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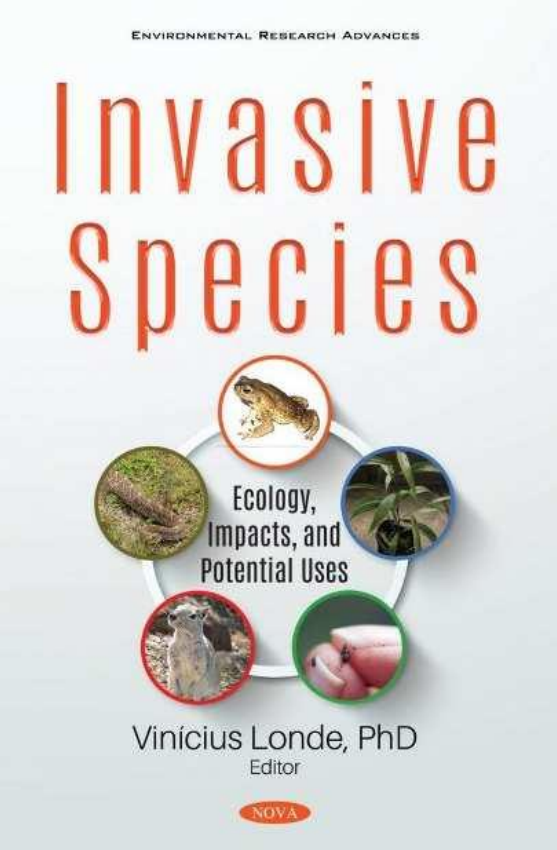
EARTH & MARINE SCIENCES



TITLES PUBLISHED BY NOVA SCIENCE

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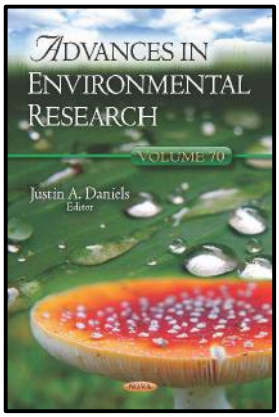
· Natural Disaster Research, Prediction & Mitigation · Oceanography & Ocean Engineering
· Pollution Science, Technology & Abatement · Wildlife Protection, Destruction & Extinction

Contents

Advances in Environmental Research



Advances in Environmental Research

Edited by Justin A. Daniels

Advances in Environmental Research. Volume 70 opens with a brief assessment of the Regional Development Plan of Mumbai Metropolitan Region in relation with MSAAPCC, aiming to address the governance considerations required to deal with climate change.

For various food matrices, several spectroscopic techniques and procedures employed to evaluate platinum group metals and thallium are critically discussed. Particular attention is paid to the analytical performance in terms of accuracy and detectability.

The authors discuss how controlling the production of greenhouse gases at the source source through intensive agricultural management, changes in land-use management and enhancing nitrogen use efficiency and stabilize can mitigate climate change to some extent.

Following this, the authors test how the timing of pollutant inputs captures long-term biological sensitivity by comparing exceedance for periods of higher and lower pollution loading to 60-year red spruce tree-ring chronologies across Vermont and New Hampshire, USA.

An analysis of deforestation probability in Partham river basin is carried out based on an AHP model with selected seven parameters such as distance from settlement, distance from river, distance from road, elevation, slope and aspect.

Additionally, this collection explores how, since the early 1990's, the chirality of pesticides and their consequential enantioselectivity has been the subject of hundreds of investigations by scientists around the world.

The current findings on ZnO nanoparticles are discussed, and a systematic review on its common usage, chemical nature, related environmental issue, and its potential toxicity after exposure is provided.

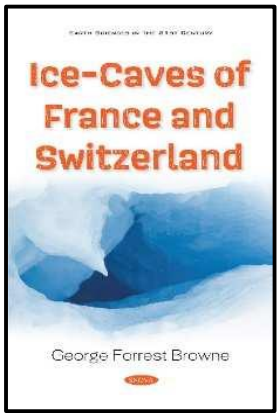
Electrodialysis systems are described in parallel, counter flow, and recirculation, as well as the materials and processes to obtain a clean and cheaper solution for water desalination.

The penultimate chapter is aimed at highlighting the chemical activation strategies of carbonaceous materials into activated carbon, especially for dyes removal in wastewater treatment.

The closing chapter demonstrates the need for comprehensive analysis across spatial and temporal scales, using multiple landscape indices to provide insights on the pattern and dynamics of the seagrass landscapes.

Volume 70 - HB 9781536169713 £229.99 March 2020 Nova Science Publishers 271 pages
Volume 71 - HB 9781536174885 £229.99 April 2020 Nova Science Publishers 259 pages
Volume 73 - HB 9781536181678 £229.99 July 2020 Nova Science Publishers 242 pages

Climate Change & Its Causes, Effects & Prediction

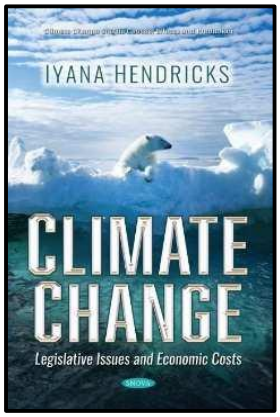


Ice-Caves of France and Switzerland

George Forrest Browne

The existence of natural ice-caves at depths varying from 50 to 200 feet below the surface of the earth, unconnected with glaciers or snow mountains, and in latitudes and at altitudes where ice could not under ordinary circumstances be supposed to exist, has attracted some attention. In addition to the description of this natural phenomena, the author has interspersed his incidents of travel. He has also given accounts of similar caves in different parts of the world.

