



## 自然災害 - 地震、火山、地滑り Natural Hazards

**Earthquakes, Volcanoes, and Landslides**  
*Edited by Ramesh Singh, Chapman University  
& Darius Bartlett, Dept. of Geography, University College Cork*

2018年3月出版 506ページ ハードカバー ¥35,220

**Published by CRC Press ISBN 9781138054431**  
**85 Color Illus. 177 B/W Illus**

- ◇ 自然災害の物理的過程、そのモニタリング、損害マッピングに関する重要情報を提供します。
- ◇ 自然災害は陸地・海洋・大気の相互作用と強く関連していることを解説。
- ◇ 世界の自然災害においてリモートセンシングが果たしている役割について詳述。
- ◇ 数値モデリングおよび地理情報技術によって都市域の災害リスクについて考察。
- ◇ 自然災害の予測および管理を助けるためにはデータ解析法がいかに有効かを提示します。

This book addresses relevant aspects of earthquakes, volcanoes, and landslides from a scientific and applied engineering perspective. It aims to provide information on the physics and physical processes, indicators, monitoring, mitigation, and geology of these natural hazards. The book highlights the current state of research on these hazards, and deals primarily with their understanding, monitoring and prediction. There is emphasis on satellite monitoring and remote sensing technology used in prediction and assessments. The chapters presented in the book intend to stimulate thinking and further research in the field of natural hazards disaster management.

### Contents:

Introduction. Gujarat Earthquake: Ground Deformation. Gujarat Earthquake: Liquefaction. Earthquakes and Medical Complications. Utilization of satellite geophysical data as precursors for earthquake monitoring. Satellite radar imaging and its application to natural hazards. DEMETER Satellite and Detection of Earthquake Signals. TIR Anomaly as Earthquake Precursor. Stress Change and earthquake triggering by reservoirs: role of fluids. Earthquake Precursory Studies in India: An Integrated Approach. Geomorphic Features Associated with Erosion. Thar Desert: Source for Dust Storm. Coastal Subsidence: Causes, Mapping, and Monitoring. Subsidence Mapping Using InSAR. Earthquakes and Associated Landslides in Pakistan. Landslides in Jamaica: Distribution, Cause, Impact and Management. Landslides: Causes, Mapping, and Monitoring: Examples from Malaysia. Mapping and Monitoring of Landslides Using LiDAR. Radar Monitoring of Volcanic Activities. Active Volcanoes: Satellite Remote Sensing. Application of Thermal Remote Sensing to the Observation of Natural Hazards.

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## 関連書ご案内

No.NH18-502

### **10th International Symposium on the Conservation of Monuments in the Mediterranean Basin**

#### **Natural and Anthropogenic Hazards and Sustainable Preservation**

Edited by Maria Kouli & Fulvio Zezza

May 2018, 945 pages, Hardcover (Springer)

ISBN 9783319780924 **¥47,510**

This book addresses physical, chemical, and biological methods for the preservation of ancient artifacts. Advanced materials are required to preserve the Mediterranean belt's historic, artistic and archaeological relics against weathering, pollution, natural risks and anthropogenic hazards.

Based upon the 10th International Symposium on the Conservation of Monuments in the Mediterranean Basin, this book provides a forum for international engineers, architects, archaeologists, conservators, geologists, conservators, archaeologists, art historians and scientists in the fields of physics, chemistry and biology to discuss principles, methods, and solutions for the preservation of global historical artifacts.

No.NH18-503

### **The 1940 Vrancea Earthquake. Issues, Insights and Lessons Learnt**

#### **Proceedings of the Symposium Commemorating 75 Years from November 10, 1940 Vrancea Earthquake**

(Series: Springer Natural Hazards)

Edited by Radu Vacareanu & Constantin Ionescu

March 2016, 536 pages, Hardcover (Springer)

ISBN 9783319298436 **¥49,670**

These proceedings include most of the available information on this major seismic event and its consequences. With an estimated moment magnitude of 7.7 and a heavy toll in terms of human and economic losses, it ranks as the largest intermediate-depth earthquake in Europe in the twentieth century. Nevertheless, because of the difficult conditions in the 1940s, the lessons learnt after the Vrancea earthquake were not extensively shared with the international scientific community and thus, this book fills a gap in the literature discussing the knowledge acquired after major disasters.

Past experience together with current understanding of the 1940 Vrancea earthquake are presented along with the latest information on Romanian seismicity, seismic hazard and risk assessment, and seismic evaluation and rehabilitation of buildings and structures. Moreover, it includes excerpts from Romanian post-disaster reports and textbooks concerning the earthquake.

No.NH18-504

### **The 2011 Japan Earthquake and Tsunami**

#### **Reconstruction and Restoration: Insights and Assessment after 5 Years**

(Advances in Natural and Technological Hazards Research, Vol 47)

Edited by Vicente Santiago-Fandiño, Shinji Sato, Norio Maki, & Kanako Iuchi

Aug 2017, 485 pages, Hardcover (Springer)

ISBN 9783319586908 **¥36,710**

This book covers the restoration and reconstruction process and activities undertaken in Japan in the first five years since the 2011 Earthquake and Tsunami – a period widely considered to be the most intensive reconstruction phase within the 10-year restoration plan drawn up by the Japanese Government.

