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CLIMATE OF THE ROMANIAN CARPATHIANS

VARIABILITY AND TRENDS

Springer This book is a comprehensive climatic monograph, which addresses one of the most complex mountain environments in Europe, the Carpathians Chain, focusing on the branches that lie over Romania. The volume aggregates high quality input data, state-of-the-art techniques, regional analysis and overview perspectives, while addressing the spatial and temporal patterns of the main climatic elements. The study covers the period 1961-2010, for the present climate, while the perspective is extended up to 2050. The main climatic elements (e.g. air temperature, precipitation, wind) are analyzed, but some specific variables like snow depth and snow cover are also examined, both in terms of average behaviour and extreme characteristics. This is the first synthesis addressing the climate of this mountain region, and it provides useful information for scientists, mountain stakeholders, decision-makers and general public.

THE CARPATHIANS: INTEGRATING NATURE AND SOCIETY TOWARDS SUSTAINABILITY

Springer Science & Business Media The book includes a broad spectrum of perspectives from different scientific disciplines (both the natural and social sciences) as well as practical knowledge. It gives a new insight into the Carpathian mountain region

MANAGING PROTECTED AREAS IN CENTRAL AND EASTERN EUROPE UNDER CLIMATE CHANGE

Springer Science & Business Media Beginning with an overview of data and concepts developed in the EU-project HABIT-CHANGE, this book addresses the need for sharing knowledge and experience in the field of biodiversity conservation and climate change. There is an urgent need to build capacity in protected areas to monitor, assess, manage and report the effects of climate change and their interaction with other pressures. The contributors identify barriers to the adaptation of conservation management, such as the mismatch between planning reality and the decision context at site level. Short and vivid descriptions of case studies, drawn from investigation areas all over Central and Eastern Europe, illustrate both the local impacts of climate change and their consequences for future management. These focus on ecosystems most vulnerable to changes in climatic conditions, including alpine areas, wetlands, forests, lowland grasslands and coastal areas. The case studies demonstrate the application of adaptation strategies in protected areas like National Parks, Biosphere Reserves and Natural Parks, and reflect the potential benefits as well as existing obstacles. A general section provides the necessary background information on climate trends and their effects on abiotic and biotic components. Often, the parties to policy change and conservation management, including managers, land users and stakeholders, lack both expertise and incentives to undertake adaptation activities. The authors recognise that achieving the needed changes in behavior - habit - is as much a social learning process as a matter of science-based procedure. They describe the implementation of modeling, impact assessment and monitoring of climate conditions, and show how the results can support efforts to increase stakeholder involvement in local adaptation strategies. The book concludes by pointing out the need for more work to communicate the cross-sectoral nature of biodiversity protection, the value of well-informed planning in the long-term process of adaptation, the definition of acceptable change, and the motivational value of exchanging experience and examples of good practice.

CLIMATE CHANGE 2013 - THE PHYSICAL SCIENCE BASIS

WORKING GROUP I CONTRIBUTION TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Cambridge University Press This latest Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) will again form the standard scientific reference for all those concerned with climate change and its consequences, including students and researchers in environmental science, meteorology, climatology, biology, ecology and atmospheric chemistry. It provides invaluable material for decision makers and stakeholders: international, national, local; and in all branches: government, businesses, and NGOs. This volume provides: • An authoritative and unbiased overview of the physical science basis of climate change • A more extensive assessment of changes observed throughout the climate system than ever before • New dedicated chapters on sea-level change, biogeochemical cycles, clouds and aerosols, and regional climate phenomena • A more extensive coverage of model projections, both near-term and long-term climate projections • A detailed assessment of climate change observations, modelling, and attribution for every continent • A new comprehensive atlas of global and regional climate projections for 35 regions of the world