HB 9781536177084 £178.99 April 2020 Nova Science Publishers 281 pages



Climate Change
Legislative Issues and Economic Costs

Edited by Iyana Hendricks

Chapter 1 will cover a brief history of U.S. climate change regulation; review the different types of regulation and legal actions that have been pursued in the national debate over GHGs; examine selected legal issues and next steps in related litigation; and address what these legal and regulatory developments mean for Congress.

The United States committed to providing financial assistance to developing countries for climate-change-related activities through the United Nations Framework Convention on Climate Change (UNFCCC) as reported in chapter 2.

The costs of recent weather disasters have illustrated the need for planning for climate change risks and investing in resilience.

Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events, according to the National Academies of Science, Engineering, and Medicine. Chapter 3 reports that the federal government has not made measurable progress since 2017 to reduce fiscal exposure to climate change.

Chapter 4 focuses on the policy considerations and potential impacts of using a carbon tax or GHG emissions fee to control GHG emissions.

Administered by EPA, Superfund is the principal federal program for addressing sites containing hazardous substances. Chapter 5 reviews issues related to the impact of climate change on nonfederal NPL sites.

A recent decision in the United States District Court for the District of Columbia Circuit has paused oil and gas exploration and production activity in certain leased areas of Wyoming and hinted at heightened requirements that the Bureau of Land Management (BLM) must satisfy to comply with the National Environmental Policy Act (NEPA) before issuing oil and gas leases. Specifically, the decision will require BLM to conduct a more thorough review of the potential climate change impacts of certain oil and gas leases before allowing the lessees to conduct drilling operations as discussed in chapter 6.

Chapter 7 summaries the content of the U.N. Framework Convention on Climate Change (UNFCCC) and its two subsidiary international treaties: the 1997 Kyoto Protocol (KP) and the 2015 Paris Agreement (PA).

The Green Climate Fund (GCF) was officially opened for capitalization at the U.N. Climate Summit in September 2014. Chapter 8 discusses how the funds were used.

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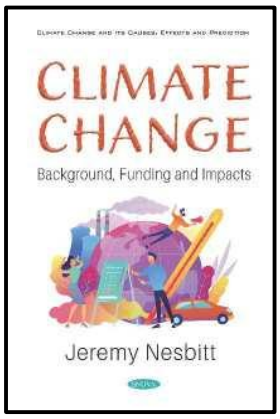


Climate Change
Background, Funding and Impacts
Edited by Jeremy Nesbitt

Regarding climate changes, a key question has been the degree to which humans and natural factors have influenced observed global climate change. Chapter 1 traces the evolution of scientific understanding and confidence regarding the drivers of recent global climate change. Chapter 2 reviews how U.S. agencies address climate change as a potential driver of global migration. Chapter 3 examines reported federal funding from 2010 to 2017 and the extent to which reports on such funding are clearly linked to the federal fiscal exposure to climate change; the extent to which selected agencies reported climate change funding that supports programs where addressing climate change is the primary purpose; and the extent to which the primary purpose programs are fragmented, overlapping, or duplicative.

The costs of recent weather disasters have illustrated the need for planning for climate change risks and investing in resilience as reported in chapter 4.

For more than a decade, federal agencies have grappled with how to address climate change effects when implementing the Endangered Species Act of 1973 (ESA). As set forth by Congress, one of the main purposes of the ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." Chapter 5 analyzes the courts' role in shaping how the Services have factored climate change effects into ESA decisions and recent 2019 regulatory developments that aim to clarify how the Services consider and address climate change in their ESA decisions.

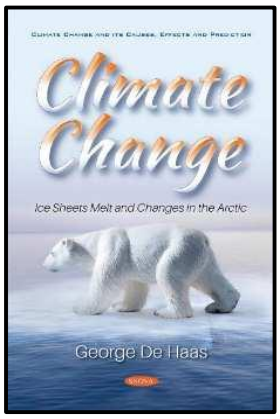
Many governments hold that environmental degradation and climate change pose international and trans-boundary risks to human populations, economies, and ecosystems. International financial assistance, or foreign aid, has been a principal method for governments to support actions on global environmental problems in lower-income countries. As discussed in chapter 6 and 7, this assistance may include grants, loans, loan guarantees, export credits, insurance products, and private sector investment.

On June 1, 2017, President Trump announced his intent to withdraw the United States from the Paris Agreement (PA), an international accord to address climate change over the coming century. Some observers argue that the Administration's decision to withdraw from the PA will (1) reduce the U.S. standing in the world by making the United States an international outlier on climate change, (2) strengthen perceptions that the United States is withdrawing from its traditional position of world leadership and becoming more inward-focused or even isolationist, (3) create an opportunity for China to assume a position of world leadership on climate change and perhaps other issues, and (4) make the United States appear less reliable as a negotiating partner, which could make it harder for the United States in the future to secure foreign cooperation for addressing other issues of mutual interest or to call on other countries to abide by their commitments in other international agreements as reported in chapter 8.

Surface transportation is a major source of carbon dioxide (CO2) in the atmosphere, the main human-related greenhouse gas (GHG) contributing to climate change. At the same time, the effects of climate change, such as extreme heat, sea level rise, and stronger storms, pose a threat to transportation infrastructure. Chapter 9 seeks to address these two aspects of climate change with mitigation provisions that aim to reduce GHG emissions from surface transportation and adaptation provisions that aim to make the surface transportation system more resilient to a changing climate.

For policymakers considering actions to reduce GHG emissions, various policy instruments are available. Over the last 15 years, many legislative proposals have involved market-based approaches, such as a GHG emissions cap-and-trade system or a carbon tax. These particular approaches may be considered in the 116th Congress and are discussed in chapter 10.

