中国地质调查局“地学文献数据采集整合与服务”项目服务产品

自然资源管理文献专辑

（一）

中国地质调查局地学文献中心

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编 辑 说 明

随着我国新时代经济社会发展、生态文明建设和自然资源管理等地质调查工作内外部形势发生的重大变化，中国地质调查局在全局各单位正在开展地质工作支撑服务自然资源管理的大讨论、大调研和大实践活动。为配合本次活动，适应新形势新需求，助力地质工作转型，地学文献中心近期专门搜集了国内外有关自然资源管理方面的文献，编辑了《自然资源管理文献专辑（一）》印刷版和电子版，供中国地质调查局各相关单位领导及科研人员在管理、科研、生产中参考使用。

本专辑主要收集了国内外有关自然资源管理的专著、美国和中国有关自然资源管理的科技报告，内容既涵盖自然资源管理、国土空间管制和生态保护修复等综合性内容，又包含具体的水资源、林业、湿地、能源等相关自然资源的管理政策、技术和方法等。近期，地学文献中心还将陆续推出自然资源管理方面的科技论文、标准、成果报告等内容，为中国地质调查局了解国内外自然资源管理现状，明确下一步工作方向提供文献信息支撑服务。

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地学文献中心采编室

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目　录

一、自然资源管理相关外文图书

1. Natural Resources: Management, Economic Development and Protection/自然资源：管理、经济发展与保护

出 版 年：2017 年

标准书号：9781614703525

摘　　要：‘Natural resources' are naturally occurring substances that are considered valuable in their relatively unmodified (natural) form. A natural resource's value rests in the amount of the material available and the demand for it. There are 2 types of natural resources: renewable and non-renewable. Natural Resources include soil, timber, oil, minerals, and other goods taken more or less from the Earth. Both extraction of the basic resource and refining it into a purer, directly usable form, (e.g., metals, refined oils) are generally considered natural-resource activities, even though the latter may not necessarily occur near the former. A nation's natural resources often determine its wealth in the world economic system.

2. Natural Resources Management/自然资源管理

出 版 年： 2016 年

标准书号：9781522508045

摘　　要：The perseveration of our natural environment has become a critical objective of environmental scientists, business owners, and citizens alike. Because we depend on natural resources to survive, uncovering methods for preserving and maintaining these resources has become a focal point to ensure a high quality of life for future generations. Natural Resources Management: Concepts, Methodologies, Tools, and Applications emphasizes the importance of land, soil, water, foliage, and wildlife conservation efforts and management. Focusing on sustainability solutions and methods for preserving the natural environment, this critical multi-volume research work is a comprehensive resource for environmental conservationists, policymakers, researchers, and graduate-level students interested in identifying key research in the field of natural resource preservation and management.

3. Managing Our Natural Resources,6th Edition/管理我们的自然资源，第六版

出 版 年：2015 年

标准书号：9781305736290

摘　　要：Explore the world's natural resources and the ways professionals manage them with MANAGING OUR NATURAL RESOURCES, 6th Edition! An introduction to agricultural issues and careers, this book examines a broad variety of topics from forest fires and fishery management to water purification and energy conservation. Organized into an eight-unit overview, chapters cover the must-know fundamentals of land, water, and air, forestry, fish and wildlife, and energy and mineral resources, along with the problems impacting them today. Full-color photographs, illustrations, and case studies add depth and clarity to every chapter, while appendices urge you beyond the book to websites, certification programs, and additional learning opportunities that help you develop critical thinking skills.

4. Natural Resource Administration/自然资源管理

出 版 年：2014 年

标准书号：9780124047082

摘　　要：Natural Resource and Wildlife Administration presents a clear perspective on natural resource administration in North America, how it developed, how it is currently structured, and where it might be heading. Intertwined areas of natural resources, including wildlife administration, fisheries, forestry, and other competitive land uses, are heavily discussed. The book covers the history of natural resource management in Europe and North America, proceeding to environmental law; agencies involved in wildlife and natural resource management; and the human dimensions of public relations and economic concerns. Natural Resource and Wildlife Administration provides solid background on the history of natural resource conservation, critical laws protecting resources, and the nature of agencies. The interconnectedness among natural resources makes this a useful text for disciplines such as wildlife, fisheries, and forestry.