MEDITERRANEAN CLIMATE VARIABILITY

Elsevier This multi-authored book provides an updated description of climate variability in the Mediterranean basin, focusing on decadal and centennial time scales and on the results available on the impact of future emission scenarios at regional scale. The authors describes both local physical processes responsible for these variability - such as changes in the surface properties and land use- and global processes - such as changes in the large scale atmospheric circulation associated to global warming, NAO, tropical monsoon and ENSO. Regional climate change issues are also addressed. Mediterranean Climate Variability aims to review the research on this region and to provide at the same time both an introduction and a reference for researchers. It covers topics typical of Climatology, Climate history, Meteorology, Oceanography, Environmental Science but the information here provided would also be useful for research in agriculture, social and economic studies. It is addressed to scientists and students interested in the Mediterranean climate and environment. Some topics have interesting connections to nearby regions: Northern Atlantic, West Africa, central and Eastern Europe. Each chapter will contain a summary meant to provide information to policy makers, researchers from other fields, and in general to a wide audience without a technical expertise on climate. * Provides an updated analysis of the Mediterranean climate features and guidelines for future research * Considers both oceanographic and atmospheric aspects * Analyzes the Mediterranean climate in a global perspective

LANDSCAPES AND LANDFORMS OF SLOVAKIA

Springer Nature

ENVIRONMENTAL PROTECTION AND DISASTER RISKS

SELECTED PAPERS FROM THE 1ST INTERNATIONAL CONFERENCE ON ENVIRONMENTAL PROTECTION AND DISASTER RISKS (ENVIRORISKS)

Springer Nature This book presents research findings and conclusions that has been developed as algorithms or intelligent new methods solving problems in the fields of air pollution, climate and health, natural hazards and risks, water resources, human activities and management and informatics, remote sensing, high-performance computing and GIS for environmental monitoring and management. Environmental protection and disaster risk topics are challenging fields, that scientific world is trying to address as much as it can. 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 systems thinking and integrating multidisciplinary science. Actions in these directions are 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 matter when it comes to our global home - The Planet Earth.

BIOCLIMATOLOGY AND NATURAL HAZARDS

Springer Science & Business Media Anthropogenic influences to the earth's system, including the atmosphere, hydrosphere, biosphere, cryosphere and lithosphere, represent a serious challenge to our planet's ecosystems and natural environments. Bioclimatology, hydrology, bio-hydrology and eco-physiology are important scientific research areas with wide application to environmental protection, forestry, agriculture and water management, and protection against natural hazards including droughts, floods, windstorms, weather extremes, and wild fires. Bioclimatology helps to better understand the causes and impacts of natural hazards and how to prevent them. Improved knowledge of natural hazards is a vital prerequisite for the implementation of integrated resource management. It provides a useful framework for combating current climate variability and for adapting to ongoing climate change. This book presents research on the interactions between meteorological, climatological, hydrological and biological processes in the atmospheric and terrestrial environment. It highlights a spectrum of topics associated with climate change and weather extremes and their impact on different economic sectors. The contributing authors come from renowned scientific research institutions and universities and specialise in issues of climate change, soil-plant-atmosphere interactions, hydrologic cycle, ecosystems, biosphere, and natural hazards.

SECOND ASSESSMENT OF CLIMATE CHANGE FOR THE BALTIC SEA BASIN

Springer This book is an update of the first BACC assessment, published in 2008. It offers new and updated scientific findings in regional climate research for the Baltic Sea basin. These include climate changes since the last glaciation (approx. 12,000 years ago), changes in the recent past (the last 200 years), climate projections up until 2100 using state-of-the-art regional climate models and an assessment of climate-change impacts on terrestrial, freshwater and marine ecosystems. There are dedicated new chapters on sea-level rise, coastal erosion and impacts on urban areas. A new set of chapters deals with possible causes of regional climate change along with the global effects of increased greenhouse gas concentrations, namely atmospheric aerosols and land-cover change. The evidence collected and presented in this book shows that the regional climate has already started to change and this is expected to continue. Projections of potential future climates show that the region will probably become considerably warmer and wetter in some parts, but dryer in others. Terrestrial and aquatic ecosystems have already shown adjustments to increased temperatures and are expected to undergo further changes in the near future. The BACC II Author Team consists of 141 scientists from 12 countries, covering various disciplines related to climate research and related impacts. BACC II is a project of the Baltic Earth research network and contributes to the World Climate Research Programme.

