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Correlative analysis of tropical SST and SH polar dynamics

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Sea Surface Temperatures (SST) during last decades have been analyzed by using two different datasets (NOAA/ERSSTv.3 and HadISST1.1). The study focuses on the SST variability in the tropical regions corresponding to the ITC (Intertropical Convergence) and the SPC (South Pacific Convergence) zones, due to their relevance in the processes affecting planetary wave generation. A correlative analysis of the tropical SST and SH (Southern Hemisphere) polar vortex characteristics (based on ERA-40 re-analysis data) has been performed. In accord with a teleconnection mechanism already suggested in previous works and based on model simulations, results evidence a correlation in the year-to-year variability between tropical SST for the Pacific region and the early phase of the SH polar vortex. However, the analysis evidences a shift of the region of influence from the Southern to the Northern Pacific Ocean at the beginning of 80's. The correlation analysis between the SST value averaged over the selected Pacific regions and a chosen index of the polar vortex intensity evidences strong correlation coefficients.