



Soil Erosion and TOrrential Flood
Prevention: Curriculum Development at the
Universities of Western Balkan Countries



SETOF CONFERENCE

ABSTRACT BOOK

GOČ, NOVEMBER 3rd, 2022

EDITOR IN CHIEF: NADA DRAGOVIĆ

BELGRADE, 2022

SETOF CONFERENCE

NOVEMBER 3rd, 2022

GOČ, REPUBLIC OF SERBIA

Conference Abstracts

Publisher:	University of Belgrade, Faculty of Forestry, Kneza Višeslava 1, Belgrade
Editor in chief:	Nada Dragović, Full professor, Faculty of Forestry, University of Belgrade
Editorial Board:	Mirjana Todosijević, Full professor, Faculty of Forestry, University of Belgrade Tijana Vulević, Associate professor, Faculty of Forestry, University of Belgrade
Editorial Office:	University of Belgrade, Faculty of Forestry, Kneza Višeslava 1, 11030 Belgrade, Republic of Serbia Phone: +381 11 3053 990 Fax: +381 11 2545 485 e-mail: biblioteka@sfb.bg.ac.rs www.sfb.bg.ac.rs
Organizer:	University of Belgrade, Faculty of Forestry, Kneza Višeslava 1, 11030 Belgrade, Republic of Serbia
Technical Editor:	Katarina Lazarević
Printing:	Centre for Information Technologies of the Faculty of Forestry, Belgrade All rights of copying, reprinting and reproduction are reserved by the author 100 copies
ISBN:	978-86-7299-353-0

LOCAL ORGANIZING COMMITTEE

President of Organizing Committee: **Vukašin Milčanović** (Teaching Assistant, Faculty of Forestry, University of Belgrade)

Katarina Lazarević (Teaching Assistant, Faculty of Forestry, University of Belgrade)

Siniša Polovina (Teaching Assistant, Faculty of Forestry, University of Belgrade)

Natalija Momirović (Research Fellow, Institute of Forestry Belgrade)

Ranka Erić (Teaching Assistant, Faculty of Forestry, University of Belgrade)

Aleksandar Baumgertel (Teaching Assistant, Faculty of Forestry, University of Belgrade)

CONTENTS

SETOF CONFERENCE	
TOPIC 1. SOIL EROSION ASSESSMENT – MECHANISM/PROCESSES, MODELING, AND MAPPING	
TORRENTIAL FLOODS PREVENTION Ratko Ristić – keynote speaker	4
STUDY OF SOIL CHARACTERISTICS IN SEDELSKA RIVER WATERSHED Kameliya Petrova, Blagoy Koichev	5
UTILIZATION SUITABILITY INDEX (USI) OF TECHNOSOLS: CASE STUDY OF KAKANJ MUNICIPALITY Emira Hukić, Muhamed Bajrić, Hamid Čustović, Melisa Ljuša, Kristina Kovačević	6
RISK ASSESSMENT OF SOIL EROSION IN THE AREA OF THE SOURCE OF WATER SUPPLY RZAV Ana Stojanović, Tijana Vulević, Siniša Polovina, Nada Dragović, Mirjana Todosijević	7
MODIFICATION OF SOME PARAMETERS IN EPM AND RUSLE METHODOLOGY Ivan Blinkov, Aleksandar Trendafilov, Dusko Mukaetov, Ivan Minchev, Bozin Trendafilov	8
USE OF INEXPENSIVE UAV SYSTEMS FOR ENVIRONMENTAL APPLICATIONS (CASE STUDIES REVIEW) Ivan Minchev	10
EVALUATION OF VULNERABILITY TO SOIL EROSION USING GIS AND AHP CONSENSUS MODEL Milica Vranešević, Boško Blagojević, Atila Bezdán, Radovan Savić, Aleksandar Baumgertel	11
CHARACTERISTICS OF DYSTRIC CAMBISOL IN THE FOREST MANAGEMENT UNIT "LISINA" Ilija Čigoja, Marijana Kapović Solomun	12
DRIPPING RAINFALL SIMULATORS DESIGN FOR SOIL RESEARCH Vukašin Rončević, Nikola Živanović, Ratko Ristić, John van Boxel, Milica Kašanin-Grubin	13
EXPERIMENTAL RESEARCH OF SOIL RESISTANCE USING PORTABLE FIELD RAINFALL SIMULATOR Nikola Živanović, Vukašin Rončević, Stevan Ćorluka, Vladimir Čebašek, Milica Kašanin-Grubin, Snežana Štrbac, Nevena Antić	14
WATEM/SEDEM VERIFICATION BY SOIL TRUNCATION METHOD (MOSCOW REGION, RUSSIA) Daria Fomicheva, Nadezhda Ivanova, Andrey Zhidkin, Evgeniya Shamshurina	15
USING POLYMERS TO REDUCE WATER EROSION IN SOILS Ekaterina Dorogaya, Ruslan Suleymanov	16
APPLICATION OF THE RUSLE MODEL IN THE ASSESSMENT OF SOIL EROSION USING THE RCP 8.5 CLIMATE SCENARIO Siniša Polovina, Boris Radić, Ratko Ristić, Vukašin Milčanović, Nikola Živanović	17
SOIL EROSION RATES BASED ON ANATOMICAL CHANGES IN EXPOSED ROOTS – CASE STUDY FROM SOUTHWEST BULGARIA Dimitar Dimitrov, Eli Pavlova-Traykova	18
TOPIC 2. TORRENTIAL FLOODS – GENESIS, IMPACTS, RISKS	
THE METHOD OF CRITICAL POINTS AS A TOOL FOR IDENTIFYING FLOOD RISKS IN THE CZECH REPUBLIC Miroslav Dumbrovský	20
PRIORITIZATION OF TORRENTIAL FLOODS VULNERABLE WATERSHEDS UPSTREAM FROM THE "ROVNI" WATER RESERVOIR USING TOPSIS METHOD Natalija Momirović, Tomislav Stefanović, Tijana Vulević, Nada Dragović, Stanimir Kostadinov, Katarina Lazarević, Sonja Braunović	21

