

# **City Heights CO and PM2.5 Monitoring Project**

## **Appendix B – PM2.5 Data**

by

**Bill Brick  
Senior Meteorologist  
San Diego Air Pollution Control District**

**May 26, 2009**

## **Introduction**

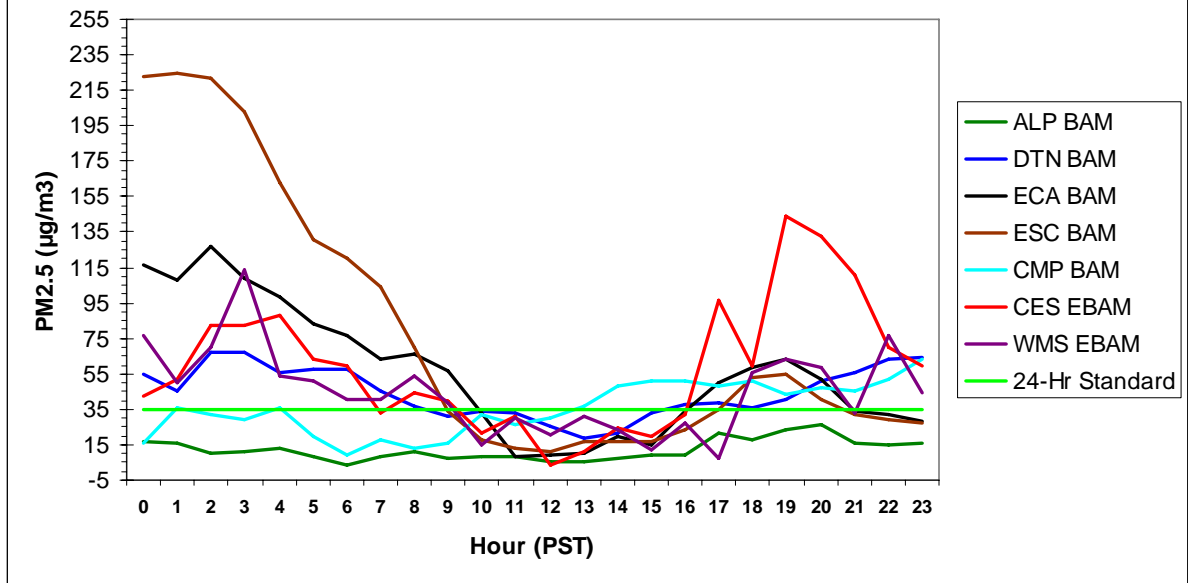
This Appendix contains graphical presentations of the data used in the analysis report. It should be noted that the PM<sub>2.5</sub> data used have not been finalized due to time constraints of the project and that data are normally validated and reported to the EPA on a quarterly basis. However, normal flagging in the data loggers handles routine data invalidations such as power failures or instrument malfunctions. As can be seen, BAM and EBAM data can be very noisy, and the data will therefore be subject to change with further analysis. EBAM data invalidated during analysis are included at the end of the Appendix.

The data below are presented in graphical format, with each day's data plotted as a function of time. The first graph shows the data for January 1, 2009, plotted along with the federal 24-hour standard for fine particulate matter (PM<sub>2.5</sub>). The highest PM<sub>2.5</sub> measured at any site in San Diego County (Escondido) was measured on this date. As can be seen in this first graph, the highest 1-hour PM<sub>2.5</sub> concentration measured during the entire project was much higher than the applicable 24-hour standard.

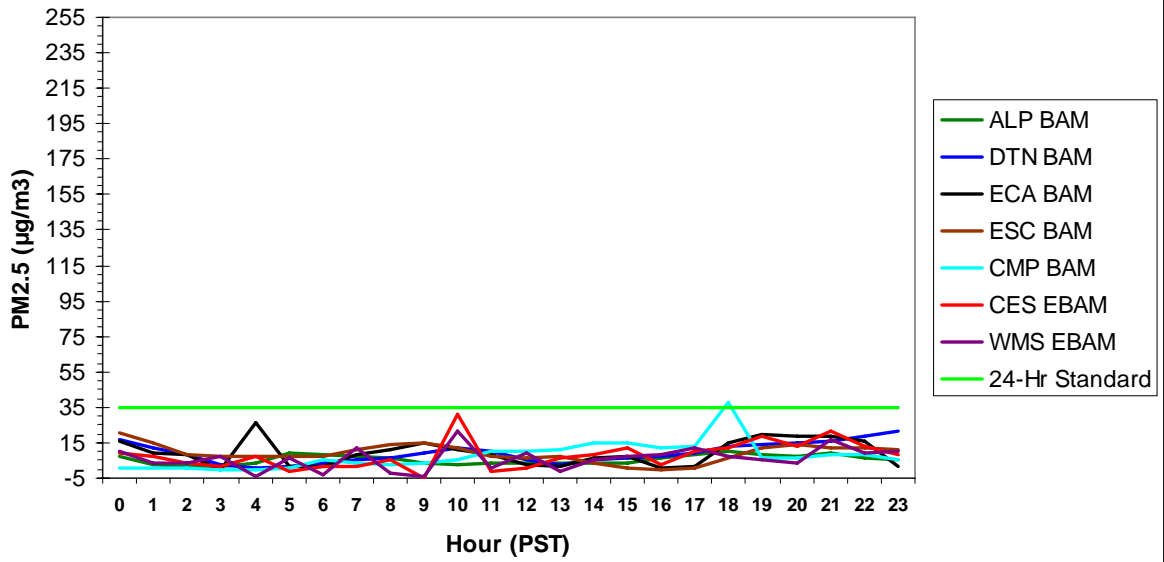
If we were to use this scaling on all graphs, details in the data would not be as clear or apparent (see the second graph for January 19, 2009). To show better detail of the data, daily graphs will be plotted with a maximum range of 55µg/m<sup>3</sup> (see the third graph). The value of the federal 24-hour standard will be visible in these graphs. However, when data exceed 55µg/m<sup>3</sup>, the data points will not all be visible. In those cases, the data will be re-plotted using the 255 µg/m<sup>3</sup> range.

The graphs will all show color-coded hourly averages of PM<sub>2.5</sub> from all monitoring stations in the County. These are: Alpine (ALP), Downtown San Diego (DTN), El Cajon (ECA), Escondido (ESC), Camp Pendleton (CMP), Central Elementary School (CES), and, Wilson Middle School (WMS). The data are plotted against the time collected in Pacific Standard Time (PST), with hour 0 being from midnight to 1 am, hour 1 being from 1 am to 2 am, etc. Data gaps reflect missing data –interpolations are not included.

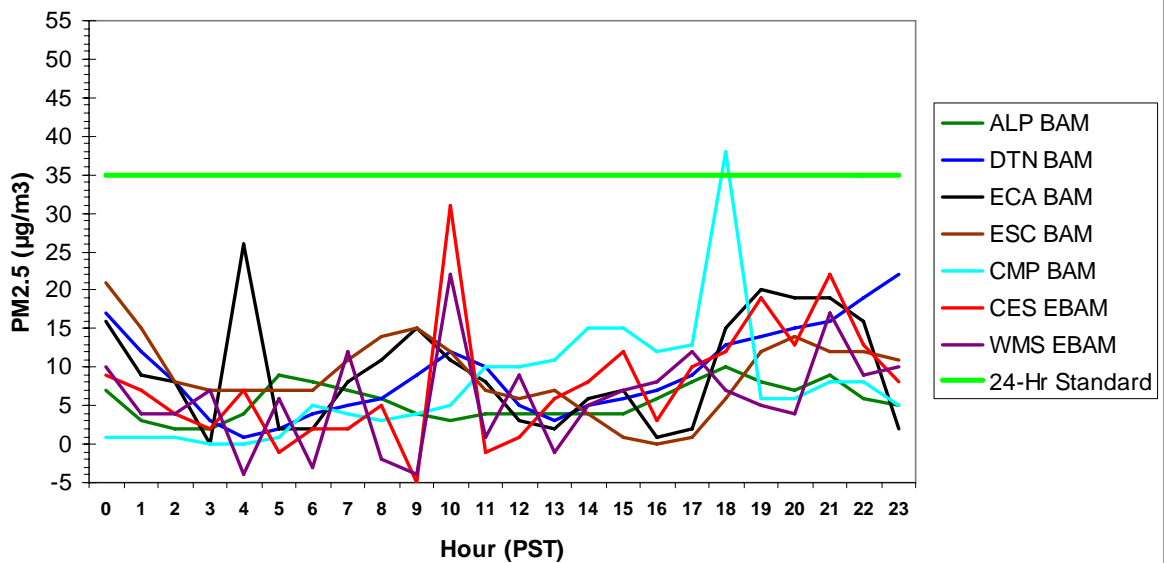
Hourly PM2.5 Data for: Thursday, 1/1/2009

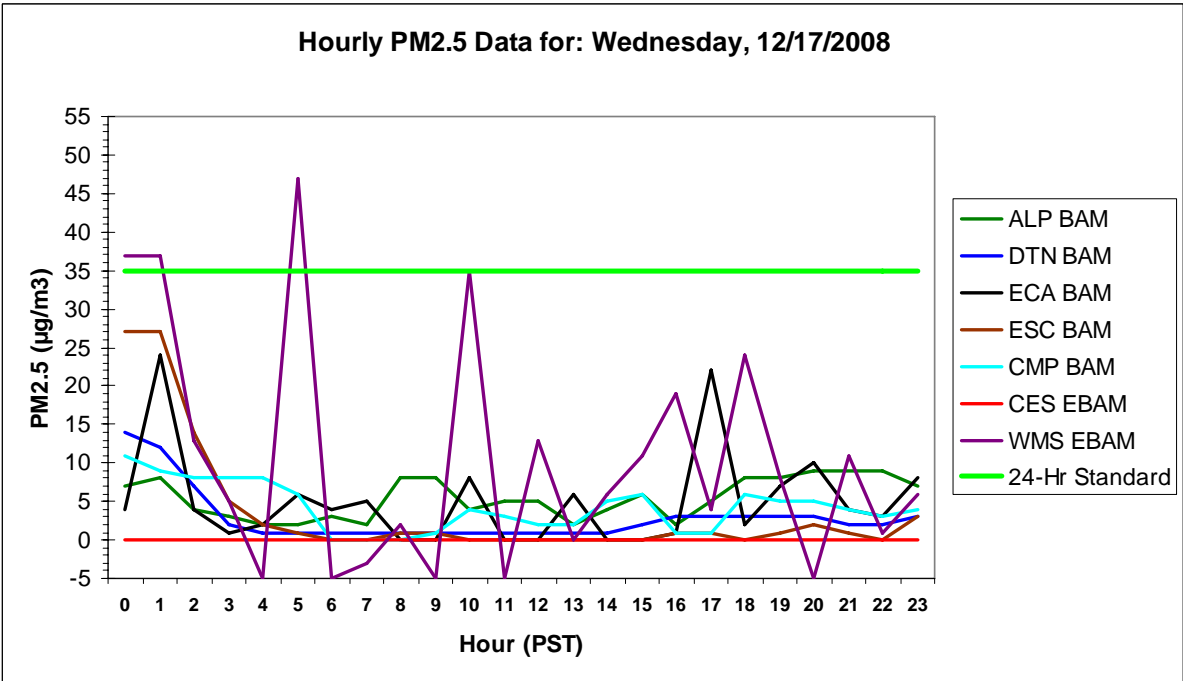
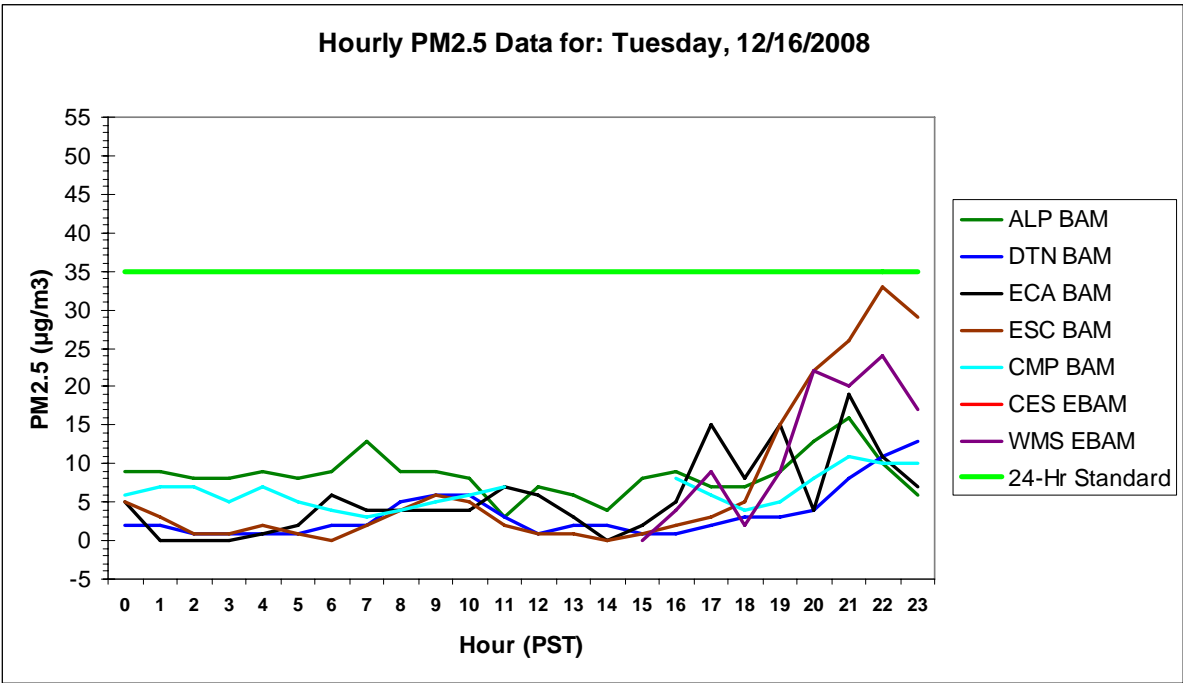


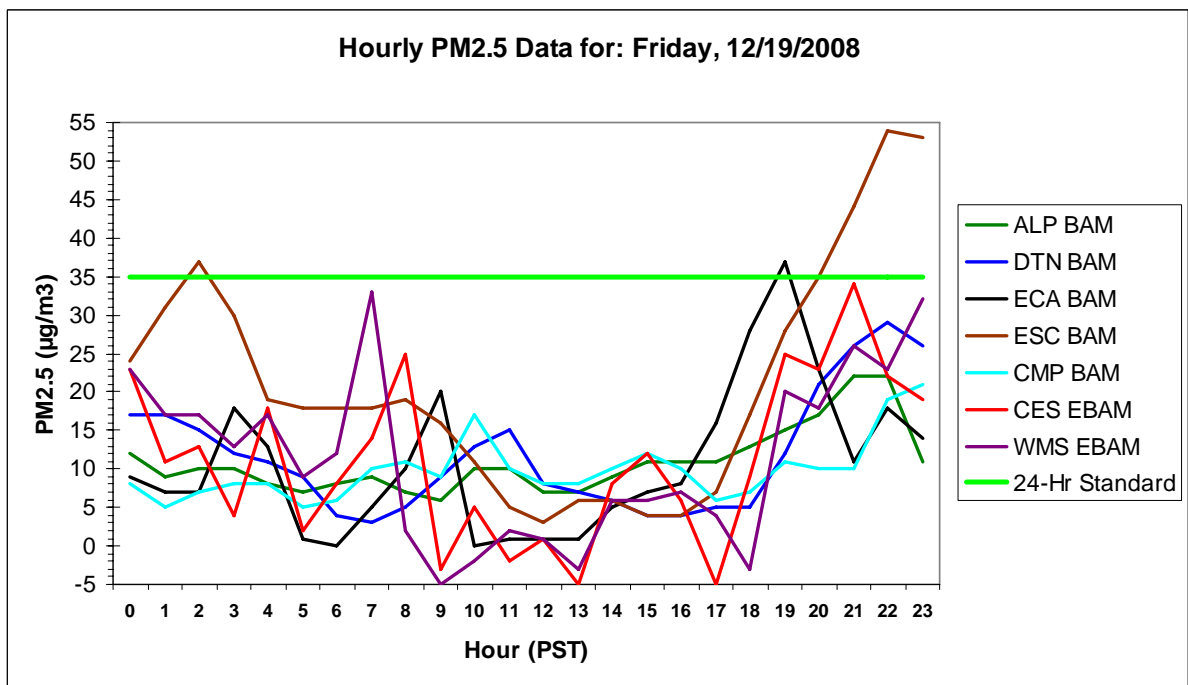
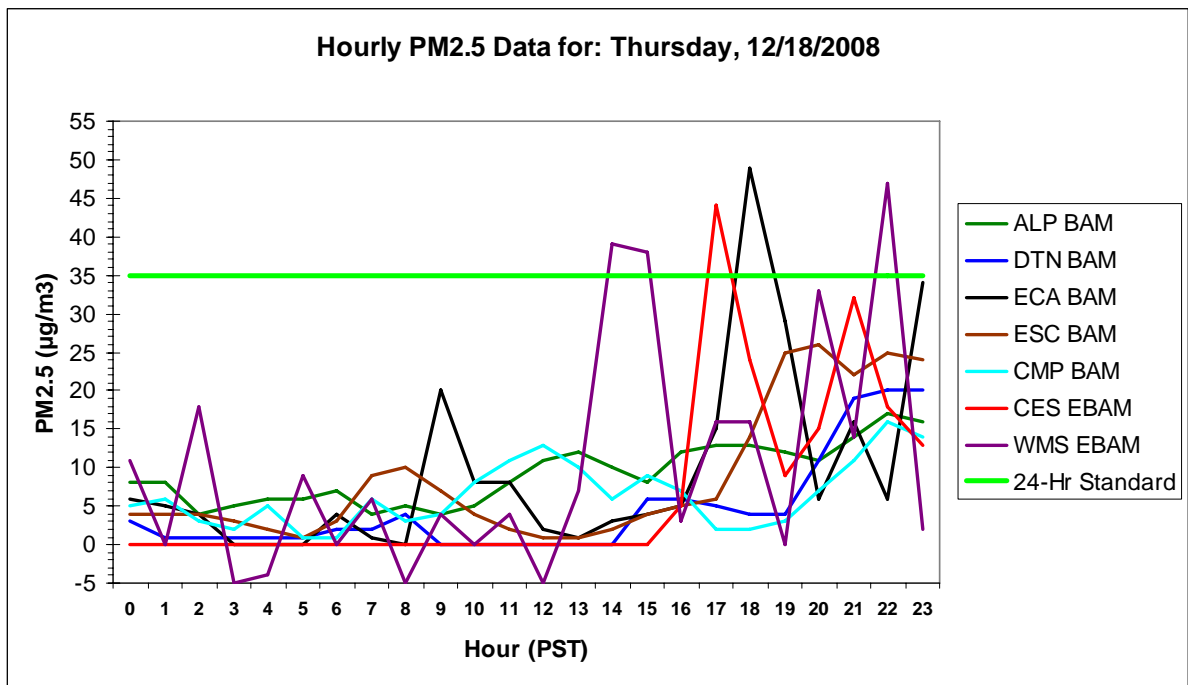
Hourly PM2.5 Data for: Monday, 1/19/2009

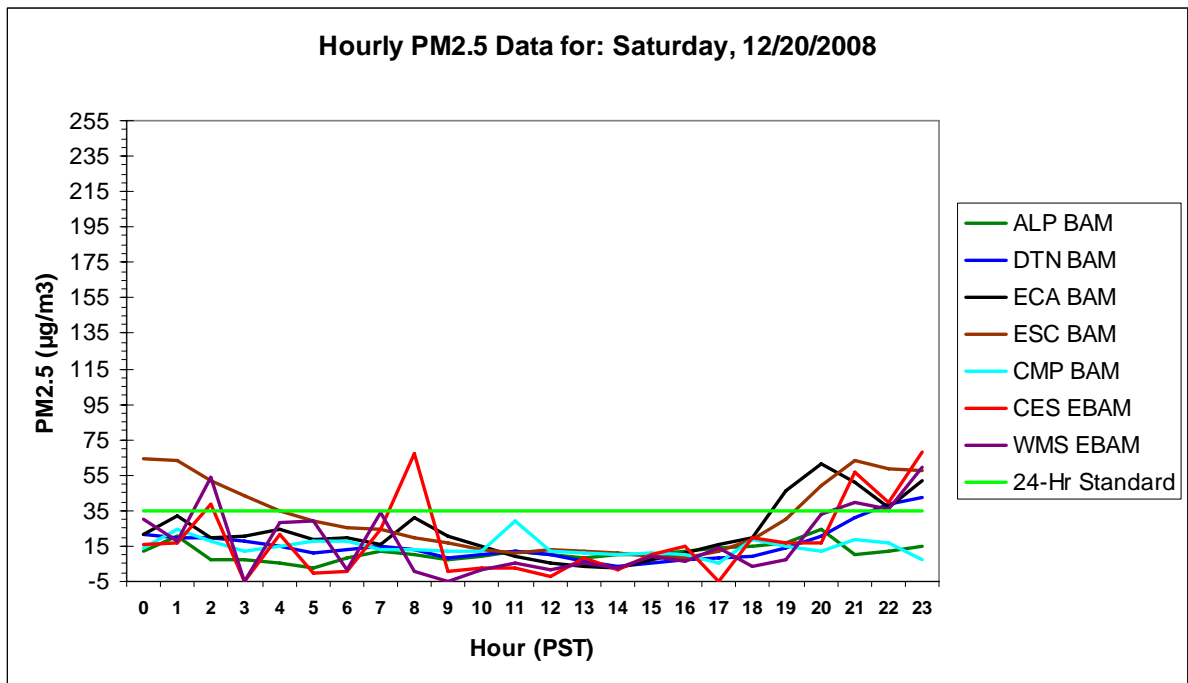
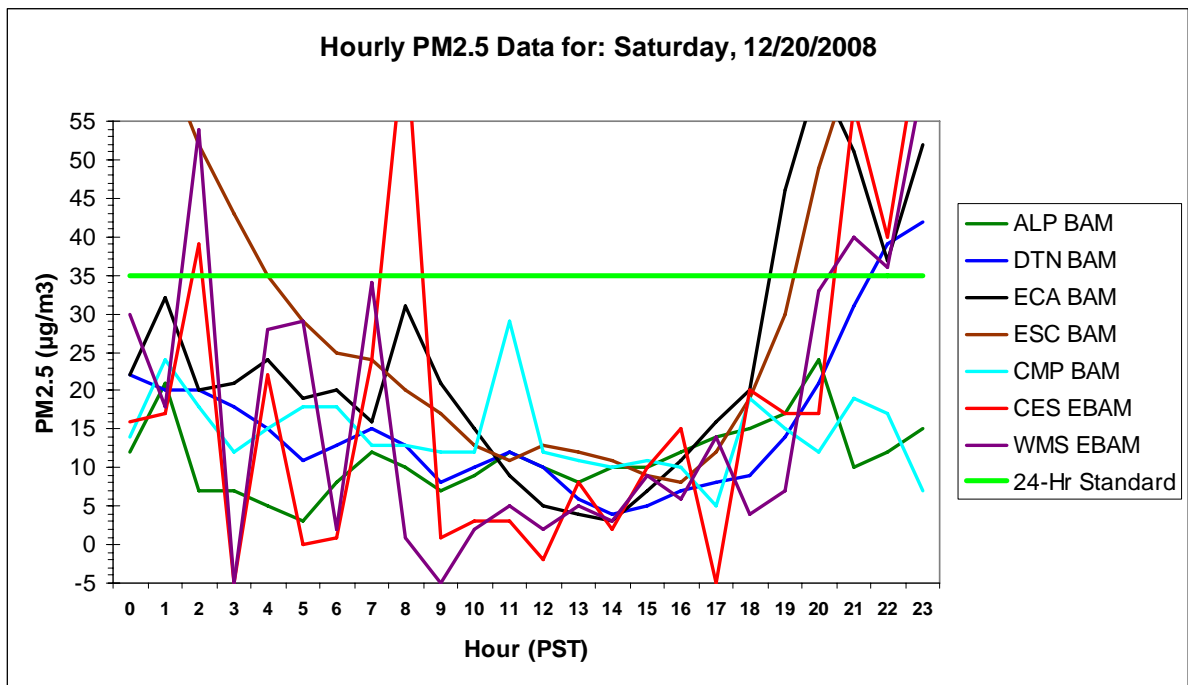


