Abstract

Water retention in the landscape is a relatively broad topic and the are a number of measures that can be applied to achieve increased water retention. This thesis focuses on water reservoirs and nature-friendly measures in the form of revitalized watercourses. The aim of this work is based on a simplified calculation of the water balance in a model area to determine which of the retention measures is more appropriate for a given situation and conditions. The water balance is based mainly on the calculation of evapotranspiration using the FAO Penman-Monteith equation.

The first part of the work contains a review of water balance and factors that affect it. The work also deals with selected retention measures and their functions during drought and flood events. The second part contains the calculation of evapotranspiration, determination of water balance, and its evaluation.

From the view of the evaporation values, the presented calculations show the deep water reservoirs to be the most advantageous, in which evaporation in the model area is the lowest from all presented situations. The work also points out the importance of evapotranspiration as an element of water balance and recommends determining it for the initial approximation of the local situation during the planning of retention measures.

Key words: water retention, water reservoir, nature-friendly measures, evapotranspiration, water balance