

Evaluate the trends of climate variability and river discharge: A Case of Abbay River Basin

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Projecting future changes of streamflow in the Abby River Basin (JRB) is important for the planning and management of the basin system. This study, investigated the annual precipitation, temperature, and river discharge variability at five selected stations of the Abbay basin, by using the Mann-Kendall (MK), Innovative trend analysis method (ITAM), and Sen's slope test estimator. Result showe that the trend of annual precipitation was slightly increased in Assoa (Z=0.71), Bahir Dar (Z=0.13), and Gonder (Z=0.26) stations. Whereas, in Nedgo (Z=2.45) and Motta (Z=1.06) stations it showed a significant increasing trend. Correspondingly, the trend of annual temperature in Assosa (Z=5.88), Bahir Dar (Z=3.87), Gonder (Z=4.38), Nedgo (Z=4.77), and Motta (Z=2.85) was abruptly increased. The meane air temperature has considerably increased by 1.4 °C during the past 36 years. This is very high in the semi-arid zone of northern Ethiopia. The river discharge showed significantly a decreasing trend during the study period years. Since 1992 onwards the river discharge decreased sharply. The findings of this paper could help researchers to understand the annual variability of precipitation, temperature, and river discharge over the study region and become a foundation for further studies.

Biography

Simiret Takele has completed his MSc at the age of 25 years from Addis Ababa University and BSc Degree at Gonder University. Now I am PhD candidate in envronmental Science at AAu. I have two published papers in reputed journals.

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