

Habitat Structure Mediates Biodiversity Effects On

Marine Biodiversity and Ecosystem Functioning *Insect Biodiversity* *Trophic Ecology* *The Hadal Zone Stressors in the Marine Environment* **Ecosystem Services and River Basin Ecohydrology** *Coastal Conservation* **Oceanography and Marine Biology** *Conservation* **River Sedimentation** *Marine Ecology in a Changing World* *Fundamentals of Ecosystem Science* **The Politics of Knowledge and Global Biodiversity Monitoring Ecosystems** *The Soil-Human Health-Nexus* *Trait-Mediated Indirect Interactions* *Oceanography and Marine Biology* **The causes and consequences of microbial community structure** **Measuring Arthropod Biodiversity** *The Ecological Status of European Rivers: Evaluation and Intercalibration of Assessment Methods* *Carnivores of Australia* *Microbiome Under Changing Climate* **Untangling Molecular Biodiversity: Explaining Unity And Diversity Principles Of Organization With Molecular Structure And Evolutionary Genomics** **Meiofauna Biodiversity and Ecology** **Freshwater Ecology** **Agriculture, Biodiversity and Markets** *Biology of Parrotfishes* **Biodiversity, Ecosystem Functioning, and Human Wellbeing** *Community Ecology* *Biological Diversity* **Soil Carbon Storage** *Biodiversity and Ecophysiology of Yeasts* **Aquatic Functional Biodiversity** **Metacommunity Ecology, Volume 59** *The Ashgate Research Companion to Corporate Social Responsibility* *Symbiotic Relationships as Shapers of Biodiversity* **Synthetic Pesticide Use in Africa** *Handbook of Meta-analysis in Ecology and Evolution* **Climate Change Impacts on Fisheries and Aquaculture, 2 Volumes** **Urban Agroecology**

As recognized, adventure as competently as experience just about lesson, amusement, as skillfully as concurrence can be gotten by just checking out a book **Habitat Structure Mediates Biodiversity Effects On** plus it is not directly done, you could tolerate even more as regards this life, more or less the world.

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Handbook of Meta-analysis in Ecology and Evolution Aug 29 2019 Meta-analysis is a powerful statistical methodology for synthesizing research evidence across independent studies. This is the first comprehensive handbook of meta-analysis written specifically for ecologists and evolutionary biologists, and it provides an invaluable introduction for beginners as well as an up-to-date guide for experienced meta-analysts. The chapters, written by renowned experts, walk readers through every step of meta-analysis, from problem formulation to the presentation of the results. The handbook identifies both the advantages of using meta-analysis for research synthesis and the potential pitfalls and limitations of meta-analysis (including when it should not be used). Different approaches to carrying out a meta-analysis are described, and include moment and least-square, maximum likelihood, and Bayesian approaches, all illustrated using worked examples based on real biological datasets. This one-of-a-kind resource is uniquely tailored to the biological sciences, and will provide an invaluable text for practitioners from graduate students and senior scientists to policymakers in conservation and environmental management. Walks you through every step of carrying out a meta-analysis in ecology and evolutionary biology, from problem formulation to result presentation Brings together experts from a broad range of fields Shows how to avoid, minimize, or resolve pitfalls such as missing data, publication bias, varying data quality, nonindependence of observations, and phylogenetic dependencies among species Helps you choose the right software Draws on numerous examples based on real biological datasets

River Sedimentation Jan 27 2022 Sediment dynamics in fluvial systems is of great ecological, economic and human-health-related significance worldwide. Appropriate management strategies are therefore needed to limit maintenance costs as well as minimize potential hazards to the aquatic and adjacent environments. Human intervention, ranging from nutrient/pollutant release to physical modifications, has a large impact on sediment quantity and quality and thus on river morphology as well as on ecological functioning. Truly understanding sediment dynamics requires as a consequence a multidisciplinary approach. **River Sedimentation** contains the peer-reviewed scientific contributions presented at the 13th International Symposium on River Sedimentation (ISRS 2016, Stuttgart, Germany, 19-22 September 2016), and includes recent accomplishments in theoretical developments, numerical modelling, experimental laboratory work, field investigations and monitoring as well as management methodologies.

