

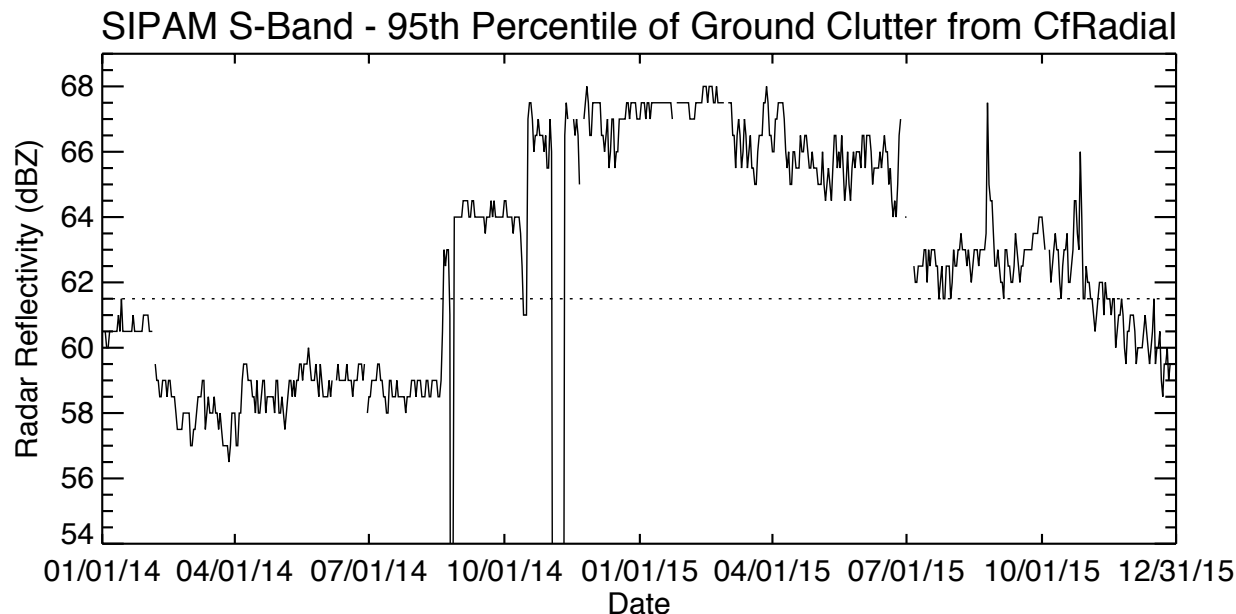
# **UPDATES ON CONVECTIVE RELATED DATASETS FROM TAMU**

**SOPHIE MAYNE, COURTNEY SCHUMACHER,  
AARON FUNK, EVANDRO ANSELMO**

# SIPAM VERSION 2.0

(3D RADAR REFLECTIVITY, 2.5 KM RAIN RATES, 2.5 KM RAIN TYPES)

- New ground clutter stability study using radial data (v1 used gridded data) for 2014-15
- New comparison to TRMM/GPM orbital data for calibration offsets during periods of stable operation
- New PR\_v8/DPR\_v5 calibration offsets applied to TRMM/GPM orbital data before comparison to ground data

