



## **Rainy season ensemble prediction with Eta model over South America**

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The Eta Model was configured over South America with 40 km horizontal resolution and 38 layers to produce seasonal forecasts. The model took lateral boundary conditions from CPTEC global model forecasts at T62L28 resolution every 6 hours. The sea surface temperature was daily updated. Monthly and seasonal climatologies were used as initial soil moisture and albedo, respectively. Forecasts of the rainy months from 1998 until 2000 were produced. The objective of this work was to provide some different scenarios of seasonal precipitation for hydrological purposes due to atmospheric model uncertainties. The ensemble forecasts were generated by perturbing slightly the convective precipitation scheme parameters. Some changes to the precipitation pattern were produced by increasing the life cycle of the convective clouds, by increasing the precipitation efficiency, by adjusting to a drier atmosphere, and by removing the distinction between continental and oceanic convective precipitation. Some reduction of the model systematic errors was achieved. The results show that the forecast skill is still strongly controlled by the lateral boundary condition at seasonal timescale. The accumulated forecast precipitation was evaluated for a major Brazilian river basin, the São Francisco Basin. Evaluation of the each forecast member and the ensemble mean will be shown.