HB 9781536172164 £211.99 February 2020 Nova Science Publishers 370 pages

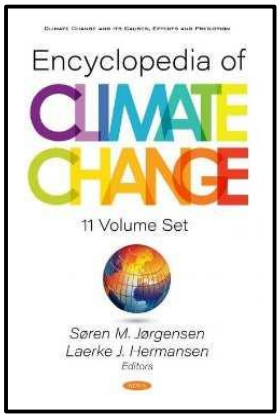


Climate Change
Ice Sheets Melt and Changes in the Arctic
Edited by George De Haas

Chapter 1 focuses on the science to understand the physical processes and projections of mass loss of the major ice sheets in Greenland and Antarctica, as well as of mountain and other land-based glaciers. The chapter reports on current projections of glacier mass loss due to anthropogenic climate change, and in turn how that will affect sea level.

The diminishment of Arctic sea ice has led to increased human activities in the Arctic, and has heightened interest in, and concerns about, the region's future as reported in chapter 2. Issues such as Arctic territorial disputes; commercial shipping through the Arctic; Arctic oil, gas, and mineral exploration; endangered Arctic species; and increased military operations in the Arctic could cause the region in coming years to become an arena of international cooperation, tension, or competition.

HB 9781536178418 £211.99 April 2020 Nova Science Publishers 349 pages



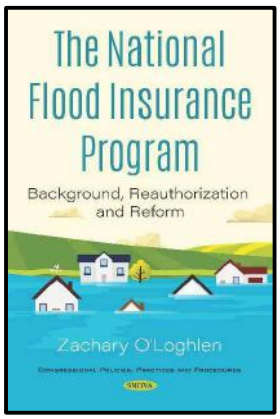
Encyclopedia of Climate Change (11 Volume Set)
Edited by Søren M. Jørgensen, Laerke J. Hermansen

This 11 volume set is a compilation of important research on climate change. Some of the topics addressed include:

· energy sustainability and natural resources
· environmental monitoring and evaluation methods
· sustainable livestock production and food security
· organic farming
· the causes and effects of glacier retreat
· endangered species
· The Paris Agreement and the potential implications of US withdrawal

HB 9781536174939 £1,605.99 July 2020 Nova Science Publishers 3093 pages

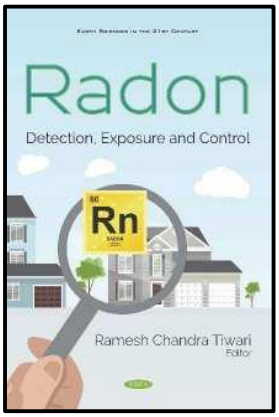
Congressional Policies, Practices & Procedures



The National Flood Insurance Program
Background, Reauthorization and Reform
Edited by Zachary O'Loghlen

The National Flood Insurance Program (NFIP) was established by the National Flood Insurance Act of 1968 and was most recently reauthorized to May 31, 2019, through a series of short-term reauthorizations. The general purpose of the NFIP is both to offer primary flood insurance to properties with significant flood risk, and to reduce flood risk through the adoption of floodplain management standards. Communities volunteer to participate in the NFIP in order to have access to federal flood insurance, and in return are required to adopt minimum standards. This book discusses important issues relating to the National Flood Insurance Program.

HB 9781536169638 £178.99 February 2020 Nova Science Publishers 320 pages

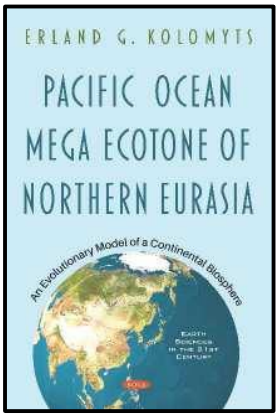


Radon
Detection, Exposure and Control
Edited by Ramesh Chandra Tiwari

In the recent past, studies on radon and their progenies have drawn a lot of attention from the scientific community and researchers, due to their crucial role as a possible cause of cancer, monitoring radiation levels of nuclear installations and as a potential precursor parameter to seismic events. This book titled “Radon: Detection, Exposure and Control” has 19 chapters comprising of research contributions from across the globe namely; Brazil, Spain, Norway, Ireland, Russia, Taiwan (PRC), Iran, Egypt, Turkey, Saudi Arabia and several regions of India including the seismic zone-V, the second highest seismic zone in the world. This book is very useful to scholars pursuing post-graduate studies and research covering broad areas of applied sciences namely; geophysics, Earth science, geoscience, geochemistry and civil & geotechnical engineering. This book provides a mixed flavour of the recent trends in several types of research works related to detection, exposure and control of Radon (Rn222, Rn220) in a concise and interesting manner.

This book contains several chapters dedicated to the radon measurement based radioactivity studies in rocks, over kimberlite pipes, inside soil and in open environments. The book also describes indoor radon gas concentration studies in schools and other working places including the assessment of health risk associated with it including radon exposure, its measurement and protection. In addition to the influence of regional and geophysical characteristics on the volumetric activity of radon, this book also contains the radon-based biometric characterization of person identification.

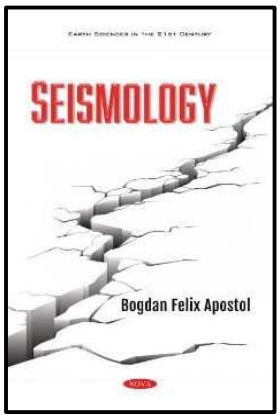
HB 9781536167917 £211.99 March 2020 Nova Science Publishers 330 pages



Pacific Ocean Mega Ecotone of Northern Eurasia
An Evolutionary Model of a Continental Biosphere
Erland G. Kolomyts