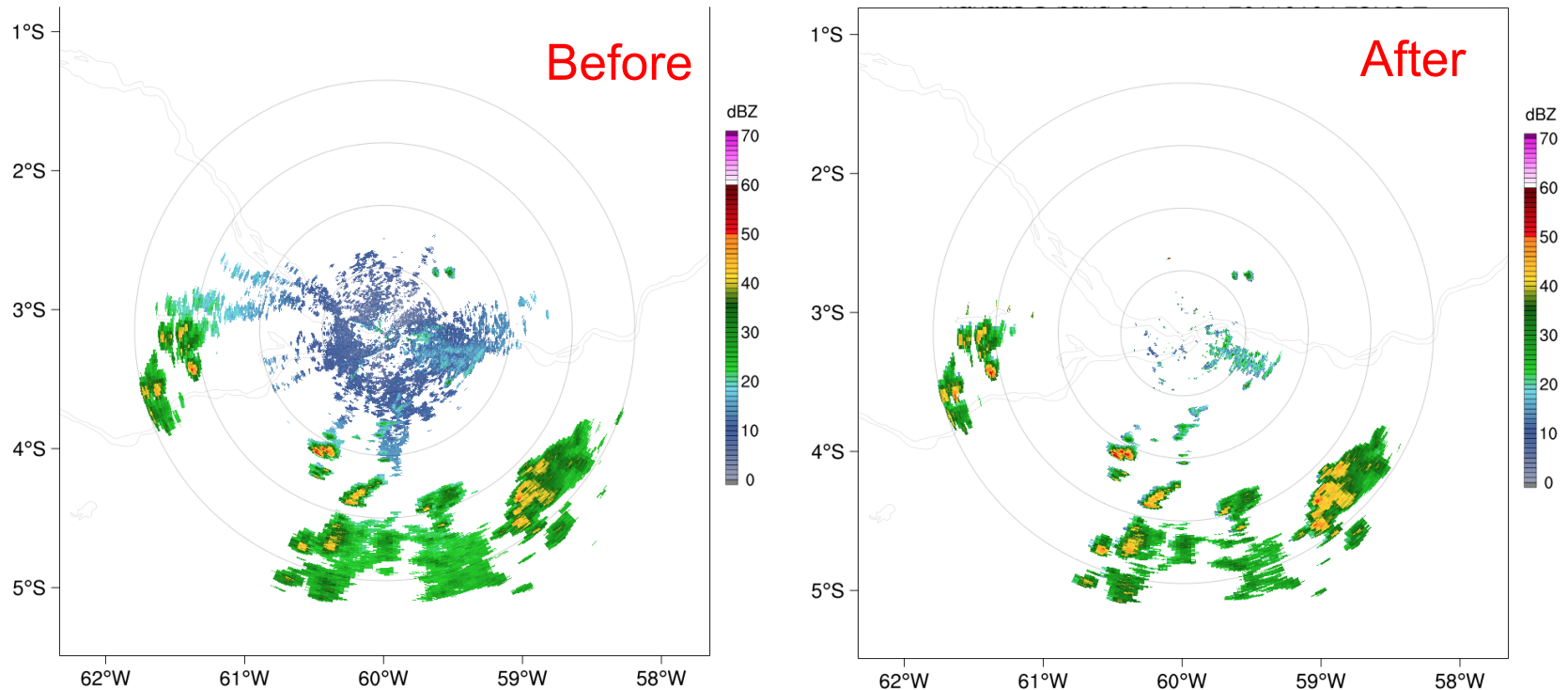


# SIPAM VERSION 2.0

(3D RADAR REFLECTIVITY, 2.5 KM RAIN RATES, 2.5 KM RAIN TYPES)

- New fuzzy logic clutter identification scheme to identify and censor ground and AP clutter

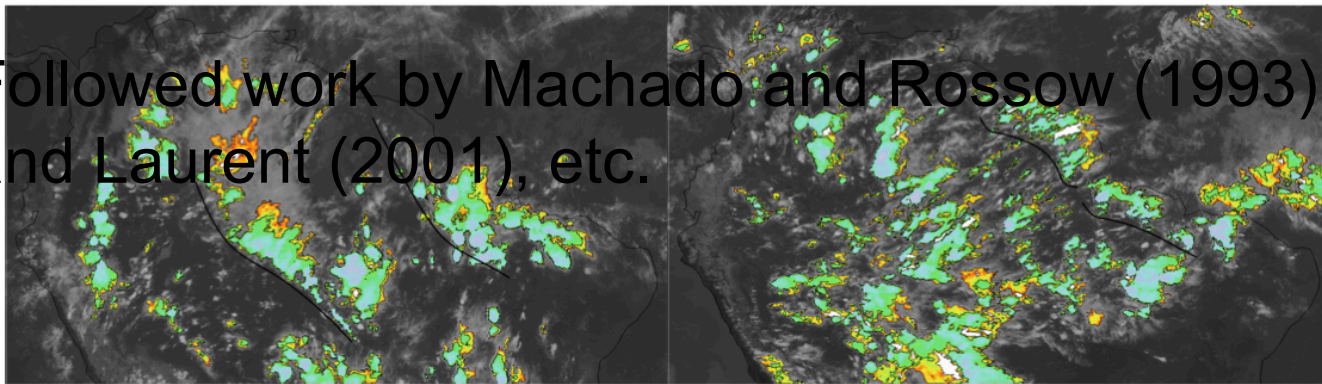
Manaus S-band 0.9° PPI 01/04/2014 23:48 UTC



