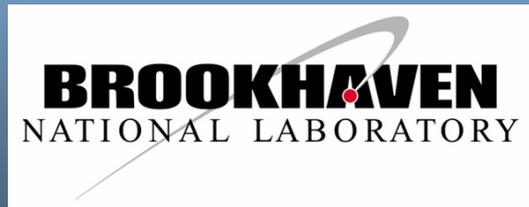


# Disdrometer & Tipping Bucket Rain Gauge Report

Mary Jane Bartholomew  
Brookhaven National Laboratory  
CPWG Meeting, Fall 2006



# TWP and SGP Installation complete



- TWP deployment at Darwin last December 2005
- SGP deployment mid April 2006

# Accompanying Rain Gauges



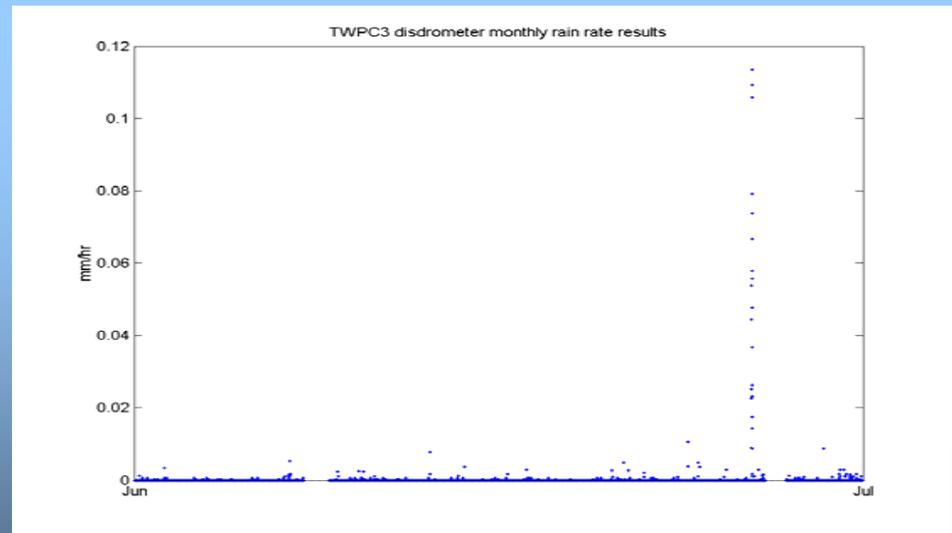
Datastreams  
twpdisdrometerC3.b1.  
twprainC3.b1  
sgpdisdrometerC1.b1  
sgprainC3.b1

# Data Availability

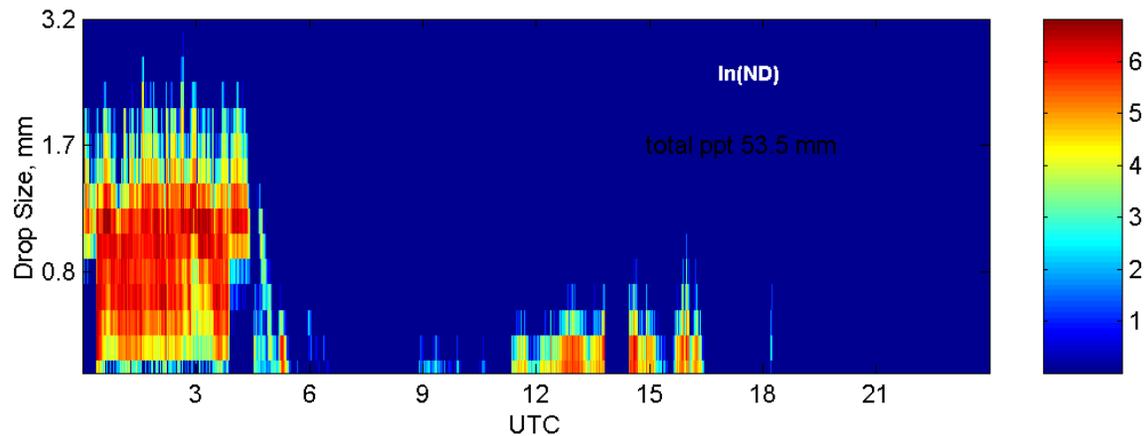
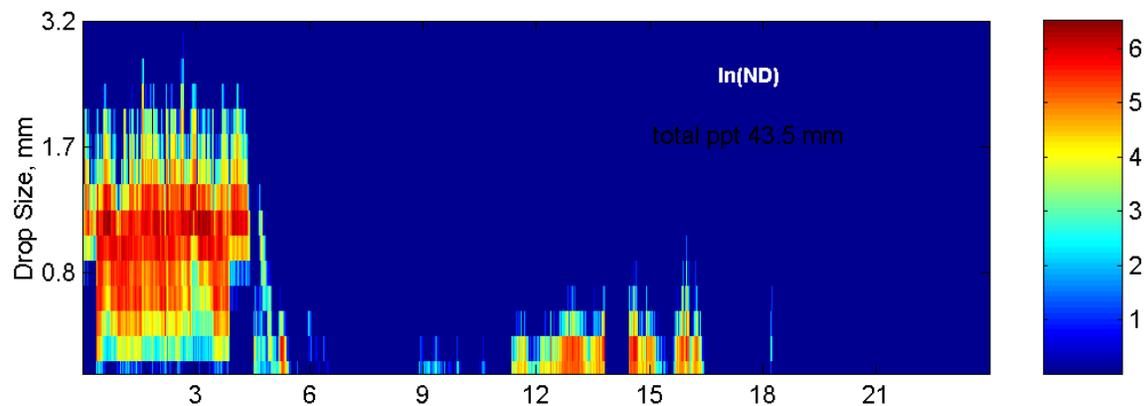
- Ingest completed spring 2006
- Darwin, 2/4/2006, 7/10-11/2
- SGP, 4/11/2006
- DQHandS metrics complete with the exception of dead time correction
- Monthly Reports

