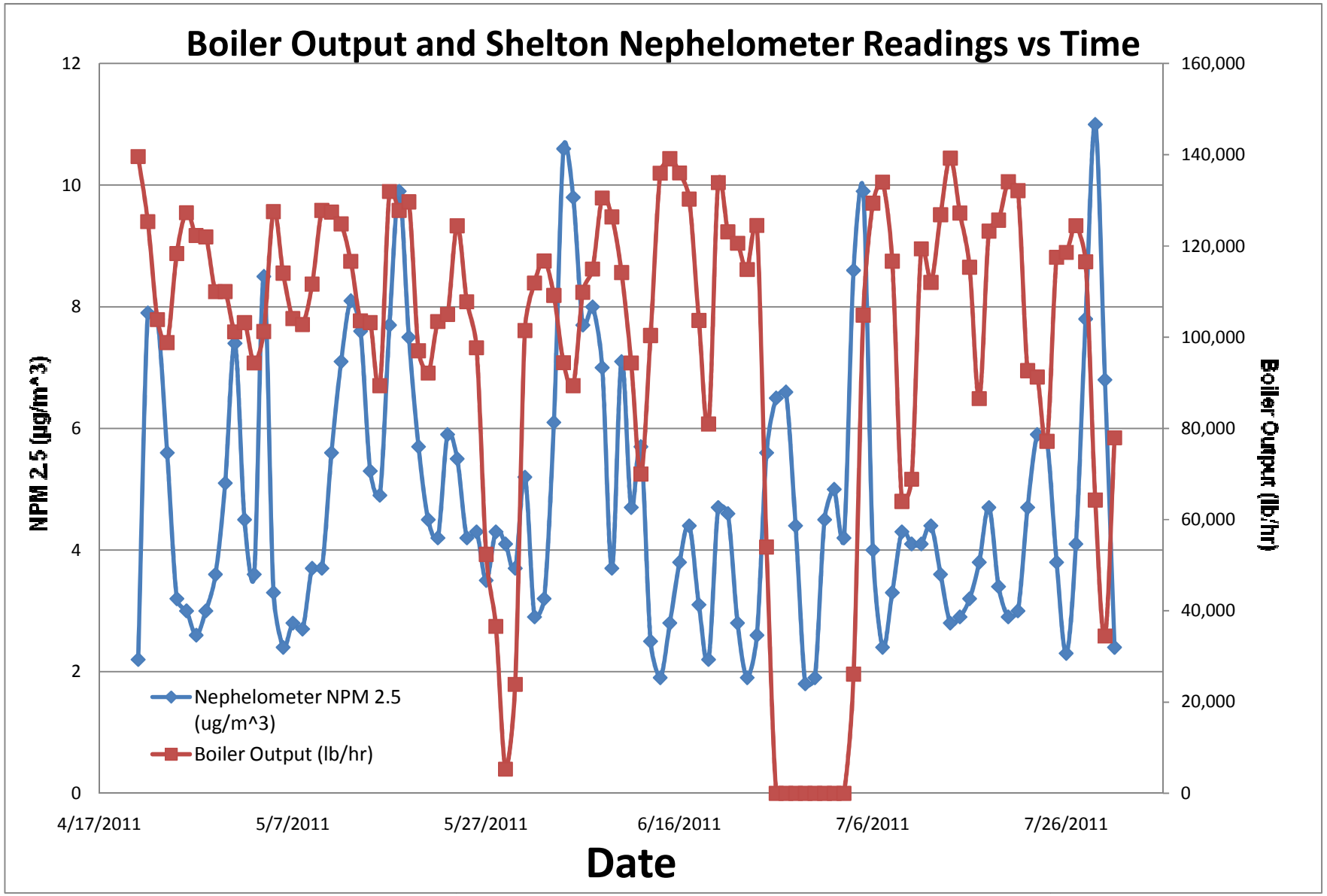
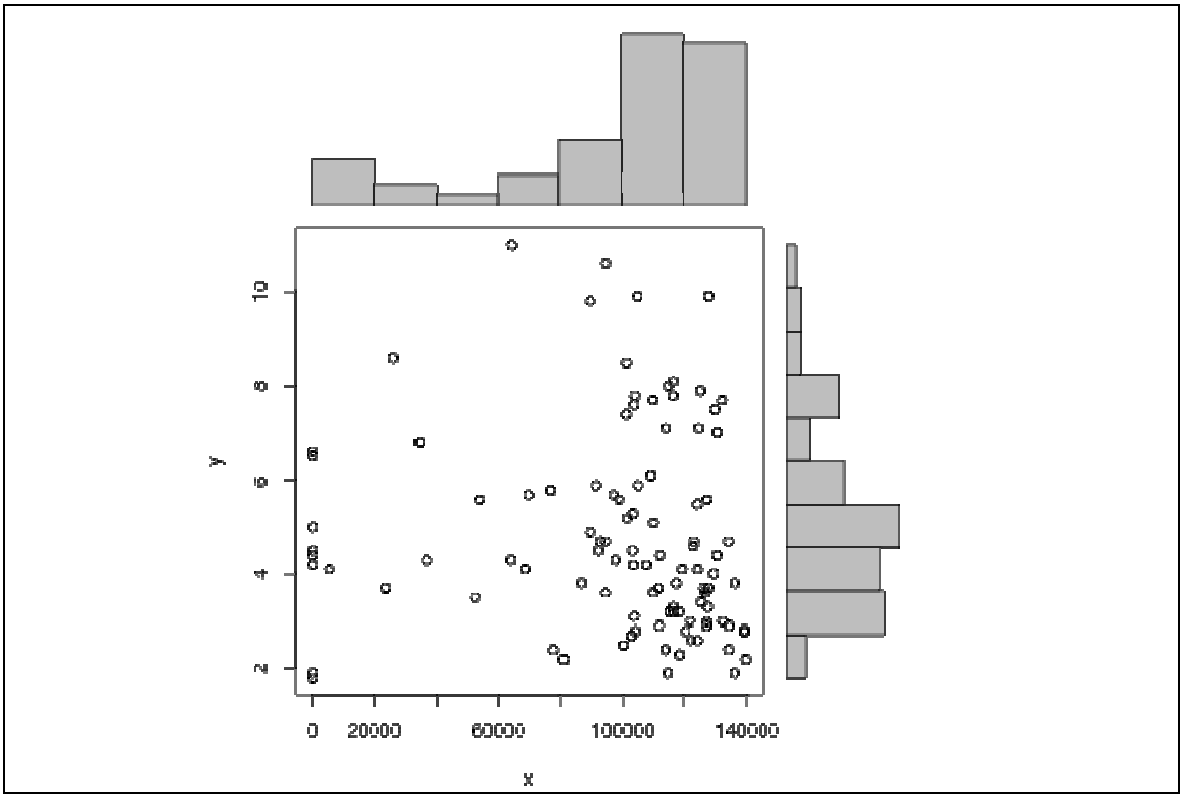
