

## **Breakout Session Report**

### **ARM/ASR User and PI Meeting June 10-13, 2019**

*Breakout session reports serve as a record of discussion results from working group presentations. These reports serve as a resource for program managers when asked to provide highlights of programmatic results with short notice. They also provide information to the ARM Facility management about science needs of ARM users. In addition, they can help the program managers evaluate the progress of self-organized groups within the ARM and ASR communities.*

*Please provide a concise narrative discussing key findings, decisions, issues, needs, and/or future plans and action items. Not all session narratives will necessitate touching on all topics, but session report authors should aim to provide as much information as possible to address relevant points. Session reports are not expected to exceed two pages of text. Because the meeting has a detailed schedule, it is not necessary to list who presented what. Upload completed reports by July 15, 2019 to <https://asr.science.energy.gov/meetings/stm/2019/agenda>*

**Session Title: MARCUS and MICRE**

**Session Conveners: Roger Marchand**

**Session Date: July 13, 2019**

**Session Time: 10:30 am – 12:30 pm**

**Number of Attendees: 15 – 20 (I didn't count)**

**Summary Authors: Roger Marchand**

## **Main Discussion**

Four presentations were given:

1. Scott Giangrande: Overview of some ongoing processing activities by infrastructure. Highlights:
  - a. CIMEL Sunphotometer Cloud Optical Depth Retrieval will be run "in house".
  - b. Confirmed MWACR spectra were collected (Roj needs to evaluate this).
  - c. There was brief discussion motion correction of radar Doppler velocities -> data with correction for ship motion is available. Correction is far from perfect, and these data should be used with due caution.
2. Jay Mace: Ice vs. Liquid phase precipitation from SO low clouds
  - a. Discussed importance to cloud albedo
  - b. Examined statistics of co-incident CloudSat Reflectivity & Calipso identified Horizontally Oriented Ice (at cloud top)
  - c. Looked at examples showing correlation between MARCUS updrafts and precipitating Ice & argued for role of secondary ice production.
  - d. My take away : There was a lot of discussion and interest in relationship between dynamics, ice precipitation, and importance of secondary ice production for these cloud. Processing of lidar depolarization for precipitation phase (not just cloud phase) needs to be prioritized.
3. Bart Geerts : Case Study
  - a. Showed a precipitation shallow (2km) precipitating cumulus case that his group is analyzing (Feb 24/25 2018).
  - b. Likely good example of graupel event → interested in how to use PARSIVEL disdrometer data → Roj agreed to help with this.
4. Roj Marchand
  - a. Finished presentation of cloud statistics from MICRE
  - b. Discussion: Some surprising differences in result between MICRE results from CAPRICORN I (higher fraction of precipitating clouds fewer "lidar only clouds") that need to be investigated

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- c. Most surprising results is apparent LW error in CERES SYN. (David Rutan pointed out that there is a bias correction in EBAF that I/Hinkelman need to evaluated too).
- d. It was suggested that I make similar datasets for CAPRICORN I and II (will talk with Alain about this).

## **Key Findings**

None.

## **Decisions**

None.

## **Issues**

- Not clear yet clear who will be funded to work these data or what will be done under FY19 call.
- Currently, only DeMott and Mace are ASR funded beyond this summer (I think).

## **Needs**

## **Future Plans**

- Will be a Southern Ocean Atmospheric Research (SOAR) science meeting in Hobart in November
- Likely also an AGU session at the Winter meeting & expect breakout meeting 2020 ASR PI meeting.

## **Action Items**