

The Biology Of Peatlands Biology Of Habitats Series

A concise but comprehensive introduction to the biology of coastal sand dunes. The emphasis in this book is on the organisms that dominate this predominantly marine environment, although pollution, conservation, management and experimental aspects are considered. Global wetlands exhibit significant differences in both hydrology and species composition and range from moss-dominated arctic peatlands to seasonally-flooded tropical floodplains. They are increasingly recognized for the important services that they provide to both the environment and human society such as wildlife and fish production, nutrient filtering, and carbon sequestration. A combination of low oxygen levels and dense plant canopies present particular challenges for organisms living in this aquatic habitat. This concise textbook discusses the universal environmental and biological features of wetland habitats, with an emphasis on wetland plants and animals and their adaptations. It also describes the functional features of wetlands - primary production, litter decomposition, food webs, and nutrient cycling - and their significance locally and globally. The future of wetlands is examined, including the potential threats of global climate change and invasive species, as well as their restoration and creation. This new edition maintains the structure and style of the first, but is fully updated throughout with new chapters on invasive species, restoration/creation, global climate change, and the value of wetlands.

Conservation Biology for All provides cutting-edge but basic conservation science to a global readership. A series of authoritative chapters have been written by the top names in conservation biology with the principal aim of disseminating cutting-edge conservation knowledge as widely as possible. Important topics such as balancing conversion and human needs, climate change, conservation planning, designing and analyzing conservation research, ecosystem services, endangered species management, extinctions, fire, habitat loss, and invasive species are covered. Numerous textboxes describing additional relevant material or case studies are also included. The global biodiversity crisis is now unstoppable; what can be saved in the developing world will require an educated constituency in both the developing and developed world. Habitat loss is particularly acute in developing countries, which is of special concern because it tends to be these locations where the greatest species diversity and richest centres of endemism are to be found. Sadly, developing world conservation scientists have found it difficult to access an authoritative textbook, which is particularly ironic since it is these countries where the potential benefits of knowledge application are greatest. There is now an urgent need to educate the next generation of scientists in developing countries, so that they are in a better position to protect their natural resources.

There is now an increased awareness of the importance of polar regions in the Earth system, as well as their vulnerability to anthropogenic derived change, including of course global climate change. This new edition offers a concise but comprehensive introduction to polar ecology and has been thoroughly revised and updated throughout, providing expanded coverage of marine ecosystems and the impact of humans. It incorporates a detailed comparison of the Arctic and Antarctic systems, with a particular emphasis on the effects of climate change, and describes marine, freshwater, glacial, and terrestrial habitats. This breadth of coverage is unique in the polar biology literature. As with other titles in the Biology of Habitats Series, particular emphasis is placed on the organisms that dominate these extreme environments although pollution, conservation and experimental aspects are also considered. This accessible text is suitable for both senior undergraduate and graduate students taking courses in polar ecology, often as part of a wider marine biology degree programme. It will also be of value and use to the many professional ecologists and conservation biologists requiring a concise overview of the topic.

Conservation Biology for All

The Biology of Coral Reefs

The Biology of Peatlands, 2e

The Biology of Urban Environments

Biological Report

An interdisciplinary book tackling the challenges of managing peatlands and their ecosystem services in the face of climate change.

The second edition of this widely cited textbook continues to provide a concise but comprehensive introduction to cave and subterranean biology, describing this fascinating habitat and its biodiversity. It covers a range of biological processes including ecosystem function, evolution and adaptation, community ecology, biogeography, and conservation. The authors draw on a global range of examples and case studies from both caves and non-cave subterranean habitats. One of the barriers to the study of subterranean biology has been the extraordinarily large number of specialized terms used by researchers; the authors explain these terms clearly and minimize the number that they use. This new edition retains the same 10 chapter structure of the original, but the content has been thoroughly revised and updated throughout to reflect the huge increase in publications concerning subterranean biology over the last decade.

