Aral Sea Recovery National Geographic Aral Sea Story

Environment and Post-Soviet Transformation in Kazakhstan’s Aral Sea Region

A hot-button societal issue, sustainability has become a frequently heard term in every industrial segment. Sustainability in apparel production is a vast topic and it has many facets. Handbook of Sustainable Apparel Production covers all aspects of sustainable apparel production including the raw materials employed, sustainable manufacturing processes, and environmental as well as social assessments of apparel production. The book highlights the environmental and social impacts of apparel and its assessment. It explores the complexities involved in implementing sustainable measures in the massive supply chain of apparel production. The discussion then turns to sustainability and consumption behavior of the apparel industry and the assessment of sustainability aspects and parameters. The text details technologies that can pave the way toward sustainability in production and closes with coverage of design aspects, particularly sustainable design/eco design and new approaches to fashion sustainability. A vast and complex topic, sustainability in apparel production has many faces and facets. With contributions from an international panel of experts, this book unites all the elements, including very minute details, and supports them with detailed and interesting case studies. It gives you a framework for moving towards sustainability.

The World Atlas of Desertification summarises the state of scientific knowledge on the drylands of the globe. Representing in graphic form the current stage of our understanding of desertification, as well as its extent and possible solutions, it contains an extraordinary amount of information of value to students and experts alike. The Atlas clearly shows that desertification is one of the world’s most pressing environmental problems, and that it is a truly global issue. Since the publication of the first edition in 1992, over 100 countries have ratified the United Nations Convention to Combat Desertification. This 2nd edition reflects major advances in our understanding of desertification over the past few years and has been thoroughly revised and expanded to almost twice its original size. Because combating desertification involves all aspects of environmental issues, this edition covers a broader range of topics, including concerns surrounding poverty, biodiversity, climate change and the availability of water. Social and economic conditions also have a major impact on the progress and control of desertification and this edition contains the latest information on population movements which result from, and lead to desertification. Desertification directly affects the livelihoods of more than one billion people who are directly dependent on the land for their survival. Using the latest updated digitised maps of desertification and fully referenced throughout, this Atlas is essential reading for everyone concerned with the drylands and their people.

The Aral Sea Basin, which is located in the central Asian part of the former Soviet Union, is undergoing dramatically rapid and intense environmental change. Pervasive human misuse and overuse of its water, land, and other critical natural resources have led to severe degradation of key ecological systems. This book analyses the environmental, human and economic problems that have arisen and presents recommendations for future research needs. Primary focus is on the drying of the Aral Sea, but related issues of diminished river flow, land and water pollution, and degradation, ecosystem deterioration, and adverse effects on humans are also examined.

The Recovery of Natural Environments in Architecture challenges the modern practice of sealing up and mechanically cooling public scaled buildings in whichever climate and environment they are located. This book unravels the extremely complex history of understanding and perception of air, bad air, miasmas, airborne pathogens, beneficial thermal conditions, ideal climates and climate determinism. It uncovers inventive and entirely viable
_attempts to design large buildings, hospitals, theatres and academic buildings through the 19th and early 20th centuries, which use the configuration of the building itself and a shrewd understanding of the natural physics of airflow and fluid dynamics to make good, comfortable interior spaces. In exhuming these ideas and reinforcing them with contemporary scientific insight, the book proposes a recovery of the lost art and science of making naturally conditioned buildings.

This report discusses the relationship between population and environmental change, the forces that mediate this relationship, and how population dynamics specifically affect climate change and land-use change.

Shows how individuals are affected by, and respond to, economic, social, and political forces at all levels of scale: global, regional and local. It offers an inclusive picture of people in a globalizing world - men, women, children, both mainstream and marginalized citizens - not as seen from a western perspective, but as they see themselves. Core topics of physical, economic, cultural, and political geography are examined from a contemporary perspective, based on authoritative insights from recent geographic theory and examples from countries from around the world.

