

Project abstract

Land transformation from natural to managed ecosystems such as oil palm and rubber plantations might result in changes of greenhouse gas fluxes (CO₂ and CH₄) and of local and regional climate due to land-atmosphere feedbacks after changed surface properties. The land-atmosphere feedbacks are non-linear and additionally complicated by climate change. To gain knowledge of the still unknown ecological and climatological impacts of transformation of rainforest into oil palm and rubber plantations in Indonesia this project will implement the regional modelling and land surface modelling approaches to study the interactions between different land-use types and the atmosphere to up-scale the energy, water, carbon and nitrogen fluxes to regional level.

For support these tasks the project run several field climate stations and towers. Due technical and political reasons the time series of these measurements contains gaps and error. To fill up these gaps we planed a Model Output Statistics between a regional climate model (Weather Research & Forecasting Model, WRF V3.6) driven by ERA-INTERIM Data and the field measurements.