Bryophyte Biology provides an extensive overview of the hornworts, liverworts, and mosses; diverse groups of land plants that occupy a great variety of habitats throughout the world. This edition covers essential aspects of bryophyte biology, from morphology, physiological ecology and conservation, to speciation, and genomics. Revised classifications incorporate contributions from recent phylogenetic studies. Six new chapters complement fully updated chapters from the original book to provide a completely up-to-date resource. New chapters focus on the contributions of Physcomitrella to plant genomic research, population ecology of bryophytes, mechanisms of drought tolerance, a phylogenetic perspective on land plant evolution, and problems and progress of bryophyte speciation and conservation. Written by leaders in the field, this book offers an authoritative treatment of bryophyte biology, with rich citation of the current literature, suitable for advanced students and researchers.

Peatlands provide globally important ecosystem services through climate and water regulation or biodiversity conservation. While covering only 3% of the earth's surface, degrading peatlands are responsible for nearly a quarter of carbon emissions from the land use sector. Bringing together world-class experts from science, policy and practice to highlight and debate the importance of peatlands from an ecological, social and economic perspective, this book focuses on how peatland restoration can foster climate change mitigation. Featuring a range of global case studies, opportunities for reclamation and sustainable management are illustrated throughout against the challenges faced by conservation biologists. Written for a global audience of environmental scientists, practitioners and policy makers, as well as graduate students from natural and social sciences, this interdisciplinary book provides vital pointers towards managing peatland conservation in a changing environment.

Peatland Restoration and Ecosystem Services

A Handbook of Tropical Soil Biology

The Biology of Alpine Habitats

Observations and Principles

Responses to Climate Change and Atmospheric Nitrogen and Sulfur Depositions

The aim of this book is to provide an accessible, up-to-date introduction to stream and river biology. Beginning with the physical features that define running water habitats, the book goes on to look at these organisms and their ecology.

This text offers a concise but comprehensive introduction to desert ecology. As with other titles in this series, the emphasis is on the organisms that dominate this harsh environment, although pollution, conservation and experimental aspects are also considered.

Soil science has undergone a renaissance with increasing awareness of the importance of soil organisms and below-ground biotic interactions as drivers of community and ecosystem properties.

A detailed account of the biology and ecology of vascular wetland plants and their applications in wetland plant science, Wetland Plants: Biology and Ecology presents a synthesis of wetland plant studies and reviews from biology, physiology, evolution, genetics, community and population ecology, environmental science, and engineering. It provides a thorough discussion of the range of wetland plants adaptations to conditions such as life in water or saturated soils, high salt or high sulfur, as well as low light and low carbon dioxide levels. The authors include the latest research on the development of plant communities in newly restored or created wetlands and on the use of wetland plants as indicators of ecological integrity and of wetland boundaries. Over 140 figures, including over 70 original photographs, allow you to visualize the concepts, 40 tables give you easy access to definitions and data, and international examples provide you with a broad base of information. The growing consensus in wetlands literature and research suggests that methods are needed to assess the ecological health or integrity of wetlands, to set goals for wetland restoration, and to track the status and trends of wetlands. Wetland plants are emerging as important indicators, and becoming an important part of this research. Wetland Plants: Biology and Ecology contains up-to-date information on this increasingly important area in wetlands technology.

The Biology of Caves and Other Subterranean Habitats

Boreal Peatland Ecosystems

Population Biology of Larix Laricina at Cranberry Swamp, a High Elevation Peatland in Western Maryland

The Biology of Freshwater Wetlands

The Biology of Deserts

This volume provides a comprehensive coverage of the principal extreme soil ecosystems of natural and anthropogenic origin. Extreme soils oppose chemical or physical limits to colonization by most soil organisms and present the microbiologist with exciting opportunities. Described here are a range of fascinating environments from permafrost to Martian soils. The book includes chapters on basic research in addition to applications in biotechnology and bioremediation.

