



Air pollution in Southern West Africa: Impact of different emission inventories

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Southern West Africa is currently experiencing an unprecedented population growth of 2-3 % per year and an economic growth of approximately 5% per year. This has an impact on land use change and anthropogenic emissions (United Nations Economic Commission for Africa, 2010), which can result in modifications of aerosol concentrations. Aerosols modify the climate by scattering and absorption of radiation and by acting as cloud condensation and ice nuclei.

The quality of emission inventories is crucial for simulating anthropogenic aerosol concentrations. But for West Africa it turns out that the estimated emission fluxes differ between inventories (e.g. ACCMIP, EDGAR). With our global aerosol-climate model ECHAM6-HAM2 we investigate the feedbacks between aerosol emissions (natural and anthropogenic), aerosol distributions and climate. We performed a set of simulations with ECHAM6-HAM2 with use of different emission inventories for present day conditions. We show the differences in aerosol distributions depending on the applied inventory. Further we discuss the consequences of these differences on the projected climate impact of aerosols.