From: Brent Holben <bholben@pop900.gsfc.nasa.gov>
Date: Tue, 10 Jul 2007 17:13:30 -0400

Calipso/CloudSat/CATZ team,

CATZ-C appears to be on target for the July 12th 2:21 pm (local time) overpass. Measurement and logistics details are attached.

As of this moment we have the following 'confirmed plans' (LOL):

SMART (MPL, AERONET, All sky camera) at the day-night crossing tracks fixed in a church parking lot near Strasburg, PA and will be there through August.
Mobile MPL at Ridgely
11 AERONET sites
Up to 12 microtops,
SAM at Ridgely for cld and aerosol properties
Airborne HSRL
10 rain gauges should we get a shower at overpass.
Crab party afterwards (directions in the attachment).

The UMBC and GSFC lidars will be on. The COVE MPL is down for repairs but AERONET is functional.

Alexander Sinyuk will be coordinating from Goddard.

The forecast so far is for a frontal passage Wednesday night and clearing by overpass time. We'll provide a forecast update tomorrow for the field people.

Many many people have pitched in big time on this one. Special thanks to Wayne and Joel for the detailed site work and instrument preparation and general field organization.

cheers,

brent

Subject: Fwd: [Fwd: Mid-Atlantic Medium Range Air Quality Outlook, Issued Wednesday, July 11]
Date: Wed, 11 Jul 2007 13:55:06 -0400

Folks, this was forwarded to me from Ray Hoff via Penn State Met.

bh

Begin forwarded message:

Medium Range Air Quality Outlook
Mid-Atlantic Region

Issued: Wednesday, July 11, 2007
Valid: July 12-16 (Thursday-Monday)

Summary:

Changeable weather through the remainder of the week with generally good to lower moderate
air quality. The long range models suggest another possible poor air quality episode by the middle
of next week.

Discussion:

Good agreement between the forecast models with the exception of the timing and location of a disturbance that will move along the stalled front in the eastern mid-Atlantic early Saturday.

An upper level low over James Bay will slowly drift north through the period. Disturbances rotating around the low will help push a cold front through the region very early Thursday. This front will stall east and south of the mid-Atlantic and a deepening trough to our west on Friday will induce a wave to form along the front that will pass through the region late Friday and early Saturday with cooler and drier air in its wake. The semi-permanent Bermuda high will then fill in beginning late Sunday. The high will steadily retrograde - move west - with the long range forecast suggesting yet another poor air quality event in the Tuesday-Friday period.

For Thursday, good to low moderate air quality with a burst of dry air and northwest winds. This is short lived and winds re-circulate southwest on Friday. The forecast models suggest a low forms along the stalled front and interacts with another re-inforcing front coming from the west to bring rain to the mid-Atlantic Friday. PM will reach the moderate range but clouds and rain will limit ozone.

Cool and dry Saturday with good/low moderate air quality then warm air advection returns Sunday. The air mass will initially be maritime in nature with southerly winds so moderate air quality expected. By Tuesday, however, the Bermuda high will have retrograded westward enough that hot, smoggy westerly transport will be a factor. The long range model is pretty scary for the Tuesday-Friday period with a classic high ozone/PM pattern. This is too far out in the forecast period to be at all confident in the

outcome.

Ryan

William F. Ryan
Department of Meteorology
The Pennsylvania State University

Folks,

Congratulations and thanks to us all for pulling off a very successful ground campaign. The aerosol loading was low (0.07 to 0.11) and the clouds largely dissipated or moved off at overpass time (See Aqua MODIS RR image) for all sites thus many successful sky radiance scans were taken, many interesting cloud aerosol sequences were measured, SMART was established at the day/night crossover near Strasburg, PA, the mobile MPL performed beautifully, 12 microtops were in action during the A-Train pass as were 11 Cimels under the Calipso ground track and the crab feast was superb. I suspect we had 25 people pitching in to make this happen.

The bad news is that the Alaskan ground station did not record the Calipso data last night thus any comparisons, inversions or otherwise joint analysis will not be possible. However there are plenty of other A-Train data available.

The preliminary cimel data are available on the AERONET website (http://aeronet.gsfc.nasa.gov) .Preface the names below with 'Calipso_'. We're working on an microtops data delivery system.

Below is the summary as I know it:

bh

Zion / Brent /Jack/ Students # 184: (complete / with transmitter for a couple months)
SMART was established (See photo) on a Church parking lot Near Strausburg, PA (See photo) and became operational at 1700 hrs with the MPL, AERONET station, and all sky camera. The site is 1 km west of the predicted Calipso track. Three microtops were established on the track at approximately 1 km separation each with continuous measurements during the A-train overpass. Ci dominated the sky until ~ 2 min prior to the overpass. AOD at 500 nm ~ 0.11. Cu forming ~ 20 min after. Note: AOD is 0.04 higher than adjacent sites and above all sites. Many sky photos were taken with PP measurements.