# MSC TYPES ACROSS THE AMAZON

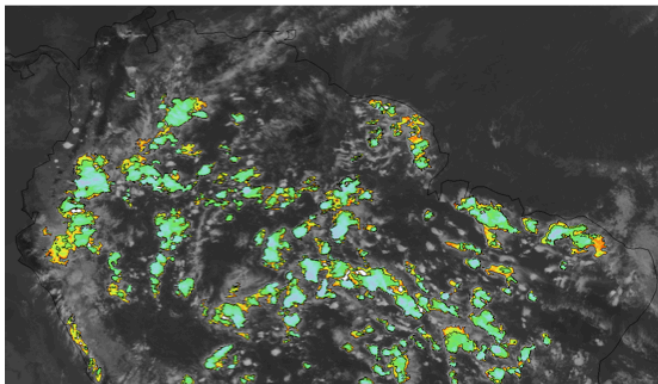
- GOES-13 30-min IR satellite images were used to track cloud clusters  $\geq 2500 \text{ km}^2$  with  $T_b \leq 235 \text{ K}$  across the Amazon for 2014-2015

- Followed work by Machado and Rossow (1993), Mathon and Laurent (2001), etc.

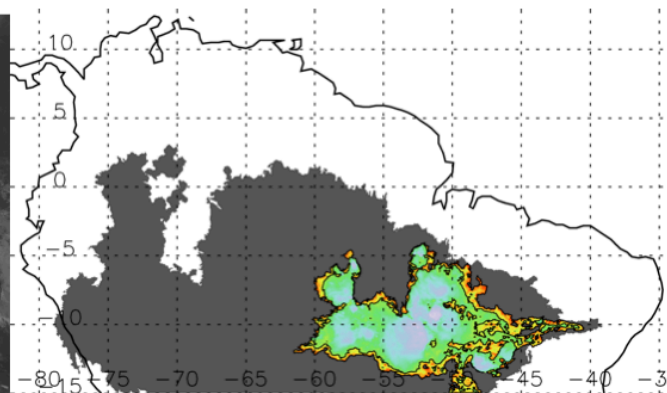


(a) Large scale SL in sequence at 2014-04-01 22:30.

(b) Coastal systems – SL with some hundred of kilometers of propagation inland – at 2014-04-20 20:30.



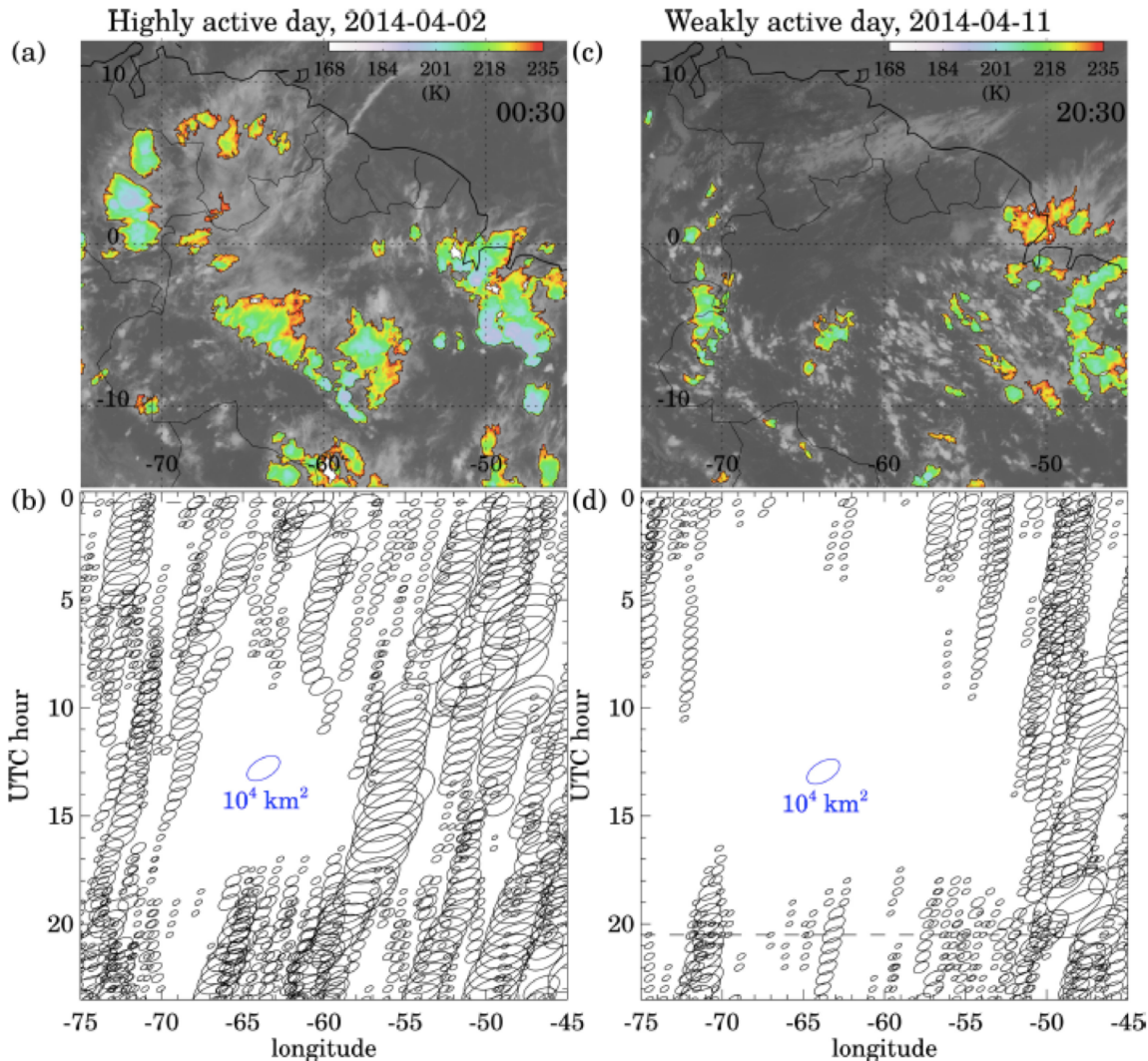
(c) Convection spread at 2014-04-05 20:30.



