

# 2009 Joint Meeting of the DOE ARM Cloud Modeling and Aerosol Working Groups

- Meeting agenda
- Programmatic changes
- Science plan
- Data products

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# Meeting agenda

- Today (CMWVG)
  - 8AM • newly-funded modeling projects and invited speakers
  - 1:30PM plenary and 3:45PM break-out • Tropical Warm Pool–International Cloud Experiment (TWP-ICE) modeling and intercomparisons (CRM, SCM, LAM, GCM)
  - 10:45AM and 3:45PM • CMWVG general plenary
- Tomorrow (CMWVG + joint)
  - 8AM and 3:50PM • data discussion
  - 10:30AM • Atmospheric System Research (ASR) program
  - 1:30PM • modeling aerosol-cloud interactions
  - 6:00PM • aerosol “ice breaker” poster session with dinner
- Thursday (joint)
  - 8AM • Indirect and Semi-Direct Aerosol Campaign (ISDAC)

# Programmatic changes

- ARM program (including the ACRF) + Atmospheric Science Program (ASP) —> Atmospheric System Research (ASR) program
- Two-year term limit imposed on chief scientists
- Joint science plan drafted
- Recovery Act funds committed
- Working group reorganization proposed

**Wednesday 10:30 AM**

# Science plan

- ARM + ASP allows study of aerosol-cloud-precipitation-radiation system in continuum
- Scientific process questions
  - aerosol life cycle
  - cloud life cycle
  - aerosol-cloud interactions
- Measurements and modeling
  - instruments, retrievals, and integrated data sets
  - long-term, field (IOP) and laboratory measurements
  - theoretical and modeling studies (0D, 1D ...)
- Attract more funding for data products, science

# Data products: Integrated

- More Climate Modeling Best Estimate (CMBE)!
  - 1-hour average
  - collocated variables
  - best measurement/retrieval selected
- Related efforts
  - Aerosol Best Estimate
  - Radiatively Important Parameters Best Estimate
  - Cloud Properties Best Estimate? (MicroBASE or PNNL Combined Retrieval)

**Wednesday 8:00 AM and 3:50 PM**

# Data products: New retrievals

- Vertical velocity of cloudy air
- 4-D reflectivity, vector winds, mass mixing ratios
- Additional exploitation of new instrument capabilities, primarily in vertically-pointing mode
  - RWP, CLWP, IWP, IWC when precipitating (Matrosov)
  - LWC, IWC, effective radius in mixed-phase (Wang)
  - liquid and ice cloud and precipitation PSDs (Mace)
  - light snow precipitation rate (Eloranta)
  - ice habit (Matrosov)
  - ice fall speeds, mass-diameter, mass-area relations

**Wednesday 8:00 AM and 3:50 PM**

# Improving ~~Feedback~~ Guidance from ~~CMWG~~ Modelers and Data Users

- Programmatic questions
  - who is able to provide input and when?
  - what inputs end up being actually provided and received?
  - how are these inputs used?
  - **move towards earlier inputs definitively obtained from larger user group**
- New measurements/retrievals
  - data products such as RWP (possible meeting)
  - prioritization of development (occasional WG reports)
  - **obtain advance requests *and* proposals, exchange feedback, execute**

**Wednesday 8:00 AM and 3:50 PM**

# Thank you!

- Organizers
  - Allison McComiskey, AWG chair
  - Shaocheng Xie, CMWG translator
  - Connor Flynn, AWG translator
  - Steve Klein, CMWG steering committee
- PNNL staff
  - Debbie Ronfield
  - Jackie Marshall and Jane McKinney
  - Jim Mather
- Participants
  - invited speakers
  - HQ and program staff
  - CMWG and AWG members