5. Decision Making in Natural Resource Management/自然资源管理决策

出 版 年：2013 年

标准书号：9781118506202

摘　　要：This book is intended for use by natural resource managers and scientists, and students in the fields of natural resource management, ecology, and conservation biology, who are confronted with complex and difficult decision making problems. The book takes readers through the process of developing a structured approach to decision making, by firstly deconstructing decisions into component parts, which are each fully analyzed and then reassembled to form a working decision model. The book integrates common-sense ideas about problem definitions, such as the need for decisions to be driven by explicit objectives, with sophisticated approaches for modeling decision influence and incorporating feedback from monitoring programs into decision making via adaptive management. Numerous worked examples are provided for illustration, along with detailed case studies illustrating the authors' experience in applying structured approaches. There is also a series of detailed technical appendices. An accompanying website provides computer code and data used in the worked examples.

6. Improving Natural Resource Management/加强自然资源管理

出 版 年：2011 年

标准书号：9780470979341

摘　　要： This book develops a stochastic, temporal model of how political processes influence and are influenced by ecosystem processes and looks at how to find the most politically feasible plan for managing an at-risk ecosystem. Finding such a plan is accomplished by first fitting a mechanistic political and ecological model to a data set composed of observations on both political actions that impact an ecosystem and variables that describe the ecosystem. The parameters of this fitted model are perturbed just enough to cause human behaviour to change so that desired ecosystem states occur. This perturbed model gives the ecosystem management plan needed to reach desired ecosystem states. To construct such a set of interacting models, topics from political science, ecology, probability, and statistics are developed and explored.

7. Sustainable Natural Resource Management/可持续自然资源管理

出 版 年： 2009 年

标准书号：9780511501586

摘　　要：Sustainable management of the natural resources that support human life and flourishing, once simply a desirable goal, is now an imperative outcome. Not only the problems we face - dwindling fisheries, shrinking water supplies - but even the proposed solutions -conversion of biomass to fuels - demand a sustainable framework within which to operate. This book introduces such a framework to those students in science and engineering who will manage natural resources professionally whether through conservation, conversion or harvesting.

8. Stakeholder Dialogues in Natural Resources Management/自然资源管理中的利益相关者对话

出 版 年：2006 年

标准书号：9783540369172

摘　　要：Participatory Processes for Natural Resource Management Ortwin Renn University of Stuttgart, Stuttgart, Germany Need for analytic-deliberative processes Inviting the public to be part of the decision making process in natural resource management has been a major objective in European and American environmental policy arenas. The US-National Academy of Sciences has encouraged environmental protection agencies to foster citizen participation and public involvement for making environmental policy making and natural resource management more effective and democratic (Stern and Fineberg 1996). The report emphasizes the need for a combination of assessment and dialogue which the authors have framed the "analytic-deliberative" approach. Unfortunately, early public involvement of the public in deliberative processes may compromise, however, the objective of efficient and effective policy implementation or violate the principle of fairness (Cross 1998, Okrent 1998).

9.Building Knowledge-Based Systems for Natural Resource Management/建立基于知识的自然资源管理系统

出 版 年：1996 年

标准书号：9781461311553

摘　　要：If one were forced to use a single key word to describe the decade of the 1980's, a very prominent one would be "technology. " Leading the forefront of technology advancement were breakthroughs in electronics. Devices that were uncommon or unknown in 1980 became commonplace, and almost indispens able, by 1989. This trend has continued into the 1990's and it does not seem to be abating in any way. Microwave ovens, video recorders, telephone answer ing machines, compact disc players, computers, and a host of smaller or less sophisticated devices now appear in most households. The development of small and inexpensive computers, i. e. , personal computers, has placed computing resources within reach of many more people. In addition, many traditional, and largely mechanical devices, have been enhanced by electronics. For example, specialized microprocessors are combined with arrays of electronic sensors to control and monitor sophisticated engineering components in most new auto mobiles. In this and many other ways, we are touched by the new electronics in almost every aspect of our daily lives. Initially, personal computers were little more than toys. They contained only a small fraction of the computing power of their immediate ancestors, the mini computers and mainframe computers. However, rapid improvements in integrated circuit design and chip manufacture produced regular reductions in size and cost of computer components. During the same time, processor speed and sophistication increased.