Describing the natural state of eight important lakes in Asia and the human impact on these lake ecosystems, this book offers a valuable reference guide. Over the past several decades the Aral Sea, Dead Sea, Lake Balkhash and other major lakes in Asia have undergone significant changes with regard to their size, water level, chemical composition, and flora and fauna. Most of these changes resulted from the loss of water from tributaries (now used for irrigation farming) or increasing consumption in local industries and households. However, significant human impacts may have begun as early as 2000 years ago. In addition to the three lakes mentioned above, Lake Sevan (Armenia), the Caspian Sea (Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan), Lake Issyk-Kul (Kyrgyzstan), and Lake Lop Nur (China) are discussed as the most prominent examples of changing lake ecosystems. In contrast, an example of an almost pristine lake ecosystem is included with the report on Lake Uvs Nuur (Mongolia). For each lake, the book summarizes its origin and early geological history, and reconstructs its natural state and variability on the basis of proxy records from drilled or exposed lake sediments that have accumulated since the last ice age. The frequently observed reductions in lake level and size during most recent decades led often to significant environmental impacts in the respective lake catchments including vegetation deterioration, soil erosion and badland formation, soil salinization or the formation of sinkholes.

Imagine Jesus walking throughout Galilee’s lushness. Hear him speak about rain falling on an Earth containing no enemies. Laugh at the wit of Jesus. Enter stories about his best friend, Mary Magdalene. Jesus used snakes and crows as teachers. Wonder at the intelligence of animals, including chimpanzees. The Aramaic language of Jesus reveals earthy meaning. His teachings, examined in seventy sayings, are compatible with sustainability. "Green Kingdom Come!" shows that the lifestyle and ministry of Jesus is green. This book is the first to connect Jesus with our ecological crises today. It features sustainable principles based on his sayings. It suggests green practices and attitudes. "Green Kingdom Come!" weaves together science and religion. A cross-cultural appendix lists sixty sacred and secular names for the oneness of both Earth and universe systems. Help create an Earth Community livable for all species, a green kingdom come! About the Author Joe Grabill is a retired professor of history and director of peace studies at Illinois State University. He has made seven research trips to the Holy Land and has written the prize-winning, Protestant Diplomacy and the Near East. He gives leadership to a project of planting trees called Children & Elders Forest (www.cefoster.org) and to a community group, Imagine Green Bloomington/Normal (www.bn-green.org). Geo-information technology can be of considerable use in disaster management, but with considerable challenge in integrating systems, interoperability and reliability. This book
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provides a broad overview of geo-information technology, software, systems needed, currently used and to be developed for disaster management. The text invites discussion on systems and requirements for use of geo-information under time and stress constraints and unfamiliar situations, environments and circumstances.

While the world’s population continues to grow, the availability of water remains constant. Facing the looming water crisis, society needs to tackle strategic management issues as an integrated part of the solution toward water sustainability. The first volume in the two-volume set Sustainable Water Management and Technologies offers readers a practical and comprehensive look at such key water management topics as water resource planning and governance, water infrastructure planning and adaption, proper regulations, and water scarcity and inequality. It discusses best management practices for water resource allocation, ground water protection, and water quality assurance, especially for rural, arid, and underdeveloped regions of the world. Timely topics such as drought, ecosystem sustainability, climate change, and water management for shale oil and gas development are presented. Discusses best practices for water resource allocation, ground water protection, and water quality assurance. Offers chapters on urban, rural, arid, and underdeveloped regions of the world. Describes timely topics such as drought, ecosystem sustainability, climate change, and water management for shale oil and gas development. Covers water resource planning and governance, water infrastructure planning and adaptation, proper regulations, and water scarcity and inequality. Discusses water resource monitoring, efficiency, and quality management.

This atlas brings together a wealth of information related to living and nonliving natural resources in the five countries of Central Asia—Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. It contains an array of maps based on geographic information systems and remote sensing images, numerous photographs, tabulations of important data, and extensive descriptive text that together illustrate and describe the region's bountiful natural resources, its diversity of peoples, and their progress toward sustainable development. Highlights include geographic and climatic features; environmental, economic, and social profiles; energy, minerals, and water resources; ecoregions and ecosystems; major fauna and flora; agriculture and fisheries; peoples and cultural traditions; and economic and social statistics.

