

## Long Term Changes of Water Quality in Latvia

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**Abstract :** The aim of this study was to analyze long term changes of surface water quality in Latvia, spatial variability of water chemical composition, possible impacts of different pollution sources as well as to analyze the measures to protect national water resources - river basin management. Within this study, the concentrations of major water ingredients and microelements in major rivers and lakes of Latvia have been determined. Metal concentrations in river and lake waters were compared with water chemical composition. The mean concentrations of trace metals in inland waters of Latvia are appreciably lower than the estimated world averages for river waters and close to or lower than background values, unless regional impacts determined by local geochemistry. This may be explained by a comparatively lower level of anthropogenic load. In the same time in several places, direct anthropogenic impacts are evident, regarding influences of point sources both transboundary transport impacts. Also, different processes related to pollution of surface waters in Latvia have been analyzed. At first the analysis of changes and composition of pollutant emissions in Latvia has been realized, and the obtained results were compared with actual composition of atmospheric precipitation and their changes in time.

**Keywords :** water quality, trend analysis, pollution, human impact

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