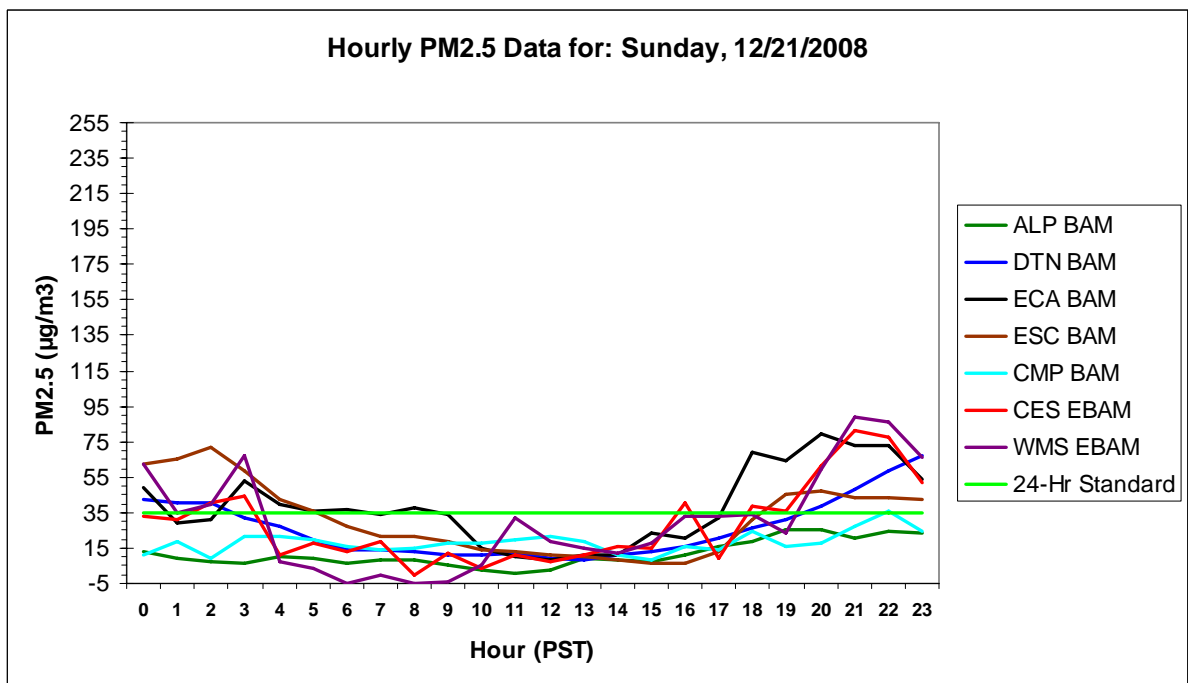
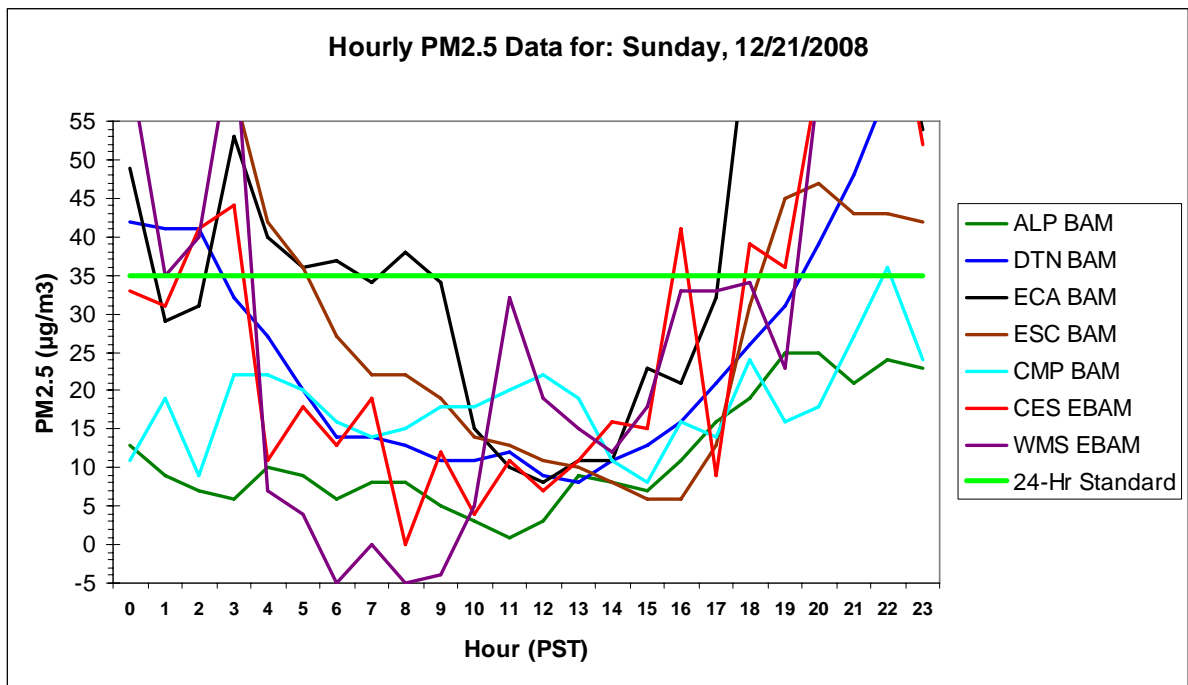
Hourly PM2.5 Data for: Monday, 1/19/2009



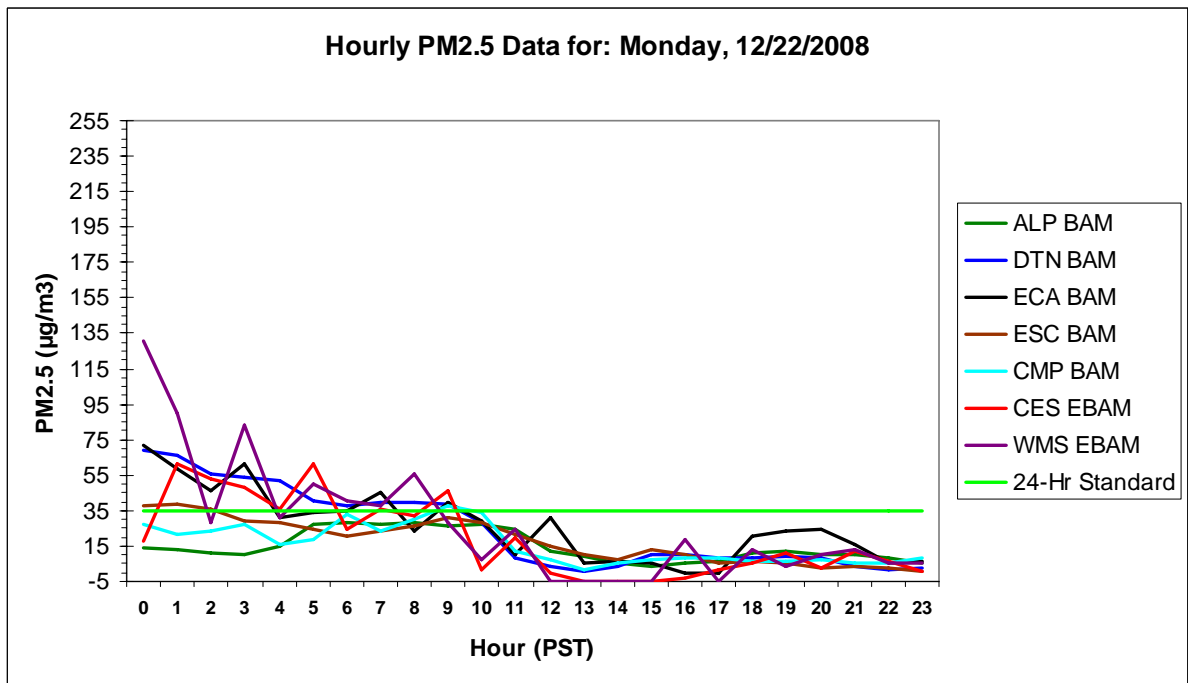
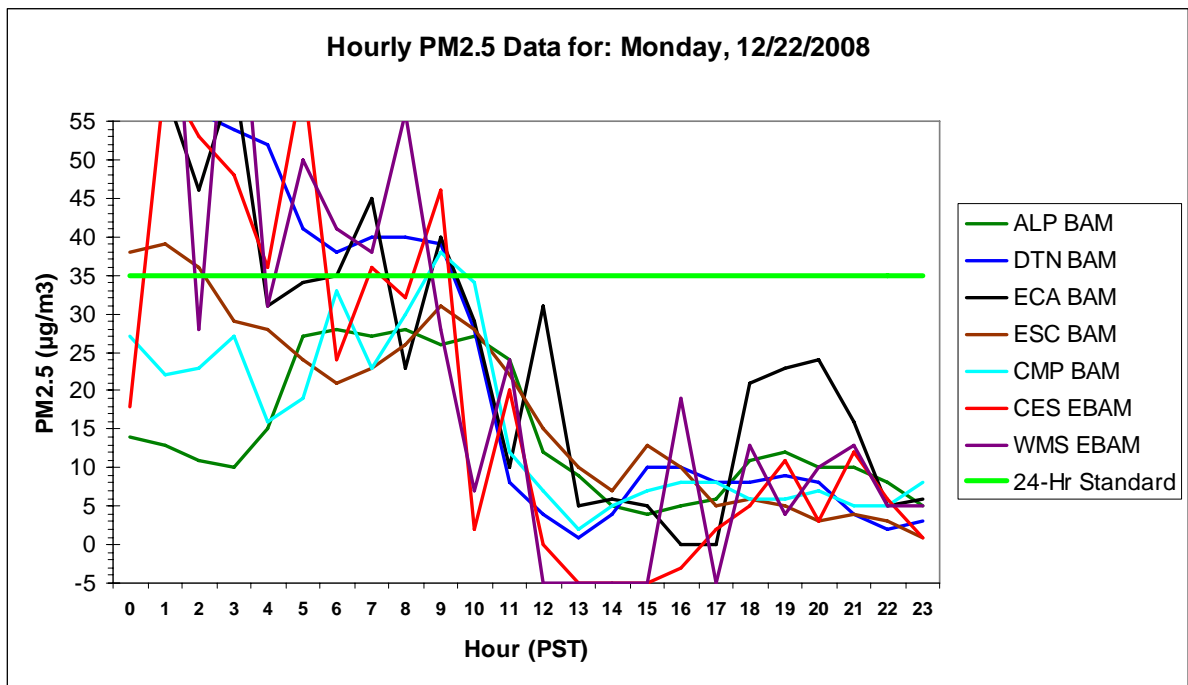


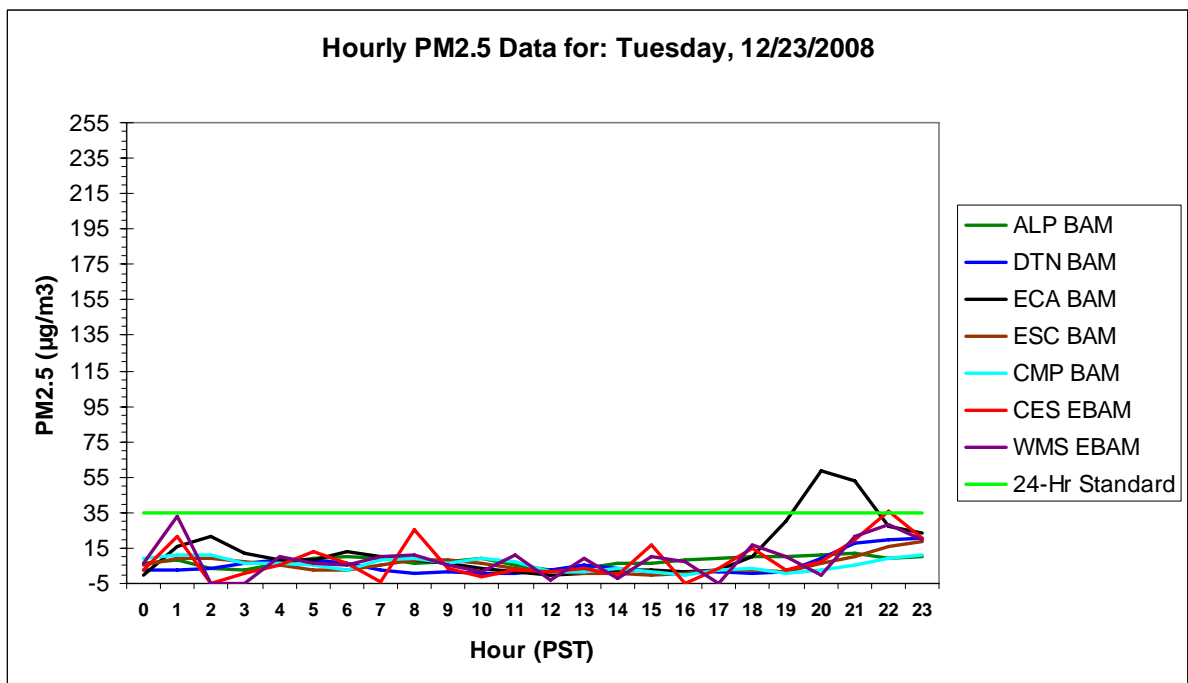
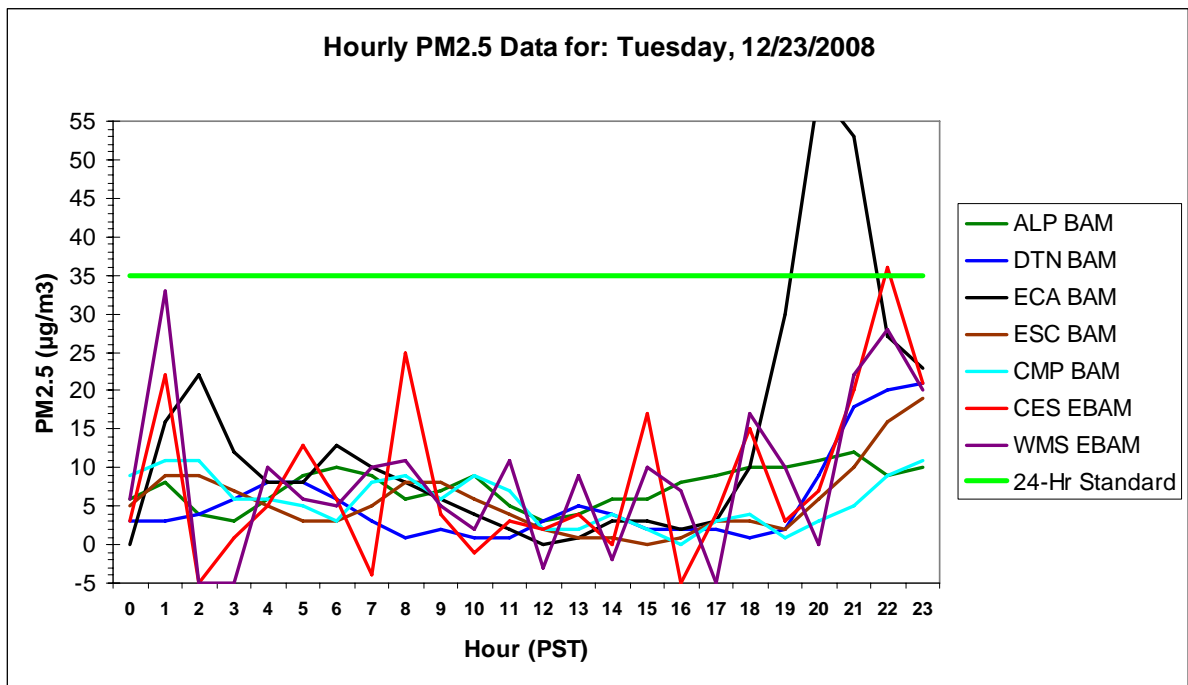


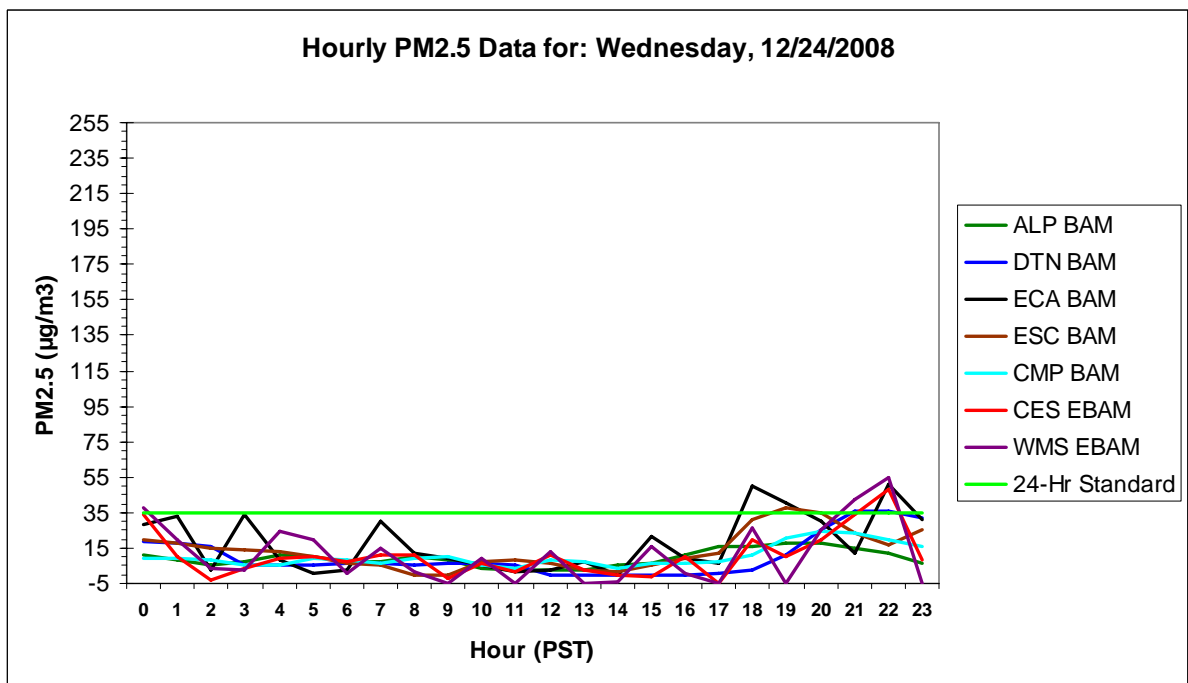
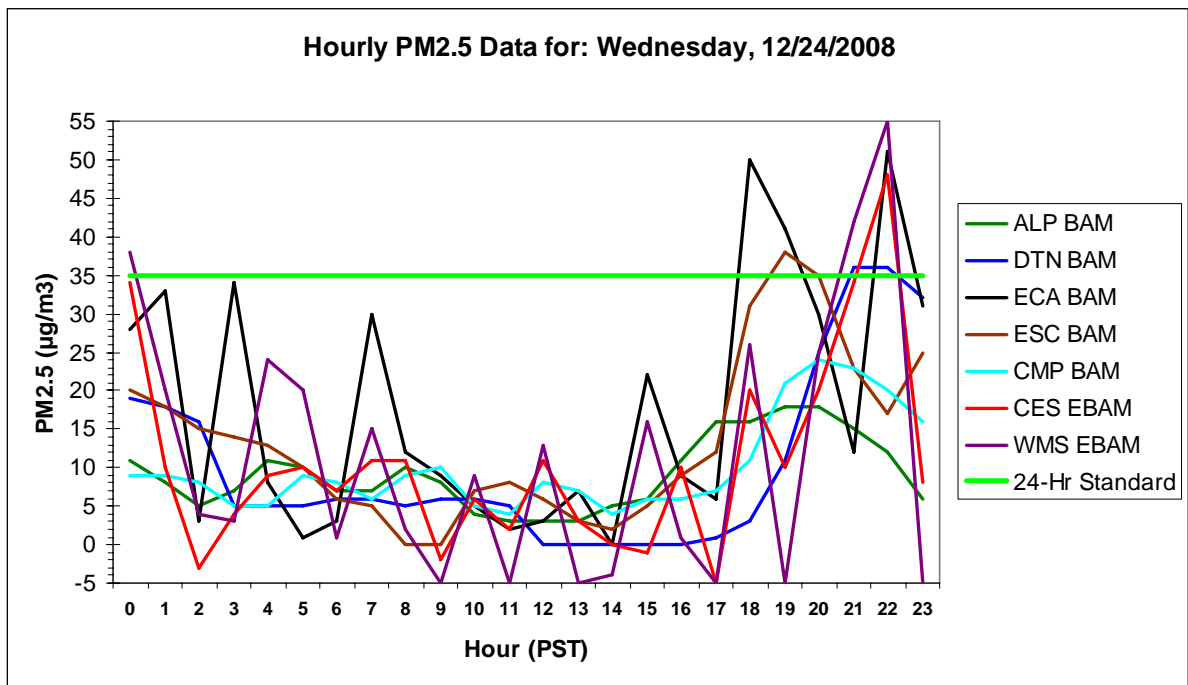


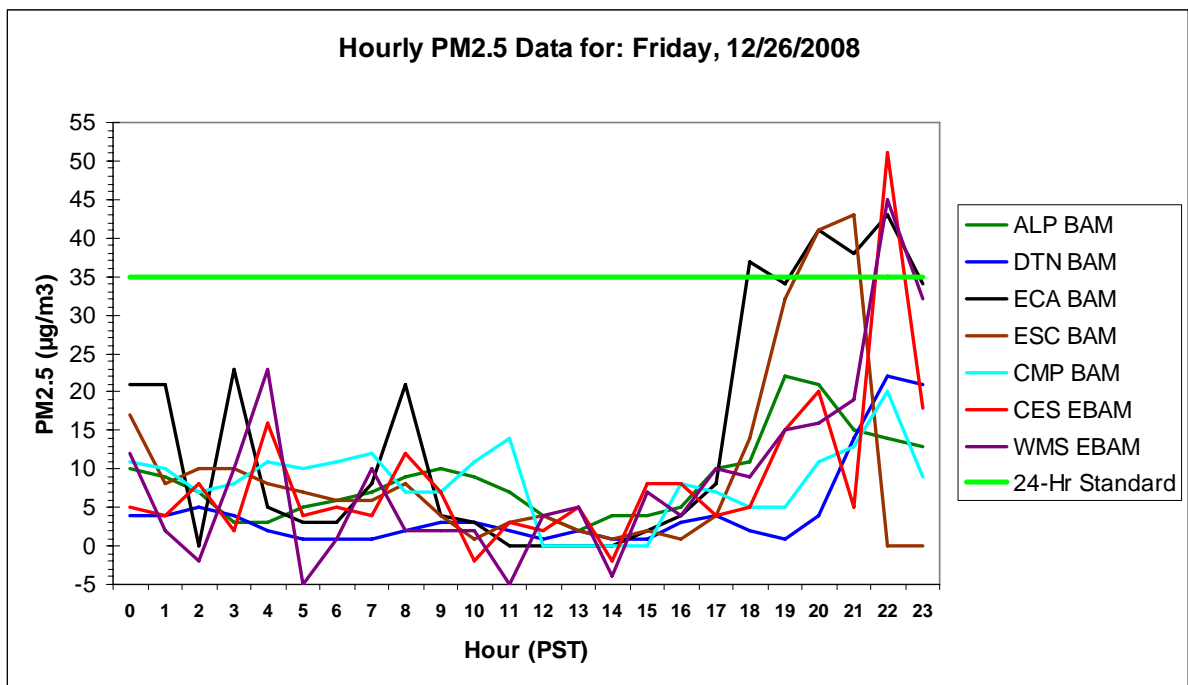
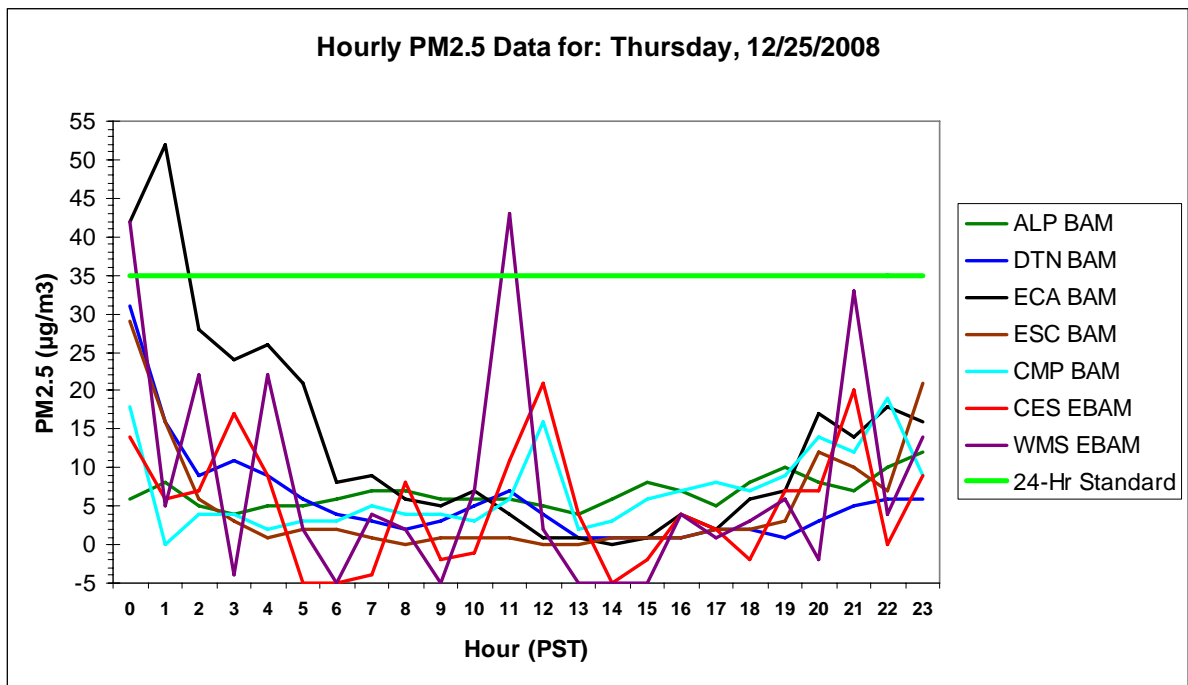