This practical handbook describes sampling and laboratory assessment methods for the biodiversity of a number of key functional groups of soil organisms, including insects, earthworms, nematodes, fungi and bacteria. The methods have been assembled and the protocols drafted by a number of scientists associated with the UNEP-GEF funded Conservation and Sustainable Management of Below-Ground Biodiversity Project, executed by the Tropical Soil Biology and Fertility (TSBF) Institute of the International Center for Tropical Agriculture (CIAT). The methods provide a standardized basis for characterizing soil biodiversity and current land uses in terrestrial natural, semi-natural and agroecosystems in tropical forests and at forest margins. The aim is to assess soil biodiversity against current and historic land use practices both at plot and landscape scales and, further, to identify opportunities for improved sustainable land management through the introduction, management or remediation of soil biota, thus reducing the need for external inputs such as fertilizers and pesticides. The book also contains extensive advice on the handling of specimens and the allocation of organisms to strain or functional group type. Published with TSBF-CIAT, CTA, UNEP and GEF

There is a growing awareness that peatlands are a key component of the global carbon cycle due to their role as an important carbon sink. However, many ecologists and conservation biologists lack a general understanding of peatlands despite the fact that they are also often repositories for rare species and, in many regions, represent the last remnants of natural vegetation. This book provides a concise but comprehensive introduction to peatland ecology. As with other books in the Biology of Habitats Series, the emphasis in this book will be on the organisms that dominate peatland habitats although their management, conservation and restoration will also be considered.

The world's mediterranean-type climate regions (including areas within the Mediterranean, South Africa, Australia, California, and Chile) have long been of interest to biologists by virtue of their extraordinary biodiversity and the appearance of evolutionary convergence between these disparate regions. These regions contain many rare and endemic species. Their mild climate makes them appealing places to live and visit and this has resulted in numerous threats to the species and communities that occupy them. Threats include a wide range of factors such as habitat loss due to development and agriculture, disturbance, invasive species, and climate change. As a result, they continue to attract far more attention than their limited geographic area might suggest. This book provides a concise but comprehensive introduction to mediterranean-type ecosystems. It is an accessible text which provides an authoritative overview of the topic. As with other books in the Biology of Habitats Series, the emphasis in this book is on the organisms that dominate these regions although their management, conservation, and restoration are also considered.

The Biology of Agroecosystems

The Biology of Peatlands

Microbiology of Extreme Soils

The Biology of Mediterranean-Type Ecosystems

The Biology of Soil

Robert Arking's Biology of Aging is an introductory text to the biology of aging which gives advanced undergraduate and graduate students a thorough review of the entire field. The mass of data related to aging is summarized into fifteen some particular aspect of the problem. His prior two editions have also served admirably as a reference text for clinicians and scientists. This new edition captures the extraordinary recent advances in our knowledge of the ultimate and pr phenomenon of aging.

Coral reefs represent the most spectacular and diverse marine ecosystem on the planet as well as a critical source of income for millions of people. However, the combined effects of human activity have led to a rapid decline in the health facing complete destruction. Their world-wide deterioration and over-exploitation has continued and even accelerated in many areas since the publication of the first edition in 2009. At the same time, there has been a near doubling in the been written in this short time about coral reef biology and the ability to acclimate to ocean warming and acidification. This new edition has been thoroughly revised and updated, incorporating the significant increase in knowledge gained over the book's focus as a concise and affordable overview of the field. The Biology of Coral Reefs provides an integrated overview of the function, physiology, ecology, and behaviour of coral reef organisms. Each chapter is enriched with a selection written by internationally recognised experts. As with other books in the Biology of Habitats Series, the emphasis in this book is on the organisms that dominate this marine environment although pollution, conservation, climate change, and restoration are also included. Indeed, particular emphasis is placed on conservation and management due to the habitat's critically endangered status. A global range of examples is employed which gives the book international relevance.

Dynamics.

