

An ARM Mini-IOP

Utility of the 915 MHz Wind Profilers
for Measurements of Vertical
Velocities in Convective Cloud
Systems

Who? Mike Jensen (BNL), Pavlos Kollias (McGill)
Scott Giangrande (McGill), Brad Orr (ANL)
Rich Coulter (ANL)

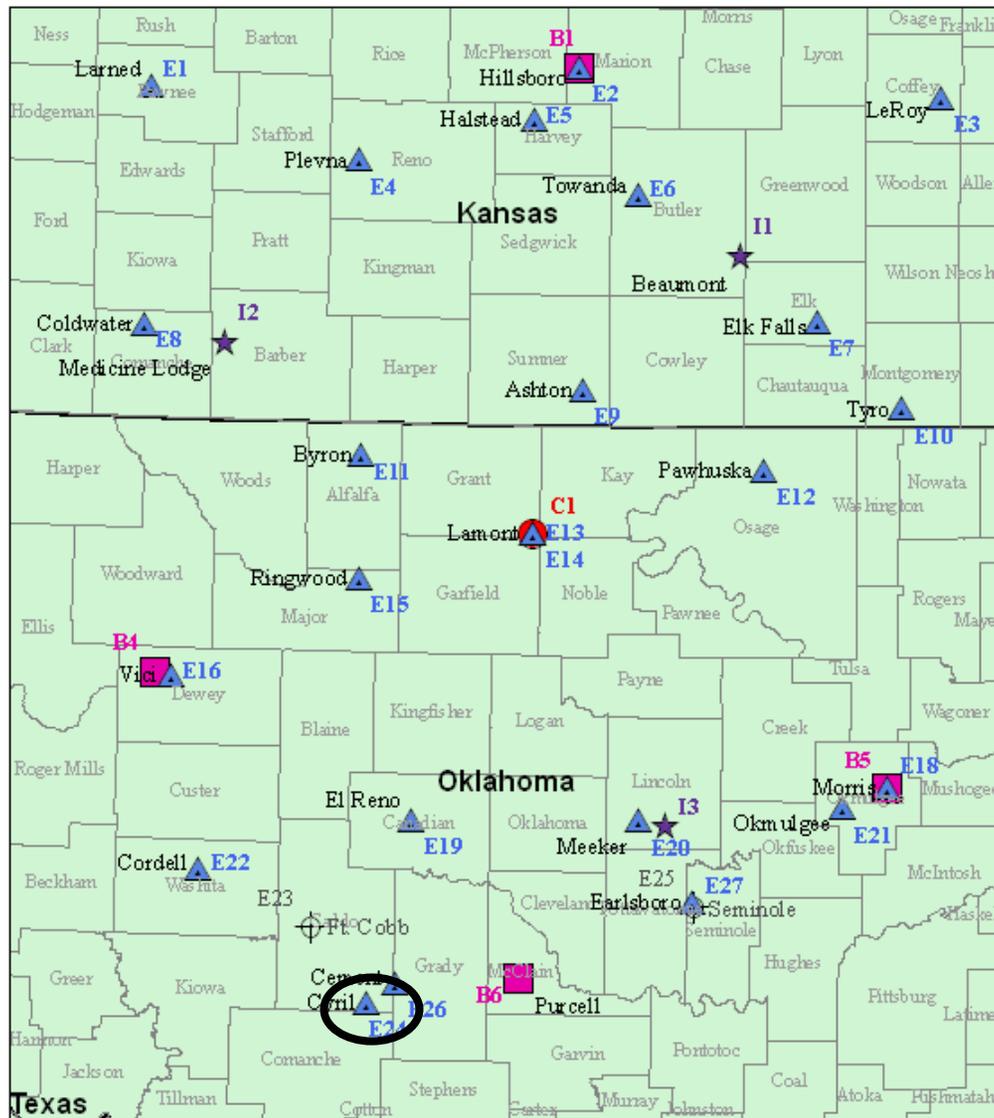
When? Beginning now for one year

Location? Co-sited with the CASA IP1 radar array in the southern portion of the ARM SGP Domain

One year redeployment of two ARM 915 MHz radar wind profilers with a co-located disdrometer to locations within the CASA IP1 scanning radar array in the southwestern quadrant of the SGP domain in order to collect a long-term dataset on convective cloud vertical velocities and precipitating cloud microphysics from multiple independent measurements.