PRIORITIZATION OF TORRENTIAL FLOODS VULNERABLE WATERSHEDS UPSTREAM FROM THE "ROVNI" WATER RESERVOIR USING TOPSIS METHOD

Natalija MOMIROVIĆ^{1*}, Tomislav STEFANOVIĆ¹, Tijana VULEVIĆ², Nada DRAGOVIĆ²,
Stanimir KOSTADINOV², Katarina LAZAREVIĆ², Sonja BRAUNOVIĆ¹

¹Institute of Forestry, Belgrade, Serbia

²University of Belgrade, Faculty of Forestry, Belgrade, Serbia

*Correspondence: natalijamomirovic@rocketmail.com

Abstract: Torrential floods are widespread natural hazards causing a lot of negative effects on people and the environment. During torrential floods, sediment transport increases leading to the deposition of sediment particles in the reservoir which decreases its storage capacity. Water reservoirs represent the most sensitive water management facilities to the erosion processes. Controlling sediment yield and sediment transport in the watershed is of great importance in extending the life of reservoirs, reducing potential economic damages, and supporting sustainable community development. The purpose of this paper is prioritization of sub-watersheds upstream from the "Rovni" water reservoir for conservation measures using the TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution) method in order to extend the life of the reservoir. A total of 10 parameters were analyzed. Weights for each criterion (parameter) were calculated using the AHP (Analytic Hierarchy Process) method. The results showed that watersheds can be prioritized through geomorphological parameters complemented with land use for the selection of conservation measures. This will help decision-makers in better conservation planning of soil and water resources and thus in achieving sustainable development.

Keywords: soil erosion, torrential flood, water reservoir, TOPSIS, AHP

CIP-Katalogizacija u publikaciji

Народна библиотека Србије

551.311(048)(0.034.2)

631.459(048)(0.034.2)

SOIL Erosion and Torrential Flood: Prevention: Curriculum Development at the Universities of Western Balkan Countries Conference (2022; Goč)

Abstract book [Elektronski izvor] / SETOF [i. e. Soil Erosion and Torrential Flood]: Prevention: Curriculum Development at the Universities of Western Balkan Countries Conference, Goč, November 3rd, 2022; [organizer University of Belgrade, Faculty of Forestry, Belgrade, Republic of Serbia]; [editor in chief Nada Dragović]. - Belgrade: University, Faculty of Forestry, 2022 (Belgrade: Center for Information Technologies of the Faculty of Forestry). - 1 elektronski optički disk (CD-ROM); 12 cm

Sistemski zahtevi: Nisu navedeni. - Nasl. sa naslovne strane dokumenta. - Tiraž 100. - Preface / Nada Dragović.

ISBN 978-86-7299-353-0

а) Бујични токови -- Апстракти б) Ерозија земљишта -- Апстракти в) Заштита од ерозије -- Апстракти

COBISS.SR-ID 78999305