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ARM Climate Research Facility Quarterly Value-Added Product Report

Chitra Sivaraman

July 2012

ARM CLIMATE RESEARCH FACILITY

DISCLAIMER

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Third Quarter:
April 1–June 30, 2012

C Sivaraman

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Abstract

The purpose of this report is to provide a concise status update for value-added products (VAP) implemented by the Atmospheric Radiation Measurement Climate Research Facility. The report is divided into the following sections: (1) new VAPs for which development has begun, (2) progress on existing VAPs, (3) future VAPs that have been recently approved, (4) other work that leads to a VAP, and (5) top requested VAPs from the Data Archive. New information is highlighted in **blue text**. New information about processed data by the developer is highlighted in **red text.** The upcoming milestones and dates are highlighted in **green.**

Acknowledgements

This report is developed largely from the information submitted by the developers and task leads to the Extraview reporting system (http://ewo.arm.gov). Special thanks to our VAP development team for providing timely and complete updates to the Engineering Change Orders and Engineering Work Orders, Dana Dupont and Rolanda Jundt, who make sure that this information is posted accurately on the ARM website, Stefanie Shamblin of Oak Ridge National Laboratory for providing the metrics report on VAPs, and Coryann Newsom for preparing the graphics related to the metrics.

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1.0 New VAPs

This section describes new activities that have begun in the last quarter after being approved by the ARM Infrastructure and Science Team.

1.1 Aerosol Observing System Correction (AOSCORR)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Engineering Work Order-00934 (EWO) was approved to apply instrument corrections and calibrations to handle the Brookhaven National Laboratory aerosol observing system (AOS) datastream.

1.2 Interpolated Sonde (INTERPSONDE)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: David Troyan, Brookhaven National Laboratory

Engineering Work Order-14216 has been approved to create a thermodynamic profile in the same manner as the Merged Sounding (MERGESONDE) VAP. The difference is that INTERPSONDE does not include the European Centre for Medium-Range Weather Forecasts (ECMWF) model data.

The first version of the data has been released to the ARM Data Archive's evaluation area.

1.3 Quantitative Precipitation Estimate (QPE)

Translator: Scott Collis, Argonne National Laboratory

Developer: Scott Collis, Argonne National Laboratory

Engineering Work Order-00936 was approved to produce the QPE VAP for the Manus C-band scanning ARM precipitation radar (C-SAPR) for ARM Madden-Julian Oscillation Experiment (AMIE) campaign data.

1.4 Quality-Checked Eddy Correlation (QCECOR)

Translator: Scott Collis, Argonne National Laboratory

Developer: Scott Collis, Argonne National Laboratory

Engineering Work Order-00941 was approved to apply quality checks and correct the latent and sensible heat fluxes for historical eddy correlation (ECOR) data.

2.0 Existing VAPs

This section describes the status of each VAP and the ongoing activities that were approved to improve the performance of or maintain existing VAPs. The information is abstracted primarily from the monthly updates provided by the development team to the Engineering Change Orders (ECOs).

2.1 Atmospherically Emitted Radiance Interferometer Noise Filter (AERINF)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Tim Shippert, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.2 AERI Profiles of Water Vapor and Temperature (AERIPROF)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Tim Shippert, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.3 Aerosol Best Estimate (AEROSOLBE)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.4 ARM Cloud Retrieval Ensemble Data Set (ACRED)

Translator: Shaocheng Xie, Lawrence Livermore National Laboratory

Developer: Chuanfeng Zhao and Renata McCoy, Lawrence Livermore National Laboratory

Status: Operational

Tier: Evaluation

Engineering Work Order-13590 has been approved to address the uncertainty in cloud retrievals and provide three different retrievals at the five ARM permanent research sites.

Seventy percent progress has been made with uncertainty studies on the Continuous Baseline Microphysical Retrieval (MICROBASE) VAP cloud retrieval data set, and 60% progress has been made on the 1-min resolution of the ACRED data set that is consistent with Radiatively Important Parameters Best Estimate (RIPBE) VAP data from the Southern Great Plains (SGP).

An updated data set was provided to the evaluation area.

Next Milestone: The milestone of reviewing feedback provided by users and completing the development of an ensemble MICROBASE cloud retrieval data set has been pushed back.

