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FY14 VAP Priorities

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ASR-ARM Interactions

ASR

ARM Infrastructure

Observational Needs

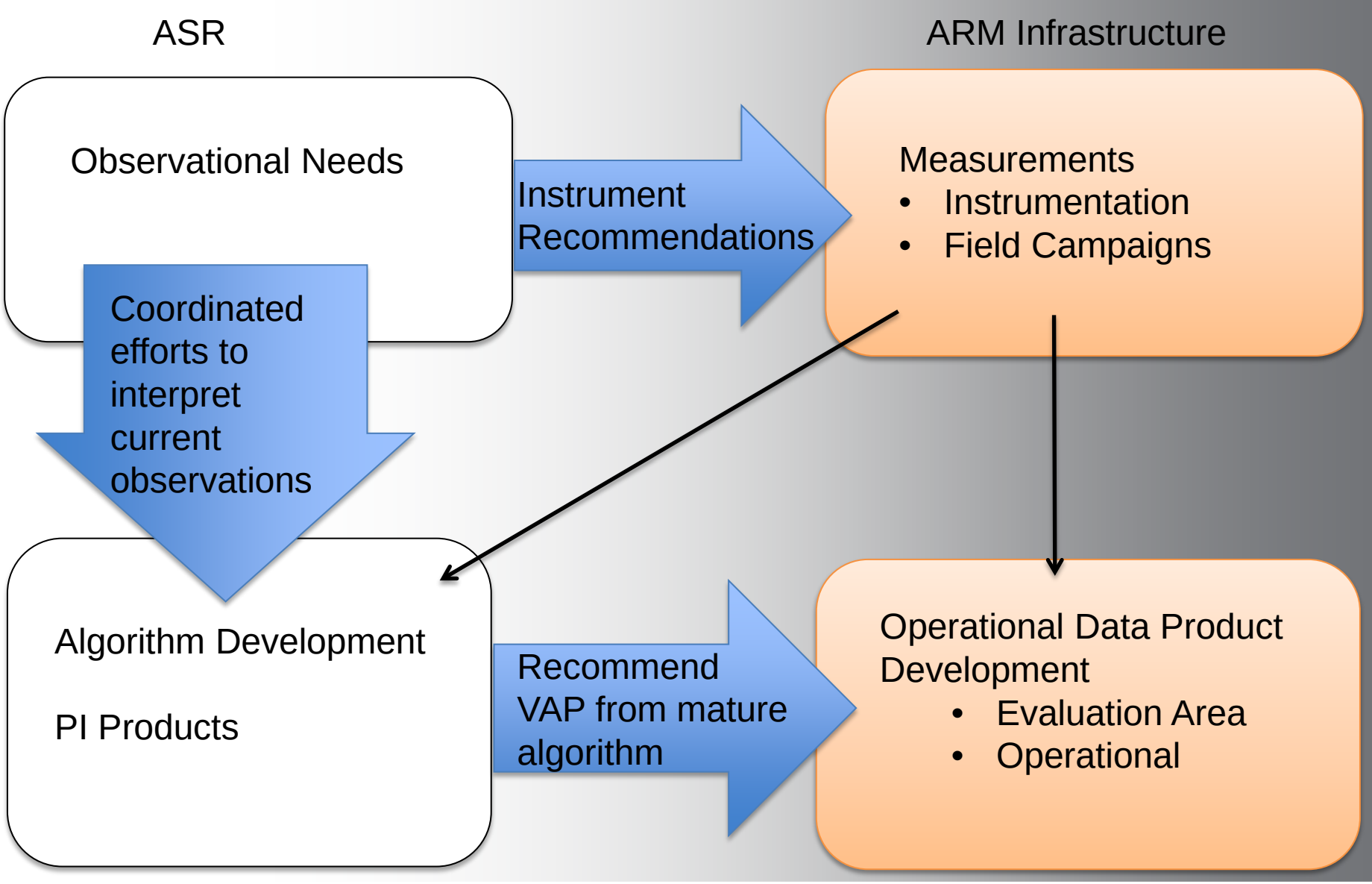
Measurements:
- Instruments
- Field Campaigns