At a time when organized heritage protection in Asia is developing at a rapid pace, Architectural Conservation in Asia provides the first comprehensive overview of architectural conservation practice from Afghanistan to the Philippines. The country-by-country analysis adopted by the book draws out local insights, experiences, best practice and solutions for effective cultural heritage management that will inform study and practice both in Asia and beyond. Whereas architectural conservation in much of the Western world has been extensively documented, this book brings together coverage of many regions where architectural conservation has been understudied. Following on from the highly influential companion volumes on global architectural conservation and architectural conservation in Europe and the Americas, with this book the authors extend their pioneering global examination to the dynamic and evolving field of architectural conservation in Asia. Throughout the book, the authors and regional experts provide local case studies and profile topics that bring depth and insight to this ambitious study. As architectural conservation becomes increasingly global in practice, this book will be of considerable assistance to architectural conservation practitioners, site managers and students of architecture, planning, archaeology and heritage studies worldwide.

When an earthquake hits a war zone or cyclone aid is flown in by an enemy, many ask: Can catastrophe bring peace? Disaster prevention and mitigation provide similar questions. Could setting up a flood warning system bring enemy countries together? Could a regional
earthquake building code set the groundwork for wider regional cooperation? This book examines how and why disaster-related activities do and do not create peace and reduce conflict. Disaster-related activities refer to actions before a disaster such as prevention and mitigation along with actions after a disaster such as emergency response, humanitarian relief, and reconstruction. This volume investigates disaster diplomacy case studies from around the world, in a variety of political and disaster circumstances, from earthquakes in Greece and Turkey affecting these neighbours’ bilateral relations to volcanoes and typhoons influencing intra-state conflict in the Philippines. Dictatorships are amongst the case studies, such as Cuba and Burma, along with democracies such as the USA and India. No evidence is found to suggest that disaster diplomacy is a prominent factor in conflict resolution. Instead, disaster-related activities often influence peace processes in the short-term—over weeks and months—provided that a non-disaster-related basis already existed for the reconciliation. That could be secret negotiations between the warring parties or strong trade or cultural links. Over the long-term, disaster-related influences disappear, succumbing to factors such as a leadership change, the usual patterns of political enmity, or belief that an historical grievance should take precedence over disaster-related bonds. This is the first book on disaster diplomacy. Disaster-politics interactions have been studied for decades, but usually from a specific political framing, covering a specific geographical area, or from a specific disaster framing. As well, plenty of quantitative work has been completed, yet the data limitations are rarely admitted openly or thoroughly analysed. Few publications bring together the topics of disasters and politics in terms of a disaster diplomacy framework, yielding a grounded, qualitative, scientific point of view on the topic.

The dramatic revelations of environmental catastrophe in the Soviet Union made during the late 1980s and early 1990s were a driving force behind reform in, and later the demise of the communist party-state. But while the Union no longer exists, the independent republics confront the same dilemmas that plagued the Soviet state: Will the goal of econ