2.5 Aerosol Intensive Properties (AIP)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.6 Aerosol Optical Depth Derived from Either MFRSR or NIMFR (AOD)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Connor Flynn, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.7 ARM Best Estimate (ARMBE) (formerly CMBE)

Translator: Shaocheng Xie, Lawrence Livermore National Laboratory

Developer: Renata McCoy, Lawrence Livermore National Laboratory

Status: Operational

Tier: Production

Engineering Change Order-00620 has been approved to make updates to run SGP, North Slope of Alaska (NSA), and Tropical Western Pacific (TWP) sites, publish CMBE to the Earth System Federated Grid (ESFG), and adhere CMBE to ARM data object design (DOD) standards to produce ARMBE.

Migration of the ARMBEATM and ARMBECLDRAD datastreams for all sites to production has been completed.

Next Milestone: Develop ARMBE for the ARM Mobile Facility (AMF) China deployment.

2.8 Active Remote Sensing of Clouds (ARSCL)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: Karen Jones, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

Engineering Change Order-00086 has been approved to catch up on processing of ARSCL data and development of a new ARSCL product for the upgraded Ka-band ARM zenith radar (KAZR) system.

Processing of data at the TWP site is 50% complete.

Next Milestone: Complete historical processing of data has been moved to July 2012.

2.9 Best-Estimate Fluxes from EBBR Measurements and Bulk Aerodynamics Calculations (BAEBBR)

Translator: Shaocheng Xie, Lawrence Livermore National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.10 Broadband Heating Rate Profile (BBHRP)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Tim Shippert, Pacific Northwest National Laboratory

Status: Development

Tier: Evaluation

Engineering Change Order-00219 has been approved to make updates to the BBHRP/RIPBE interface, run the alpha version, analyze data, prepare a technical report, and deliver data to the evaluation area.

Processed four years of data (2002–2006) with the latest RIPBE data, and provided 30-minute BBHRP data to the evaluation area.

2.11 Best-Estimate Surface Radiative Flux (BEFLUX)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Yan Shi, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.12 Cloud Classification (CLDCLASS)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Chaomei Lo, Pacific Northwest National Laboratory

Status: No development

Tier: Evaluation

There are no open ECOs for this VAP.

2.13 Cloud Condensation Nuclei Average (CCNAVG)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Yan Shi, Pacific Northwest National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00898 was approved to initiate and coordinate the development of a CCNAVG VAP to consolidate the relevant cloud condensation nuclei parameters into a single file and average the data over the 5-minute integration time of each percent super saturation (%ss) value.

Integrated with the Integrated Software Development Environment (ISDE), and transformed the input variables to the required time grid.

Next Milestone: Provide the evaluation data set and release code by September 30, 2012.

2.14 Cloud Concentration Nuclei Profile (CCNPROF)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Evaluation

Engineering Change Order-00813 has been approved to begin implementation of the Ghan CCN retrieval algorithm, develop a version of the code, provide one month of data for review, and add quality checks.

User feedback has been reviewed, and the code has been updated to filter extinction data based on the cloud mask identified by the ceilometer. The technical report has been updated.

Processed historical data, and released data to evaluation.

Next Milestone: Review feedback provided by users in June 2012.

2.15 Corrected Moments in Antenna Coordinates (CMAC)

Translator: Scott Collis, Argonne National Laboratory

Developer: Scott Collis, Argonne National Laboratory

Status: In development

Tier: Evaluation

Engineering Work Order-13977 was approved to initiate and coordinate the development of corrected moments in antenna coordinates (CMAC) in evaluation at the SGP.

Significant progress has been made to correct moments and write generic conversion code.

Next Milestone: Provide data to evaluation by July 2012.

2.16 Convective Vertical Velocity VAP (CONVV)

Translator: Scott Collis, Argonne National Laboratory

Developer: Kirk North, McGill University

Status: In development

Tier: Evaluation

Engineering Work Order-13978 was approved to initiate and coordinate the development of the CONVV VAP to assist in implementing a convective Vertical Velocity VAP for Midlatitude Continental Convective Clouds Experiment (MC3E) data.

Significant progress has been made in the retrieval technique.

Next Milestone: Implement the code in PYART (a Python software package) by December 31, 2012.