Algorithm Development

PI Products

Operational Data Product Development
- Evaluation Area
- Operational

ASR-ARM Interactions



MWRRETv2—3 Channel MWR retrievals

Krista Gaustad, Dave Turner

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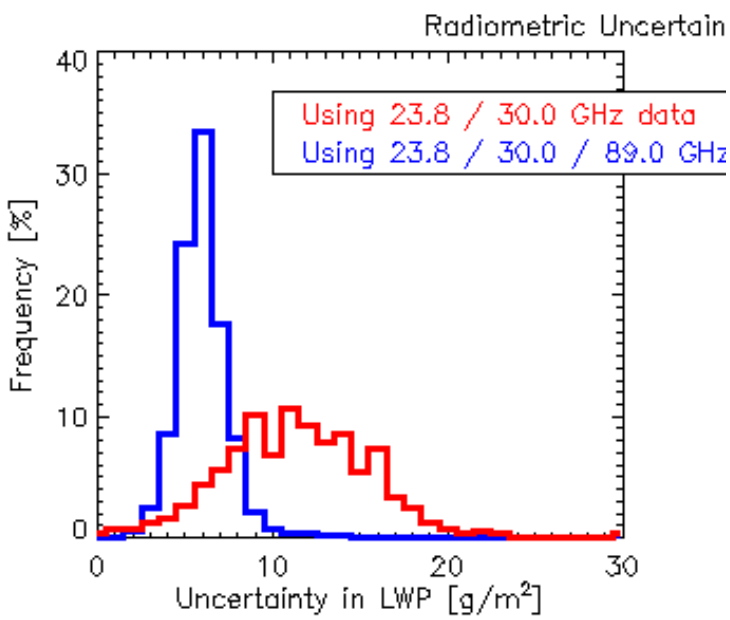
Description: Calculates liquid water path and precipitable water vapor from new 3-channel microwave radiometers

Progress: Code implemented, currently quality testing

Goal: Run evaluation data at SGP, TWP, and GAN



Reduced uncertainty in lwp from addition of 89 GHz channel

MFRSR Cloud Optical Depth

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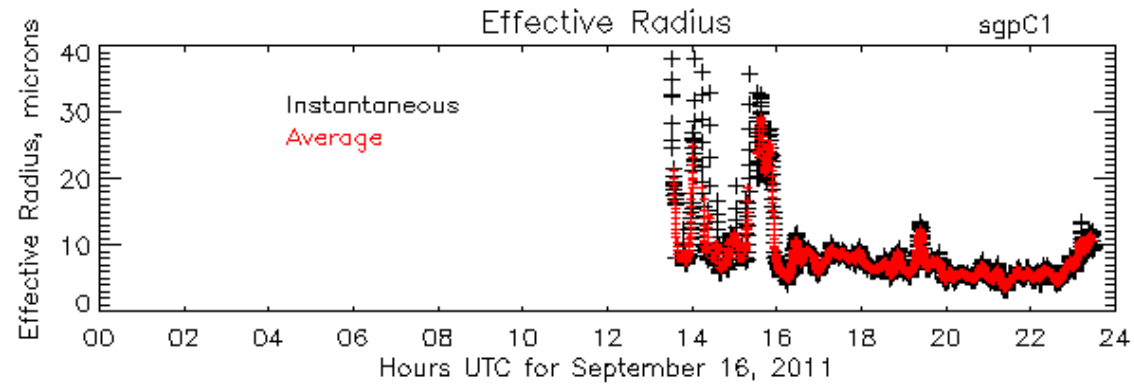
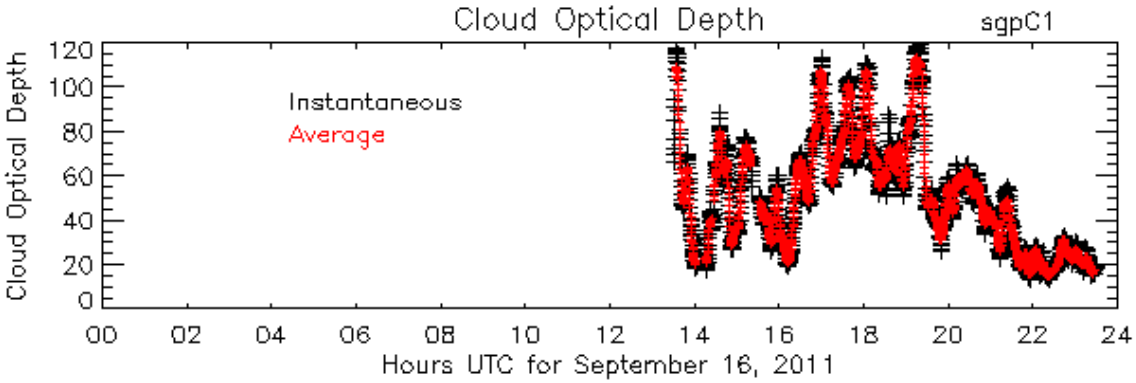
Description: Calculates cloud optical depth and effective radius from mfrsr and microwave radiometer

