

Summaries on Group Session 1: Atmospheric Observations

(1) Radiosonde and Budget Analyses

- 10-15 days from the start of moistening to the convection peak: observed in MISMO and TOGA/COARE: **Important to capture these 10-15 days**, including difference of the skewness of the Q1/MSE profile in T-Z cross section
- Triangle sounding array in MISMO invoke erroneous divergence (and resulting diabatic heating) in convectively active period. ***Quad array capture correctly.***
- Quad array + northern sounding (at Male [4S, 73E]) results best performance, from simulation using YOTC realanalyses.
- Using triangle array (w/ ship at Eq, 4S or 8S), RMSE error become larger. However 8S results better in the averaged Q1.

Recommendations:

- Keep QUAD ARRAY as long as possible.
 - Need to fill the gaps by port call of Revelle, Mirai
- Will explore sonde possibilities on Male with Taiwan.
-

Summaries on Group Session 1: Atmospheric Observations

(1) Radiosonde and Budget Analyses (cont'd)

- use 200g (or larger) balloon
- 1x/day launch by big balloons at Gan (To capture waves (e.g. Kelvin))
- Quality assurance: need to standardize sonde launch procedure at all sites (coordinate with Bill Brown, Masaki, DOE ARM)
- Data to GTS:
 - Gan, Revelle, Mirai, and DG: use their own systems
 - Sagar Kanya: (1) seek their own ways, and (2) send data by e-mail to NCAR/EOL
- Need backup plan for getting Indian sonde obs onto GTS (email to EOL)
- hires – data from Indonesia would be useful; request needs to be made
- Check on spare systems for all sites
- Improvement on daytime dry bias correction ... utilize CFH obs. at Mirai (different conditions)

Summaries on Group Session 1: Atmospheric Observations

(2) Water Vapor

- Integrated products ... by CSU
- utilize GTS, MWR or other instruments
- Seek possibility to increase water vapor dataset

Summaries on Group Session 1: Atmospheric Observations

(3) Rain and Clouds

- Common products from three C-band radars: SMART-R(Gan), RV Revelle and RV Mirai
 - scan strategies on
 - (a) volume scan every 10 minutes
 - (b) surveillance long-range scan hourly (or less)
 - Calibration (equalized quality) utilize TRMM, reflector, etc.
 - 3D reflectivity maps to cloud-population data (echo top, size, Conv-Str, etc.)
- S-PolKa and ARM X-Pol
 - RHI-based sector volume scans
 - switch scan strategies depends on convections (no need special information)
- Disdrometers: JW(Mirai) and 2D-Video (Gan)
 - establish better Z-R / Z-AH
- Real-time data exchange: image / catalog from Mirai / Revelle to Gan
- Making rainmap
- cloud photo (TSI, S-PolKa camera, etc.)