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Boosting - Robert E. Schapire 2012-05-18

An accessible introduction and essential reference for an approach to machine learning that creates highly accurate prediction rules by combining many weak and inaccurate ones. Boosting is an approach to machine learning based on the idea of creating a highly accurate predictor by combining many weak and inaccurate “rules of thumb.” A remarkably rich theory has evolved around boosting, with connections to a range of topics, including statistics, game theory, convex optimization, and information geometry. Boosting algorithms have also enjoyed practical success in such fields as biology, vision, and speech processing. At various times in its history, boosting has been perceived as mysterious, controversial, even paradoxical. This book, written by the inventors of the method, brings together, organizes, simplifies, and substantially extends two decades of research on boosting, presenting both theory and applications in a way that is accessible to readers from diverse backgrounds while also providing an authoritative reference for advanced researchers. With its introductory treatment of all material and its inclusion of exercises in every chapter, the book is appropriate for course use as well. The book begins with a general introduction to machine learning algorithms and their analysis; then explores the core theory of boosting, especially its ability to generalize; examines some of

the myriad other theoretical viewpoints that help to explain and understand boosting; provides practical extensions of boosting for more complex learning problems; and finally presents a number of advanced theoretical topics. Numerous applications and practical illustrations are offered throughout.

The Water-Energy-Food Nexus - Subramanian Senthilkannan Muthu 2021-05-02

Water, Energy and Food are the very basic necessities of human life and all the three of them are interconnected with each other, this connection being called the Water-Energy-Food nexus. Water is an inevitable element to energy and food systems to work. Water is essential for the growth of crops and produce energy and it consumes a lot of energy to treat and move water. Food and energy are equally dependent upon each other as well. This book highlights with various examples and case studies from around the World, the importance of this concept.

Time Series Modelling of Water Resources and Environmental Systems - K.W. Hipel 1994-04-07

This is a comprehensive presentation of the theory and practice of time series modelling of environmental systems. A variety of time series models are explained and illustrated, including ARMA (autoregressive-moving average), nonstationary, long memory, three families of seasonal,

multiple input-single output, intervention and multivariate ARMA models. Other topics in environmetrics covered in this book include time series analysis in decision making, estimating missing observations, simulation, the Hurst phenomenon, forecasting experiments and causality.

Professionals working in fields overlapping with environmetrics - such as water resources engineers, environmental scientists, hydrologists, geophysicists, geographers, earth scientists and planners - will find this book a valuable resource. Equally, environmetrics, systems scientists, economists, mechanical engineers, chemical engineers, and management scientists will find the time series methods presented in this book useful.

Polarimetric Doppler Weather Radar - V. N. Bringi 2001-08-30

This 2001 book provides a detailed introduction to the principles of Doppler and polarimetric radar, focusing in particular on their use in the analysis of weather systems. The design features and operation of practical radar systems are highlighted throughout the book in order to illustrate important theoretical foundations. The authors begin by discussing background topics such as electromagnetic scattering, polarization, and wave propagation. They then deal in detail with the engineering aspects of pulsed Doppler polarimetric radar, including the relevant signal theory, spectral estimation techniques, and noise considerations. They close by examining a range of key applications in meteorology and remote sensing. The book will be of great use to graduate students of electrical engineering and atmospheric science as well as to practitioners involved in the applications of polarimetric radar systems.

Extremes in Nature - Gianfausto Salvadori 2007-06-01

This book is about the theoretical and practical aspects of the statistics of Extreme Events in Nature. Most importantly, this is the first text in which Copulas are introduced and used in Geophysics. Several topics are fully original, and show how standard models and calculations can be improved by exploiting the opportunities offered by Copulas. In addition, new quantities useful for design and risk assessment are introduced.

Statistical Analysis of Hydrologic Variables - Ramesh S. V. Teegavarapu 2019

This book provides a compilation of statistical analysis methods used to analyze and assess critical variables in the hydrological cycle.

