Data Products, Tools, Uncertainty Quantification, and Data Quality				
FY15 Highest Priorities		Proposed Activities for FY16		Other VAP Activities (lower priority)
FY15 highest priority activities have the most dedicated effort. Some exploratory activities are underway in FY15 that will be reassessed for further development in FY16		These activities are designed to support the Next-Generation ARM activities		These activitites are on hold to focus on higher priority activities, waiting for baseline datasets, or currently have less effort than high priority tasks.
CAPI		Data Products		Clouds and Radiation
QCRAD Automation		Integrated ARSCL Product (ARSCL+MicroARSCL+RL+RWP)		Automate Microwave LWP Retrieval VAP (mwrret)
Radiative Flux Analysis VAP		Ship based data products (NAVBE, SST, Radiometers, ship motion corrections) for ACAPEX		Improved Microbase VAP
MWRRETv2 for 3 channel microwave radiometers		Vertical Velocity Integrated Product		Droplet number concentration VAP
Areal average albedo VAP		Improved precipitation measurements and data products (warm and cold clouds)		PBL Height
Update Surface Cloud Grid VAP		Automate microARSCL VAP		MMCG - Mapped moments to cartesian grid with quantitative precip estimate
Make doppler lidar profile products operational		CMAC/CMAC2 - Corrected moments and Antennae pointing for scanning radar		Broadbanding Heating Rate Profile VAP
Cloud Lifecycle		Aerial Facility Data Products (UAS, routine, IOP)		Aerosols
KAZR-ARSCL VAP (Corrected radar moments and cloud mask)		SGP Forcing Datasets to support High Resolution Modeling		Complete Aerosol Modeling Testbed for CARES/CalNEx and TCAP
KAZR2 Ingest and ARSCL VAP (Corrected radar moments and cloud mask)		Real-time processing of RH, T, Winds, precip at Central and Boundary Facilities		Extend MFRSR CIP to include alternate sizing information (AOS and/or AERONET) and longer wavelengths (SASHe)
SACRCORR VAP (Corrected radar moments from scanning radar systems)		AERI profile data products at SGP		SP2 data processing system
SACR2 ingest and SACRCORR2 VAP (Corrected radar moments from scanning radar systems)		Uncertainty Quantification and Data Quality		Aerosol Best-Estimate VAP (BE AEROSOL 1TURN)
WACR-ARSCL for MAO and TMP		Uncertainty estimates on selected ARM measurements (T, RH, U, V, W, surface precip, radar moments)		Update and release AOS Correction
MAGBENAV (Best Estimate of ship nav for MAGIC)		Radar monitoring and uncertainty standarization		Divide Aerosol Best-Estimate into surface and vertically-resolved components
KAZR(MPL, CEIL, HSRL)SHIPCORR for MAGIC		Machine readable data quality assessment included data file orders		Integrated Products
Migrate MERGESONDE from Evaluation to Production		Focused effort to provide accurate data quality assessments for key ARM measurements		Improve and develop QCECOR VAP with SEBS
Precipitation Radars		Data Tools		Release 2D gridded and station based surface/soil data for 2011
Implementation of a "Echo at Gate identification algorithm" into Py-ART		Port all ingests and VAPs to ADI		Development of ARMBE 2D gridded and stations-based surface data products
Delivery of Radar Wind Profiler corrected moments to evaluation and ingest normalization		ARM Data Integrator interface (ADI) for users to produce custom VAPs and merged datasets		
X-SAPR2 ingest (Precipitation Radar)		PyArt Development		
Convective vertical velocities for TWP-ICE and MC3E for evaluation		Tools to visualize and integrate 3D data products		
Delivery of a short course at the AMS radar conference on Py-ART (Precipitation Radar)		Radar simulators for high-resolution modeling		
Aerosol Lifecycle		Open source code repository		
AOS Harmonization (uniform processing for optical, particle and gas properties)				
SASHe AOD, water vapor and trace gas retrievals and corrections for improved AOD				
