## **Application of Stable Isotope Analyses as Support for Determination of Hydrological Response of Nonhomogeneous Catchment of the Ljubljanica River**



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## **INTRODUCTION**

Conventional hydrological measurements are sometimes not enough to answer questions such as: where does the water go when it rains and which paths does it take to come to a stream. This poster gives an overview of our preliminary results of measuring the isotopic composition of water (precipitation). These measurements are carried out in the scope of the research project J2-7322 Modelling the Hydrological Response of Nonhomogeneous River Basins funded by the Slovenian Research Agency.



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Based on the data obtained so far, we can confirm some of the already known impacts on the isotopic composition of water (precipitation, runoff). Summer months are characterized by isotopically heavier precipitation (due to air temperature), the isotopic composition of precipitation is also affected by altitude. In the coming 2 to 3 years, we will continue with these field measurements and try to improve the understanding of hydrological processes in complex catchments (karst, lowland, torrential areas). Our hydrological models will be upgraded with the findings obtained. This is needed to ensure flood safety and forecast floods and other extreme hydrological conditions (e.g. droughts).

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## CONCLUSIONS



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