Introduction to Geostatistics - P. K. Kitanidis 1997-05-13

Engineers and applied geophysicists routinely encounter interpolation and estimation problems when analysing data from field observations. Introduction to Geostatistics presents practical techniques for the estimation of spatial functions from sparse data. The author's unique approach is a synthesis of classic and geostatistical methods with a focus on the most practical linear minimum-variance estimation methods, and includes suggestions on how to test and extend the applicability of such methods. The author includes many useful methods (often not covered in other geostatistics books) such as estimating variogram parameters, evaluating the need for a variable mean, parameter estimation and model testing in complex cases (e.g. anisotropy, variable mean, and multiple variables), and using information from deterministic mathematical models. Well illustrated with exercises and worked examples taken from hydrogeology, Introduction to Geostatistics assumes no background in statistics and is suitable for graduate-level courses in earth sciences, hydrology, and environmental engineering, and also for self-study.

Advances in Data Mining: Applications and Theoretical Aspects - Petra Pernert 2010-07-05

These are the proceedings of the tenth event of the Industrial Conference on Data Mining ICDM held in Berlin (www.data-mining-forum.de). For this edition the Program Committee received 175 submissions. After the peer-review process, we accepted 49 high-quality papers for oral presentation that are included in this book. The topics range from theoretical aspects of data mining to applications of data mining such as on multimedia data, in marketing, finance and telecommunication, in medicine and agriculture, and in process control, industry and society. Extended versions of selected papers will appear in the international journal Transactions on Machine Learning and Data Mining (www.ibai-publishing.org/journal/mldm). Ten papers were selected for poster presentations and are published in the ICDM Poster Proceeding Volume by ibai-publishing (www.ibai-publishing.org). In conjunction with

ICDM four workshops were held on special hot applicati- oriented topics in data mining: Data Mining in Marketing DMM, Data Mining in LifeScience DMLS, the Workshop on Case-Based Reasoning for Multimedia Data CBR-MD, and the Workshop on Data Mining in Agriculture DMA. The Workshop on Data Mining in Agriculture ran for the first time this year. All workshop papers will be published in the workshop proceedings by ibai-publishing (www.ibai-publishing.org). Selected papers of CBR-MD will be published in a special issue of the international journal Transactions on Case-Based Reasoning (www.ibai-publishing.org/journal/cbr).
Hydrology & Meteorology - David Ambrose 2006

Climate Change and Extreme Events - Ali Fares 2021-02-26
Climate Change and Extreme Events uses a multidisciplinary approach to discuss the relationship between climate change-related weather extremes and their impact on human lives. Topics discussed are grouped into four major sections: weather parameters, hydrological responses, mitigation and adaptation, and governance and policies, with each addressed with regard to past, present and future perspectives. Sections give an overview of weather parameters and hydrological responses, presenting current knowledge and a future outlook on air and stream temperatures, precipitation, storms and hurricanes, flooding, and ecosystem responses to these extremes. Other sections cover extreme weather events and discuss the role of the state in policymaking. This book provides a valuable interdisciplinary resource to climate scientists and meteorologists, environmental researchers, and social scientists interested in extreme weather. Provides an integrated interdisciplinary approach to how climate change impacts the hydrological system
Addresses significant knowledge gaps in our understanding of climate change and extreme events Discusses the societal impacts of climate change-related weather extremes, including multilevel governance and adaptation policy
A History of Dams - N. Schnitter 1994

Statistical Methods in Hydrology - Leo R. Beard 1962
The application of statistics in hydrologic engineering is described and illustrated. The subject matter covers the following items: (1) A concise review of the basic concepts of probability and correlation analyses that are applicable in hydrologic engineering, with a guide to supplemental reading for further treatment; (2) Presentation of detailed computation procedures and supporting justifications and computation aids for derivation of probability of frequency estimates based on analysis of hydrologic records that have been adjusted as required to conform with selected reference base conditions; and (3) A summary of procedures for developing 'regionalized' hydrologic frequency estimates, based on analyses of hydrologic records available at stream gaging stations, adjusted to provide generalized flood-frequency relations that are considered most representative of long-period hydrologic characteristics in various drainage areas in the region. Also, illustrations and explanations of simple generalization procedures for use where these are adequate and advantageous are given.