DROUGHT: RESEARCH AND SCIENCE-POLICY INTERFACING

ERC Press Droughts occur in arid and semi-arid areas of the world, but also in humid areas, and can develop over short periods (flash drought) or longer periods (seasons/decades). Even though progress has been made, it remains difficult to adequately characterize, monitor, forecast and manage droughts, due to their multi-faceted nature. Usually, drought does

HYDROLOGICAL, SOCIOECONOMIC AND ECOLOGICAL IMPACTS OF THE NORTH ATLANTIC OSCILLATION IN THE MEDITERRANEAN REGION

Springer Science & Business Media The Mediterranean basin represents one of the most important "hot spots" of climate change in the world, with recent trends towards a hotter and drier climate being related to changes in atmospheric circulation patterns. Such changes can have significant impacts in the climate of this region but also on the natural environment and several socioeconomic activities. Among these patterns, the North Atlantic Oscillation (NAO) is one of the main forcing factors in the region with impact on extreme events such as droughts, severe precipitations or heat and cold waves, the availability of water resources, the ecological dynamics, the quality and quantity of crops, the migration and welfare of animal populations, the fisheries dynamics, the triggering of landslides and the air pollution and human health, among others. The aim of Hydrological, Socioeconomic and Ecological Impacts of the North Atlantic Oscillation in the Mediterranean Region, is to serve as an updated reference text that covers the wide range of evidences on the NAO impacts in the Mediterranean regions and from a multidisciplinary perspective. This volume constitutes a unique document to present the state of the art of the numerous studies undertaken on the hydrological, socioeconomic and ecological impact of the NAO, collecting the expertise of researchers from several complementary earth science fields (geography, hydrology, remote-sensing, climatology, agriculture, energy), but that have been lacking a common ground.

LAND-COVER AND LAND-USE CHANGES IN EASTERN EUROPE AFTER THE COLLAPSE OF THE SOVIET UNION IN 1991

Springer This work analyzes the effects of one of the most dramatic changes of entire societies that the world has ever witnessed. It explores the collapse of socialist governance and management systems on land cover and land use in various parts of Eastern Europe. As readers will discover, this involved rapid and unprecedented changes such as widespread agricultural abandonment. Changes in the countries of the former Soviet block, former Soviet Union republics, and European Russia are compared and contrasted. Contributing authors cover topics such as the carbon cycle and the environment, effects of institutional changes on urban centers and agriculture, as well as changes in wildlife populations. The volume includes analysis of the drivers of agricultural land abandonment, forest changes in Black Sea region, an extreme drought event of 2010, impacts of fires on air quality and other land-cover/land-use issues in Eastern Europe. Satellite data used were mostly from optical sensors including night lights observations, with both coarse and medium spatial resolution. Ultimately, this work highlights the importance of understanding socioeconomic shocks: that is, those brief periods during which societies change rapidly resulting in significant impact on land use and the environment. Thus it shows that change is often abrupt rather than gradual and thereby much harder to predict. This book is a truly international and interdisciplinary effort, written by a team of scientists from the USA, Europe, and Russia. It will be of interest to a broad range of scientists at all levels within natural and social sciences, including those studying recent and ongoing changes in Europe. In particular, it will appeal to geographers, environmental scientists, remote sensing specialists, social scientists and agricultural scientists.

NATURAL HAZARDS AND THE MITIGATION OF THEIR IMPACT

Springer Nature This book deals with natural hazards of geophysical, meteorological, hydrological, and biological types that are causing increasing social and economic damage. The development of these hazards and their impact on the living and non-living environment are described in the individual chapters. The compilation synthesises a natural and social geography approach, explores mitigation options and focuses attention on the processes that are most prevalent in Europe and Western Asia, in addition to global phenomena. The author argues that, with the right knowledge and preparedness, the wide-ranging impacts of natural hazards intertwined with climate change can be reduced. This work provides a wealth of digitally accessible professional information to help readers identify and manage natural hazards. The book is useful for students, educators, professionals, practitioners, and those interested in decision making.