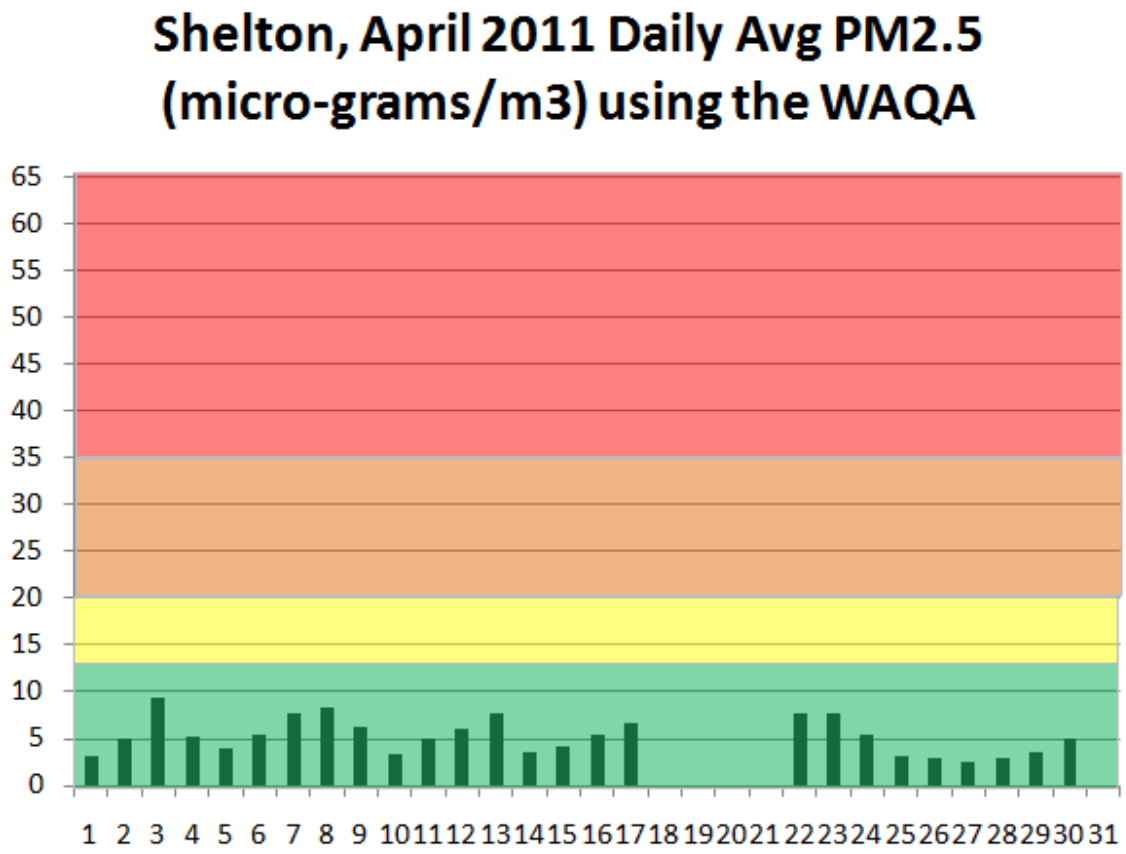