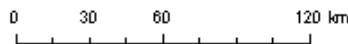
- Redeploy
- Reconfigure
- Calibrate
- Long-term



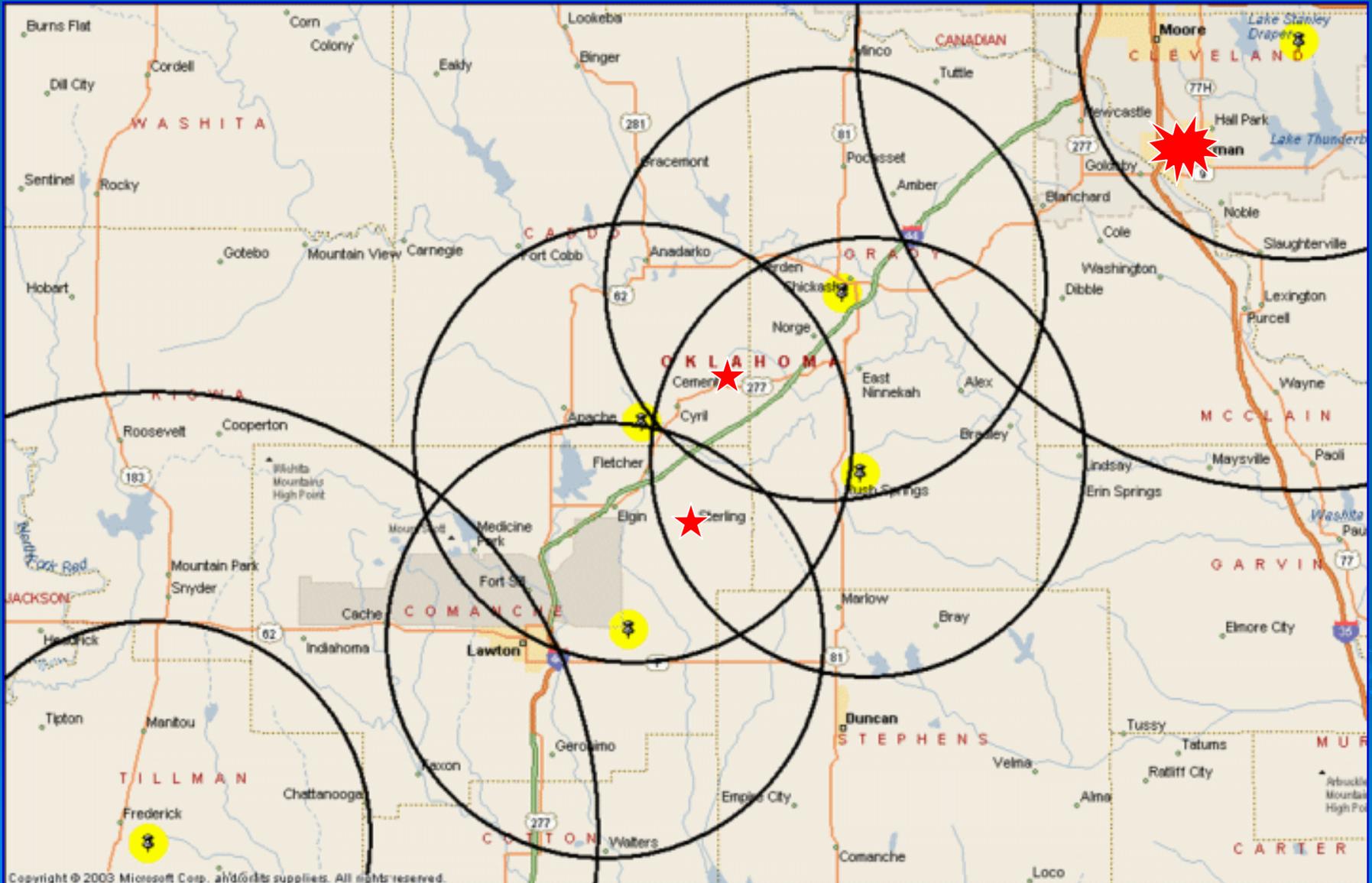


Legend

- Boundary Facility
- Central Facility
- Extended Facility
- Intermediate Facility
- + Retired