REGIONAL ASPECTS OF CLIMATE-TERRESTRIAL-HYDROLOGIC INTERACTIONS IN NON-BOREAL EASTERN EUROPE

Springer Science & Business Media Strong atmosphere-hydrology-biosphere feedbacks including human activity affect the rate and sign of changes in the Earth's system and have impacts on socioeconomic relationships. These processes are related to atmospheric circulation, climate and land use changes. Satellite-based and in situ monitoring systems have greatly increased our understanding of variations and changes occurring in the regional climate, atmospheric regime, land cover and water circulation. Coupled numerical models are invoked to describe features, which cannot be caught by observation systems or to predict a future state. This book summarizes the state-of-the-art researches on land cover, atmosphere and water resources of the Eastern Europe region, sets up priorities of major researches in these fields, outlines deficiencies in data and their processing, and develops recommendations for further research directions. Selected papers of the Non-Boreal Eastern Europe NEESPI meeting cover five topics: Observational issues in the non-boreal Eastern Europe Regional climate changes Air pollution aspects Land cover and land use changes Changes in the Black Sea and its coastal zone.

WATER RESOURCES MANAGEMENT IN ROMANIA

Springer Nature This book discusses water resources management in Romania from a hydrological perspective, presenting the latest research developments and state-of-the-art knowledge that can be applied to efficiently solve a variety of problems in integrated water resources management. It focuses on a wide range of water resources issues - from hydrology and water quantity, quality and supply to flood protection, hydrological hazards and ecosystems, and includes case studies from various watersheds in Romania. As such, the book appeals to researchers, practitioners and graduates as well as to anybody interested in water resources management.

NATURAL DAM LAKE CUEJDEL IN THE STÂNIȘOAREI MOUNTAINS, EASTERN CARPATHIANS

A LIMNOGEOGRAPHICAL STUDY

Springer This book presents an interdisciplinary study of Lake Cuejdel, one of the youngest natural dam lakes in Romania. Even though the overall study has a strong geographical approach, it also includes limnological and hydrological studies. The lake was formed in two phases: Initially a small lake appeared in 1978, and then in 1991 a major landslide occurred that blocked the Cuejdel brook and a larger lake was formed. The book covers various topics, including the lacustrine basin, the geological setting, analyses of the physical-chemical parameters, water dynamics, flora and fauna and lake management. This book is of interest for those working in freshwater science and ecology, physical geography, hydrology and limnology. .

QUALITY OF WATER RESOURCES IN POLAND

Springer Nature This book presents state-of-the-art knowledge concerning water quality in Poland. It offers a wide variety of cases and issues on water resource quality management. The book also presents different methods and strategies to effectively use the most advanced water resource quality problems such as water pollution, whether physical, chemical, or biological, of surface water resources and groundwater resources. The authors pay exceptional attention to water quality monitoring in agricultural, urban catchments, and water reservoirs. More light into the water quality is required to assess water's physicochemical status accurately and plan suitable protection actions against recognized threats. This book addresses the needs of professional engineers, researchers, policy planners, decision-makers, stakeholders, and anyone looking to learn more about the quality situation of water resources in Poland and other similar countries and regions.

RELICT SPECIES

PHYLOGEOGRAPHY AND CONSERVATION BIOLOGY

Springer Science & Business Media Mankind has evolved both genetically and culturally to become a most successful and dominant species. But we are now so numerous and our technology is so powerful that we are having major effects on the planet, its environment, and the biosphere. For some years prophets have warned of the possible detrimental consequences of our activities, such as pollution, deforestation, and overfishing, and recently it has become clear that we are even changing the atmosphere (e. g. ozone, carbon dioxide). This is worrying since the planet's life systems are involved and dependent on its functioning. Current climate change - global warming - is one recognised consequence of this larger problem. To face this major challenge, we will need the research and advice of many disciplines - Physics, Chemistry, Earth Sciences, Biology, and Sociology - and particularly the commitment of wise politicians such as US Senator Al Gore. An important aspect of this global problem that has been researched for several decades is the loss of species and the impoverishment of our ecosystems, and hence their ability to sustain themselves, and more particularly us! Through evolutionary time new species have been

generated and some have gone extinct. Such extinction and regeneration are moulded by changes in the earth's crust, atmosphere, and resultant climate. Some extinctions have been massive, particularly those associated with catastrophic meteoric impacts like the end of the Cretaceous Period 65Mya. Springer Nature

