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Issues in Ecosystem Ecology: 2011 Edition [ScholarlyEditions](#) **Issues in Ecosystem Ecology / 2011 Edition** is a **ScholarlyEditions™** eBook that delivers timely, authoritative, and comprehensive information about **Ecosystem Ecology**. The editors have built **Issues in Ecosystem Ecology: 2011 Edition** on the vast information databases of **ScholarlyNews.™** You can expect the information about **Ecosystem Ecology** in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of **Issues in Ecosystem Ecology: 2011 Edition** has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at **ScholarlyEditions™** and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>. **Plants on Plants - The Biology of Vascular Epiphytes** [Springer](#) This book critically reviews advances in our understanding of the biology of vascular epiphytes since Andreas Schimper's 1888 seminal work. It addresses all aspects of their biology, from anatomy and physiology to ecology and evolution, in the context of general biological principles. By comparing epiphytes with non-epiphytes throughout, it offers a valuable resource for researchers in plant sciences and related disciplines. A particular strength is the identification of research areas that have not received the attention they deserve, with conservation being a case in point. Scientists have tended to study pristine systems, but global developments call for information on epiphytes in human-disturbed systems and the response of epiphytes to global climate change. **Remote Sensing Technology Applications in Forestry and REDD+** [MDPI](#) Advances in close-range and remote sensing technologies are driving innovations in forest resource assessments and monitoring on varying scales. Data acquired with airborne and spaceborne platforms provide high(er) spatial resolution, more frequent coverage, and more spectral information. Recent developments in ground-based sensors have advanced 3D measurements, low-cost permanent systems, and community-based monitoring of forests. The UNFCCC REDD+ mechanism has advanced the remote sensing community and the development of forest geospatial products that can be used by countries for the international reporting and national forest monitoring. However, an urgent need remains to better understand the options and limitations of remote and close-range sensing techniques in the field of forest degradation and forest change. Therefore, we invite scientists working on remote sensing technologies, close-range sensing, and field data to contribute to this Special Issue. Topics of interest include: (1) novel remote sensing applications that can meet the needs of forest resource information and REDD+ MRV, (2) case studies of applying remote sensing data for REDD+ MRV, (3) timeseries algorithms and methodologies for forest resource assessment on different spatial scales varying from the tree to the national level, and (4) novel close-range sensing applications that can support sustainable forestry and REDD+ MRV. We particularly welcome submissions on data fusion. **Tropical Montane Cloud Forests** [Science for Conservation and Management Cambridge University Press](#) This volume represents a uniquely comprehensive overview of our current knowledge on tropical montane cloud forests. 72 chapters cover a wide spectrum of topics including cloud forest distribution, climate, soils, biodiversity, hydrological processes, hydrochemistry and water quality, climate change impacts, and cloud forest conservation, management, and restoration. The final chapter presents a major synthesis by some of the world's leading cloud forest researchers, which summarizes our current knowledge and considers the sustainability of these forests in an ever-changing world. This book presents state-of-the-art knowledge concerning cloud forest occurrence and status, as well as the biological and hydrological value of these unique forests. The presentation is academic but with a firm practical emphasis. It will serve as a core reference for academic researchers and students of environmental science and ecology, as well as practitioners (natural resources management, forest conservation) and decision makers at local, national, and international levels. **Tropical Rain Forest Ecosystems Biogeographical and Ecological Studies** [Elsevier](#) After publication of the first volume of the Tropical Rain Forest, the International Journal of Mycology and Lichenology commented ``This is a welcome addition to the literature on the ecology of tropical rain forests. The book provides a wealth of data and stimulating discussions and is of great interest to ecologists interested in tropical areas." Whereas the first volume dealt with system-ecological aspects such as community organization and processes, the present volume concentrates on biogeographical aspects such as species composition, diversity, and geographical variation. Recent ecological research in the tropical rain forest has greatly extended our understanding of biogeographical patterns of variation in the various groups of organisms, and has revealed many of the ecological and evolutionary forces that led to the present patterns of variation. Many important systems of co-evolution between the tropical rain forest ecosystems have also come to light, and the loss of species and related damage is better understood in quantitative terms. This volume presents a comprehensive review of these and other features of the rain forest ecosystem structure, and the ecological processes operating that system. General chapters on abiotic and biotic factors are followed by specific chapters on all major groups of organisms. Prospects for the future are discussed and research needs clearly stated. Also the human exploitation of the