Regional Frequency Analysis - J. R. M. Hosking 2005-09-08
Extreme environmental events, such as floods, droughts, rainstorms, and high winds, have severe consequences for human society. Regional frequency analysis helps to solve the problem of estimating the frequency of these rare events at one site by using data from several sites. This book is the first complete account of the L-moment approach to regional frequency analysis. Regional Frequency Analysis comprehensively describes the theoretical background to the subject, is rich in practical advice for users, and contains detailed examples that illustrate the approach. This book will be of great value to hydrologists, atmospheric scientists and civil engineers, concerned with environmental extremes.

Chaos in Hydrology - Bellie Sivakumar 2016-11-16
This authoritative book presents a comprehensive account of the essential roles of nonlinear dynamic and chaos theories in understanding, modeling, and forecasting hydrologic systems. This is done through a systematic presentation of: (1) information on the salient

characteristics of hydrologic systems and on the existing theories for their modeling; (2) the fundamentals of nonlinear dynamic and chaos theories, methods for chaos identification and prediction, and associated issues; (3) a review of the applications of chaos theory in hydrology; and (4) the scope and potential directions for the future. This book bridges the divide between the deterministic and the stochastic schools in hydrology, and is well suited as a textbook for hydrology courses.

Theory and Applications of Long-Range Dependence - Paul Doukhan 2002-12-13

The area of data analysis has been greatly affected by our computer age. For example, the issue of collecting and storing huge data sets has become quite simplified and has greatly affected such areas as finance and telecommunications. Even non-specialists try to analyze data sets and ask basic questions about their structure. One such question is whether one observes some type of invariance with respect to scale, a question that is closely related to the existence of long-range dependence in the data. This important topic of long-range dependence is the focus of this unique work, written by a number of specialists on the subject. The topics selected should give a good overview from the probabilistic and statistical perspective. Included will be articles on fractional Brownian motion, models, inequalities and limit theorems, periodic long-range dependence, parametric, semiparametric, and non-parametric estimation, long-memory stochastic volatility models, robust estimation, and prediction for long-range dependence sequences. For those graduate students and researchers who want to use the methodology and need to know the "tricks of the trade," there will be a special section called "Mathematical Techniques." Topics in the first part of the book are covered from probabilistic and statistical perspectives and include fractional Brownian motion, models, inequalities and limit theorems, periodic long-range dependence, parametric, semiparametric, and non-parametric estimation, long-memory stochastic volatility models, robust estimation, prediction for long-range dependence sequences. The reader is referred to more detailed proofs if already found in the literature. The last part of the book is devoted to applications in the areas of simulation,

estimation and wavelet techniques, traffic in computer networks, econometry and finance, multifractal models, and hydrology. Diagrams and illustrations enhance the presentation. Each article begins with introductory background material and is accessible to mathematicians, a variety of practitioners, and graduate students. The work serves as a state-of-the art reference or graduate seminar text.

Practical Hydroinformatics - Robert J. Abrahart 2008-10-24

Hydroinformatics is an emerging subject that is expected to gather speed, momentum and critical mass throughout the forthcoming decades of the 21st century. This book provides a broad account of numerous advances in that field - a rapidly developing discipline covering the application of information and communication technologies, modelling and computational intelligence in aquatic environments. A systematic survey, classified according to the methods used (neural networks, fuzzy logic and evolutionary optimization, in particular) is offered, together with illustrated practical applications for solving various water-related issues. ...

