

Introduction Physical Hydrology Martin Hendriks

A practical guide for the identification and management of a range of hazardous wastes, Waste Management Practices: Municipal, Hazardous, and Industrial integrates technical information including chemistry, microbiology, and engineering, with current regulations. Emphasizing basic environmental science and related technical fields, the book is an i
This volume aims to develop a framework for disaster and climate risk resilient livelihood system in Bangladesh using a policy oriented approach. It highlights the possible impacts of climate change on groundwater based irrigation in the country. Climate change is one of biggest challenges to society. It can lead to serious impacts on production, life and environment on a global scale. Higher temperatures and sea level rise will cause flooding and water salinity problems which will bring about negative effects on agriculture and high risks to industry and socio-economic systems in the future. Climate change will lead to many changes in global development and security especially energy, water, food, society, job, diplomacy, culture, economy and trade. The Intergovernmental Panel on Climate Change (IPCC) defines climate change as: “Any change in climate over time, whether due to natural variability or as a result of human activity.” Global climate change has emerged as a key issue in both political and economic arenas. It is an increasingly questioned phenomenon, and progressive national governments around the world have started taking action to respond to these environmental concerns.
The early 21st century has presented considerable challenges to the problem-solving capacity of the contemporary state in the industrialised world. Among the many uncertainties, anxieties and tensions, it is, however, the cumulative challenge of fiscal austerity, demographic developments, and climate change that presents the key test for contemporary states. Debates abound regarding the state’s ability to address these and other problems given increasingly dispersed forms of governing and institutional vulnerabilities created by politico-administrative and economic decision-making structures. This volume advances these debates, first, by moving towards a cross-sectoral perspective that takes into account the cumulative nature of the contemporary challenge to governance focusing on the key governance areas of infrastructure, sustainability, social welfare, and social integration; second, by considering innovations that have sought to add problem-solving capacity; and third, by exploring the kind of administrative capacities (delivery, regulatory, coordination, and analytical) required to encourage and sustain innovative problem-solving. This edition introduces a framework for understanding the four administrative capacities that are central to any attempt at problem-solving and how they enable the policy instruments of the state to have their intended effect. It also features chapters that focus on the way in which these capacities have become stretched and how they have been adjusted, given the changing conditions; the way in which different states have addressed particular governance challenges, with particular attention paid to innovation at the level of policy instrument and the required administrative capacities; and, finally, types of governance capacities that lie outside the boundaries of the state.
The authors preceive a trend in the study and practice of groundwater hydrology. They see a science that is emerging from its geological roots and its early hydraulic applications into a full-fledged environmental science. They see a science that is becoming more interdisciplinary in nature and of greater importance in the affairs of man. This book is their response, and they have provided a text that is suited to the study of groundwater during this period of emergence.

**Isotope Hydrology
 Second Edition
 Bangladesh II: Climate Change Impacts, Mitigation and Adaptation in Developing Countries
 Governance Challenges and Administrative Capacities
 Europe in a Comparative Perspective
 Principles and Processes**

This book takes an in depth and hard look at the current status and future direction of treatment predictive markers in Personalized Medicine for the brain from the perspectives of the researchers on the cutting edge and those involved in healthcare implementation. The contents provide a comprehensive text suitable as both a pithy introduction to and a clear summary of the "science to solutions" continuum in this developing field of Personalized Medicine and Integrative Neuroscience. The science includes both measures of genes using whole genome approaches and SNIPS as well as BRAINmarkers of direct brain function such as brain imaging, biophysical changes and objective cognitive and behavioral measurements. Personalized Medicine for Brain Disorders will soon be a reality using the comprehensive quantitative and standardized approaches to genomics, BRAINmarkers and cognitive function. Each chapter provides a review of recent relevant literature; show the solutions achieved through integrative neuroscience and applications in patient care thus providing a practical guide to the reader. The timeliness of this book’s content is propitious providing bottom line information to educate practicing clinicians, health care workers and researchers, and also a pathway for undergraduate and graduates interested in further their understanding of and involvement in tailored personal solutions.