(d) Extreme long-lived with 82h of lifetime at 2014-11-09 02:30

# MSC TYPES ACROSS THE AMAZON

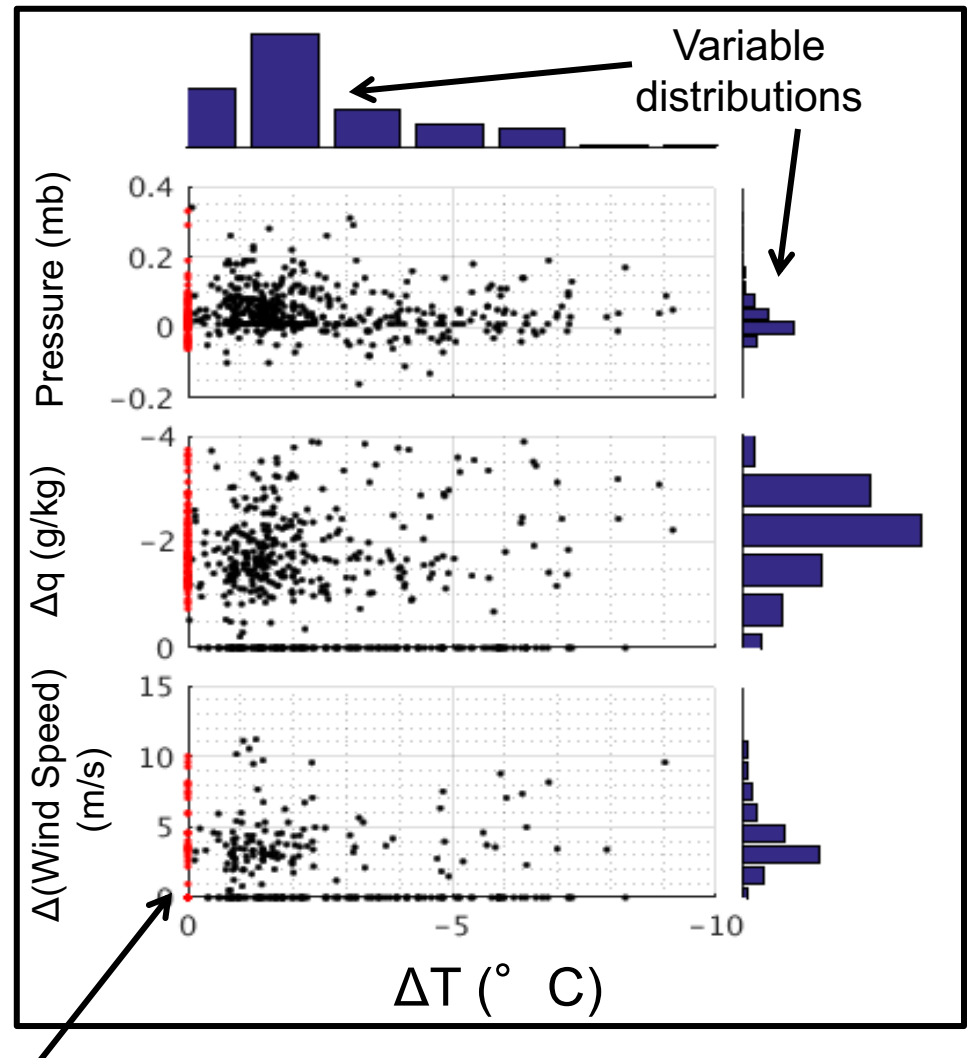
## (SATELLITE IR CLUSTER TRACKING)