Environmental conditions do not exist in a vacuum. They are influenced by science, politics, history, public policy, culture, economics, public attitudes, and competing priorities, as well as past human decisions. In the case of Central Asia, such Soviet-era decisions include irrigation systems and physical infrastructure that are now crumbling, mine tailings that leach pollutants into soil and groundwater, and abandoned factories that are physically decrepit and contaminated with toxic chemicals. Environmental Crises in Central Asia highlights major environmental challenges confronting the region’s former Soviet republics: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. They include threats to the Caspian and Aral seas, the impact of climate change on glaciers, desertification, deforestation, destruction of habitat and biodiversity, radioactive and hazardous wastes, water quality and supply, energy exploration and development, pesticides and food security, and environmental health. The ramifications of these challenges cross national borders and may affect economic, political, and cultural relationships on a vast geographic scale. At the same time, the region’s five governments have demonstrated little resolve to address these complex challenges. This book is a valuable multi-disciplinary resource for academics, scholars, and policymakers in environmental sciences, geography, political science, natural resources, mass communications, public
health, and economics.
Seagrasses are a vital and widespread but often overlooked coastal marine habitat. This volume provides a global survey of their distribution and conservation status.
This exciting new textbook provides an accessible and lively introduction to international relations for students encountering the subject for the first time. Presenting complex ideas, concepts and arguments in a straightforward and conversational way, the textbook explains international relations from a diplomatic perspective, emphasizing co-existence in the absence of agreement, and developing students’ ability to make sense of the current conditions of international uncertainty. Introducing students to the major theories and issues in international relations, each chapter: is written to a common structure, dividing each topic into sections with learning objectives within each section to provide points of focus for students and instructors includes extensive text box examples and short case studies for reflection and discussion provides key terms, key takeaways and simple exercises which require short responses offers a suggested list of further readings for those who wish to explore a topic further. The first introductory textbook to take a diplomatic approach, this text is essential reading for all those looking to take their first steps into the study of international relations in an era of uncertainty.
This Ocean Guide was jointly developed by FAO and PML, with contributions from many other institutions. It is designed as an educational resource for schools, youth groups and other curious young learners. This fact-filled Guide explores the ocean from the coastal zones to the frozen poles, the deep sea to the open ocean. It takes a close look at the physical features and natural processes that shape the incredible plant and animal life to be found underwater as well as life-forms exposed by the tides. It also demonstrates the many benefits the ocean provides us, discusses the negatives impacts we unfortunately have on the ocean and explains how good management can help protect and conserve the ocean and ocean life. At the end of the Guide, inspiring examples of youth-led initiatives are provided, and an easy-to-follow action plan aims to help YOU develop your own ocean conservation activities and projects. The book is structured into six core parts. The first part sets the scene and explains how the use of Aral basin water resources, primarily used for irrigation, have destroyed the Aral Sea. The team explains how spheres and events interact and the related problems. Part 2 examines the social consequences of the ecological catastrophe and the affect of the Aral Sea desiccation on cultural and economic conditions of near Aral region. Part 3 explores the scientific causes of the destruction using detailed analyses and data plus some of their own research spanning aquatic biology, terrestrial biology, hydrology, water management and biodiversity. They also share some of the latest archaeological discoveries and paleobotanical analysis to delineate past levels and characteristics of the Aral Sea. There is particular focus on modern remote sensing and GIS techniques.
and how they can monitor the Aral Sea and the environment. Part 4 discusses regional and international initiatives to mitigate human and ecological problems of the Aral Sea and the wider political and economic consequences. With thorough insight of the total environment cost, the final chapters of the book will provide lessons for the future. There are insightful case studies throughout. Multidisciplinary by nature, all titles in our new reference book series will explore significant changes within the Earth’s ecosystems and to some extent, and will tackle ways to think about our changing environment.

Looks at the history of the former Soviet republics, and describes the problems currently facing each new country.

A comprehensive review of dryland climates and their relationship to the physical environment, hydrology, and inhabitants. Chapters are divided into five major sections on background meteorology and climatology; the nature of dryland climates in relation to precipitation and hydrology; the climatology and climate dynamics of the major dryland regions on each continent; and life and change in the world's drylands. It includes key topics such as vegetation, geomorphology, desertification, micro-habitats, and adaptation to dryland environments. This interdisciplinary volume provides an extensive review of the primary literature (covering nearly 2000 references) and the conventional and satellite datasets that form key research tools for dryland climatology. Illustrated with over 300 author photographs, it presents a unique view of dryland climates for a broad spectrum of researchers, environmental professionals and advanced students in climatology, meteorology, geography, environment science, earth system science, ecology, hydrology and geomorphology.

Global Groundwater: Source, Scarcity, Sustainability, Security, and Solutions presents a compilation of compelling insights into groundwater scenarios within all groundwater-stressed regions across the world. Thematic sub-sections include groundwater studies on sources, scarcity, sustainability, security, and solutions. The chapters in these sub-sections provide unique knowledge on groundwater for scientists, planners, and policymakers, and are written by leading global experts and researchers. Global Groundwater: Source, Scarcity, Sustainability, Security, and Solutions provides a unique, unparalleled opportunity to integrate the knowledge on groundwater, ranging from availability to pollution, nation-level groundwater management to transboundary aquifer governance, and global-scale review to local-scale case-studies. Provides interdisciplinary content that bridges the knowledge from groundwater sources to solutions and sustainability, from science to policy, from technology to clean water and food. Includes global and regional reviews and case studies, building a bridge between broad reviews of groundwater-related issues by domain experts as well as detailed case studies by researchers Identifies pathways for transforming knowledge to policy and governance of groundwater security and sustainability.