Mangroves and seagrasses form extensive and highly productive ecosystems that are both biologically diverse and economically valuable. This book, now in its third edition and fully updated throughout, continues to provide a current and comprehensive aspects of the biology and ecology of mangroves and seagrasses. Using a global range of examples and case studies, it describes the unique adaptations of these plants to their exacting environments: the rich and diverse communities of coral forests and seagrass meadows (including tree-climbing shrimps, synchronously flashing fireflies, and 'gardening' seacows); the links between mangrove, seagrass, and other habitats; and the evolution, biodiversity, and biogeography of mangroves. The economic value of mangroves and seagrasses is also discussed, including approaches to rational management of these vital resources and techniques for the restoration of degraded habitats. A final chapter, new to this edition, examines the impact of climate change including sea level rise. As with other titles in the Biology of Habitats Series, particular emphasis is placed on the organisms that dominate these fascinating aquatic ecosystems although pollution, conservation, and experimental aspects are also included. This accessible textbook assumes no previous knowledge of mangrove or seagrass ecology and is intended for senior undergraduate and graduate students, as well as professional ecologists, conservation practitioners, and resource managers.

University of Michigan Official Publication

Influence of Geochemistry and Biology

A Thesis in Biology

The Biology of Polar Regions

Biology of Aging

A combination of low oxygen levels and dense plant canopies present particular challenges for organisms living in this aquatic habitat.

Erratum: Table 11.1 on page 241 has been mis-set. The entries for the phyla Annelida, Bryozoa, Cnidaria, Echiura, Mollusca, Placozoa, Porifera and Rotifera should all be moved one column to the right. The deep sea environment is the most extensive on our planet. Its denizens are normally unseen but whenever they are exposed to view they are regarded as bizarre aliens from a different world. The Biology of the Deep Ocean takes a close look at this apparently hostile world and explains how its inhabitants are exquisitely adapted to survive and flourish within it.

Each number is the catalogue of a specific school or college of the University.

Savannah habitats comprise an ecologically important, but ultimately fragile, ecosystem. They constitute one of the largest biomes on Earth, covering almost 20% of the land surface, and can be simply described as tropical and subtropical grasslands with scattered bushes and trees. Most savannahs occur in Africa, although smaller areas can be found in South America, India, and Australia. They form a rich mosaic of diverse ecosystems, and this book offers a concise but comprehensive introduction to their ecology, biodiversity, and conservation. The Biology of African Savannahs describes the major plants (grasses, and trees such as Acacia) and animals (mainly large mammals) that live in this habitat, and examines the biological and ecological factors that influence their population size, interactions (such as predation), and community composition. Conservation issues such as climate change, hunting, and conflict between wildlife and domestic animals are also discussed. This new edition has been updated throughout with the latest research in the field, and contains new technique boxes which introduce readers to some of the analytical methods used to study African savannahs. This accessible text is suitable for both senior undergraduate and graduate students taking courses in savannah and tropical ecology as part of a wider ecology and/or conservation biology degree programme. It will also be of relevance and use to the many professional ecologists and conservation practitioners requiring a concise but authoritative overview of the topic.

A Focus on Peatlands and Peat Mosses

The Biology of Coastal Sand Dunes

A Community and Ecosystem Approach

Biology and Ecology

The Biology of African Savannahs

This is the first truly ecosystem-oriented book on peatlands. It adopts an ecosystems approach to understanding the world's boreal peatlands. The focus is on biogeochemical patterns and processes, production, decomposition, and peat accumulation, and it provides additional information on animal and fungal diversity. A recurring theme is the legacy of boreal peatlands as impressive accumulators of carbon as peat over millennia.