TOPOCLIMATIC AND GEOECOLOGICAL CHANGES IN THE WIELICZKA FOOTHILLS IN THE SURROUNDINGS OF THE DOBCZYCE RESERVOIR

GEOINFORMATICS AND ATMOSPHERIC SCIENCE

Birkhäuser This volume presents recent developments in atmospheric sciences driven by numerical modeling which makes use of geospatial technologies and increasing computational power. It gathers examples of how geoinformatics supports meteorological, climatological and water-related studies. One of the most important features of geospatial technologies is that they provide methods and tools which may be utilized in real time or near real time in order to monitor and predict atmospheric processes. This is particularly crucial in areas where dynamics of atmospheric phenomena is considerable and causes difficulties in accurate forecasting. One of such areas is the transitional zone between oceanic and continental features of the mid-latitude climate. Good examples of investigations into the transitional zone come from Poland and its neighboring countries. The topical volume provides the reader with a selection of papers on physically-based and data-based modelling of weather-related phenomena over Poland. This main theme of the topical volume is extended to cover case studies on the use of geoinformatics in atmospheric studies in other regions at a range of spatial scales.

EXPLORING NATURAL HAZARDS

A CASE STUDY APPROACH

CRC Press The Sendai Framework for Disaster Risk Reduction 2015-2030 has identified four priority areas for Disaster Risk Reduction: understanding disaster risk; strengthening disaster risk governance to manage disaster risk; investing in disaster risk reduction for resilience and enhancing disaster preparedness for effective response; and to "Build Back Better" in recovery, rehabilitation and reconstruction. Although tremendous progress has been made in recent decades in understanding the workings of the Earth systems and, in particular, its impacts on and responses to human actions, there remains a continuing and pressing need for knowledge that will allow society to simultaneously reduce exposure to global environmental hazards, while also meeting economic development goals. Exploring Natural Hazards: A Case Study Approach, contributes to the knowledge showcasing advanced practices for the monitoring of natural hazards. Through each case study, the book examines mainly hazards arising from processes within the hydrosphere and atmosphere, triggered or exacerbated by inputs to and transfers of energy between environmental components. It discusses the causes of these phenomena, and ways in which improved policy making, sometimes coupled with the application of appropriate modern technologies, can help to reduce people's exposure to harm. Discussing challenges, lessons learned and recommendations, this book provides a snapshot of issues related to tropical cyclones and typhoons, desertification, floods, lightning as a hazard and the need for alert systems. It is a valuable resource for practitioners and professionals alike, for researchers, students and others who work at the intersection between environmental hazards, sustainable development and social justice.

EFFECTS OF AIR POLLUTION ON FOREST HEALTH AND BIODIVERSITY IN FORESTS OF THE CARPATHIAN MOUNTAINS

IOS Press The effects of air pollution on biota may be subtle and elusive because of their interactions with natural stresses. Studies based on a network of sites in the Carpathian Mountains form the core of the content presented during this workshop. To this core are added key components on ecological sustainability, overviews on forest health in Europe and the world and several in-depth case studies.

ASSESSMENT OF CLIMATE CHANGE FOR THE BALTIC SEA BASIN

Springer Science & Business Media This book offers an up-to-date overview of the latest scientific findings in regional climate research on the Baltic Sea basin. This includes climate changes in the recent past, climate projections up until 2100 using the most sophisticated regional climate models available, and an assessment of climate change impacts on terrestrial, freshwater and marine ecosystems. The authors demonstrate that the regional climate has already started to change, and will continue to do so.