Climate Change Impacts on Fisheries and Aquaculture, 2 Volumes Jul 29 2019 The first comprehensive review of the current and future effects of climate change on the world's fisheries and aquaculture operations The first book of its kind, **Climate Change Impacts on Fisheries and Aquaculture** explores the impacts of climate change on global fisheries resources and on marine aquaculture. It also offers expert suggestions on possible adaptations to reduce those impacts. The world's climate is changing more rapidly than scientists had envisioned just a few years ago, and the potential impact of climate change on world food production is quite alarming. Nowhere is the sense of alarm more keenly felt than among those who

study the warming of the world's oceans. Evidence of the dire effects of climate change on fisheries and fish farming has now mounted to such an extent that the need for a book such as this has become urgent. A landmark publication devoted exclusively to how climate change is affecting and is likely to affect commercially vital fisheries and aquaculture operations globally, *Climate Change Impacts on Fisheries and Aquaculture* provides scientists and fishery managers with a summary of and reference point for information on the subject which has been gathered thus far. Covers an array of critical topics and assesses reviews of climate change impacts on fisheries and aquaculture from many countries, including Japan, Mexico, South Africa, Australia, Chile, US, UK, New Zealand, Pacific Islands, India and others. Features chapters on the effects of climate change on pelagic species, cod, lobsters, plankton, macroalgae, seagrasses and coral reefs. Reviews the spread of diseases, economic and social impacts, marine aquaculture and adaptation in aquaculture under climate change. Includes special reports on the Antarctic Ocean, the Caribbean Sea, the Arctic Ocean and the Mediterranean Sea. Extensive references throughout the book make this volume both a comprehensive text for general study and a reference/guide to further research for fisheries scientists, fisheries managers, aquaculture personnel, climate change specialists, aquatic invertebrate and vertebrate biologists, physiologists, marine biologists, economists, environmentalist biologists and planners.

Measuring Arthropod Biodiversity Apr 17 2021 This book brings together a wide range of sampling methods for investigating different arthropod groups. Each chapter is organised to describe and evaluate the main sampling methods (field methods, materials and supplies, sampling protocols, effort needed, and limitations); in addition, some chapters describe the specimen preparation and conservation, species identification, data collection and management (treatment, statistical analysis, interpretation), and ecological/conservation implications of arthropod communities. The book aims to be a reference for zoologists, entomologists, arachnologists, ecologists, students, researchers, and for those interested in arthropod science and biodiversity. We hope the book will contribute to advance knowledge on field assessments and conservation strategies. Arthropods represent the most speciose group of organisms on Earth, with a remarkable number of species and interactions still to be described. These invertebrates are recognized for playing key ecological roles in terrestrial, freshwater and marine ecosystems. Because of the increasing and relentless threats arthropods are facing lately due to a multitude of human induced drivers, this book represents an important contribution to assess their biodiversity and role in ecosystem functioning and generation of ecosystem services worldwide.

Symbiotic Relationships as Shapers of Biodiversity Oct 31 2019

Meiofauna Biodiversity and Ecology Nov 12 2020 Sedimentary habitats cover the vast majority of the ocean floor and constitute the largest ecosystem on Earth. These systems supply fundamental services to human beings, such as food production and nutrient recycling. It is well known that meiofauna are an abundant and ubiquitous component of sediments, even though their biodiversity and importance in marine ecosystem functioning remain to be fully investigated. In this book, the meiofaunal biodiversity trends in marine habitats worldwide are documented, along with the collection of empirical evidence on their role in ecosystem services, such as the production, consumption, and decomposition of organic matter, and energy transfer to higher and lower trophic levels. Meiofaunal activities, like feeding and bioturbation, induce changes in several physico-chemical and biological properties of sediments, and might increase the resilience of the benthic ecosystem processes that are essential for the supply of ecosystem goods and services required by humans. As a key component of marine habitats, the taxonomical and functional aspects of the meiofaunal community are also used for the ecological assessment of the sediments' quality status, providing important information on the anthropogenic impact of benthos.

Biology of Parrotfishes Aug 10 2020 Parrotfish are found on almost every coral reef in the world. This ubiquity and uniqueness of their feeding action make them one of the most important groups of fishes within coral reef ecosystems. But why, exactly, are parrotfish so important to reefs? Can the evolution of a particular jaw morphology and feeding action really have had such a large impact on the health and functioning of the world's coral reefs? This book introduces the reader to this fascinating group of fishes (Labridae, Scarinae), from the morphological innovation of a jaw that has the power to bite through solid calcium carbonate, to the threats currently faced by parrotfish populations around the world. It contains new insights into their diet and food processing ability, and lifehistories, and concludes with an overview of emerging and future research directions.