Myrmarker har en stor roll i regleringen av den globala kolbalansen och koncentrationerna av koldioxid och metan i atmosfären, vilket gör dem till speciellt viktiga ekosystem ur ett klimatförändringsperspektiv. Förändringar av myrmarker genom naturlig utveckling eller antropogen påverkan kan därför få långtgående störningar av myrars klimatreglerande funktion. Mikroorganismer har en avgörande roll i biogeokemiska processer genom att t ex bryta ned organisk material i mark och därmed styra kolets kretslopp. För att förstå hur myrsystemen reagerar på störningar är det därför väsentligt att veta hur mikroorganismssamhällena reagerar genom förändringar i sammansättning och biogeokemisk aktivitet. Målet för studierna, som ligger till grund för denna avhandling, var att undersöka hur mikroorganismssamhällen i myrar reagerar på uppvärmning genom klimatförändring och ökade kväve- (N) och svavel- (S) halter i nederbörd. High through-put sekvensering användes för att studera taxonomiska och funktionella egenskaper hos mikroorganismerna i myrar och quantative PCR användes för att mer specifikt studera de metabildande arkeorna. Två fältkampanjer vardera omfattande tre ombrotrofa myrar med olika klimatförhållanden och olika mängder N och S i nederbörden användes för att undersöka lokala och storskaliga effekter på myrars mikrobiella samhällen. Resultaten visade att latudinell variation i geoklimatologiska förhållanden (temperatur ochnederbördsmängd) och deposition av näringsämnen hade en påverkan på sammansättningen av de mikrobiella samhällena och aktiva metabildare förr än variationen i den kemiska miljön inom varje specifik myr. Myrväxtsamhällenas sammansättning för en specifik myr visades sig i stor utsträckning styra sammansättningen av motsvarande mikrobiella samhälle i torvprofilen. Detta framgick klart av i en analys av samexisterande nätverk av mikroorganismssamhällen och motsvarande växtsamhällen i en studie av tre geografiskt skilda myrar med olika kvävedeposition. Effekterna av klimatförändring och nederbörd med olika mängder av N och S studerades mer specifikt genom att analysera de mikrobiellasamhällena i ett långliggande (18 år) försök. Påverkan av var och en av dessa manipulationer antingen förstärktes eller minskades, när de förekom i kombinationer. Ökad kvävedeposition var den faktor som hade starkast effekt. De långvariga störningarna medförde stora förändringar i den mikrobiella taxonomin inom samhällena. Detta återspeglades dock inte i den fysiologiska kapaciteten, vilket visar att det finns en stark buffring i myrarnas mikrobiella funktion. Detta tyder på att framtida utveckling av myrar i relation till olika störningar sannolikt inte kommer att påverka myrarnas roll för kolbalans och växthusgasutbyte med atmosfären. Peatlands play a substantial role in regulating the global carbon balance and concentrations of the greenhouse gases CO2 and CH4 in the atmosphere, and are thus of utmost importance from a climate change perspective. Any changes of peatland functions due to natural or anthropogenic perturbations may result in changes in these ecosystem services. Soil microbial communities are essential drivers of biogeochemical processes, including the carbon cycle. In order to fully understand the effect of environmental perturbations on peatland functions, it is essential to understand how microbial communities are affected. The aim of the research presented in this thesis was to investigate the responses of the peat microbial communities to climate change and increased precipitation of nitrogen(N) and sulfur (S) compounds. High-throughput sequencing approaches were used to investigate the taxonomic and functional composition of microbial communities, and quantitative PCR was used to specifically target the methanogen community. Two field studies including three ombrotrophic peatlands each that differed in climatological conditions and atmospheric N and S

depositions, were used to investigate and compare the effect of large- and local-scale environmental conditions on microbial communities. The results show that the variation in geo-climatological (temperature and precipitation) and atmospheric deposition conditions along the latitudinal gradient modulate the peat microbial community composition and the abundance of active methanogens to a greater extent than site-related microhabitats. Furthermore, a tight coupling between the plant community composition of a site and the composition of its microbial community was observed, and was found to be mainly driven by plants rather than microorganisms. These co-occurrence networks are strongly affected by seasonal climate variability and the interactions between species in colder areas are more sensitive to climate change. The long-term effects of warming and increased N and S depositions on the peat microbial communities were further investigated using an 18-year in-situ peatland experiment simulating these perturbations. The impacts of each of these perturbations on the microbial community were found to either multiply or counteract one another, with enhanced N deposition being the most important factor. While the long-term perturbations resulted in a substantial shift in the taxonomic composition of microbial communities, only minor changes occurred in genome-encoded functional traits, indicating a functional redundancy. This could act as a buffer maintaining ecosystem functioning when challenged by multiple stressors, and could limit future changes in greenhouse gases and carbon exchange.