The monograph presents the results of studies of the organization of terrestrial geo (eco-) systems in the Pacific mobile belt – the tectonically and climatically active zone of contact between the mainland and the ocean, creating new land areas. A detailed evolutionary landscape-ecological concept based on a discrete empirical-statistical modeling of forest natural complexes at various stages of the geological history of the formation of the continental biosphere in the Northwest Pacific is presented. Based on the materials of large-scale landscape surveys conducted at experimental ranges, three spatiotemporal sections are described with a common trajectory of subaerial landscape genesis: 1) neo-specific, progressive – the stage of nucleation and upward evolution of volcanogenic island-arc geosystems of the Neogene-Quaternary age in the ocean environment, with the formation at the local level of the beginnings of zonal types of geographical environment and with the emergence of “climate unjustified” highly productive forests due to geothermal th power of active volcanoes; 2) subpacific marginal continental – the stage of their subsequent continental development as a young (Mesozoic) mountain-valley morphostructure, with the formation of buffer forest communities of evolutionary menopause; 3) subpacific regressive – the final stage of decaying evolution, due to the fragmentation and sinking of the marginal parts of the material, with the advent of continental islands with a “decrepit” denudation relief, active exogenous morpholithogenesis and a simplified structure of the forest cover. The climatic-genetic mechanisms of evolutionary landscape-ecological processes in various sectors of the Pacific megaecoton are described using simulation of these processes according to landscape forecasts for the next 100-200 years.

HB 9781536164930 £284.99 February 2020 Nova Science Publishers 452 pages



Seismology

Bogdan Felix Apostol

The book offers a comprehensive physical theory of the earthquakes. The presentation level is rather mathematical, but thorough physical explanations are provided everywhere.

We do not know where and when and how great an earthquake occurs. The seismic events have a statistical character. Statistical Seismology is discussed extensively in this book, centered on the famous Gutenberg-Richter, Omori and Bath statistical laws. The earthquakes may be correlated, foreshocks may herald a main shock, aftershocks may follow a main shock. The pattern of such correlations, their extension in time and magnitude are discussed in this book.

The earthquakes are produced by forces acting for a short time in a localized focal region placed inside the Earth. These forces give rise to elastic deformations and elastic waves, which arrive at Earth' surface as earthquakes. The nature of these forces and their effects are discussed in this book. Any earthquake begins by a feeble tremor, the so-called P and S seismic waves, followed by a large, main shock, which looks like a wall with a long tail. This book explains why it is so.

We cannot predict the occurrence of the earthquakes. But we can know something about them. For instance, there exist seismographs, a sort of pendulums, which record the ground displacement. There exist agencies which tell us the earthquake magnitude, its energy, location, fault slip, by reading the seismograms. We may wish to get such information by ourselves, almost in real time, knowing the seismograph recordings, to be independent of the seismological agencies. This book teaches us how to do that.

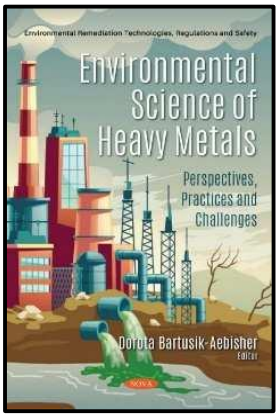
The book describes the accumulation of the seismic energy in the focal region, its release, the shape and strength of the ground displacement. It is shown that the seismic faults may give rise to rather complicated tensorial forces, which account both for the static deformations of the Earth's surface and for the seismic waves produced in an earthquake. A model of energy accumulation in the earthquake focus is formulated and used to derive the statistical Gutenberg-Richter laws. These laws are used to analize the statistics of the seismic events in Vrancea, Romania, as an example. A special emphasis is given to the short-term seismic activity. The book introduces the point tensorial force of the seismic faults and employs it to present both the static deformation of the Earth's crust in epicentral regions and the seismic waves and the main shock which appear on any typical seismogram. This later point is the solution of the so-called Lamb seismological problem. The book describes the determination of the seismic-moment tensor, earthquake magnitude, the volume of the focal region, the duration of the seismic activity in the focus, the fault orientation and the fault slip from measurements of the seismic waves at the Earth's surface. This is the solution of the inverse seismological problem. A special point is a qualitative estimation of these parameters which can be practised by everyone in real time.

The book presents the vibrations of the Earth viewed as a solid sphere and the vibrations of an elastic half-space. The static deformations of the elastic half-space under the action of point forces are also included. Finally, earthquake correlations, Bath's law and earthquake entropy are discussed.

The book is an original monograph of Seismology, intended for the use of the students, researchers and the public who wish to become familiar with the physics and mathematics of the earthquakes. It provides the understanding of the earthquakes and specific knowledge we may have of them.

HB 9781536184921 £211.99 September 2020 Nova Science Publishers 345 pages

Environmental Remediation Technologies, Regulations & Safety



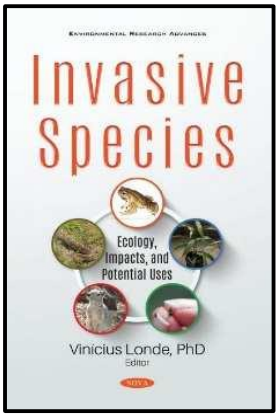
Environmental Science of Heavy Metals

Dorota Bartusik-Aebisher

This book provides a current review of the problem of heavy metal removal. Microorganisms and microbial activity in environments of water and soil are presented in Chapter 1. Chapter 2 covers current knowledge about photoactive materials based on porphyrins. This book reports the manner in which plants interact with heavy metals dependent mainly on the type of contamination, species of plant as well as conditions. The book presents biological strategies for the elimination of heavy metals from polluted habitats—phytoextraction, phytostabilization, phytodegradation, phytostimulation, phytovolatilization and phytofiltration. Also included are analytical methods to determine heavy metals in water such as atomic absorption spectrometry, electrochemical methods, colorimetric and chromatographic techniques.