Hydrology 2020 - International Association of Hydrological Sciences. Hydrology 2020 Working Group 2006

A milestone capturing the state of the art in hydrological science at the beginning of the 21st century, a chart for hydrologists exploring the new frontiers in hydrology, and a guide for those involved with developing and implementing water policies. It considers the capability that hydrological sciences will and should have by 2020, and what needs doing now in order to achieve this. There is an emphasis on societal issues and interdisciplinary work pertinent to hydrology as hydrologists cannot work in isolation from society.

Advances in Streamflow Forecasting - Priyanka Sharma 2021-06-20

Advances in Streamflow Forecasting: From Traditional to Modern Approaches covers the three major data-driven approaches of streamflow forecasting including traditional approach of statistical and stochastic time-series modelling with their recent developments, stand-alone data-driven approach such as artificial intelligence techniques, and modern hybridized approach where data-driven models are combined with

preprocessing methods to improve the forecast accuracy of streamflows and to reduce the forecast uncertainties. This book starts by providing the background information, overview, and advances made in streamflow forecasting. The overview portrays the progress made in the field of streamflow forecasting over the decades. Thereafter, chapters describe theoretical methodology of the different data-driven tools and techniques used for streamflow forecasting along with case studies from different parts of the world. Each chapter provides a flowchart explaining step-by-step methodology followed in applying the data-driven approach in streamflow forecasting. This book addresses challenges in forecasting streamflows by abridging the gaps between theory and practice through amalgamation of theoretical descriptions of the data-driven techniques and systematic demonstration of procedures used in applying the techniques. Language of this book is kept simple to make the readers understand easily about different techniques and make them capable enough to straightforward replicate the approach in other areas of their interest. This book will be vital for hydrologists when optimizing the water resources system, and to mitigate the impact of destructive natural disasters such as floods and droughts by implementing long-term planning (structural and nonstructural measures), and short-term emergency warning. Moreover, this book will guide the readers in choosing an appropriate technique for streamflow forecasting depending upon the given set of conditions. Contributions from renowned researchers/experts of the subject from all over the world to provide the most authoritative outlook on streamflow forecasting Provides an excellent overview and advances made in streamflow forecasting over the past more than five decades and covers both traditional and modern data-driven approaches in streamflow forecasting Includes case studies along with detailed flowcharts demonstrating a systematic application of different data-driven models in streamflow forecasting, which helps understand the step-by-step procedures

Water accounting in the Awash River Basin - Food and Agriculture Organization of the United Nations 2020-04-01

This report provides the water accounting study for Awash River basin in

Ethiopia carried out by IHE-Delft using the Water Productivity (WaPOR) data portal of the Food and Agricultural Organization (FAO). The Awash River Basin is the most utilized river basin in Ethiopia hosting most of the industrial activities in the country, a number of small to large scale irrigation schemes and the main population centres of the country with more than 18.6 million people (2017 estimate). The basin faces high water stress during the peak of the irrigation season and frequent flooding in rainy seasons. The Water Accounting Plus (WA+) system designed by IHE Delft with its partners FAO and IWMI has been applied to gain full insights into the state of the water resources in the basin for the period 2009 to 2018. The WA+ framework is a reporting mechanism for water flows, fluxes and stocks that are summarized by means of WA+ sheets. The role of land use and land cover on producing and consuming water is described explicitly.

Hydrological Data Driven Modelling - Renji Remesan 2014-11-03

This book explores a new realm in data-based modeling with applications to hydrology. Pursuing a case study approach, it presents a rigorous evaluation of state-of-the-art input selection methods on the basis of detailed and comprehensive experimentation and comparative studies that employ emerging hybrid techniques for modeling and analysis. Advanced computing offers a range of new options for hydrologic modeling with the help of mathematical and data-based approaches like wavelets, neural networks, fuzzy logic, and support vector machines. Recently machine learning/artificial intelligence techniques have come to be used for time series modeling. However, though initial studies have shown this approach to be effective, there are still concerns about their accuracy and ability to make predictions on a selected input space.