Perryville / Matis / #365. Site on track. Mantis followed the assigned protocol except for the 18:40 PP, because of a cloud obscurring the sun and a large portion of the sky. AOD 0.07

Kennedyville / Ilya & Dave / # 85: The Kennedyville Cimel site was located along a pond on the Southern States property; we obtained permission from the Southern States manager to take the sun photometer measurements from this position (See Kennedyville photos). From setup at 9:57a.m., mid-level altostratus lingered to the east and dissipated by noon. From 12p.m. to 1:30 p.m., shallow cumulus clouds developed in the same area to the east but these eventually dissipated by 1:30 p.m. The sky remained clear above the site and apparently in the direction of the sun during the overpass. Between 2:40 and 3:15 p.m., a mid-level cloud deck dissipated as it approached from the west. The cloud characteristics changed from altostratus to altocumulus and then some virga and eventually dissipation. From 3:15 to 4:30, mid-level stratus clouds were approaching from the west near the horizon, otherwise, it was apparently clear between the Cimel and the sun.

The Sassafras NRMA Microtops site was located in the middle of farmland, which is part of the State of Maryland Natural Resource Management Area and open to the public. This site was located approximately 5.3km (3.3 miles) north-northwest of the Kennedyville Cimel site. Measurements started at 11 a.m. through 2:40 p.m. following protocol. The sky remained clear above the site and apparently in the direction of the sun during the overpass. With the approach of the mid-level cloud deck discussed above, we maintained the continuous Microtops measurements until about 3:15 p.m to capture potential twilight zone effects as the cloud dissipated overhead (see Sassafras photos). The remainder of the measurements followed the protocol.

The photos may be obtained from the Web Drive for the next 30 days:
https://webdrive.gsfc.nasa.gov/longauth/600/David.M.Giles.1/RpfE14C

Please use the following to login:

username = kennedyville
password = sassafras

AOD 0.07

Pine Cove / Mikhail / # 03: All operations normal. Good sun and sky at overpass. Sct. small Cu. Possible obstructions near horizon for PP but overall excellent data set. AOD 0.08

Bower's Road / Ross / # 408: Good sun and sky at overpass. AOD 0.08

Ridgely / Lorraine/ Sasha, Rich, Arnon, Rob and students / # 92 AOD 0.09
Once again Rich Kleidman succeeded in finding the perfect location for the MPL-in-a-Ford-Edge. We were practically underneath the Calipso track that was marked on the Google Earth images. We were in a city parking lot across the railroad tracks from Mr. Brody's warehouse. Mr. Brody and his son were extremely helpful, provided their own extention cord for our use and let us use their bathroom in the warehouse. And yes we strung the power cord across the railroad tracks (The tracks were out of service, but it still

looked weird).

The lidar worked perfectly although Seb pointed out at one point that the temperature was a bit too cold. (too cold?) Can you believe it?

After only one phone call to Wayne, I had the Ridgley Cimel up and working. I ran it in BCLSun mode the entire time except for the PP requests on the protocol sheet.

Charles did a great job of training and deploying the Ridgley half of the microtops crew. His leadership was much appreciated. Kelley and Krista spent a leisurely afternoon in the Ridgely Park at a picnic table, taking microtops measurements until they had completely filled the memory. Meanwhile, only a few kilometers away Cody and Shawn spent the afternoon getting in touch with their inner caveman by reinventing 'rock ball' as they took data with their microtops. Charles deployed further south along the track and took his measurements solo. No rock ball for him.

Meanwhile, Mian had led her team to highway 404, and when I checked on them about an hour later they were happily munching cherries, as their Cimel functioned very well on automatic mode. Later Sasha helped them deploy to other microtops locations.

Sasha checked in with us several times and it was always great to see him.

Josh and Josh came and set up their SAM, and then one of the Joshes drove to a different location. I'm not too sure where that was. The SAM is really neat, and I wouldn't mind learning more about it. One thing I noticed is that the SAM team looked very professional. They come with a collapsing canopy that opens up like an open air tent, and it sure beats Rich's ragtag patchwork of tarps. The SAM team had the only shade in the Ridgely parking lot.

Pnina, Rob and I sat by the Cimel and camera station the entire afternoon carefully making notes and taking pictures. We could get the camera to take automatic pictures every 10 seconds, but when we looked at those images they were all white. However, when Pnina pressed the button herself the images looked fine. And it wasn't just me and my inability to use a camera properly. Rob played with it a bit also. In the end we didn't want to waste the opportunity and Pnina took manual data for 3 hours.

In Ridgely we started with partly cloudy skies, very shallow and weak Cumulus, and very little aerosol. The clouds dissipated over time and by overpass there basically were no clouds in the sky. For a few hours we might have been measuring twilight, but in the afternoon, no.

Everybody else packed up at 4:00 pm, but Krista, Charles and I stayed till 5:00 to get that final almucantar in with the Cimel. Skies stayed clear till then.