10. Conflict and Cooperation in Participatory Natural Resource Management/参与式自然资源管理中的冲突与合作

出 版 年：2001 年

标准书号：9780230596610

摘　　要：Over the past one hundred years in particular, there has been a steady process by which natural resources (such as ground-water, forests, fishing grounds and grazing land) have been increasingly managed by centralised institutions. Governments and other national agencies have argued that this promotes efficiency, equity, and other wide national goals. Recently this orthodoxy has been challenged by rising numbers of experiments that show how centralised management tends to fail. Global, national and local goals are more likely to be met, at lower cost and with other benefits (such as promoting better democratic institutions) by involving local populations in collaborative management agreements. This volume, based on detailed case studies from around the world, subjects some of these experiments to critical study, and suggests limits to the participative approach as well as ways it can be improved and made suitable for new contexts.

11.Analytical Issues in Participatory Natural Resource Management/参与式自然资源管理中的分析问题

出 版 年：2001 年

标准书号：9781403907677

摘　　要：Attempts to manage natural resources through collaboration rather than competition, by agreements rather than conflict, have become the touchstone for many who see these efforts as the harbinger of global sustainable development. The received wisdom suggests that participatory natural resource management projects work because traditional knowledge of the resources and existing social structures can be utilised to develop more effective strategies for resource use. Participation is a flexible and adaptable concept, which can reflect local circumstances and priorities. The contributors to this volume advise caution as well as optimism for projects conducted in this way. By drawing on the experience of NGOs, national governments and donor sectors as well as academic researchers this volume analyses the theory and practice of participatory natural resource management and demonstrates the value of constructive dialogue between all those involved.

12. Cross-Border Resource Management/跨境资源管理

出 版 年：2013 年

标准书号：9780470671757

摘　　要：This book is intended for use by natural resource managers and scientists, and students in the fields of natural resource management, ecology, and conservation biology, who are confronted with complex and difficult decision making problems. The book takes readers through the process of developing a structured approach to decision making, by firstly deconstructing decisions into component parts, which are each fully analyzed and then reassembled to form a working decision model. The book integrates common-sense ideas about problem definitions, such as the need for decisions to be driven by explicit objectives, with sophisticated approaches for modeling decision influence and incorporating feedback from monitoring programs into decision making via adaptive management. Numerous worked examples are provided for illustration, along with detailed case studies illustrating the authors' experience in applying structured approaches. There is also a series of detailed technical appendices. An accompanying website provides computer code and data used in the worked examples.

13. Impact of Climate Change on Natural Resource Management/气候变化对自然资源管理的影响

出 版 年：2010 年

标准书号：9789048135813

摘　　要：As climate change takes hold, there is an ever-growing need to develop and apply strategies that optimize the use of natural resources, both on land and in water. This book covers a huge range of strategies that can be applied to various sectors, from forests to flood control. Its aim, as with resource management itself, is to combine economics, policy and science to help rehabilitate and preserve our natural resources.

Beginning with papers on carbon sequestration, including the practice of artificial desertification, the topics move on to cover the use of distributed modeling and neural networks in estimating water availability and distribution. Further chapters look at uncertainty analysis applied to the spatial variation of hydrologic resources, and finally the book covers attempts at estimating meteorological parameters in the context of hydrological variables such as evapo-transpiration from stream flow.

Within the next decade, the effects of climate change will be severe, and felt by ordinary human beings. This book proposes a raft of measures that can mitigate, if not reverse, the impact of global warming on the resources we have all come to depend on.