Stressors in the Marine Environment Jul 01 2022 A multitude of direct and indirect human influences have significantly altered the environmental conditions, composition, and diversity of marine communities. However, understanding and predicting the combined impacts of single and multiple stressors is particularly challenging because observed ecological feedbacks are underpinned by a number of physiological and behavioural responses that reflect stressor type, severity, and timing. Furthermore, integration between the traditional domains of physiology and ecology tends to be fragmented and focused towards the effects of a specific stressor or set of circumstances. This novel volume summarises the latest research in the physiological and ecological responses of marine species to a comprehensive range of marine stressors, including chemical and noise pollution, ocean acidification, hypoxia, UV radiation, thermal and salinity stress before providing a perspective on future outcomes for some of the most pressing environmental issues facing society today. *Stressors in the Marine Environment* synthesises the combined expertise of a range of international researchers, providing a truly interdisciplinary and accessible summary of the field. It is essential reading for graduate students as well as professional researchers in environmental physiology, ecology, marine biology, conservation biology, and marine resource management. It will also be of particular relevance and use to the regulatory agencies and authorities tasked with managing the marine environment, including social scientists and environmental economists.

Community Ecology Jun 07 2020 This is an up-to-date study of patterns and processes involving two or more species. The book strikes a balance between plant and animal species and among studies of marine, freshwater and terrestrial

communities.

Soil Carbon Storage Apr 05 2020 Soil Carbon Storage: Modulators, Mechanisms and Modeling takes a novel approach to the issue of soil carbon storage by considering soil C sequestration as a function of the interaction between biotic (e.g. microbes and plants) and abiotic (climate, soil types, management practices) modulators as a key driver of soil C. These modulators are central to C balance through their processing of C from both plant inputs and native soil organic matter. This book considers this concept in the light of state-of-the-art methodologies that elucidate these interactions and increase our understanding of a vitally important, but poorly characterized component of the global C cycle. The book provides soil scientists with a comprehensive, mechanistic, quantitative and predictive understanding of soil carbon storage. It presents a new framework that can be included in predictive models and management practices for better prediction and enhanced C storage in soils. Identifies management practices to enhance storage of soil C under different agro-ecosystems, soil types and climatic conditions Provides novel conceptual frameworks of biotic (especially microbial) and abiotic data to improve prediction of simulation model at plot to global scale Advances the conceptual framework needed to support robust predictive models and sustainable land management practices

Marine Biodiversity and Ecosystem Functioning Nov 05 2022 The biological composition and richness of most of the Earth's major ecosystems are being dramatically and irreversibly transformed by anthropogenic activity. Yet, despite the vast areal extent of our oceans, the mainstay of research to-date in the biodiversity-ecosystem functioning arena has been weighted towards ecological observations and experimentation in terrestrial plant and soil systems. This book provides a framework for extending these concepts to a variety of marine systems. Marine Biodiversity and Ecosystem Functioning is the first book to address the latest advances in biodiversity-function science using marine examples. It brings together contributions from the leading scientists in the field to provide an in-depth evaluation of the science, before offering a perspective on future research directions for some of the most pressing environmental issues facing society today and in the future.

Urban Agroecology Jun 27 2019 Today, 20 percent of the global food supply relies on urban agriculture: social-ecological systems shaped by both human and non-human interactions. This book shows how urban agroecologists measure flora and fauna that underpin the ecological dynamics of these systems, and how people manage and benefit from these systems. It explains how the sociopolitical landscape in which these systems are embedded can in turn shape the social, ecological, political, and economic dynamics within them. Synthesizing interdisciplinary approaches in urban agroecology in the natural and social sciences, the book explores methodologies and new directions in research that can be adopted by scholars and practitioners alike. With contributions from researchers utilizing both social and natural science approaches, Urban Agroecology describes the current social-environmental understandings of the science, the movement and the practices in urban agroecology. By investigating the role of agroecology in cities, the book calls for the creation of spaces for food to be sustainably grown in urban spaces: an Urban Agriculture (UA) movement. Essential reading for graduate students, practitioners, policy makers and researchers, this book charts the course for accelerating this movement.

