ARM CAPI VAP update

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Ask not what your translator can do for you,

- VAP development and maintenance—implement established algorithms into operational data products
- Help find and interpret data products
- Select and review PI products

...but what you can do for your translator.

- Share code for the development of operational products
- Review and give feedback on data products—especially evaluation level products
Highlights from FY14 Progress

For more details see poster in Warm Low Clouds session
MWRRETv2—3 Channel MWR retrievals
Krista Gaustad, Dave Turner

Description: Calculates liquid water path and precipitable water vapor from new 3-channel microwave radiometers which are more sensitive to low liquid water paths than 2 channel MWRs.

Progress: Sample data calculated at SGP, currently quality testing the implementation of bias correction, evaluation product available at SGP soon.

Next Steps: Create evaluation data sets at other sites with 3-channel MWRs

Reduced uncertainty in lwp from addition of 89 GHz channel
Droplet Number Concentration
Chitra Sivaraman, Alison McComiskey, Graham Feingold

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

Progress: Updating evaluation product at SGP site, going operational in the next few weeks.
Next steps: Create evaluation product at Azores (waiting for WACR ARSCL)
Doppler Lidar Wind Profile
Rob Newsom

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

Progress: Data in evaluation area for horizontal winds. Feedback wanted!
Next Steps: Submit vertical velocity VAP to evaluation area, & make operational.
Planetary Boundary Layer Height
Elaine Chapman, Chitra Sivaraman, Virginia Sawyer, Zhanqing Li

Description: Calculate planetary boundary layer height from multiple instruments and methods.

Progress: Sonde-based product operational at all sites!
Next steps: Implement MPL based product.

Example of three PBLHT calculations: Heffter, Liu-Liang, & Bulk-Richardson
Radiative Flux Analysis
Krista Gaustad, Chuck Long

Description: Update of the Shortwave Flux Analysis VAP to improve quality of inputs and estimate LW clear sky irradiance. Allows calculation of SW and LW cloud radiative effects.

Progress: SGP data being checked, will be in the evaluation area soon.
Next Steps: Implement at all sites.

Difference between measured & calculated clear sky LW irradiance calculated from (blue) radiative transfer model and (red) RFA empirically-estimated values (Long & Turner, 2008).
What priorities would you like to see next?

Criteria:
1. Mature algorithms, feasible to implement
2. Coordinated strategically--come from the CAPI steering committee
3. Useful to a broad number of people/studies

Examples of possible priorities:
1. More microphysics retrievals at Azores
2. VAPs for specific field campaigns
3. Drizzle products
4. CCN profile retrievals (IN profile retrievals?)
5. PBL Height best estimate