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## **DEVELOPMENT OF A MULTIPARAMETRIC QUALITY INDEX FOR WATER QUALITY MONITORING**

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### **Abstract**

The multi-parametric quality index (ICPM) is a dimensionless number used to evaluate the overall water quality and it is a useful tool for policy makers and for the public. This study aims to introduce the ICPM algorithm. The ICPM was developed to assess the water quality of the Lower Danube River using information obtained from the analysis of 41 water quality indicators from a monitoring program during 2011-2014. ICPM used the data for the previous 28 months as reference to evaluate the latest 4 months. This algorithm, combined with a few relevant weighted averages (with weights derived from the number of values, the amplitude of variations, the importance of individual locations and the distance from the maximum expected values) yields the final ICPM result for each evaluated month. The intermediary results for the evaluated months have revealed moderate to slightly elevated values for most of the quality indicators, with only copper (167 %), sulphate (103 %) and water speed (185 % and respectively 191 %) exceeding the reference set, mainly due to heavy rainfalls during the evaluated months. The ICPM levels for the evaluated months were 43, 57, 61 and 64 %.

*Key words:* Danube River, surface waters, water quality index

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