Environment Systems And Decisions | 6d5b8836acfa501e77272e8b5f6d9854

Decisions and Trends in Social SystemsApplied Risk Analysis for Guiding Homeland Security Policy and DecisionsEnvironmental Systems - Volume IISustainable Development of Energy, Water and Environment SystemsSpecial Issue: Multi-scale Decision MakingClimate Adaptation Finance and Investment in CaliforniaThe Phenomenon of Untested Sexual Assault KitsInformation Systems and the EnvironmentRural SustainabilityUnderstanding the Changing PlanetEnvironmental Systems ScienceCitizen-Responsive Urban E-Planning: Recent Developments and Critical PerspectivesEnvironmental Literacy in Science and SocietySynthetic Biology 2020: Frontiers in Risk Analysis and GovernanceDecision Making in Systems Engineering and ManagementDecision Making for the EnvironmentBuilding a Foundation for Sound Environmental DecisionsComplex Environmental SystemsMultidimensional Approaches to Impacts of Changing Environment on Human HealthMultiple Criteria Decision Making for Sustainable DevelopmentMarket EngineeringMaking Transparent Environmental Management DecisionsSustainable Development of Energy, Water and Environment SystemsMulticriteria Analysis for Environmental Decision-MakingEnvironmental Systems - Volume IIIIntroduction to the Inaugural General Issue of Environment Systems and DecisionsDynamics in Ergonomics, Psychology, and DecisionsThe Palgrave Handbook of Security, Risk and IntelligenceThe Science and Practice of ResilienceIssues on Risk Analysis for Critical Infrastructure ProtectionEnvironmental Literacy in Science and SocietyRisk-Based Environmental DecisionsSafety and Reliability of Complex Engineered SystemsBetter Environmental DecisionsSystems, Decision and Control in Energy IIHandbook on Resilience of Socio-Technical SystemsMan-environment SystemsNanotechnology Environmental Health and SafetyFusion of interval-valued neutrosophic sets and financial assessment for optimal renewable energy portfolios with uncertaintiesExpertise Under Scrutiny

From the oceans to continental heartlands, human activities have altered the physical characteristics of Earth's surface. With Earth's population projected to peak at 8 to 12 billion people by 2050 and the additional stress of climate change, it is more important than ever to understand how and where these changes are happening. Innovation in the geographical sciences has the potential to advance knowledge of place-based environmental change, sustainability, and the impacts of a rapidly changing economy and society. Understanding the Changing Planet outlines eleven strategic directions to focus research and leverage new technologies to harness the potential that the geographical sciences offer.

This open access book provides a broad range of insights on market engineering and information management. It covers topics like auctions, stock markets, electricity markets, the sharing economy, information and emotions in markets, smart decision-making in cities and other systems, and methodological approaches to conceptual modeling and taxonomy development. Overall, this book is a source of inspiration for everybody working on the vision of advancing the science of engineering markets and managing information for contributing to a bright, sustainable, digital world. Markets are powerful and extremely efficient mechanisms for coordinating individuals' and organizations' behavior in a complex, networked economy. Thus, designing, monitoring, and regulating markets is an essential task of today□s society. This task does

not only derive from a purely economic point of view. Leveraging market forces can also help to tackle pressing social and environmental challenges. Moreover, markets process, generate, and reveal information. This information is a production factor and a valuable economic asset. In an increasingly digital world, it is more essential than ever to understand the life cycle of information from its creation and distribution to its use. Both markets and the flow of information should not arbitrarily emerge and develop based on individual, profit-driven actors. Instead, they should be engineered to serve best the whole society□s goals. This motivation drives the research fields of market engineering and information management. With this book, the editors and authors honor Professor Dr. Christof Weinhardt for his enormous and ongoing contribution to market engineering and information management research and practice. It was presented to him on the occasion of his sixtieth birthday in April 2021. Thank you very much, Christof, for so many years of cooperation, support, inspiration, and friendship.