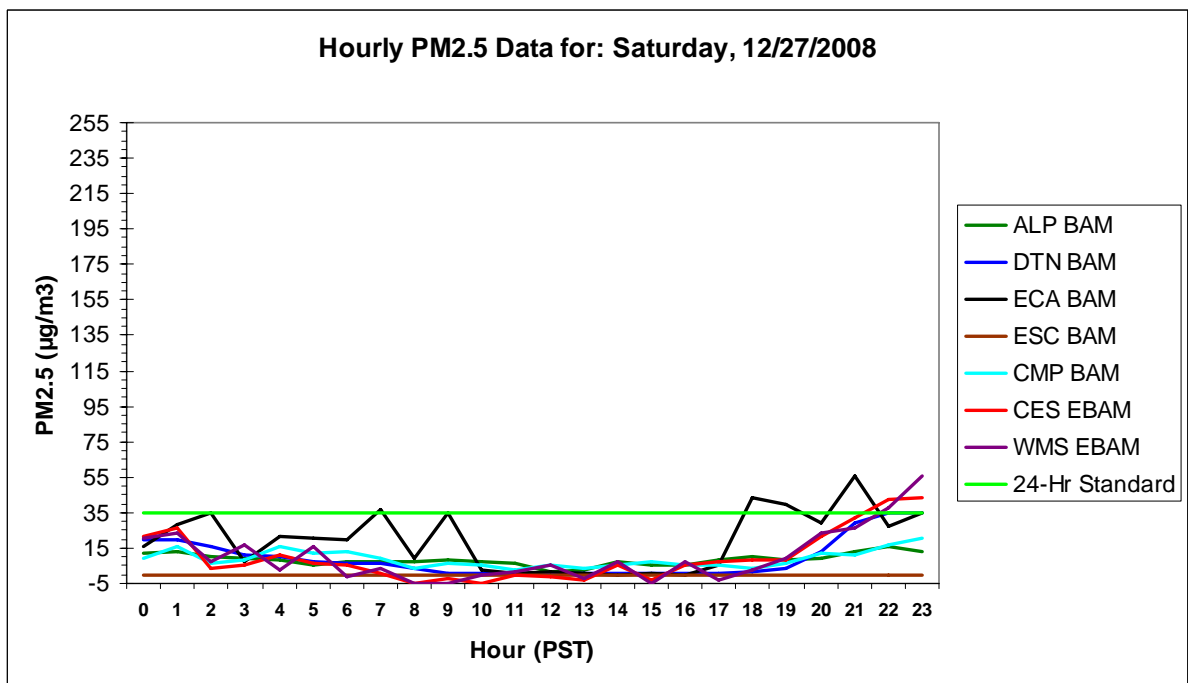
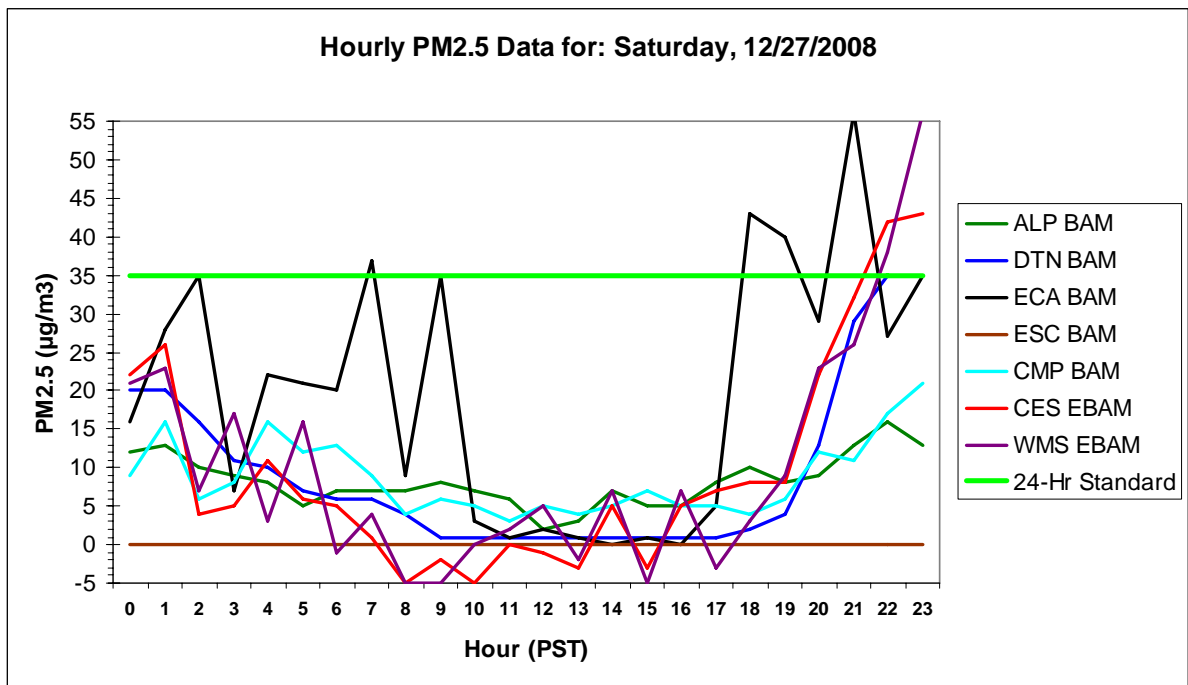


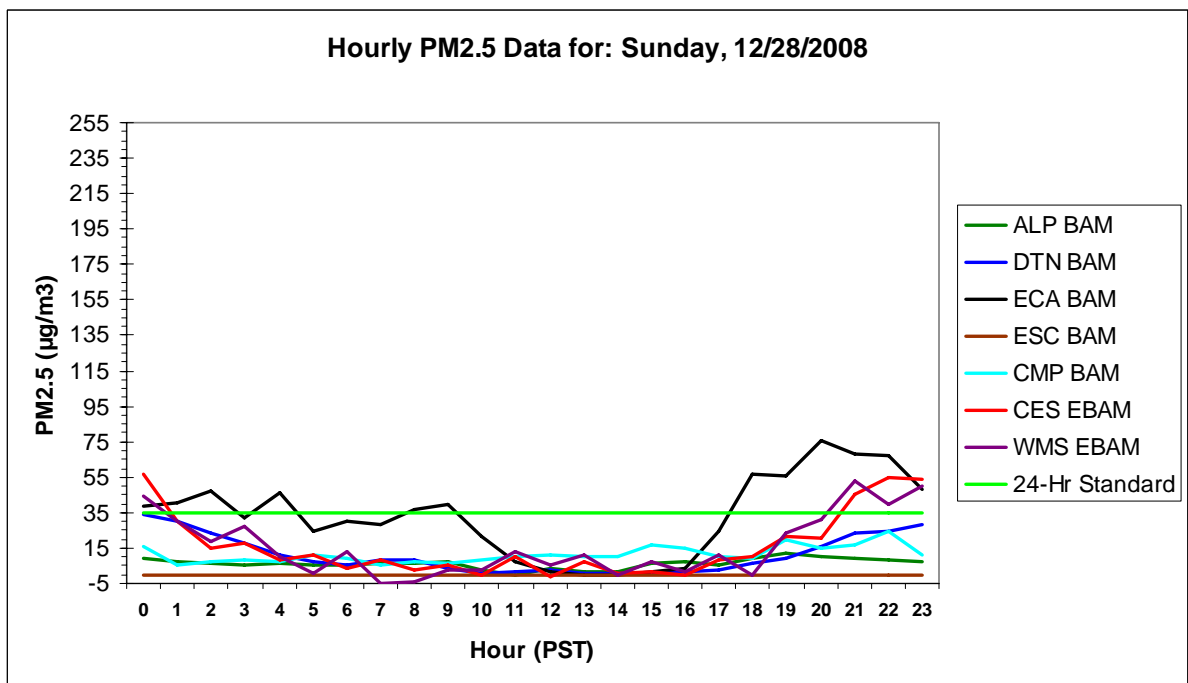
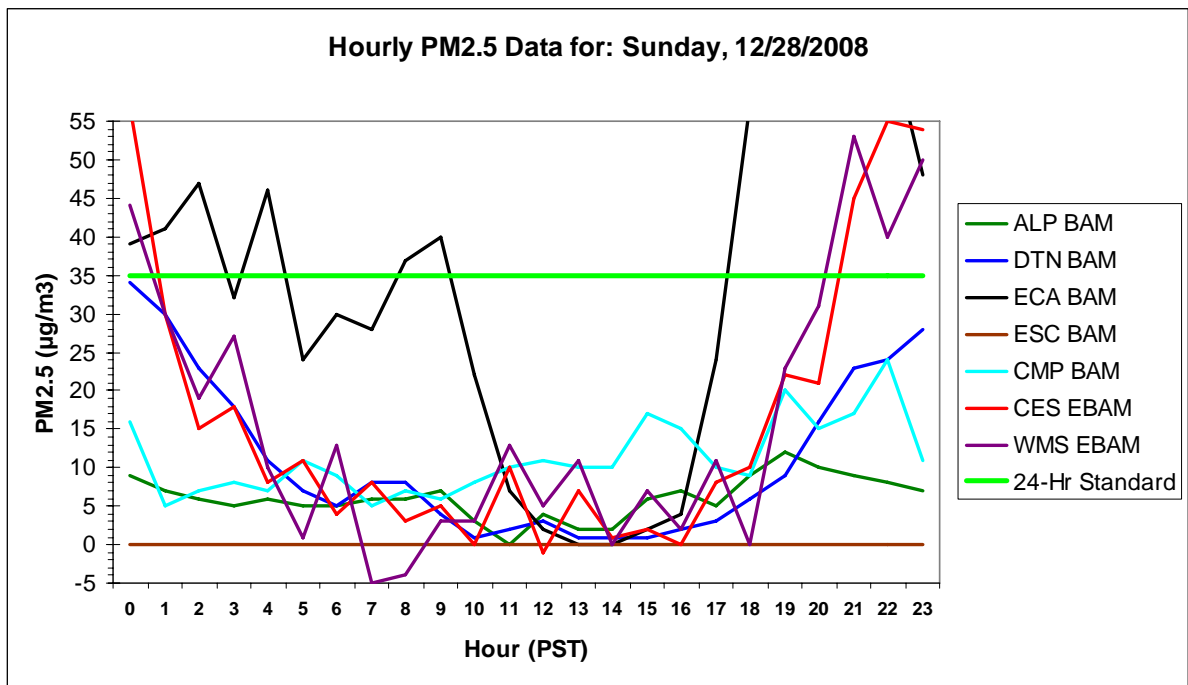


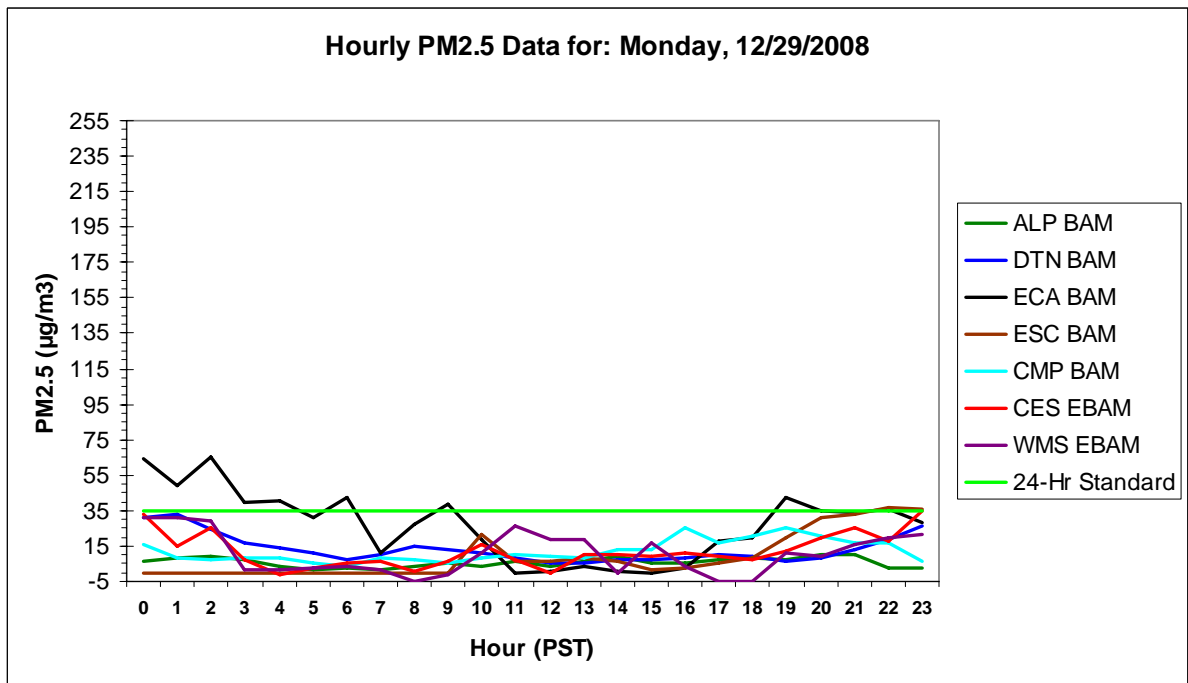
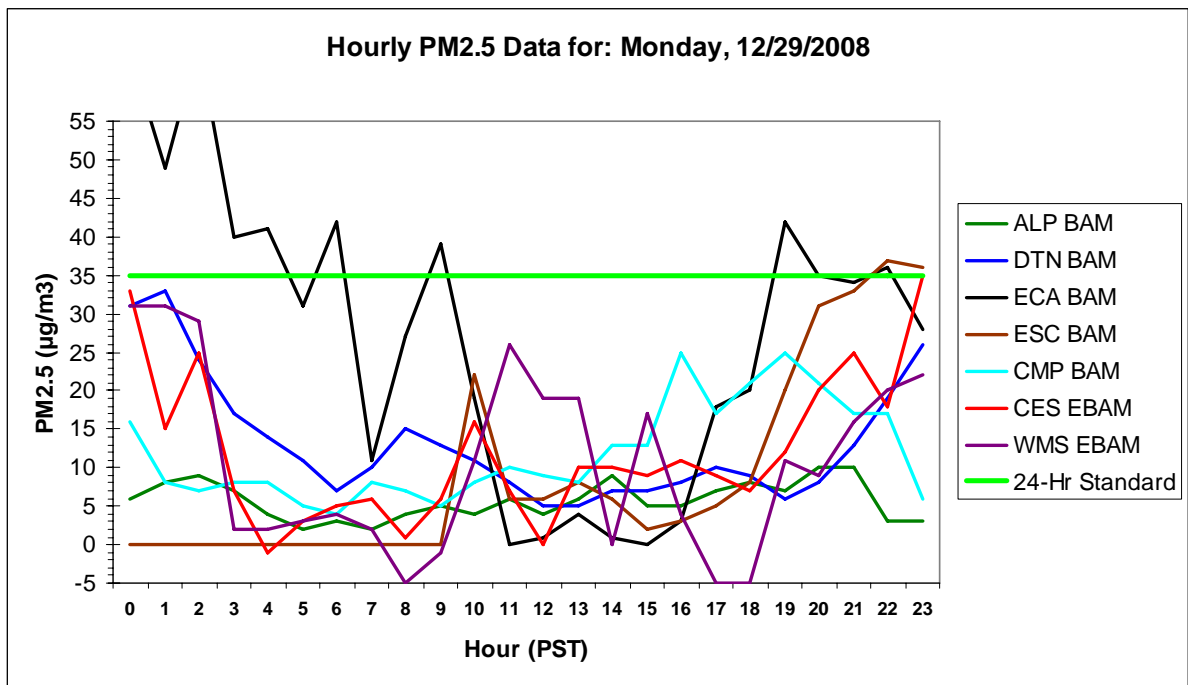


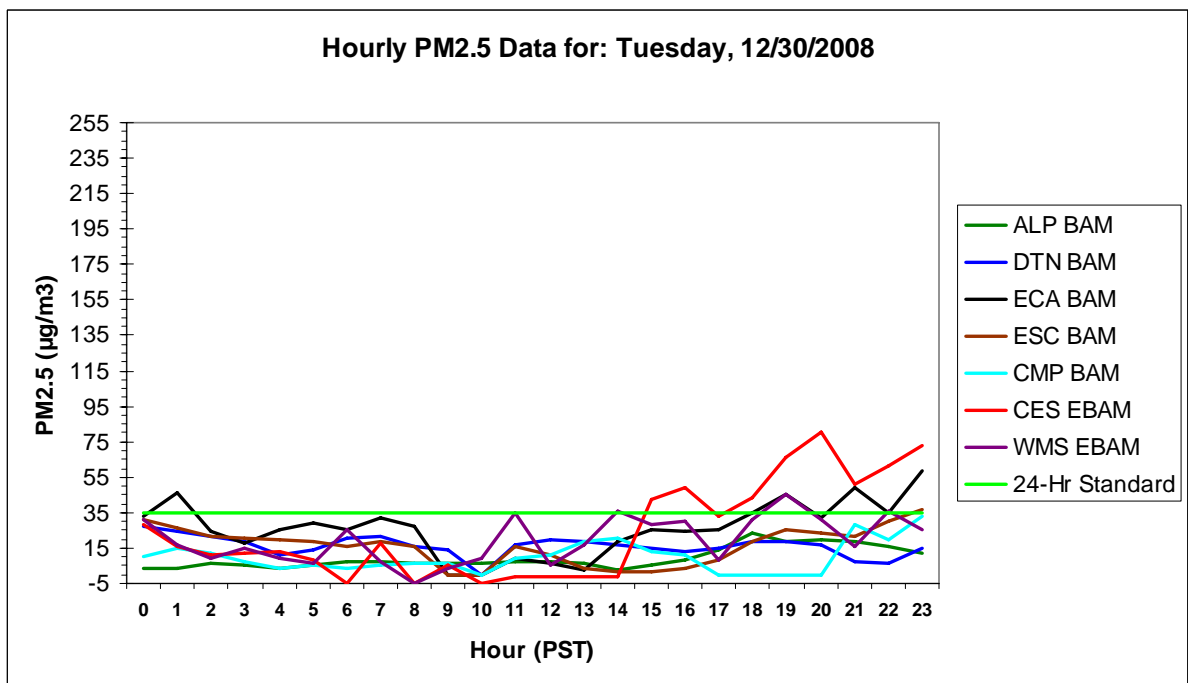
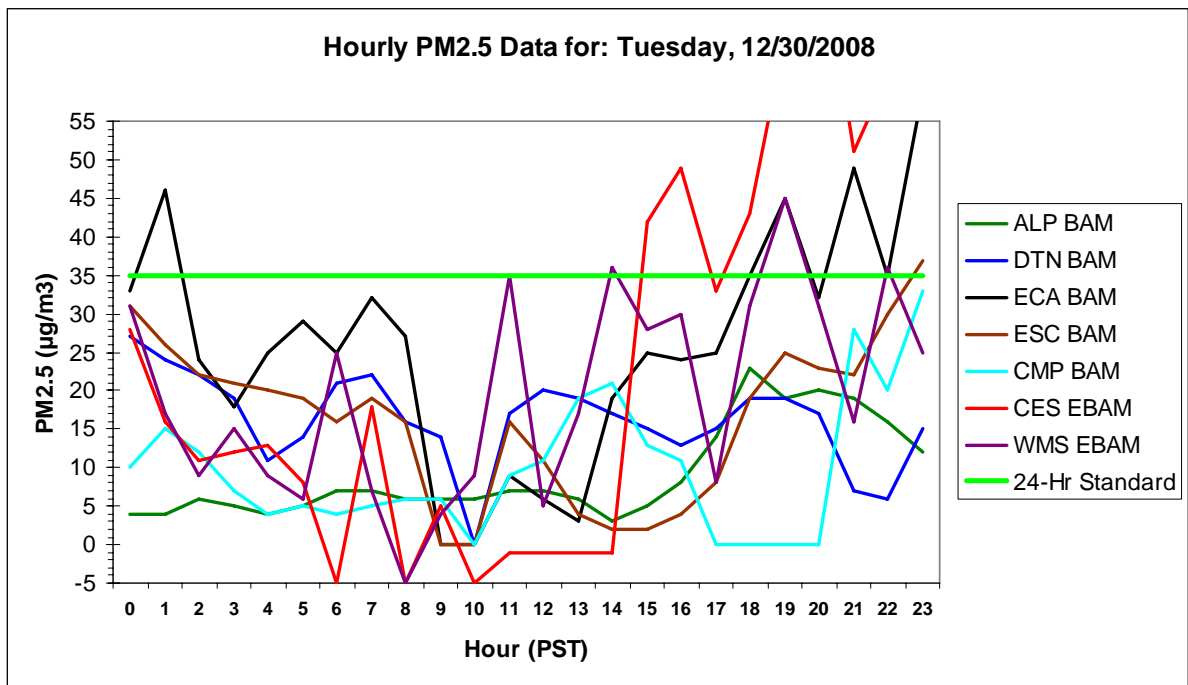