Computational Learning Theory - Paul Vitanyi 1995-02-23

This volume presents the proceedings of the Second European Conference on Computational Learning Theory (EuroCOLT '95), held in Barcelona, Spain in March 1995. The book contains full versions of the 28 papers accepted for presentation at the conference as well as three invited papers. All relevant topics in fundamental studies of computational aspects of artificial and natural learning systems and

machine learning are covered; in particular artificial and biological neural networks, genetic and evolutionary algorithms, robotics, pattern recognition, inductive logic programming, decision theory, Bayesian/MDL estimation, statistical physics, and cryptography are addressed.

Fundamentals of Statistical Hydrology - Mauro Naghettini

2016-10-26

This textbook covers the main applications of statistical methods in hydrology. It is written for upper undergraduate and graduate students but can be used as a helpful guide for hydrologists, geographers, meteorologists and engineers. The book is very useful for teaching, as it covers the main topics of the subject and contains many worked out examples and proposed exercises. Starting from simple notions of the essential graphical examination of hydrological data, the book gives a complete account of the role that probability considerations must play during modelling, diagnosis of model fit, prediction and evaluating the uncertainty in model predictions, including the essence of Bayesian application in hydrology and statistical methods under nonstationarity. The book also offers a comprehensive and useful discussion on subjective topics, such as the selection of probability distributions suitable for hydrological variables. On a practical level, it explains MS Excel charting and computing capabilities, demonstrates the use of Winbugs free software to solve Monte Carlo Markov Chain (MCMC) simulations, and gives examples of free R code to solve nonstationary models with nonlinear link functions with climate covariates.

Multivariate Models and Multivariate Dependence Concepts - Harry Joe

1997-05-01

This book on multivariate models, statistical inference, and data analysis contains deep coverage of multivariate non-normal distributions for modeling of binary, count, ordinal, and extreme value response data. It is virtually self-contained, and includes many exercises and unsolved problems.

Balancing Water for Humans and Nature - Johan Rockstrom

2013-06-17

Balancing Water for Humans and Nature, authored by two of the world's leading experts on water management, examines water flows - the 'blood stream' of both nature and society - in terms of the crucial links, balances, conflicts and trade-offs between human and environmental needs. The authors argue that a sustainable future depends fundamentally on our ability to manage these trade-offs and encourage long-term resilience. They advocate an ecohydrological approach to land/water/environmental problems and advance a strong, reasoned argument for viewing precipitation as the gross fresh water resource, ultimately responsible for sustaining all terrestrial and aquatic ecosystem services. This book makes the most coherent and holistic argument to date for a new ecological approach to understanding and managing water resources for the benefit of all. Basing their analysis on per capita needs for an acceptable nutritional diet, the authors analyse predictions of the amounts of water needed for global food production by 2050 and identify potential sources. Drawing on small-scale experiences in Africa and Asia, they also cover the vulnerability of the semi-arid tropics through a simplified model of green and blue water scarcity components.

Water Policy in New Mexico - David Brookshire 2013-07-04

This book addresses water management issues in the State of New Mexico. It focuses on our current understanding of the natural world, capabilities in numerical modeling, existing and evolving regulatory frameworks, and specific issues such as water quality, endangered species and the evolution of new water management institutions. Similar to its neighboring states, New Mexico regularly experiences cycles of drought. It is also experiencing rapid economic growth while at the same time is experiencing a fundamental climate shift. These factors place severe demands on its scarce water resources. In addition to historical uses by the native inhabitants of the region and the agricultural sector, new competitive uses have emerged which will require reallocation. This effort is complicated by unadjudicated water rights, the need to balance the ever-increasing needs of growing urban and rural populations, and the requirements of the ecosystem and traditional users. It is clear that New Mexico, as with other semi-arid states and regions, must find

efficient ways to reallocate water among various beneficial uses. This book discusses how a proper coordination of scientific understanding, modeling advancements, and new and emerging institutional structures can help in achieving improved strategies for water policy and management. To do so, it calls upon the expertise of academics from multiple disciplines, as well as officials from federal and state agencies, to describe in understandable terms the issues currently being faced and how they can be addressed via an iterative strategy of adaptive management.

