

Poster.3: . **The influence of in the moisture transport from the Amazon Forest to the South America continent**

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Abstract

Changes in the atmospheric circulation, water budget, and heat fluxes are developing to the increase of Amazon deforestation and global warming in the South American continent. Therefore, the work objective is to evaluate how the Amazon deforestation process may impact the moisture transport and the water budget in the Brazilian southeastern (S/SE) region in a 2o C warmer world (SWL2 approach) during the austral autumn. Using the Brazilian Atmospheric Model (CPTEC-BAM1.2 - ~ 200 km and 28 levels) was possible to simulate the total conversion from the tropical forest (D00) to the pastureland (D100). The atmospheric model was driven by the IPSL-CM5A-LR Sea Surface Temperature (SST) condition. The vertically integrated moisture flux (from surface up to 500 hPa) from the Amazon Forest (represented by a domain ranging from 10oS up to 3oN and from 75oW up to 50oW) to the S/SE region (20oS up to 27oS and from 53oW up to 45oW) was computed. As a result, there was an intensification of the influx from the Atlantic Ocean (+20.7 kg m⁻¹ s⁻¹) to the Amazon region. Furthermore, the result indicated a decrease in the moisture transport to the S/SE (-15.4 kg m⁻¹ s⁻¹). In addition, changes in the Walker cell (an increase in the subsidence movement - +2.5 Pa/s), low-level jet pattern (+3 m/s), and a decrease in the jet stream velocity (-4 m/s) were essential drivers which modulated the incoming of moisture in the S/SE regions.