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14. Engineering Risk in Natural Resources Management/自然资源管理中的工程风险

出 版 年：1994 年

标准书号：9789401582711

摘　　要：The purpose of this paper is to present a methodology for estimating space-time stochastic properties of local climatic factors reflecting global climate change. Specifically, daily precipitation amount and daily mean temperature are considered and illustrated with application to the state of Nebraska, U. S. A. Furthermore, a drought index with and without global climate change is examined. The magnitude and consequences of regional response to anticipated climatic changes are uncertain (Houghton et al. , 1990). Typical questions to be answered are: can time series of hydrological events or 10cal climatic variables such as daily temperature be conditioned in scenarios of future climate change and if so, how can this be utilized ? Can extreme historical drought events be reproduced by a stochastic hydroc1imatological model ? Can such a model be used with General Circu1ation Model (GCM) outputs to evaluate the regional/local effects of climate change scenarios? The approach presented in this paper is an extension of the usual analysis of regional hydrometeorological impacts of climate change: we propose to examine time series of GCM produced daily atmospheric circulation patterns (CP), thought to be relatively accurate GCM output to estimate local climatic factors. The paper is organized as follows. First, daily CPs are classified and analyzed statistically, first for historical and then for GCM produced data. Next, the height of the 500 hPa pressure field is introduced as an additional physically relevant variable influencing local climatic factors within each CP type.

15. Ecosystems and Natural Resources: An Adaptive Management/生态系统与自然资源：适应性管理

出 版 年：2016 年

标准书号：9781613249147

摘　　要：Provides an introduction to the concept of adaptive management and focuses on the application of this concept to large, freshwater aquatic ecosystem restoration projects with multiple stakeholders.

16. Earth's Natural Resources/地球的自然资源

出 版 年： 2013 年

标准书号：9781449632342

摘　　要：Earth's Natural Resources provides a thorough overview of the subject and details how natural resources relate to individuals and our society. It discusses how the Earth's natural resources form and change over time, how they are extracted for human use, and how we can continue to sustainably use them with our ever-growing global population. The text begins with the basics of energy-giving resources such as oil, natural gas, and coal, as well as alternative energy sources and nuclear power. It goes on to cover the earth's abundant and scarce metals, followed by elements used in agriculture, water and its distribution, quality, and usage. The final section highlights soil composition, minerals, and degradation. In each section, the author discusses the science of the element under consideration, as well as any environmental and sustainability concerns that have arisen as humans have harvested the resources with increasing effectiveness.

17. Why Governments Waste Natural Resources: Policy Failures in Developing Countries/政府浪费自然资源的原因：发展中国家的政策失误

出 版 年：1999 年

标准书号：9780801860966

摘　　要：In this groundbreaking book, William Ascher discovers the complex political and programmatic reasons why government officials in Third World countries often willfully adopt wasteful natural resource policies. Drawing on sixteen case studies from Africa, Asia, and Latin America, Ascher goes beyond the trite answers of greed and incompetence to document how clashes among government agencies have led to results ranging from Indonesia's deforestation to the collapse of the Mexican water system, from the destruction of cocoa farms in Ghana to the waste of Nigeria's oil wealth.

Covering a broad range of natural resources—forests, land, minerals, oil, and water—Ascher finds striking parallels in both the rationales for abusing natural resources and the strategies governments employ to pursue other goals at the expense of sustainable natural resource exploitation. Yet he also finds parallels—across world regions and for the whole range of resources—for overcoming political and institutional obstacles to better natural resource policies and practices.

At a time when the depletion of natural resources threatens to undermine the economic prospects of many developing countries, this book offers structural reform recommendations that get to the heart of faulty natural resource management. Amid the tragedies of squandered resources, some hopeful reverses point the way to constructive reform strategies. This book will be of interest to government officials, activists, and the international community.