THE FUTURE OF THE WORLD'S CLIMATE

Elsevier The study of climate today seems to be dominated by global warming, but these predictions of climatic models must be placed in their geological, paleo-climatic, and astronomical context to create a complete picture of the Earth's future climate. The Future of the World's Climate presents that perspective with data and projections that have emerged from more technologically advanced and accurate climate modeling. The book is comprised of 18 new and revised chapters that feature reviews of current climate science. The authors are drawn from all over the world and from the highest regarded peer-reviewed groups. Each chapter has undergone major revisions and new content has been added throughout. Authored by the world's leading climate scientists, most of whom are also contributing authors to the IPCC Assessment Reports. More than 200 tables, diagrams, illustrations, and photographs Climate modeling technology is more advanced and precise than it was 15 years ago-a major implication featured in this new edition.

FLOOD RISK IN THE UPPER VISTULA BASIN

Springer This pioneering book addresses the entirety of river flooding issues in the Upper Vistula Basin, where considerable flood generation potential exists. It analyses the factors influencing flood risk, investigates variations in observation records and discusses projections for the future and adaptation to changing risk. It serves the general interest in understanding the floods that cause massive destruction in Europe, with dozens of fatalities and tremendous material damages. This interdisciplinary book, which covers aspects of climatology, geomorphology, hydrology, and water and flood risk management, unveils the complexity of the current situation. Access to reliable and accurate information can help solve important practical problems related to flood risk reduction strategies, and is at the core of the EU Floods Directive. As such, the book offers a valuable resource for scientists, educators and practitioners involved in water management, natural disaster reduction and adaptation to climate change.

MOUNTAIN WEATHER AND CLIMATE

Routledge First published in 1992. Routledge is an imprint of Taylor & Francis, an informa company.

ENVIRONMENTAL CHANGE IN MOUNTAINS AND UPLANDS

Routledge Mountain environments are often perceived to be austere, isolated, and inhospitable. In fact, these areas are of immense value to mankind, providing direct life support to close to 10 percent of the world's population and sustaining a wide variety of species - many of which are endemic to this environment. 'Environmental Change in Mountains and Uplands' provides detailed account of the fragile and marginal physical and socio-economic systems which make up the world's mountain regions. Discussing the direct and indirect impacts of human interference on environmental ecosystems, it then turns to the social and economic consequences of such environmental change - both upon the mountain environment itself and upon the populations who depend on mountain resources for their economic sustenance. This book includes a review of possible implications for adaption and mitigation strategies in a global context. Working within a broad temporal scale, it draws upon paleoenvironmental records to document past changes which have occurred in the absence of major anthropogenic influences, as well as utilising modelling as a means to assessing future environmental change.

NATURE-BASED SOLUTIONS TO CLIMATE CHANGE ADAPTATION IN URBAN AREAS

LINKAGES BETWEEN SCIENCE, POLICY AND PRACTICE

Springer This open access book brings together research findings and experiences from science, policy and practice to highlight and debate the importance of nature-based solutions to climate change adaptation in urban areas. Emphasis is given to the potential of nature-based approaches to create multiple-benefits for society. The expert contributions present recommendations for creating synergies between ongoing policy processes, scientific programmes and practical implementation of climate change and nature conservation measures in global urban areas. Except where otherwise noted, this book is licensed under a Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>

TIME SERIES MODELLING OF WATER RESOURCES AND ENVIRONMENTAL SYSTEMS

Elsevier This is a comprehensive presentation of the theory and practice of time series modelling of environmental systems. A variety of time series models are explained and illustrated, including ARMA (autoregressive-moving average), nonstationary, long memory, three families of seasonal, multiple input-single output, intervention and multivariate ARMA models. Other topics in environmetrics covered in this book include time series analysis in decision making, estimating missing observations, simulation, the Hurst phenomenon, forecasting experiments and causality. Professionals working in fields overlapping with environmetrics - such as water resources engineers, environmental scientists, hydrologists, geophysicists, geographers, earth scientists and planners - will find this book a valuable resource. Equally, environmetrics, systems scientists, economists, mechanical engineers, chemical engineers, and management scientists will find the time series methods presented in this book useful.