system, its effects and its limits are discussed. The book is extensively illustrated by photographs, graphs, and tables, and comprehensive bibliographies follow each chapter. Author, systematic and subject indices complete the book. It is a must for all ecologists, agriculturists, foresters, agronomists, hydrologists, soil scientists, entomologists, human ecologists, nature conservationists, and planners dealing with tropical areas. Biologists and environmentalists will also find the volume of great interest. **Seagrasses: Biology, Ecology and Conservation** [Springer Science & Business Media](#) Seagrasses are unique plants; the only group of flowering plants to recolonise the sea. They occur on every continental margin, except Antarctica, and form ecosystems which have important roles in fisheries, fish nursery grounds, prawn fisheries, habitat diversity and sediment stabilisation. Over the last two decades there has been an explosion of research and information on all aspects of seagrass biology. However the compilation of all this work into one book has not been attempted previously. In this book experts in 26 areas of seagrass biology present their work in chapters which are state-of-the-art and designed to be useful to students and researchers alike. The book not only focuses on what has been discovered but what exciting areas are left to discover. The book is divided into sections on taxonomy, anatomy, reproduction, ecology, physiology, fisheries, management, conservation and landscape ecology. It is destined to become the chosen text on seagrasses for any marine biology course. **Vascular Plants as Epiphytes Evolution and Ecophysiology** [Springer Science & Business Media](#) In his lectures my teacher Karl Mägdefrau used to say that one only becomes a real plant scientist when one enters a tropical rainforest. For me this initiation occurred in 1969 in northern Queensland, Australia, and was associated with the greatest excitement. On another level it received confirmation when I set out in 1983 together with some friends and colleagues for the first detailed ecophysiological studies of epiphytes in the wet tropics in situ in the island of Trinidad and later for similar work in Venezuela. This then promoted the idea of organizing a special symposium on "The evolution and ecophysiology of vascular plants as epiphytes" during the XIV International Botanical Congress in July 1987 in Berlin, and to ask some of the speakers to produce chapters for a small monograph on the interesting ecologically defined group of plants "epiphytes" as presented in this volume of "Ecological Studies". The enthusiasm of the participants of the symposium giving reports and adding to the discussion was most stimulating, and it appears that epiphytes might gain well-deserved, wider consideration in the future. The cooperation with the authors of this book was very pleasant and I appreciated the new contacts established with adepts of the "epiphyte community". The chapters were organized and arranged covering first more general aspects with setting the scene in Chapter 1, the evolution of epiphytism in Chapter 2 and the role of CO₂ -concentrating mechanisms in 2 Chapter 3. **Forest Canopies** [Elsevier](#) The treetops of the world's forests are where discovery and opportunity abound, however they have been relatively inaccessible until recently. This book represents an authoritative synthesis of data, anecdotes, case studies, observations, and recommendations from researchers and educators who have risked life and limb in their advocacy of the High Frontier. With innovative rope techniques, cranes, walkways, dirigibles, and towers, they finally gained access to the rich biodiversity that lives far above the forest floor and the emerging science of canopy ecology. In this new edition of **Forest Canopies**, nearly 60 scientists and educators from around the world look at the biodiversity, ecology, evolution, and conservation of forest canopy ecosystems. -Comprehensive literature list -State-of-the-art results and data sets from current field work -Foremost scientists in the field of canopy ecology -Expanded collaboration of researchers and international projects -User-friendly format with sidebars and case studies -Keywords and outlines for each chapter **Costa Rican Ecosystems** [University of Chicago Press](#) In 1502, Christopher Columbus named Costa Rica, and while gold and silver never materialized to justify the moniker of rich coast in purely economic terms, scientists and ecotourists alike have long appreciated its incredible wealth. Wealth in Costa Rica is best measured by its biodiversityhome to a dizzying number of plants and animals, many endemic, it is a country that has long encouraged and welcomed researchers from the world over, and is exemplary in the creation and commitment to indigenous conservation and management programs. Costa Rica is considered to have the best preserved natural resources in Latin America. Approximately nine percent (about 1,000,000 acres) of Costa Rica has been protected in 15 national parks, and a comparable amount of land is protected as wildlife refuges, forest reserves or Indian reservations. This long-awaited synthesis of Costa Rican ecosystems is an authoritative presentation of the paleoecology, biogeography, structure, conservation, and sustainable use of Costa Rica's ecosystems. It systematically covers the entire range of Costa Rica's natural and managed, terrestrial, freshwater and marine ecosystems, including its island systems (Cocos Islands), the Atlantic and Pacific oceans and shores (coasts, coral reefs, mangrove forests), its lowlands (dry, season and wet forests), its highlands (the northern volcanoes and southern Talamanca s), and its estuaries, rivers, lakes, swamps and bogs. The volume's