Progress: Operational at all SGP sites
Goal: Run at AMF, TWP, and Azores sites





Droplet Number

Chitra Sivaraman, Alison McComiskey, Graham Feingold

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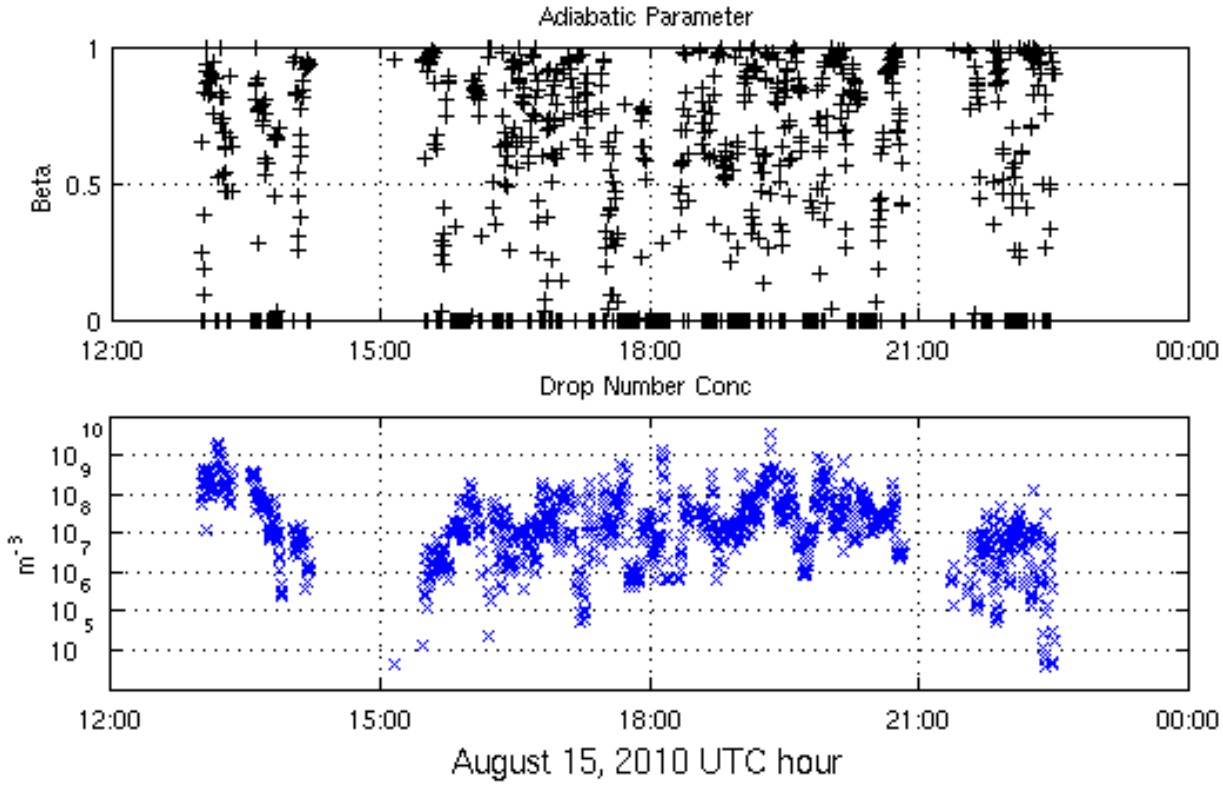
Description: Calculate droplet number concentration from cloud optical depth (mfrsrcldod) and liquid water path (mwrret). Also calculates adiabaticity parameter using cloud thickness (ARSCL).

Progress: Evaluation product at SGP site *Feedback Needed!*
Goal: Make operational at SGP, AMF, TWP sites.