Models of Mesopotamian Landscapes - Tony J. Wilkinson 2013

This volume demonstrates how models can contribute to an understanding of the development of ancient Mesopotamian settlement and landscape. The models are intended to show that early settlements co-evolved in an intimate relationship with their physical and social environments. Local rules that determined the subsistence practices of the householder then developed into more complex social mechanisms which culminated in the emergence of complex systems of settlement. Data for the models is drawn from archaeological surveys, environmental archaeology, anthropology and cuneiform texts. Although initially intended as an investigation of how agent-based models can contribute to understanding urban growth, this volume adopts a more broad-brush approach to include both 'bottom-up' and 'top-down' models as well as mathematical and qualitative methods.

Ensemble Methods - Zhi-Hua Zhou 2012-06-06

An up-to-date, self-contained introduction to a state-of-the-art machine learning approach, *Ensemble Methods: Foundations and Algorithms* shows how these accurate methods are used in real-world tasks. It gives you the necessary groundwork to carry out further research in this evolving field. After presenting background and terminology, the book covers the main algorithms and theories, including Boosting, Bagging, Random Forest, averaging and voting schemes, the Stacking method, mixture of experts, and diversity measures. It also discusses multiclass extension, noise tolerance, error-ambiguity and bias-variance decompositions, and recent progress in information theoretic diversity.

Moving on to more advanced topics, the author explains how to achieve better performance through ensemble pruning and how to generate better clustering results by combining multiple clusterings. In addition, he describes developments of ensemble methods in semi-supervised learning, active learning, cost-sensitive learning, class-imbalance learning, and comprehensibility enhancement.

Science and Technology in Homeric Epics - S. A. Paipetis 2008-10-20

In the *Homeric Epics*, important references to specific autonomous systems and mechanisms of very advanced technology, such as automata and artificial intelligence, as well as to almost modern methods of design and production are included. Even if those features of Homeric science were just poetic concepts (which on many occasions does not explain the astonishing details of design and manufacture, like the ones included in the present volume), they seem to prove that these achievements were well within human capability. In addition, the substantial development of machine theory during the early post-Homeric age shows that the Homeric descriptions were a kind of prophetic conception of these machines, and scientific research must be a quest for the fundamental principles of knowledge available during the Late Bronze Age and the dawn of the Iron Age. Such investigations must of necessity be strongly interdisciplinary and also proceed continuously in time, since, as science progresses, new elements of knowledge are discovered in the *Homeric Epics*, amenable to scientific analysis. This book brings together papers presented at the international symposium *Science and Technology in Homeric Epics*, which took place at Ancient Olympia in 2006. It includes a total of 41 contributions, mostly original research papers, covering diverse fields of science and technology, in the modern sense of these words.

Instructor's Manual for Interactive Forecasting - Spyros G. Makridakis 1978

Treatise on Water Science - 2023-07

[Environmental Modelling](#) - Keith Beven 2018-09-03

Uncertainty in the predictions of science when applied to the environment is an issue of great current relevance in relation to the impacts of climate change, protecting against natural and man-made disasters, pollutant transport and sustainable resource management. However, it is often ignored both by scientists and decision makers, or interpreted as a conflict or disagreement between scientists. This is not necessarily the case, the scientists might well agree, but their predictions would still be uncertain and knowledge of that uncertainty might be important in decision making. *Environmental Modelling: An Uncertain Future?* introduces students, scientists and decision makers to: the different concepts and techniques of uncertainty estimation in environmental prediction the philosophical background to different concepts of uncertainty the constraint of uncertainties by the collection of observations and data assimilation in real-time forecasting techniques for decision making under uncertainty. This book will be relevant to environmental modellers, practitioners and decision makers in hydrology, hydraulics, ecology, meteorology and oceanography, geomorphology, geochemistry, soil science, pollutant transport and climate change. A companion website for the book can be found at www.uncertain-future.org.uk