18. The Global Impact of Unconventional Shale Gas Development: Economics, Policy, and Interdependence (Natural Resource Management and Policy)/非常规页岩气开发的全球影响（自然资源管理与政策）

出 版 年： 2016 年

标准书号：9783319316789

摘　　要：This book discusses the economic, political, and environmental issues surrounding the international exploration and exploitation of conventional and unconventional natural gas. Shale gas development in recent years has changed the energy discussion in the US as existing reserves of natural gas coupled with horizontal drilling and hydraulic fracturing make exploitation of these reserves economically feasible; the discussion is quickly becoming international in scope. The potential expansion of natural gas development impacts many regions of the globe and spans multiple perspectives. In a volatile international climate, one of intense geopolitical conflict between Russia and the West, economic slowdowns in Europe and China, military conflicts in the Middle East and northern Africa, and widening income disparity in the U.S., a relatively inexpensive and plentiful energy source like shale gas could play a key role in mitigating such conflicts. In an energy interdependent global community, however, multiple factors such as oil prices, differing rates of exploration, environmental concerns, strategic initiatives, institutional changes, legal and regulatory issues, and actions of the nations involved all have the potential to influence future outcomes. This book discusses each of these in turn, detailing the issues most prevalent in each geographical area. The first volume to provide a comprehensive global view of the impacts of shale gas development, this book fills a gap in the current research literature, providing vital information for the scholarly community and the public alike. This book will be of interest to researchers and students of economics, energy policy, public administration, and international relations as well as policy makers and residents of the regions that are experiencing shale gas development.

19. Natural Resource Management and the Circular Economy/自然资源管理与循环经济

出版年：2010 年

标准书号：9783319718880

摘要：This book provides insight into how governments are using a variety of innovative fiscal and non-fiscal instruments to develop circular economies with significant economic and environmental benefits. It emphasises the urgent need for these circular economies and to move away from our current, linear model that has led to environmental degradation, volatility of resource prices and supply risks from uneven distribution of natural resources.

Natural Resource Management and the Circular Economy illustrates how governments have promoted the development of an economy that can provide substantial net material savings; mitigate price volatility and supply risks; and improve ecosystem health and long-term resilience of the economy. Through a series of case studies, it details the various innovative policy instruments which can be utilised, including regulations; market-based instruments; incentives; research and innovation support; information exchanges; and support for voluntary approaches. The book also proposes a series of best practices for different countries, both developed and developed, who are implementing their circular economy.

20. Soviet Natural Resources in the World Economy/世界经济中的苏联自然资源

出 版 年：1983 年

标准书号：9780226398310

摘　　要：In this book, leading experts evaluate the Soviet potential in major energy and industrial raw materials, giving special attention to implications for the world economy to the end of the twentieth century.The authors examine the mineral and forest resources that the Soviet Union has developed and may yet develop to provide exports during the 1980s. They discuss the regional dimension of these resources, especially in Siberia and the Soviet Far East; individual mineral raw materials, such as petroleum, natural gas, timber, iron ore, manganese, and gold; and finally the role of raw materials in Soviet foreign trade. The authors, representing the United States, Canada, and Great Britain, are primarily geographers, but they include economists, political scientists, and a geologist.

21. Conservation of Natural Resources/自然资源保护

出 版 年：2013 年

标准书号：9781608766420

摘　　要：Natural resources conservation consists of reducing soil erosion, enhancing water supplies, improving water quality, increasing wildlife habitat, and reducing damages caused by floods and other natural dresources that help sustain agricultural productivi y and environmental quality while supporting continued economic development, recreation, and scenic beauty.This new book examines dynamic issues from around the globe in this important and growing field ...

22. Historical Environmental Variation in Conservation and Natural Resource Management/自然资源保护与管理中的历史环境变化

出 版 年：2012 年

标准书号：9781444337938

摘　　要：Historical Environmental Variation in Conservation and Natural Resource Management explores the utility of historical ecology in a management and conservation context and the development of concepts related to understanding future ranges of variability. It provides guidance and insights to all those entrusted with managing and conserving natural resources: land-use planners, ecologists, fire scientists, natural resource policy makers, conservation biologists, refuge and preserve managers, and field practitioners. The book will be particularly timely as science-based management is once again emphasized in United States federal land management and as an understanding of the potential effects of climate change becomes more widespread among resource managers.

