
CATZ-G Summary

DelMarVa • August 13th, 2007

A moderately large campaign was conducted on Aug 13th comprised of 6 on-track (day overpass in yellow) Cimel sites primarily located in Eastern MD, plus an additional Cimel collocated with the MPL (SMART) in Pennsylvania (see image map).

In total, three lidar were operated:

the 'permanent' MPL near Strasburg, PA (day and night)

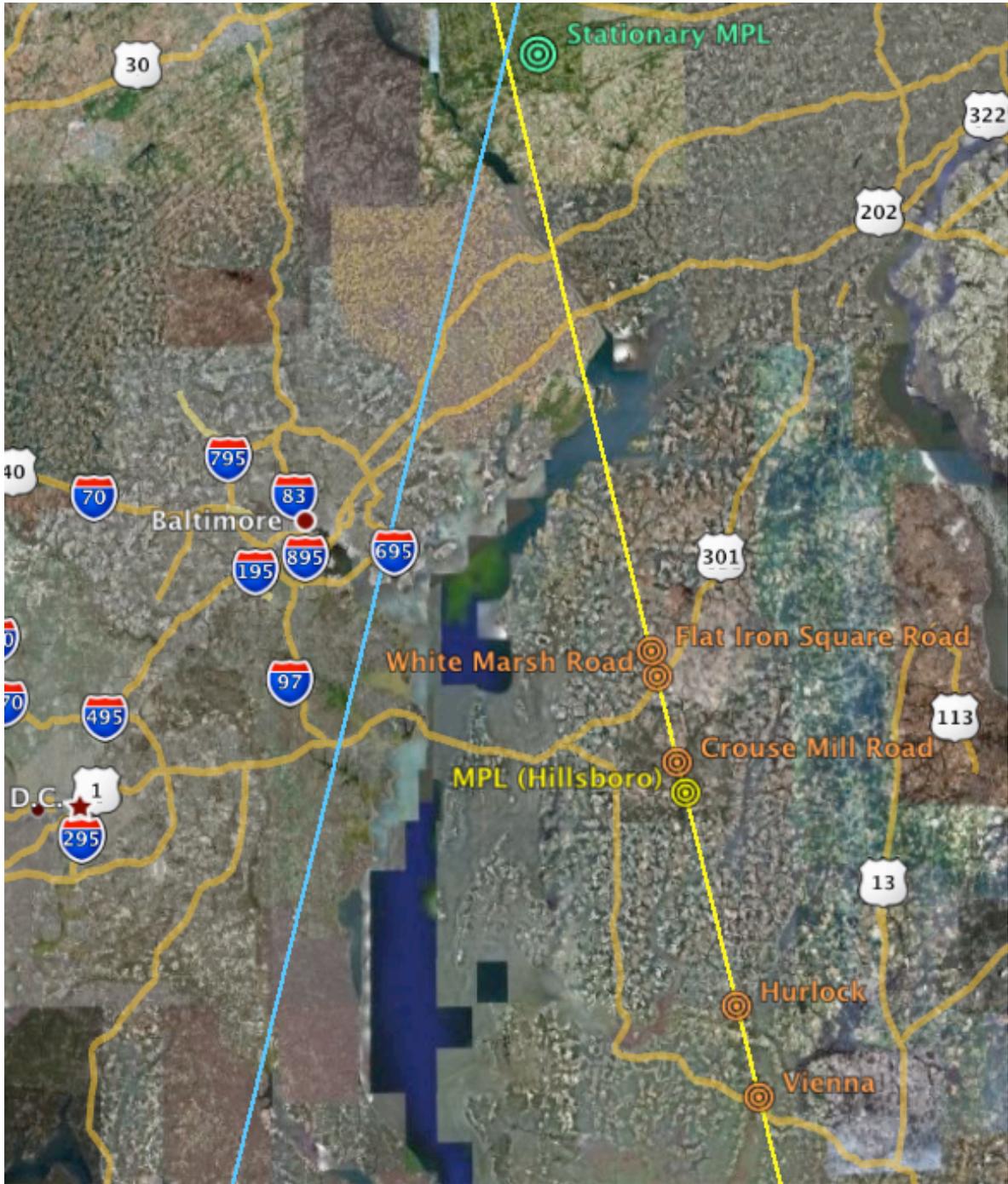
the mobile MPL situated near Hillsboro, MD (day)

and the UMBC lidar of Ray Hoff (night overpass)

No aircraft were involved.

AOD_{500nm} was moderate ~ 0.35 to 0.4 for the day across the region.

Generally, the conditions were not favorable for joint inversion purposes (cloud contamination of principal plane measurements) due to typical afternoon convection, but may have been suitable for cloud OD comparisons using the Cimel 'cloud mode' observations.

