INTERNATIONAL CONFERENCE
1ST YOUNG RESEARCHERS' CONFERENCE - EROSION AND TORRENT CONTROL (ETC 2018)
ABSTRACT BOOK

Belgrade, November 28 – 30, 2018.

Editor in chief: Katarina Lazarević

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CONSTRUCTION AND CALIBRATION OF PORTABLE RAIN SIMULATOR

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ABSTRACT: The study of the methodology of measuring and monitoring the appearance of erosion processes is of great importance for the defining of conditions for the occurrence, development and prevention of erosion processes. Consideration of the mechanism of erosion processes simulations agents on the field and the possibility of determining the result of the changing parameters of land can provide critical value for the development process. This paper presents the construction and calibration of a portable field rain simulator, for the purpose of testing the mechanism of the occurrence of erosion processes in the area of Forest management "Lipovica" in the area of Belgrade. The construction of the apparatus is designed to simulate the conditions of natural processes and to provide complete mobility. It was performed the selection of a sprinkler that fulfills the low consumption criterion, with uniform coverage of the surface with the appropriate intensity. Three different types of sprinklers were tested. It was performed the calibration of the intensity of the simulated rain, its disposition over the surface, for three different slope angle, as well as the measurement of the diameter of the rain drop by the method of flour. The total simulated intensity is 4.7 l min^{-1}, for the planned rainfall of 10 min, which corresponds to the duration of the intense downpour for the investigated area. The average rainfall drop diameter is 1.2 mm. The constructed and calibrated simulator corresponds to the set conditions of the experiment.

Key words: rain simulator, sprinklers, erosion mechanism, field tests, soil erosion

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