



Content and Structure of the Book

This book summarizes and provides the outcomes of research results and recent studies related to soil erosion in Central Asia, where current and future trends in rainfall erosivity and erosivity density are the greatest, and discusses the potential impact on the environment across the region.

The book has six individual chapters as follows. The first chapter, “Introduction and Background on Rainfall Erosivity Processes and Soil Erosion”, provides an overview of background on rainfall erosivity processes and soil erosion. It considers, evaluates and analyses global climate scenario data, the predicted impact of climate change on rainfall erosion along with the rainfall erosion models.

The second chapter, “Natural Conditions of Central Asia”, provides information about the topography, climate conditions and description of soils in Central Asia. The third chapter, “Data Sources and Methodology”, analyses a detailed methodology on the RUSLE model, predicting the impact of climate change on precipitation erosion based on geographic information system GIS and remote sensing (RS) techniques to assess soil erosion.

The fourth chapter, “Projected Rainfall Erosivity and Soil Erosion in Central Asia”, provides analyses on projected changes on rainfall erosivity over Central Asia under RCPs 2.6 and 8.5 for two periods (2030s and 2070s).

The fifth chapter, “Spatio-temporal Variations and Projected Rainfall Erosivity and Erosivity Density in Kazakhstan”, analyses an annual trend of precipitation erosion in Kazakhstan for the period 1970–2017 and estimates long-term changes in annual precipitation erosion in Kazakhstan using past and future climate data and three GCM scenarios and two RCPs for three future periods.

[AU2](#) The sixth chapter “Conclusions and Recommendations”.