

Impact of different land surface scheme in regional climate model (RegCM4)

Gamil Gamal Abd El-Motey¹, Fawzia Moursy², Ahmed Shalaby³,

Gamal Al-Afandi⁴, Magdy Abdel Whab⁵

^{1,2} Inst. of African Research & Studies, Cairo University

³ Egyptian Meteorological Authority

⁴ Faculty of Science, Al-Azhar University

⁵ Faculty of Science, Cairo University

Abstract

Land - atmosphere interactions in Nile Basin region studied by using Regional climate model (RegCM4) with two different land surface schemes, Biosphere Atmosphere transfer scheme(BATS) and Community Land Model (CLM3.5). The study period from 1995 until 2007; and the output results of two land schemes compared by the observational dataset such as CRU and GPCP. This sensitivity study show how land surface parameterization effect on regional climate of Nile Basin; and this effect occur due to soil moisture and surface albedo in the two schemes which has strong feedback on precipitation and temperature.

Keywords: Nile Basin, RegCM, BATS, CLM, dataset, CRU, GPCP.