2.17 G-Band Vapor Radiometer Precipitable Water Vapor (GVRPWV)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.18 Ka-Band Zenith-Pointing Radar Active Remote Sensing of Clouds (KAZR-ARSCL)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: Karen Johnson, Brookhaven National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00899 was approved to initiate and coordinate the development of an ARSCL-like VAP to enhance the scientific value of data collected by the KAZR, the follow-on to the now-retired millimeter-wavelength cloud radar (MMCR).

Significant progress has been made to correct the mode, create best-estimate moments, and incorporate the micropulse lidar and ceilometers.

Next Milestone: Creating best-estimate KAZR moments has been pushed back to July 30, 2012.

2.19 Langley Regression (LANGLEY)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.20 Microwave Radiometer-Scaled Sonde Profiles (LSSONDE)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.21 Merged Sounding (MERGESONDE)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: David Troyan, Brookhaven National Laboratory

Status: Operational

Tier: Production

Engineering Change Order-00092 has been approved to add quality check fields, release the first version of the code to the Data Management Facility (DMF), and provide version 2 of the data to evaluation.

Significant progress has been made to address user feedback.

Next Milestone: Review feedback provided by the users on version 2 of the MERGESONDE VAP. The release of version 2 for routine processing at DMF has been pushed back due to other priorities.

2.22 MFRSR Column Intensive Properties (MFRSRCIP)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00823 has been approved to develop a VAP to retrieve aerosol column intensive properties from the multifilter rotating shadowband radiometer (MFRSR) including single scattering albedo, asymmetry parameter, and bi-modal log-normal size distributions.

The VAP has been integrated with ISDE, and the FORTRAN code has been optimized.

Next Milestone: Provide evaluation data set by June 1, 2012.

2.23 Cloud Optical Depth from MFRSR (MFRSRCLDOD)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Yan Shi, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

Engineering Change Order-00287 has been approved to update the VAP to run with the Microwave Radiometer Retrievals VAP (MWRRET) as input, run and evaluate data from the ARM Mobile Facility Azores deployment, and release the product.

Data for all extended facilities have been created, and data for eight facilities have been submitted to the Data Archive.

Next Milestone: The complete processing and analyzing of historical data has been pushed back to August 30, 2012.

2.24 Continuous Baseline Microphysical Retrieval (MICROBASE)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: Maureen Dunn, Brookhaven National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00804 has been approved to update the VAP with quality checks and release to production.

All historical data have been processed with MWRRET c2 data at the DMF and sent to the Data Archive.

Next Milestone: Process MC3E and AMIE-Gan data with KAZR-ARSCL as input by September 30, 2012.

2.25 MICRO-ARSCL (MICROARSCL)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: Ed Luke, Brookhaven National Laboratory

Status: In Development

Tier: Evaluation

Engineering Change Order-00847 has been approved to solve the spectral imaging problem and porting MICROARSCL to the ARM computer cluster at Oak Ridge National Laboratory.

No progress has been made for this VAP.

Next Milestone: Reprocess historical data at Oak Ridge National Laboratory. This milestone has been pushed back to September 30, 2012.

2.26 Mapped Moments to Cartesian Grid (MMCG)

Translator: Scott Collis, Argonne National Laboratory

Developer: Scott Collis, Argonne National Laboratory

Status: In Development

Tier: Evaluation

Engineering Change Order-00887 was approved to develop a VAP to map the radar moments to Cartesian grid.

The MMCG data for Manus have been released to evaluation.

Next Milestone: Release data for Manus and SGP X-band scanning ARM precipitation radar (X-SAPR) and produce attenuation correction for MC3E by September 1, 2012.

2.27 Micropulse Lidar Cloud Optical Depth (MPLCOD)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Chaomei Lo, Pacific Northwest National Laboratory

Status: No development

Tier: Evaluation

There are no open ECOs for this VAP.

2.28 Micropulse Lidar Polarized Average (MPLAVG)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Annette Koontz, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.29 MPL Cloud Mask (MPLCMASK)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

2.30 Microwave Radiometer Retrievals (MWRRET)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

Engineering Change Order-00526 has been approved to transition the product from evaluation to production, release the product, and process historical data.

All historical c2 data have been processed and are available at the Data Archive.

