
Preface

‘The Soils of Serbia’ is part of the Springer international series on World Soils and brings together all the information that is available on soils in Serbia. It is the first publication to consolidate all the efforts of the many generations of Serbian soil scientists over 165 years of soil survey and also the first monograph on Serbian soils to be published in a foreign language. We believe that this remarkable, informative and timely work will provide future generations of soil scientists with great impetus.

In particular, this book is in homage to all the scientists who excelled in their research into soils in the former Yugoslavia, including Serbia, and is also a tribute to soil science on the 200th anniversary of the birth of the great Serbian botanist, Josif Pančić (1814–1888), who was the first professor of Natural History and Agriculture, the first rector at the Great School in Belgrade, and the founder of the Institutes of Mineralogy and Geology, Zoological and Botanical Departments, and the Experimental Botanical Gardens in Belgrade. Coincidentally, work on this book started in 2015—a year declared the International Year of Soils by the 68th UN General Assembly.

Integrated soil research began in the mid-nineteenth century (1849) when Prince Aleksandar Karadorđević founded the agricultural school, which was allocated agricultural and forest land in Topčider in Belgrade. Over time, it grew into the Institute for Soil Sciences. The period after World War I was important for soil research with the Faculty of Agriculture being founded in Zemun and soil research gaining new impetus, thanks to Aleksandar Stebut, professor of pedology. He contributed to the formation of a well-established soil science research team at the faculty in the first decade of the twentieth century. As a result, the first soil maps for the Kingdom of Yugoslavia (scale: 1:3,500,000) were published and later, in 1931, at the scale of 1:200,000. In the same period, Prof. Stebut proposed the first national Serbian soil classification system, and since then several soil classifications have been published. The last version of the Classification of Yugoslav Soils (Škorić et al. 1985) is still in use in all the republics of the former Yugoslavia. Antonović and Protić (1997) proposed a modified classification for soils in Serbia, suggesting the need for harmonization of the national classification with the FAO, WRB and ESD systems, based on the results of satellite and aerial images and additional investigations in some areas.

The most intensive period of development in the field of soil sciences in Yugoslavia was witnessed post-World War II, from 1945 onwards. Over the 60 years that followed, in spite of difficulties during the 1990s, the whole territory of Serbia was mapped at a scale of 1:50,000. The use of contemporary geographic information systems in soil surveying resulted in a new digitized soil map of Serbia, which was published by Mrvić et al. (2013). The current Soil Map of Serbia, with 20 mapping units, was created on the basis of 1:50,000 pedological maps, produced by the Institute of Soil Science (Belgrade), the Institute of Field and Vegetable Crops (Novi Sad), the ‘Jaroslav Černi’ Institute for the Development of Water Resources (Belgrade) and the Environmental Protection Agency of Ministry of Agriculture and Environmental Protection of Republic of Serbia.

Serbian soils have been investigated and presented in numerous monographs, with contributions by authors from the former Yugoslavia, as well as those from Serbia. In the

beginning, soil research focused on soil fertility and plant production, but in the 1970s, there was gradually a more holistic approach and research branched out into more specialized fields of soil survey. Advances in instrumental methods made a critical review of soil pollution possible, as well as the genesis of Serbian soils through pedogeochemical and pedomineralogical studies.

Soil is a limited but very valuable resource that attracts many human activities, such as agriculture, forestry, architecture and civil engineering. Hence, it is essential to understand the processes that lead to soil degradation, pollution and devastation. This will allow for the better management, protection and eventual remediation of this important resource in terms of modern land use and current soil utilization.

Today, soil degradation is a multifaceted problem of mining and industrial activity, and in some places even uncontrolled municipal and industrial waste disposal. It is intensified by water and aeolian erosion due to climate change and has caught researchers' attention more and more. More intensive land use and the expansion of urban areas and transport systems in Serbia have placed increased pressure on soil resources. Changes in agricultural soil management have also led to the depletion of organic matter in soil, as well as soil acidification and in some places even soil salinization. In short, there is an urgent need for better soil protection to safeguard this important resource and its capacity to support food production in future times of climate change.

The book contains 11 chapters that cover a variety of topics related to the comprehensive presentation of all the soils of Serbia. However, bearing in mind the factors that influence the occurrence and formation of soils, such as relief, climate, geological substrate and vegetation, considerable attention has been paid to the climatic, geological, mineralogical and vegetation characteristics of Serbia. Part of the book is also dedicated to the evermore marked problem of soil degradation due to various anthropogenic activities.

The authors hope that this book's contents will attract the interest of soil scientists, geologists, ecologists, students, soil managers and stakeholders, and that it will be of interest to the general public as well. We believe that this extensive book will contribute to the better understanding of the soil resources of Serbia, but will also be of use to an international professional audience as it is published in English.

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