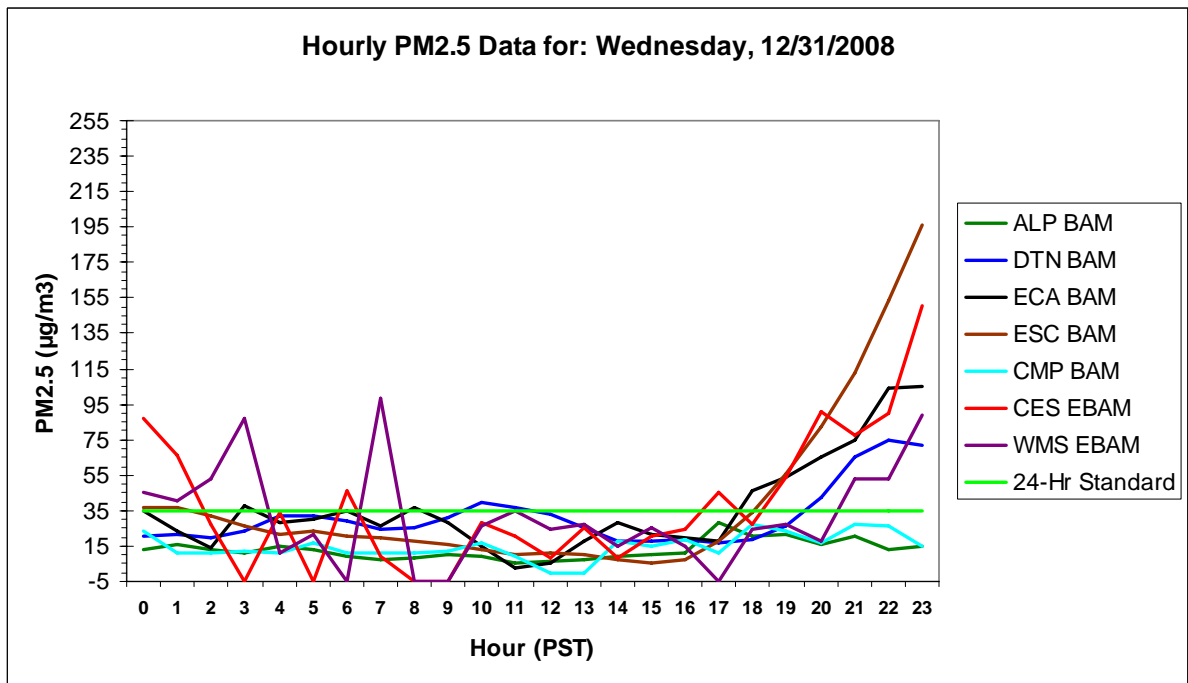
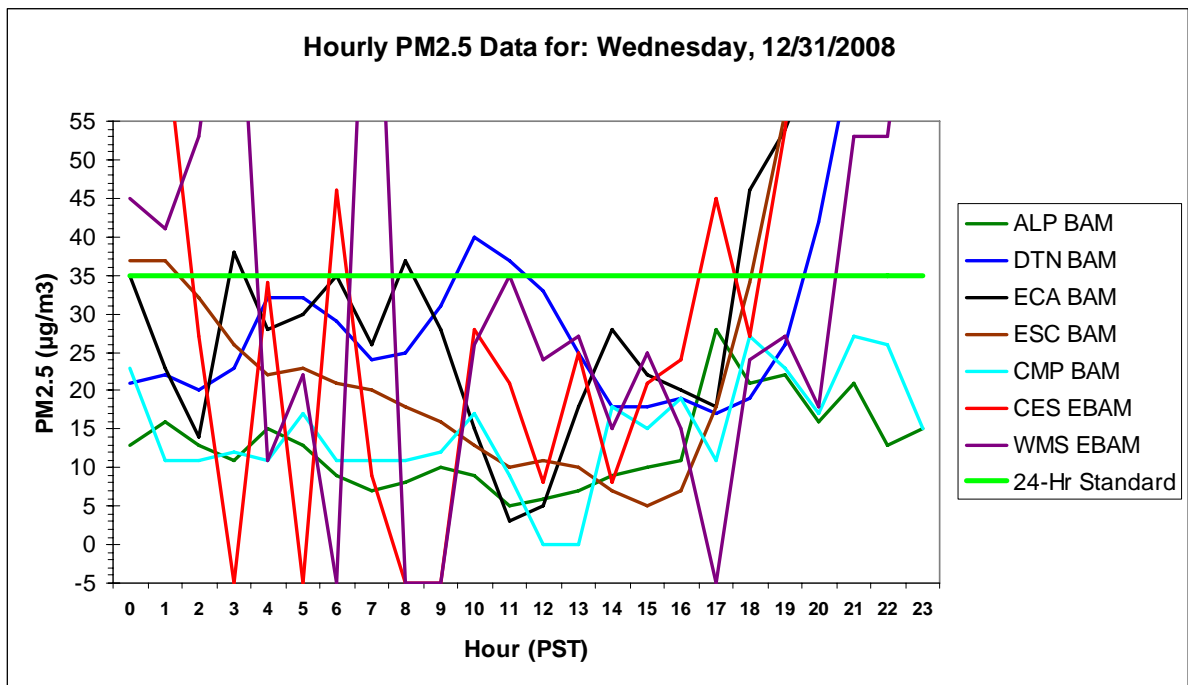


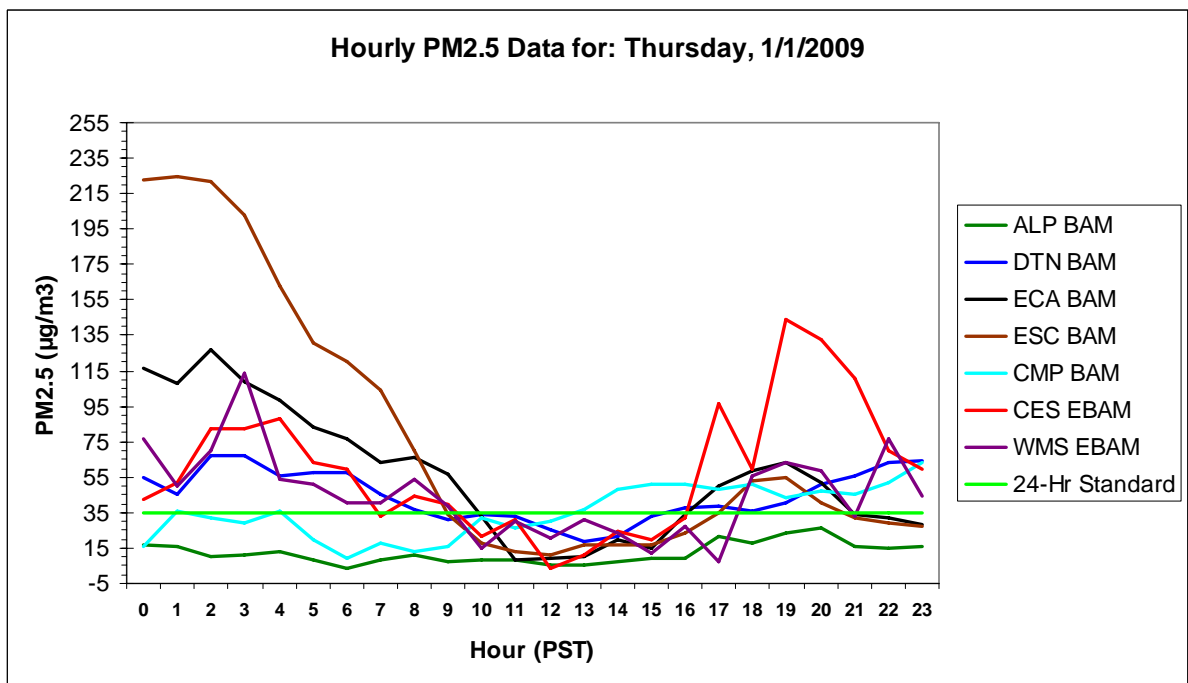
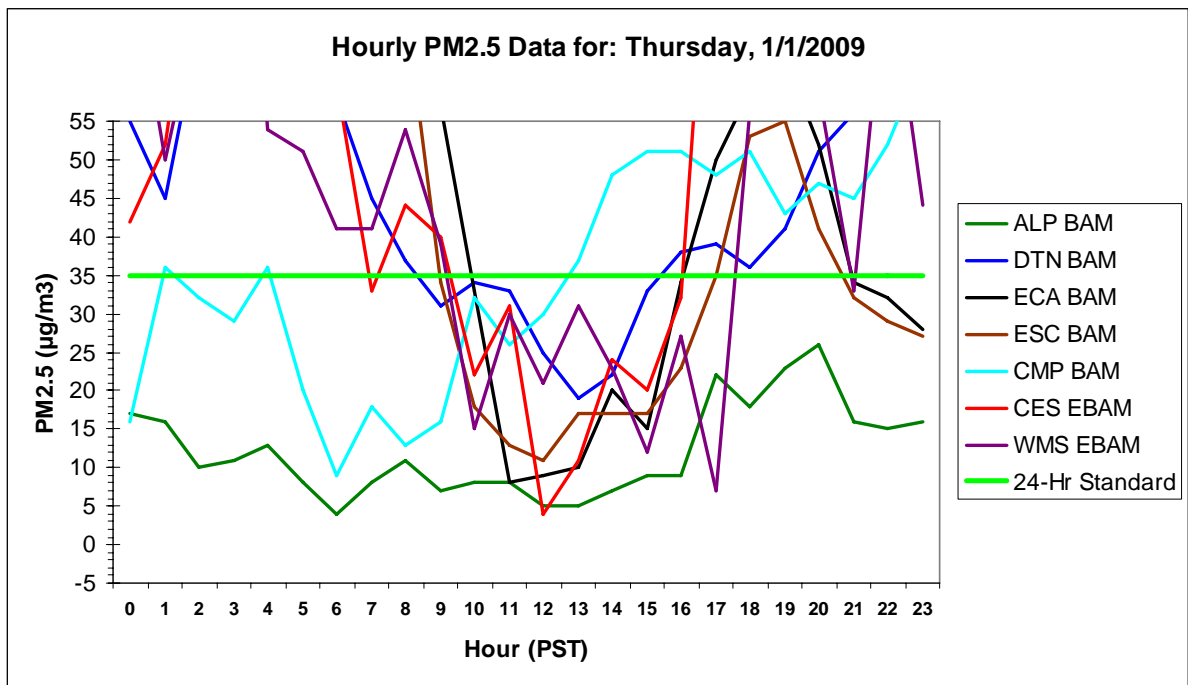


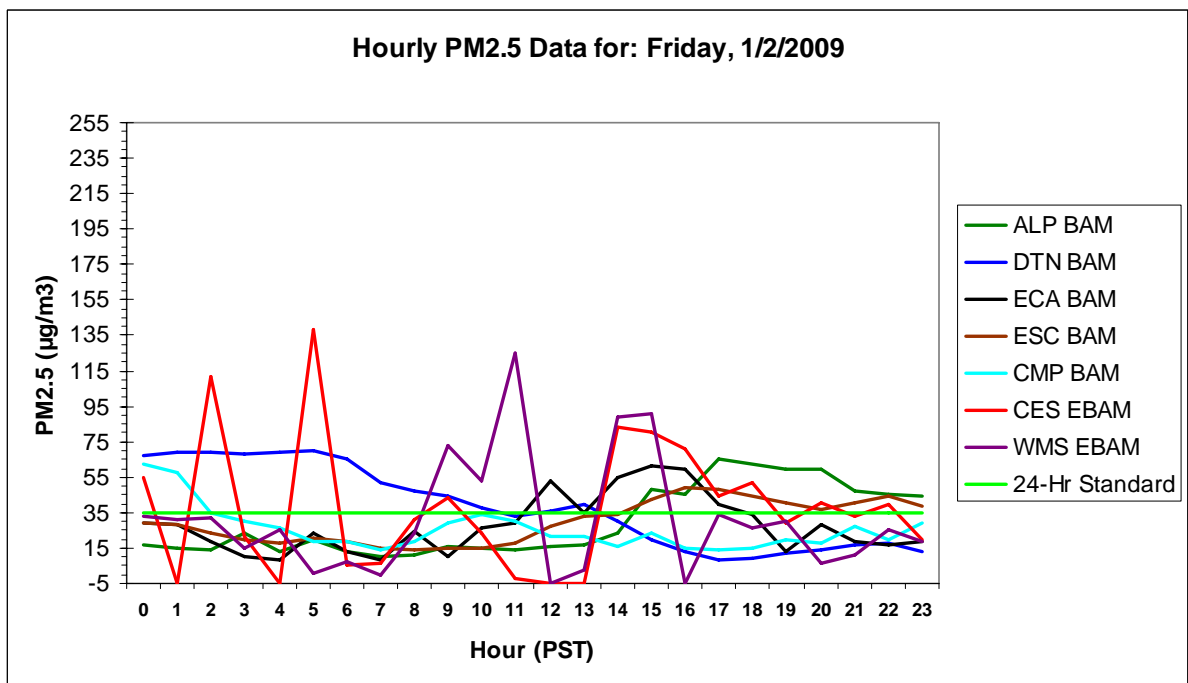
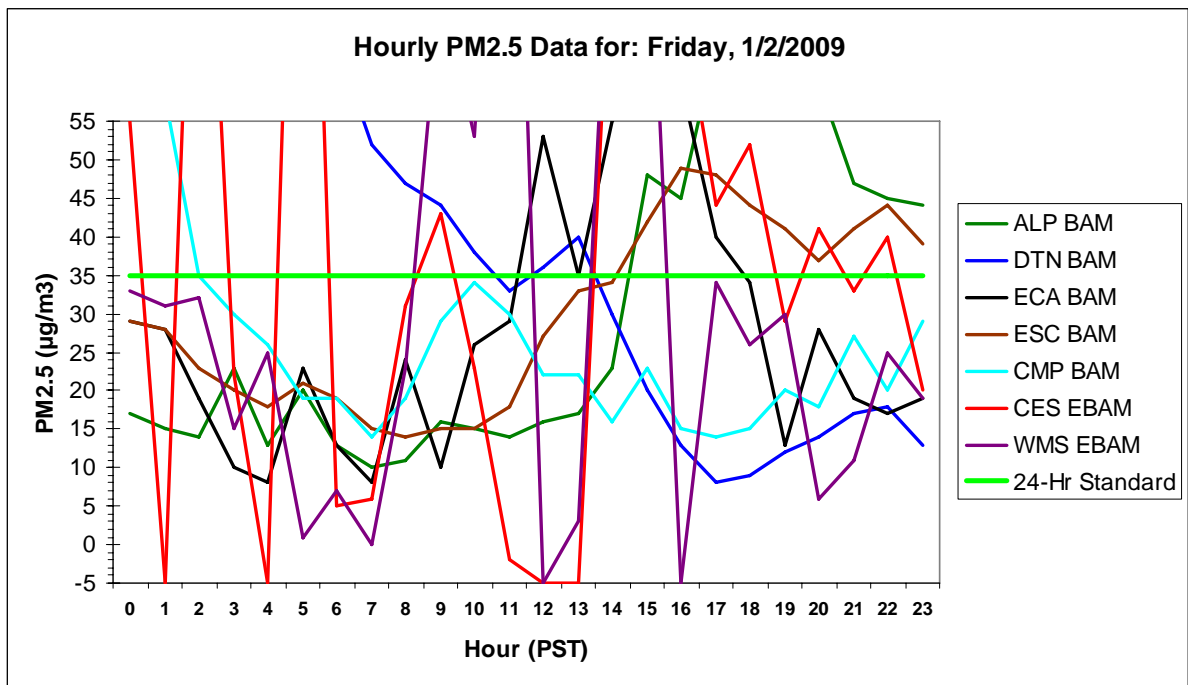


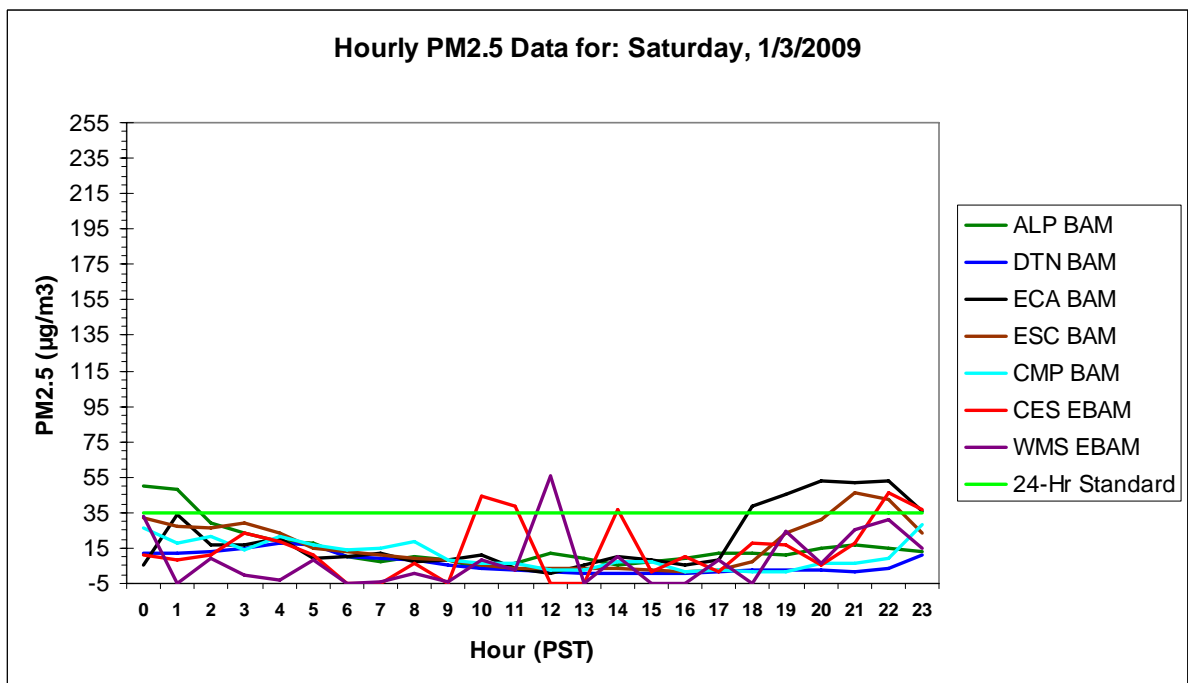
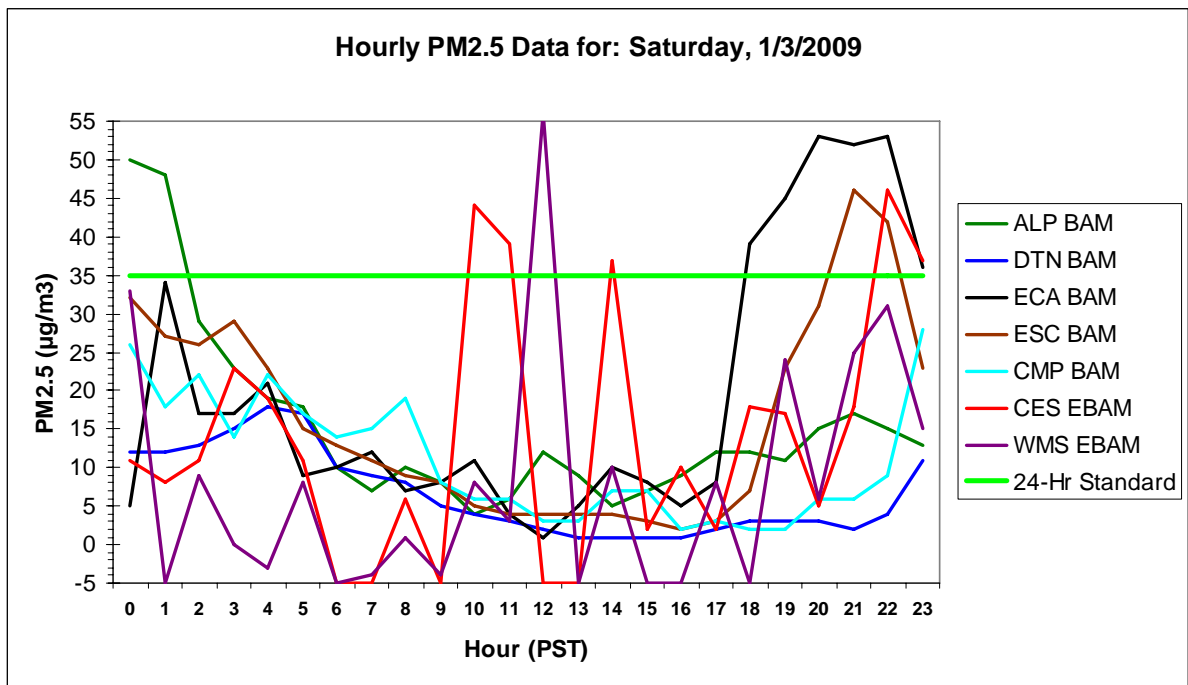


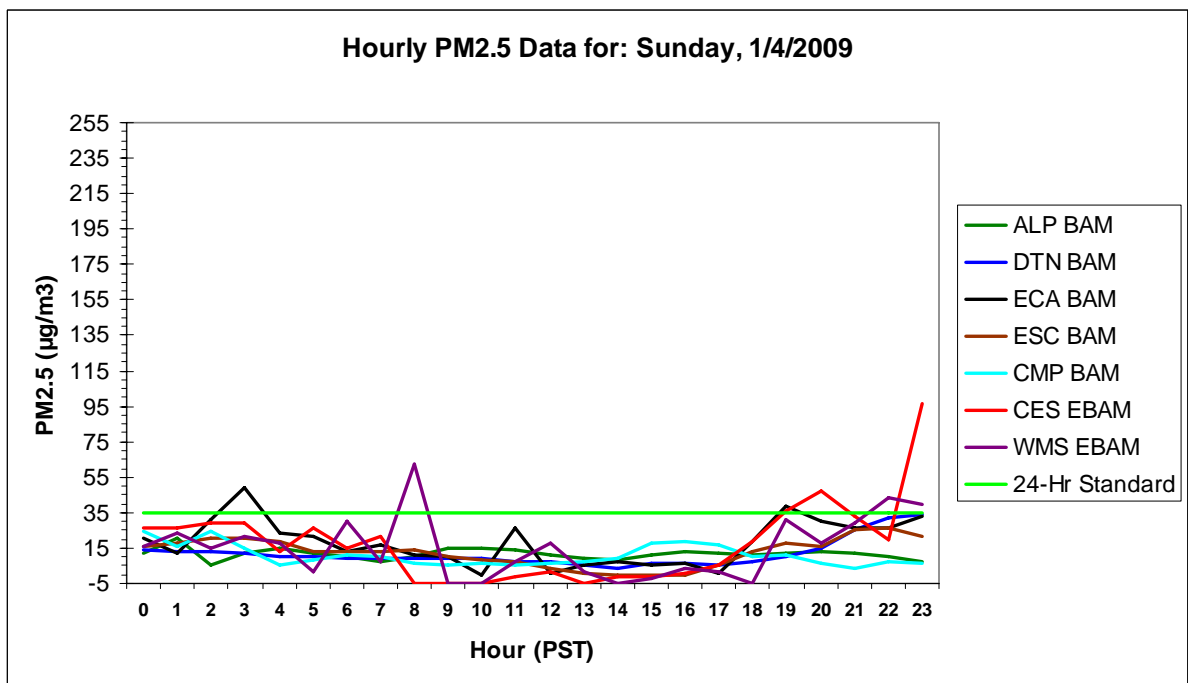
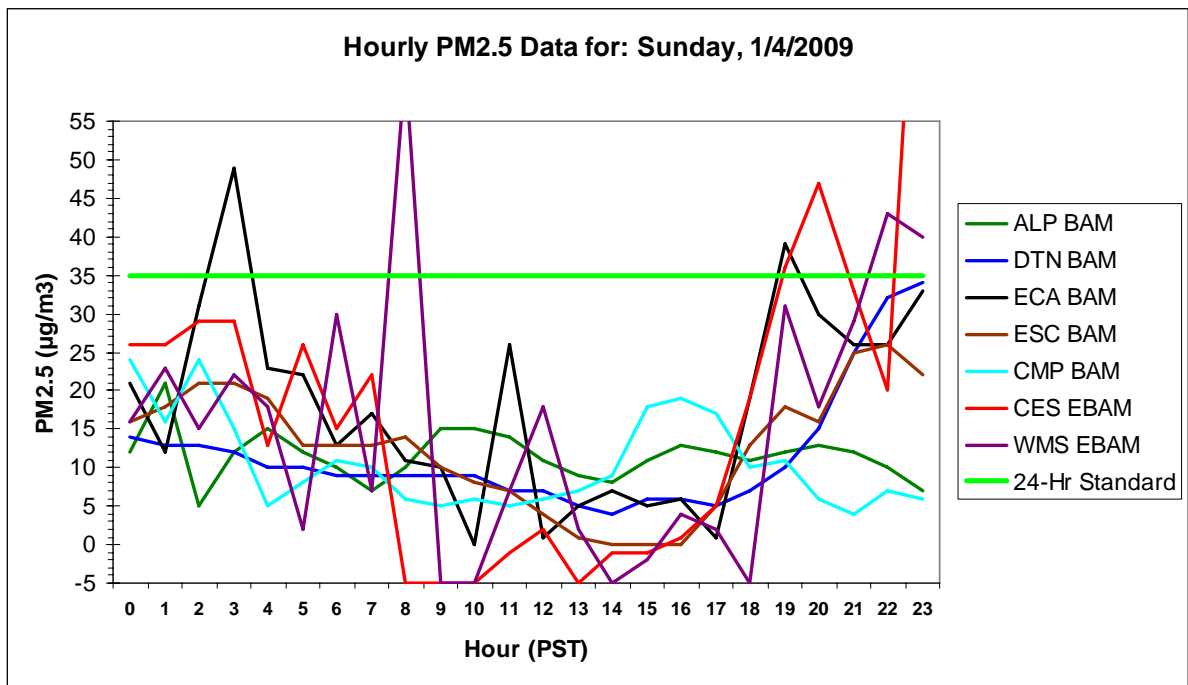


