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(57) Abstract :

The present invention discloses an integrated river-health investigation system (IRIS) for real-time monitoring. The proposed real-time client/server system comprises a set of river-health monitoring sensor (analogue and digital) modules for location, pH, dissolved oxygen (DO), total dissolved solids (TDS), electrical conductivity (EC), oxidation-reduction potential (ORP), turbidity, temperature, river velocity, flow, and water depth/level. The monitored data from the sensors (7-15) is communicated through the web servers using (Wi-Fi) communication module to the workstations. This system has the ability to provide the monitoring data from different locations in different time stamps, which provides a set of time-series data (big data) for proper planning and management of the riverine ecosystem, to replace the traditional procedures of river health monitoring, thus reduce the overall cost and time by real-time in-situ monitoring of rivers. The invention is designed as user-friendly and online-real-time monitoring tool for academia, research, and industrial applications, also being used as surveillance system for checking the pollution of water bodies arising due to industrial discharges.

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