Advances in Data Mining - Petra Perner 2003-08-02

This book presents papers describing selected projects on the topic of data mining in fields like e commerce, medicine, and knowledge management. The objective is to report on current results and at the same time to give a review on the present activities in this field in Germany. An effort has been made to include the latest scientific results, as well as lead the reader to the various fields of activity and the problems related to them. Knowledge discovery on the basis of web data is a wide and fast growing area. E commerce is the principal theme of motivation in this field, as companies invest large sums in the electronic market, in order to maximize their profits and minimize their risks. Other applications are telelearning, teleteaching, service support, and citizen information systems. Concerning these applications, there is a great need to understand and support the user by means of recommendation

systems, adaptive information systems, as well as by personalization. In this respect Giudici and Blanc present in their paper procedures for the generation of associative models from the tracking behavior of the user. Perner and Fiss present in their paper a strategy for intelligent e marketing with web mining and personalization. Methods and procedures for the generation of associative rules are presented in the paper by Hipp, Guntzer, and Nakhaeidzadeh.

The River Basin in History and Law - Ludwik A. Teclaff 2012-12-06

Fresh water is one of man's most vital needs. The distribution of water within river basins has a direct bearing on the organization of water resources development to meet this ever-expanding need. River basins, despite their very great diversity in other respects, have one physical characteristic in common: each is a more or less self-contained unit within whose bounds all the surface and part or all of the ground waters form an interconnected, interdependent system. This inter dependence has such far-reaching implications - for pollution and flood control, apportionment of supply, relations between upstream and downstream riparians, to mention only a few examples - that the river basin has become almost universally accepted (within the past 20 or 30 years at least) as the unit of optimal water resources development. Professor Teclaff's work (which was originally submitted to the New York University School of Law as a doctoral dissertation) is the first fully developed response to the important resolution passed by the International Law Association at its New York meeting in 1958 recognizing the legal nature of the international river basin. His study quite properly, therefore, poses the question whether the adoption of the river basin unit is a temporary phenomenon, reflecting the current stage of technology and of administrative, economic, and legal thought on water resources development, or whether the determinative influence of the river basin's physical unity which has always operated in the past will continue to operate in the future.

Greece and the Aegean - Ernest Arthur Gardner 1938

EnvStats - Steven P. Millard 2013-10-16

This book describes EnvStats, a new comprehensive R package for environmental statistics and the successor to the S-PLUS module EnvironmentalStats for S-PLUS (first released in 1997). EnvStats and R provide an open-source set of powerful functions for performing graphical and statistical analyses of environmental data, bringing major environmental statistical methods found in the literature and regulatory guidance documents into one statistical package, along with an extensive hypertext help system that explains what these methods do, how to use these methods, and where to find them in the environmental statistics literature. EnvStats also includes numerous built-in data sets from regulatory guidance documents and the environmental statistics literature. This book shows how to use EnvStats and R to easily: * graphically display environmental data * plot probability distributions * estimate distribution parameters and construct confidence intervals on the original scale for commonly used distributions such as the lognormal and gamma, as well as do this nonparametrically * estimate and construct confidence intervals for distribution percentiles or do this nonparametrically (e.g., to compare to an environmental protection standard) * perform and plot the results of goodness-of-fit tests * compute optimal Box-Cox data transformations * compute prediction limits and simultaneous prediction limits (e.g., to assess compliance at multiple sites for multiple constituents) * perform nonparametric estimation and test for seasonal trend (even in the presence of correlated observations) * perform power and sample size computations and create companion plots for sampling designs based on confidence intervals, hypothesis tests, prediction intervals, and tolerance intervals * deal with non-detect (censored) data * perform Monte Carlo simulation and probabilistic risk assessment * reproduce specific examples in EPA guidance documents EnvStats combined with other R packages (e.g., for spatial analysis) provides the environmental scientist, statistician, researcher, and technician with tools to "get the job done!"

