vi Convection-Permitting Climate Modelling Workshop
http://www.cima.fcen.uba.ar/cpcmw2022/index.php
7-9th September 2022
C. A. Buenos Aires

Poster.7: . **The need for Regional Climate Modelling for Brazil**

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Abstract

Climate models have been used as a critical tool for improving our understanding and predictability of climate in several socio-ecological studies. Despite models producing simulations of current and past large-scale climates that agree with observations, they may not always represent the patterns of variation in regional and local scale features, particularly for Brazil, as a continental country with regional climate diversity. Simulations of the climate at convection-permitting resolution (at kilometer-scale) are emerging as a promising tool to produce a better-detailed representation of regional climate and its extremes. New cutting-edge climate simulations have recently been completed over South America using a Met Office high-resolution convection-permitting climate model as part of the CSSP-Brazil project. Here, we present a perspective on the potential need of the regional modelling frameworks for Brazil. The work begins with a general overview of the current state of knowledge on future projections that are available via the GCM and RCM models. The presentation also shows preliminary results on how the CPM performs in representing the main features of daily precipitation over Brazilian regions. These unique simulations are expected to provide Brazilian climate scientists with improved understanding of many impact-relevant aspects of climate such as rainfall variability and extremes.