**"Society for Ecological Restoration"--Cover.
 Thoughtfully illustrated, carefully written, and covering a broad spectrum of topics, this classic text clarifies a subject that is often misunderstood and oversimplified.**

This open access book examines global plastic pollution, an issue that has become a critical societal challenge with implications for environmental and public health. This volume provides a comprehensive, holistic analysis on the plastic cycle and its subsequent effects on biota, food security, and human exposure. Importantly, global environmental change and its associated, systems-level processes, including atmospheric deposition, ecosystem complexity, UV exposure, wind patterns, water stratification, ocean circulation, etc., are all important direct and indirect factors governing the fate, transport and biotic and abiotic processing of plastic particles across ecosystem types. Furthermore, the distribution of plastic in the ocean is not independent of terrestrial ecosystem dynamics, since much of the plastic in marine ecosystems originates from land and should therefore be evaluated in the context of the larger plastic cycle. Changes in species size, distribution, habitat, and food web complexity, due to global environmental change, will likely alter trophic transfer dynamics and the ecological effects of nano- and microplastics. The fate and transport dynamics of plastic particles are influenced by their size, form, shape, polymer type, additives, and overall ecosystem conditions. In addition to the risks that plastics pose to the total environment, the potential impacts on human health and exposure routes, including seafood consumption, and air and drinking water need to be assessed in a comprehensive and quantitative manner. Here I present a holistic and interdisciplinary book volume designed to advance the understanding of plastic cycling in the environment with an emphasis on sources, fate and transport, ecotoxicology, climate change effects, food security, microbiology, sustainability, human exposure and public policy.

**Risk Assessment of Chemicals: An Introduction
 The Nature of Plant Communities
 The Problem-solving Capacity of the Modern State
 Science, Impacts and Sustainable Management
 Introduction to Water Engineering, Hydrology, and Irrigation
 Hydrology**

The book comprises nine chapters, with seven core chapters dealing in detail with the basic principles and processes of the main hydrological components of the water cycle: precipitation, interception, evaporation, soil water, groundwater, streamflow and water quality. It takes a broadly non-mathematical approach, although some numeracy is assumed particularly in the treatment of evaporation and soil water. The introductory and concluding chapters show the relations and interactions between these components, and also put the importance of water into a wider human context – its significant role in human history, its key role today, and potential role in future in the light of climate change and increasing global population pressures. The book is thoroughly up-to-date, contains over 100 diagrams and photographs to explain and amplify the concepts described, and contains over 750 references for further study.

This book analyses the relationship between the media and politics in new democracies in Europe and other parts of the world. It does so from both theoretical and empirical angles. How is power being mediated in new democracies? Can media function independently in the unstable and polarised political environment experienced after the fall of autocracy? Do major shifts in economic and ownership structures help or hinder the quality of the media? How much can new media laws alter old journalistic habits and political cultures? And how do new technologies impact the media and democracy? The book examines these questions, drawing on a vast set of data assembled by a large international project. Media and Politics in New Democracies focuses chiefly on new democracies in Central and Eastern Europe, but chapters analysing new democracies in Latin America, Africa, and Southeast Asia are also included. These new democracies represent a variety of what sociologists call 'glocalism': homogenisation and heterogenisation coexist, revealing hybrid models and multiple modernities. It is local culture that assigns meaning to global and regional influences. 'Ideal' liberal models and best practices are being promoted and aspired to, but these models and practices are often being adopted in opaque ways generating results opposite to those intended. The book finds many new democracies to be fragile if not deficient, and tries to show what is really going on in these countries, how they compare to each other, and what they can learn from each other.

This handbook is the first of its kind to provide a clear, accessible, and comprehensive introduction to the most important scientific and management topics in marine environmental protection. Leading experts discuss the latest perspectives and best practices in the field with a particular focus on the functioning of marine ecosystems, natural processes, and anthropogenic pressures. The book familiarizes readers with the intricacies and challenges of managing coasts and oceans more sustainably, and guides them through the maze of concepts and strategies, laws and policies, and the various actors that define our ability to manage marine activities. Providing valuable thematic insights into marine management to inspire thoughtful application and further study, it is essential reading for marine environmental scientists, policy-makers, lawyers, practitioners and anyone interested in the field.