Integrated Technologies for Environmental Monitoring and Information Production - Nilgun B. Harmancioglu 2003-10-31

This book presents the proceedings and the outcomes of the NATO

Advanced Research Workshop (ARW) on Integrated Technologies for Environmental Monitoring and Information Production, which was held in Marmaris, Turkey, between September 10- 14, 2001. With the contribution of 45 experts from 20 different countries, the ARW has provided the opportunity to resolve the basic conflicts that tend to arise between different disciplines associated with environmental data management and to promote understanding between experts on an international and multidisciplinary basis. The prevailing universal problem in environmental data management (EDM) systems is the significant incoherence between data collection procedures and the retrieval of information required by the users. This indicates the presence of problems still encountered in the realization of: (1) delineation of objectives, constraints, institutional aspects of EDM; (2) design of data collection networks; (3) statistical sampling; (4) physical sampling and presentation of data; (5) data processing and environmental databases; (6) reliability of data; (7) data analysis and transfer of data into information; and (8) data accessibility and data exchange at local, regional and global scales. Further problems stem from the lack of coherence between different disciplines involved in EDM, lack of coordination between responsible agencies on a country basis, and lack of coordination on an international level regarding the basic problems and relevant solutions that should be sought.

Supercomputing Frontiers - Rio Yokota 2018-03-20

It constitutes the refereed proceedings of the 4th Asian Supercomputing Conference, SCFA 2018, held in Singapore in March 2018.

Supercomputing Frontiers will be rebranded as Supercomputing Frontiers Asia (SCFA), which serves as the technical programme for SCA18. The technical programme for SCA18 consists of four tracks: Application, Algorithms & Libraries Programming System Software Architecture, Network/Communications & Management Data, Storage & Visualisation The 20 papers presented in this volume were carefully reviewed and selected from 60 submissions.

Theoretical Approaches to the Archaeology of Ancient Greece -

Lisa Nevett 2017-03-06

In the modern world, objects and buildings speak eloquently about their creators. Status, gender identity, and cultural affiliations are just a few characteristics we can often infer about such material culture. But can we make similar deductions about the inhabitants of the first millennium BCE Greek world? *Theoretical Approaches to the Archaeology of Ancient Greece* offers a series of case studies exploring how a theoretical approach to the archaeology of this area provides insight into aspects of ancient society. An introductory section exploring the emergence and growth of theoretical approaches is followed by examinations of the potential insights these approaches provide. The authors probe some of the meanings attached to ancient objects, townscapes, and cemeteries, for those who created, and used, or inhabited them. The range of contexts stretches from the early Greek communities during the eighth and seventh centuries BCE, through Athens between the eighth and fifth centuries BCE, and on into present day Turkey and the Levant during the third and second centuries BCE. The authors examine a range of practices, from the creation of individual items such as ceramic vessels and figurines, through to the construction of civic buildings, monuments, and cemeteries. At the same time they interrogate a range of spheres,

from craft production, through civic and religious practices, to funerary ritual.

Runoff Prediction in Ungauged Basins - Günter Blöschl 2013-04-18
Predicting water runoff in ungauged water catchment areas is vital to practical applications such as the design of drainage infrastructure and flooding defences, runoff forecasting, and for catchment management tasks such as water allocation and climate impact analysis. This full colour book offers an impressive synthesis of decades of international research, forming a holistic approach to catchment hydrology and providing a one-stop resource for hydrologists in both developed and developing countries. Topics include data for runoff regionalisation, the prediction of runoff hydrographs, flow duration curves, flow paths and residence times, annual and seasonal runoff, and floods. Illustrated with many case studies and including a final chapter on recommendations for researchers and practitioners, this book is written by expert authors involved in the prestigious IAHS PUB initiative. It is a key resource for academic researchers and professionals in the fields of hydrology, hydrogeology, ecology, geography, soil science, and environmental and civil engineering.

A Statistical Theory of the Strength of Materials - Waloddi Weibull 1939