The respective chapters explore technical, scientific, social and non-scientific (policy-related) aspects, including: reconstruction and restoration policies, infrastructure and designs for tsunami coastal defence, resilient urban areas and affected communities, housing and relocation schemes, disaster mitigation and evacuation measures, reactivation of the economy, revitalization of fisheries and coastal agriculture, and industry and tourism. The book also illustrates some of the achievements and failures in a broad range of projects and initiatives intended to address the above-mentioned issues, making it particularly relevant for experts, decision makers, students and other interested scholars.

No.NH18-505

### **Advancing Culture of Living with Landslides**

#### **Vol 1: ISDR-ICL Sendai Partnerships 2015-2025**

Edited by Kyoji Sassa, Matjaž Mikoš, & Yueping Yin

June 2017, 586 pages, Hardcover (Springer)

ISBN 9783319535005 **¥10,790**

This volume contains peer-reviewed papers from the Fourth World Landslide Forum organized by the International Consortium on Landslides (ICL), the Global Promotion Committee of the International Programme on Landslides (IPL), University of Ljubljana (UL) and Geological Survey of Slovenia in Ljubljana, Slovenia from May 29 to June 2, 2017. The complete collection of papers from the Forum is published in five full-color volumes. This first volume contains the following:

- Three forum lectures;
- Background and Content of the Sendai Partnerships 2015–2025;
- Contribution from the signatory organizations of the Sendai Partnerships;
- Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools (LIT T);
- Progress of the World Report on Landslides (WRL);
- International Programme on Landslides (IPL): Objects, History and List of WCoE/IPL projects;
- UNESCO-KU-ICL UNITWIN Network supporting IPL;
- Landslides: Journal of International Consortium on Landslides;
- International Programme on Landslides (IPL): WCoEs and IPL Projects;
- Landslides and Society.

No.NH18-506

### **Advancing Culture of Living with Landslides**

#### **Vol 2 Advances in Landslide Science**

Edited by Matjaz Mikos, Binod Tiwari, Yueping Yin, & Kyoji Sassa

July 2017, 1197 pages, Hardcover (Springer)

ISBN 9783319534978 **¥86,390**

This volume contains peer-reviewed papers from the Fourth World Landslide Forum organized by the International Consortium on Landslides (ICL), the Global Promotion Committee of the International Programme on Landslides (IPL), University of Ljubljana (UL) and Geological Survey of Slovenia in Ljubljana, Slovenia from May 29 to June 2, 2017. The complete collection of papers from the Forum is published in five full-color volumes. This second volume contains the following:

- Two keynote lectures;
- Landslide Field Recognition and Identification: Remote Sensing Techniques, Field Techniques;
- Landslide Investigation: Field Investigations, Laboratory Testing;
- Landslide Modeling: Landslide Mechanics, Simulation Models;
- Landslide Hazard Risk Assessment and Prediction: Landslide Inventories and Susceptibility, Hazard Mapping Methods, Damage Potential.

No.NH18-507

## **Advancing Culture of Living with Landslides**

### **Vol 3: Advances in Landslide Technology**

Edited by Matjaž Mikoš, Željko Arbanas, Yueping Yin, & Kyoji Sassa

June 2017, 621 pages, Hardcover (Springer)

ISBN 9783319534862 **¥60,470**

This volume contains peer-reviewed papers from the Fourth World Landslide Forum organized by the International Consortium on Landslides (ICL), the Global Promotion Committee of the International Programme on Landslides (IPL), University of Ljubljana (UL) and Geological Survey of Slovenia in Ljubljana, Slovenia from May 29 to June 2, 2017. The complete collection of papers from the Forum is published in five full-color volumes. This third volume contains the following:

- One keynote lecture;
- Landslide Monitoring and Warning: Monitoring Techniques and Technologies;
- Early Warning Systems;
- Landslide Disasters and Relief: Case Studies, Emergency Measures, First Aid;
- Civil Protection Measures;
- Landslide Mitigation, Remediation and Stabilization: Landslide Protection Works;
- Landslide Stabilization And Remediation Measures, Landslide Non-Structural Measures.

No.NH18-508

## **Advancing Culture of Living with Landslides**

### **Vol 4: Diversity of Landslide Forms**

Edited by Matjaž Mikoš, Nicola Casagli, & Yueping Yin

June 2017, 707 pages, Hardcover (Springer)

ISBN 9783319534848 **¥60,470**

This volume contains peer-reviewed papers from the Fourth World Landslide Forum organized by the International Consortium on Landslides (ICL), the Global Promotion Committee of the International Programme on Landslides (IPL), University of Ljubljana (UL) and Geological Survey of Slovenia in Ljubljana, Slovenia from May 29 to June 2, 2017. The complete collection of papers from the Forum is published in five full-color volumes. This fourth volume contains the following: • Earthquake-Induced Landslides; • Rainfall-Induced Landslides; • Rapid Landslides: Debris Flows, Mudflows, Rapid Debris-Slides; • Landslides in Rocks and Complex Landslides: Rock Topples, Rock Falls, Rock Slides, Complex Landslides; • Landslides and Other Natural Hazards: Floods, Droughts, Wildfires, Tsunamis; • Volcanoes.