This core textbook is the ideal companion for undergraduate and postgraduate students taking modules in international business or sustainable development. It provides knowledge to answer complex questions. What is really meant by globalization and sustainability? How can concepts of governance, economy, culture and international affairs be translated into government policy and business practice? Globalization and Sustainable Development explores the complex and dynamic nature of globalization.
and sustainability, analyzing the main ideas, ethical principles and processes driving the growth and development of the global economy. Including a wide range of international cases from a variety of industries, it anchors key concepts in a modern global context and provides an overall picture of what it means to be a sustainable business.

When examining the ebb and flow of events in the region called Central Asia, one is struck by the magnitude of the impact that this area has had throughout history. Yet in spite of this record, very little is known about this part of the world today. Central Asia always has found itself wedged between Europe and Asia, and as such, has been at the crossroads of relations between the two. In physical terms, this can be seen graphically in the trade routes of the Great Silk Road. In philosophical terms, it is an area where Western beliefs met and mingled with Eastern ways, often resulting in unusual and unique hybrids of thought and culture. Nor has the area's significance been limited to that of providing a meeting place for other cultures. For over 100 years, between the thirteenth and fifteenth centuries, the armies of Genghis Khan and later Tamerlane spread from Central Asia to conquer and exert their influence over an area larger than the conquests of Alexander, Rome or Hitler. The repercussions of these conquests can still be seen today and serve as a reminder of the impact the region has had, and may again have, on world events.

 Reveals the diverse ways people are using the law to restore rivers in the western United States and around the world.

The Aral Sea is well known for its devastating regression over the second half of the twentieth century, and for its recent partial restoration. Environment and Post-Soviet Transformation in Kazakhstan’s Aral Sea Region is the first book to explore what these monumental changes have meant to those living on the sea’s shores. Following the fluctuating fortunes of the pre-Soviet, Soviet and post-Soviet fisheries, the book shows how the vast environmental changes the region has undergone cannot be disentangled from the transformations of Soviet socialism and postsocialism. This ethnographic perspective prompts a critical rethinking of the category of environmental disaster through which the region is predominantly known. Tracing how the sea’s retreat and partial return have been apprehended by diverse local actors in the former port of Aral’sk and surrounding fishing villages, as well as by scientists, bureaucrats and international development workers, William Wheeler draws out the multiple meanings environmental change acquires within different contexts. This study of how people make their lives amidst overlapping ecological and political-economic upheavals is rich in ethnographic detail that is both rooted in Soviet legacies and alive to the new transnational connections that are reshaping the region. Offering a rigorous political ecology of Soviet socialism and after, the book is a major contribution to the nascent environmental anthropology of Central Asia. It will be of interest to environmental anthropologists, environmental historians, and scholars of all disciplines working on Central Asia and the former USSR.

The State of the World's Land and Water Resources for Food and Agriculture is FAO’s first flagship publication on the global status of land and water resources. It is an 'advocacy' report, to be published every three to five years, and targeted at senior level decision makers in agriculture as well as in other sectors. SOLAW is aimed at sensitizing its target audience on the status of land resources at global and regional
levels and FAO’s viewpoint on appropriate recommendations for policy formulation. SOLAW focuses on these key dimensions of analysis: (i) quantity, quality of land and water resources, (ii) the rate of use and sustainable management of these resources in the context of relevant socio-economic driving factors and concerns, including food security and poverty, and climate change. This is the first time that a global, baseline status report on land and water resources has been made. It is based on several global spatial databases (e.g. land suitability for agriculture, land use and management, land and water degradation and depletion) for which FAO is the world-recognized data source. Topical and emerging issues on land and water are dealt with in an integrated rather than sectoral manner. The implications of the status and trends are used to advocate remedial interventions which are tailored to major farming systems within different geographic regions.