PB 9781536178319 £87.99 May 2020 Nova Science Publishers 204 pages

Environmental Research Advances

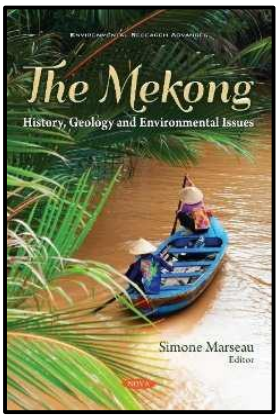


Invasive Species
Ecology, Impacts, and Potential Uses

Edited by Vinícius Londe

Invasive plant species are becoming common and dominating virtually all environments worldwide. Their impacts on native biota can be variable, but they normally negatively affect the resident species. The interest in invasive species has grown in recent decades and many studies are being conducted on this theme. In this book, we quantitatively demonstrate how the interest in invasive plants has increased since 2000, and which topics have received more attention over time. Moreover, we report a variety of information on plant and animal invasive species inhabiting different ecosystems. A temporal and spatial analysis of the New Zealand Mud Snail is presented, as well as the expansion of the Brazilian rattlesnake distribution. Many studies were carried out on the (magnificent) Fernando de Noronha archipelago in the last decade, and the results are partially described in this volume. Native plants and animals are being threatened by exotic and invasive species in the archipelago. Protected areas nearby urban centers are especially affected by invasive species, and this statement is confirmed herein through a study carried out in Atlantic Forest remnants. Another interesting issue is how exotic and invasive tree species can affect the diversity and structure of epiphyte species. Herein the reader will learn how an invasive species sets up the epiphyte community in a century old oil palm stand. Although invasive species cause serious problems in the new environment, some of them can also be used to mitigate air, water, and soil pollution. Thus, in addition to presenting the ecological aspects and negative effects, this volume also brings some potential uses for invasive species.

HB 9781536178906 £211.99 July 2020 Nova Science Publishers 335 pages



The Mekong
History, Geology and Environmental Issues

Edited by Simone Marseau

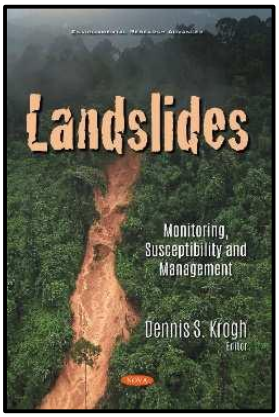
The Mekong: History, Geology and Environmental Issues first emphasizes how indigenous ecological views are affected by the rise of materialism, further investigating the discursive responses of the masses together with their fading ecology.

The authors point out the potential threats of using MekD surface water of uncontrolled quality. Efficient economical water treatment technologies are identified for the provision of water of appropriate quality to rural households.

Through the analysis of shrimp farmers' production process, one study argues that due to an unstable production environment, farmers in the Mekong Delta have always displayed risk mitigation as a rational response to the production setting.

The concluding study aims to estimate the environmental efficiency of transformed shrimp farming through interviews with 90 farmers who recently shifted from sugarcane cultivation to mono-shrimp culture in Cu Lao Dung district, Soc Trang province.

PB 9781536181524 £75.99 August 2020 Nova Science Publishers 137 pages



Landslides
Monitoring, Susceptibility and Management

Edited by Dennis S. Krogh

Landslides: Monitoring, Susceptibility and Management opens with a presentation of the application of geographic information system -based statistical modeling in the delineation of landslide susceptible zones for Rani Khola River basin of Sikkim Himalayas, India, by combining various landslide conditioning factors, namely: geological, topographical and hydrological parameters.

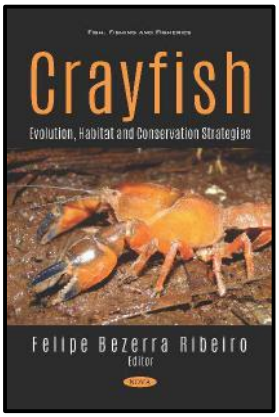
Inaccessible areas prone to landsliding are delineated, as increasing awareness of the human, economic, and environment effects of these natural disasters is necessary to promote the safety of human life.

The authors develop a broad-based landslide susceptibility assessment considering causal factors and different triggering conditions for hillslopes bordering the Monterrey Metropolitan Area. This approach has been computed on a cell-by-cell basis in a geographic information system.

The concluding study attempts to present a distribution map of major rainfall-induced landslides in March to April 2019 in Iran, as well as review the local geological characteristics of major case studies.

PB 9781536176322 £87.99 March 2020 Nova Science Publishers 193 pages

Fish, Fishing & Fisheries Series



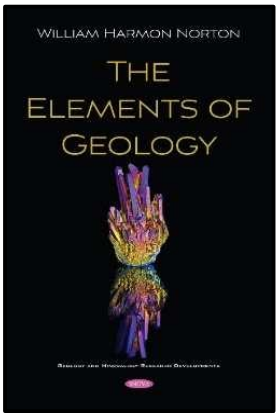
Crayfish
Evolution, Habitat and Conservation Strategies
Felipe Bezerra Ribeiro

Crayfish are one of the most iconic freshwater crustacean groups of the world. The wide range of biological adaptations of the freshwater crayfish to the limnetic ecosystems is surprising, as is there is high potential of some taxa to become invasive species. There is a constant growing interest in develop research with freshwater crayfish. They can be an important food source in several countries, the aquarium pet trade and cultural importance, in addition to the presence of several imperiled species. This book brings important reviews of some aspects of diversity, biological features, evolution, habitat characteristics, behavior and conservation strategies of freshwater crayfish, including native taxa, especially endemic from South America, New Guinea and North America, and non-indigenous species.

