



Adapting to Changing Hydro-Climatic Patterns: Evaluating Future Climate Scenarios for the Problem of Waterlogging in the Pannonian Basin

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Despite the trend of decreasing precipitation amount and receding groundwater levels in the Pannonian basin in the last three decades, the problem of waterlogging still represents a significant challenge, mainly due to the changes in seasonal distribution of rainfall and increase in rainfall intensity.

This study evaluates the potential impact of future climate scenarios on the problem of waterlogging in the region. The study analyses multiple climate models and future scenarios based on the IPCC's Representative Concentration Pathways (RCPs) to understand potential changes in precipitation patterns and temperature, which are the two main climatic factors affecting waterlogging.

The results indicate that the Pannonian Basin is likely to experience an increase in precipitation intensity in the winter-spring season, creating conditions for waterlogging. The findings confirm that adaptation measures are relevant and necessary and improvements in soil drainage, water retention for dry periods and sustainable land use practices will remain important in the future.

Keywords: waterlogging, precipitation, climate change, Pannonian-basin

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