No.NH18-509

## **Advancing Culture of Living with Landslides**

### **Vol 5: Landslides in Different Environments**

Edited by Matjaž Mikoš, Vít Vilímek, Yueping Yin, & Kyoji Sassa

July 2017, 557 pages, Hardcover (Springer)

ISBN 9783319534824 **¥49,670**

This volume contains peer-reviewed papers from the Fourth World Landslide Forum organized by the International Consortium on Landslides (ICL), the Global Promotion Committee of the International Programme on Landslides (IPL), University of Ljubljana (UL) and Geological Survey of Slovenia in Ljubljana, Slovenia from May 29 to June 2, 2017. The complete collection of papers from the Forum is published in five full-color volumes. This fifth volume contains the following:

- Landslide Interactions with the Built Environment;
- Landslides in Natural Environment;
- Landslides and Water;
- Landslides as Environmental Change Proxies: Looking at the

Past; • Student Papers.

No.NH18-510

## **Coastal and Marine Hazards, Risks, and Disasters**

Edited by John F. Shroder, Jean Ellis, & Douglas J. Sherman

Nov 2018, 592 pages, Paperback (Academic Pr.)

ISBN 9780128101254 **¥26,400**

No.NH18-511

## **Developments in Earthquake Geotechnics**

(Geotechnical, Geological and Earthquake Engineering, Vol 43)

Edited by Susumu Iai

Oct 2017, 414 pages, Hardcover (Springer)

ISBN 9783319620688 **¥32,390**

This book provides a timely review and summary of the recent advances in state-of-the-art earthquake geotechnics. The earthquake disasters in Japan and New Zealand in 2011 prompted the urgent need for the state-of-the-art earthquake geotechnics to be put into practice for disaster mitigation. By reviewing the developments in earthquake geotechnics over more than half a century, this unique book enables readers to obtain solid grasp of this discipline.

It is based on contributions from 18 leading international experts, who met in Kyoto in June 2016 to discuss a range of issues related to the developments of earthquake geotechnics. It comprehensively discusses various areas of earthquake geotechnics, including performance-based seismic design; the evolution of geotechnical seismic response analysis from 1964-2015; countermeasures against liquefaction; solutions for nuclear power plant disasters; the tsunami-caused inundation of the Tokyo metropolitan area; and a series of state-of-the-art effective stress analyses of case histories from the 2011 East Japan Earthquake.

The book is of interest to advanced level researchers and practicing engineers in the field of earthquake geotechnics.

No.NH18-512

## **Disaster Risk Governance in India and Cross Cutting Issues**

(Series: Disaster Risk Reduction)

Edited by Indrajit Pal & Rajib Shaw

Aug 2017, 413 pages, Hardcover (Springer)

ISBN 9789811033094 **¥32,390**

This book provides an analytical discussion of the status of disaster risk reduction and governance in an Indian context, drawing examples and lessons from the output of the national and regional level programs and projects and from other relevant experiences in the country. Different types of disasters faced by Indian states are covered, including geophysical and hydrometeorological hazards. The book incorporates and draws upon some of the key lessons from the pre-disaster phase through the disaster phase and finally to the post-disaster phase, thus establishing an effective framework in the form of key lessons learned.

The rich content of the book is based on contributions from various stakeholders, from academicians and practitioners to decision makers and nongovernment organizations related to disaster risk management systems in an Indian context. Special emphasis is given to analyzing field experiences from academic perspectives and pointing out key issues along with the relevance of risk governance of disaster risk reduction. The book works as a comprehensive reference in disaster risk governance for disaster managers in India and

other countries.

The book has 19 chapters organized into four parts. Part I provides the outline and basics of disaster risk governance perspectives at the national level with supporting examples from a global point of view. Part II specifically emphasizes the detailed perspectives on risk governance at the regional and local levels. Part III is devoted to approaches and issues of disaster risk governance and development at various levels, stressing the practices and clear examples of disaster risk governance, policy options, institutional organization, risk-reduction strategies, and key lessons learned. Finally, Part IV highlights risk reduction and cross-cutting issues, focusing on risk mitigation and scientific intervention for disaster risk reduction.

No.NH18-513

## **Exploring Natural Hazards A Case Study Approach**

Edited by Darius Bartlett, & Ramesh Singh  
Aug 2018, 358 pages, Hardback (Chapman and Hall/CRC) ISBN 9781138054424 **¥35,220**

This book addresses natural hazards from a scientific and applied engineering perspective. It provides information on the physics and physical processes of a range of natural phenomena that pose hazards to human society, including tropical cyclones, droughts, floods, and lightning. It highlights the current state of research on hazards discussed and deals primarily with their understanding, monitoring, and risk mitigation. Emphasis is on prediction techniques and accuracy, assessments and recent improvements in early warning systems. Using examples and case studies from around the world, the authors present environmental issues in a way that is accessible to readers working in the field.