Next Milestone: Process AMF data when the W-Band ARM Cloud Radar Active Remote Sensing of Clouds VAP (WACR-ARSCL) is reprocessed.

2.31 Organic Aerosol Component Analysis

Translator: Jerome Fast, Pacific Northwest National Laboratory

Developer: Tim Shippert, Pacific Northwest National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00838 has been approved to develop a VAP to estimate organic aerosol components from Aerosol Mass Spectrometers (AMS) and Aerosol Chemical and Speciation Monitors (ACSM) to be deployed at ARM's sites and as part of the Mobile Aerosol Observing System (MAOS).

Progress is being made on assessing quality checks and post processing data.

Next Milestone: Produce evaluation data before the 2012 Atmospheric System Research Working Group Meeting.

2.32 Planetary Boundary Layer (PBL)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00893 has been approved to initiate and coordinate the development of a VAP to implement methods for PBL height detection using radiosondes, ceilometer, and micropulse lidar.

The data set has been staged in the evaluation area for user feedback.

Next Milestone: Implement Haefflin method and provide data to the evaluation area by September 30, 2012.

2.33 Python ARM Radar Toolkit (PYART)

Translator: Scott Collis, Argonne National Laboratory

Developer: Scott Collis, Argonne National Laboratory

Engineering Change Order-00920 was approved to initiate and coordinate the development of a toolkit is to create a toolkit, which is usable by the ARM community for working with all the radar data formats produced by the scanning ARM precipitation radars (SAPRs).

Some progress has been made with regards to licensing issues.

2.34 Data Quality Assessment for ARM Radiation Data (QCRAD)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Yan Shi, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.35 Raman Lidar Profiles—Aerosol Scattering Ratio (RLPROFASR)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.36 Raman Lidar Profiles—Best Estimate (RLPROFBE)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.37 Raman Lidar Profiles—Depolarization Ratio (RLPROFDEP)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.38 Raman Lidar Profiles—Extinction (RLPROFEXT)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.39 Raman Lidar Profiles—MERGE (RLPROFMERGE)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.40 Raman Lidar Profiles—Mixing Ratio (RLPROFMR)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

As per Baseline Change Request (BCR) 01837, a new version of the RLPROFMR code was released to fix the bias observed by the TWP Raman lidar (RL).

Completed historical processing of Darwin data after release of the updated code.

2.41 Raman Lidar Profiles—Temperature (RLPROFTEMP)

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Chitra Sivaraman, Pacific Northwest National Laboratory

Engineering Change Order-00911was approved to initiate and coordinate the development of an RLPORFTEMP VAP to determine temperature profiles from the RL data.

Ten percent progress has been made on the implementation of the code.

Next Milestone: Implement and release code to production by September 30, 2012.

2.42 Radiatively Important Parameters Best Estimate (RIPBE)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Tim Shippert, Pacific Northwest National Laboratory

Status: Operational

Tier: Evaluation

The ECO-00767 has been approved to fix bugs and enhance the product based on feedback from beta users.

The 1-minute and 30-minute averaged RIPBE data have been processed.

Next Milestone: Produce evaluation data of RIPBE average.

2.43 SGP Area Surface Cloud and SW Radiation Grid (SFCCLDGRID)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.44 Surface Spectral Albedo (SURFSPECALB)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.45 SONDE Adjust (SONDEADJUST)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: David Troyan, Brookhaven National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00824 has been approved to correct the documented biases in radiosonde humidity measurements.

Corrections have been implemented based on user feedback.

Next Milestone: Migrate data to the Data Archive and release the VAP for routine processing.

2.46 Shortwave Flux Analysis (SWFLUXANAL)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.47 Tower Water-Vapor Mixing Ratio (TWRMR)

Translator: Sally McFarlane, Pacific Northwest National Laboratory

Developer: Krista Gaustad, Pacific Northwest National Laboratory

Status: Operational

Tier: Production

There are no open ECOs for this VAP.

2.48 Variational Analysis (VARANAL)

Translator: Shaocheng Xie, Lawrence Livermore National Laboratory

Developer: Renata McCoy, Lawrence Livermore National Laboratory

Status: Operational

Tier: Evaluation

Engineering Change Request-0096 has been approved to develop continuous large-scale forcing data.

