

Annual Temporal Changes in Concentration of Total Dissolved Solid (TDS), Nitrate and Sulphate in Koyna River water, Maharashtra, India

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Abstract: The objective of the study is to recognize temporal changes that affect the Koyna River's water quality parameters throughout time. 52 samples of water in total were collected at weekly intervals from March 2018 to March 2019 at the Koyna River in the vicinity of Karad, Maharashtra, India, to determine the concentrations of TDS, sulphate (SO_4^{2-}), and nitrate (NO_3^-). The average annual concentration of NO_3^- , SO_4^{2-} , and TDS is considerably lower than the values prescribed by WHO and BIS for irrigation and drinking. Timely variations in the parameters have been recorded. Increasing patterns were observed throughout the monsoon season (June to September 2018), followed by a decreased pattern (October to December 2018), and then a remarkably high level of certain variables in January 2019. The outcomes showed that water entering the river from upstream sources, runoff from agriculture, and household and industrial sewage discharges in tributaries and the mainstream are responsible for variations in concentration that occur gradually, suddenly, and in various manners.

Keywords: Koyna River, Temporal variation, Water quality parameters

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