

3rd International Conference on Hydrology & Meteorology

September 15-16, 2014 Hyderabad International Convention Centre, India

Assessment of water quality of the pilgrim sites of Godavari River through correlation study between different physico-chemical parameters

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The present study was conducted to assess the water quality of Godavari River water at two Pilgrim sites (PS) of Nashik city during May 2010-April 2011. Total 15 physical and chemical parameters such as temperature, pH, electrical conductivity, total dissolved solids, suspended solids, ammonia, NO₂+NO₃, phosphate, total hardness, sodium, chloride, total alkalinity, dissolved oxygen, biological oxygen demand, chemical oxygen demand were determined. Evaluation of estimated values of parameters with WHO drinking water standards revealed that water of studied pilgrim sites is polluted and indicative of eutrophic condition. A correlation coefficient analysis has been carried out amongst all pairs of studied parameters which signify positive and negative correlation among the studied parameters. From the present study it is suggested that, drinking water quality can be checked effectively by controlling the electrical conductivity and total dissolved solids of water as well as usual monitoring of the water quality of pilgrim sites is essential for appropriate management.

Biography

Kolhe B G has completed her PhD from Dr. B. A. M. University, Aurangabad (MS), India. She has published 10 papers in reputed journals.

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Remediation and monitoring of water system

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Water is very important for the sustenance of life. However, the quality of water available is always not suited for consumption due to the continuous industrial development. Therefore it becomes important to monitor the water quality. The water conditions are always changing due to the pollution. Pollution comes from the Latin word "*pollutionem*" meaning, "to make dirty". The substance that causes pollution is known as "pollutant". Pollutant is defined as the "substance that is present in the wrong place, at the wrong time and in the wrong quantity". The term pollutant is mostly confused with another term known as contaminant. Hence the subtle difference between the two terms becomes important to understand. Removal of these pollutants is known as remediation. Remediation is achieved by separating the toxic species like heavy metal ions, organic dyes etc. from the aqueous streams. Various procedures like membrane technology and sorption have been attractive for removal of various species both at lab and industrial scales. In practice, sometimes it is seen that a combination of procedures are adopted for complete treatment of water. Separation can be carried out using different membranes or sorbents ranging from bulk matrices to nanomaterials. The chemistry involved in remediation process gives an insight to the development of analytical methodologies used for monitoring different species in the water system. In the present discussion, the separation of various organic and inorganic pollutants using membrane technologies and sorption carried out at lab scale has been discussed. Newer analytical methodologies developed have been highlighted.

Biography

Jayshree Ramkumar, ACD, BARC, is involved in the development of newer procedures for separation and monitoring of different species using membranes and sorbents. Her PhD was on the ion exchange and related studies using Nafion membrane. She has more than 50 international peer reviewed journal publications and chapters in 5 books to her credit in the field of separation science. She pursued her Postdoctoral research on the use of mesoporous materials for remediation, at the NIMS, Japan. She is also an Assistant Professor and guide of HBNI, India and currently guiding students as a co guide for their PhD.

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