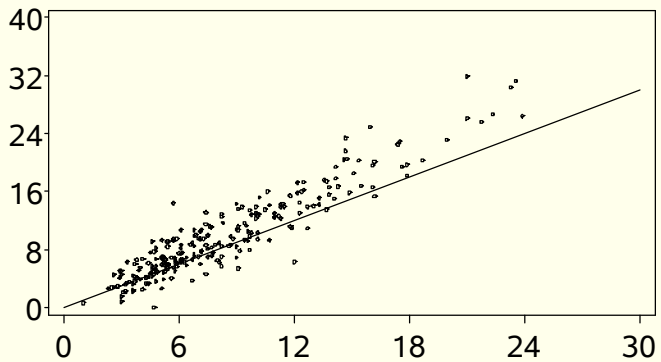
PM 2.5 Continuous Monitor Comparability Assessment

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

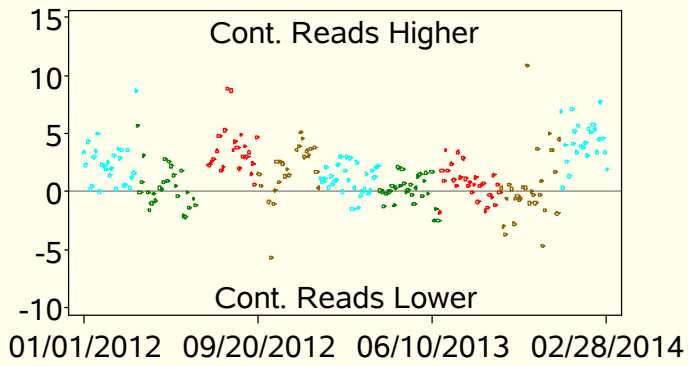
Cont. (y) vs. FRM (x) PM 2.5 ($\mu g/m^3$)



y = 1.22x + -0.36
R = 0.94

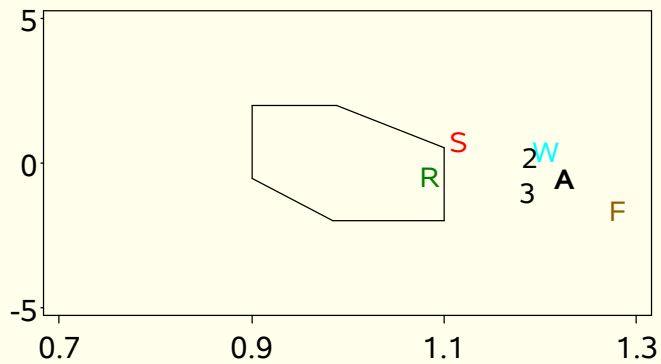
— 1:1 line

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



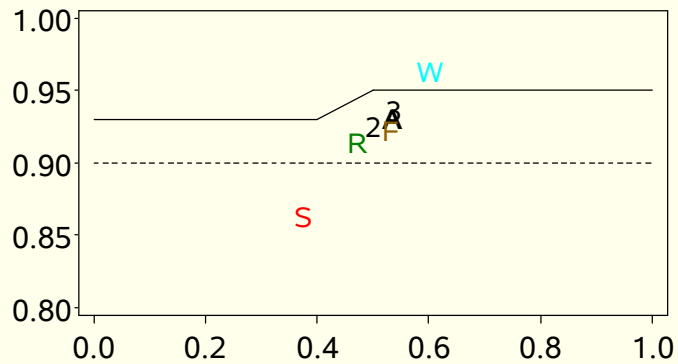
Winter Spring Summer Fall

Additive (y) vs. Multiplicate (x) Bias



A=AllData, 2=2012, 3=2013, 4=2014
W=Winter, R=Spring, S=Summer, F=Fall

R (y) vs. FRM CCV (x)



A=AllData, 2=2012, 3=2013, 4=2014
W=Winter, R=Spring, S=Summer, F=Fall

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

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**241**	**8.5**	**10.0**	**1.18**
Winter	81	9.1	11.5	1.27
Spring	55	6.6	6.9	1.04
Summer	52	9.1	11.1	1.22
Fall	53	9.0	10.0	1.12
2012	103	8.7	10.7	1.23
2013	118	7.9	8.6	1.08
2014	20	10.5	15.0	1.42

Appendix A Statistics

Dataset	N (all observations)	Bias (all observations)	N (only >= 3 ug/m^3)	Bias (only >= 3 ug/m^3)
AllData	**241**	**17.3**	**224**	**19.8**
Winter	81	28.6	77	30.2
Spring	55	2.2	49	6.2
Summer	52	23.7	51	23.4
Fall	53	9.2	47	12.9
2012	103	23.6	100	24.3
2013	118	6.3	104	9.8
2014	20	49.3	20	49.3

Data Source: EPA AQS Data Mart

Generated on: June 2, 2014