Technology-based firms continue to compete primarily on innovation, and one continuously required to present new solutions to an exacting market. As technological complexity and specialization intensifies, firms increasingly need to integrate and co-ordinate knowledge by means of project groups, diversified organizations, inter-organizational partnerships, and strategic alliances. Innovation processes have progressively become interdisciplinary, collaborative, inter-organizational, and international, and a firm’s ability to synthesize knowledge across disciplines, organizations, and geographical locations has a major influence on its viability and success. This book demonstrates how knowledge integration is crucial in facilitating innovation within modern firms. This book provides original, detailed empirical studies of prerequisites, mechanisms, and outcomes of knowledge integration processes on several organizational levels, from key individuals, projects, and internal organizations, to collaboration between firms. It stresses the need to understand knowledge integration as a multi-level phenomenon, which requires a broad repertoire of organizational and technical means. It further clarifies the need for strong internal capabilities for exploiting external knowledge, reveals how costs of knowledge integration affect outcomes and strategic decisions, and discusses the managerial implications of fostering knowledge integration, providing practical guidance and support for managers of knowledge integration in high technology enterprises.

**Restoring Layered Landscapes
 Foundations of Restoration Ecology
 The Mathematics of the Uncertain
 Media and Politics in New Democracies
 World Ocean Assessment
 Global Environments Through the Quaternary**

Principles of Snow Hydrology describes the factors that control the accumulation, melting and runoff of water from seasonal snowpacks over the surface of the earth. The book addresses not only the basic principles governing snow in the hydrologic cycle, but also the latest applications of remote sensing, and techniques for modeling streamflow from snowmelt across large mixed land-use river basins. Individual chapters are devoted to climatology and distribution of snow, snowpack energy exchange, snow chemistry, ground-based measurements and remote sensing of snowpack characteristics, snowpack management, and modeling snowmelt runoff. Many chapters have review questions and problems with solutions available online. This book is a reference book for practicing water resources managers and a text for advanced hydrology and water resources courses which span fields such as engineering, earth sciences, meteorology, biogeochemistry, forestry and range management, and water resources planning.

The number of individuals diagnosed with posttraumatic stress disorder has increased in the past decade, not only in the military and veteran population but within the civilian population as well. Traditional treatments such as pharmacotherapy and psychotherapy have provided less-than-ideal results proving to be less effective when used alone to treat the disorder. Complementary and Alternative Medicine for PTSD supplements these traditional treatments, using new and effective techniques to fill the therapeutic void. The alternative therapies covered include acceptance and commitment therapy, acupuncture, alternative pharmacology, canine assistive therapy, family focused interventions, internet and computer-based therapy, meditation techniques, mobile applications, recreational therapy, resilience training, transracial magnetic stimulation, virtual reality exposure therapy, and yoga. Each chapter delivers the most up-to-date understanding of neurobiology, best practices, and key points for clinicians and patients considering inclusion of these treatments in patient care. Drs. David Benedek and Gary Wynn offer insight into the future of complementary and alternative medicine, shining a light onto how these techniques fit into clinical practice to create the most beneficial treatments for the patient. This book is both an essential resource and practical guide to everyday clinical interactions. It is a necessary addition to the medical library for students and senior clinicians alike.

This book focuses on central themes related to the conservation of bats. It details their response to land-use change and management practices, intensified urbanization and roost disturbance and loss. Increasing interactions between humans and bats as a result of hunting, disease relationships, occupation of human dwellings, and conflict over fruit crops are explored in depth. Finally, contributors highlight the roles that taxonomy, conservation networks and conservation psychology have to play in conserving this imperilled but vital taxon. With over 1300 species, bats are the second largest order of mammals, yet as the Anthropocene dawns, bat populations around the world are in decline. Greater understanding of the anthropogenic drivers of this decline and exploration of possible mitigation measures are urgently needed if we are to retain global bat diversity in the coming decades. This book brings together teams of international experts to provide a global review of current understanding and recommend directions for future research and mitigation.

