

# Introduction Physical Hydrology Martin Hendriks

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**Climate Change Effects on Groundwater Resources** - Holger Treidel 2011-12-02

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, *Introduction to Water Engineering, Hydrology, and Irrigation* - Mohammad Albaji 2022-06-15

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.

Isotope Hydrology - Joel Gat 2010

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 paleoclimatology. 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.

Negative Emissions Technologies and Reliable Sequestration - National Academies of Sciences, Engineering, and Medicine 2019-04-08

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.

*The Oxford Handbook of Deliberative Democracy* - André Bächtiger 2018-08-23

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 programmes in the social 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, old and new media, and 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.

Impacts of climate change on fisheries and aquaculture - Food and Agriculture Organization of the United Nations 2019-01-06

This report indicates that climate change will significantly affect the availability and trade of fish products, especially for those countries most dependent on the sector, and calls for effective adaptation and mitigation actions encompassing food production.

*The Evolving Earth* - Donald R. Prothero 2020

"'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"--

**Integrative Neuroscience and Personalized Medicine** - Evian Gordon 2011

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.

*Mathematical Modeling of Earth's Dynamical Systems* - Rudy Slingerland 2011-03-28

*Mathematical Modeling of Earth's Dynamical Systems* gives earth scientists the essential skills for translating chemical and physical systems into mathematical and computational models that provide enhanced insight into Earth's processes. Using a step-by-step method, the book identifies the important geological variables of physical-

chemical geoscience problems and describes the mechanisms that control these variables. This book is directed toward upper-level undergraduate students, graduate students, researchers, and professionals who want to learn how to abstract complex systems into sets of dynamic equations. It shows students how to recognize domains of interest and key factors, and how to explain assumptions in formal terms. The book reveals what data best tests ideas of how nature works, and cautions against inadequate transport laws, unconstrained coefficients, and unfalsifiable models. Various examples of processes and systems, and ample illustrations, are provided. Students using this text should be familiar with the principles of physics, chemistry, and geology, and have taken a year of differential and integral calculus. Mathematical Modeling of Earth's Dynamical Systems helps earth scientists develop a philosophical framework and strong foundations for conceptualizing complex geologic systems. Step-by-step lessons for representing complex Earth systems as dynamical models Explains geologic processes in terms of fundamental laws of physics and chemistry Numerical solutions to differential equations through the finite difference technique A philosophical approach to quantitative problem-solving Various examples of processes and systems, including the evolution of sandy coastlines, the global carbon cycle, and much more Professors: A supplementary Instructor's Manual is available for this book. It is restricted to teachers using the text in courses. For information on how to obtain a copy, refer to: [http://press.princeton.edu/class\\_use/solutions.html](http://press.princeton.edu/class_use/solutions.html)

**Practical Handbook of Material Flow Analysis** - Paul H. Brunner  
2016-04-19

The first-ever book on this subject establishes a rigid, transparent and useful methodology for investigating the material metabolism of anthropogenic systems. Using Material Flow Analysis (MFA), the main sources, flows, stocks, and emissions of man-made and natural materials can be determined. By demonstrating the application of MFA, this book reveals how resources can be conserved and the environment protected within complex systems. The fourteen case studies presented exemplify the potential for MFA to contribute to sustainable materials management. Exercises throughout the book deepen comprehension and expertise. The authors have had success in applying MFA to various fields, and now promote the use of MFA so that future engineers and planners have a common method for solving resource-oriented problems. Risk Assessment of Chemicals: An Introduction - C.J. van Leeuwen  
2007-09-18

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).

**LAND OF THE FREE: Can Black Wall Street Be Resurrected?** - Shem El

Air Pollution Control Engineering - Noel de Nevers 2010-05-07

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 experience increasing the likelihood of deeper understanding.

**21st Century Homestead: Sustainable Agriculture II: Farming and Natural Resources** - Marlon Henkel

Restoring Layered Landscapes - Marion Hourdequin 2016

'Restoring Layered Landscapes' explores ecological restoration in complex landscapes, where ecosystems intertwine with important sociopolitical meanings.

Freshwater Microplastics - Martin Wagner 2017-11-21

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.

The Problem-solving Capacity of the Modern State - Martin Lodge  
2014-10-23

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 Andean glacier and water atlas - Johansen, Kari Synnove 2018-11-05

This Atlas illustrates the significant reduction in glacier mass happening throughout the Andean region. It quantifies the contribution of glaciers to drinking water supplies in cities and to agriculture, hydropower and industries. A reduction in glacier mass results in a long-term reduction in seasonal melt water - which is the mainstay of livelihoods for millions of people.