No.NH18-514

## **Flood Modeling, Prediction and Mitigation**

by Zekâi Şen  
Nov 2017, 422 pages, Hardcover (Springer)  
ISBN 9783319523552 **¥32,390**

This book draws on the author's professional experience and expertise in humid and arid regions to familiarize readers with the basic scientific philosophy and methods regarding floods and their impacts on human life and property.

The basis of each model, algorithm and calculation methodology is presented, together with logical and analytical strategies. Global warming and climate change trends are addressed, while flood risk assessments, vulnerability, preventive and mitigation procedures are explained systematically, helping readers apply them in a rational and effective manner.

Lastly, real-world project applications are highlighted in each section, ensuring readers grasp not only the theoretical aspects but also their concrete implementation.

No.NH18-515

## **Global Changes and Natural Disaster Management**

### **Geo-information Technologies**

Edited by Saied Pirasteh & Jonathan Li  
April 2017, 228 pages, Hardcover (Springer)  
ISBN 9783319518435 **¥36,710**

This book presents ongoing research and ideas related to earth observations and global change, natural hazards and disaster management studies, with respect to geospatial information technology, remote sensing, and global navigation satellite systems. Readers will discover uses of advanced geospatial tools, spatiotemporal models, and earth observation

systems. Chapters identify the international aspects of the coupled social, land and climate systems in global change studies, and consider such global challenges as agriculture monitoring, the smart city, and risk assessment.

The work presented here has been carefully selected, edited, and peer reviewed in order to advance research and development, as well as to encourage innovative applications of Geomatics technologies in global change studies. The book will appeal not only to academicians, but also to professionals, politicians and decision makers who wish to learn from the very latest and most innovative, quality research in this area of global change and natural disaster management.

Contributions are drawn from revised submissions based on state-of-the-art papers from the 7th GiT4NDM - 5th EOGC, 2015 event.

No.NH18-516

## **Handbook of Disaster Risk Reduction & Management**

Edited by Christian N Madu & Chu-Hua Kuei  
Aug 2017, 1000 pages, Hardcover (World Scientific)  
ISBN 9789813207943 **¥50,690**

Climate change is increasingly of great concern to the world community. The earth has witnessed the buildup of greenhouse gases (GHG) in the atmosphere, changes in biodiversity, and more occurrences of natural disasters. Recently, scientists have begun to shift their emphasis away from curbing carbon dioxide emission to adapting to carbon dioxide emission. The increase in natural disasters around the world is unprecedented in earth's history and these disasters are often associated to climate changes. Many nations along the coastal lines are threatened by massive floods and tsunamis. Earthquakes are increasing in intensity and erosion and droughts are problems in many parts of the developing countries. This book is therefore to investigate ways to prepare and effectively manage these disasters and possibly reduce their impacts. The focus is on mitigation strategies and policies that will help to reduce the impacts of natural disasters. The book takes an in-depth look at climate change and its association to socio-economic development and cultures especially in vulnerable communities; and investigates how communities can develop resilience to disasters. A balanced and a multiple perspective approach to manage the risks associated with natural disasters is offered by engaging authors from the entire globe to proffer solutions.

No.NH18-517

## **Handbook of Seismic Risk Analysis and Management of Civil Infrastructure Systems**

(Series: Woodhead Publishing Series in Civil and Structural Engineering)

Edited by S Tesfamariam & K Goda  
Nov 2018, 912 pages, Paperback (Woodhead Publishing) ISBN 9780081015667 **¥65,130**

Earthquakes represent a major risk to buildings, bridges and other civil infrastructure systems, causing catastrophic loss to modern society. Handbook of seismic risk analysis and management of civil infrastructure systems reviews the state of the art in the seismic risk analysis and management of civil infrastructure systems.

Part one reviews research in the quantification of uncertainties in ground motion and seismic hazard assessment. Part two discusses methodologies in seismic risk analysis and management, whilst parts three and four cover the application of seismic risk assessment to buildings, bridges, pipelines and other civil infrastructure systems. Part five also discusses methods for quantifying dependency between different infrastructure systems. The final part of the book considers

ways of assessing financial and other losses from earthquake damage as well as setting insurance rates. Handbook of seismic risk analysis and management of civil infrastructure systems is an invaluable guide for professionals requiring understanding of the impact of earthquakes on buildings and lifelines, and the seismic risk assessment and management of buildings, bridges and transportation. It also provides a comprehensive overview of seismic risk analysis for researchers and engineers within these fields.

No.NH18-518

## **Hazards, Risks, and Disasters in Society**

Edited by John F. Shroder, Andrew E. Collins, & Jones Samantha

Nov 2018, 424 pages, Paperback (Academic Pr.)

ISBN 9780128101544 **¥26,400**

*Hazards, Risks, and Disasters in Society* provides analyses of environmentally related catastrophes within society in historical, political and economic contexts. Personal and corporate culture mediates how people may become more vulnerable or resilient to hazard exposure. Societies that strengthen themselves, or are strengthened, mitigate decline and resultant further exposure to what are largely human induced risks of environmental, social and economic degradation. This book outlines why it is important to explore in more depth the relationships between environmental hazards, risk and disasters in society. It presents challenges presented by mainstream and non-mainstream approaches to the human side of disaster studies.

