# INFLUENCE OF METEOROLOGICAL AND VEGETATION VARIABLES ON RAINFALL PARTITIONING FOR TWO DISTINCT TREE SPECIES (Pinus nigra and Betula pendula)

Katarina Zabret (1), Jože Rakovec (2), and Mojca Šraj (1)

(1) University of Ljubljana, Faculty of Civil and Geodetic Engineering, Ljubljana, Slovenia , (2) University of Ljubljana, Faculty of Mathematics and Physics, Ljubljana, Slovenia

Rainfall partitioning is an important part of the ecohydrological cycle, influenced by meteorological variables, describing properties of the rainfall event, and vegetation variables, describing tree properties. Throughfall, stemflow and rainfall interception for pine (Pinus nigra) and birch (Betula pendula) trees was measured from January 2014 to June 2017 in an urban area of Ljubljana, Slovenia. 180 events from more than three years of observations were analyzed, focusing on phenophases, leaf area index and 13 meteorological variables, including the number of raindrops, their size, and velocity. Different statistical methods were used for the analysis of the variable's influence: regression trees, generalized boosted regression models, principal component analysis and multiple correspondence analysis. The most influential variable was rainfall amount, followed by rainfall intensity and the number of raindrops, higher values of which decreased rainfall interception. As also important influencing parameters wind speed and size of rain drops, described by drop diameter and median volume diameter, were recognized.