In South American, new species have been discovered in recent years and are classified in threat categories, indicating the need of more studies regarding taxonomy and conservation. For New Guinean species, data about their exploitation by humans and further perspectives about the improvement of conservation practices are presented. In relation to the North American crayfish, this book brings information about some aspects of biology and behavior of the burrowing species Procambarus acanthophorus. A global assessment and future perspectives for all alien crayfish species are also presented in this book. Regarding the partenogenetic marbled crayfish, Procambarus virginalis, the book brings an extensive review covering aspects of detection history, biology, ecology, evolution, systematics and utilization of this species in the world. In additon, an overview of integrative taxonomy studies and cryptic diversity in crayfish is also presented.

HB 9781536169416 £178.99 January 2020 Nova Science Publishers 268 pages

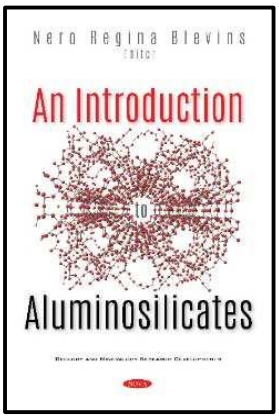
Geology & Mineralogy Research Developments



The Elements of Geology
William Harmon Norton

Geology deals with the rocks of the earth's crust. It learns from their composition and structure how the rocks were made and how they have been modified. It ascertains how they have been brought to their present places and wrought to their various topographic forms, such as hills and valleys, plains and mountains. It studies the vestiges which the rocks preserve of ancient organisms which once inhabited our planet. Geology is the history of the earth and its inhabitants, as read in the rocks of the earth's crust.

HB 9781536177879 £211.99 April 2020 Nova Science Publishers 302 pages



An Introduction to Aluminosilicates

Edited by Nero Regina Blevins

An Introduction to Aluminosilicates first reviews the main advances in methods of obtaining synthetic montmorillonite for environmental and biomedical areas. The perspectives and main challenges in the application of these materials is critically analyzed.

The authors next study Polyhydroxy metal complexes of Al, Fe, Zr, Cr and Ti (inorganic pillarizing agents) for the synthesis of pillared clays.

Information is provided on the possibility of using amorphous aluminosilicates as a modifying additive in the formulation of cement-based dry building mixtures. The physicochemical properties of the additive are considered, and the results of XRD and DTA analyzes are presented.
The authors investigate the molecular orientation and surface morphology of organized molecular films with regard to solid-state structures for organo-modified aluminosilicates by a surface pressure-area isotherm, in-plane and out-of plane X-ray diffraction, and atomic force microscopy.

A new method for the synthesis of amorphous mesoporous aluminosilicates with acidic properties and a narrow pore size distribution in the range of 2-7 nm is also explored.

The urease immobilization of composite adsorbents polyacrylamide–bentonite, polyacrylamide–chitosan, and polyacrylamide–chitosan–bentonite is assessed, produced from polyacrylamide as a hydrogel, bentonite as an aluminosilicate mineral, and chitosan as a polysaccharide.

Following this, the authors provide a brief overview of literature data where crystalline aluminosilicates have been utilized for the capture and immobilization of radionuclides.

The physiochemical properties of as-synthesized layered aluminosilicate are characterized by small angle PXRD, FTIR, porosity studies, thermal studies, 27Al MAS NMR, and morphological studies.

Subsequently, this compilation addresses the way in which magnetic nanoparticles have proven to be frequently occurring building blocks for hybrid structure construction and, moreover, have shown innovative prospects as multifunctional adsorbents.

Modern methods for the synthesis of highly dispersed micro- and micromesoporous mordenite with a high degree of crystallinity, as well as high crystallinity mordenite with a hierarchical porous structure, methods for modifying the mentioned crystalline aluminosilicates as a result of postsynthetic treatments, and modern adsorption and catalytic systems based on them are described.

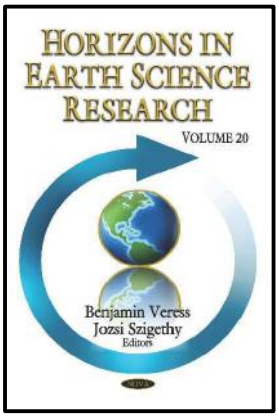
Next, the high activity and selectivity of high crystallinity zeolite Y with a hierarchical porous structure in the synthesis of practically important oligomers of various unsaturated compounds is established.

The authors highlight that the aluminosilicate present in kaolin may also be used in the production of zeolitic materials, and some details of this application are explained.
The adsorptive features of PAAm-Ch-Z for Th4+ are investigated in view of its dependency on pH, concentration, time, temperature and ionic strength. The parameters derived from the compatibility of experimentally obtained data to Langmuir, Freundlich and Dubinin-Radushkevich, van t'Hoff, pseudo frist-/second-order and Weber Morris models are utilized in the evaluation of adsorption and its thermodynamics and kinetics.

Lastly, the authors consider a possible mechanism for the generation of an acetyl-zeolite intermediate via transfer from different acetyl donors through theoretical studies using a cluster model of H-ZSM-5 zeolite designed by three TO4 tetrahedral units.

HB 9781536172508 £211.99 April 2020 Nova Science Publishers 496 pages

Horizons in Earth Science Research



Horizons in Earth Science Research
Volume 20

Edited by Benjamin Veress

Horizons in Earth Science Research. Volume 20 first provides an overview of geodesy throughout the past six decades, providing a short glimpse of emerging technology that is expected to enable rapid advances in many branches of science in the decades to come.

Next, the performance of two wavelength dispersive X-ray fluorescence spectrometers possessing rhodium anode have been compared to assess their usefulness in limnological studies, using bottom sediments from Araxá, Minas Gerais, Brazil.

The authors reviews the applications of infrared absorption spectroscopy in the fields of condensed matter physics and earth sciences. Infrared absorption spectroscopy is mainly associated with interactions between atoms and vibrational phonons of materials.

Additionally, a comparative study held at different drainage systems in Araxá, Minas Gerais, Brazil is presented with the aim of evaluating the performance of The Constant Flux: Constant Sedimentation and Constant Rate of Supply models.