No.NH18-519

## **Landslides: Theory, Practice and Modelling**

(Advances in Natural and Technological Hazards Research, Vol 50)

Edited by S.P. Pradhan, V. Vishal, & T.N. Singh  
June 2018, 313 pages, Hardcover (Springer)

ISBN 9783319773766 **¥28,070**

This book, with contributions from international landslide experts, presents in-depth knowledge of theories, practices, and modern numerical techniques for landslide analysis. Landslides are a reoccurring problem across the world and need to be properly studied for their mitigation and control. Due to increased natural and anthropogenic activities, chances of landslide occurrence and associated hazards have increased. The book focuses on landslide dynamics, mechanisms and processes along with hazard mitigation using geo-engineering, structural, geophysical and numerical tools. The book contains a wealth of the latest information on all aspects of theory, practices and modelling tools and techniques involved in prediction, prevention, monitoring, mitigation and risk analysis of landslide hazards. This book will bring the reader up to date on the latest trends in landslide studies and will help planners, engineers, scientists and researchers working on landslide engineering.

No.NH18-520

## **Landslide Dynamics**

**ISDR-ICL Landslide Interactive Teaching Tools: Vol 1: Fundamentals, Mapping and Monitoring**

Edited by Kyoji Sassa, Fausto Guzzetti, Hiromitsu Yamagishi, Zeljko Arbanas, Nicola Casagli, Mauri McSaveney, & Khang Dang

Dec 2017, 604 pages, Hardcover (Springer)

ISBN 9783319577739 **¥43,190**

This interactive book presents comprehensive information on

the fundamentals of landslide types and dynamics, while also providing a set of PPT, PDF, and text tools for education and capacity development. As the core activity of the Sendai Partnerships, the International Consortium of Landslides has created this two-volume work, which will be regularly updated and improved over the coming years, based on responses from users and lessons learned during its application.

No.NH18-521

## **Landslide Dynamics**

**ISDR-ICL Landslide Interactive Teaching Tools: Vol 2: Testing, Risk Management and Country Practices**

Edited by Kyoji Sassa, Binod Tiwari, & Ko-Fei Liu

Feb 2018, 836 pages, Hardcover (Springer)

ISBN 9783319577760 **¥51,620**

This interactive book presents comprehensive information on the fundamentals of landslide types and dynamics, while also providing a set of PPT, PDF, and text tools for education and capacity development. It is the second part of a two-volume work created as the core activity of the Sendai Partnerships, the International Consortium of Landslides. The book will be regularly updated and improved over the coming years, based on responses from users and lessons learned during its application.

No.NH18-522

## **Landslides in Sensitive Clays From Research to Implementation**

(Advances in Natural and Technological Hazards Research, Vol 46)

Edited by Vikas Thakur, Jean-Sébastien L'Heureux, & Ariane Locat

June 2017, 603 pages, Hardcover (Springer)

ISBN 9783319564869 **¥38,870**

This book gathers the most recent scientific research on the geological, geotechnical and geophysical aspects of slope failure in sensitive clays. Gathering contributions by international experts, it focuses on understanding the complete and practical spectrum of challenges presented by landslides in such complex materials. Based on sound and validated research results, the book also presents several recommendations that could be implemented in the guidelines or code-of-practice. These recommendations cover topics including the characterization and behavior of sensitive clays; the pre-failure, failure and post-failure stages of sensitive clays; mapping and identification methods; climate change; hazard assessment; and risk management.

Sensitive clays are known for their potential for causing large landslides, which pose a serious risk to human lives, infrastructure, and surrounding ecosystems within their reach. This has been demonstrated by the recent catastrophic landslides in e.g. Sørumsund (2016), Skjeggstad (2015), Statland (2014), Byneset (2012), St-Jude (2010), Lyngen (2010) and Kattmarka (2009). The 2015 collapse of the Skjeggstad Bridge in Norway – which was due to a landslide in sensitive clay – alone costs millions of dollars in repairs. Recently, efforts are being made to increase society's ability to cope with such landslide hazards. Geoscientists are now expected to provide input to the agencies responsible for landslide-risk preparedness. In other words, geoscientists' role is not only to act as technologists to establish new theories, but also to go the extra mile to implement them in practice, so as to find meaningful solutions to geotechnical problems.

No.NH18-523

## **Laser Scanning Applications in Landslide Assessment**

Edited by Biswajeet Pradhan  
May 2017, 359 pages, Hardcover (Springer)  
ISBN 9783319553412 **¥36,710**

This book is related to various applications of laser scanning in landslide assessment. Landslide detection approaches, susceptibility, hazard, vulnerability assessment and various modeling techniques are presented. Optimization of landslide conditioning parameters and use of heuristic, statistical, data mining approaches, their advantages and their relationship with landslide risk assessment are discussed in detail. The book contains scanning data in tropical forests; its indicators, assessment, modeling and implementation. Additionally, debris flow modeling and analysis including source of debris flow identification and rockfall hazard assessment are also presented.