Dates and times when data are available

From	thru	End
2006 6 1 0 0		2006 6 7 23 59
2006 6 9 0 0		2006 6 20 3 44
2006 6 20 3 52		2006 6 21 14 51
2006 6 21 15 0		2006 6 26 23 28
2006 6 27 20 0		2006 6 30 23 59



# Dead Time Correction



# Comparison to Tipping Bucket Rain Gauge Results

Conditions suitable for comparison, after Distromet Inc.

- continuous rain rate between 1 & 10 mm/hr
- lasting for several hours
- with light winds
- total amount of rain 5 to 10 mm

Expected agreement

- total rain amount within 15%



# Scientific Interest in Values Calculated From Drop Distribution

## Reflectivity

- calibration of 35 GHz and 94 GHz radars
- establish Z - R relationships for 35 and 94 GHz radars

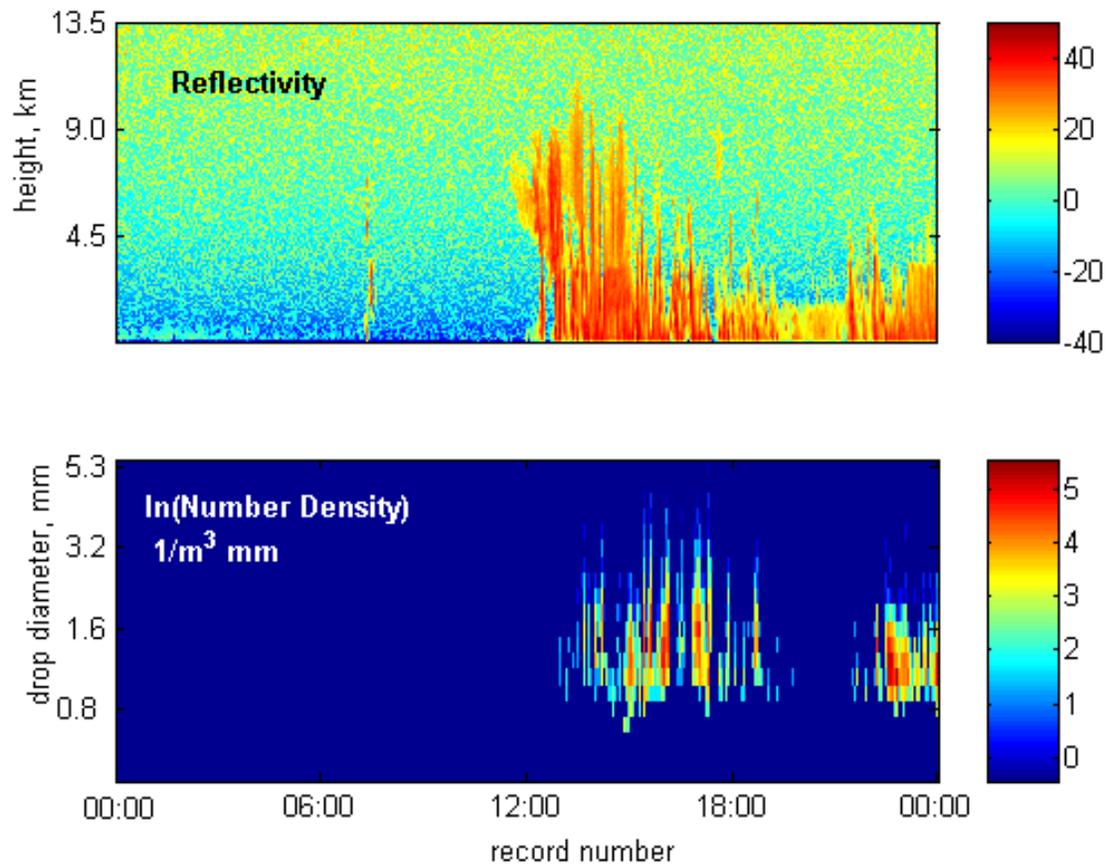
## Mean Doppler velocity

- determination of LWC as a function of height
- study of evaporation as a function of height
- evaluate atmospheric cooling from droplet latent heat of evaporation
- classification of stratiform vs. convective precip.

