



ENSO flavors' impact on rainfall over South Eastern South America

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Recent studies have identified a pattern of variability of the Tropical Pacific, which is similar to El Niño Southern Oscillation (ENSO), but characterized by SST anomalies localized over the central Tropical Pacific, closer to the dateline. For this reason this pattern has been named “dateline El Niño”, meanwhile the two patterns together have been referred to as different “flavors” of ENSO.

The aim of this work is to explore the impact of the dateline El Niño on rainfall variability in Southeastern South America, a region that presents a strong connection to the “canonical ENSO”.

We will present a characterization of each flavor, the associated teleconnections to SESA and the relationship with rainfall there. Particular attention will be dedicated to the identification of the proper timescale dominating the joint variability of each flavor and rainfall in SESA, so that to provide indications regarding persistence and predictability of their impacts, as function of the season. A first attempt of relating precipitation and temperature over SESA as driven by these modes will be discussed.

The investigation is also relevant in the contest of the decadal variability, since it has been suggested that the dateline ENSO has been more frequent in recent decades. The analysis is conducted by using both the reanalysis data and three general circulation models (ECHAM, SPEEDY and CAM).