Among the many ways the world has changed in recent decades, using technology for city planning has become one of the most innovative. Using new, pioneering methods that are reshaping the world into a more efficient and effective society has become the new reality. Citizen-Responsive Urban E-Planning: Recent Developments and Critical Perspectives is a collection of innovative research that presents and discusses various perspectives on facets of citizen engagement in open urban policy processes, all of them based on the widespread use of information and communication technologies in the field of urban/spatial planning. The book offers an updated outline of recent advances in this field as well as a critical perspective of the challenges with which citizen e-participation in urban e-planning is confronted. While highlighting topics including smart ecosystems, urban development, and global intelligence, this book is ideally designed for urban planners, IT consultants, government officials, policymakers, academicians, researchers, students, and industry professionals.

This book examines the problems in the field of energy and related fields (chemical, transport, aerospace, construction, metallurgy, engineering, etc.) and consists of 4 subsections: Electrical Engineering, Heat Power Engineering, Cybersecurity and Computer Science & Environmental Safety. In the first section, authors pay attention to contemporary issues related to the development of the electric power industry, electrical engineering, the physics of electrical phenomena and renewable energy sources (such as solar energy and wind energy). The second section is devoted to modern problems in heat power engineering and considers modern means and methods that increase the efficiency and reliability of the functioning of heat power facilities. The third section is devoted to issues of cybersecurity of critical facilities, in particular energy facilities, as well as the development of computer science and the introduction of modern information and measurement systems in the energy sector. The fourth subsection deals with the problems of rational use of natural resources, accounting for emissions of harmful substances, environmental issues at energy facilities, as well as the development of a methodology for environmental safety. The book includes 21 chapters. A book is for researchers, engineers, as well as lecturers and postgraduates of higher education institutions dealing with issues of control, diagnosis and monitoring of energy facilities.

Multicriteria analysis, or MCA, has been increasingly used in environmental decision-making to support the identification of suitable courses of action by integrating factual information with value-based information collected through stakeholder engagement. Multicriteria Analysis for Environmental Decision-Making provides an introduction to the key concepts of MCA and includes a series of case studies that illustrate the application of MCA to a variety of environmental decision-making problems ranging from protected area zoning to landfill siting, and from

forest restoration to environmental impact assessment of tourism infrastructures. A compact reference that can be used by researchers, practitioners and planners/decision makers, Multicriteria Analysis for Environmental Decision-Making can also serve as a textbook for undergraduate and postgraduate courses in a broad range of curricula.

Better Environmental Decisions reponds to the need for improved environmental decision making by bringing together leading scholars and practitioners to provide a comprehensive interdisciplinary introduction to the subject. Each chapter describes an important aspect of environmental decision making; identifies key issues, problems, and barriers; and recommends ways to improve both the process and the final result.Topics examined include: Congressional decisions about regulatory reform environmental benefit/cost analysisvaluing environmental impacts comparing risks and setting priorities strategic environmental management corporate accounting for environmental and social factors corporate responses to rules and regulations community decisions about environmental riskscivic environmentalismcommunity partnerships with industry and governmentThroughout, contributors focus on providing tools to make better decisions, and on presenting solutions to real-world problems.Better Environmental Decisions describes and analyzes the key decision making criteria of each of the stakeholders involved -- governments, businesses, and communities -- and offers a compendium of techniques necessary for achieving success. It will be a landmark reference and resource for anyone involved with environmental decisionmaking, including legislators, regulators, business and environmental managers, environmental advocates, community activists, reporters, researchers, educators, and students.

Sustainability is a new, important discourse aimed at promoting a new strategy in the development of energy, water and environmental (EWE) systems OCo the key components that affect the quality of life on our planet. It is becoming increasingly clear that the quest for sustainable development requires integrating economic, social, cultural, political and ecological factors. The behavior and properties of an EWE system arise not merely from the properties of its component elements, but also to a large degree also from the nature and intensity of their dynamic interlinkages. This volume helps clarify the complexity of these problems by providing a deeper understanding of the implications of the different aspects of sustainability. This work contains a collection of selected, peer-reviewed and state-of-the-art reflecting papers that were presented at the Third Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems that was held in June 5OCo10, 2005 in Dubrovnik, Croatia."

This work contains a collection of selected, peer-reviewed papers that were presented at the First Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems, held in Dubrovnik, Croatia in 2002. This conference was focussed on the following objectives: Moreto discuss sustainability concepts of energy, water and environment and their relation to global development; to analyse potential scientific and technological processes reflecting energy, water and environment exchange; to present energy, water and environment system models and their evaluation; to consider multi-criteria assessment of energy, water and environment systems by taking account of economic, social, environmental and resource use aspects. This book is interesting for (post)graduate students, scientists and professionals from mechanical, chemical and environmental disciplines who are working on sustainable development.

