Convective Processes Working Group

Co-chairs

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Joint ARM User Facility and ASR PI Meeting

Zoom Webinar Virtual Meeting

Friday, June 26, 2020

Photo by Jason Tomlinson

Agenda

11:00-11:05	Background (Adam Varble/Hugh Morrison)

Recent and Upcoming Datasets of Interest

11:05-11:30	CACTI (Adam Varble)
	LASSO (Bill Gustafson)
	TRACER (Mike Jensen)
	SE US AMF3 (Scott Giangrande)
	Amazon Site (Luiz Machado)
11:30-11:40	CPMSG Recommendations to ARM (Mike Jensen/Adam Varble)
11:40-12:05	Questions/Discussion

Current (and Future?) Research Topics of Interest

12:05-12:15	Entrainment/Thermals (John Peters)
12:15-12:25	MCSs/Organization (Courtney Schumacher)
12:25-1:00	Discussion

Mission

The mission of the Convective Processes Working Group is to document from observations and modeling, and thereby develop understanding of, the dynamical, thermodynamical, microphysical, and radiative processes that together determine the evolution of (deep) convective cloud systems from formation to dissipation, and to translate this understanding into methods for representing convective cloud processes in numerical weather and climate models.

Research Themes

Convective System Transitions

- Shallow to Deep (Liquid to Ice, Entrainment, Cold Pools)
- Mesoscale Organization (Life Cycle, Cold Pools)

Vertical Velocity

- Expanding Observational Retrievals
- Two-way Interactions with Microphysics and Surrounding Environment

Parameterization Development

- Convective/Stratiform/Anvil Spatiotemporal Life Cycle
- Microphysics
- Turbulence

Aerosol-Cloud Interactions

- Liquid and Ice Microphysical Effects
- Cloud Dynamical Effects

Current/Future Measurements Discussion

- Do recently collected and planned measurements, field campaigns, data products, and modeling support the CPWG's mission and research themes? Are there major gaps that ARM is particularly well suited to fill that would better support the CPWG?
- Is the process for field campaigns and inter-agency collaborations sufficiently supportive of research?
- Are you able to sufficiently access and use ARM data?
- Do you have suggestions to modify the CPMSG lists of roadblocks to progress, suggested solutions, and priorities?
- Would the CPMSG listed processes and tools enhance the impact of ARM datasets? Should certain tools/processes be prioritized more than others?