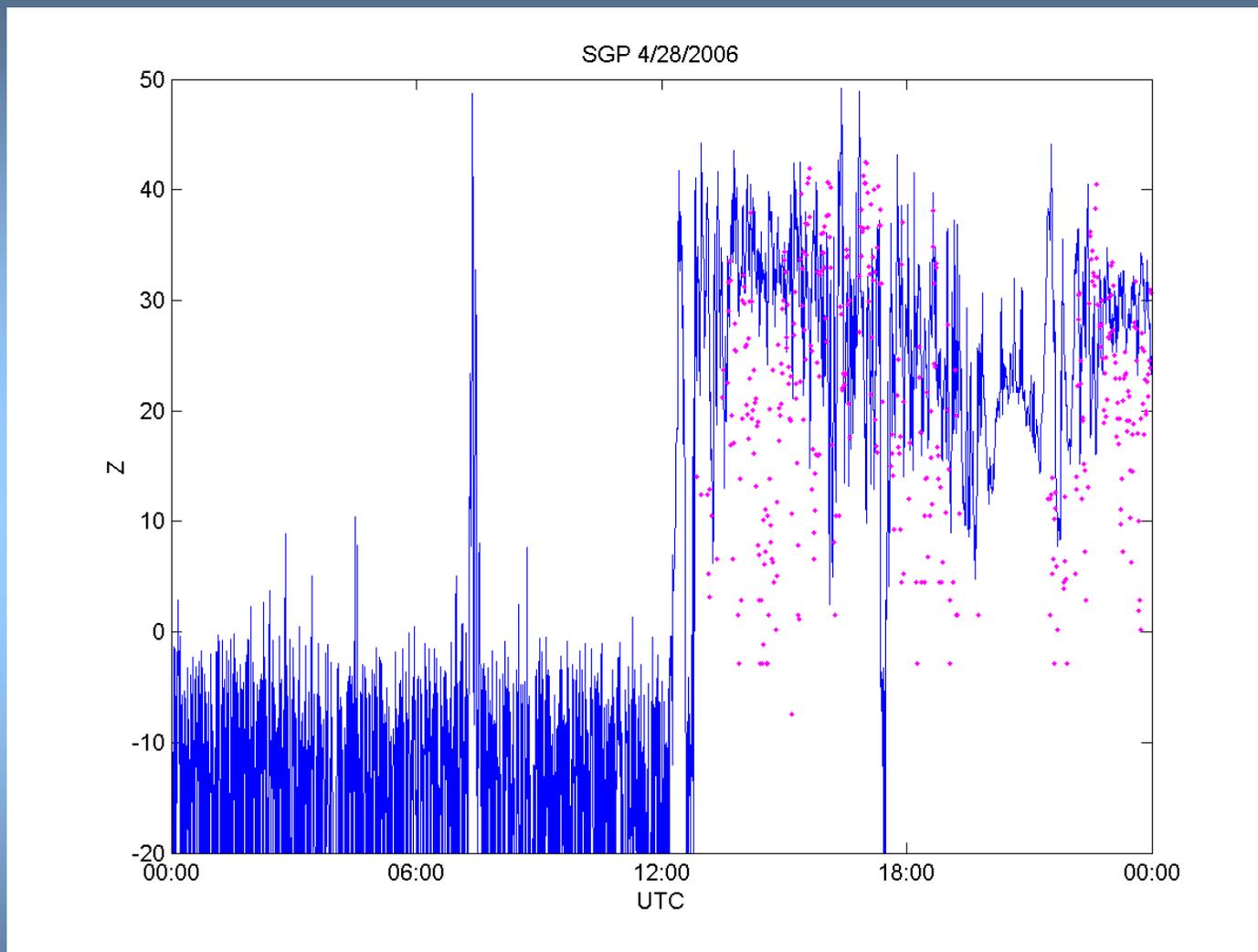
## Attenuation

- extract LWC when combined with 35 and 94 GHz data

# SGP 4/28/2006



# MMCR Reflectivity vs. Reflectivity from Drop Distribution



# Mean Doppler Velocity, MMCR Drop Spectrum

