X-band Dual-Pol radar

Data authors: Thiago Biscaro (thiago.biscaro@inpe.br), Luiz Machado (luiz.machado@inpe.br)

Time of interest: 01 Nov 2018 - 13 Dec 2018

Area of Interest: 28.6347°S, 56.0008°W

Data Frequency: Volume scan every 10 minutes, RHI pointing to convective storms when possible

Data Spatial Type: Vector and grid

General Dataset Description:

Volume scans: 17 elevations, with low antenna speed and staggered PRF to improve doppler velocities data quality. Radial resolution is 200 m x 1°. A zenith-pointing scan (a.k.a. bird-bath scan) was performed at the 17th elevation to be used for ZDR calibration purposes. An internal calibration (zero-check) was performed after each volume scan.

Elevation scans (RHI): Elevation angle starts at 0° and stops at 60°, which covers an 18 km storm height at a 10 km distance. The RHIs did not use staggered PRF as doppler velocities are not the priority for these scans. Radial resolution is be of 200 m x 0.5°. The average time of a single RHI is 15 seconds. The operator was able to select between 4 types of RHIs, instead of doing a single RHI: a 20°, 45°, 90°, or 180° azimuth sector, with a single RHI every 2° for the 20° sector and every 5° for the other ones. After every RHI sector scan, a 0.5° PPI was performed to check for new storms and storm motions. After 28 Nov 2018 1750 UTC, the PPI scans between the RHIs were made using the 1.8° elevation.

File Names: Xband_mobile_radar_Brazil.gz, containing:

VOL: folder containing the HDF5 and UF files o the volume scans every 10 minutes
PPI: folder containing the UF files of the PPIs that were made between the RHI in convective days.
RHI: folder containing the dates when RHIs were made containing the files for each variable. The first three numbers in the filename is the azimuth of the RHI. In this folder there is another folder with figures as well.

Data restrictions: None

Digital Object Identifier (DOI): None