Overview of ARM observations during the ARM MJO Investigation Experiment (AMIE)

S.A. McFarlane; C.N. Long; Z. Feng;
J.M. Comstock; C. Sivaraman;
N. Bharadwaj; K.L. Johnson;
B.W. Orr; M. Ritsche; S.M. Collis;
C. Schumacher; S. Ellis; S. Powell
AMIE/DYNAMO/CINDY Sites

- **Ship site**
- **Land site**

**Sounding Frequency (times/day)**
- **Red:** 8
- **Orange:** 4
- **Pink:** 2-4
- **Green:** 2

- **Surface/Sub-surface mooring**
- **Sub-surface mooring only**
- **RAMA buoy**
- **TAO/TRITON buoy**

**Sites:**
- **AMIE-Gan**
- **AMIE-Manus**
The AMIE-Gan AMF2 deployment was suspended on Feb 9, 2012 due to civil unrest in the Maldives.

AMIE-Manus continued normally through March 31.
Gan “Super Site”

AMF2

Radars:
- KAZR
- S-PolKa
- SMART-R
AMF2 Main Site

AMIE featured 8/day sondes for entire campaign, both Manus and Gan

Similar ARM instruments at both sites
Measurements availability

• Most of the base instruments at both sites performed well
  – KAZR, MPL, VCeil, MWR, Met, Rad, TSI, Precip
• Allows for many VAPs
  – ARSCL, Merged sonde, Microbase, MWRRet, AOD, etc.
### ARM VAPs Availability to date

**Manus**

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<td>8) MPAVG : MPL: data averaged...</td>
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<td>9) MPLCMAK : Cloud mask from Micropulse Li...</td>
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<td>10) MWRRET : MWR Retrievals</td>
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<td>11) QCRAW : Data Quality Assessment for ARM Radiation Data</td>
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**Gan**

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<td>1) AOD : Aerosol Optical Depth, derived from MFRSR/NIMFR</td>
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ARM PI Products and VAPs

• VAPs
  – Micro-ARSCL, Merged Sonde, MicroBase, QCRad, BE products,
  – Model forcing data sets (Xie) recently started

• PI Products
  – Cloud retrievals and profiles, radiative heating rate profiles (McFarlane and Comstock) awaiting submission to Archive.
  – Radiative Flux Analysis (Long) by end of Nov.
  – Other...
Merged KAZR/S-Pol Data

- Merged dataset provides improved reflectivity profiles and cloud top heights in heavy rainfall (Feng et al., 2013 JTECH)
PNNL Combined Cloud Retrieval

- Merged Z
- Cloud Water
- Particle Size
- Heating Rate