UPDATES ON CONVECTIVE RELATED DATASETS FROM TAMU

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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 S-Band - 95th Percentile of Ground Clutter from CfRadial

Courtesy of A. Funk
• 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

Before

After

Courtesy of A. Funk
MSC TYPES ACROSS THE AMAZON

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

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

Courtesy of E. Anselmo
MSC TYPES ACROSS THE AMAZON
(SATELLITE IR CLUSTER TRACKING)

Diurnal variation on highly and weakly active days in April 2014

Courtesy of E. Anselmo
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

Downdraft events ranked by increasing strength

Method forms the basis of a downdraft index.