This paper proposes a novel approach to integrate a financial model and a fuzzy model to analyze both quantitative and qualitative factors. The financial model is utilized to calculate the quantitative factors, thereby assisting experts make judgments more accurately in the fuzzy model.

This text describes the dynamics of the structures and strategies of human behaviour, perceptions, thinking, work skills and creativity. It also describes the dynamics of human-machine-environment systems, management, education and technological processes. It contributes to the understanding of how one can enhance human abilities to respond appropriately to the demands imposed by the ever-increasing pace of change and technological and societal complexities. The study of transformations and learning how to respond to changes is of paramount interest in today's dynamic world. Rapid adaptation of managment structures and absorption of new technologies has become a prerequisite for social and economic survival.

Environmental Systems is a component of Encyclopedia of Environmental and Ecological Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. Environmental Systems is something about data handling, modeling and decision making in the field of environmental systems. It includes related basic knowledge on measurement techniques, modeling techniques and models and their applications for decisions making. Environmental engineering / research are based on measurement techniques and related knowledge of natural and life sciences. Developed mathematical and numerical simulation models are tools and strictly purpose oriented, that means suitable for decision making. The three volumes on Environmental Systems are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

In an era where humans affect virtually all of the earth's processes, questions arise about whether we have sufficient knowledge of human-environment interactions. How can we sustain the Earth's ecosystems to prevent collapses and what roles should practitioners and scientists play in this process? These are the issues central to the concept of environmental literacy. This unique book provides a comprehensive review and analysis of environmental literacy within the context of environmental science and sustainable development. Approaching the topic from multiple perspectives, it explores the development of human understanding of the environment and human-environment interactions in the fields of biology, psychology, sociology, economics and industrial ecology. The discussion emphasises the importance of knowledge integration and transdisciplinary processes as key strategies for understanding complex human-environment systems (HES). In addition, the author defines the HES framework as a template for investigating sustainably coupled human-environment systems in the 21st century.

This book examines the phenomenon of unsubmitted and untested sexual assault kits (SAKs). Beginning with an analysis of the background of the study, it examines feminist theory, functionalism, and resource dependence theory in relation to the phenomenon. The book highlights the existence of scholarly literature on the topic of sexual assault and what sexual assault encompasses, leading to the problem of unsubmitted and untested SAKs. Sexual assault is a global problem involving women and college students. Unfortunately, there are 400,000

SAKs nationwide in the US that remain unsubmitted or untested, therefore indicating serious gaps in the criminal justice system. The book shows the need for stakeholders who have an interest in the topic to collectively engage to acknowledge the systemic gaps, and provide resolution so that officials properly utilize SAKs to apprehend and empower victims to live healthy and functional lives. It recognizes and portrays the results of the study and suggests recommendation for future research. The book will be an instrumental tool for law enforcement officers, sexual assault detectives, forensic scientists, and sexual assault nurse examiners to understand the perceptions of law enforcement as to what caused the phenomenon and how to prevent it in the future.

Safety and Reliability of Complex Engineered Systems contains the Proceedings of the 25th European Safety and Reliability Conference, ESREL 2015, held 7-10 September 2015 in Zurich, Switzerland. It includes about 570 papers accepted for presentation at the conference. These contributions focus on theories and methods in the area of risk, safety and

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Information technology is a powerful tool for meeting environmental objectives and promoting sustainable development. This collection of papers by leaders in industry, government, and academia explores how information technology can improve environmental performance by individual firms, collaborations among firms, and collaborations among firms, government agencies, and academia. Information systems can also be used by nonprofit organizations and the government to inform the public about broad environmental issues and environmental conditions in their neighborhoods. Several papers address the challenges to information management posed by the explosive increase in information and knowledge about environmental issues and potential solutions, including determining what information is environmentally relevant and how it can be used in decision making. In addition, case studies are described and show how industry is using information systems to ensure sustainable development and meet environmental standards. The book also includes examples from the public sector showing how governments use information knowledge systems to disseminate â□œbest practicesâ□ beyond big firms to small businesses, and from the world of the Internet showing how knowledge is shared among environmental advocates and the general public.

