Forecast and Analysis Verification of CPTEC/INPE G3DVAR

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The Center for Weather Forecast and Climate Studies from the Brazilian National Institute for Space Research (CPTEC/INPE) replaced its former data assimilation system, the Global Physical-Space Statistical Analysis System (GPSAS) by the Global 3DVar (G3DVAR). The latter is based on the Gridpoint Statistical Interpolation (GSI) jointly developed by NOAA, NASA and NCAR, implemented on the Atmospheric Global Circulation Model developed at the CPTEC/INPE (AGCM/CPTEC/INPE). The new system, operational at CPTEC/INPE since January 2013, assimilates a variety of conventional and non-conventional observations every 6 hours. Since that, CPTEC/INPE trough its Group on Data Assimilation Developments (GDAD) is evaluating the performance of the system. Currently, an effort to do this evaluation is being conducted by forecast verification against a set of conventional observations. We will show how G3DVAR differ from these observations by observation-minus-6hr forecast (O-F) and observation-minus-analysis (O-A) statistics. We will also show a comparison of how these differences are against others operational centers. The interest of this evaluation is to the assessment of the quality improvements brought in by the recent change in data assimilation method of the CPTEC/INPE data assimilation system.