23. Natural Resource Conservation: Management for a Sustainable Future (10th Edition)/自然资源保护：未来可持续的管理，第十版

出 版 年：2009 年

标准书号：9780132251389

摘　　要：This comprehensive book describes the ecological principles, policies, and practices required to create a sustainable future. It emphasizes practical, cost-effective, sustainable solutions to these problems that make sense from social, economic, and environmental perspectives. A focus on sustainable development puts readers in touch with one of the most significant shifts in thinking and action in the environmental and resource management arenas. A variety of lasting solutions are provided that make sense from social, economic, and environmental viewpoints. Natural Resource Conservation and Management: Past, Present and Future, Economics, Ethics, and Critical Thinking: Tools for Creating a Sustainable Future, Lessons from Ecology, The Human Population Challenge, World Hunger: Solving the Problem Sustainably, The Nature of Soils, Soil Conservation and Sustainable Agriculture, Integrated Pest Management, Aquatic Environments, Managing Water Resources Sustainability, Water Pollution, Fisheries Conservation, Rangeland Management, Forest Management, Plant and Animal Extinction, Wildlife Management, Sustainable Waste Management, Air Pollution, Global Warming and Climate Change, Acid Deposition and Stratospheric Ozone Depletion, Minerals, Mining, and a Sustainable Society,Nonrenewable Energy Resources: Issues and Options,Creating a Sustainable System of Energy. Intended for those interested in gaining a basic knowledge of natural resources and conservation.

24.Environmental and Natural Resource Economics/环境与自然资源经济学

出 版 年： 2017 年

标准书号：9781138659476

摘　　要：Environmental issues are of fundamental importance, and a broad approach to understanding the relationship of the human economy and the natural world is essential. In a rapidly changing policy and scientific context, this new edition of Environmental and Natural Resource Economics reflects an updated perspective on modern environmental topics.

Now in its fourth edition, this book includes new material on climate change, the cost-competitiveness of renewable energy, global environmental trends, and sustainable economies. The text provides a balanced treatment of both standard environmental economics and ecological economics, based on the belief that these two approaches are complementary. Several chapters focus on the core concepts of environmental economics, including the theory of externalities, the management of public goods, the allocation of resources across time, environmental valuation, and cost-benefit analysis. Material on ecological economics includes such topics as macroeconomic scale, entropy, and "green" national accounting. Topical chapters focus on: energy; climate change; water resources; international trade; forests; fisheries; and agriculture, with an emphasis on designing effective policies to promote sustainability and a "green" economy.

Harris and Roach’s premise is that a pluralistic approach is essential to understand the complex nexus between the economy and the environment. This perspective, combined with its emphasis on real-world policies, is particularly appealing to both instructors and students. This is the ideal text for classes on environmental, natural resource, and ecological economics.

25. Canadian Natural Resource and Environmental Policy, 2nd Edition/加拿大自然资源与环境政策，第二版

出 版 年：2005 年

标准书号：9780774811811

摘　　要：In this new and updated edition, the authors once again examine policy making in one of the most significant areas of activity in the Canadian economy--natural resources and the environment--and discuss the evolution of resource policies from the early era of exploitation to the present era of resource and environmental management. Using an integrated political economy and policy perspective, the book provides an analytic framework from which the foundation of ideological perspectives, administrative structures, and substantive issues are explored. Departing from traditional approaches that emphasize a single discipline or perspective, it offers an interdisciplinary framework with which to think through ecological, political, economic, and social issues. It also provides a multi-stage analysis of policy making from agenda setting through the evaluation process.

The integration of social science perspectives and the combination of theoretical and empirical work make this innovative book one of the most comprehensive analyses of Canadian natural resource and environmental policy to date. Its illumination of the key elements of government policy making in this critical sector and its new outline of the evolution of the Kyoto Protocol makes it a useful textbook and resource for students of environmental and public policy, policy makers, and environmental organizations.