DETECTING AND MODELLING REGIONAL CLIMATE CHANGE

Springer Science & Business Media For the very first time, this book provides updated, integrated and organized, theoretical and methodological information on regional climate change and the associated environmental and socio-economic impacts on a regional scale. The most recent findings in the field of long-term climate change, which improve our understanding of the global climate puzzle, will be presented. Readers are introduced to state-of-the-art research in downscaling and GCMs, which involve the construction of reliable regional climate scenarios and the solution to key problems regarding the assessment of the impacts of climate change in the most important geographical areas of the world, from the Arctic to Antarctic regions, with special emphasis on the Northern Hemisphere.

LANDFORM DYNAMICS AND EVOLUTION IN ROMANIA

Springer New and innovative scientific theories, discussion and explanations are presented on landform dynamics and evolution in Romania along with a comprehensive understanding of the geomorphological processes shaping the large variety of Romania's landscape. Thematically arranged the book deals with landform dynamics of specific relief types: glacial and periglacial, denudational, fluvio-denudational, fluvial, karst and coasts, as well as sediment fluxes, geomorphic hazards and risks. The authors are key scientists and researchers in the field and offer innovative views on research methods and concepts applied to the topics in question. This work will be of interest to students and researchers in geography, geomorphology, geology, environmental science, paleoclimatology and soil science as well as policy and decision-makers in spatial planning.

30TH SCIENTIFIC-EXPERTS CONFERENCE OF AGRICULTURE AND FOOD INDUSTRY

ANSWERS FOR FORTHCOMING CHALLENGES IN MODERN AGRICULTURE

Springer Nature This book gathers the proceedings of the 30th Scientific-Experts Conference of Agriculture and Food Industry, held on September 26-27, 2019, in Sarajevo, Bosnia and Herzegovina. It reports on the application of innovative technologies in food sciences and agriculture, and covers research in plant and animal production, agricultural economics and food production. Further, the book discusses key social and environmental issues, and proposes answers to current challenges. The conference was jointly organized by the Faculty of Agriculture and Food Sciences of the University of Sarajevo, Bosnia and Herzegovina, the Faculty of Agriculture of Ege University, Turkey, the Bosnia and Herzegovina Medical and Biological Engineering Society, and the Faculty of Agriculture of the University of Belgrade, Serbia. The proceedings offer a timely snapshot of cutting-edge, multidisciplinary research and developments in modern agriculture. As such, they address the needs of researchers and professionals, agricultural companies, food producers, and regulatory and food safety agencies.

TECHNO-ECOLOGY, A PAN-EUROPEAN SCIENTIFIC NETWORK (INTAS-PROJECT 93-1877)

ENVIRONMENTAL SITUATION IN THE FORMER SOVIET UNION

GLOBAL RESOURCES AND THE ENVIRONMENT

An illustrated overview of the sustainability of natural resources and the social and environmental issues surrounding their distribution and demand.

CLIMATE CHANGE 2007 - IMPACTS, ADAPTATION AND VULNERABILITY

WORKING GROUP II CONTRIBUTION TO THE FOURTH ASSESSMENT REPORT OF THE IPCC

Cambridge University Press The Climate Change 2007 volumes of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) provide the most comprehensive and balanced assessment of climate change available. This IPCC Working Group II volume provides a completely up-to-date scientific assessment of the impacts of climate change, the vulnerability of natural and human environments, and the potential for response through adaptation. Written by the world's leading experts, the IPCC volumes will again prove to be invaluable for researchers, students, and policymakers, and will form the standard reference works for policy decisions for government and industry worldwide.

ALPINE BIODIVERSITY IN EUROPE

Springer Science & Business Media The United Nations Conference on the Environment and Development (UNCED), held in Rio de Janeiro in 1992, spawned a multitude of programmes aimed at assessing, managing and conserving the earth's biological diversity. One important issue addressed at the conference was the mountain environment. A specific feature of high mountains is the so-called alpine zone, i. e. the treeless regions at the uppermost reaches. Though covering only a very small proportion of the land surface, the alpine zone contains a relatively large number of plants, animals, fungi and microbes which are specifically adapted to cold environments. This zone contributes fundamentally to the planet's biodiversity and provides many resources for mountain dwelling as well as lowland people. However, rapid and largely man-made changes are affecting mountain ecosystems, such as soil erosion, losses of habitat and genetic diversity, and climate change, all of which have to be addressed. As stated in the European Community Biodiversity Strategy, "the global scale of biodiversity reduction or losses and the interdependence of different species and ecosystems across national borders demands concerted international action". Managing biodiversity in a rational and sustainable way needs basic knowledge on its qualitative and quantitative aspects at local, regional and global scales. This is particularly true for mountains, which are distributed throughout the world and are indeed hot spots of biodiversity in absolute terms as well as relative to the surrounding lowlands.

