

CLWG Closing Plenary



*Cloud Life Cycle Working Group
14-15 October 2010*

Breakout Summaries

- ❖ Deep Convection
- ❖ Cirrus / High Cloud
- ❖ Low Clouds and Boundary Layer
- ❖ Instrument or Data Product Focus Groups



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Focus Group Discussion

What do you think about the general concept?

Number of FGs? How much can we realistically cover at once?

Size of FGs? Sufficient participation vs. Unmanageable

Scope of the focus issues? Is a ~5 yr time horizon reasonable?

Developing Focus Groups will take some time



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Instrument Priorities

Future of the SWACR?

Suggested deployment vertically at Darwin.

Scanning Strategies?

Need a small group to produce initial plan for each site.

Need to establish a means for deciding on future strategies

Vollunteers?

Others?



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VAP Discussion and Prioritization

What is a Value Added Product?

- Geophysical parameters that are not directly measured but can be derived from measurements
- Corrections or improvements to some basic measurements
- Methods are impractical or inefficient for individual PI application
- Provides benefit to a broader audience (not single PIs)

Dave Turner's discussion in CAPI meeting was a great summary



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The VAP Prioritization Issue

- Different prioritization dependent upon WG or user
- Value to DOE and outside community
- Who is the user community?
- Routine vs. periodic implementation
- Time, space, and other “resolutions”. Could be multiple targets
- Different labs involved and have identified their “turf”
- Historical inertia
- Some measurement streams require a VAP
- VAP interdependencies
- VAPs cannot be produced w/o underlying algorithms/methods
- Limited resources.... Often a zero sum situation
- Variable time invested by science and infrastructure
- Development vs. implementation imbalance

Clearly this is complicated!



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Current VAP Situation

Consult the web.....<http://www.arm.gov/data/vaps>

Current “Cloud” VAPs

AERIPROF

ARSCL

BAEBBR

BEFLUX/QCRAD

MFRSRCLDOD

MPLAVG/MPLCBH

MWRAVG/MWRRET

RLPROOF

RWPTEMP

Current Eval Products

BBHRP

CLDCLASS

MERGESONDE

MICROARSCL

MPLCOD

VARANAL

WACRARSCl



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Geophysical Parameters Approach

- WG leadership developed a list of geophysical parameters that might be useful to understand about the atmospheric system.
- Each group prioritized the value of these parameters relative to individual WG perspectives.
- These prioritizations were then compared to priorities from other WGs and existing VAP activities
- Identified high priority areas for new VAP activities



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Our High Ranking Geophysical Parameters

Highest Ranking

Pressure

Temperature

Water vapor m.r.

Latent heat flux (sfc)

Sensible heat flux (sfc)

LWP and LWC

IWP and IWC

Re (liquid)

Deg (ice)

Cloud location

Cloud fraction profile

High Ranking (but not as high)

Horiz. wind speed & dir.

Advect. Tend of T and q

Large scale pressure vert. vel.

Ice crystal concentration

Cloud phase

Precip rate at surface

Broadband SW & LW flux at sfc.

Vertical velocity

Cloud optical depth

Drizzle rate

Liquid drop concentration

IN concentration

SW & LW heating rate profiles



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New Potential VAP Priorities

CLWG Priorities

- Rain/Precipitation Rate
- Drizzle characterization
- Vertical velocity profiles
- Cloud type classification

CAPRI Priorities

(that will also serve our needs)

- Add 90 GHz channel to MWRRET
- Droplet number concentration
- Boundary layer height



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VAP Discussion

Are these proposed VAP priorities appropriate?

Are there other VAPs / products that are desired and what is their priority?



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Meeting Design Feedback

General Impressions?

Balance of talks vs. discussion

Enough time for organizational activities

Preferred approach:

- * Serial WG meetings (as this time)
- * Parallel meetings at the same time/location
- * 3 distinct WG meetings, different times/locations
- * 2 WG meetings, CAPI alternates with ALWG and CLWG



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