No.NH18-524

## **Living Under the Threat of Earthquakes** **Short and Long-term Management of Earthquake Risks and Damage Prevention in Nepal**

(Series: Springer Natural Hazards)  
Edited by Jörn H. Kruhl, Rameshwar Adhikari, & Uwe E. Dorka  
Nov 2017, 326 pages, Hardcover (Springer)  
ISBN 9783319680439 **¥47,510**

This book addresses earthquakes, with a special focus on the Ghorka earthquake, which struck parts of central Nepal in April 2015. Drawing on this disastrous event, it closely examines various aspects of earthquakes in contributions prepared by international experts. The topics covered include: the geological and geophysical background of seismicity; a detailed inventory of the damage done by the earthquake; effective damage prevention through earthquake-safe buildings and settlements; restoration options for world-heritage buildings; strategies for providing technical and medical relief and, lastly, questions associated with public life and economy in a high-risk seismic zone. Combining perspectives from various fields, the book presents the state of the art in all earthquake-related fields and outlines future approaches to risk identification, damage prevention, and disaster management in all parts of society, administration, and politics in Nepal. Beyond the specific disaster in Nepal, the findings presented here will have broader implications for how societies can best deal with disasters.

No.NH18-525

## **Moment Tensor Solutions** **A Useful Tool for Seismotectonics**

(Series: Springer Natural Hazards)  
Edited by Sebastiano D'Amico  
July 2018, 752 pages, Hardcover (Springer)  
ISBN 9783319773582 **¥43,190**

This book first focuses on the explanation of the theory about focal mechanisms and moment tensor solutions and their role in the modern seismology. The second part of the book compiles several state-of-the-art case studies in different seismotectonic settings of the planet. The assessment of seismic hazard and the reduction of losses due to future earthquakes is probably the most important contribution of seismology to society. In this regard, the understanding of reliable determination seismic source and of its uncertainty can play a key role in contributing to geodynamic investigation, seismic hazard assessment and earthquake studies. In the last two decades, the use of waveforms recorded at local-to-regional distances has increased considerably. Waveform modeling has been used also to estimate faulting parameters of small-to-moderate sized earthquakes.

No.NH18-526

## **Natural Hazards and Risk Research in Russia**

(Series: Innovation and Discovery in Russian Science and Engineering)  
Edited by Valentina Svalova  
Aug 2018, 376 pages, Hardcover (Springer)  
ISBN 9783319918327 **¥28,070**

This book presents natural hazards and risk—one of the fastest-growing and most relevant fields of pure and applied research within geosciences and environmental engineering—from a multi-disciplinary perspective. It examines principles, concepts, and paradigms derived from diverse research studies, and explains operational terms, materials, tools, techniques, and methods used in practice. Collecting the expertise of more than 60 scientists and expert practitioners from across Russia, this authoritative volume is ideal for the diverse range of researchers and professionals concerned with the interaction of natural hazards and the built environment. Maximizes reader understanding of natural hazards research and risk analysis in Russia; Explains relevance and application of primary tools and practices in risk study; Clarifies similarities and differences in fundamental concepts and principles across the discipline; Directs geologists, engineers, architects, planners, teachers, students, and others to authoritative sources.

No.NH18-527

## **Nisyros Volcano** **The Kos - Yali - Nisyros Volcanic Field**

(Series: Active Volcanoes of the World)  
Edited by Volker Jörg Dietrich & Evangelos Lagios  
Aug 2017, 339 pages, Hardcover (Springer)  
ISBN 9783319554587 **¥32,390**

This book presents the first compilation of scientific research on the island of Nisyros, involving various geoscientific disciplines. Presenting a wealth of illustrations and maps, including a geological map of the volcano, it also provides valuable insights into the geothermal potential of Greece.

No.NH18-528

## **Observing the Volcano World: Volcano Crisis Communication**

(Advances in Volcanology)  
Edited by Carina Fearnley, Deanne Bird, Katharine Haynes, Bill McGuire, & Gill Jolly  
June 2018, 773 pages, Hardcover (Springer)  
ISBN 9783319440958 **¥31,510**

This book provides a comprehensive overview of volcanic crisis research, the goal being to establish ways of successfully applying volcanology in practice and to identify areas that need to be addressed for future progress. It shows how volcano crises are managed in practice, and helps to establish best practices. Consequently the book brings together authors from all over the globe who work with volcanoes, ranging from observatory volcanologists, disaster practitioners and government officials to NGO-based and government practitioners to address three key aspects of volcanic crises.

First, the book explores the unique nature of volcanic hazards, which makes them a particularly challenging threat to forecast and manage, due in part to their varying spatial and temporal characteristics. Second, it presents lessons learned on how to best manage volcanic events based on a number of crises that have shaped our understanding of volcanic hazards and crises management. Third, it discusses the diverse and wide-ranging aspects of communication involved in crises, which merge old

practices and new technologies to accommodate an increasingly challenging and globalised world. The information and insights presented here are essential to tapping established knowledge, moving towards more robust volcanic crises management, and understanding how the volcanic world is perceived from a range of standpoints and contexts around the globe.