Scientists have long sought to unravel the fundamental mysteries of the land, life, water, and air that surround us. But as the consequences of humanity’s impact on the planet become increasingly evident, governments are realizing the critical importance of understanding these environmental systems and investing billions of dollars in research to do so. To identify high-priority environmental science projects, Grand Challenges in Environmental Sciences explores the most important areas of research for the next generation. The book’s goal is not to list the world’s biggest environmental problems. Rather it is to determine areas of opportunity that with a concerted investment could yield significant new findings. Nominations for environmental science’s grand challenges were solicited from thousands of scientists worldwide. Based on their responses, eight major areas of focus were identified: areas that offer the potential for a major scientific breakthrough of practical importance to humankind, and that are feasible if given major new funding. The book further pinpoints four areas for immediate action and investment.

Over the last two decades, the scientific and popular media have been bombarded by gloom and doom stories of the future of fisheries, the status of fish stocks, and the impact of fishing on marine ecosystems. Dozens of certification and labeling schemes have emerged to advise consumers on what seafood is sustainable. In recent years, an opposing narrative has emerged emphasizing the success of fisheries management in many places, the increasing abundance of fish stocks in those places, and the prescription for sustainable fisheries. However, there has been no comprehensive survey of what really constitutes sustainability in fisheries, fish stock status, success and failures of management, and consideration of the impacts of fishing on marine ecosystems. This book will explore very different perspectives on sustainability, and bring together the data from a large number of studies to show where fish stocks are increasing, where they are declining, the consequences of alternative fisheries management regimes, and what is known about a range of fisheries issues such as the impacts of trawling on marine ecosystems. Ocean Recovery is aimed principally at a general audience that is already interested in fisheries but seeks both a
deeper understanding of what is known about specific issues and an impartial presentation of all the data rather than selected examples used to justify a particular perspective or agenda. It will also appeal to the scientific community eager to know more about marine fisheries and fishing data, and serve as the basis for graduate seminars on the sustainability of natural resources. Global environmental change often seems to be the most carefully examined issue of our time. Yet understanding the human side—human causes of and responses to environmental change—has not yet received sustained attention. Global Environmental Change offers a strategy for combining the efforts of natural and social scientists to better understand how our actions influence global change and how global change influences us. The volume is accessible to the nonscientist and provides a wide range of examples and case studies. It explores how the attitudes and actions of individuals, governments, and organizations intertwine to leave their mark on the health of the planet. The book focuses on establishing a framework for this new field of study, identifying problems that must be overcome if we are to deepen our understanding of the human dimensions of global change, presenting conclusions and recommendations.

The ocean covers 70 percent of the Earth’s surface, and is essential for life on our planet—even for those of us who live nowhere near the sea! It provides us all with food and other materials that we need, regulates our climate and provides half of the oxygen we breathe. The ocean also offers us various means of transport and opportunities for recreation. People have long thought that the ocean was so wide and bountiful that it would go on supplying our needs forever, but this is not the case: human activities are causing significant damage to life in the ocean. People are often unaware of the problems created by this heavy reliance, as few of us have the opportunity to look beneath the surface of the sea and see the damage that our actions have caused. This is where the Ocean Challenge Badge comes in: let it take you on a journey to discover the ocean! It is packed with activities to help you learn about how the ocean works, the creatures that live in it, and just how important it is in our everyday lives. You will also discover how YOU can play a role in protecting our ocean for future generations. We hope you will be inspired to take the challenge and celebrate our ocean. So dive in and begin your aquatic discoveries!

This book presents a unique and up-to-date summary of what is known about groundwater on our planet, from a global perspective and in terms of area-specific factual information. Unlike most textbooks on groundwater, it does not deal with theoretical principles, but rather with the overall picture that emerges as a result of countless observations.

There is a growing concern that many important ecosystems, such as coral reefs and tropical rain forests, might be at risk of sudden collapse as a result of human disturbance. At the same time, efforts to support the recovery of degraded ecosystems are increasing, through approaches such as ecological restoration and rewilding. Given the dependence of human livelihoods on the multiple...
benefits provided by ecosystems, there is an urgent need to understand the situations under which ecosystem collapse can occur, and how ecosystem recovery can best be supported. To help develop this understanding, this volume provides the first scientific account of the ecological mechanisms associated with the collapse of ecosystems and their subsequent recovery. After providing an overview of relevant theory, the text evaluates these ideas in the light of available empirical evidence, by profiling case studies drawn from both contemporary and prehistoric ecosystems. Implications for conservation policy and practice are then examined.

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