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A.J.M.Komkoua.<sup>1</sup> and C. Tchawoua<sup>1</sup>

<sup>1</sup>Department of Physics , University of Yaounde I, Yaounde, 812, Cameroon

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The direct and inderect effects of aerosols lead the reductions in the amount of solar radiation reaching Earth's surface, thus causing a nagative radiative forcing . Atmospheric aerosols are still considered one of the main sources of uncertainty in the climate change (IPCC 2007). To study the climate feedback of aerosols, it is necessary to couple climate and aerosol models. However, the relatively short lifetime of aerosols, in the order of a few days and their inhomogeneity indicates the immediates the

importance of regional scales when studying aerosol effects.

Our work investigated the effect of aerosols on the surface temperatures over Centra Africa based on simulation performed by the regional climate model RegCM4.