Freshwater Ecology Oct 12 2020 Freshwater Ecology, Second Edition, is a broad, up-to-date treatment of everything from the basic chemical and physical properties of water to advanced unifying concepts of the community ecology and ecosystem relationships as found in continental waters. With 40% new and expanded coverage, this text covers applied and basic aspects of limnology, now with more emphasis on wetlands and reservoirs than in the previous edition. It features 80 new and updated figures, including a section of color plates, and 500 new and updated references. The authors take a synthetic approach to ecological problems, teaching students how to handle the challenges faced by contemporary aquatic scientists. This text is designed for undergraduate students taking courses in Freshwater Ecology and Limnology; and introductory graduate students taking courses in Freshwater Ecology and Limnology. Expanded revision of Dodds' successful text. New boxed sections provide more advanced material within the introductory, modular format of the first edition. Basic scientific concepts and environmental applications featured throughout. Added coverage of climate change, ecosystem function, hypertrophic habitats and secondary production. Expanded coverage of physical limnology, groundwater and wetland habitats. Expanded coverage of the toxic effects of pharmaceuticals and endocrine disrupters as freshwater pollutants More on aquatic invertebrates, with more images and pictures of a broader range of organisms Expanded coverage of the functional roles of filterer feeding, scraping, and shredding organisms, and a new section on omnivores. Expanded appendix on standard statistical techniques. Supporting website with figures and tables - <http://www.elsevierdirect.com/companion.jsp?ISBN=9780123747242>

Coastal Conservation Apr 29 2022 Coastal ecosystems are centres of high biological productivity, but their conservation is often threatened by numerous and complex environmental factors. Citing examples from the major littoral habitats worldwide, such as sandy beaches, salt marshes and mangrove swamps, this text characterises the biodiversity of coastline environments and highlights important aspects of their maintenance and preservation, aided by the analysis of key representative species. Leaders in the field provide reviews of the foremost threats to coastal networks, including the effects of climate change, invasive species and major pollution incidents such as oil spills. Further discussion underscores the intricacies of measuring and managing coastline species in the field, taking into account the difficulties in quantifying biodiversity loss due to indirect cascading effects and trophic skew. Synthesising the current state of species richness with present and projected environmental pressures, the book ultimately establishes a research agenda for implementing and improving conservation practices moving forward.

Biological Diversity May 07 2020 One of the cornerstones of life's wonders is the vast array of species filling the planet. From plants to animals to humans, there is no shortage of beings to provide 'spice of life' variety is said to be. Periodically, scientists announce the discovery of a 'new' form of life, so it seems as if Earth is capable of producing new species just to

keep us on our toes. At times, the immense breadth of living things can even feel overwhelming, as one pauses to ponder how numerically insignificant humans are when compared to the insect population. Given the biological diversity of the planet, it is incumbent upon humans to safeguard the natural beauty of the environment. To that end, conservation takes on special importance, necessitating the balancing of industrial expansion with preserving the flora and fauna surrounding us. This book is an important tool in understanding and researching the many different life forms spanning the globe. Collected here is a substantial and carefully selected listing of relevant literature on biological diversity and its conservation. Following this bibliography are author, title, and subject indexes to allow for further access to this information. The sheer bulk of the works about biological diversity can be so intimidating that a book such as this one becomes useful in sorting through the resources about the importance of life's variety.

Agriculture, Biodiversity and Markets Sep 10 2020 Debate about how best to ensure the preservation of agricultural biodiversity is caught in a counter-productive polemic between proponents and critics of market-based instruments and agricultural modernization. However, it is argued in this book that neither position does justice to the range of strategies that farmers use to manage agrobiodiversity and other livelihood assets as they adapt to changing social, economic, and environmental circumstances.

The Ashgate Research Companion to Corporate Social Responsibility Dec 02 2019 The term corporate social responsibility (CSR) has gained prominence both in business and in the media and has become one of the most debated management issues. Yet there is still a lack of consensus on what the concept means, what it entails, why it should be embraced and how. This companion offers scholars and graduate students a valuable guide to current thinking and a comprehensive reference to this increasingly important field.