Thirty percent progress has been made to develop the large-scale forcing data for the MC3E campaign.

Next Milestone: Comply with DOD standards and migrate the data to the Data Archive. Develop ensemble large-scale forcing data for MC3E and AMIE.

2.49 Vertical Velocity in Stratiform Rain (VVSR)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: Maureen Dunn, Brookhaven National Laboratory

Status: In development

Tier: Evaluation

Engineering Change Order-00865 was approved to initiate and coordinate the development of the VAP to generate profiles of vertical air motion during large-scale stratiform liquid precipitation. It will include information on the horizontal and vertical sheer of the velocity.

Mapping of input data variables and initial DOD review has been completed.

Next Milestone: Submission of data as an evaluation product has been pushed back to August 30, 2012, due to other priorities.

2.50 W-Band ARM Cloud Radar Active Remote Sensing of Clouds (WACR-ARSCL)

Translator: Mike Jensen, Brookhaven National Laboratory

Developer: David Troyan, Brookhaven National Laboratory

Status: Operational

Tier: Evaluation

Engineering Change Request-00826 has been approved to run WACR-ARSCL at all AMF deployments and continue development at SGP.

Next Milestone: Re-run the VAP, and move data to Data Archive by September 30, 2012.

3.0 Future VAPs

This section describes new activities that have been approved in the last quarter by the ARM Science and Infrastructure and Science Steering Committee. Work on these activities will begin in the next quarter.

White papers have been completed for the Droplet Concentration VAP and SAS-LANGLEY VAP.

4.0 Other VAP-Related Work

4.1 CARES Data Set/Aerosol Modeling Testbed (AMT)

Translator: Jerome Fast, Pacific Northwest National Laboratory

Developer: Chen Song and Manish Shrivastava, Pacific Northwest National Laboratory

Engineering Work Order-13683 has been approved to create an evaluation product from CARES Data Set for the Aerosol Modeling Testbed.

The CARES Data Set VAP, now called Aerosol Modeling Testbed, has been released to the evaluation area.

4.2 SASHE b1

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Yan Shi, Pacific Northwest National Laboratory

Engineering Work Order-14146 has been approved to create a b1 product that parallels the processing applied to the MFRSR.

4.3 SASZE c0

Translator: Connor Flynn, Pacific Northwest National Laboratory

Developer: Brian Ermold, Pacific Northwest National Laboratory

Engineering Work Order-14147 has been approved to create a c0 product that parses the a0 files into irradiance components by subtracting dark signal, aggregating according to band position, applying a principal components analysis (PCA) noise filter, and computing the direct horizontal and diffuse hemispheric components. This is a necessary first step before computing Langley retrievals that will yield the SASHE calibration time series.

5.0 VAP Metrics

This section lists the top five VAPs that were requested by users from the Data Archive during the third quarter.

Table 1. Top five VAPs requested by users from the Data Archive during the third quarter.

	N files requested	N unique requests	N unique users
SWFLUXANAL	73,508	36	33
DIFFCOR	50,917	53	50
MWRAVG	32,941	13	11
ARSCL	30,332	61	28
AOD	26,313	28	18

Table 2. Top five VAPs requested by users from the Data Archive during the first quarter.