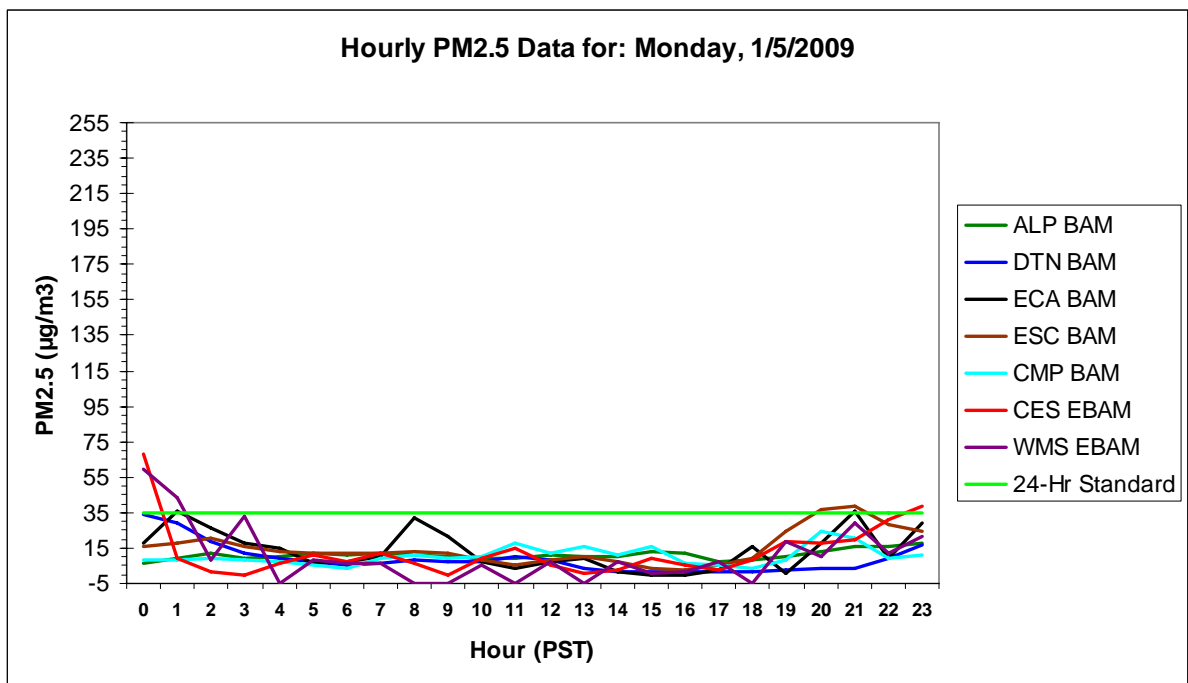
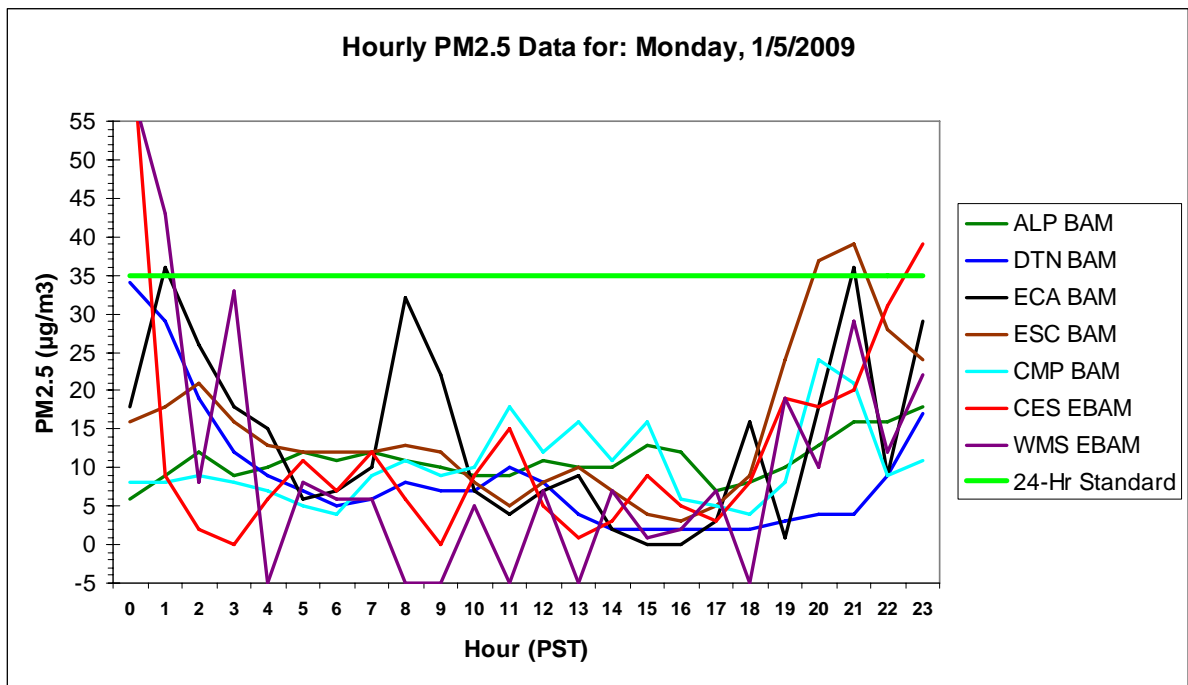




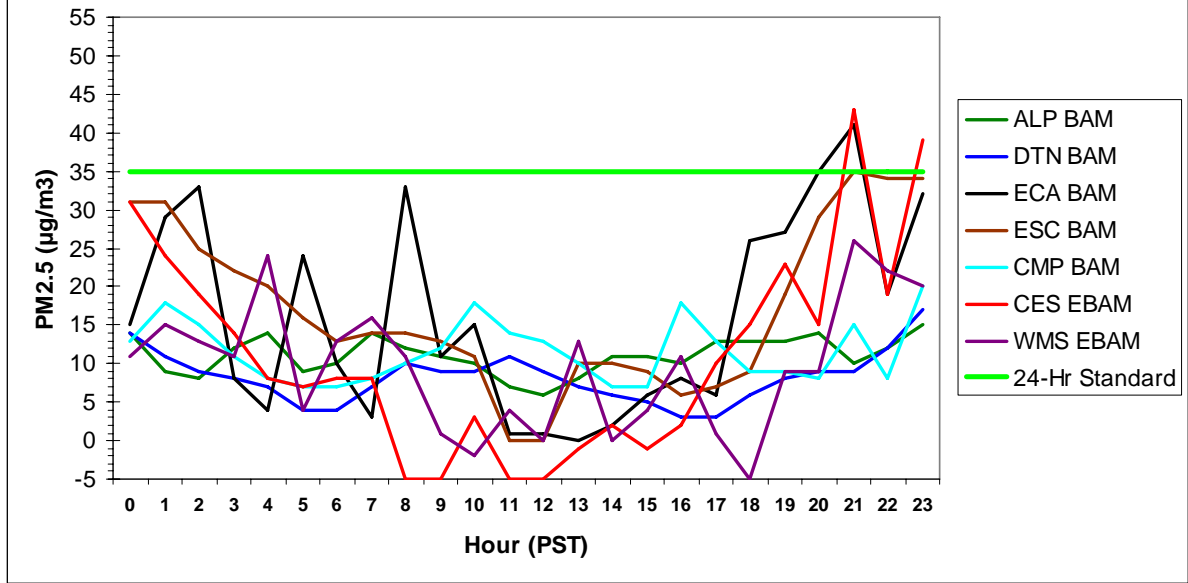


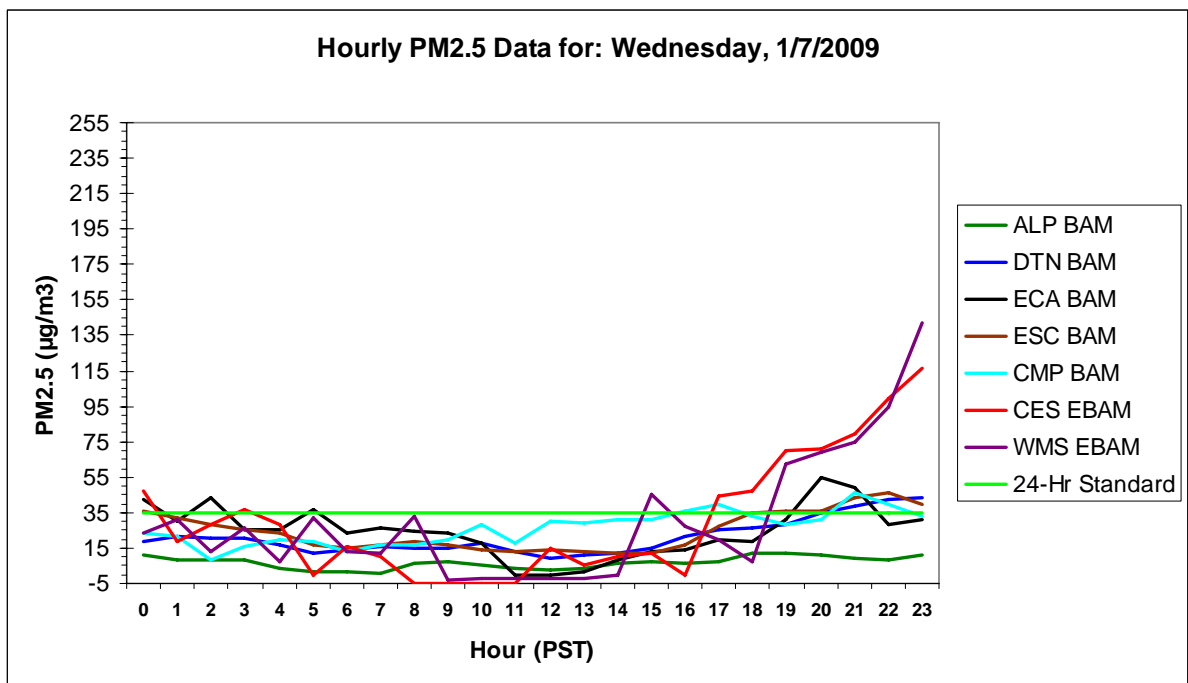
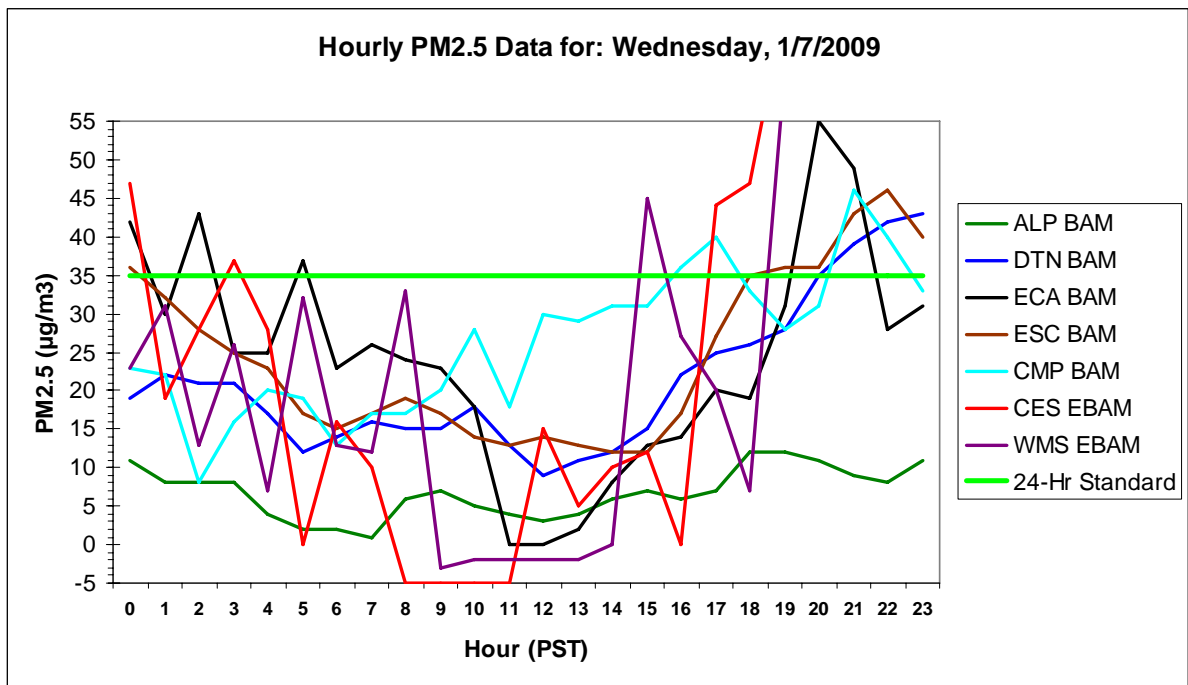




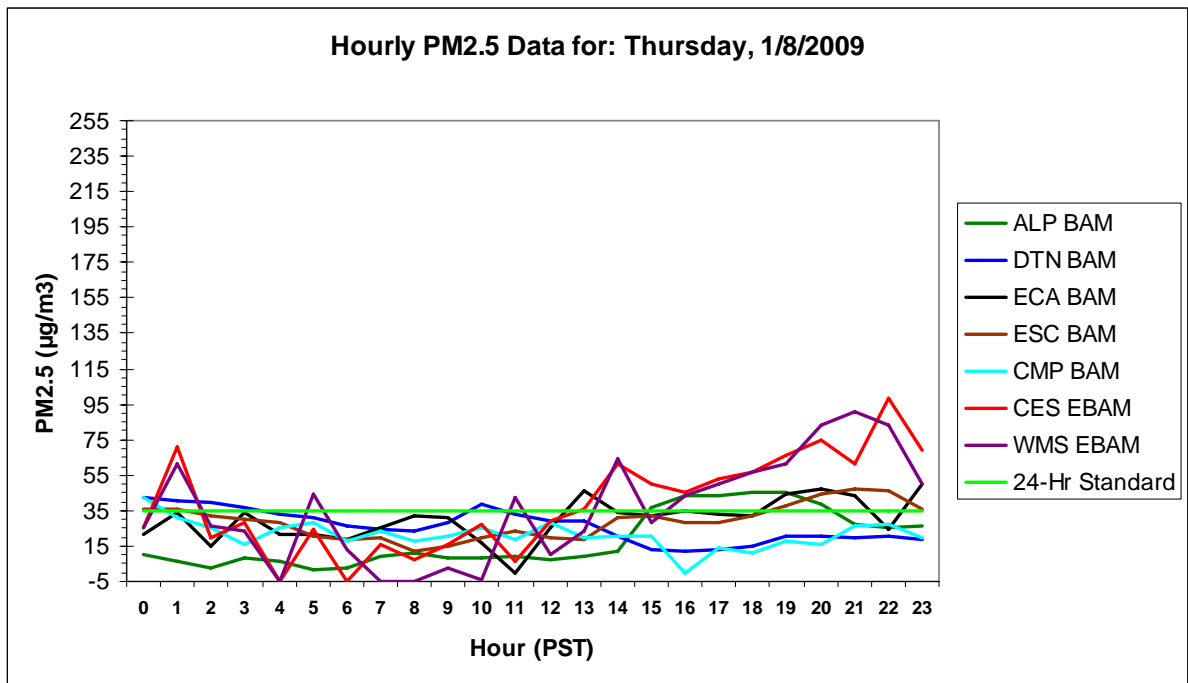
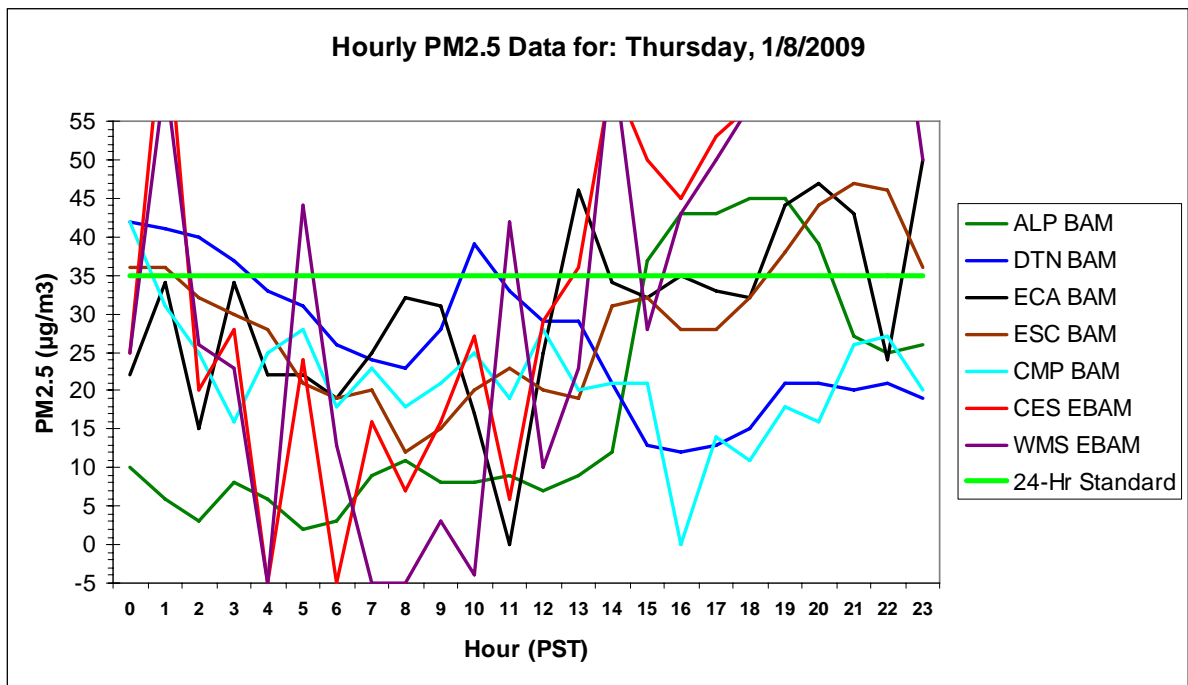


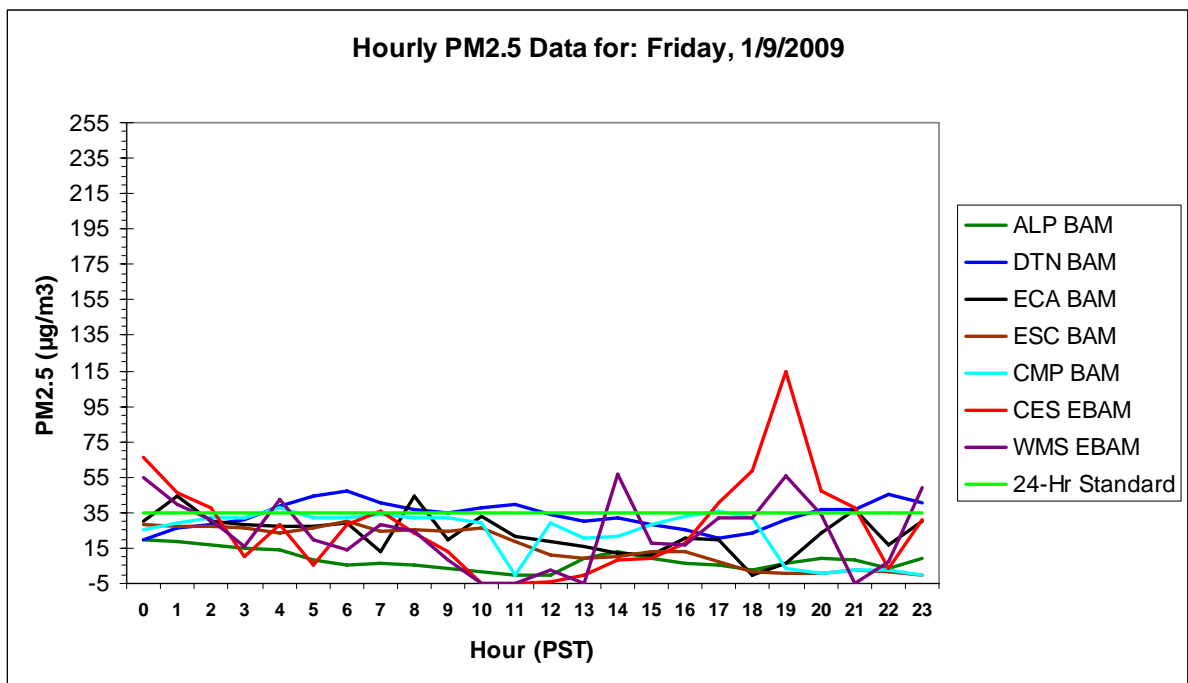
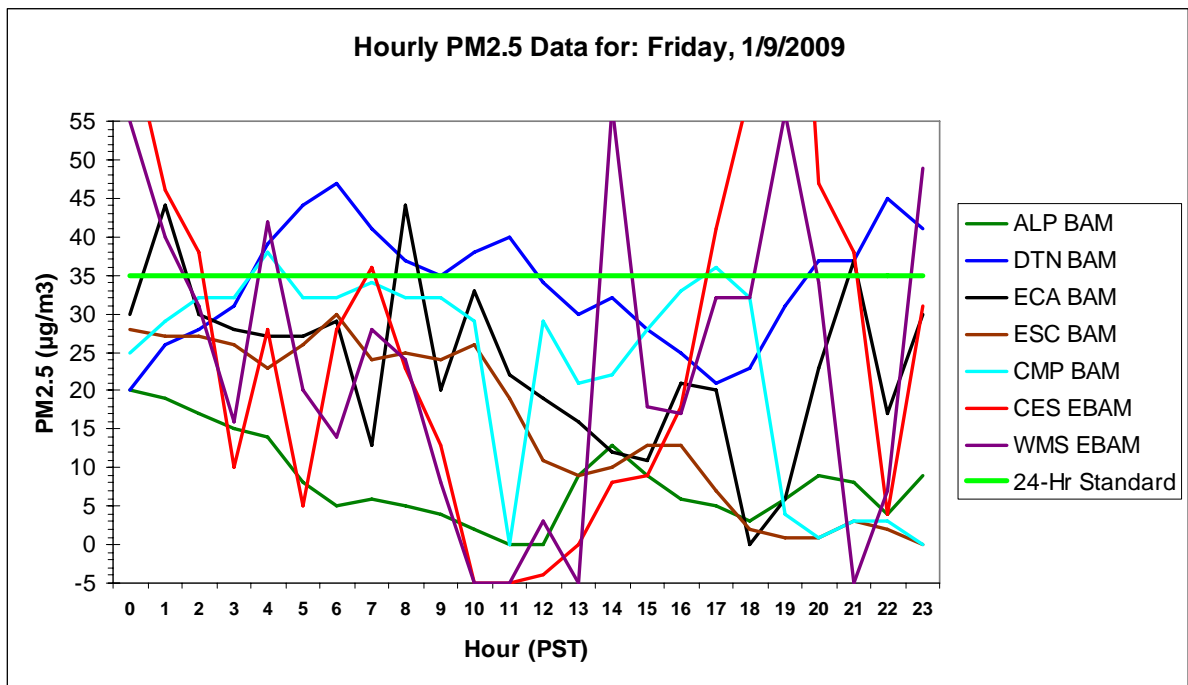
Hourly PM2.5 Data for: Tuesday, 1/6/2009

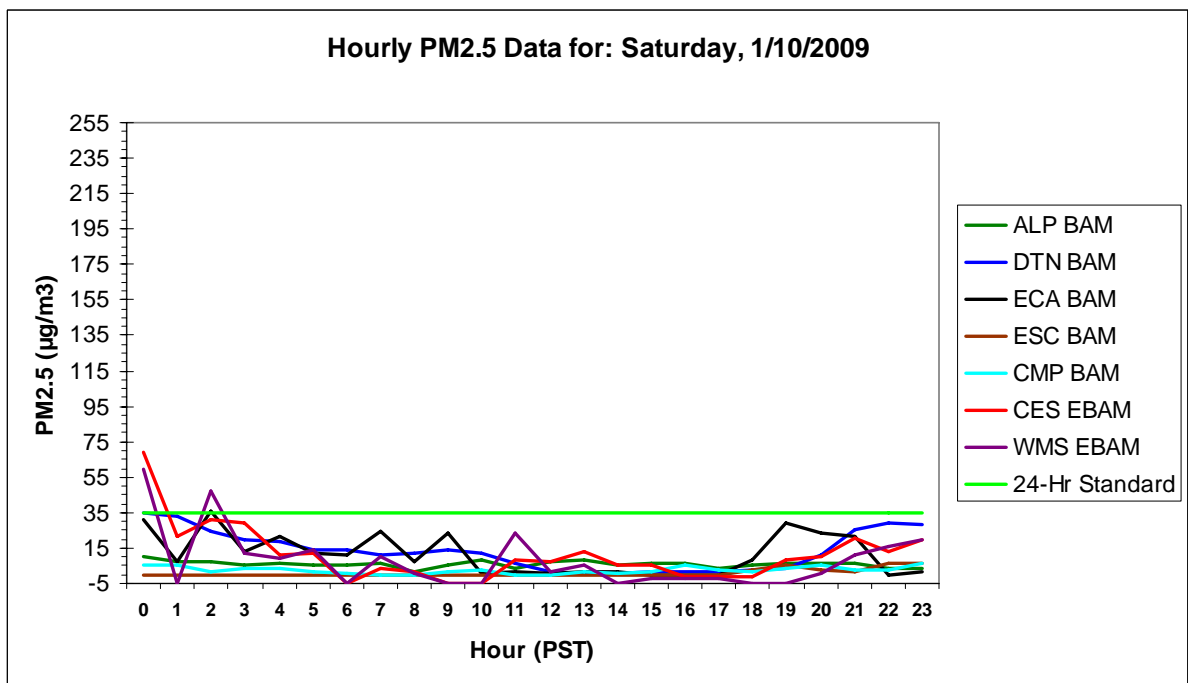
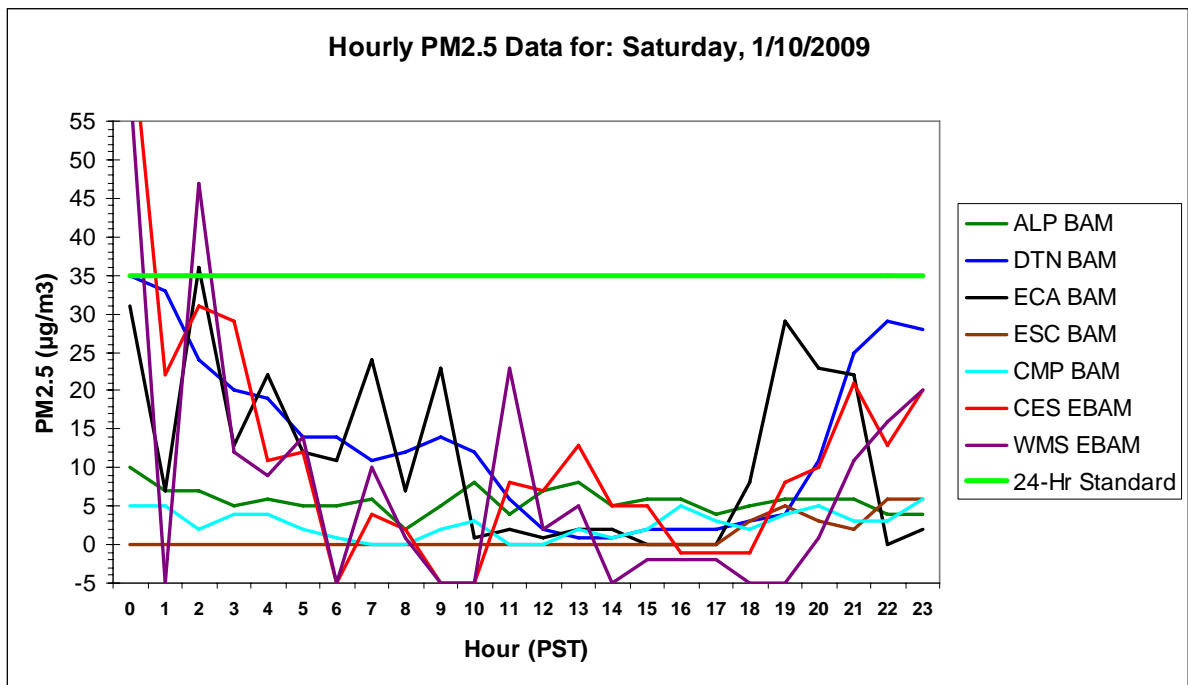


