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## COLLECTION OF MULTISCALE HYDROLOGICAL INFORMATION AND WATER QUALITY EVALUATION METHODS OF WUHAN EAST LAKE SCENIC SPOT

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### **Abstract**

Taking Dadong lake water system as the research object, a large number of water environment related information and data are collected. Using wireless communication technology and embedded system technology, an embedded intelligent integrated hydrological information acquisition terminal is designed. The ceramic capacitance water level sensor is used to collect hydrological information, and the wireless data transmission is realized through wireless transmission terminal. Using the environmental quality index model, the function module of water quality evaluation is established by single factor evaluation method and comprehensive evaluation method respectively, and the weight coefficient of water quality index is calculated. The optimal worst comprehensive correlation function value of all water quality indexes selected at the sampling point is synthesized to form the optimal worst comprehensive correlation function value of the sampling point. In order to achieve the purpose of clustering, the correlation weighted comprehensive trophic state index method was selected to evaluate the eutrophication of Donghu Lake. The results show that the concentration of chemical oxygen demand (COD) in Tuanhu Lake is the lowest, followed by Houhu Lake, Shaoji Lake and Tangling Lake. The water quality indexes (COD, TN and TP) of Swan Lake are seriously exceeding the standard. Therefore, it is an urgent need to take actions for improving the water quality.

*Key words:* collection, hydrological information, multi scale, water quality evaluation, Wuhan East Lake scenic spot

*Received: November, 2020; Revised final: August, 2021; Accepted: December, 2021; Published in final edited form: February, 2022*

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