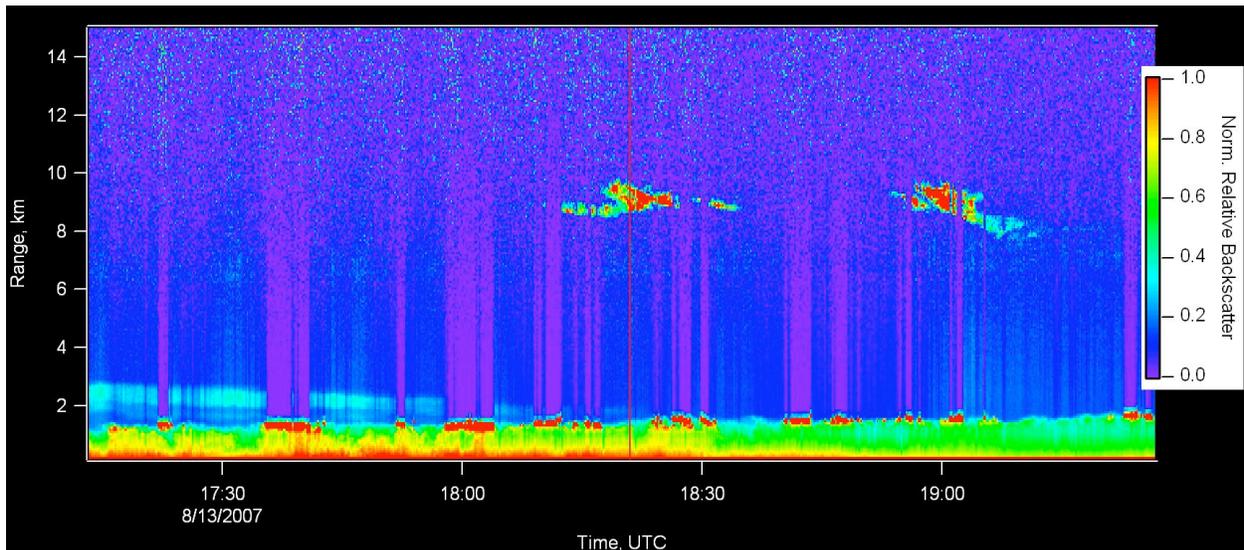


Site Reports:

Mobile MPL-

*Hillsboro (N 38 deg. 54.923' W 75 deg. 56.432', Elev. 44 ft.):
Both Cimel and MPL collected data from Hillsboro*

Lidar observations revealed intermittent cumulus at ~ 1.5 km, and elevated layer at ~ 2.2 km. At the time of overpass (18:21:02 UTC), Cirrus at 9-10 km were present. A local newspaper reporter, alerted by Mt. Cooper's wife, visited the site and interviewed Sasha Smirnov and took a picture of the Cimel set-up. Attached is a quicklook image result from the MPL.



Conditions were similar to Crouse Mill (below). I set up the system by 1020 am and took several good sky scans. The only almucantar inverted was the first one in the morning. The clouds moved in later and by the overpass time covered over 50%-60% for sure. The major disappointment took place at or about the overpass time when the sun disk stayed covered by a cloud for about 4 minutes.

The reporter took picture of Tim and myself sitting around the CIMEL and he wanted the solar panel to be visible (alternative source of energy I guess). I said a few words about the world wide AERONET network, what sun/sky radiometer does and our validation effort. Tim reminded that our web site can serve as a nice source of information as well.

Hurlock-

Setup next to the town water treatment facility.

No one was around, it was getting late, so I took a chance and set it up, figured they could just ask me to leave.

Eventually two guys in a water company truck did stop, but only "to make sure my name was not Osama".

Cimel #409 was run from 15:00 through till 20:00 GMT.

15:00 some cumulus in all directions

15:58 70 - 80 % of the sky was cumulus.

16:30 60% of the sky was cumulus.

*17:05 few cumulus but cirrus had moved in and stayed through till the end
Cloud free AOD,,,, probably never happened*

Vienna-

Cimel #410 was set up by Tom Eck at 1040 am on August 13, 2007 in Vienna, MD in a town park on the Nanticoke River.

The measurements began with haze and a few cumulus (Cu) clouds (~5%), and Cu clouds increased to ~80% by 1210 pm local time. Cloud amount then decreased to ~10-20% at the time of Calipso overpass (2:21 pm local), but Principal plane scans were contaminated by thin evaporating clouds and much structure in the haze. Many cloud free AOD observations were acquired, with Angstrom Exponent (440-870) very high at 2.05 to 2.10.

White Marsh-

Nice clear morning until around 11:30AM when some cirrus showed up. First principal plane was probably the best of the day, more cumulus clouds came over at around 1PM, which got worst during the overpass and for the rest of the day.

Crouse Mill-

The instrument was setup at 10am along Crouse Mill Road near Tuckahoe State Park. The morning started out with some haze and a few clouds. By 11:15, a few low-topped cumulus clouds were forming around the area. By 12:15, the clouds were becoming more numerous with cirrus also moving over the area by 1:30. The remaining measurements through overpass time were mostly affected by clouds.