This book is designed as an undergraduate text for water and environmental engineering courses and as preliminary reading for postgraduate courses in water and environmental engineering- including introductory coverage of irrigation and drainage, water resources, hydrology, hydraulic structures, and more. The text and exercises have been classroom tested by undergraduate water and environmental engineering students and are augmented by material prepared for extramural short courses. It covers basic concepts of agricultural irrigation and drainage, including planning and design, surface intakes, economics, environmental impacts wetlands, and legal issues. Features: Numerous illustrations throughout to clarify the concepts presented Examines and compares the advantages and disadvantages of several methods of irrigation practice Explains the integral components including pumps, filters, piping, valves, and more Considers fertilizer application and nutrient management This comprehensive and well-illustrated book will be of great interest to students, professionals, and researchers involved with all aspects of water engineering, hydrology, and irrigation.

**Hydrology and the River Environment
 Water Rights Reform**

**A Study of the Water Cycle
 Democratic Theory and Practice After the Deliberative Turn
 Freshwater Microplastics**

Critical Challenges Facing International Technology-Based Firms

In recent years democratic theory has taken a deliberative turn. Instead of merely casting the occasional ballot, deliberative democrats want citizens to reason together. They embrace 'talk as a decision procedure'. But of course thousands or millions of people cannot realistically talk to one another all at once. When putting their theories into practice, deliberative democrats therefore tend to focus on 'mini-publics', usually of a couple dozen to a couple hundred people. The central question then is how to connect micro-deliberations in mini-publics to the political decision-making processes of the larger society. In Innovating Democracy, Robert Goodin surveys these new deliberative mechanisms, asking how they work and what we can properly expect of them. Much though they have to offer, they cannot deliver all that deliberative democrats hope. Talk, Goodin concludes, is good as discovery procedure but not as a decision procedure. His slogan is, 'First talk, then vote'. Micro-deliberative mechanisms should supplement, not supplant, representative democracy. Goodin goes on to show how to adapt our thinking about those familiar institutions to take full advantage of deliberative inputs. That involves rethinking who should get a say, how we hold people accountable, how we sequence deliberative moments and what the roles of parties and legislatures can be in that. Revisoning macro-democratic processes in light of the processes and promise of micro-deliberation, Innovating Democracy provides an integrated perspective on democratic theory and practice after the deliberative turn.

"Rights to water are increasingly crucial and increasingly contested across theglobe. Urbanization, industrialization, environmental degradation, agriculturalintensification, rising per capita water use, increasing population, andother social, political, and economic transformations contribute to growing scarcity and demand for better management of water resources. In responding to these challenges, the world can draw on a rich heritage of institutions for regulating rights to water and resolving disputes, and a diversity of institutional arrangements that demonstrate great ingenuity in designing solutions to fit the conditions and priorities of various river basins. However, policy discussion in water management has often been impoverished by narrow polarization around a few idealized models of centrally integrated management or water commoditization, even though these comprise only a small and very incomplete subset of the institutional options available for effective management. The authors in this book expand the range of reflection and analysis of water rights reforms, offering insights aimed especially at those seeking practical pathways to improve equity, efficiency, and sustainability in access to water."

Air pollution control can be approached from a number of different engineering disciplines environmental, chemical, civil, and mechanical. To that end, Noel de Nevers has written an engaging overview of the subject. While based on the fundamentals of chemical engineering, the treatment is accessible to readers with only one year of college chemistry. In addition to discussions of individual air pollutants and the theory and practice of air pollution control devices, de Nevers devotes about half the book to topics that influence device selection and design, such as atmospheric models and U.S. air pollution law. The generous number of end-of-chapter problems are designed to develop more complex thinking about the concepts presented and integrate them with readers personal experienceincreasing the likelihood of deeper understanding.

The 2020 edition of the WWDR, titled 'Water and Climate Change' illustrates the critical linkages between water and climate change in the context of the broader sustainable development agenda. Supported by examples from across the world, it describes both the challenges and opportunities created by climate change, and provides potential responses - in terms of adaptation, mitigation and improved resilience - that can be undertaken by enhancing water resources management, attenuating water-related risks, and improving access to water supply and sanitation services for all in a sustainable manner. It addresses the interrelations between water, people, environment and economics in a changing climate, demonstrating how climate change can be a positive catalyst for improved water management, governance and financing to achieve a sustainable and prosperous world for all. The report provides a fact-based, water-focused contribution to the knowledge base on climate change. It is complementary to existing scientific assessments and designed to support international political frameworks, with the goals of helping the water community tackle the challenges of climate change, and informing the climate change community about the opportunities that improved water management offers in terms of adaptation and mitigation.