Synthetic biology offers powerful remedies for some of the world□s most intractable problems, but these solutions are clouded by uncertainty and risk that few strategies are available to address. The incentives for continued development of this emerging technology are prodigious

and obvious, and the public deserves assurances that all potential downsides are duly considered and minimized accordingly. Incorporating social science analysis within the innovation process may impose constraints, but its simultaneous support in making the end products more acceptable to society at large should be considered a worthy trade-off. Contributing authors in this volume represent diverse perspectives related to synthetic biology's social sciences, and reflect on different areas of risk analysis and governance that have developed for the field. Such perspectives include leading scholarly discussion pertaining to risk assessment, governance, ethics, and communication. The chapters of this volume note that while the first twenty years of synthetic biology development have focused strongly on technological innovation and product development, the next twenty should emphasize the synergy between developers, policymakers, and publics to generate the most beneficial, well governed, and transparent technologies and products possible. Many chapters in this volume provide new data and approaches that demonstrate the feasibility for multi-stakeholder efforts involving policymakers, regulators, industrial developers, workers, experts, and societal representatives to share responsibilities in the production of effective and acceptable governance in the face of uncertain risk probabilities. A full consideration of such perspectives may prevent a world of draconian regulations based on an insufficient or incomplete understanding of the science that underpins synthetic biology, as well as any hesitancy or fear by the public to adopt its eventual products.

This book explores the challenges that confront leaders in government and industry when making decisions in the areas of environmental health and safety. Today, decision making demands transparency, robustness, and resiliency. However thoughtfully they are devised, decisions made by governments and enterprises can often trigger immediate, passionate public response. Expertise Under Scrutiny shows how leaders can establish organizational decision making processes that yield valid, workable choices even in fast-changing and uncertain conditions. The first part of the book examines the organizational decision making process, describing the often-contentious environment in which important environmental health and safety decisions are made, and received. The authors review the roles of actors and experts in the decision making process. The book goes on to address such topics as: · The roles of actors and experts in the decision making process · Ethics and analytics as drivers of good decisions · Why managing problems in safety, security, environment, and health Part II offers an outline for adopting a formal decision support structure, including the use of decision support tools. It includes a chapter devoted to ELECTRE (ELimination and Choice Expressing Reality), a multi-criteria decision analysis system. The book concludes with an insightful appraisal and analysis of the expertise, structure and resources needed for navigating well-supported, risk-informed decisions in our 21st Century world. Expertise Under Scrutiny benefits a broad audience of students, academics, researchers, and working professionals in management and related disciplines, especially in the field of environmental health and safety.

The success of environmental research and education depends on advances in all science and engineering disciplines, and effective collaborations between disciplines.

The goal to improve the resilience of social systems – communities and their economies – is increasingly adopted by decision makers. This unique and comprehensive Handbook focuses on the interdependencies of these social systems and the technologies that support them. Special attention is given to the ways in which resilience is conceptualized by different disciplines, how resilience may be assessed, and how

resilience strategies are implemented. Case illustrations are presented throughout to aid understanding.

Critical infrastructure provides essential services to citizens. The mutual dependencies of services between systems form a complex "system of systems" with a large perturbation surface, prone to be damaged by natural and anthropic events. Their intrinsic and extrinsic vulnerabilities could be overcome by providing them adaptive properties to allow fast and effective recovery from loss of functionality. Resilience is thus the key issue, and its enhancement, at the systemic level, is a priority goal to be achieved. This volume reviews recent insights into the different domains (resilience-enhancing strategies, impact and threats knowledge, and dependency-related issues) and proposes new strategies for better critical infrastructure protection.

