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Editors

Environmental Protection and Disaster Risks (EnviroRisks 2024)

Proceeding of the 3rd International Conference on Environmental Protection and Disaster Risks and 12th Annual CMDR COE Conference on Crisis Management and Disaster Response

Springer

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Preface

Environmental protection and disaster risk topics are challenging fields that the scientific world is trying to address. Earthquakes, floods, fires, droughts, blizzards, dust storms, natural releases of toxic gases and liquids, diseases, and other environmental variations affect hundreds of millions of people each year. Many disaster events are triggered by human activities. Examples that affect the environment and natural biodiversity are activities such as adding contaminants to air and water, changing land use, reducing and fragmenting the habitat of some species, introducing non-native species, and changing natural fluxes and cycles of energy and materials. The challenges associated with environmental protection today are multi-faceted and affected by many interacting factors. Usually, they cover various, often large, spatial scales, unfold on long temporal scales, and have global implications (e.g., carbon dynamics, nutrient cycles, and ocean acidification). Dealing with these problems will require multidisciplinary scientific approach. Actions in these directions have been taken more and more in the recent years by political bodies, NGOs, and scientific groups trying to find sustainable solutions for the future generations. Every point of view matters when it comes to our global home—The Planet Earth.

This volume is a result of discussions done during the 3rd International Conference on "Environmental Protection and Disaster Risks," Sofia, Bulgaria, 2024, held together with the 12th Annual CMDR COE Conference on Crisis Management and Disaster Response. It was a hybrid participation event in the period of June 4–6, 2024. The participants have agreed that the relevance of the conference topic and quality of the contributions have clearly suggested that a more comprehensive collection of extended contributions devoted to the area would be very welcome and would certainly bring value to a wider public in the field of environmental protection and disaster risks. The topics covered by this volume are: Disaster management, natural hazards, risk reduction, and building resilience; climate change challenges and security implications; resilience and business continuity management; high-performance computing, modeling, and simulations, GIS for environmental monitoring, and artificial intelligence.

November 2024

Nina Dobrinkova
Stefka Fidanova

Organization

EnviroRisks 2024 conference was held in Sofia, Bulgaria, from June 4 to 6, 2024.

Conference Co-organizers

Crisis Management and Disaster, Bulgaria
Response Centre of Excellence
National Geoinformation Center, Bulgaria
Institute of Information, and Bulgarian Academy of Sciences Communication Technologies
National Institute of Geophysics, Bulgarian Academy of Sciences Geodesy and Geography

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About This Book

Environmental protection and disaster risk topics are challenging fields that the scientific world is trying to address. Earthquakes, floods, fires, droughts, blizzards, dust storms, natural releases of toxic gases and liquids, diseases, and other environmental variations affect hundreds of millions of people each year. Many disaster events are triggered by human activities. Dealing with these problems will require a multidisciplinary scientific approach. Actions in these directions have been taken more and more in the recent years by political bodies, NGOs, and scientific groups trying to find sustainable solutions for the future generations. Every point of view matters when it comes to our global home—The Planet Earth.

The volume presents research findings and conclusions that have been developed as algorithms or new methods for solving problems in the fields of disaster management, natural hazards, risk reduction, and building resilience; climate change challenges and security implications; resilience and business continuity management; high-performance computing, modeling, and simulations, GIS for environmental monitoring, and artificial intelligence. The 3rd International Conference on Environmental Protection and Disaster Risks and the 12th Annual CMDR COE Conference on Crisis Management and Disaster Response held in the period of June 04–06, 2024, in Sofia, Bulgaria, brought together scientists who presented their findings in the fast-developing environmental management and disaster risk reduction fields.

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