**The United Nations world water development report 2020
 A Tribute to Pedro Gil
 Knowledge Integration and Innovation
 Integrative Neuroscience and Personalized Medicine
 Principles of Snow Hydrology
 Groundwater**

Within the realm of the newly evolving discipline of environmental sciences, the stable-isotope methodology is being used to an ever-increasing extent, especially in the study of the water cycle and of paleo-climatology. This book introduces the rules of the game, by reviewing the natural variability of stable isotopes in the hydrosphere, describing the physico-chemical basis of isotope fractionation, and applying this knowledge to natural waters as they move through the hydrologic cycle from the ocean to the atmosphere, the biosphere and the lithosphere. There is a special focus on the processes at the surface?atmosphere and land?biosphere?atmosphere interfaces, since these are the sites of major changes in isotope composition. In response to the increasing awareness of our changing climate, a discussion on the global view of the changing water cycle, in the past and future, winds up the presentation.

Restoring Layered Landscapes brings together historians, geographers, philosophers, and interdisciplinary scholars to explore ecological restoration in landscapes with complex histories shaped by ongoing interactions between humans and nature. For many decades, ecological restoration – particularly in the United States – focused on returning degraded sites to conditions that prevailed prior to human influence. This model has been broadened in recent decades, and restoration now increasingly focuses on the recovery of ecological functions and processes rather than on returning a site to a specific historical state. Nevertheless, neither the theory nor the practice of restoration has fully come to terms with the challenges of restoring layered landscapes, where nature and culture shape one another in deep and ongoing relationships. Former military and industrial sites provide paradigmatic examples of layered landscapes. Many of these sites are not only characterized by natural ecosystems worth preserving and restoring, but also embody significant political, social, and cultural histories. This volume grapples with the challenges of restoring and interpreting such complex sites: What should we aim to restore in such places? How can restoration adequately take the legacies of human use into account? Should traces of the past be left on the landscape, and how can interpretive strategies be creatively employed to make visible the complex legacies of an open pit mine or chemical weapons manufacturing plant? Restoration aims to create new value, but not always without loss. Restoration often disrupts existing ecosystems, infrastructure, and artifacts. The chapters in this volume consider what restoration can tell us more generally about the relationship between continuity and change, and how the past can and should inform our thinking about the future. These insights, in turn, will help foster a more thoughtful approach to human-environment relations in an era of unprecedented anthropogenic global environmental change.

Provides a comprehensive review of the role of species interactions in the process of plant community assembly.

Global Environments through the Quaternary delves into the environmental changes that have taken place during the Quaternary: the two to three million years during which man has inhabited the Earth. It is essential reading for any students seeking a balanced, objective overview of this truly interdisciplinary subject.

Emerging Environmental Contaminants?

Municipal, Hazardous, and Industrial

A Research Agenda

Negative Emissions Technologies and Reliable Sequestration

Elements of Physical Hydrology

Dendrites

"The Evolving Earth' is a higher education geology textbook, aiming to teach evolution to non-majors. The book will emphasize popular topics such as dinosaurs, mass extinctions, ice ages, climate change, and the origins of Earth and life"--

This book is a tribute to Professor Pedro Gil, who created the Department of Statistics, OR and TM at the University of Oviedo, and a former President of the Spanish Society of Statistics and OR (SEIO). In more than eighty original contributions, it illustrates the extent to which Mathematics can help manage uncertainty, a factor that is inherent to real life. Today it goes without saying that, in order to model experiments and systems and to analyze related outcomes and data, it is necessary to consider formal ideas and develop scientific approaches and techniques for dealing with uncertainty. Mathematics is crucial in this endeavor, as this book demonstrates. As Professor Pedro Gil highlighted twenty years ago, there are several well-known mathematical branches for this purpose, including Mathematics of chance (Probability and Statistics), Mathematics of communication (Information Theory), and Mathematics of imprecision (Fuzzy Sets Theory and others). These branches often intertwine, since different sources of uncertainty can coexist, and they are not exhaustive. While most of the papers presented here address the three aforementioned fields, some hail from other Mathematical disciplines such as Operations Research; others, in turn, put the spotlight on real-world studies and applications. The intended audience of this book is mainly statisticians, mathematicians and computer scientists, but practitioners in these areas will certainly also find the book a very interesting read.