Nanotechnology Environmental Health and Safety tackles – in depth and in breadth – the complex and evolving issues pertaining to nanotechnology's environmental health and safety (EHS). The chapters are authored by leaders in their respective fields, providing thorough analysis of their research areas. The diverse spectrum of topics include nanotechnology EHS issues, financial implications, foreseeable risks including exposure, dosage and hazards, and the implications of occupational hygiene precautions and consumer protections. The book includes real-world case studies, wherever practical, to illustrate specific issues and scenarios encountered by stakeholders positioned on the front-lines of nanotechnology-enabled industries. These case studies will appeal to, and resonate with, laboratory scientists, business leaders, regulators, service providers, and postgraduate researchers. Reviews toxicological studies and industrial initiatives, supported by numerous case studies Covers new generation of nanoparticles and significantly expands on existing material from second edition Only edited volume to collect research on the regulatory and risk implications of a wide array of industrial, environmental and consumer nanomaterials

Environmental Systems Science: Theory and Practical Applications looks at pollution and environmental quality from a systems perspective. Credible human and ecological risk estimation and prediction methods are described, including life cycle assessment, feasibility studies, pollution control decision tools, and approaches to determine adverse outcome pathways, fate and transport, sampling and analysis, and cost-effectiveness. The book brings translational science to environmental quality, applying groundbreaking methodologies like informatics, data mining, and applications of secondary data systems. Multiple human and ecological variables are introduced and integrated to support calculations that aid environmental and public health decision making. The book bridges the perspectives of scientists, engineers, and other professionals working in numerous environmental and public health fields addressing problems like toxic substances, deforestation, climate change, and loss of biological diversity, recommending sustainable solutions to these and other seemingly intractable environmental problems. The causal agents discussed include physical, chemical, and biological agents, such as per- and polyfluoroalkyl substances (PFAS), SARS-CoV-2 (the COVID-19 virus), and other emerging contaminants. Provides an optimistic and interdisciplinary approach, underpinned by scientific first principles and theory to evaluate pollutant sources and sinks, applying biochemodynamic methods, measurements and models Deconstructs prior initiatives in environmental assessment and management using an interdisciplinary approach to evaluate what has worked and why Lays out a holistic understanding of the real impact of human activities on the current state of pollution,

linking the physical sciences and engineering with socioeconomic, cultural perspectives, and environmental justice Takes a life cycle view of human and ecological systems, from the molecular to the planetary scale, integrating theories and tools from various disciplines to assess the current and projected states of environmental quality Explains the elements of risk, reliability and resilience of built and natural systems, including discussions of toxicology, sustainability, and human-pollutant interactions based on spatial, biological, and human activity information, i.e. the exposome

This book serves as a guide for local governments and private enterprises as they navigate the unchartered waters of investing in climate change adaptation and resilience. This book serves not only as a resource guide for identifying potential funding sources but also as a roadmap for asset management and public finance processes. It highlights practical synergies between funding mechanisms, as well as the conflicts that may arise between varying interests and strategies. While the main focus of this work is on the State of California, this book offers broader insights for how states, local governments and private enterprises can take those critical first steps in investing in society's collective adaptation to climate change.

The book discusses the indispensable connection between the environment and health via all possible aspects, focussing on human interactions with the environment. The multi-dimensional field of environmental and human health perspectives with emerging issues and current trends is illustrated through supporting case studies, reviews, research reports and examples. It also covers crucial areas of research such as vector control in a tropical climate, influence of climate change on human health and so forth, including proliferation of microbial diseases. Environmental, health and safety guidelines are discussed as well. Aimed at graduate students and researchers in environmental and medical sciences, health and safety, and ecology, this book Highlights interdisciplinary aspects of environmental changes and associated health risks Explains different aspects of environmental pollution and health risks Includes dedicated chapters on global epidemics and biomedical and municipal waste Contains case studies pertaining to different health and safety issues.

This book offers a comprehensive view on resilience based upon state-of-the-science theories and methodological applications that resilience may fill. Specifically, this text provides a compendium of knowledge on the theory, methods, and practice of resilience across a variety of country and case contexts, and demonstrates how a resilience-based approach can help further improved infrastructure, vibrant societies, and sustainable environments and ecologies, among many others. Resilience is a term with thousands of years of history. Only recently has resilience been applied to the management of complex interconnected systems, yet its impact as a governing philosophy and an engineering practice has been pronounced. Colloquially, resilience has been used as a synonym for "bouncing back". Philosophically and methodologically, however, it is much more. In a world defined by interconnected and interdependent systems such as water, food, energy, transportation, and the internet, a sudden and unexpected disruption to one critical system can lead to significant challenges for many others. The Science and Practice of Resilience is beneficial for those seeking to gain a rich knowledge of the resilience world, as well as for practitioners looking for methods and tools by which resilience may be applied in real-world contexts.

