

ARM

Aerosol Life Cycle Working Group

Highlights from Aerosol Lifecycle WG Value-added Products

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The Aerosol Life Cycle working group (ALWG) occupies a central role within ASR and ARM as the organizing body responsible for furthering our understanding of basic aerosol properties.

We present an overview of ALWG value-added products and highlight results from several current efforts including the MFRSR AOD retrievals from AMF deployments, Aerosol Intensive Properties, Aerosol Best-Estimate, Organic Aerosol Composition, and analyses of aerosol-related field campaigns (for example, currently analyzing CARES data).

Aerosol Best-Estimate Value-Added Product

Monthly time-series AOD, Angstrom, and vertical profiles of ext, SSA, and g. Batch processed for 2000-2008. Operationally processed 2010 (2011).

Recent improvements:

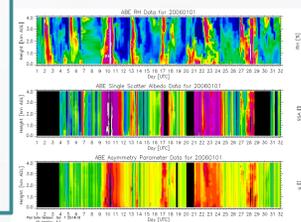
- More complete metadata
- Detailed QC flags
- Detailed source flags
- 3-wavelength scattering and absorption propagated to single scattering albedo and asymmetry parameter profiles.
- Autonomous processing

Input data:

- NIMFR/MFRSR AOD and Angstrom exp.
- AOS scat. & absorp.
- AIP f(rh)
- Surface met
- Merge-sonde RH prof

Output products:

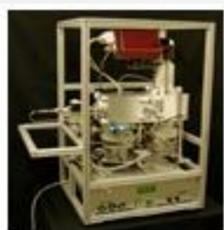
- AOD (500 nm)
- Angstrom exponent
- Ext prof from RL seasonal climatology with AOD.
- SSA(z) for RGB
- g(z) for RGB



Duli Chand, Annette Koontz, Connor Flynn

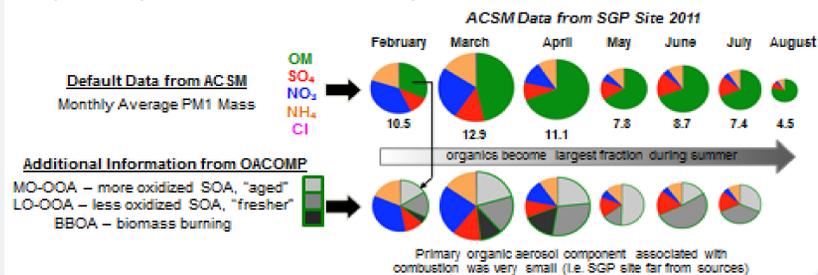
Organic Aerosol Composition (OACOMP) VAP

Analysis of Aerosol Chemical Speciation Monitor (ACSM)



ACSM deployed at SGP, TWP, MAOS

- Currently testing new QA and pre-treatments of the ACSM data, prior to running the OACOMP script
- Expect implementation later this year



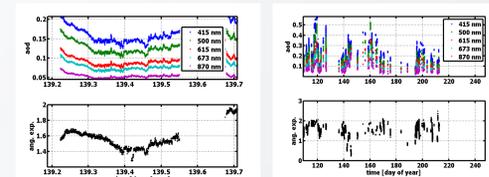
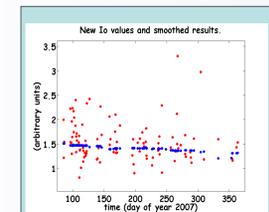
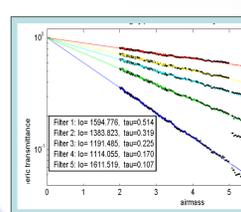
Qi Zhang, Jerome Fast, Tim Shippert

AOD retrieved for completed AMF Campaigns

AOD and Å for PYE, FBK, HFE, GRW, SBS (NIM previously released)

Unique ARM Mobile Facility locations motivated...

- Improved autonomous Langley retrievals
- Increased scrutiny of calibration time series
- New ozone tables from OMI for each site
- Relaxed homogeneity constraints
- Additional Angstrom exponent constraint
- Check of cloud-screen with lidar/ radar / TSI images



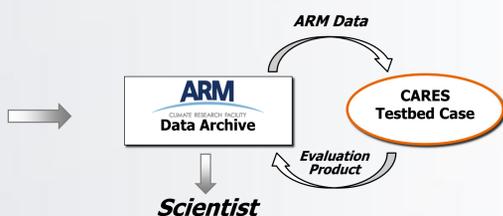
AMF Site	Total Days	To Days	AOD days	Avg. AOD	Min. AOD	Max. AOD	Sdev AOD
PYE							
FBK							
HFE							
GRW							
SBS							

Evgenii Kassianov, Connor Flynn, Annette Koontz

CARES Dataset for Aerosol Modeling Testbed

Development of an Evaluation Product for ARM Archive

ARM IOP: CARES



Other Sources

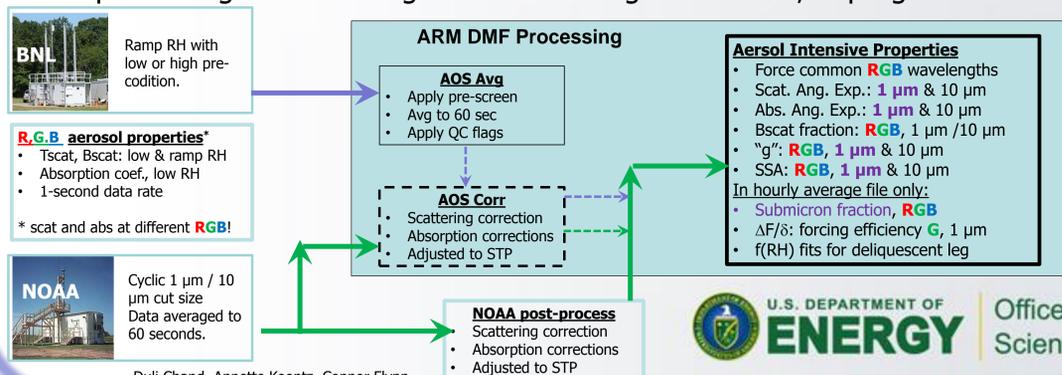


- Integrate CARES data with other valuable data needed by modelers
 - More consistent formats
 - Derived products, e.g. merged data, averages
- CARES testbed case and Aerosol Modeling Testbed software will be available later this spring

Jerome Fast, Manish Shrivastava

AOS Extensive and Intensive Properties

Complete processing of NOAA-configuration AOS operational for SGP, NSA, AMF1
Initial processing of BNL-configuration AOS: avg. 1 s to 60 s, in progress



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