



A comparison of blocking climatologies in Southern Hemisphere extracted NCEP/NCAR reanalysis and General Circulation Models

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Here we present a new scheme for the identification and comparison of blocking episodes for the Southern Hemisphere from consistent dataset (1960-2000) extracted from NCEP/NCAR reanalysis and two distinct general circulation models. The general circulation model results are provided by the United Kingdom (Hadley Centre) and Brazil (CPTEC/INPE) meteorological centres. The definition of blocking is obtained by using an objective index based on two meridional gradient of the 500 hPa geopotential height. The local blocking and sector blocking have been defined using a modified version of the well known Tibaldi and Molteni objective blocking index. The objectives are to compare results obtained with the GCMs and the Reanalyses data in terms of blocking spatial pattern (preferred location, magnitude), seasonal distribution, length histogram. On the other, hand we evaluate some of the mechanisms associated with blocking occurrence, namely the role played by El Niño episodes. The importance of blocking on the Southern Hemisphere is large, due to the interference in the propagation of austral frontal systems, causing a displacement of fronts along the polar flank of the blocking anticyclone. Therefore, the impact of these events in the climate of the continents immediately adjacent is shown to be significant both with Reanalyses and GCMs data sets.