

# **Translator VAPs Effort Assessment for AMF Deployments**

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- **March 2007 STEC meeting:**

- Some discussion on running of VAPs for AMF deployments
- Included idea that perhaps the community perception is that all ARM VAPs are automatically run on AMF data
- Obviously this is not the case

- **Translators:**

- Charged with assessing level of effort required
- Report at next STEC meeting

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- **VAPs categorization:**

- **Not applicable**
  - Typically needed instrument/measurement missing
- **Current**
  - In production either autonomously or manually
- **In development**
  - Not yet released, including Evaluation phase
- **Proposed**
  - Upcoming VAPs from WGs

- **Effort categorization:**

- **Modest** means some small amount of development needed
- **Significant** means development and/or manual running effort is substantial

- Operations mode:

- Translators previously noted that running in “batch” mode at end of deployment more efficient
  - (The following effort estimates assume batch mode)
- Near real time is easier with some VAPs, but generally not the case
  - thus increases effort required

- Question: Output files

- Will the output files be “official ARM” data or “IOP/Evaluation Products” data?
  - Affects documentation/metadata requirements

# Not applicable: 8 VAPs

- **Best Estimate Flux**
  - SGP CF only, requires 3 radiometer systems
- **Diffuse IR Loss Correction**
  - no shaded PSPs currently in use
- **RLPROF family**
  - these VAPs specific only for the SGP Raman lidar
- **Surface Cloud/SW Radiation Gridded Product**
  - SGP area only, requires network of sites
- **Surface Spectral Albedo**
  - Requires down facing MFR
- **SW Spectral Measurement/Model Comparison (QME)**
  - Requires RSS, spectral radiometer
- **Tower Mixing Ratio**
  - applies only at SGP tower
- **AERI Profiles**
  - replaced by AERI PLUS

- **Requiring Modest Effort:**

- AERI Noise Filter
- AOS\_Corr (Apply corrections/calibrations to AOS)
- Aerosol Best Estimate
- MFRSR Langley (Langley analysis/calibration of MFRSR/NIMFR)
- MFRSR Cloud Optical Depth (Min algorithm)
- MPL CLDVIS (Cloud optical depth from MPL)
  - modest assuming MPLNOR is available; moderate if not available
- MWR Retrievals
- QC Radiation Measurements
- SW Flux Analysis

- **Requiring Significant Effort:**

- **AERI PLUS (Thermodynamic profiles derived from AERI)**
- **ARSCL (manually run)**
- **BBHRP (manually run, case studies)**
- **Merged Sounding (manually run)**
- **Microbase (manually run)**
- **Variational Analysis**

- **Requiring Modest Effort:**

- Cloud Classification
- Global SW IR Loss Correction
- MFRSR Aerosol Optical Depth

- **Requiring Significant Effort:**

- MPLnor (MPL normalized profiles and cloud base)

# Proposed: 4 VAPs

- **Not applicable:**
  - RSS Langley/AOT
    - (automated Langley regressions and AOT from RSS)
- **Requiring Modest Effort:**
  - IRT Cloud Temperature
    - (Screening of 5Hz IRT data for unambiguous temps.)
  - Radiative Flux Analysis
    - (Full (SW and LW) radiative flux analysis)
- **Requiring Significant Effort:**
  - Local Cloud Field
    - (description of local cloud field from multiple meas.)

- **Assuming “batch mode”:**
  - **8 VAPs not typically applicable**
    - could be if needed measurements added for a deployment
  - **15 current VAPs applicable**
    - 9 require only modest effort
    - 6 require significant effort (but these are likely some of the most desired higher level products)
  - **4 in development VAPs applicable**
    - 3 require only modest effort
    - 1 requires significant effort, but needed for MPL CLDVIS
  - **3 proposed VAPs applicable**
    - 2 require only modest effort
    - 1 requires significant effort

# Discussion:

What level of effort should be set aside for running VAPs for AMF?

- related to Sunset Committee recommendations and WG “Critical and important VAPs” assessment

Which VAPs should be run?