This handbook provides a detailed analysis of threats and risk in the international system and of how governments and their intelligence services must adapt and function in order to manage the evolving security environment. This environment, now and for the foreseeable future, is characterised by complexity. The development of disruptive digital technologies; the vulnerability of critical national infrastructure; asymmetric threats such as terrorism; the privatisation of national intelligence capabilities: all have far reaching implications for security and risk management. The leading academics and practitioners who have contributed to this handbook have all done so with the objective of cutting through the complexity, and providing insight on the most pressing security, intelligence, and risk factors today. They explore the changing nature of conflict and crises; interaction of the global with the local; the impact of technological; the proliferation of hostile ideologies and the challenge this poses to traditional models of intelligence; and the impact of all these factors on governance and ethical frameworks. The handbook is an invaluable resource for students and professionals concerned with contemporary security and how national intelligence must adapt to remain effective.

Decision Making in Systems Engineering and Management is a comprehensive textbook that provides a logical process and analytical techniques for fact-based decision making for the most challenging systems problems. Grounded in systems thinking and based on sound systems engineering principles, the systems decisions process (SDP) leverages multiple objective decision analysis, multiple attribute value theory, and value-focused thinking to define the problem, measure stakeholder value, design creative solutions, explore the decision trade off space in the presence of uncertainty, and structure successful solution implementation. In addition to classical systems engineering problems, this approach has been successfully applied to a wide range of challenges including personnel recruiting, retention, and management; strategic policy analysis; facilities design and management; resource allocation; information assurance; security systems design; and other settings whose structure can be conceptualized as a system.

This volume applies the science of complexity to study coupled human-environment systems (CHES) and integrates ideas from the social sciences of climate change into a study of rural development amid flooding and urbanization in the Poyang Lake Region (PLR) of China. Author Qing Tian operationalizes the concept of sustainability and provides useful scientific analyses for sustainable development in less developed rural areas that are vulnerable to climatic hazards. The book uses a new sustainability framework that is centered on the concept of well-being to study rural development in PLR. The PLR study includes three major analyses: (1) a regional assessment of human well-being; (2) an empirical analysis of rural livelihoods; and (3) an agent-based computer model used to explore future rural development. These analyses provide a meaningful view of human development in the Poyang Lake Region and illustrate some of the complex local- and macro-level processes that shape the livelihoods of rural households in the dynamic process of urbanization. They generate useful insights about how government policy might effectively improve the well-being of rural households and promote sustainable development amid social, economic, and environmental changes. This case study has broader implications. Rural populations in the developing world are disproportionally affected by extreme climate events and climate change. Furthermore, the livelihoods of rural households in the developing world are increasingly under the influences of macro-level forces amid urbanization and globalization. This case study demonstrates that rural development policies must consider broader development dynamics at the national (and even global) level, as well as specific local social and environmental contexts. By treating climate as one of many factors that affect development in such places, we can provide policy

recommendations that synergistically promote development and reduce climatic impacts and therefore facilitate mainstreaming climate adaptation into development.

Since 1997, the Ecosystem Management Decision Support (EMDS) system has been used around the world to support environmental analysis and planning in many different application areas, and it has been applied over a wide range of geographic scales, from forest stands to entire countries. An extensive sampling of this diversity of applications is presented in section 2, in which EMDS application developers describe the varied uses of the system. These accounts, together with the requisite background in section 1, provide valuable practical insights into how the system can be applied in the general domain of environmental management.