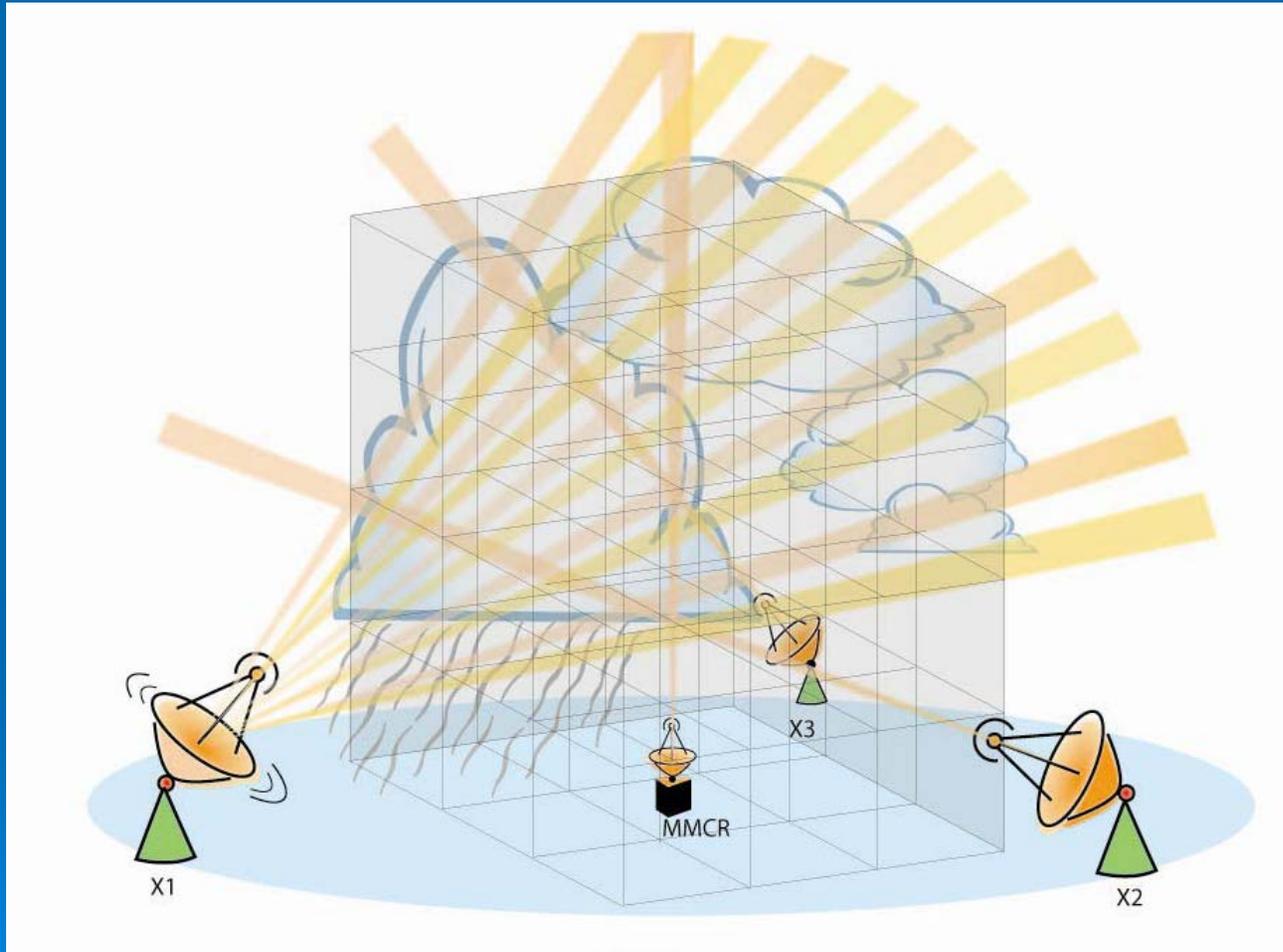


CASA IP1 Radar array and ARM RWP locations



Scanning Radar array

- Scanning procedure to best resolve cloud physics and atmospheric dynamics at CRM cloud scales



Changing RWP Operating modes

Current status (from a vertical velocity point of view)

- poor temporal resolution (looks vertically then 3 or 4 other angles)
- missing data
- max. observed height = 7 km
- lack of VAP

Proposed changes

- look vertically more often (always?) V,N,V,W,V,S,V,E
- Reach max height of 15 km
 - longer pulse, 200 meter vertical resolution
- velocity range of +/- 20 meters/sec with 30 cm/sec velocity bins
- 5 second temporal resolution

Current status

- New operating modes
 - Site at Cement is installed and the profiler has been verified by R. Coulter. Waiting on the internet connection.
 - Site has been selected at Sterling. Lease is being set up. Initial plans for profiler move.
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