No.NH18-529

**Proceedings of International Conference on Remote Sensing for Disaster Management: Issues and Challenges in Disaster Management**  
(Springer Series in Geomechanics and Geoenvironment)

Edited by Peddada Jagadeeswara Rao, Kakani Nageswara Rao, & Sumiko Kubo  
June 2018, 636 pages, Hardcover (Springer)  
ISBN 9783319772752 ¥53,990

The natural disasters are the killer agents which can/can't be predicted even though we have modern technology. Every year, in one place or another, disasters striking which is devastating the area and surroundings, leading to ecological disruption besides huge loss of life and property. India is vulnerable to cyclones, landslides/avalanches, earthquakes, floods, droughts, forest fires, epidemics, etc. The 5700-km long coast of India, with its dense population is vulnerable to cyclones/low depressions, tsunamis, etc. The 2400-km long rugged Himalayan terrain is vulnerable to landslides, avalanches and earthquakes. India is not only vulnerable to natural disasters, it is also experiencing industrial accidents. The Bhopal Gas tragedy is one of the major man-made disasters in the world. The state of Andhra Pradesh has 970-km long coastline with two major rivers, etc. The conference is conducted in Visakhapatnam, is famous for industries and tourism. Recently, several industrial accidents took place, besides major natural disasters like Hud-Hud, etc. Disaster management shall be implemented from the grass root level in vulnerable areas to improve the capacity building, so as to minimize the losses. The capacity building coupled with technology results in reduction of loss of life and property.

No.NH18-530

**Proceedings of GeoShanghai 2018 International Conference: Geoenvironment and Geohazard**

Edited by Arvin Farid & Hongxin Chen  
July 2018, 597 pages, Hardcover (Springer)  
ISBN 9789811301278 ¥43,190

This book is the seventh volume of the proceedings of the 4th GeoShanghai International Conference that was held on May 27 - 30, 2018. This volume, entitled "Geoenvironment and Geohazards", presents the recent advances and technology in geoenvironmental engineering and geohazards. The state-of-the-art theories, methodologies and findings in the related topics are included. This book may benefit researchers and scientists from the academic fields of soil & rock mechanics, geotechnical engineering, geoenvironmental engineering, transportation engineering, geology, mining and energy, as well as practical engineers from the industry.

No.NH18-531

**Recent Advances in Earthquake Engineering in Europe**  
**16th European Conference on Earthquake**

**Engineering-Thessaloniki 2018**

(Series: Geotechnical, Geological and Earthquake Engineering, Vol 45)

Edited by Kyriazis Pitilakis

April 2018, 691 pages, Hardcover (Springer)

ISBN 9783319757407 ¥36,710

This book is a collection of invited lectures including the 5th Nicholas Ambraseys distinguished lecture, four keynote lectures and twenty-two thematic lectures presented at the 16th European Conference on Earthquake Engineering, held in Thessaloniki, Greece, in June 2018. The lectures are put into chapters written by the most prominent internationally recognized academics, scientists, engineers and researchers in Europe. They address a comprehensive collection of state-of-the-art and cutting-edge topics in earthquake engineering, engineering seismology and seismic risk assessment and management.

The book is of interest to civil engineers, engineering seismologists, seismic risk managers, policymakers and consulting companies covering a wide spectrum of fields from geotechnical and structural earthquake engineering, to engineering seismology and seismic risk assessment and management. Scientists, professional engineers, researchers, civil protection policymakers and students interested in the seismic design of civil engineering structures and infrastructures, hazard and risk assessment, seismic mitigation policies and strategies, will find in this book not only the most recent advances in the state-of-the-art, but also new ideas on future earthquake engineering and resilient design of structures.

No.NH18-532

**The Routledge Handbook of Disaster Risk Reduction Including Climate Change Adaptation**

Edited by Ilan Kelman, Jessica Mercer, & JC Gaillard  
April 2017, 528 pages, Hardback (Routledge)  
ISBN 9781138924567 ¥41,520

The Routledge Handbook of Disaster Risk Reduction Including Climate Change Adaptation aims to provide an overview and critique of the current state of knowledge, policy, and practice, encouraging engagement, and reflection on bringing the two sectors together. This long-awaited and welcomed volume makes a compelling case that a common research agenda and a series of practical policies and policy recommendations can and should be put in place.

No.NH18-533

**Seismic Hazard and Risk Assessment**

**Updated Overview with Emphasis on Romania**  
(Series: Springer Natural Hazards)

Edited by Radu Vacareanu & Constantin Ionescu  
April 2018, 544 pages, Hardcover (Springer)

ISBN 9783319747231 ¥38,870

This book contains the best contributions presented during the 6th National Conference on Earthquake Engineering and the 2nd National Conference on Earthquake Engineering and Seismology - 6CNIS & 2CNIS, that took place on June 14-17, 2017 in Bucharest - Romania, at the Romanian Academy and Technical University of Civil Engineering of Bucharest. The book offers an updated overview of seismic hazard and risk assessment activities, with an emphasis on recent developments in Romania, a very challenging case study because of its peculiar intermediate-depth seismicity and evolutive code-compliant building stock. Moreover, the book collects input of renowned scientists and professionals from Germany, Greece, Italy, Japan, Netherlands, Portugal,

Romania, Spain, Turkey and United Kingdom.