26. Revisiting Environmental and Natural Resource Questions in Sub-Saharan Africa/再访撒哈拉以南非洲的环境和自然资源问题

出 版 年：2017 年

标准书号：9781443878616

摘　　要：Based on case studies in Southern Africa, West Africa and East Africa, this book revisits some of the dilemmas and paradoxes associated with the development, management and utilisation of environmental resources, as well as lacklustre official handling of climate change-related challenges, in Sub-Saharan Africa. On the subject of natural resource exploitation, in particular, the book revisits scholarly debates and specific practices around compensation, benefit- and burden-sharing, local participation and space-place dynamics.

27. Redefining Diversity and Dynamics of Natural Resources Management in Asia, Volume 1：Sustainable Natural Resources Management in Dynamic Asia/重新定义亚洲自然资源管理的多样性和动态，第 1 卷:亚洲可持续自然资源管理动态

出 版 年：2016 年

标准书号：9780128104705

摘　　要： Volume 1, pulls together regional experts in the field to look specifically at sustainability issues across the region, to see what has been implemented, what the impacts have been, and what other options are available. In the race to be a developed region, many Southeast Asian countries have foregone natural resources through haphazard use. As a result, the people are faced with numerous environmental challenges, particularly deforestation and forest degradation, biodiversity loss and ecosystem degradation, reduction in soil quality, and decreases in the quantity of available water.

28. Redefining Diversity and Dynamics of Natural Resources Management in Asia, Volume 2：Upland Natural Resources and Social Ecological Systems in Northern Vietnam/重新定义亚洲自然资源管理的多样性和动态，第 2 卷：越南北部的自然资源和社会生态系统

出 版 年：2016 年

标准书号：9780128104729

摘　　要： Volume 2, provides chapters on natural resource management in northern Vietnam tied together by the concept that participatory local involvement is needed in all aspects of natural resource management. The volume examines planning for climate change, managing forestland, alleviating food shortages, living with biodiversity, and assessing the development projects and policies being implemented. Without the involvement of local communities, households, and ultimately individual people, the needed action will not be effectively taken.

29. Redefining Diversity and Dynamics of Natural Resources Management in Asia, Volume 3：Natural Resource Dynamics and Social Ecological Systems in Resource Changes and Conservation Issues/重新定义亚洲自然资源管理的多样性和动态,第 3 卷：资源变化和保护问题中的自然资源动态和社会生态系统

出 版 年：2016 年

标准书号：9780128104743

摘　　要：Volume 3, focuses on the issues specific to Central Vietnam that are also found globally. War had significantly impacted both land and water resources, from which it had to recover environmentally.Additionally, this is an area with growing urbanization pressures and industrial development, both of which are known for stretching resources beyond their limits. The introduction of several hydro-electric power projects have even further eroded the local agricultural and forest ecosystems. This volume looks at Central Vietnam holistically, from management and use to policy and data-driven solutions.

30. Redefining Diversity and Dynamics of Natural Resources Management in Asia, Volume 4：The Reciprocal Relationship between Governance of Natural Resources and Socio-Ecological Systems Dynamics in West Sumatra Indonesia/重新定义亚洲自然资源管理的多样性和动态性，第 4 卷：印度尼西亚苏门答腊西部自然资源治理与社会生态系统动力学的互动关系

出 版 年： 2016 年

标准书号：9780128104712

摘 要 Volume 4, covers a diverse range of issues related to natural resources and its management in West Sumatra Indonesia. The chapters cover issues with livelihood dependence, rights and access to natural resources, natural resources management practices, socio-ecological systems, and governance. Shared experiences and lessons learned from the case studies examined serve as a basis for policy makers and environmental practitioners to recognize the potential of West Sumatra's natural resources for ecological, social and economic development, food security, poverty alleviation, and natural resource sustainability.