The Soil-Human Health-Nexus Aug 22 2021 The term "soil health" refers to the functionality of a soil as a living ecosystem capable of sustaining plants, animals, and humans while also improving the environment. In addition to soil health, the environment also comprises the quality of air, water, vegetation, and biota. The health of soil, plants, animals, people, and the environment is an indivisible continuum. One of the notable ramifications of the Anthropocene is the growing risks of decline in soil health by anthropogenic activities. Important among these activities are deforestation, biomass burning, excessive soil tillage, indiscriminate use of agrochemicals, excessive irrigation by flooding or inundation, and extractive farming practices. Soil pollution, by industrial effluents and urban waste adversely impacts human health. Degradation of soil health impacts nutritional quality of food, such as the uptake of heavy metals or deficit of essential micro-nutrients, and contamination by pests and pathogens. Indirectly, soil health may impact human health through contamination of water and pollution of air. This book aims to: Present relationships of soil health to human health and soil health to human nutrition. Discuss the nexus between soil degradation and malnourishment as well as the important links between soil, plant, animal and human health. Detail reasons soil is a cause of infectious diseases and source of remedial measures. Part of the Advances in Soil Sciences series, this informative volume covering various aspects of soil health appeals to soil scientists, environmental scientists and public health workers.

Trait-Mediated Indirect Interactions Jul 21 2021 This book reviews state-of-the-art research into trait-based effects and their importance in community and ecosystem ecology.

Marine Ecology in a Changing World Dec 26 2021 With contributions from an impressive group of Argentinean and German oceanographers, this book examines classical ecological issues relating to marine ecosystems in the context of climate change. It paints a picture of marine ecology at the crossroads of global warming. The book examines the fundamentals of marine ecology: ecosystem stability, water quality, and biodiversity in the context of the changes taking place globally. It then reviews the major marine ecosystems in the same context, from the primary producers to the big marine mammals. The chapters cover primary consumers level, benthic communities, seaweeds assemblages and wetlands ecology, fisheries, and seabirds.

Insect Biodiversity Oct 04 2022 Volume One of the thoroughly revised and updated guide to the study of biodiversity in insects The second edition of *Insect Biodiversity: Science and Society* brings together in one comprehensive text contributions from leading scientific experts to assess the influence insects have on humankind and the earth's fragile ecosystems. Revised and updated, this new edition includes information on the number of substantial changes to entomology and the study of biodiversity. It includes current research on insect groups, classification, regional diversity, and a wide range of concepts and developing methodologies. The authors examine why insect biodiversity matters and how the rapid evolution of insects is affecting us all. This book explores the wide variety of insect species and their evolutionary relationships. Case studies offer assessments on how insect biodiversity can help meet the needs of a rapidly expanding human population, and also examine the consequences that an increased loss of insect species will have on the world. This important text: Explores the rapidly increasing influence on systematics of genomics and next-generation sequencing Includes developments in the use of DNA barcoding in insect systematics and in the broader study of insect biodiversity, including the detection of cryptic species Discusses the advances in information science that influence the increased capability to gather, manipulate, and analyze biodiversity information Comprises scholarly contributions from leading scientists in the field *Insect Biodiversity: Science and Society* highlights the rapid growth of insect biodiversity research and includes an expanded treatment of the topic that addresses the major insect groups, the zoogeographic regions of biodiversity, and the scope of systematics approaches for handling biodiversity data.

Oceanography and Marine Biology Mar 29 2022 *Oceanography and Marine Biology: An Annual Review* remains one of the most cited sources in marine science and oceanography. The ever increasing interest in work in oceanography and marine biology and its relevance to global environmental issues, especially global climate change and its impacts, creates a demand

for authoritative reviews summarizing the results of recent research. This volume covers topics that include resting cysts from coastal marine plankton, facilitation cascades in marine ecosystems, and the way that human activities are rapidly altering the sensory landscape and behaviour of marine animals. For more than 50 years, OMBAR has been an essential reference for research workers and students in all fields of marine science. From Volume 57 a new international Editorial Board ensures global relevance, with editors from the UK, Ireland, Canada, Australia and Singapore. The series volumes find a place in the libraries of not only marine laboratories and institutes, but also universities. Previous volume Impact Factors include: Volume 53, 4.545. Volume 54, 7.000. Volume 55, 5.071. Guidelines for contributors, including information on illustration requirements, can be downloaded on the Downloads/Updates tab on the volume's CRC Press webpage. Chapters 3, 4, 5 and 7 of this book are freely available as a downloadable Open Access PDF under a Creative Commons Attribution-Non Commercial-No Derivatives 4.0 license. The links can be found on the book's Routledge web page at <https://www.routledge.com/9780367134150>

The Hadal Zone Aug 02 2022 A long overdue collation of all that is known about life in the trenches and the hadal communities therein.