Uniform processing of SWS and SASZe hyperspectral zenith radiance measurements including comparisons with other NFOV radiances				
OACOMP (Organic Aerosols Composition from the ACSM)				
Synthesis Data Products				
Forcing datasets: AMIE-DYNAMO and AMIE-Gan; continuous forcing for 2011				
Complete the development of a framework for uncertainty analysis for ARM cloud retrievals				
ARSCL Radar Simulator and gridded products				
Exploratory Activities in FY15 Only				
3-wavelengthlidar aerosol profile retrieval				
Implement 3D variational analysis on LLNL supercomputer				

Instruments				
FY15 Instrument Current Activities			High Priority Activities for FY16	Site
Aerosol Instruments	Site		Standardize surface precip measurements at all sites	All sites
Repackaging SGP Raman	SGP		Boundary Layer Profiling sites (4): Atmosperic Emitted Radiance I nterferometer (AERI), Doppler Lidar, Microwave Radiometer (MW)R, surface fluxes, portable infrastructure	SGP
AOS system	AMF3		Review and upgrade of soil moisture network	SGP
**SGP AOS upgrade	SGP		Instruments and Infrastructure to support routine Unmanned Aersospace Systems and tethersonde systems.	AMF3
Picarro CRDS CO2/CH4/CO analyzer to quantify CO gradients	SGP		Other Requests Under Consideration	Site
Methane Flux Spares			**AOS Upgrade for All Sites	All sites and mobile facilities
MAOS operations container	AMF1/MAOS		Additional recommendations for AOS baseline instruments: WFOV camera, DMA upstream of CCN, Nano-SMPS	All sites and mobile facilities
Scanning Mobility Particle Sizer (SMPS) for AMF1	AMF1		Ice Nuclei particle detection in the 0.8 – 20 µm range.	AMF3
SO2 Analyzer	SGP		(ALWG): Chemical composition or filter measurements (elemental analysis) for source apportionment for Oliktok	AMF3
HSRL software transfer	NSA, AMF2		(ALWG): DMT Single Particle Soot Photometer (SP2) for black carbon below 10 ng/m3 for Oliktok	AMF3
Upgrade SWS	SGP		(ALWG): NO_x/NO_y at Oliktok	AMF3
Clouds and Precipitation Instruments	Site		(ALWG): Radon for identification of continental airmasses	ENA
Manus SACR Refurbishment	SGP		(ALWG): DMT Photoacoustc Soot Spectrometer (PASS-3 wavelength) system for aerosol mass loading at surface.	MAOS, SGP
Refurbish Manus CSAPR	SGP		(ALWG): Lidar/Radiometer group configurations for vertical profiles and properties of aerosols	NSA, SGP, TWP, ENA, AMF1, AMF2, AMF3
Upgrade SACRs to SACR2s	SGP, NSA, AMF1, AMF2		(ALWG): C14 at high temporal resolution for Moblie Aerosol System (MAOS).	MAOS
Improve sensitivity of W-SACRs	AMF1, NSA, SGP		(ALWG): Nano-SMPS	MAOS
X-SAPR Upgrades	SGP, NSA		Multi-Filter Rotating Shaddowband Radiometer (MFRSR) 1.6 micron channel and Albedo Measurements (MFR head with same filter)	SGP, TWP, NSA, ENA, AMF1, AMF2, AMF3
EIKA Refurbishment	All sites and mobile facilities		ARM Unmanned Aerospace Systems (UAS) Tethersonde and instruments	AMF3
WACR and SWACR Antenna	SGP		Oxygen (O2) A-Band Spectometer prototype instrument to retrieve the vertical profiles of aerosol and cloud properties.	SGP
Synergystic Activities	Site		Evalutaion of ARM Rotating Shadowband Spectroradiometer (RSS)	SGP
SACR-2 and KAZR-2 Calibration and Grooming Activities (CGA)	ENA, AMF3		NREL Portable Absolute Cavity Pyrgeometer	SGP
			ARM Cloud Digital Cameras (ACDCs) at SGP	SGP
			Global Positioning Systems (GPS) tomography network	SGP
**AOS Baseline Instruments will include CPC 3772&3776, UHSAS, APS, HTDMA, CCN-2, dry and wet nephelometers, humidograph, PSAP/CLAP/TAP, CAPS, ToF-ACSM, CO, CH_4, CO_2, SO_2, O_3			ARM MWR Profiler	NSA and AMF3
			Move Upgraded SWS from SGP to ENA	ENA
			3-wavelength lidar system configuration	SGP
			Replace all ARM Total Sky Imagers (TSIs) with All Sky Visible Infrared Analyzer (ASIVA) by Solmirus Corporation for daytime and nightime cloud fraction measurements.	NSA, SGP, TWP, ENA, AMF1, AMF2,AMF3
			ECOR Calibration Standard	SGP