

IMPACTS OF CLIMATE CHANGE ON WATER RESOURCES OF DONG NAI RIVER SYSTEM

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ABSTRACT

The aim of this research is to evaluate the effect of climate change on the water resources of the Dong Nai River valley, apply the SWAT model. The imitative result has been adjusted according to the observed date per day by a tool called SWAT-CUP (SUF12). The result that analyses the sensitivity of the model's parameter shows that CN2 and CH_N2 have the biggest impact on the imitative result of the flow, the model has been adjusted and verified to the elements such as the volumetric flow rate, mud and sand (TTS), and get fine results. Hence, the effect of climate change's research on the flow and TTS according to two scripts, emission RCP4.5 and RCP8.5 in three periods 2015-2040, 2045-2070, 2075-2100 base on five climate models Can_ESM2, CNRM_CM5, HadGEM2_AO, IPSL_CM5A_LR, MPI_ESM_MR. The scripts demonstrates that the Dong Nai River basin will get hotter, rain more in the future, the annual flow will grow from 9,11% to 21,67%, the TTS will increase 8,1% - 29,72%. The increasing trend of the flow and sediment in the future will raise the flood risk, increase the erosion, especially in the rainy season.

URBAN EXPANSION AND ITS LAND SURFACE TEMPERATURE CHANGES IN SOUTH VIETNAM

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ABSTRACT

Urbanization includes of many aspects, one of these is its expansion in terms of space, which can be observed by satellite images. Landsat images from 2000 to 2017 were used to detect changes of urban expansion over times. Time series MODIS product data of land surface temperature on this period also was analyzed to identify changes of land surface temperature, focusing on urban areas. Analyzed results of the both data revealed that that there was a relationship between urban expansion for its areas and land surface temperature. Statistical analyses of correlation and regression displayed an effect of urbanization on increase of land surface temperature in urban area, which also indicate that contributes to a warming in urban areas of south Vietnam for the period of 2000 up to the present.