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Development of mathematical model of River Gomti: Assessment and prediction of water quality

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Water resources are closely associated with daily life of masses. Today continuously increasing demand of fresh water resource for blooming population is a challenge. Due to scarcity of underground water resources and dependency on surface water sources in all sectors, there is requirement of its quality assessment and proper management. The traditional methods of evaluation of quality parameters are very exhaustive and costly. So, there is need of some quick and cost effective methods to evaluate the quality as well as proper management. It is imperative to prevent and control the river pollution and to have reliable information on quality of water. The efficient mathematical models for river water quality are essential for the formulation of comprehensive guidelines. The main objective of present study was the prediction of river water quality using the capabilities of Fuzzy logic system. In view of water quality assessment, River Gomti with its long stretch (from origin to end) that carries large number of pollutants and is the source of drinking water and irrigation in nearby districts/urban areas has been taken. Water quality parameters like DO, BOD, TSS, TDS, pH were used. Numbers of membership functions were used for accurate development of model. The result has shown that Fuzzy inference system may be the technique for the prediction and forecasting of surface water quality in place of existing exhaustive and time taking techniques and model may be use full to satisfy the present day needs.

Biography

Pramod Kumar Singh is working as Assistant Professor (Environmental Science) at School of Applied Science, BBD-University since September 2007. He has obtained his Doctoral degree in Botany (2003) from University of Lucknow, Lucknow. He has worked with DST -Young Scientist, Mentor Scientist Scheme by Department of Science and Technology, New Delhi. He has 14 years research experience in field of Environmental Stress Physiology a at CSIR–National Botanical Research Institute, Lucknow and allied fields and more than eleven year academic experience at graduate and post graduate level. He has guided 2 MPhil and 2 PhD Students. He has awarded with Habitat Award 2007 on World Agriculture Day. He has delivered invited talks at Department of Environment and has published 21 research papers in peer reviewed national and international journals. Few of his research papers, has been ranked first by Bio Med Lib in top 10 articles published word wide in the same domain for two consecutive years (2011-12). In addition, he has presented more than 15 papers at national and international conferences, seminars and symposium.

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