



Development of unified method and application for estimation of benefits of constructional and nonconstructional measures for flood risk reduction

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Floods are the most frequent natural disasters and cannot be prevented. However, we can reduce their consequences by implementing flood protection measures, which have to be economically sound. Therefore, when planning such measures, we have to know reduction of the damage caused by floods and increase of the actual benefits of the implemented measures. In presented project we have upgraded existing unified method for Slovenia, developed in 2014. It covers flood damage in different sectors (people and health, cultural heritage, natural environment, residential, agricultural and business sector). For each sector simple equation is used to calculate the damage cost, taking into account intensity, duration and dimension of the expected flood event with different return periods, and exposure, vulnerability and values of the exposed elements in the targeted area. For the estimation of values both data from census and market values were used. Using the proposed methodology, also an application called "KRPAN" was developed based on a geographic information system. The input data are according to its type based on three main forms: point, line and shape. For each type of data separate databases were established. The developed application was tested for three flood areas in Slovenia. According to the results it was adjusted to be suitable for use by various groups of users.