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Presents various challenges faced by security policy makers and risk analysts, and mathematical approaches that inform homeland security policy development and decision support Compiled by a group of highly qualified editors, this book provides a clear connection between risk science and homeland security policy making and includes top-notch contributions that uniquely highlight the role of risk analysis for informing homeland security policy decisions. Featuring discussions on various challenges faced in homeland security risk analysis, the book seamlessly divides the subject of risk analysis for homeland security into manageable chapters, which are organized by the concept of risk-informed decisions, methodology for applying risk analysis, and relevant examples and case studies. Applied Risk Analysis for Guiding Homeland Security Policy and Decisions offers an enlightening overview of risk analysis methods for homeland security. For instance, it presents readers with an exploration of radiological and nuclear risk assessment, along with analysis of uncertainties in radiological and nuclear pathways. It covers the advances in risk analysis for border security, as well as for cyber security. Other topics covered include: strengthening points of entry; systems modeling for rapid containment and casualty mitigation; and disaster preparedness and critical infrastructure resilience. Highlights how risk analysis helps in the decision-making process for homeland security policy Presents specific examples that detail how various risk analysis methods provide decision support for homeland security policy makers and risk analysts Describes numerous case studies from academic, government, and industrial perspectives that apply risk analysis methods for addressing challenges within the U.S. Department of Homeland Security (DHS) Offers detailed information regarding each of the five DHS missions: prevent terrorism and enhance security; secure and manage our borders; enforce and administer our immigration laws; safeguard and secure

cyberspace; and strengthen national preparedness and resilience Discusses the various approaches and challenges faced in homeland risk analysis and identifies improvements and methodological advances that influenced DHS to adopt an increasingly risk-informed basis for decision-making Written by top educators and professionals who clearly illustrate the link between risk science and homeland security policy making Applied Risk Analysis for Guiding Homeland Security Policy and Decisions is an excellent textbook and/or supplement for upper-undergraduate and graduate-level courses related to homeland security risk analysis. It will also be an extremely beneficial resource and reference for homeland security policy analysts, risk analysts, and policymakers from private and public sectors, as well as researchers, academics, and practitioners who utilize security risk analysis methods.

With the growing number, complexity, and importance of environmental problems come demands to include a full range of intellectual disciplines and scholarly traditions to help define and eventually manage such problems more effectively. Decision Making for the Environment: Social and Behavioral Science Research Priorities is the result of a 2-year effort by 12 social and behavioral scientists, scholars, and practitioners. The report sets research priorities for the social and behavioral sciences as they relate to several different kinds of environmental problems.

Risk-Based Environmental Decision: Methods and Culture presents the principles of human health risk analysis as they are applied in environmental decisions. It balances the discussion of scientific theory and methods, philosophical analysis, and applications in regulatory decisions. The material is directed towards risk analysts who must apply their skills in a policy setting, and towards policy analysts who must use risk estimates. The presentation is suited ideally as an introductory text on the methods of risk analysis and on the cultural issues that underlie these methodologies. An important feature of Risk-Based Environmental Decision: Methods and Culture is that it is designed around a series of detailed case studies of environmental risk analysis which walk the reader from the historical nature of the problem, to the formulation as a risk-based problem, to the conduct of risk analysis, and on to the application, debate, and defense of the risk analysis.

This book presents a systemic perspective on the broadly perceived problem of social care, meant in terms of a network engaging balanced resources and actors to assure the functionality, in an integrative approach. The approach involves individual, institutional and organizational structures, at the micro, mezzo- and macro-levels, in their interrelations, with proper contexts for understandings, interpretations and actions by stakeholders. The papers presented suggest ways of changes, involving even participant actors as changing agents, taking into account evolving behaviors and human relations, policies and inter-institutional frameworks, from many points of view. In the first part, various aspects, notably economic and emotional, of innovative and integrated approaches to long-term care are dealt with. Different aspects are considered exemplified by legal, educational, economic, environmental, cultural and those related to the perception of aging, labor market for the elderly, perceived quality of life, etc. The planning and management of social services are discussed in terms of a functional, and effective and efficient system, with the identification and analysis of actors and processes, and transformation policies. This is done at the local, regional and global levels.

Over the past decades, environmental problems have attracted enormous attention and public concern. Many actions have been taken by the

U.S. Environmental Protection Agency and others to protect human health and ecosystems from particular threats. Despite some successes, many problems remain unsolved and new ones are emerging. Increasing population and related pressures, combined with a realization of the interconnectedness and complexity of environmental systems, present new challenges to policymakers and regulators. Scientific research has played, and will continue to play, an essential part in solving environmental problems. Decisions based on incorrect or incomplete understanding of environmental systems will not achieve the greatest reduction of risk at the lowest cost. This volume describes a framework for acquiring the knowledge needed both to solve current recognized problems and to be prepared for the kinds of problems likely to emerge in the future. Many case examples are included to illustrate why some environmental control strategies have succeeded where others have fallen short and how we can do better in the future.