

Application of ANNs model with the SDSM for the hydrological trend prediction in the sub-catchment of Kurau River, Malaysia

Abstract

The paper describes the application of SDSM (statistical downscaling model) and ANNs (artificial neural networks) models for prediction of the hydrological trend due to the climate-change. The SDSM has been calibrated and generated for the possible future scenarios of meteorological variables, which are temperature and rainfall by using GCMs (global climate models). The GCM used is SRES A2. The downscaled meteorological variables corresponding to SDSM were then used as input to the ANNs model calibrated with observed station data to simulate the corresponding future streamflow changes in the sub-catchment of Kurau River. This study has discovered the hydrological trend over the catchment. The projected monthly streamflow has shown a decreasing trend due to the increase in the mean of temperature for overall months, except the month of August and November.