This definitive resource from the eminent Oxford Textbooks series, the Oxford Textbook of Anaesthesia addresses the fundamental principles, underpinning sciences and the full spectrum of clinical practice. It brings together the most pertinent research from on-going scientific endeavours with practical guidance and a passion to provide the very best clinical care to patients. This comprehensive work covers all aspects of anaesthesia; volume one addresses the fundamental principles and the basic sciences whose understanding is required for a logical, effective and evidence-based approach to practice. Volume two focuses on the clinical aspects of anaesthesia, including those aspects of intensive care and pain medicine that are required by all general anaesthetists as well as sections dedicated to procedures, surgical specialities, paediatrics, the conduct of anaesthesia outside the theatre, and concurrent disease. In 91 finely crafted and highly illustrated chapters, experts in anaesthesia review the supporting evidence and key techniques for the clinical management of specific conditions and patient groups. International contributors share their research and extensive experience to provide a wealth of practical advice for use in clinical situations in a global context. The Oxford Textbook of Anaesthesia will publish both in print and online on Oxford Medicine Online where it can be accessed via smartphone or similar devices and will be updated annually to reflect major changes in clinical practice. The print edition of the Oxford Textbook of Anaesthesia comes with a year's access to the online version. This essential reference tool supports all anaesthetists seeking an up-to-date and trustworthy account of all aspects of anaesthesia. It will be an indispensable guide to anaesthetists of all grades and subspecialty interest.

The ocean helps moderate climate change thanks to its considerable capacity to store CO2, through the combined actions of ocean physics, chemistry, and biology. This storage capacity limits the amount of human-released CO2 remaining in the atmosphere. As CO2 reacts with seawater, it generates dramatic changes in carbonate chemistry, including decreases in pH and carbonate ions and an increase in bicarbonate ions.

The consequences of this overall process, known as "ocean acidification", are raising concerns for the biological, ecological, and biogeochemical health of the world's oceans, as well as for the potential societal implications. This research level text is the first to synthesize the very latest understanding of the consequences of ocean acidification, with the intention of informing both future research agendas and marine management policy. A prestigious list of authors has been assembled, among them the coordinators of major national and international projects on ocean acidification.

The Burgher and the Whore

Forest and Rangeland Soils of the United States Under Changing Conditions

Air Pollution Control Engineering

Prostitution in Early Modern Amsterdam

The Evolving Earth

Landscape-scale Conservation Planning

Climate change is expected to modify the hydrological cycle and affect freshwater resources. Groundwater is a critical source of fresh drinking water for almost half of the worlds population and it also supplies irrigated agriculture. Groundwater is also important in sustaining streams, lakes, wetlands, and associated ecosystems. But despite this, Hugh P. Possingham Landscape-scale conservation planning is coming of age. In the last couple of decades, conservation practitioners, working at all levels of governance and all spatial scales, have embraced the CARE principles of conservation planning – Comprehensiveness, Adequacy, Representativeness, and Efficiency. Hundreds of papers on this theme, and several different kinds of software program have been developed and used around the world, making conservation planning based on these principles global in its reach and influence. Does this mean that all the science of conservation planning is over – that the discovery phase has been replaced by an engineering phase as we move to implementing them in the landscape? This book and the continuing growth in the literature suggest that the answer to this question is most definitely 'no. ' All of applied conservation can be wrapped up into a single sentence: what should be done (the action), in what place, at what time, using what mechanism, and for what outcome? Pretty simple – what, where, when, how and why. However stating a problem does not mean it is easy to solve.