Fundamentals of Ecosystem Science Nov 24 2021 Fundamentals of Ecosystem Science, Second Edition provides a comprehensive introduction to modern ecosystem science covering land, freshwater and marine ecosystems. Ecosystem science is now applied to address a wide range of environmental problems. Written by a group of experts, this updated edition covers major concepts of ecosystem science, biogeochemistry, and energetics. Case studies of important environmental problems offer personal insights into how adopting an ecosystem approach has helped solve important intellectual and practical problems. For those choosing to use the book in a classroom environment, or who want to enrich further their reading experience, teaching and learning assets are available at Elsevier.com. Covers both aquatic (freshwater and marine) and terrestrial ecosystems with updated information Includes a new chapter on microbial biogeochemistry Features vignettes throughout the book with real examples of how an ecosystem approach has led to important change in policy, management, and ecological understanding Demonstrates the application of an ecosystem approach in synthesis chapters and case studies Contains new coverage of human-environment interactions

Carnivores of Australia Feb 13 2021 The Australian continent provides a unique perspective on the evolution and ecology of carnivorous animals. In earlier ages, Australia provided the arena for a spectacular radiation of marsupial and reptilian predators. The causes of their extinctions are still the subject of debate. Since European settlement, Australia has seen the extinction of one large marsupial predator (the thylacine), another (the Tasmanian devil) is in danger of imminent extinction, and still others have suffered dramatic declines. By contrast, two recently-introduced predators, the fox and cat, have been spectacularly successful, with devastating impacts on the Australian fauna. *Carnivores of Australia: Past, Present and Future* explores Australia's unique predator communities from pre-historic, historic and current perspectives. It covers mammalian, reptilian and avian carnivores, both native and introduced to Australia. It also examines the debate surrounding how best to manage predators to protect livestock and native biodiversity. Readers will benefit from the most up-to-date synthesis by leading researchers and managers in the field of carnivore biology. By emphasising Australian carnivores as exemplars of flesh-eaters in other parts of the world, this book will be an important reference for researchers, wildlife managers and students worldwide.

Untangling Molecular Biodiversity: Explaining Unity And Diversity Principles Of Organization With Molecular Structure And Evolutionary Genomics Dec 14 2020 Untangling Molecular Biodiversity presents a unique global framework to explain molecular and organismal biodiversity that is grounded in evolutionary genomics. This book will tackle important questions such as the origin of life, the emergence of biochemistry, the origin of viruses, the nature of the last universal common ancestor responsible for diversified life, the role of information and thermodynamics in evolution, the reason for having three cellular domains in life, and the centrality of modules in biology. This book will explore six themes: (1) Explanatory frameworks for biological organization; (2) Evolutionary patterns and biodiversity; (3) Molecular structure and evolutionary genomics; (4) A framework of persistence strategies that borrows from engineering and systems biology; (5) Use of this framework to explain diversity in the molecular world; and (6) Exploring the origin and evolution of cells and viruses. Consequently, this book represents a very unique collection of ideas that can attract the attention of a broad readership interested in life sciences/biology.

Oceanography and Marine Biology Jun 19 2021 Ever-increasing interest in oceanography and marine biology and their relevance to global environmental issues creates a demand for authoritative reviews summarising the results of recent research. *Oceanography and Marine Biology: An Annual Review* has catered to this demand since its founding by the late Harold Barnes fifty years ago. Its objectives are to consider, annually, the basic areas of marine research, returning to them when appropriate in future volumes; to deal with subjects of special and topical importance; and to add new subjects as they arise. The favourable reception accorded to all the volumes shows that the series is fulfilling a very real need: reviews and sales have been gratifying. The fifty-second volume follows closely the objectives and style of the earlier volumes, continuing to regard the marine sciences—with all their various aspects—as a unity. Physical, chemical, and biological aspects of marine science are dealt with by experts actively engaged in these fields. The series is an essential reference text for researchers and students in all fields of marine science and related subjects, and it finds a place in libraries of not only marine stations and institutes, but also universities. It is consistently among the highest ranking impact factors for the marine biology category of the citation indices compiled by the Institute for Scientific Information.

Microbiome Under Changing Climate Jan 15 2021 *Microbiome Under Changing Climate: Implications and Solutions* presents the latest biotechnological interventions for the judicious use of microbes to ensure optimal agricultural yield.