Boiler Output and Shelton Nephelometer Readings vs Time
NPM 2.5 (µg/m^3)
Boiler Output (lb/hr)
Date
Nephelometer NPM 2.5 (ug/m^3)
Boiler Output (lb/hr)
0
2
4
6
8
10
12
0
20,000
40,000
60,000
80,000
100,000
120,000
140,000
160,000
4/17/2011
5/7/2011
5/27/2011
6/16/2011
7/6/2011
7/26/2011

Boiler Output and Downtown Shelton NPM 2.5 Readings Data Distribution



Pearson Product Moment Correlation: Ungrouped Data		
Statistic	Boiler Output (x) (lbs/hr)	NPM 2.5 (y) (ug/m^3)
Mean	97,510	4.8010
Covariance[1]	-6673.2	
Correlation[2]	-0.08036	
Determination[3]	0.0064571	



[1]Pearson Product Moment Correlation:
Two variables can be positively correlated (more of one means more of another) or negatively correlated (more of one means less of another). In this case, Systolic vs Weight is 266.9 (a positive correlation).

[2] Pearson product-moment correlation coefficient:
The correlation coefficient ranges from −1 to 1. A value of 1 implies that a linear equation describes the relationship between *X* and *Y* perfectly, with all data points lying on a line for which *Y* increases as *X* increases. A value of −1 implies that all data points lie on a line for which *Y* decreases as *X* increases. A value of 0 implies that there is no linear correlation between the variables.

[3] Coefficient of determination R^2:
R^2 is a statistic that will give some information about the goodness of fit of a model. In regression, the R^2 coefficient of determination is a statistical measure of how well the regression line approximates the real data points. An R^2 of 1.0 indicates that the regression line perfectly fits the data.

Correlations
+ = Positive Correlation
- = Negative Correlation

Sources:
Wessa P., (2008), Pearson Correlation (v1.0.3) in Free Statistics Software (v1.1.23-r7), Office for Research Development and Education, URL http://www.wessa.net/rwasp_correlation.wasp/

Olympic Region Clean Air Agency (ORCAA) (2011), Air Quality Data, data.orcaa.org