

Overview of ARM activities for Fall 2008 WG meetings

Warren Wiscombe

ARM Chief Scientist

Brookhaven National Lab

Budget is tight through FY09

- So, some of my initiatives like greatly expanded radar capabilities and small UAVs are stalled
- AVP is especially pinched by its charter (\$2.7M)
- Sunset Comm is once again active
 - opportunity to streamline oper'ns
 - MFRSR network: ARM has become the manufacturer
 - Extended Facilities: number and distribution
 - more dramatic steps may be needed if we don't get relief
- Nevertheless, using our various budgets and SBIR we are moving forward on many fronts

Some places we are moving forward

- Climate Model Best Estimates datasets
- New MWRs chosen and on order (adding 90 GHz)
 - rain mitigation being actively pursued
- RACORO: Jan to June 2009
- Fall 2010 deployment at Oliktok Point with tethered balloon (and maybe guest small UAVs)

More places we are moving forward

- Putting WACR 94 GHz radar on scanning pedestal during next 6 months
 - SGP for checkout, then Azores
 - then to Steamboat Springs, Colorado
- Cloud tomography IOP under review
- new competition for DOE's climate modeling program (CCPP) mentions ARM and ASP data

Upcoming Deployments

2009:

- RHUBC-II: Chile, far-IR spectrum
- AMF to Azores after China, staying till Nov 2010

2010:

- Sparticus (Mace): routine flights in cirrus
- StormVex (Mace): AMF2 to Steamboat Springs
- ALTOS (Verlinde): tethered balloon, Oliktok Pt.

SBIR Achievements

- In-situ lidar in Phase II
 - will arrange test flights
- 2-freq radar for volume LWC
 - may become independent 35 GHz radar that can co-scan with SWACR
- SBIR call this year:
 - Oxygen-band spectrometer
 - Leveling platform

Past Meetings

- GCSS, June 08
 - 70+ people working on cloud paramz'n
 - water isotopes (Bony)
 - creation of an open-air cloud laboratory
- International Rad'n Symposium, Aug 08
- International Cloud Physics meeting, July 08
- AVP Instrument workshop, Oct 08
- ARM Futures workshop , Oct 08
 - diurnal cycle
 - trade cumulus
 - BBHRP testbed

Future Meetings

- Fall AGU: Peak Oil & Climate session, Thu morning
- Solar Fuels Conference wants keynote talk from me about ARM, Feb 09
- Gordon Conf, Rad'n & Climate, July 09

- new antennas, other improvements
- Nauru radar coming home
- SWACR (scanning 94 GHz)
- moved two IF wind profilers into CASA array
 - Vertical Velocity Focus Group owns this activity
- SBIR 2-freq radar
- CASA-ARM-McGill meeting, July 08
 - CASA will build 5 more X-band radars for Oklahoma
 - still would like us to operate their radars as User Facility
- Precip IOP for Spring 2011 moving forward
 - joint with NASA's GPM Ground Validation project

Other Events

- new ARM Science Plan
- Instrument Focus Groups
 - Radar
 - Lidar
 - Microwave
- Turnover of WG leadership

A possible overall strategy

Create the GCSS open-air cloud laboratory at SGP

Shrink SGP to 100x100 km and redesign the EFs (layout and instruments) using OSSEs to provide good input for running CRMs and even LES's

Implement the Multiscale Observing Facility using scanning radars and microwave tomography

Use controlled releases and chaff to study entrainment, indirect effect, cloud life cycle