**The Physical Geography of Southeast Asia** - Avijit Gupta 2005-02-24

The Physical Geography of Southeast Asia examines the complex mosaic of physical environments which comprise Southeast Asia, and the current environmental problems and management practices which have arisen in this part of the world. The book is in three sections. The first section introduces the basic environmental components (geology, landforms, rivers, vegetation, and others) across the entire region. The second section discusses specific environments that are characteristic of this assemblage of continental and maritime landscapes (volcanic islands, coastal environment, granitic terrains, karst, etc.). The third and final section illustrates the ecological relationship between the environment and people (volcanic hazards, urban environment, coastal zone development, coralreefs, and others). The physical environment of Southeast Asia is examined at different levels, covering a world region that ranges from ancient, stable landmasses to dynamic, unstable plate boundaries, from aged, primary rainforests to brush, vibrant, resource-demanding built environments. Southeast Asia has been perceived as a laboratory for studying plate tectonics. It is an assemblage of large river basins, peninsulas and archipelagos, and seas surrounded by islands. It is an area of great physical variations where parts of the physical environment have been significantly degraded anthropogenically, following rapid population growth and development. In large parts of the region, the forms and processes on land and offshore should no longer be seen as entirely natural. As this book repeatedly illustrates, plate

tectonics and people are both important contributors to the physical geography of Southeast Asia. The contributors to this volume are distinguished, scholarly, and have a long association with Southeast Asia. The chapters are not only skilfully built on state-of-the-art research findings but also include new material from the on-going research activities of the authors. The book goes beyond being the first comprehensive and detailed volume of the biophysical geography of Southeast Asia in that it also deals with the tropical environment and the relationship between environment and people in a rapidly developing world region.

**The United Nations world water development report 2020 -**

UNESCO World Water Assessment Programme 2020-03-23

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 Burgher and the Whore - Lotte van de Pol 2011-03-31

Amsterdam's reputation as a city of prostitutes is age-old. 'The Burgher and the Whore' is the story of the red light district's 'golden age', bringing to life the relationships between men and women and providing a fascinating account of what it was like to inhabit the greatest city of its day.

*Innovating Democracy* - Robert E. Goodin 2008-07-10

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. Revisioning 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.

Evolutionary Ecology of Marine Invertebrate Larvae - Tyler J. Carrier 2018

"More than seventy percent of the earth's surface is covered by the ocean which is home to a staggering and sometimes overwhelming diversity of organisms, the majority of which reside in pelagic form. Marine invertebrate larvae are an integral component of this pelagic diversity and have stimulated the curiosity of researchers for centuries. This accessible, upper-level text provides an important and timely update on the topic of larval evolution and ecology, representing the first major synthesis of this interdisciplinary field for more than 20 years. The content is structured around four major areas: evolutionary origins and transitions in developmental mode; functional morphology and ecology of

larval forms; larval transport, settlement, and metamorphosis; larval ecology in extreme and changing environments. This novel synthesis integrates traditional larval ecology with life history theory, evolutionary developmental biology, and modern genomics research to provide a research and teaching tool for decades to come." -- from the rear cover.

**Microplastic in the Environment: Pattern and Process** - Michael S. Bank 2021-10-09

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.

**Sewage Treatment Plants** - Katerina Stamatelatu 2015-05-15

*Sewage Treatment Plants: Economic Evaluation of Innovative Technologies for Energy Efficiency* aims to show how cost saving can be achieved in sewage treatment plants through implementation of novel, energy efficient technologies or modification of the conventional, energy demanding treatment facilities towards the concept of energy streamlining. The book brings together knowledge from Engineering, Economics, Utility Management and Practice and helps to provide a better understanding of the real economic value with methodologies and practices about innovative energy technologies and policies in sewage treatment plants.

**Dendrites** - Greg Stuart 2007

Dendrites form the major receiving part of neurons. This text presents a survey of knowledge on dendrites, from their morphology and development, through to their electrical chemical, and computational properties.

Environmental Geology Today - McConnell 2013-09-06

A Fresh and Modern Exploration of Environmental Geology Designed for the undergraduate, introductory environmental geology course for majors and non-majors alike, *Environmental Geology Today* presents the core geological principles and explores the effects of humanity on the physical environment. Contemporary case studies throughout encourage students to use their critical thinking skills to dissect the subject matter as part of their overall analysis. The numerous case studies are drawn from topical current events that relate to the chapter material and contain numerical data. Using simple math, graphing, and critical thinking, the authors challenge students to analyze aspects of the data, honing their basic math and analytical skills. With a focus on teaching students to think critically about our environment, *Environmental Geology Today* is a fresh and modern exploration of this ever-evolving field. Key Features: -Fosters students' development of analytical and critical thinking skills through the use of numerous contemporary case studies designed to engage students in the material and maintain their interest. -Math is introduced in a non-threatening, step-by-step manner, allowing students to identify their own errors early in the process, thereby gradually building confidence in their own mathematical abilities. -Covers the core undergraduate introductory environmental geology topics, including earthquakes, population growth, floods and other coastal hazards, land use, natural resources, and more. -Features global, national, and regional issues, but also shows students how to retrieve and use information to address critical local issues like

population growth and development, air and water pollution, land use and waste disposal.

*Fundamentals of Reservoir Rock Properties* - Tarek Al-Arbi Omar Ganat 2019-09-05

This book explains the basic technologies, concepts, approaches, and terms used in relation to reservoir rocks. Accessible to engineers in varying roles, it provides the tools necessary for building reservoir characterization and simulation models that improve resource definition and recovery, even in complex depositional environments. The book is enriched with numerous examples from a wide variety of applications, to help readers understand the topics. It also describes in detail the key relationships between the different rock properties and their variables. As such, it is of interest to researchers, engineers, lab technicians, and postgraduate students in the field of petroleum engineering.