integrated, comprehensive format will be welcomed by tropical and temperate biologists alike, by biogeographers, plant and animal ecologists, marine biologists, conservation biologists, foresters, policy-makers and all scientists, natural history specialists and all with an interest in Costa Rica's ecosystems." **Tropical Rain Forest Ecosystems Special Issue on Northwest Forest Canopies Arthropods of Tropical Forests Spatio-Temporal Dynamics and Resource Use in the Canopy** [Cambridge University Press](#) **Table of contents** **Monteverde Ecology and Conservation of a Tropical Cloud Forest** [Oxford University Press on Demand](#) **The Monteverde Cloud Forest Reserve** has captured the attention of biologists, conservationists and ecologists and has been the setting for extensive investigation over the past 30 years. This provides information on this ecosystem and the biota. **Northwest Science Neotropical Savannas and Seasonally Dry Forests Plant Diversity, Biogeography, and Conservation** [CRC Press](#) More often than not, when people think of a neotropical forest, what comes to mind is

a rain forest, rather than a dry forest. Just as typically, when they imagine a savanna, they visualize the African plains, rather than those dry woodlands and grasslands found in the Neotropics. These same preconceptions can be found among scientists, as these ne

Tropical Forest Canopies: Ecology and Management Proceedings of ESF Conference, Oxford University, 12-16 December 1998 [Springer Science & Business Media](#) Almost half of all life on earth may exist in the world's forest canopies. They may also play a vital role in maintaining the planet's climate, yet they remain largely unexplored owing to difficulties of access. They are renowned for their great diversity and role in forest functioning, yet there are still great gaps in the understanding of this 'last biological frontier'. This seminal book shows how canopy science is now in a position to answer many of the outstanding questions, among which are some of the most pressing environmental issues society is presently facing. It represents a major summary of the current understanding of canopy ecology, and maps a path forward into a greater understanding of tropical forest ecology and management at a time when the very future of this ecosystem is threatened by humanity's actions. **Tropical Forest Canopies: Ecology and Management** [Springer Science & Business Media](#) Selbyana Terrestrial Photosynthesis in a Changing Environment A Molecular, Physiological, and Ecological Approach [Cambridge University Press](#) An integrated guide to photosynthesis in an environmentally dynamic context, covering all aspects from basic concepts to methodologies. **Plants Diversity and Evolution** [Cambridge University Press](#) Plants are so much part of our environment that we often take them for granted, yet beautiful, fascinating and useful plants are everywhere, from isolated moss colonies on stone walls to vast complex communities within tropical rainforests. How did this array of form and habitat come about, and how do we humans interact with the plant kingdom? This unique new textbook provides a refreshing and stimulating consideration of these questions and throws light in a new way on the complexity, ecology, evolution and development of plants and our relationship with them. Illustrated throughout with numerous line diagrams and beautiful colour photographs, the book provides a comprehensive introduction to the fascinating lives that plants lead and the way in which our lives are inextricably linked to theirs. It will be particularly useful to students seeking a more ecological and process-oriented approach than is available in other plant science textbooks. **Lichen Diversity on Stems, Slash, and Stumps in Managed Boreal Forests** Impact of Whole-tree Harvest Encyclopedia of Biodiversity Includes articles on agriculture, ecology, forests, wetlands, and environment, as well as organisms **Cacao Diseases A History of Old Enemies and New Encounters** [Springer](#) This book reviews the current state of knowledge concerning cacao pathogens and methods for their management. Topics discussed include the history, biology and genetic diversity of *Moniliophthora* species (which cause witches' broom and frosty pod rot) and *Phytophthora* species (which cause black pod rot) that cause diseases resulting in major losses to cacao production. Emerging pathogens such as Cacao swollen shoot virus and *Ceratobasidium theobromae* (which causes vascular streak dieback) are also discussed in detail, along with many pathogens of significant local concern. Most of these pathogens represent major risks to global cacao production should they expand into new areas, breaking out of their current limited distributions. By considering cacao diseases as a group, similarities in the available tools and techniques used in their management become apparent, as do their limitations. Gaps in our current knowledge of cacao pathogens and the management of the diseases they cause are detailed, and suggestions for future research directions are provided. This insight allows readers to consider cacao disease threats from a more comprehensive, global perspective and paves the way for an improved synergy of efforts between the various research programs, agencies, and industries, both private and public, with vested interests in cacao production, and cacao farmers. **Potential Impacts of Climate Change on Tropical Forest Ecosystems** [Springer Science & Business Media](#) Climate change represents one of the most alarming long-term threats to ecosystems the world over. This new collection of papers provides, for the first time, an overview of the potentially serious impact that climate change may have on tropical forests. The authors, a