	N files requested
PBLHTSONDE	15,564
CCNPROF	1050
MMCG	686
CMBE	209
WACRARSCL	136

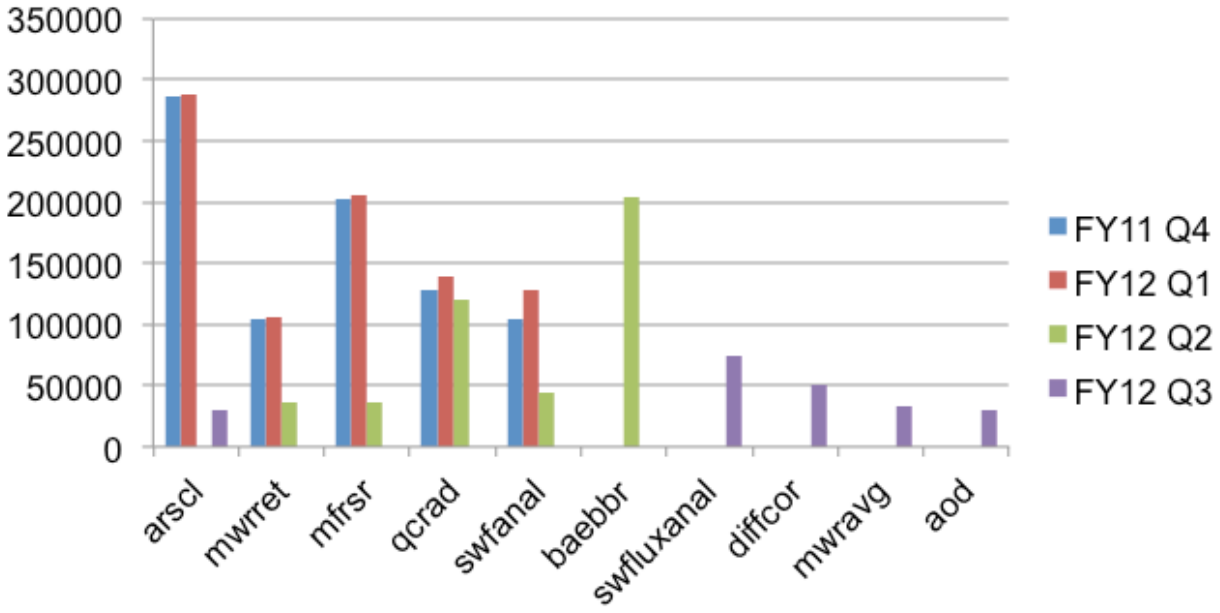

Figure 1. This chart shows the top five VAPs that were requested by users from the Data Archive during the last four quarters.

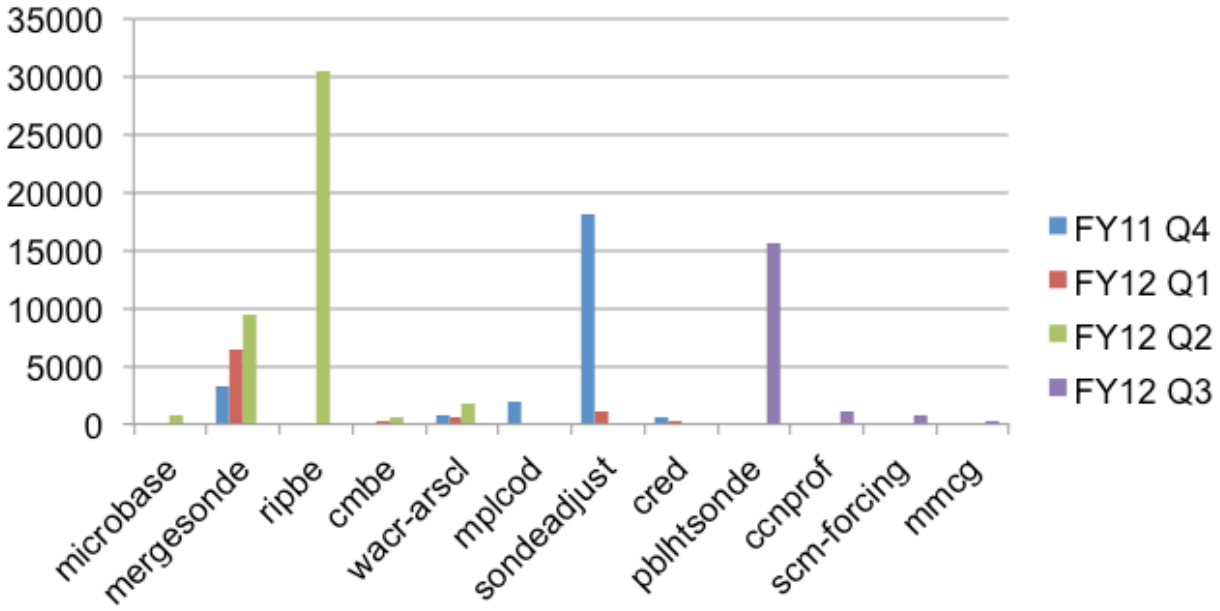

Figure 2. The chart shows the top five VAPs downloaded from the evaluation area for the last four quarters.

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