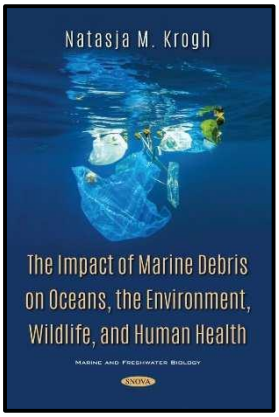
Following this, monazite and rutile geochronology and Zr-in-rutile thermometry are used to understand the thrust age and thermochronology of the Araçuaí/Ribeira Orogenic System-São Francisco Craton transition in southeastern Brazil.

Recent work on neurotoxin-producing microalgae (dinoflagellates) is presented wherein effects from space weather may display the hormetic dose-response, either through geomagnetic activity or solar X-ray flux.

Lastly, the authors provide a soft-computing approach to forecast 30-year-ahead annual rainfall in Tehran, Iran. A time-series of yearly data covering more than one century was used for the design of ensemble projections to understand and quantify the uncertainty associated with intradecadal-to-interdecadal predictability.

HB 9781536171198 £229.99 March 2020 Nova Science Publishers 224 pages

Marine & Freshwater Biology

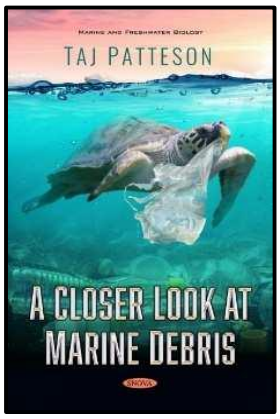


The Impact of Marine Debris on Oceans, the Environment, Wildlife, and Human Health

Edited by Natasja M. Krogh

Plastics last for centuries in the natural environment and are found nearly everywhere on our planet. An estimated 8 million metric tons of plastic enter the oceans each year at a rate of about one garbage truck per minute, threatening biodiversity and accumulating in the seafood and in the water as discussed in chapter 1. Chapter 2 will examine the issues of man-made trash that is polluting the oceans, also known as marine debris. This marine debris can range from metals, glass, rubber, paper, textiles, and plastic.

HB 9781536179934 £211.99 July 2020 Nova Science Publishers 324 pages

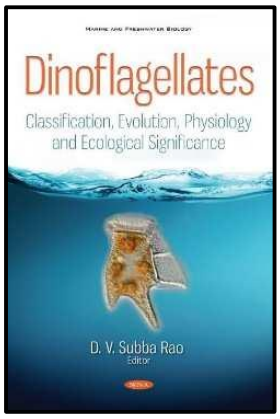


A Closer Look at Marine Debris

Edited by Taj Patteson

Marine debris is a persistent problem in many coastal areas of the United States. There are a variety of potential economic losses associated with marine debris, including effects on commercial fisheries, effects on waterfront property values, costs incurred by local governments and volunteer organizations to remove and dispose of marine debris, and more general "existence" values reflecting the public's preference for a clean environment. This book discusses marine debris and steps to mitigate its effects.

HB 9781536179729 £211.99 June 2020 Nova Science Publishers 322 pages



Dinoflagellates
Classification, Evolution, Physiology and Ecological Significance

Edited by Subba Rao V. Durvasula

Dinoflagellates are fascinating protists, mostly unicellular, distributed in environments ranging from the polar to tropical seas, hypersaline, coastal, estuarine and oceanic waters. There are about 2,377 dinoflagellate species recognized. They exhibit a great diversity of shape, size, biochemical composition and physiological characteristics. Generally free floating, dinoflagellates are photosynthetic, a few species such as the Symbodinium are symbiotic, living in corals, while a few are parasitic.

This volume presents a discussion on dinoflagellate phylogeny based on recent developments in molecular biology. It provides insights into the similarity of pigment composition with other microalgae. A comprehensive coverage of their carbon assimilation rates is presented, which appear to be low compared to other microalgae. Besides photosynthetic assimilation, an interesting aspect of acquiring carbon is through mixotrophy which appears to be wide spread amongst dinoflagellates and a thorough discussion is presented.

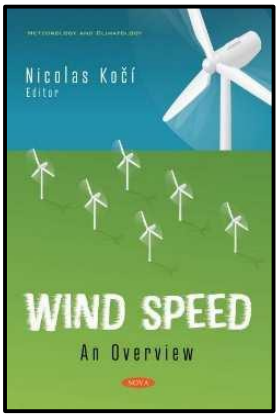
Key features of this book include recent methods of culturing dinoflagellates, which can serve as analogues of their blooms in understanding their physiology, biochemistry and production of phycotoxins. This book, based on massive data collected over decades of research, provides an informative overview on the spatial and temporal distribution and dispersal of dinoflagellates by ocean currents, ballast water introductions and climate changes.

About 70 species of dinoflagellates are implicated in the production of ephemeral harmful algal blooms (HABs), which are on the increase globally. Based on several case studies, a comprehensive coverage of the phycotoxins produced by HAB species (PSP, DSP, ASP, Ciguatera, NSP) is presented. The adverse effects of phycotoxins on human health, and the loss of revenues ($50 million in the USA) due to fish kills are evaluated. Latest advances in the methodology of genomics are presented with a view to highlight their importance and to understand their linkage with phycotoxin production. A discussion of remediation measures to manage HABs is presented, which would be highly useful in aquaculture operations.

This book provides a large number of illustrations, microphotographs and color photographs. It is ideal for any audience requiring an in-depth exposure to current issues, ideas and methods used in dinoflagellate studies. The topics discussed serve as a useful reference to researchers, scientists, environmental managers, undergraduate and graduate students.

