



Precipitation stable oxygen and hydrogen isoscapes for Slovenia

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The application of stable and radioactive isotopes of the water molecule in various research activities is steadily increasing worldwide. Precipitation isotope mapping has revolutionized during last decades and isoscapes were calculated based on data from Global Network of Isotopes in Precipitation (GNIP) database and different regional databases. In Slovenia complex topography influences climate diversity and therefore regular monitoring of isotopes in precipitation is of particular interest in water resources research, climate and food authentication studies. In the past, isotopes were monitored at more than 30 different locations countrywide and the number of sampling locations has grown within Slovenian Network of Isotopes in Precipitation (SLONIP), particularly since 2009. However, only few stations were in operation simultaneously for more than 3 years and long-term annual, seasonal and monthly changes in isotope composition of precipitation were studied more detailed only at two stations, i.e. Ljubljana and Portorož.

This presentation focuses on current activities in the frame of SLONIP and includes study of spatial and temporal distribution of water isotopes in precipitation over Slovenia based on isotope data collected at 8 locations since 2016 and using available data from nearby records from the surrounding countries.

Investigations are funded by ARRS (project N1-0054, P1-0143), NKFIH (project SNN118205) and the EU Horizon 2020 project MASSTWIN (grant agreement No. 692241).