

***Interactive comment on “Model based on dimensional analysis for prediction of nitrogen and phosphorus concentration in the River Laborec” by M. Zeleňáková et al.***

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This article applies to the current theme, associated with the assessment of nutrient content in the rivers, which in turn allows to predict changes in trophic status and negative consequences of this process. Such type of mathematical models are easy to use and are the effective tool for water monitoring, the development of protective measures and evaluation of their effectiveness.

It should be noted that formulating such models, it would be useful in further studies to include only the key factors that influence the distribution of pollutants in river's water,

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that take into account the specificities of regional characteristics of the rivers. It seems that the size of catchment area, as a quantitative parameter, does not fully reflect the impact of the nutrients load, unless the model is limited in the description.

Such an extension will take into account the load of nutrients flowing from the catchment, which value in integral way reflects its participation in providing the rivers with these substances and characterizes the specificity, type, way of usage and topography of the catchment. While the air temperature must not be included in the model, since it is sufficient to take into account only the water temperature, that is shaped, among other things, under the influence of climatic and weather conditions.

The formulated model and applied research methods open up broad prospects for their practical use for predicting the status of water and determining the extent of the necessary technical solutions aimed to the achievement good water status according to the Water Framework Directive.

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