Summarizing aspects of vulnerability, adaptation and amelioration of climate impact, this book provides an important resource for understanding microbes, plants and soil in pursuit of sustainable agriculture and improved food security. It emphasizes the interaction between climate and soil microbes and their potential role in promoting advanced sustainable agricultural solutions, focusing on current research designed to use beneficial microbes such as plant growth promoting microorganisms, fungi, endophytic microbes, and more. Changes in climatic conditions influence all factors of the agricultural ecosystem, including adversely impacting yield both in terms of quantity and nutritional quality. In order to develop resilience against climatic changes, it is increasingly important to understand the effect on the native micro-flora, including the distribution of methanogens and methanotrophs, nutrient content and microbial biomass, among others.

Demonstrates the impact of climate change on secondary metabolites of plants and potential responses Incorporates insights on microflora of inhabitant soil Explores mitigation processes and their modulation by sustainable methods Highlights the role of microbial technologies in agricultural sustainability

Aquatic Functional Biodiversity Feb 02 2020 *Aquatic Functional Biodiversity: An Ecological and Evolutionary Perspective* provides a general conceptual framework by some of the most prominent investigators in the field for how to link eco-evolutionary approaches with functional diversity to understand and conserve the provisioning of ecosystem services in aquatic systems. Rather than producing another methodological book, the editors and authors primarily concentrate on defining common grounds, connecting conceptual frameworks and providing examples by a more detailed discussion of a few empirical studies and projects, which illustrate key ideas and an outline of potential future directions and challenges that are expected in this interdisciplinary research field. Recent years have seen an explosion of interest in using network approaches to disentangle the relationship between biodiversity, community structure and functioning. Novel methods for model construction are being developed constantly, and modern methods allow for the inclusion of almost any type of explanatory variable that can be correlated either with biodiversity or ecosystem functioning. As a result these models have been widely used in ecology, conservation and eco-evolutionary biology. Nevertheless, there remains a considerable gap on how well these approaches are feasible to understand the mechanisms on how biodiversity constrains the provisioning of ecosystem services. Defines common theoretical grounds in terms of terminology and conceptual issues Connects theory and practice in ecology and eco-evolutionary sciences Provides examples for successful biodiversity conservation and ecosystem service management

The causes and consequences of microbial community structure May 19 2021 The causes and consequences of differences in microbial community structure, defined here as the relative proportions of rare and abundant organisms within a community, are poorly understood. Articles in “The Causes and Consequences of Microbial Community Structure”, use empirical or modeling approaches as well as literature reviews to enrich our mechanistic understanding of the controls over the relationship between community structure and ecosystem processes. Specifically, authors address the role of trait distributions and tradeoffs, species-species interactions, evolutionary dynamics, community assembly processes and physical controls in affecting ‘who’s there’ and ‘what they are doing.’

Biodiversity, Ecosystem Functioning, and Human Wellbeing Jul 09 2020 The book starts by summarizing the development of the basic science and provides a meta-analysis that quantitatively tests several biodiversity and ecosystem functioning hypotheses.

Monitoring Ecosystems Sep 22 2021

Ecosystem Services and River Basin Ecohydrology May 31 2022 This book provides an integrated analysis of the methodologies and main processes occurring at the entire river basin, from upstream until the coast, by merging the biological and hydrological processes with the social and economic components, thus providing an integrated framework for river basin management, integrating the ecohydrology approach with the ecosystem services concept.

Metacommunity Ecology, Volume 59 Jan 03 2020 Metacommunity ecology links smaller-scale processes that have been the provenance of population and community ecology—such as birth-death processes, species interactions, selection, and stochasticity—with larger-scale issues such as dispersal and habitat heterogeneity. Until now, the field has focused on evaluating the relative importance of distinct processes, with niche-based environmental sorting on one side and neutral-based ecological drift and dispersal limitation on the other. This book moves beyond these artificial categorizations, showing how environmental sorting, dispersal, ecological drift, and other processes influence metacommunity structure simultaneously. Mathew Leibold and Jonathan Chase argue that the relative importance of these processes depends on the characteristics of the organisms, the strengths and types of their interactions, the degree of habitat heterogeneity, the rates of dispersal, and the scale at which the system is observed. Using this synthetic perspective, they explore metacommunity patterns in time and space, including patterns of coexistence, distribution, and diversity. Leibold and Chase demonstrate how these processes and patterns are altered by micro- and macroevolution, traits and phylogenetic relationships, and food web interactions. They then use this scale-explicit perspective to illustrate how metacommunity processes are essential for understanding macroecological and biogeographical patterns as well as ecosystem-level processes. Moving seamlessly across scales and subdisciplines, *Metacommunity Ecology* is an invaluable reference, one that offers a more integrated approach to ecological patterns and processes.