* A practical teaching course * Takes an environmental approach to hydrology This is a textbook in environmental hydrology-a field of study concerned with the basic system of water circulation and patters of runoff and the major ways in which human occupation of Earth alters both processes and patterns. It focuses on the river basin concept and its geographical appeal but because it is the basic experimental and data-gathering unit, and the fundamental unit for water management. The book explores a considerable number of methodological frameworks. Most of these are scientific; an acceptable replacement for problem-solving by data collection, analysis, and prediction has yet to be developed. The book considers non-digital values-attitudes, preferences, policies, laws-especially in the case of the freshwater environment, where key data are still relatively scarce. Having developed a holistic approach to river basins, the author concludes by considering the utility of our current knowledge of environment hydrology to provide the reader with a practical approach to the conservation of fresh water.

Deliberative democracy has been one of the main games in contemporary political theory for two decades, growing enormously in size and importance in political science and many other disciplines. The Oxford Handbook of Deliberative Democracy takes stock of deliberative democracy as a research field, in philosophy, in various research programs in political sciences and law, and in political practice around the globe. It provides a concise history of deliberative ideals in political thought and discusses their philosophical origins. The Handbook locates deliberation in political systems with different spaces, publics, and venues, including parliaments, courts, governance networks, protests, mini-publics, and deliberative everyday talk. It engages with practical applications, mapping deliberation as a reform movement and as a device for conflict resolution, documenting the practice and study of deliberative democracy around the world and in global governance.

History, Ecology, and Culture

Climate Change Effects on Groundwater Resources

water and climate change

Handbook on Marine Environment Protection

Introduction to Physical Hydrology

Bats in the Anthropocene: Conservation of Bats in a Changing World

To achieve goals for climate and economic growth, "negative emissions technologies" (NETs) that remove and sequester carbon dioxide from the air will need to play a significant role in mitigating climate change. Unlike carbon capture and storage technologies that remove carbon dioxide emissions directly from large point sources such as coal power plants, NETs remove carbon dioxide directly from the atmosphere or enhance natural carbon sinks. Storing the carbon dioxide from NETs has the same impact on the atmosphere and climate as simultaneously preventing an equal amount of carbon dioxide from being emitted. Recent analyses found that deploying NETs may be less expensive and less disruptive than reducing some emissions, such as a substantial portion of agricultural and land-use emissions and some transportation emissions. In 2015, the National Academies published Climate Intervention: Carbon Dioxide Removal and Reliable Sequestration, which described and initially assessed NETs and sequestration technologies. This report acknowledged the relative paucity of research on NETs and recommended development of a research agenda that covers all aspects of NETs from fundamental science to full-scale deployment. To address this need, Negative Emissions Technologies and Reliable Sequestration: A Research Agenda assesses the benefits, risks, and "sustainable scale potential" for NETs and sequestration. This report also defines the essential components of a research and development program, including its estimated costs and potential impact.

At last – a second edition of this hugely important text that reflects the progress and experience gained in the last decade and aims at providing background and training material for a new generation of risk assessors. The authors offer an introduction to risk assessment of chemicals as well as basic background information on sources, emissions, distribution and fate processes for the estimation of exposure of plant and animal species in the environment and humans exposed via the environment, consumer products, and at the workplace. The coverage describes the basic principles and methods of risk assessment within their legislative frameworks (EU, USA, Japan and Canada).

The Burgher and the Whore is a story of dark lanes and meagre earnings. For Amsterdam and its inhabitants, prostitution has been a clearly present and much-discussed problem for centuries: a necessary evil because of the large numbers of dissolute seamen in the city. Amsterdam's reputation as a city of prostitutes is age old. It has been current since the Middle Ages and by the seventeenth and eighteenth centuries it was no longer possible to write it off as a marginal phenomenon. The city was crawling with whores, madams, procurers and brothels. Prostitution was a flourishing profession which also employed washerwomen, servants, drink suppliers, doormen and musicians. Lotte van de Pol draws on a range of unusual sources, such as travel descriptions, brothel guidebooks, sea shanties and paintings, as well as prisoners' confessions and transcripts from the trials of thousands of prostitutes. She gives clear, insightful descriptions of these women in all their colourful diversity, the customers who came from far and wide, the moralists, the administrators, the doctors, the bailiffs, the judges and the governors of the spinning houses. Offering more than just a picturesquedescription of prostitutes and their customers in early modern Holland, The Burgher and the Whore brings to life the relationships between men and women in the Dutch Republic and provides a fascinating account of what it was like to inhabit the greatest city of its day.