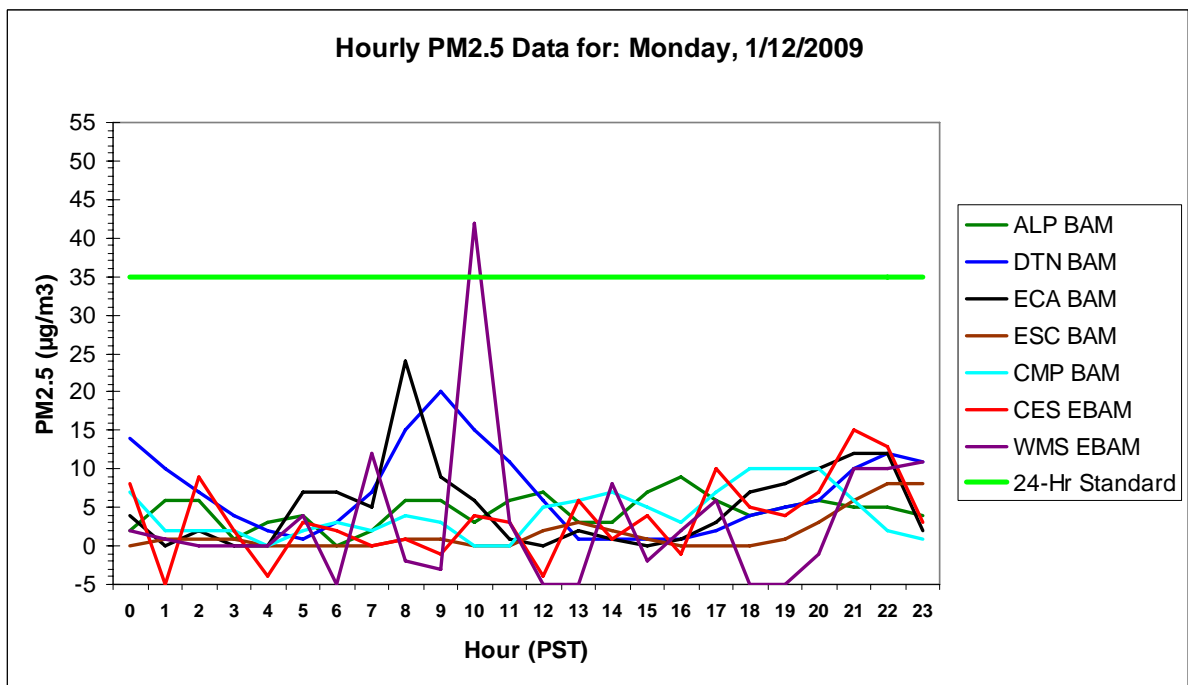
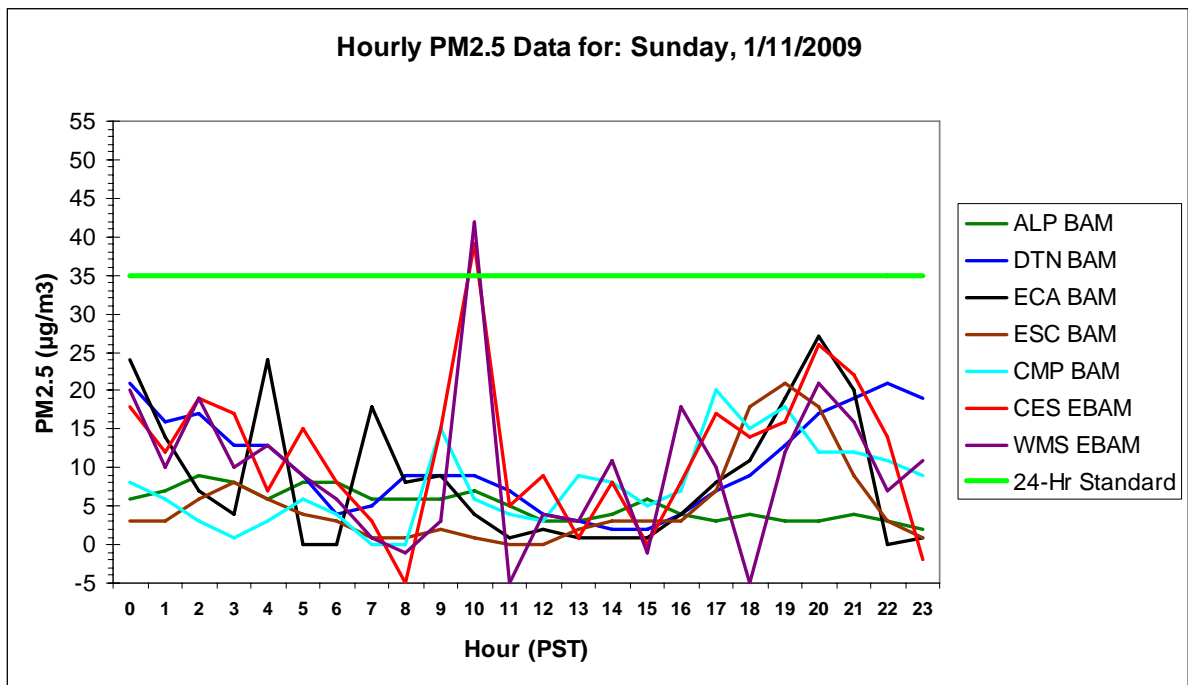


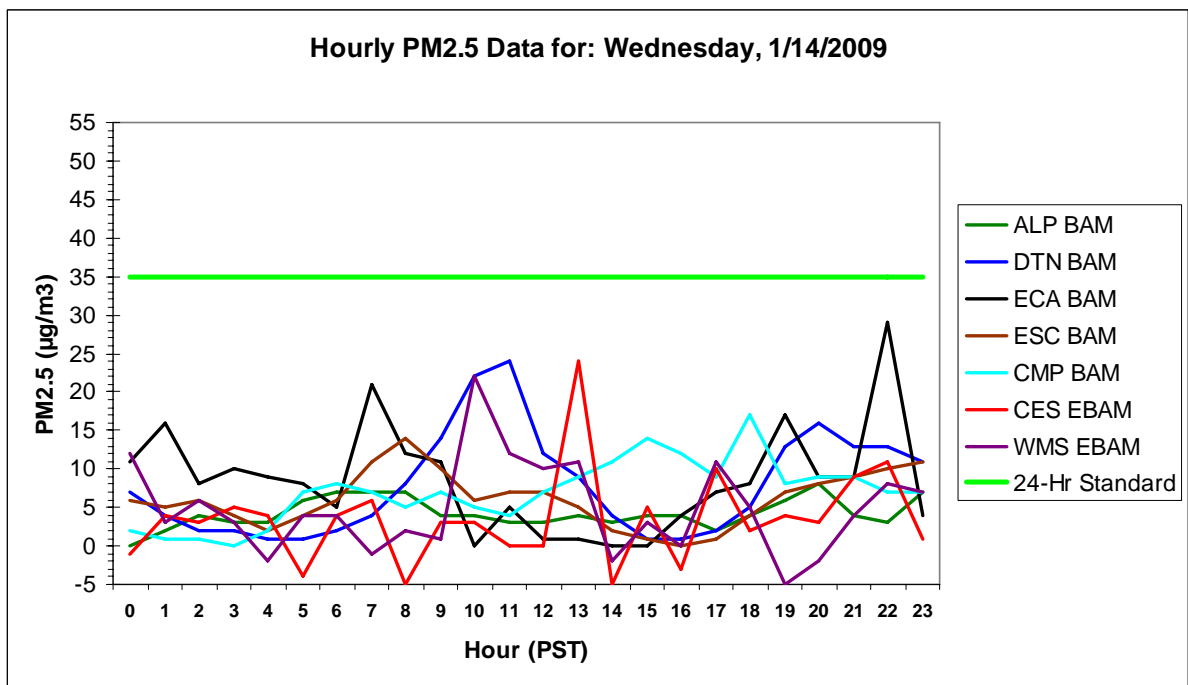
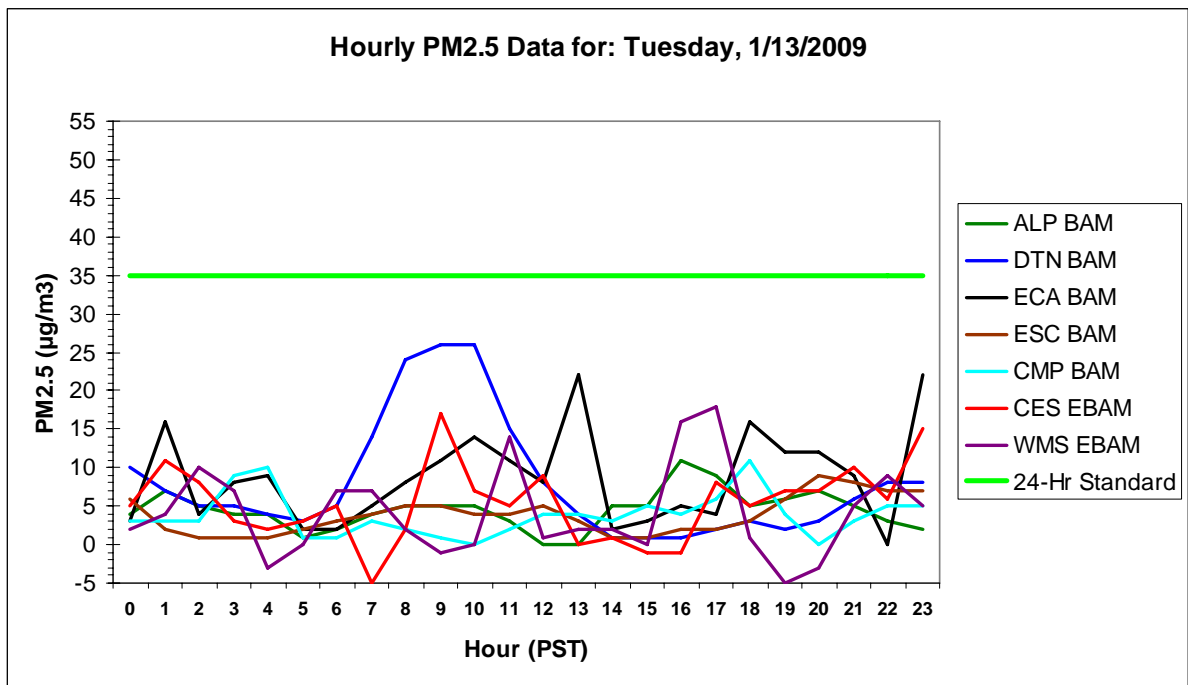




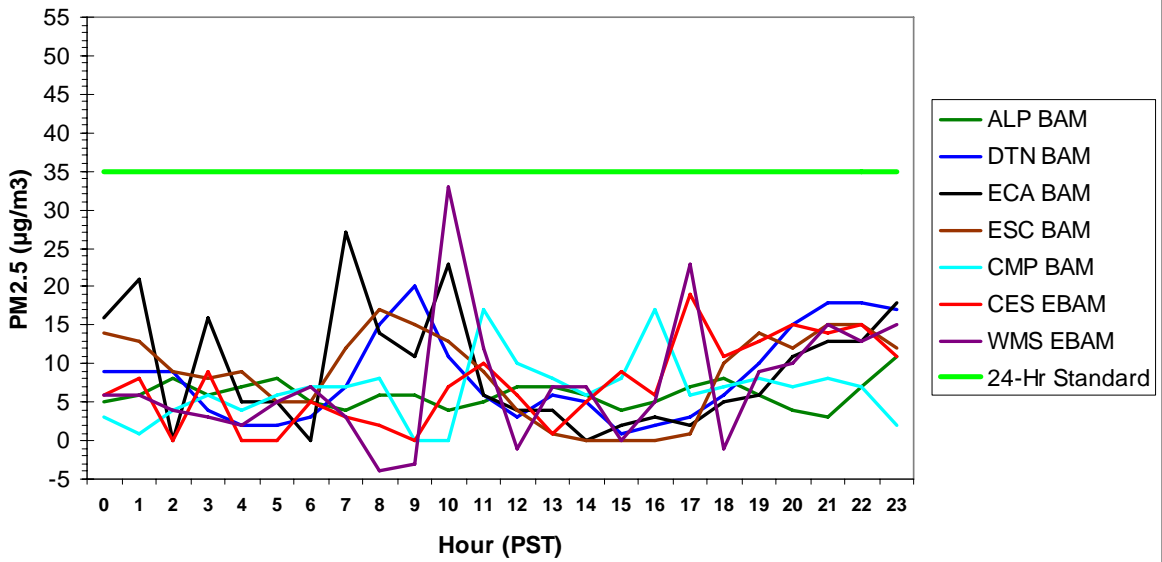




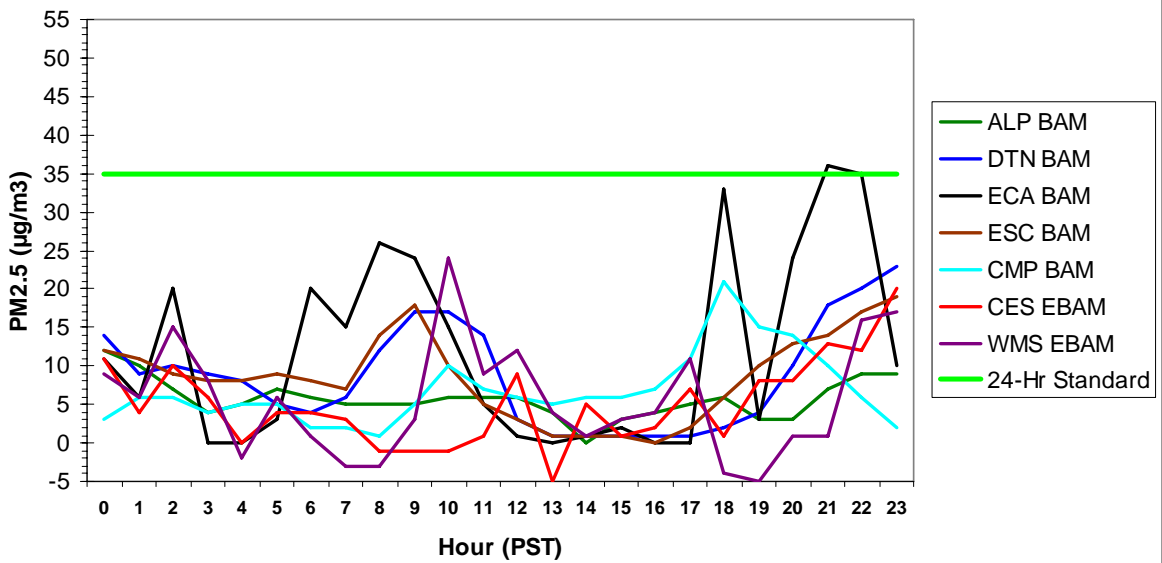




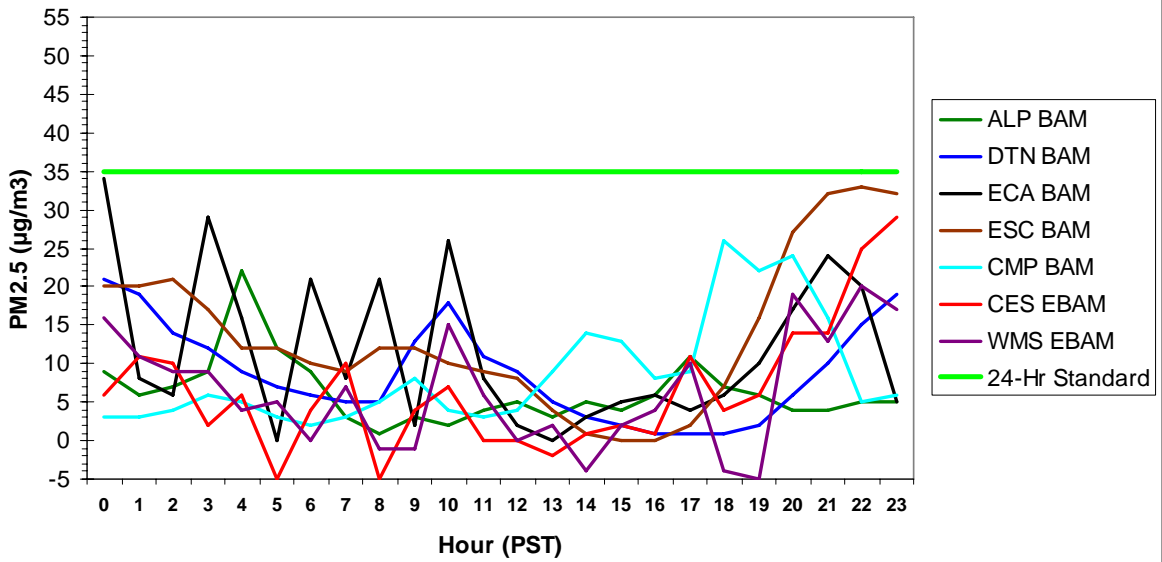
Hourly PM2.5 Data for: Thursday, 1/15/2009



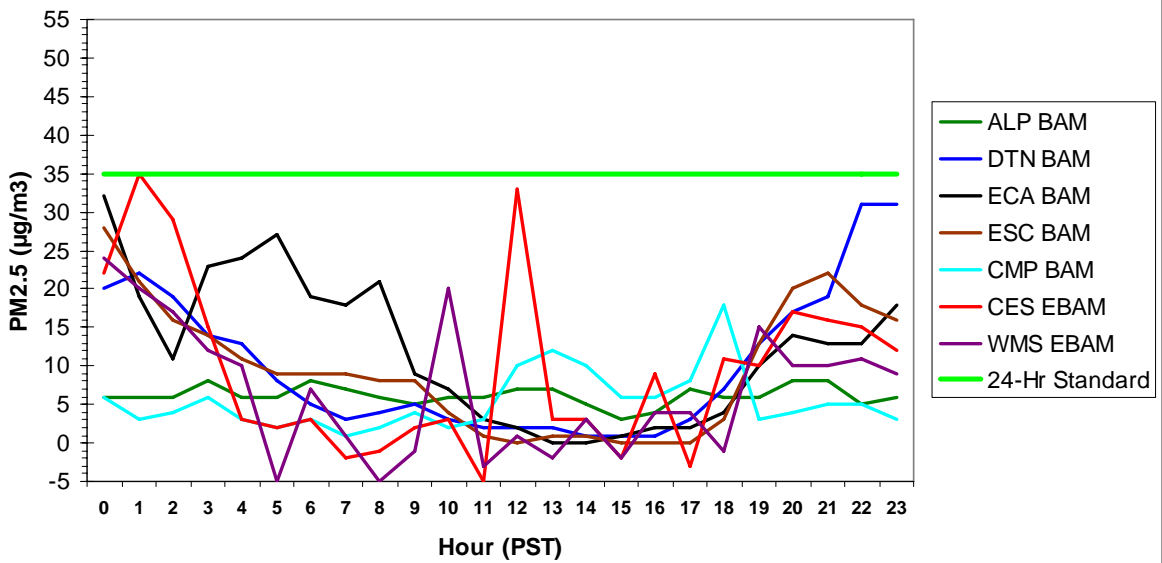
Hourly PM2.5 Data for: Friday, 1/16/2009

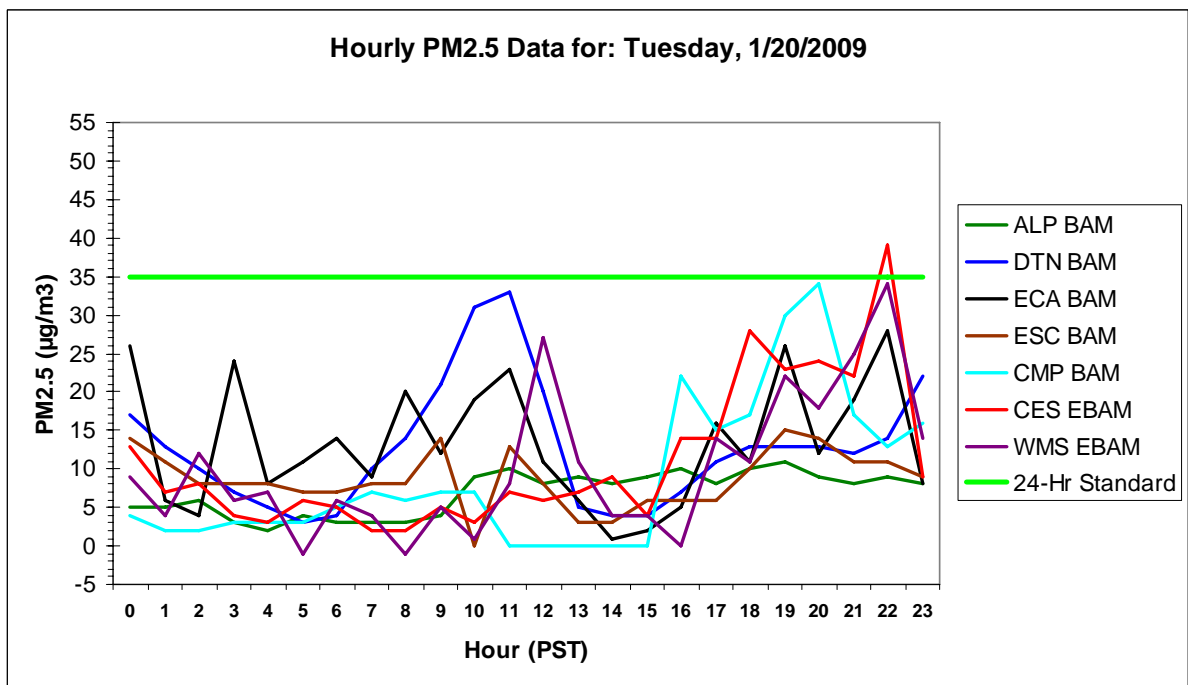
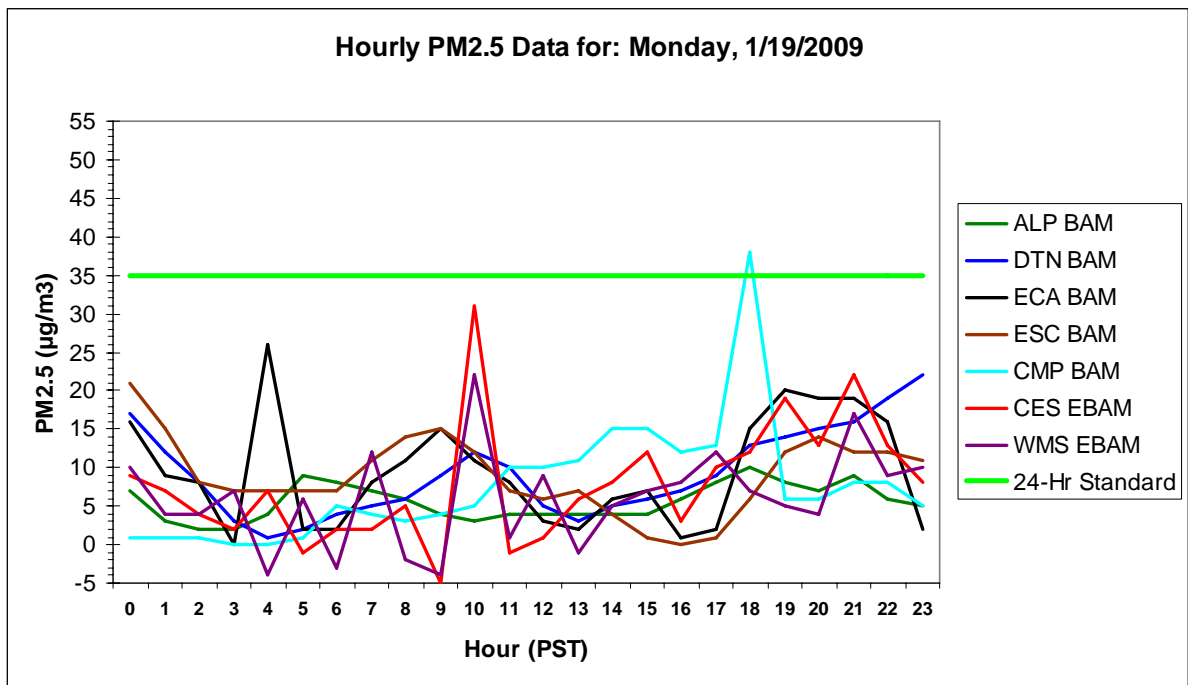


