

Air Quality Facts

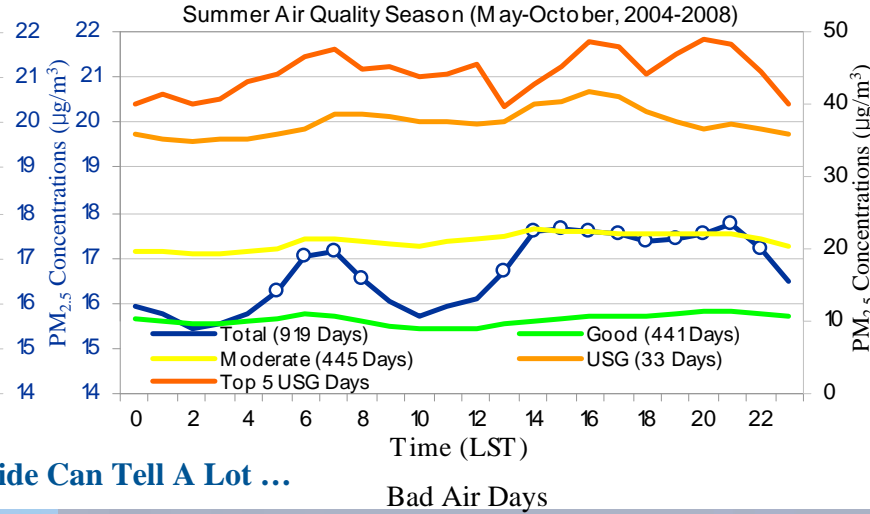
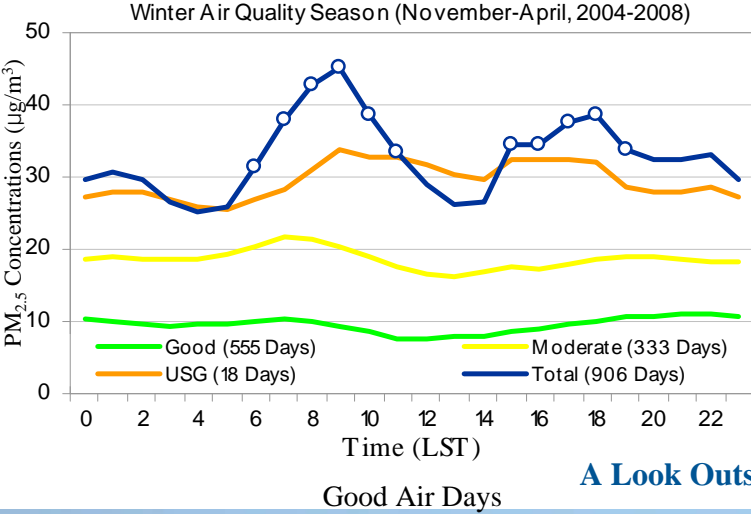
PM FINE – DIURNAL CLIMATOLOGY

WHEN IS PM FINE (PM_{2.5}) THE WORST DURING THE DAY?

In Maryland, particle pollution in urban settings has a diurnal cycle with peaks occurring during the morning (6 AM-10 AM) and late afternoon hours (3 PM-6PM). These peaks are visual evidence of emissions from local mobile sources (on top of regional/transported particle pollution) during the morning and afternoon rush hours. During the day (between the two peaks), PM_{2.5} concentrations are lower due to stronger atmospheric mixing, which leads to dilution of particle pollution. The overnight concentrations are somewhat constant before decreasing to a minimum just before sunrise. This net decrease is due to two primary reasons: (a) the removal of particles from the air through a process called dry deposition; and (b) minimal injection of particles into the air from mobile emissions. The process resumes once again with the start of the morning rush hour.

The two-peak feature is consistent and more pronounced during the winter season as compared to the summer season. This tends to occur because winter-time concentrations are driven primarily by local sources and the summer-time concentrations tend to be dominated by transported particles. During the winter months, PM_{2.5} concentrations typically fall during the day due to vertical mixing of cleaner air from aloft to the surface and dilute surface concentrations. However, during the summer, PM_{2.5} concentrations remain relatively unchanged during the day after the morning rush hours. This is due to polluted air from aloft mixing down to the surface which adds an extra burden to the already high PM_{2.5} concentrations.

Hourly Averaged PM_{2.5} Concentrations Oldtown Monitor (Baltimore City)



A Look Outside Can Tell A Lot ...

<p>Peak AQI: 29</p> <p>Downtown Baltimore ~10 miles away CLEARLY Visible!</p> <p>Jan-09-2008</p>	<p>Peak AQI: 142</p> <p>Downtown Baltimore ~10 miles away NOT Visible!</p> <p>Jun-07-2008</p>
<p>Peak AQI: 33</p> <p>Downtown Baltimore ~10 miles away CLEARLY Visible!</p> <p>May-23-2008</p>	<p>Peak AQI: 108</p> <p>Downtown Baltimore ~10 miles away NOT Visible!</p> <p>Nov-21-2007</p>

If you are not able to obtain real-time air quality information via the computer or the air quality hotline, a look outside can tell a lot! Pick one or more visual vista(s) that is/are at least 7 miles away from your home and see whether you can see it. The rule of thumb is that the further you can see, the safer the air is to breathe. If your vista is less clear or obstructed by haze, then the outside air is likely to be polluted. Protect your health by knowing the current air quality conditions and forecasts. Visit www.cleanairpartners.net or call the air quality hotline at 410-537-3247.

Air Quality Index (AQI)



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