
Climate modelling using ANN

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Abstract: In the present study artificial neural network (ANN) model was applied to monthly temperature and precipitation data for base time (1979–2009) at four different metrological stations vis Srinagar, Pahalgam, Qazigund and Gulmarg of river Jhelum basin in the State of Jammu and Kashmir, India and the future average annual temperature and precipitation predicted up to 2100. The large scale GCM predictors were related to observed precipitation and temperature and future projections of climate were made under A1B and A2 scenario upto 21st century. At the end of the 21st century the mean annual temperature of the Jhelum river basin is predicted to increase by 1.43°C whereas the total annual precipitation is predicted to decrease substantially by 30.88% ANN technique under A1B scenario. However, for A2 scenario average annual temperature increased by 1.56°C and total annual precipitation decreased by 35.32%.

Keywords: artificial neural network; ANN; Srinagar; Pahalgam; Qazigund; Gulmarg; scenario; temperature; precipitation.

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Manzoor Ahmad Ahanger has done Bachelor of Engineering in Civil Engineering from National Institute of Technology, Srinagar, then completed Masters in Water Resources Engineering from Indian Institute of Technology, Delhi and then PhD in Water Resources Engineering from National Institute of Technology, Srinagar. He is currently working as a Professor in Civil Engineering Department, and Dean Academic Affairs NIT Srinagar. He has conducted research on sediment transport in open channels, fluvial hydraulics and hydrological modelling. He has successfully guided many PhD students.