Hourly PM2.5 Data for: Saturday, 1/17/2009

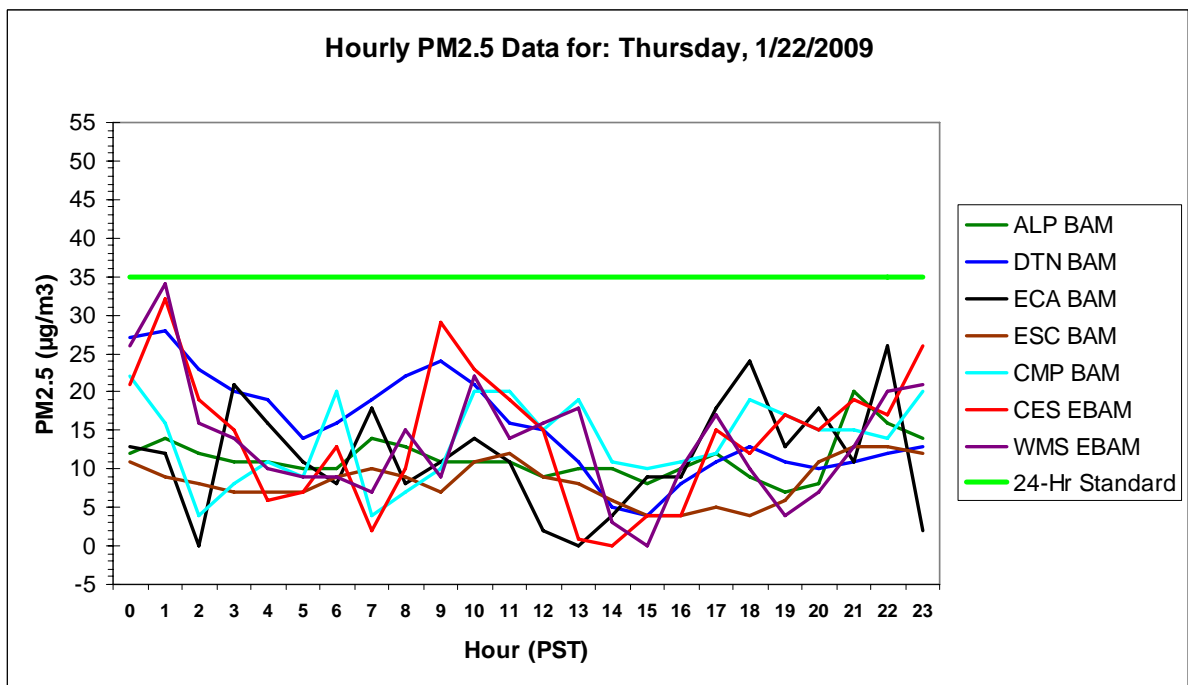
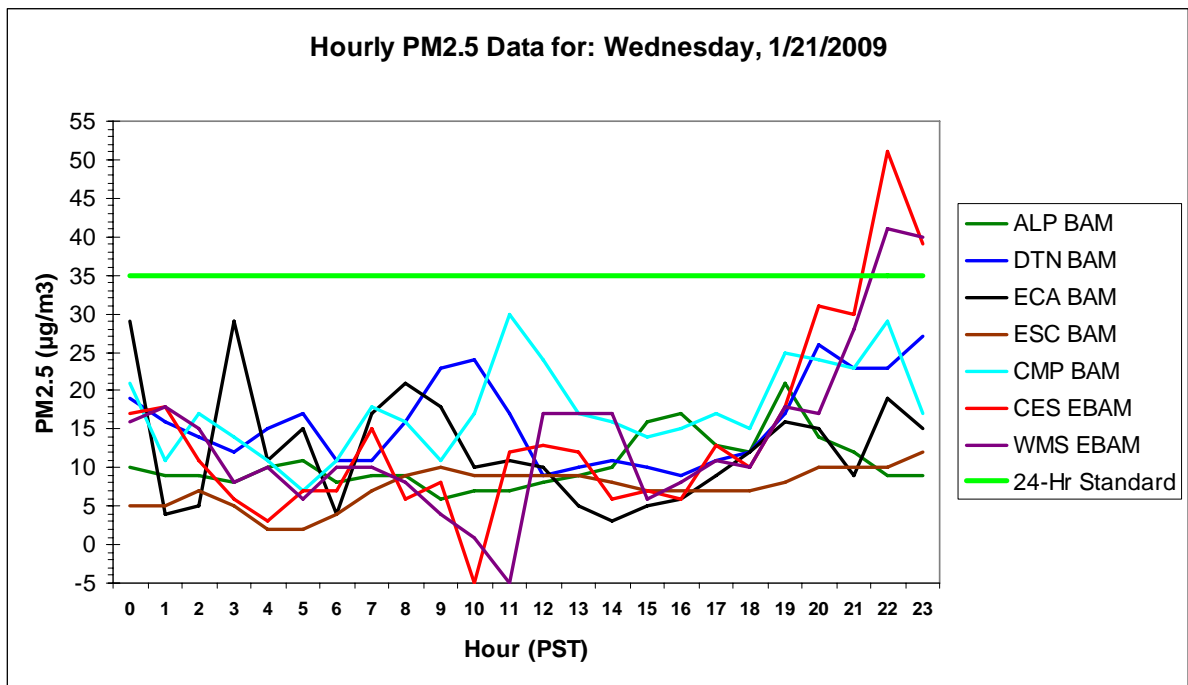


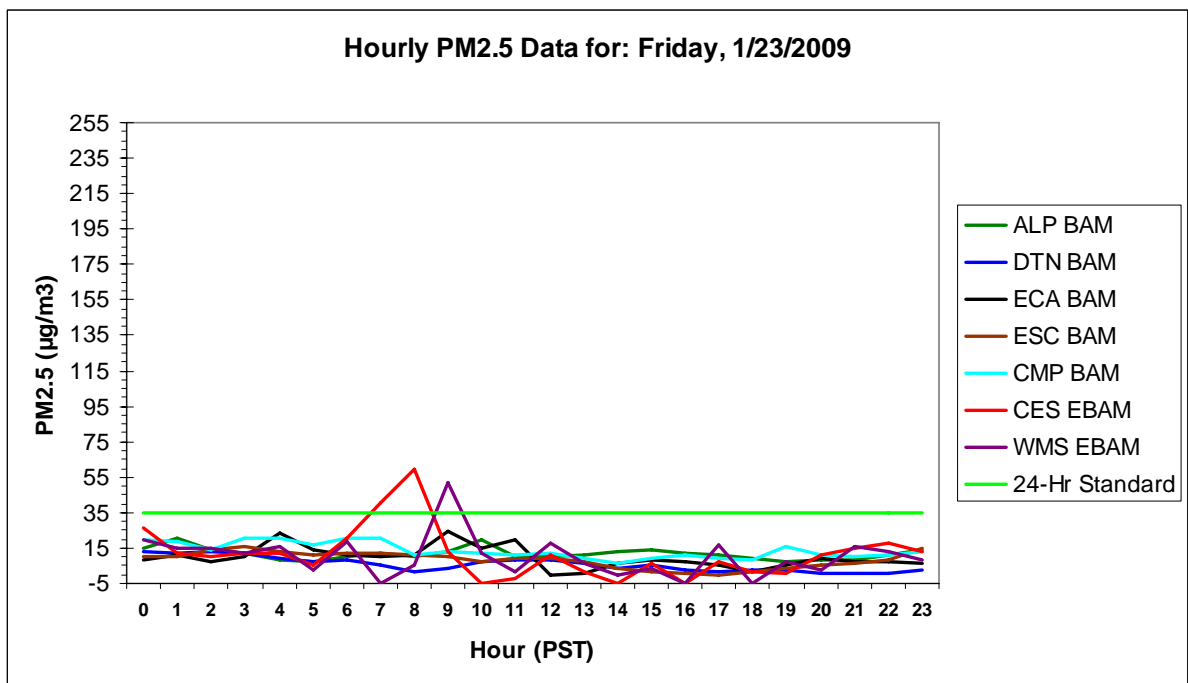
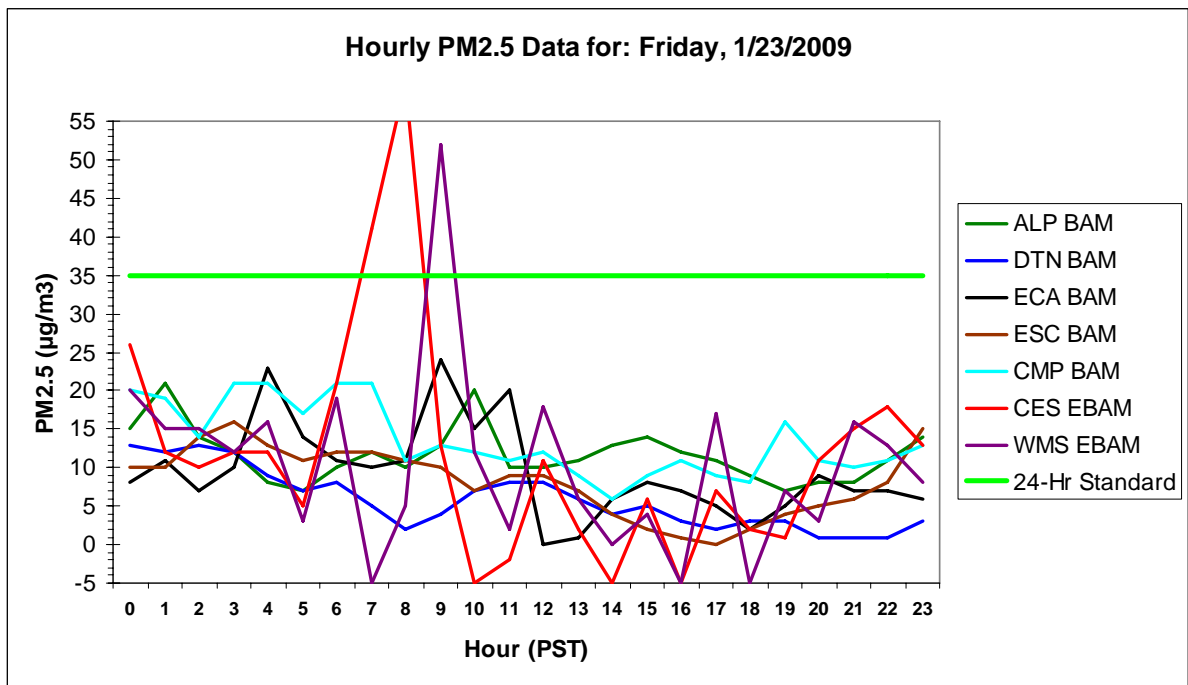
Hourly PM2.5 Data for: Sunday, 1/18/2009



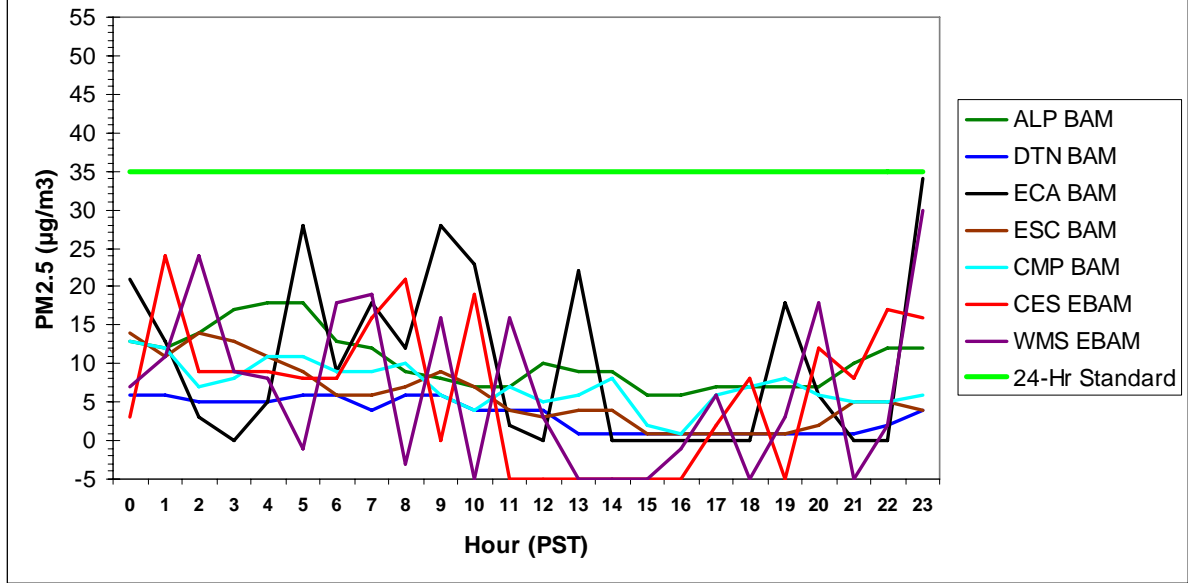


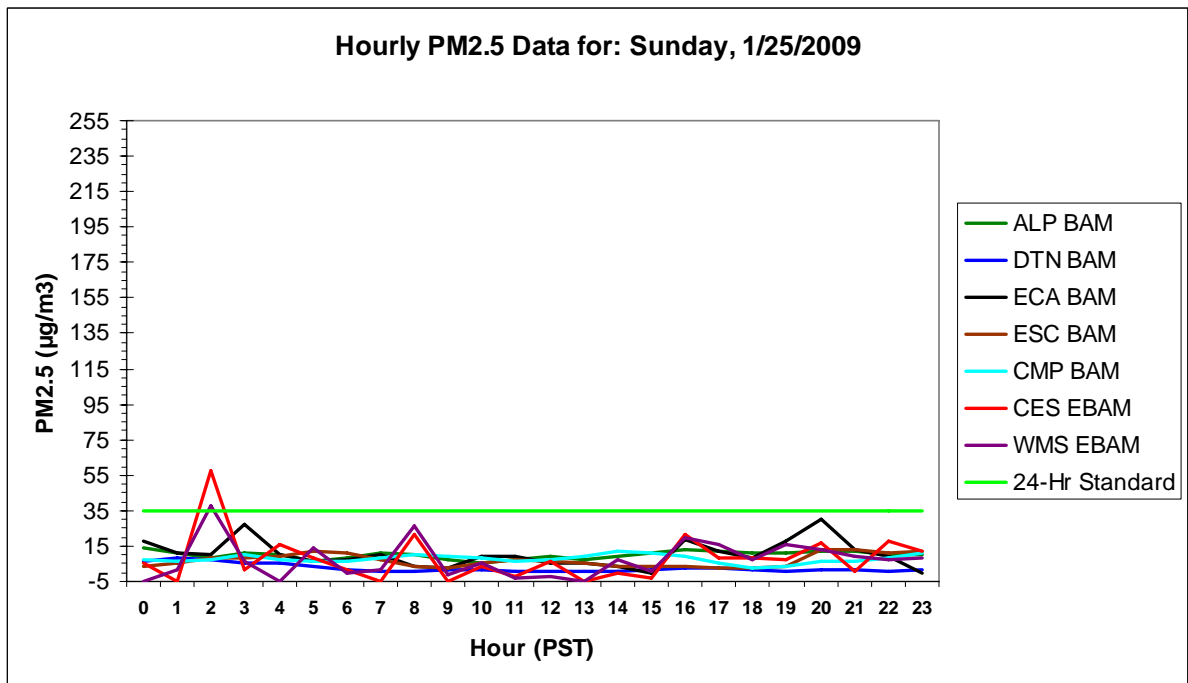
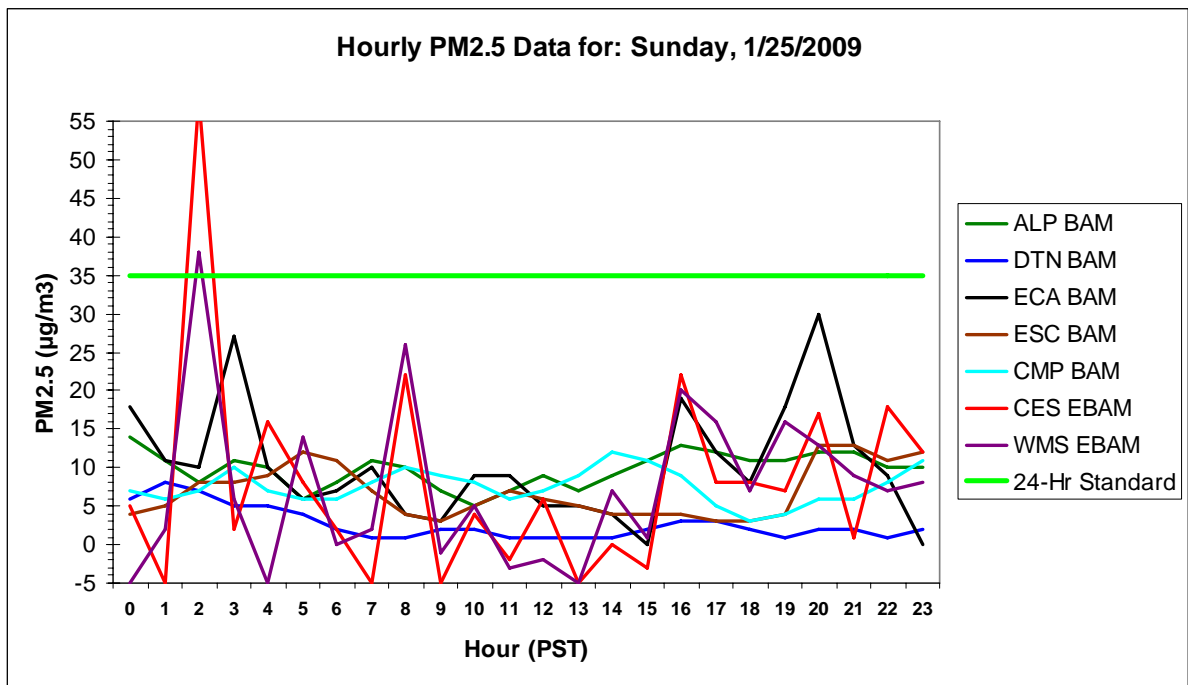


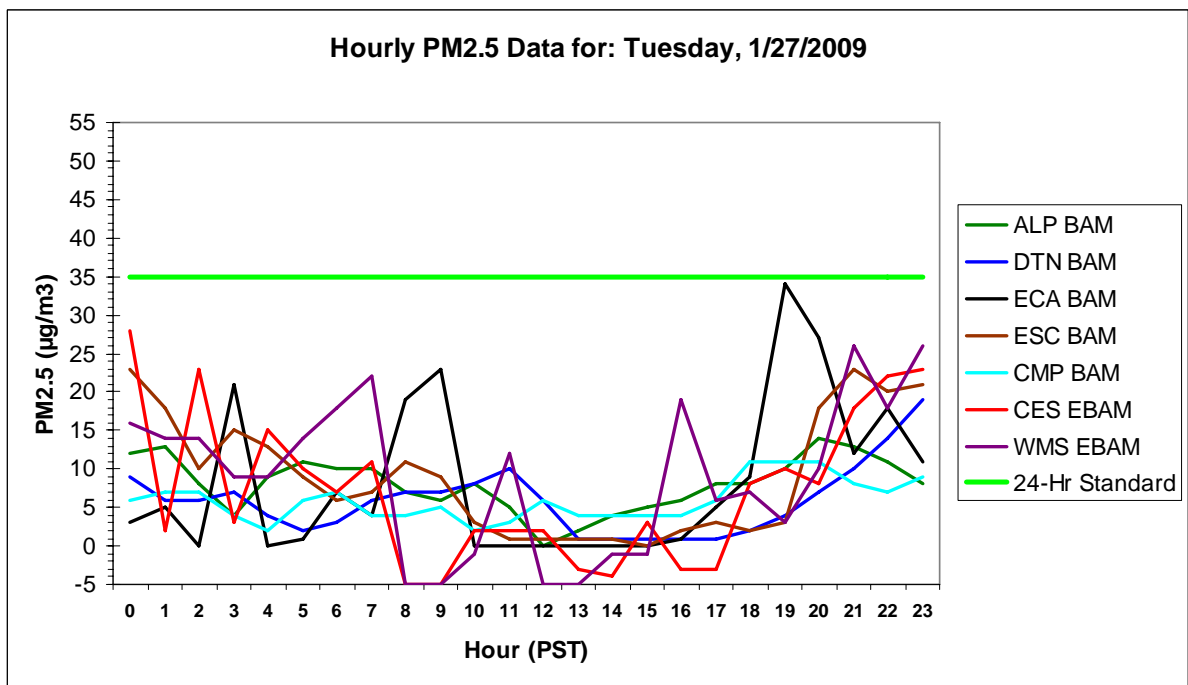
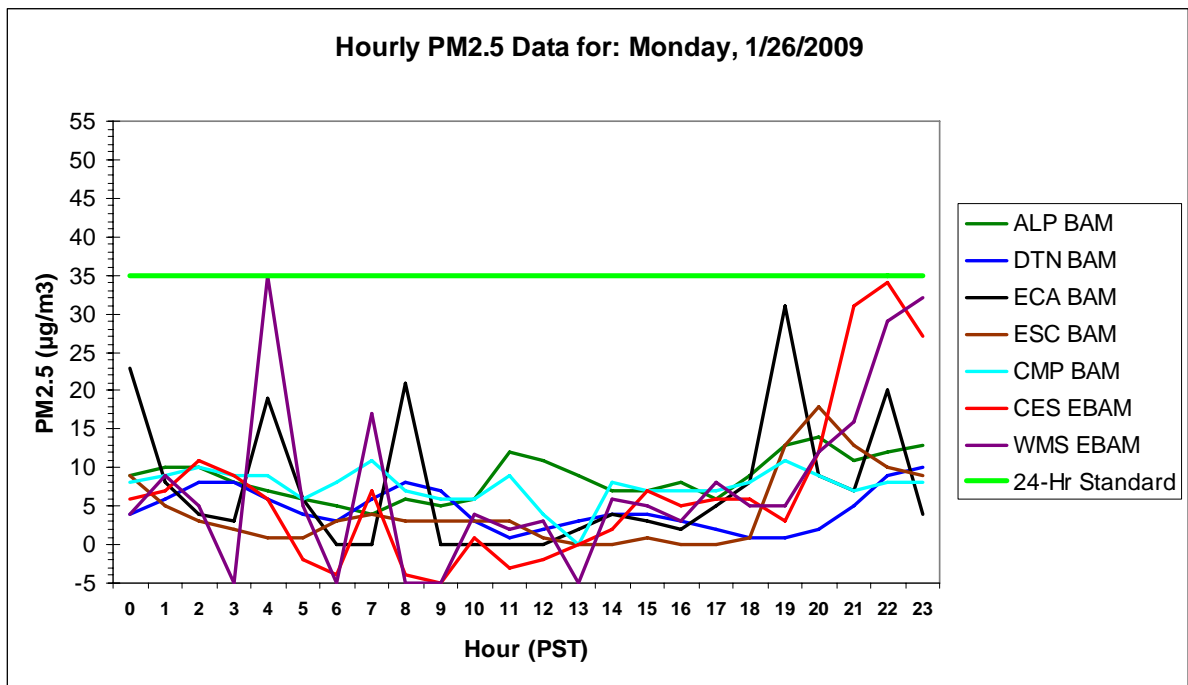