multi-disciplinary group of leading experts in climatology, forestry, ecology and conservation biology, present a state-of-knowledge snapshot of how tropical forests are likely to react to the changes being wrought on our planet's atmosphere and climate. Tropical forests represent extraordinary harbours for biological diversity, and yet as deforestation and degradation continue apace, they are under greater pressure from human impacts than ever before. Climate change adds yet another threat to these valuable ecosystems, and this volume demonstrates just how significant a problem this may really be. The authors identify certain types of forest, including tropical montane cloud forest that may be particularly vulnerable. They also show the strong likelihood of global warming aggravating problems in already fragmented forest areas. **Terrestrial Global Productivity** [Academic Press](#) As the global climate changes, there are concomitant changes in global biological productivity. This book is devoted to the assessment of terrestrial Net Primary Productivity ("the total amount of energy acquired by green plants during photosynthesis, minus the energy lost through respiration"--APDS&T, pp. 1457). The book is comprised of three major sections. The first section is a review of the processes that operate globally to influence productivity--these are the initial conditions of any model of primary productivity. The second section is comprised of chapters that assess the contribution of particular ecosystems to global productivity. The final major section contains chapters of a synthetic nature that describe attempts to model global productivity. This book should appeal to both ecologists and environmental scientists. **Willapa National Wildlife Refuge (N.W.R.), Comprehensive Conservation Plan Environmental Impact Statement** Physiological ecology of plants of the wet tropics Proceedings of an International Symposium Held in Oxatepec and Los Tuxtlas, Mexico, June 29 to July 6, 1983 [Springer Science & Business Media](#) This book contains the results of a Symposium on the physiological ecology of plants of the lowland wet tropics held in Mexico in June 1983 organized by the Instituto de Biología of the National University of Mexico (U. N. A. M.), and sponsored by UNAM, CONACYT, NSF and UNESCO (CIET). A workshop portion of the Symposium was held at the tropical research station at Los Tuxtlas, Veracruz. This Symposium originated in response to the increasing interest in the physiological ecology of tropical plants, because of the potential. of this field to provide a basic understanding of functioning of tropical plant communities. The study of physiological ecology of tropical plants has been delayed in some cases by the lack of conceptual framework, but also by the absence of appropriate instrumentation and techniques with which to conduct precise measurements under high temperature, high humidity field conditions. Hypotheses and concepts of the physiological ecology of tropical plants have been based mainly on observational data and the analysis of growth forms and leaf anatomf. The early work of A. F. W. Schimper and o. Stocker in Asia, and the extensive surveys made by H. Walter on the osmotic potentials of plants in the tropics and subtropics, constituted, until relatively recently, the only available information on the water and carbon relations of tropical plants. **Old-Growth Forests Function, Fate and Value** [Springer Science & Business Media](#) Many terms often used to describe old-growth forests imply that these forests are less vigorous, less productive and less stable than younger forests. But research in the last two decades has yielded results that challenge the view of old-growth forests being in decline. Given the importance of forests in battling climate change and the fact that old-growth forests are shrinking at a rate of 0.5% per year, these new results have come not a moment too soon. This book is the first ever to focus on the ecosystem functioning of old-growth forests. It is an exhaustive compendium of information that contains original work conducted by the authors. In addition, it is truly global in scope as it studies boreal forests in Canada, temperate old-growth forests in Europe and the Americas, and global tropical forests. Written in part to affect future policy, this eminently readable book is as useful for the scientist and student as it is for the politician and politically-interested layman. For a 4(d) Rule for the Conservation of the Northern Spotted Owl on Non-federal Lands, **Environmental Alternatives Analysis Bromeliaceae Profile of an Adaptive Radiation** [Cambridge University Press](#) This book covers bromeliad biology, rather than cultivation. **Canadian Journal of Forest Research** **Journal Canadien de la Recherche Forestière** **Vascular Epiphytes General Biology and Related Biota** [Cambridge University Press](#) This synthesis of the growing body of information from research on epiphytes and their relations with other tropical biota provides a comprehensive overview of basic functions, life history, evolution, and the place of epiphytes in complex tropical communities. Epiphytes comprise more than one-third of the tropical vascular flora in some tropical forests. Growing within tropical forest canopies, epiphytes are subject to severe environmental constraints, and their diverse adaptations make them a rich resource for studies of water balance, nutrition, reproduction and evolution. **Temperate and Boreal Rainforests of the World Ecology and Conservation** [Island Press](#) While tropical rainforests have received much conservation attention and support for their protection, temperate and boreal rainforests have been largely overlooked. Yet these ecosystems are also unique, supporting rainforest