The Ecological Status of European Rivers: Evaluation and Intercalibration of Assessment Methods Mar 17 2021 The monitoring of benthic diatoms, macrophytes, macroinvertebrates and fish will be the backbone of future water management in Europe. This book describes and compares the relevant methodologies and tools, based on a large data set covering rivers in most parts of Europe. The 36 articles presented will provide scientists and water managers with a unique insight into background and application of state-of-the-art monitoring tools and techniques.

Biodiversity and Ecophysiology of Yeasts Mar 05 2020 In the last few decades more and more yeast habitats have been explored, spanning cold climates to tropical regions and dry deserts to rainforests. As a result, a large body of ecological data has been accumulated and the number of known yeast species has increased rapidly. This book provides an overview of the biodiversity of yeasts in different habitats. Recent advances achieved by the application of molecular biological methods in the field of yeast taxonomy and ecology are also incorporated in the book. Wherever possible, the interaction between yeasts and the surrounding environment is discussed.

The Politics of Knowledge and Global Biodiversity Oct 24 2021 The establishment of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) points to the crucial role attributed to science and knowledge for the successful implementation of biodiversity politics by both scientists and policy-makers. With the increased importance of biodiversity in international politics, and in part inspired by the success the Intergovernmental Panel on Climate Change (IPCC) has had in raising awareness of global warming, the call for an 'IPCC for Biodiversity' was successful. The Politics of Knowledge and Global Biodiversity gives a full overview of the process of its implementation as finalised in 2013 and proposes an innovative conceptual framework that puts this specific case into a more general perspective of international politics and relations. It provides a detailed empirical analysis of the knowledge politics associated with the establishment of IPBES and its conceptual framework and methodological approach is grounded in a theoretical perspective. This pioneering work is the first to examine IPBES in this way and is essential reading for researchers and scholars of International Relations, Environmental and Biodiversity Politics, Science-Policy Interfaces and Global Environmental Governance. It will also be of interest to political scientists and social scientists.

Trophic Ecology Sep 03 2022 Examining the interaction of bottom-up and top-down forces, it presents a unique synthesis of trophic interactions within and across ecosystems.

Synthetic Pesticide Use in Africa Sep 30 2019 A UN report presented to the UN Human Rights Council in 2017 recognized that, "although pesticide use has been correlated with a rise in food production, it has had catastrophic impacts" on human health and the environment. The report acknowledged that "increased food production has not succeeded in eliminating hunger worldwide because of the many interacting factors involved. Reliance on hazardous pesticides is a short-term solution that undermines the rights to adequate food and health for present and future generations." It is hoped that the knowledge available in Synthetic Pesticide Use in Africa: Impact on People, Animals, and the Environment will both enlighten the reader to present serious concerns on the use of synthetic pesticides, and motivate society to make the changes necessary for the sustainable production of safe, nutritious, and affordable food for the anticipated 250 billion inhabitants of this Earth in 2050. Key Features: • Explains the relationship of synthetic pesticides to escalating noncommunicable human and animal diseases in Africa and developing countries. • Discusses the impact of the herbicide glyphosate on the health of humans, animals, and the environment. • Reviews the disease causing mode of action of glyphosate and other synthetic pesticides on nutrient density and human and animal bodies. • Warns of the special vulnerability of children to synthetic pesticide toxicity. • Recommends needed legal initiatives to use synthetic pesticides more judiciously. The book is divided into seven (7) sections: I. General Impact, explains the general impact of synthetic pesticides on the African people, their animals, and environment. II. Human Health, covers the impact of synthetic pesticides on the human body, while III, Children's Health, focuses on the special vulnerability of children to synthetic pesticides. IV. Animal Health describes the synthetic pesticide threats to animal production and sustainability. V. Environmental Health presents the threat of synthetic pesticides to soil microbiota and sustainable remediations. VI. Control Strategies discusses biologically-based alternatives to synthetic pesticides. Finally, VII. Regulatory Control presents some legal initiatives to combat the misuse of synthetic pesticides.

Conservation Feb 25 2022 Explains what conservation is and looks at the many decisions we are faced with regarding our environment.