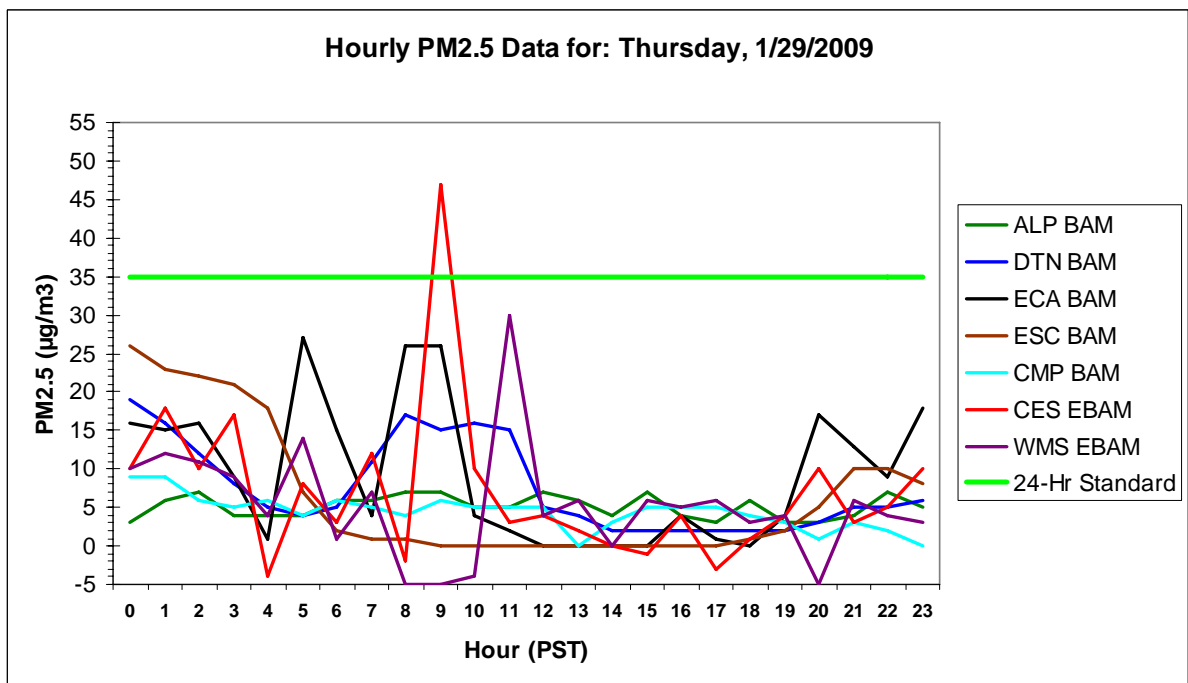
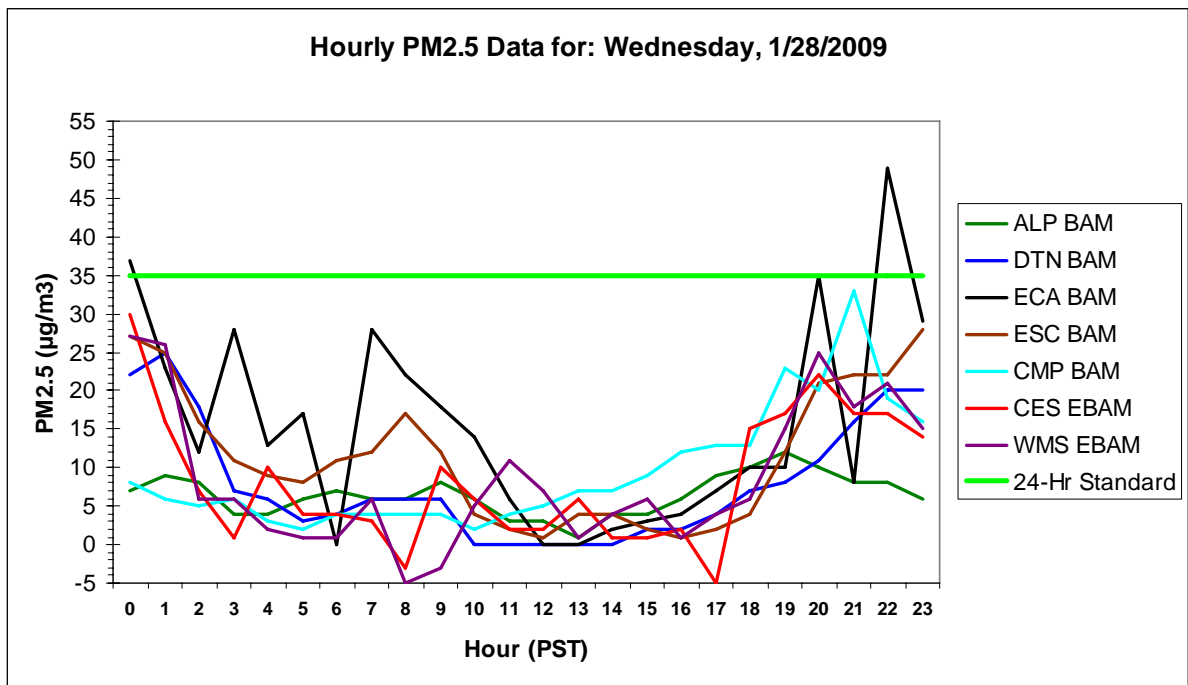


Hourly PM2.5 Data for: Saturday, 1/24/2009

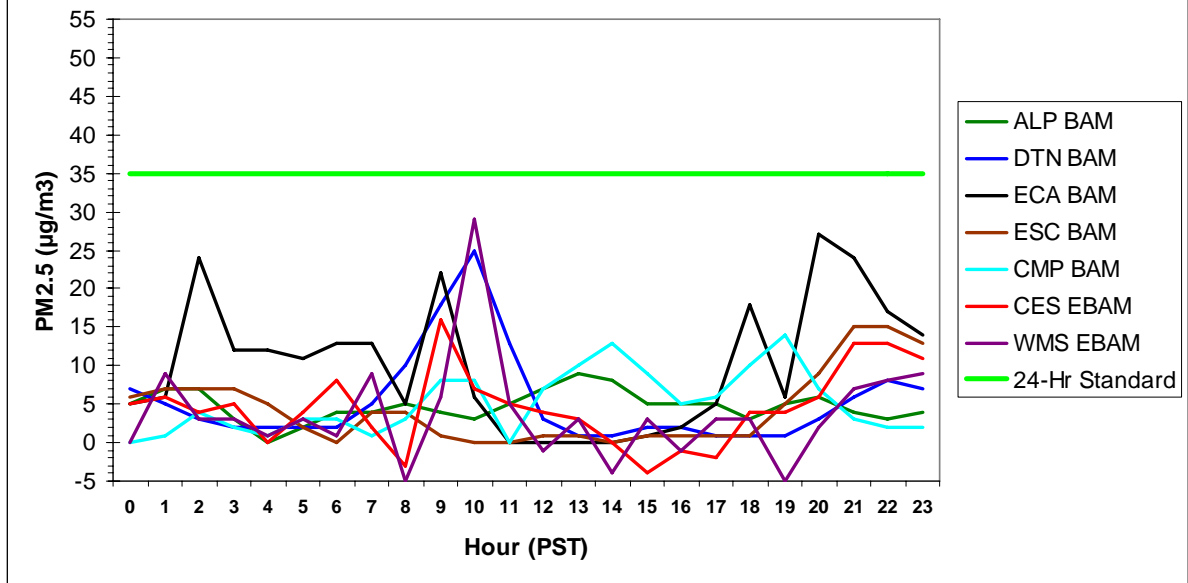


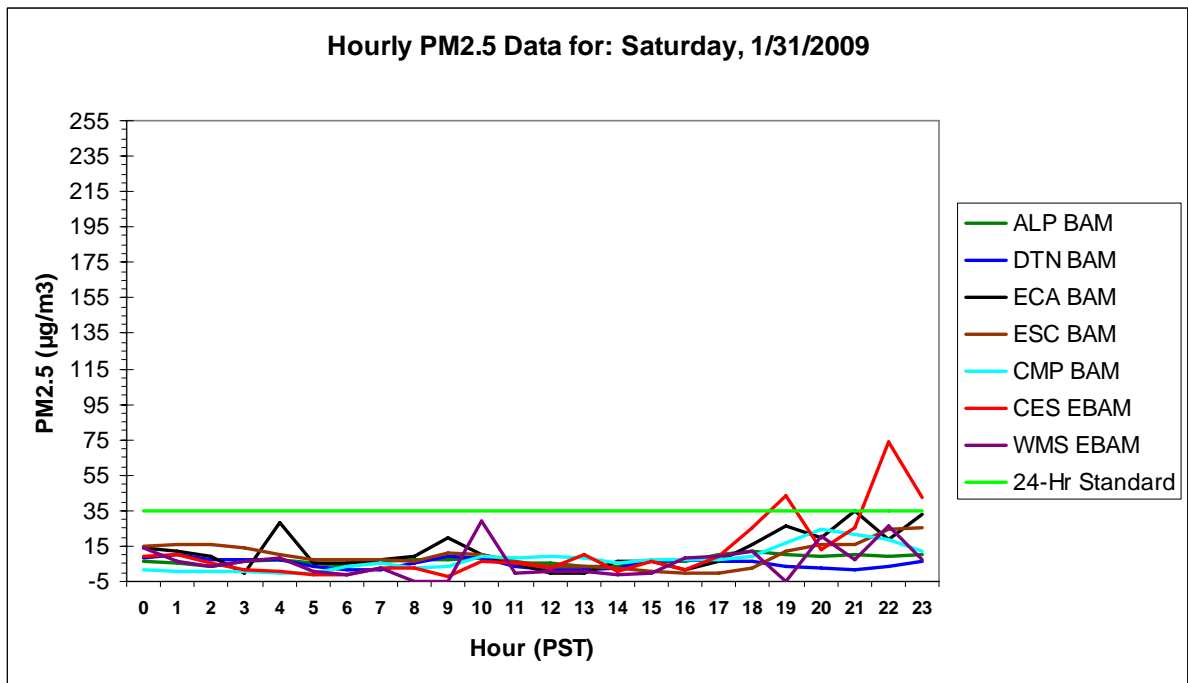
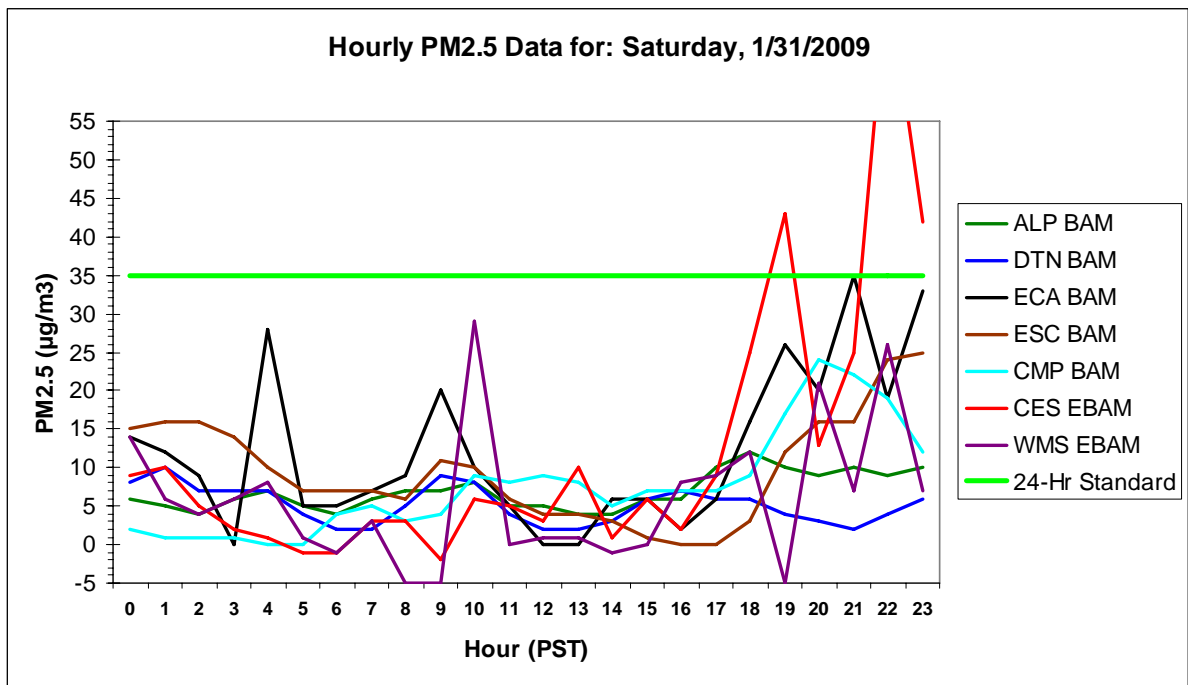




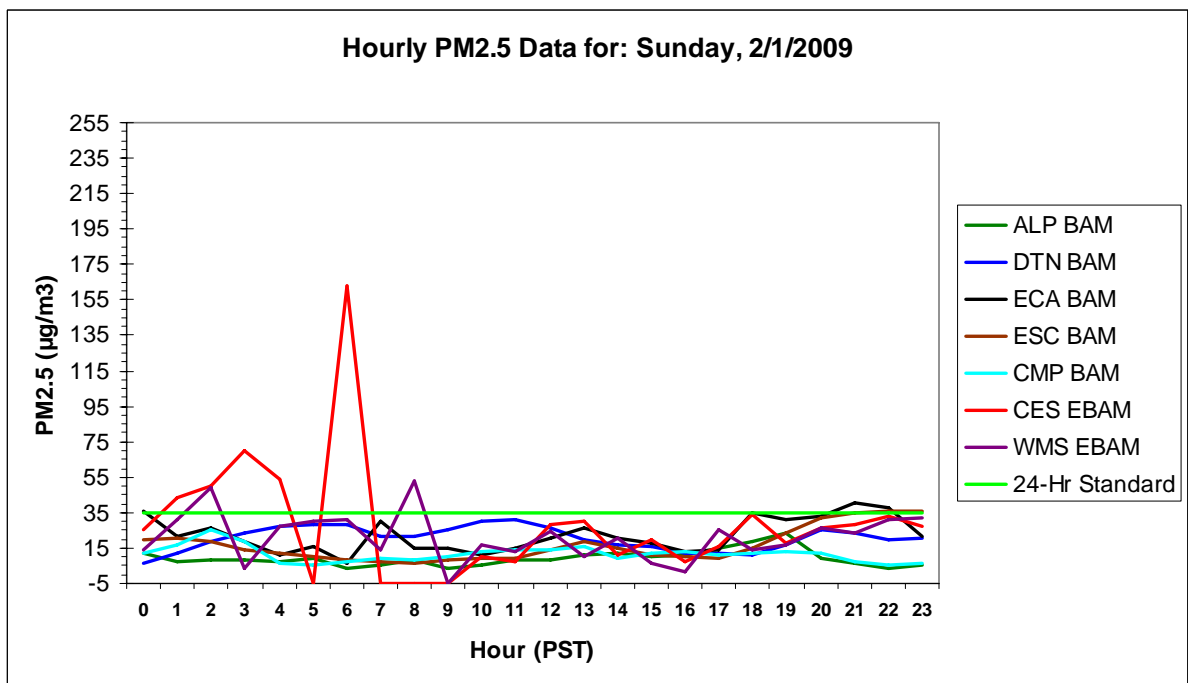
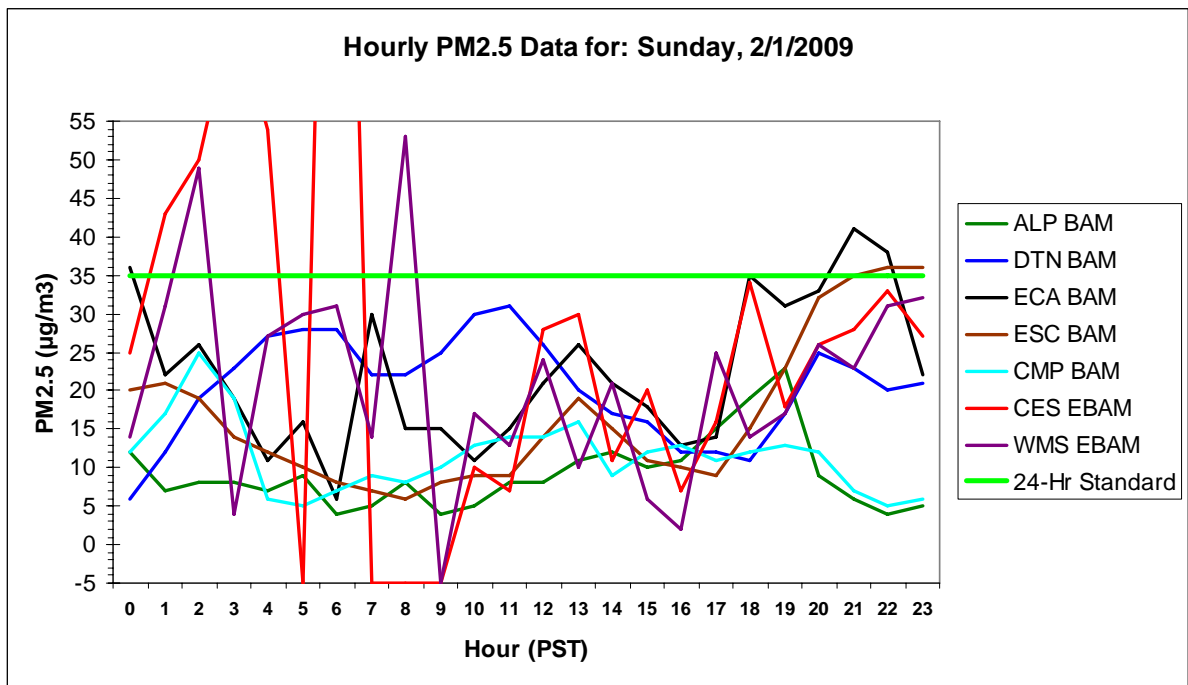


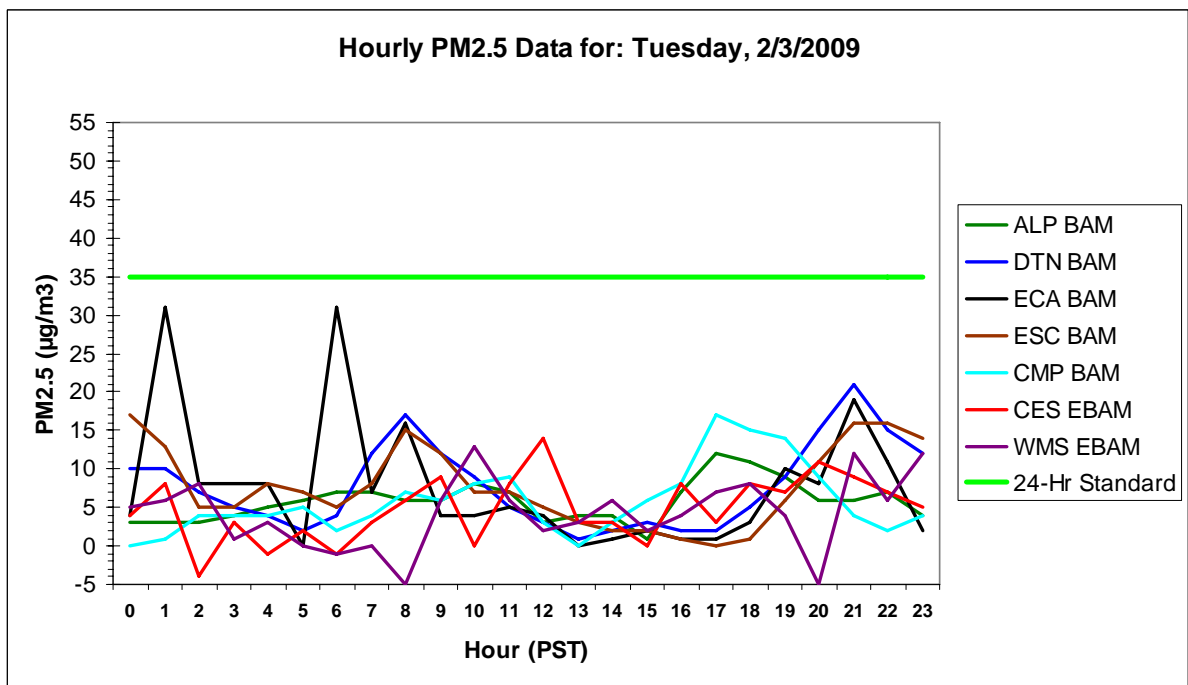
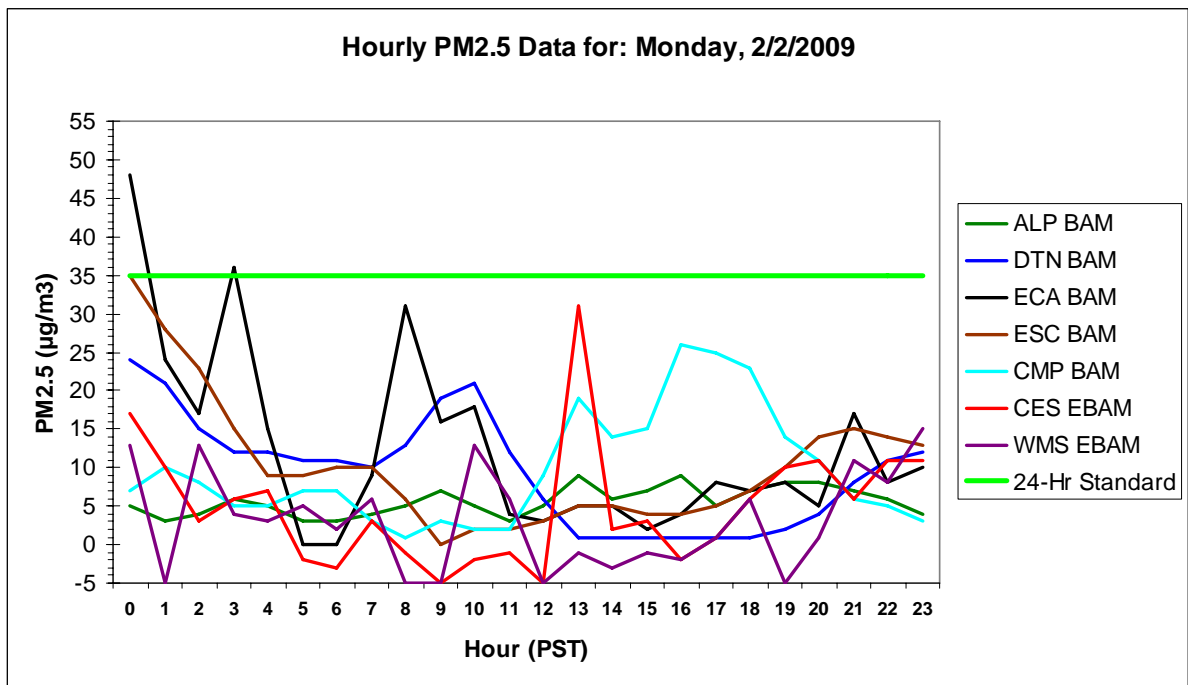
Hourly PM2.5 Data for: Friday, 1/30/2009











## **Data Invalidations**

### **Central Elementary School (CES)**

No data were invalidated during analysis for the Central Elementary School (CES) EBAM.

### **Wilson Middle School (WMS)**

The EBAM unit at Wilson Middle School (WMS) had several hourly values affected by system tests, membrane tests, and system restarts. The following hourly values were invalidated during analysis based upon station log entries by site technicians and calibration personnel (i.e., set to -999).

<u>Date</u>	<u>Time (PST)</u>	<u>Hourly Value Invalidated</u>
12/29/2008	1400	80
1/7/2009	1400	178
1/13/2009	1000	41
	1500	190
1/15/2009	1500	47
1/20/2209	1600	56