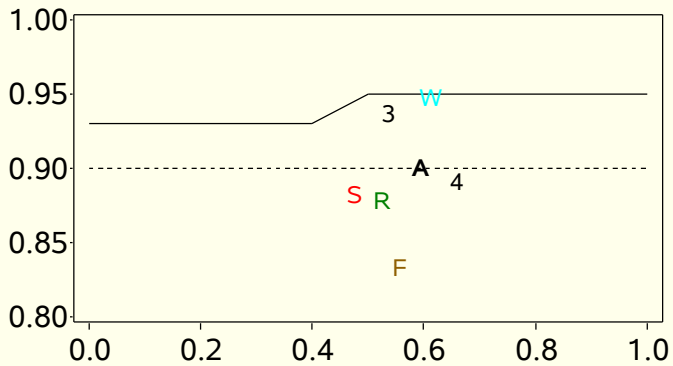
○ Winter ○ Spring ○ Summer ○ Fall

Additive (y) vs. Multiplicate (x) Bias



A=AllData, 3=2013, 4=2014, 5=2015
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 3=2013, 4=2014, 5=2015
W=Winter, R=Spring, S=Summer, F=Fall

Mean PM 2.5 ($\mu g/m^3$)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**249**	**7.4**	**9.0**	**1.21**
Winter	78	8.9	11.4	1.28
Spring	57	5.5	6.1	1.12
Summer	55	8.0	8.6	1.08
Fall	59	6.9	9.1	1.32
2013	118	7.9	8.6	1.08
2014	114	6.5	9.0	1.39
2015	17	10.5	12.2	1.16

Appendix A Statistics

Dataset	N (all observations)	Bias (all observations)	N (only >= 3 ug/m^3)	Bias (only >= 3 ug/m^3)
AllData	**249**	**33.5**	**215**	**23.7**
Winter	78	32.7	72	31.9
Spring	57	21.4	45	14.5
Summer	55	21.6	50	9.2
Fall	59	57.8	48	35.3
2013	118	6.3	104	9.8
2014	114	64.7	94	40.7
2015	17	15.3	17	15.3

Data Source: EPA AQS Data Mart

Generated on: June 26, 2015