



AMMA land surface model intercomparison in West Africa

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There is evidence that the land surface influences the variability of the WAM on daily to inter-annual time scales. There is therefore a need to better understand the land-surface atmosphere coupling mechanisms from the local, to the mesoscale and up to the regional scale. A critical aspect of this coupling is the relationship between the meridional soil moisture gradient and its feedback with the regional atmospheric circulation. To this end, a multi-scale land-surface model atmospheric and land surface parameter forcing database is being constructed using a variety of sources; NWP forecast data, remote sensing products and local scale observations. The goal of the AMMA Land surface Model Intercomparison Project (ALMIP) is to use this database to drive a family of state-of-the-art land surface schemes “off-line” (i.e. decoupled from an atmospheric model) from local to regional scales over at least one annual cycle. Key aspects of the schemes related to the simulation of the WAM (such as the ability of such schemes to simulate the vegetation response to the atmospheric forcing) and the impact of changing the scale on the simulated surface fluxes and water budget will be evaluated using observations from the AMMA-EOP and SOP campaigns and data from AMMA-SAT (such as MODIS based LAI). This talk will present an overview of the current status of the forcing database, some preliminary off-line LSS results, and an overview of the proposed intercomparison project which begins in 2006.