*Peritoneal Adhesions* - Karl-Heinz Treutner 2012-12-06

Adhesions can cause a wide range of problems, complaints and hazards, even after simple abdominal procedures, such as appendectomy, with complications ranging from recurrent discomfort and pain to intestinal obstruction. Postsurgical adhesions increase the risk of following operations of the abdominal and thoracic cavity. They impair peritoneal dialysis and chemotherapy and play a crucial part in laparoscopic procedures. Adhesion-related problems account for a large amount of clinical work and have a significant socioeconomic impact. This book presents the current knowledge on the aetiopathogenesis of adhesion formation as well as the available methods for their prevention and control. Experts in the field contribute to clinical standards for preventive measures to control the formation of postoperative adhesions

*Advances in Wastewater Treatment* - Giorgio Mannina 2018-10-15

Advances in Wastewater Treatment presents a compendium of the key topics surrounding wastewater treatment, assembled by looking at the future technologies, and provides future perspectives in wastewater treatment and modelling. It covers the fundamentals and innovative wastewater treatment processes (such as membrane bioreactors and granular process). Furthermore, it focuses attention on mathematical modelling aspects in the field of wastewater treatments by highlighting the key role of models in process design, operation and control. Other topics include: • Anaerobic digestion • Biological nutrient removal • Instrumentation, control and automation • Computational fluid dynamics in wastewater • IFAS systems • New frontiers in wastewater treatment • Greenhouse gas emissions from wastewater treatment Each topic is addressed by discussing past, present and future trends. Advances in Wastewater Treatment is a valid support for researchers, practitioners and also students to have a frame of the frontiers in wastewater treatment and modelling.

*Media and Politics in New Democracies* - Jan Zielonka 2015-10-08

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.

*Mapping and the Citizen Sensor* - Giles Foody 2017-09-11

Maps are a fundamental resource in a diverse array of applications ranging from everyday activities, such as route planning through the legal demarcation of space to scientific studies, such as those seeking to understand biodiversity and inform the design of nature reserves for species conservation. For a map to have value, it should provide an accurate and timely representation of the phenomenon depicted and this

can be a challenge in a dynamic world. Fortunately, mapping activities have benefitted greatly from recent advances in geoinformation technologies. Satellite remote sensing, for example, now offers unparalleled data acquisition and authoritative mapping agencies have developed systems for the routine production of maps in accordance with strict standards. Until recently, much mapping activity was in the exclusive realm of authoritative agencies but technological development has also allowed the rise of the amateur mapping community. The proliferation of inexpensive and highly mobile and location aware devices together with Web 2.0 technology have fostered the emergence of the citizen as a source of data. Mapping presently benefits from vast amounts of spatial data as well as people able to provide observations of geographic phenomena, which can inform map production, revision and evaluation. The great potential of these developments is, however, often limited by concerns. The latter span issues from the nature of the citizens through the way data are collected and shared to the quality and trustworthiness of the data. This book reports on some of the key issues connected with the use of citizen sensors in mapping. It arises from a European Co-operation in Science and Technology (COST) Action, which explored issues linked to topics ranging from citizen motivation, data acquisition, data quality and the use of citizen derived data in the production of maps that rival, and sometimes surpass, maps arising from authoritative agencies.

*Groundwater* - R. Allan Freeze 1979

The authors perceive 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 Methods for Dating Old Groundwater* - International Atomic Energy Agency 2013

This guidebook provides theoretical and practical information for using a variety of isotope tracers for dating "old" groundwater, i.e. water stored in geological formations for periods ranging from about 1000 to one million years. Theoretical underpinnings of the methods and guidelines for their use in different hydrogeological environments are described. The guidebook also presents a number of case studies providing insight into how various isotopes have been used in aquifers around the world. The methods, findings and conclusions presented in this publication will enable students and practicing groundwater scientists to evaluate the use of isotope dating tools for specific issues related to the assessment and management of groundwater resources. In addition, the guidebook will be of use to the scientific community interested in issues related to radioactive waste disposal in geological repositories.

*Oxford Textbook of Clinical Nephrology* - 2016

*Elements of Physical Hydrology* - George M. Hornberger 2014-08-11

Thoughtfully illustrated, carefully written, and covering a broad spectrum of topics, this classic text clarifies a subject that is often misunderstood and oversimplified.

*Introduction to Physical Hydrology* - Martin Hendriks 2010-01-21

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.

*Hydrology and the River Environment* - Malcolm David Newson 1994

\* 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 patterns of runoff and the major ways in which human occupation of Earth alters both processes and patterns. It focuses on the river basin or catchment unit not only because of 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 found. However, it also 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 response to

the conservation of fresh water.

*The Nature of Plant Communities* - J. Bastow Wilson 2019-03-21

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

*Complementary and Alternative Medicine for PTSD* - David M. Benedek 2016-08-03

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.