Introduction to Physical Hydrology explores the principal rules that govern the flow of water by considering the four major types of water: atmospheric, ground, soil, and surface. It gives insights into the major hydrological processes, and shows how the principles of physical hydrology inform our understanding of climate and global hydrology.

Exploring Environmental Change

Ocean Acidification

Waste Management Practices

Innovating Democracy

Lessons for Institutional Design

Microplastic in the Environment: Pattern and Process

Introduction to Physical HydrologyOxford University Press

Dendrites form the major receiving part of neurons. It is within these highly complex, branching structures that the real work of the nervous system takes place. The dendrites of neurons receive thousands of synaptic inputs from other neurons. However, dendrites do more than simply collect and funnel these signals to the soma and axon; they shape and integrate the inputs in complex ways. Despite being discovered over a century ago, dendrites received little research attention until the early 1950s. Over the past few years there has been a dramatic explosion of interest in the function of these beautiful structures. Recent new research has developed out understanding of the properties of dendrites, and their role in neuronal function. The first edition of Dendrites was a landmark in the literature, stimulating and guiding further research. The new edition substantially updates the earlier volume, and includes 5 new chapters and color illustrations. It gathers new information on dendrites into a single volume, with contributions written by leading researchers in the field. It presents a survey of the current state of our knowledge of dendrites, from their morphology and development through to their electrical, chemical, and computational properties. As such it will not only be of interest to researchers and graduate-level students in neuroscience, but will also be useful to researchers in computer science and IT, psychology, physiology, and biophysics.

This book is open access under a CC BY 4.0 license. This volume focuses on microscopic plastic debris, also referred to as microplastics, which have been detected in aquatic environments around the globe and have accordingly raised serious concerns. The book explores whether microplastics represent emerging contaminants in freshwater systems, an area that remains underrepresented to date. Given the complexity of the issue, the book covers the current state-of-research on microplastics in rivers and lakes, including analytical aspects, environmental concentrations and sources, modelling approaches, interactions with biota, and ecological implications. To provide a broader perspective, the book also discusses lessons learned from nanomaterials and the implications of plastic debris for regulation, politics, economy, and society. In a research field that is rapidly evolving, it offers a solid overview for environmental chemists, engineers, and toxicologists, as well as water managers and policy-makers.

This open access book synthesizes leading-edge science and management information about forest and rangeland soils of the United States. It offers ways to better understand changing conditions and their impacts on soils, and explores directions that positively affect the future of forest and rangeland soil health. This book outlines soil processes and identifies the research needed to manage forest and rangeland soils in the United States. Chapters give an overview of the state of forest and rangeland soils research in the Nation, including multi-decadal programs (chapter 1), then summarizes various human-caused and natural impacts and their effects on soil carbon, hydrology, biogeochemistry, and biological diversity (chapters 2–5). Other chapters look at the effects of changing conditions on forest soils in wetland and urban settings (chapters 6–7). Impacts include: climate change, severe wildfires, invasive species, pests and diseases, pollution, and land use change. Chapter 8 considers approaches to maintaining or regaining forest and rangeland soil health in the face of these varied impacts. Mapping, monitoring, and data sharing are discussed in chapter 9 as ways to leverage scientific and human resources to address soil health at scales from the landscape to the individual parcel (monitoring networks, data sharing Web sites, and educational soils-centered programs are tabulated in appendix B). Chapter 10 highlights opportunities for deepening our understanding of soils and for sustaining long-term ecosystem health and appendix C summarizes research needs. Nine regional summaries (appendix A) offer a more detailed look at forest and rangeland soils in the United States and its Affiliates.

Complementary and Alternative Medicine for PTSD

A Comprehensive Science Synthesis

A Global Synthesis of Findings and Recommendations