This book provides a comprehensive and up to date overview of peatland ecosystems. It examines the entire range of biota present in this habitat and considers management, conservation, and restoration issues.

Examines the fens and bogs of the upper Midwest, with a taxonomic treatment of peat mosses

Science, Policy and Practice

Wetland Plants

Microbial Communities in Boreal Peatlands

The Biology of Rocky Shores

The Biology of Mangroves and Seagrasses

This is an introduction to the study of marine rocky shores in the temperate zone. It is designed to encourage students and others to couple enormous intellectual rewards with the pleasure of working in some of the last easily accessible but relatively unspoiled places, and can be used as a basis for field courses, project work, or for lectures. Centred in North-West Europe, but using examples from all over the world, the book begins by considering the physical factors that characterize the habitat - primarily tides and waves - and goes on to assess how they influence the organisms that live within it. It describes how the behaviour and physiology of individuals belonging to the major groups - algae, grazers, suspension feeders, and predators - are affected by their habitat, how their communities are structured, and discusses theories of community organization. For field courses, it suggests experiments and observations that can be carried out on the shore or in nearby laboratories. Finally, problems of pollution and conservation are considered in the context of their effects upon biodiversity.

Tropical peatlands are found mostly in South East Asia, but also in Africa and in Central and South America. They and peat-swamp forests store large amounts of carbon and their destruction, particularly through the development of plantations for oil palm and other forms of agriculture, releases large quantities of greenhouse gases which contribute to climate change. They are also complex and vulnerable ecosystems, home to great biodiversity and a number of endangered species such as the orang utan. The aim of this book is to introduce this little known but important and vulnerable ecosystem in a way that explains its long standing interaction with the global carbon cycle and how it is being destroyed by deforestation and inappropriate development. The authors describe the origin and formation of peat in the tropics, its current location, extent and amount of carbon stored in it, its biodiversity and natural resource functions and key ecological functions and processes. Appropriate hydrology is the key to the development and maintenance of peatlands and the unique aspects of tropical peatland water supply and management are also explored. In the same vein the nutrient dynamics and budgets of this ecosystem are explained in order to show how complex habitats can be maintained mainly by rainwater containing very low concentrations of essential chemical elements. Past and present impacts on tropical peatlands in SE Asia are discussed and the need for restoration and wise use highlighted. Finally, projections are made about the future of this ecosystem as a result of continuing human impacts and climate change. Since the advent of agriculture approximately 12,000 years ago, human activity has created a unique set of ecosystems. However, the recent development of world markets, rapid technological advances, and other changes to farming practices have led to hugely increased pressures on farm habitats and organisms. Global human populations are rising and diets are becoming ever more complicated, leading to unrelenting requirements for increased levels of food production. Natural biotopes are becoming increasingly fragmented as agricultural activities expand around them. "Agroecosystems" now occur from the tropics to subarctic environments and comprise systems as varied as annual crops, perennial grasslands, orchards, and agroforestry systems. They presently cover almost 40% of the terrestrial land surface and significantly shape landscapes at a global scale. This key addition to the OUP Biology of Habitats Series provides a novel perspective on agroecosystems, summarising our current understanding of the basic and applied aspects of these important and complex habitats, whilst focusing on environmental concerns in the context of global change. The Biology of Agroecosystems is for both senior undergraduate and graduate students taking courses in agroecology, farmland ecology, conservation, and agriculture as well as the many professional ecologists, conservation biologists, and land managers requiring a concise overview of agroecology.