GLOBAL CLIMATE CHANGE AND HUMAN IMPACTS ON FOREST ECOSYSTEMS

POSTGLACIAL DEVELOPMENT, PRESENT SITUATION AND FUTURE TRENDS IN CENTRAL EUROPE

Springer Science & Business Media The inclusion of forests as potential biological sinks in the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) in 1997 has attracted international attention and again has put scientific and political focus on the world's forests, regarding their state and development. The international discussion induced by the Kyoto Protocol has clearly shown that not only the tropical rain forests are endangered by man's activities, but also that the forest ecosystems of boreal, temperate, mediterranean and subtropical regions have been drastically modified. Deforestation on a large scale, burning, over-exploitation, and the degradation of the biological diversity are well-known symptoms in forests all over the world. This negative development happens in spite of the already existing knowledge of the benefits of forests on global energy and water regimes, the biogeochemical cycling of carbon and other elements as well as on the biological and cultural diversity. The reasons why man does not take care of forests properly are manifold and complex and there is no easy solution how to change the existing negative trends. One reason that makes it so difficult to assess the impacts of human activity on the future development of forests is the large time scale in which forests react, ranging from decades to centuries.

NUCLEAR GEOPHYSICS

APPLICATIONS IN HYDROLOGY, HYDROGEOLOGY, ENGINEERING GEOLOGY, AGRICULTURE AND ENVIRONMENTAL SCIENCE

Springer The fundamentals of methods in nuclear geophysics and their practical applications in engineering geology, hydrology, hydrogeology, agriculture and environmental science are discussed in this book. The methods and apparatus based on absorption and scattering of gamma and neutron radiation for determination of density and soil moisture in natural conditions are presented in Chapters 2, 3, and 4. The theoretical fundamentals and installations of the penetration logging techniques where gamma, gamma-gamma and neutron logging in combination with static penetration form common complexes for engineering geology and hydrogeology exploration without boring holes are described. The developed constructions and practical use penetration logging installations for applications on land and marine shelves are described in Chapters 5, 6, 7, and 8. The physical fundamentals for the use of the natural stable and radioactive isotopes for study of the global hydrological cycle are provided. The experimental data, origin and distribution of cosmogenic and radiogenic isotopes in the oceans, atmospheric moisture, surface and underground waters are presented in Chapters 9, 10, and 11. The sources and conditions of the radioactive contamination of the natural waters are discussed in Chapters 12 and 13. This book will be of interest to scientists and researchers who use nuclear geophysics methods in engineering geology, hydrology, hydrogeology and hydrogeoecology. Lecturers, students, and postgraduates in these subjects will also find it useful.

VAN NOSTRAND'S SCIENTIFIC ENCYCLOPEDIA

Springer Science & Business Media Advancements in science and engineering have occurred at a surprisingly rapid pace since the release of the seventh edition of this encyclopedia. Large portions of the reference have required comprehensive rewriting and new illustrations. Scores of new topics have been included to create this thoroughly updated eighth edition. The appearance of this new edition in 1994 marks the continuation of a tradition commenced well over a half-century ago in 1938 Van Nostrand's Scientific Encyclopedia, First Edition, was published and welcomed by educators worldwide at a time when what we know today as modern science was just getting underway. The early encyclopedia was well received by students and educators alike during a critical time span when science became established as a major factor in shaping the progress and economy of individual nations and at the global level. A vital need existed for a permanent science reference that could be updated periodically and made conveniently available to audiences that numbered in the millions. The pioneering VNSE met these criteria and continues today as a reliable technical information source for making private and public decisions that present a backdrop of technical alternatives.