The content of the book focuses on seismicity of Romania, geotechnical earthquake engineering, structural analysis and seismic design regulations, innovative solutions for seismic protection of building structures, seismic risk evaluation, resilience-based assessment of structures and management of emergency situations. The sub-chapters consist of the best papers of 6CNIS & 2CNISS selected by the International Advisory and Scientific Committees.

The book is targeted at researchers and experts in seismic hazard and risk, evaluation and rehabilitation of buildings and structures, insurers and re-insurers, and decision makers in the field of emergency situations and recovery activities.

No.NH18-534

## **Urban Disaster Resilience and Security**

### **Addressing Risks in Societies**

(The Urban Book Series)

Edited by Alexander Fekete & Frank Fiedrich

Dec 2017, 518 pages, Hardcover (Springer)

ISBN 9783319686059 **¥43,190**

This edited book investigates the interrelations of disaster impacts, resilience and security in an urban context. Urban as a term captures megacities, cities, and generally, human settlements, that are characterised by concentration of quantifiable and non-quantifiable subjects, objects and value attributions to them. The scope is to narrow down resilience from an all-encompassing concept to applied ways of scientifically attempting to 'measure' this type of disaster related resilience. 28 chapters in this book reflect opportunities and doubts of the disaster risk science community regarding this 'measurability'. Therefore, examples utilising both quantitative and qualitative approaches are juxtaposed. This book concentrates on features that are distinct characteristics of resilience, how they can be measured and in what sense they are different to vulnerability and risk parameters. Case studies in 11 countries either use a hypothetical pre-event estimation of resilience or are addressing a 'revealed resilience' evident and documented after an event. Such information can be helpful to identify benchmarks or margins of impact magnitudes and related recovery times, volumes and qualities of affected populations and infrastructure.

No.NH18-535

## **Using Space Techniques and GIS to Identify Vulnerable Areas to Natural Hazards along the Jeddah-Rabigh Region, Saudi Arabia**

(Series: Environmental Science, Engineering and Technology)

by Mashael M. Al Saud

March 2018, 286 pages, Hardcover (Nova Science)

ISBN 9781536133134 **¥30,800**

Natural hazards have become the foremost geo-environmental issue in many regions worldwide, since rarely a year goes by without any catastrophic event that harms both urban structure and human life. These natural hazards are exacerbated by a number of physical and demographic factors and variables. The most common aspects of these hazards are floods and their related processes of soil and rock erosion of different types, landslides, volcanic activities, seismic movements of different magnitudes, as well as coastal erosion and sea floods on coastal zones. It is extremely dangerous to have all these natural catastrophic aspects within one region, which makes it susceptible to natural disturbances. A typical example is the area located along the Western coast of Saudi Arabia, between Jeddah and Rabigh. The area comprises mountain chains of igneous rocks and complexes with extensive rock

structures, including volcanic dykes and fault systems, which are susceptible to movement at any time. The hydrological records, along with the seismic frequency records show a recurrence of catastrophic events. Observations have been made which point out the high vulnerability of the area to natural hazards at a time when the population growth is continuously developing. Based on these principles, the study aims to utilize space tools to extract physical data in a comprehensive approach as well as analyze and manipulate this data in the Geographic Information System (GIS), thus determining the areas vulnerable to natural hazards. More specifically, the study aims to produce thematic maps for each type of existing natural hazards, among which geographic zones can be classified with respect to different risk levels. It is a complete report that decision makers can utilize in order to apply tangible implements to mitigate the risk magnitude and thus identify areas with less risk. The authors hope that these areas can be considered in urban management and planning approaches.

No.NH18-536

## **Volcanic Hazards, Risks and Disasters**

Edited by John F. Shroder & Paolo Papale

Nov 2018, 532 pages, Paperback (Academic Pr.)

ISBN 9780128100974 **¥26,400**

No.NH18-537

## **Volcanology: Processes Deposits, Geology and Resources**

by Ray Cas, Guido Giordano, & John V. Wright

Nov 2018, Hardcover (Springer)

ISBN 9783319666129 **ca. ¥43,190**

This book is a substantially updated, revised and extended version of the book Volcanic Successions, published by Cas and Wright back in 1987. Divided into six major sections, it offers comprehensive information on magma properties; subaerial and subaqueous lava types and field textures; explosive eruptions and deposits; surface sedimentary processes; volcanic hosted resources; and lithification processes and effects on volcanic rock textures. It is a highly up-to-date text, presenting a coherent flow of topics, together with excellent visual material to illustrate key points and deposit features.

The new authorship team consists of Ray Cas, Guido Giordano and John Wright, all of whom have extensive experience across the complete spectrum of volcanological processes and deposit types discussed in this exciting new book. The authors approach the diversity of products in volcanic terrains as facies, and use facies analysis and interpretation as a means of constructing facies models for different volcanic settings and their resources. The book is intended as a textbook and research reference book for senior undergraduate and graduate students, researchers and professionals alike.

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