HB 9781536178883 £311.99 September 2020 Nova Science Publishers 755 pages

Meteorology & Climatology



Wind Speed
An Overview
Edited by Nicolas Kočí

In Wind Speed: An Overview, the history and development of wind energy is reviewed. Scientific trends in the academic field of wind energy are determined using a scientometric network analysis.

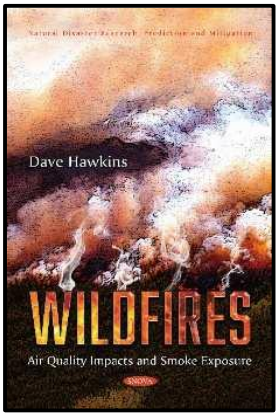
The relationship between wind speed forecasting and wind disasters is evaluated, particularly focusing on extra-tropical and tropical cyclones due to their dynamic origins.

Wind energy plays a significant role in clean energy sources, and the amount of energy that can be produced from a wind turbine is directly related to the value of the wind speed in that specific location.

The closing study focuses on wind as a source of energy in Kitka and Koznica, maintaining that in order to harness wind energy, it is necessary to carry out terrain condition analyses for the installation of wind turbines.

PB 9781536184129 £75.99 September 2020 Nova Science Publishers 134 pages

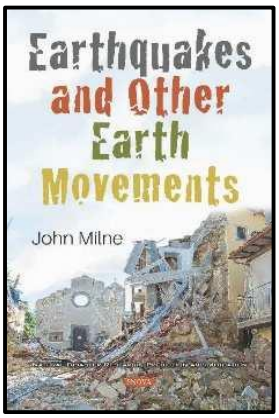
Natural Disaster Research, Prediction & Mitigation



Wildfires
Air Quality Impacts and Smoke Exposure
Edited by Dave Hawkins

Chapter 1 develops a better understanding of the health impacts of wildfires and what should be done to minimize those impacts. It looks closely at the mitigation and management strategies for reducing air quality risks from wildfire smoke. In large part, these strategies involve efforts to reduce the intensity and frequency of wildfires that threaten communities. Chapters 2-7 contain U.S. Environmental Protection Agency fact sheets on how to reduce your risks to wildfire smoke and ash.

HB 9781536171822 £211.99 March 2020 Nova Science Publishers 390 pages

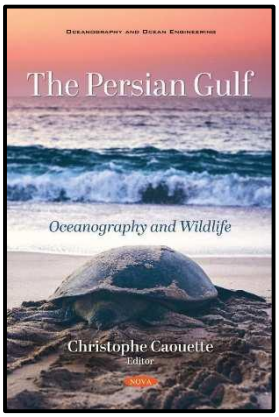


Earthquakes and Other Earth Movements
John Milne

In *Earthquakes and Other Earth Movements* the author gives a systematic account of various Earth Movements. These comprise Earthquakes, or the sudden violent movements of the ground; Earth Tremors, or minute movements which escape our attention by the smallness of their amplitude; Earth Pulsations, or movements which are overlooked on account of the length of their period; and lastly, Earth Oscillations, or movements of long period and large amplitude which attract so much attention from their geological importance.

HB 9781536169676 £211.99 January 2020 Nova Science Publishers 380 pages

Oceanography & Ocean Engineering



The Persian Gulf
Oceanography and Wildlife
Edited by Christophe Caouette

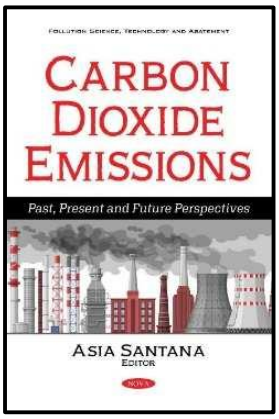
The Persian Gulf: Oceanography and Wildlife explores the concept of human presence in the Persian Gulf, discussing the subsequent impacts of anthropogenic activities on its marine ecosystems.

The authors discuss how identifying sediment components and minerals in the bottom deposits of the northern part of the Persian Gulf and its inlet rivers may be a useful key for determining the source of sedimentary particles and the evolution of the sedimentary basin.

The closing study explores the ambiguity in the accurate identification of Pleistocene sedimentary facies, from the standpoint of depositional environment and organic elements in both Kish and Qeshm islands.

PB 9781536183047 £87.99 August 2020 Nova Science Publishers 161 pages

Pollution Science, Technology & Abatement



Carbon Dioxide Emissions
Past, Present and Future Perspectives
Edited by Asia Santana

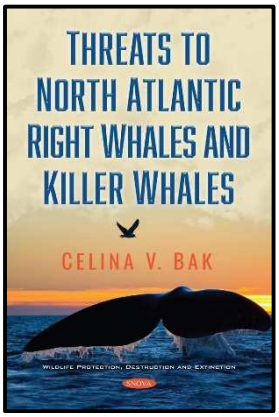
CO2 capture from gaseous effluents is one of the great challenges faced by chemical and environmental engineering, as the increase of CO2 levels in the Earth's atmosphere might be responsible for dramatic climate changes. This compilation begins by presenting the recent developments in studies focusing on the optimization of CO2 capture using amine solutions.

The authors assess the effects of land use change on soil carbon flux in Brazil, in addition to contributing to the body of knowledge about carbon stock balance in tropical and subtropical domains.

The authors also assess whether it will it be possible to fulfill the Brazilian Paris agreement goals if the Amazon deforestation increase continues.

The potential inflation effects of a global carbon price on consumer prices, investment prices, export prices, and import prices are explored, estimating the effects under various scenarios.

PB 9781536177633 £75.99 May 2020 Nova Science Publishers 127 pages



Threats to North Atlantic Right Whales and Killer Whales
Edited by Celina V. Bak

This book examines the many threats facing two of the most endangered marine mammals in the world, the North Atlantic right whale and killer whales.

HB 9781536181623 £211.99 July 2020 Nova Science Publishers 321 pages

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