West of Denton/ Mian Chin # 409: See above. AOD 0.10

Williston Lake / Joel & Melina / #427 : Cimel ~ 200 m off track, microtops on track; Sct Cu at overpass, PP and AOD. Ci blocked late afternoon almucantar. AOD

Rt 392 / Alex / # 35: The location was slightly off track at the intersection of Rt. 392 and Rt. 313, which is approximately half a mile east of the selected destination.

The cloud conditions varied throughout the day, but never completely clear skies. The morning sun had occasional cloud covering causing the Cimel to enter
BCLSKY in the automatic mode. During and around the overpass, the sun remained partially covered at times, however, the Cimel was able to continuously track in BCLSUN.

The winds did pick up during the automatic measurements after overpass and had caused the Cimel to move slightly, which I was only able to notice near the end of the day when I found the instrument to have other problems, such as non-functioning key and inability to track. After fixing what I could and running the final PP and Almucantar, things were packed up around 4:15PM AOD 0.10

Mardela Springs / Tom / #108: Northwestern Elementary school athletic fields area. The measurements began at ~15 UTC and continued to ~2115 UTC, ending with an almucantar scan made at 54 degrees SZA. At the time of the Calipso satellite and A-Train overpasses the cumulus cells overhead were dissipating rapidly, with cloud cover estimated as ~5% overhead and clear to the west of the site, and ~30% cumulus cover to the east of the site. AOD 0.10

Upper Ferry / Wayne / #08: AOD 0.10

The Crab Feast: See Photo of the first assault.

HSRL Flight (Chris Hostetler): No information as yet.

Date: Fri, 13 Jul 2007 10:44:27 -0400
To: brent.n.holben@nasa.gov
From: Lorraine Remer <Lorraine.A.Remer@nasa.gov>
Subject: CATZ-C Ridgley report

Brent,

Here is our report from Ridgely (and Perryville).

Once again Rich Kleidman succeeded in finding the perfect location for the MPL-in-a-Ford-Edge. We were practically underneath the Calipso track that was marked on the Google Earth images. We were in a city parking lot across the railroad tracks from Mr. Brody's warehouse. Mr. Brody and his son were extremely helpful, provided their own extention cord for our use and let us use their bathroom in the warehouse. And yes we strung the power cord across the railroad tracks (The tracks were out of service, but it still looked weird).

The lidar worked perfectly although Seb pointed out at one point that the temperature was a bit too cold. (too cold?) Can you believe it?

After only one phone call to Wayne, I had the Ridgley Cimel up and working. I ran it in BCLSun mode the entire time except for the PP requests on the protocol sheet.

Charles did a great job of training and deploying the Ridgley half of the microtops crew. His leadership was much appreciated. Kelley and Krista spent a leisurely afternoon in the Ridgely Park at a picnic table, taking microtops measurements until they had completely filled the memory. Meanwhile, only a few kilometers away Cody and Shawn spent the afternoon getting in touch with their inner caveman by reinventing 'rock ball' as they took data with their microtops. Charles deployed further south along the track and took his measurements solo. No rock ball for him.

Meanwhile, Mian had led her team to highway 404, and when I checked on them about an hour later they were happily munching cherries, as their Cimel functioned very well on automatic mode. Later Sasha helped them deploy to other microtops locations.

Sasha checked in with us several times and it was always great to see him.

Josh and Josh came and set up their SAM, and then one of the Joshes drove to a different location. I'm not too sure where that was. The SAM is really neat, and I wouldn't mind learning more about it. One thing I noticed is that the SAM team looked very professional. They come with a collapsing canopy that opens up like an open air tent, and it sure beats Rich's ragtag patchwork of tarps. The SAM team had the only shade in the Ridgely parking lot.

Pnina, Rob and I sat by the Cimel and camera station the entire afternoon carefully making notes and taking pictures. We could get the camera to take automatic pictures every 10 seconds, but when we looked at those images they were all white. However, when Pnina pressed the button herself the images looked fine. And it wasn't just me and my inability to use a camera properly. Rob played with it a bit also. In the end we didn't want to waste the opportunity and Pnina took manual data for 3 hours.

In Ridgely we started with partly cloudy skies, very shallow and weak Cumulus, and very little aerosol. The clouds dissipated over time and by overpass there basically were no clouds in the sky. For a few hours we might have been measuring twilight, but in the afternoon, no.

Everybody else packed up at 4:00 pm, but Krista, Charles and I stayed till 5:00 to get that final almucantar in with the Cimel. Skies stayed clear till then.

Matis called in a couple of times from Perryville. He had no trouble finding a site and setting up. He followed the assigned protocol except for the 18:40 PP, because of a cloud obscurring the sun and a large portion of the sky.

I heard the party was great. I'm sorry that we had to get back to Baltimore.

I'm going now to unload the car. I'll bring the microtops to Sasha and the Cimel to Wayne.

LAR