How do plants, animals, and humans manage to survive and adapt to the urban environment? This book provides a comprehensive coverage of biological matters related to urban environments presenting both the conceptual and theoretical underpinnings, and practical examples required to understand and address the challenges presented by this novel environment. The Biology of Urban Environments focusses on urban denizens: species (both domesticated and non-domesticated) that live for all or part of their life cycle in towns and cities. The biology of household plants and companion animals is discussed alongside that of species that have become feral or have not been domesticated. Temporal and spatial distribution patterns are set out and generalizations are made while exceptions are also discussed. The various strategies used and the genotypic, phenotypic, and behavioural adaptations of plants and animals in the face of the challenges presented by urban environments are explained. The final two chapters contain a discussion of the impacts of urban environments on human biology and suggestions on how this understanding might be used to address the increasing human health burden associated with illnesses that are characteristic of urbanites in the early twenty-first century.

Campbell Biology Australian and New Zealand Edition

Population Biology of Grasses

Sampling and Characterization of Below-ground Biodiversity

Mercury Methylation in Boreal Peatlands

Tropical Peatlands

There is a growing awareness that peatlands are a key component of the global carbon cycle due to their role as an important carbon sink. However, many ecologists and conservation biologists lack a general understanding of peatlands despite the fact that they are also often repositories for rare species and, in many regions, represent the last remnants of natural vegetation. This book provides a concise but comprehensive introduction to peatland ecology.

A concise, easy to read introduction for anyone working in the field of wetland ecology. Besides updating and expanding the material in all chapters of the first edition, the second edition includes new chapters on global climate change, invasive species, and restoration and creation.

This book is unique in providing a global overview of alpine (high mountain) habitats that occur above the natural (cold-limited) tree line, describing the factors that have shaped them over both ecological and evolutionary timescales. The broad geographic coverage helps synthesise common features whilst revealing differences in the world's major alpine systems from the Arctic to the Tropics. The words "barren" and "wasteland" have often been applied to describe landscapes beyond the treeline. However, a closer look reveals a large diversity of habitats, assemblages and individual taxa, largely connected to topographic diversity within individual alpine regions. The book considers habitat-forming factors (landforms, energy and climate, hydrology, soils, and vegetation) individually, as well as their composite impacts on habitat characteristics. Evolution and population processes are examined in the context of the responsiveness / resilience of alpine habitats to global change. Finally, a critical assessment of the potential impacts of climate change, atmospheric pollutants and land use is made and related to the management and conservation options available for these unique habitats.

Over nine successful editions, CAMPBELL BIOLOGY has been recognised as the world's leading introductory biology textbook. The Australian edition of CAMPBELL BIOLOGY continues to engage students with its dynamic coverage of the essential elements of this critical discipline. It is the only biology text and media product that helps students to make connections across different core topics in biology, between text and visuals, between global and Australian/New Zealand biology, and from scientific study to the real world. The Tenth Edition of Australian CAMPBELL BIOLOGY helps launch students to success in biology through its clear and engaging narrative, superior pedagogy, and innovative use of art and photos to promote student learning. It continues to engage students with its dynamic coverage of the essential elements of this critical discipline. This Tenth Edition, with an increased focus on evolution, ensures students receive the most up-to-date, accurate and relevant information.

Bryophyte Biology

The Biology of Streams and Rivers

The Biology of the Deep Ocean

Since the advent of agriculture approximately 12,000 years ago, human activity has created a unique set of ecosystems. However, the recent development of world markets, rapid technological advances, and other changes to farming practices have led to hugely increased pressures on farm habitats and organisms. Global human populations are rising and diets are becoming ever more complicated, leading to unrelenting requirements for increased levels of food production. Natural biotopes are becoming increasingly fragmented as agricultural activities expand around them. "Agroecosystems" now occur from the tropics to subarctic environments and comprise systems as varied as annual crops, perennial grasslands, orchards, and agroforestry systems. They presently cover almost 40% of the terrestrial land surface and significantly shape landscapes at a global scale. This key addition to the OUP Biology of Habitats Series provides a novel perspective on agroecosystems, summarising our current understanding of the basic and applied aspects of these important and complex habitats, whilst focusing on environmental concerns in the context of global change. The Biology of Agroecosystems is for both senior undergraduate and graduate students taking courses in agroecology, farmland ecology, conservation, and agriculture as well as the many professional ecologists, conservation biologists, and land managers requiring a concise overview of agroecology.