

# Breakout Group Report – Ground Facility Team

## *Ground Facility Needs*

- DC3 research radar facilities diverse with both similarities and differences in scan capabilities and limitations
- Each radar facility will develop specifics of scan strategy to satisfy DC3 science goals by following common guidelines and individual investigator science needs
  - Complete spatial coverage of anvil along with deep convection is a common science priority for scanning in addition to maintaining sufficient temporal and spatial resolutions
  - Emphasize both dynamics via Doppler and microphysics via dual-polarization radar capabilities
- Minimum requirement for regional mission planning is availability of dual-Doppler radar capability for operations
  - Action item on requirement for real time LMA availability

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## *Data Management/Field Catalog*

- Common data format for radar data: NCAR DORADE
  - New NCAR CF-Radial netCDF format for final data, pending study
- Common data format for LMA data: NMT 10-minute ASCII format concatenated into hourly files
  - Decimated (non-decimated) for field (final) data
- Most fixed research radar sites can provide real time data to NCAR for standardized production of Field Catalog images
  - Other fixed and mobile radars provide image files of scans, as soon as practical (real-time for mission planning)
  - Action item is to determine what radar parameters and what levels (e.g., low, middle, high vs. multiple increments)
  - Need to balance mission needs with real-time field capabilities
- WSR-88D image files for Field Catalog of all available dual-pol fields would be useful for mission planning
  - Differential reflectivity is minimum requirement

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## *Data Management/Field Catalog*

- Field Catalog image files of LMA lightning sources from specific height intervals in addition to vertically integrated
  - Action item to determine ideal height (e.g., 1 km default) and temporal intervals of LMA Field Catalog imagery for mission planning and aircraft safety
- How standardized should LMA lightning products be for final Data Catalog archive?
  - Action item to foster communication between atmospheric chemists and electricians to determine needs and capabilities of 4-D LMA lightning products for DC3 science goals
  - Recommend working group be formed
- Aircraft tracks are minimum requirement of mobile facilities to get from Field Catalog in real time but some satellite, numerical model and operational radar helpful

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## *Communications*

- General consensus that xChat is an effective primary communications method for mission planning
  - Action item to develop backup communications and mission planning protocols in event xChat fails
  - Radio backup at local regional ground facilities will be available for mission direction and aircraft safety
- Action item to develop consensus on role of social media (Twitter) in DC3 communications – outreach vs. mass-communication to supplement Field Catalog and other (email, text) means