Planetary Boundary Layer Height

Elaine Chapman, Chitra Sivaraman, Virginia Sawyer, Zhanqing Li

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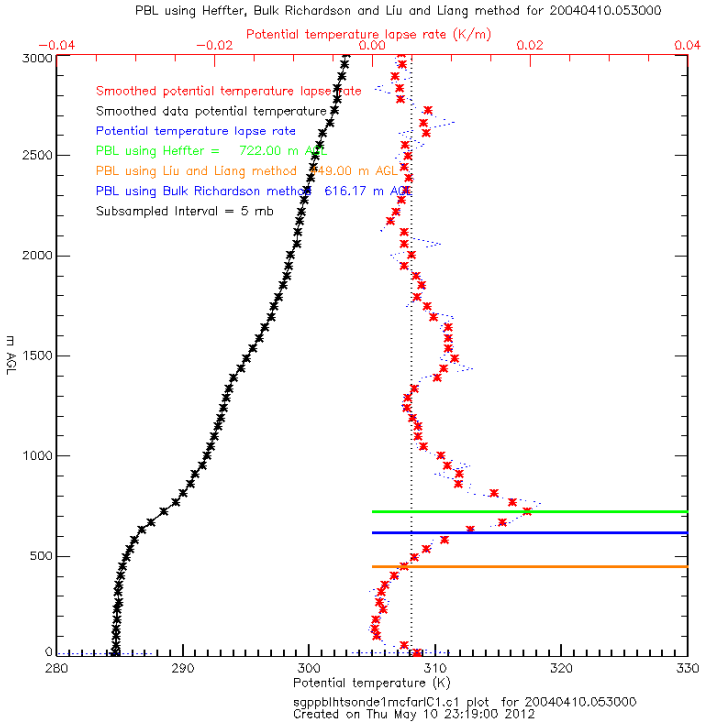
Description: Calculate planetary boundary layer height from MPL using Sawyer and Li wavelet method

Progress: Sonde-based product operational

Goal: Create evaluation product



Doppler Lidar

Rob Newsom

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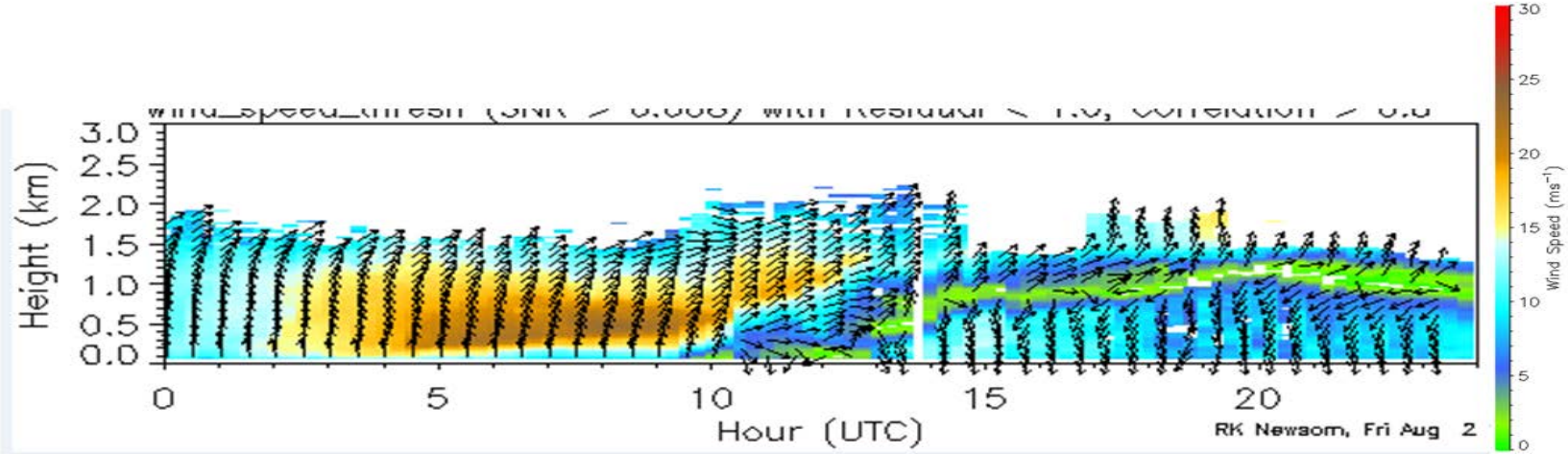
Description: Calculate wind profiles and vertical velocity profiles in clear air below clouds

Progress: Put Rob Newsom's products in the evaluation area

Goal: Create operational product



Updating Radiation VAPs

- IRT Sea Surface Skin Temperature—testing new product for shipborne SSST measure on MAGIC (*Ken Kehoe*)
- RIPBE/BBHRP—Update to make it a user-run retrieval evaluation framework. Driven by needs of the QUICR focus group.
- Radiative Flux Analysis– Update to use more accurate input data, allowing it to be run at AMF sites & include LW forcing info (*Chuck Long*)
- Spectral surface albedo—Needed as input to other VAPs

Summary of VAP Priorities:

1. MWRRETv2: channel microwave radiometer retrievals
2. MFRSRCLDOD: extend to sites beyond SGP
3. Droplet Number Concentration: upgrade to operational
4. Doppler Lidar products: wind profiles and vertical velocity in clear air
5. PBL Height: MPL-based product

1. Maintenance/Creation of Radiative VAPs
    1. IRT Sea Surface Skin Temperature (for MAGIC)
    2. BBHRP/RIPBE
    3. Radiative Flux Analysis
    4. Spectral Surface Albedo