

Title:

CAPAC - Climate and Air Pollution Analysis of Cairo

Abstract:

CAPAC (Climate and Air Pollution Analysis of Cairo) aims at the understanding of the energy budget of Cairo and its environment, using remotely sensed as well as in situ measured data. A field campaign is being conducted in Cairo from November 2007 to February 2008. During this campaign, the radiation budget and the heat fluxes were measured at 3 different locations inside and outside of Cairo in a very high timely resolution using the Eddy-Covariance technique. Furthermore CO<sub>2</sub> fluxes were recorded at 2 sites and 5 sigma-2 samplers and one MiniVS Volume sampler were used to measure PM<sub>10</sub> and PM<sub>2.5</sub> concentrations twice weekly.

First analyses from the month November, December 2007 and January 2008 revealed, that even though the sensible heat flux dominates clearly in the desert, a weak latent heat flux is existent. In the urban area the latent heat is even more present. In a more agricultural place the latent heat flux exceeds the sensible heat flux slightly. CO<sub>2</sub> fluxes in the urban site are comparable to other big cities and depend on the wind direction. Cairo seems to be an urban heat island during the night only. During the day measured rural and urban air temperatures converge. This finding is different to remotely sensed surface temperatures, which show during the day much higher values in the desert than in the city. PM<sub>10</sub> and PM<sub>2.5</sub> analyses are still outstanding.