Diurnal variation  
on highly and  
weakly active  
days in April  
2014

# DETECTING & CHARACTERIZING CONVECTIVE DOWNDRAFTS

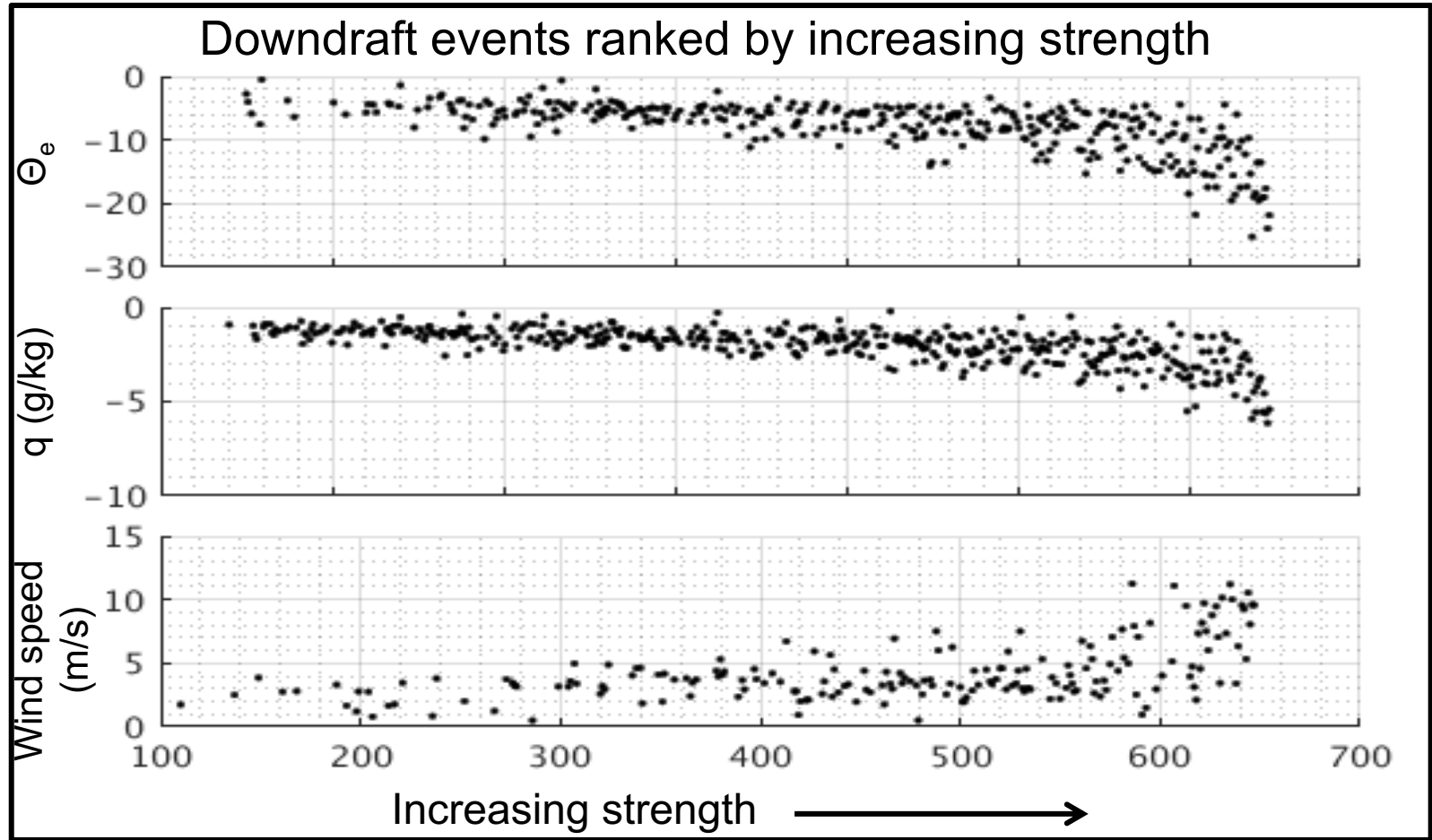
- Unique method of detecting cold pools using station data
- Events verified using SIPAM
- Climatology created of 650 downdrafts



Red: Events with zero temperature change



# DETECTING & CHARACTERIZING CONVECTIVE DOWNDRAFTS



Method forms the basis of a downdraft index