



Simulations of ENSO and its impact on the tropical mountain rain forest in Ecuador

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The El Nino Southern Oscillation (ENSO) phenomena is a global climate event. Since it has a direct influence on the climate system it is an important part of climate research. Within the DFG research unit 816 in the region of the tropical mountain rain forest in Ecuador, precipitation and other climate parameters are measured by automatic climate stations for several years. Investigations of these time series revealed variations of monthly precipitation during El Nino / La Nina events. We hypothesize that these rainfall anomalies associated with the occurrence of sea surface temperature (SST) anomalies and varying circulation patterns on equatorial pacific are caused by ENSO. Additionally, a varying mesoscale circulation over the central Andes contributes to this situation. In order to investigate the coupled ocean-atmosphere system ENSO and show its impact on the local climate system of the tropical mountain rain forest in Ecuador the weather research and forecast model (WRF) is implemented. The simulations are supposed to (i) demonstrate El Nino / La Nina events by means of varying SSTs and (ii) to establish a correlation between the rainfall anomalies and ENSO. In doing so long term runs over the last years are made. The poster will present the conceptual design as well as first results of our simulations and discuss them in the context of the measured precipitation.