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Title: Seasonal Eta Model precipitation using different precipitation production schemes
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Abstract:
This work investigates and compares the precipitation errors from seasonal climate forecasts using the Eta Model with different precipitation production schemes: Betts-Miller-Janjic convective and Ferrier microphysics (BMJ-FERR); Betts-Miller-Janjic convective scheme and Zhao microphysics scheme (BMJ-ZHAO) and Kain-Fritsch convective scheme and Ferrier microphysics scheme (KF-FERR). The model was configured with 40-km horizontal resolution and 38 layers, and covers a domain which includes South America, most of Central America and part of Atlantic Ocean. The forecast length time was 4.5 months. The initial and lateral conditions were provided by CPTEC atmospheric general circulation model (AGCM) updated every 6 hours. Anomaly persisted sea surface temperature was daily updated. The seasonal hindcasts was run in the period 2001-2010. The results are investigated for two seasons: December-January-February (DJF) and June-July-August (JJA), which are the rainy and dry seasons, respectively, over South America. The objective of this work is to evaluate the precipitation over the South America (SA). In general, the patterns of precipitation were reasonably forecasted by all model versions for both verified periods. For rainy season the BMJ-FERR tend to overestimate the precipitation over the Pacific Equatorial Ocean than the other versions. The KF-FERR version produced more rain over the continent. For dry season, the KF-FERR produces more rain over the continent and Pacific Equatorial Ocean. The KF-FERR produces more rain over the whole domain when compared with others model version.
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