communities rich in plants and wildlife and containing some of the most massive trees on Earth. **Temperate and Boreal Rainforests of the World** brings together leading scientists from around the world to describe the ecology and conservation of these lesser-known rainforests in an attempt to place them on par with tropical rainforests in conservation efforts. The book summarizes major scientific findings presents new computer models that were used to standardize rainforest definitions identifies regions previously not widely recognized as rainforest provides the latest estimates on rainforest extent and degree of protection explores conservation strategies The book ends with a summary of the key ecological findings and outlines an ambitious vision of how we can conserve and manage the planet's remaining temperate and boreal rainforests in a truly ecological way that is better for nature, the climate, and ultimately our own welfare. **Temperate and Boreal Rainforests of the World** is a call to action for an accord to protect the world's rainforests. It offers a global vision rooted in ecological science but written in common language useful for governments, decision makers, and conservation groups concerned about the plight of these remarkable forests. **Estuarine Ecology** [John Wiley & Sons](#) A detailed and accessible exploration of the fundamentals and the latest advances in estuarine ecology In the newly revised third edition of **Estuarine Ecology**, a team of distinguished ecologists presents the current knowledge in estuarine ecology with particular emphasis on recent trends and advances. The book is accessible to undergraduate students while also providing a welcome summary of up-to-date content for a more advanced readership. This latest edition is optimized for classroom use, with a more intuitive mode of presentation that takes into account feedback from the previous edition's readers. Review questions and exercises have been added for all chapters that greatly assist in the learning and retention of the complex concepts discussed here. **Estuarine Ecology** remains the gold standard for the discipline by taking stock of the dramatic technological and scientific breakthroughs made in the field since the last edition was written. It also offers: Thorough introductions to the ecology, geomorphology, circulation, and chemistry of estuaries In-depth treatments of estuarine primary and secondary production, including coastal marshes and mangrove wetlands A holistic view on estuarine ecosystems, their modeling and analysis, as well as the impact of human activities and climate change Detailed answers to all exercise questions on the companion website Perfect for students of estuarine ecology and management, environmental science, geomorphology, fisheries science, oceanography, and natural resource management, **Estuarine Ecology** will also earn a place in the libraries of professionals, government employees, and consultants working on estuary and wetlands management and conservation. **Forest Canopies** [Academic Press](#) The treetops of the world's forests are where discovery and opportunity abound, however they have been relatively inaccessible until recently. This book represents an authoritative synthesis of data, anecdotes, case studies, observations, and recommendations from researchers and educators who have risked life and limb in their advocacy of the High Frontier. With innovative rope techniques, cranes, walkways, dirigibles, and towers, they finally gained access to the rich biodiversity that lives far above the forest floor and the emerging science of canopy ecology. In this new edition of **Forest Canopies**, nearly 60 scientists and educators from around the world look at the biodiversity, ecology, evolution, and conservation of forest canopy ecosystems. -Comprehensive literature list -State-of-the-art results and data sets from current field work -Foremost scientists in the field of canopy ecology -Expanded collaboration of researchers and international projects -User-friendly format with sidebars and case studies -Keywords and outlines for each chapter **Canadian Journal of Botany** **Journal Canadien de Botanique** **Écoscience Bibliography of Agriculture** **Biological Diversity The Coexistence of Species** [Cambridge University Press](#) This book discusses the factors and processes affecting biodiversity and its preservation. **World Seas: An Environmental Evaluation Volume III: Ecological Issues and Environmental Impacts** [Academic Press](#) **World Seas: An Environmental Evaluation, Second Edition, Volume Three: Ecological Issues and Environmental Impacts** covers global issues relating to our seas, including a biological description of the coast and continental shelf waters, the development and use of the coast, landfills and their effects, pollutant discharges over time, the effects of over-fishing, and the management methods and techniques used to ensure

continued ecosystem functioning. The relative importance of water-borne and airborne routes differ in different parts of the world is explored, along with extensive coverage of major habitats and species groups, governmental, education and legal issues, fisheries effects, remote sensing, climate change and management. This book is an invaluable, worldwide reference source for students and researchers concerned with marine environmental science, fisheries, oceanography and engineering and coastal zone development. Provides scientific reviews of regional issues, empowering managers and policymakers to make progress in under-resourced countries and regions Covers environmental issues arising from the human use of both the sea and its watershed Presents informed commentary on major trends, problems and successes, and recommendations for the future