31. Cost-Benefit Studies of Natural Resource Management in Southeast Asia/东南亚自然资源管理的成本效益研究

出 版 年：2015 年

标准书号：9789812873934

摘 要：This book applies cost-benefit analysis techniques in the management of environment and natural resources in developing countries of the Southeast Asian region and presents a compendium of studies conducted by researchers supported by the Economy and Environment Program for Southeast Asia (EEPSEA). It emphasizes the close relationship between the environment and natural resources and economic development in such countries, addressing a wide range of problems that can be understood using economic evaluation techniques. General guidelines for conducting economic appraisals are provided, with the case studies illustrating how they can be applied in a developing country context. Cost-Benefit Studies of Natural Resource Management in Southeast Asia serves as essential reading for teachers, researchers, students and practitioners in environmental and natural resource economics, economic development and key issues facing policymakers in the Southeast Asian region.

32. Social Networks and Natural Resource Management/社会网络与自然资源管理

出 版 年： 2011 年

标准书号：9781139098052

摘　　要：Social Network Analysis (SNA), a quantitative approach to the study of social relations, has recently emerged as a key tool for understanding the governance of natural resources. Bringing together contributions from a range of researchers in the field, this is the first book to fully explore the potential applications of SNA in the context of natural resource management. Topics covered include the role of SNA in stakeholder selection; improving fisheries management and conservation; the effect of social network ties on public satisfaction and agrarian communication networks. Numerous case studies link SNA concepts to the theories underlying natural resource governance, such as social learning, adaptive co-management and social movements theory.

33.Application of Nature Based Algorithm in Natural Resource Management/基于自然的算法在自然资源管理中的应用

出版年：2013 年

标准书号：9789400751521

摘要：The book describes the utility and efficiency of nature based algorithms in optimization, classification and simulation of natural resource management problems.The book deals with climate change, hydrology, renewable energy and natural ecosystems and tries to find solution to its common uncertainties so that proper mitigation steps can be undertaken to reduce both quantity and probability of such anomalies. The book aims to propose some methodologies which can help related engineers and planners to mitigate the common abnormalities that exist to derail the equilibrium of a natural ecosystem and its biotic as well as abiotic components.

34. Application of Threshold Concepts in Natural Resource Decision Making/阈值概念在自然资源决策中的应用

出 版 年：2014 年

标准书号：9781489980403

摘　　要：Natural resource managers face a complex decision-making environment characterized by the potential occurrence of rapid and abrupt ecological change. These abrupt changes are poorly accommodated by traditional natural resource planning and decision-making processes. As recognition of threshold processes has increased, contemporary models of ecological systems have been modified to better represent a broader range of ecological system dynamics. Key conceptual advances associated with the ideas of non-linear responses, the existence of multiple ecological stable states and critical thresholds are more likely the rule than the exception in ecological systems. Once an ecological threshold is crossed, the ecosystem in question is not likely to return to its previous state. There are many examples and a general consensus that climatic disruptions will drive now stable systems across ecological thresholds.

This book provides professional resource managers with a broad general decision framework that illustrates the utility of including ecological threshold concepts in natural resource management. It gives an entry into the literature in this rapidly evolving concept, with descriptions and discussion of the promising statistical approaches for threshold detection and demonstrations of the utility of the threshold framework via a series of case studies.

35. Introduction to Forestry and Natural Resources/林业与自然资源概论

出 版 年：2013 年

标准书号：9780123869012

摘　　要：Introduction to Forestry and Natural Resources presents a broad overview of the profession of forestry. The book details several key fields within forestry, including forest health, economics, policy, utilization, and forestry careers. Chapters deal specifically with forest products and harvesting, recreation, wildlife habitats, tree anatomy and physiology, and ethics. These topics are ideal for undergraduate introductory courses and include numerous examples (mainly graphical) and questions for students to ponder.Unlike other introductory forestry texts, which focus largely on forest ecology rather than practical forestry concepts, Introduction to Forestry and Natural Resources encompasses economic, ecological, and social aspects providing a uniquely balanced text.

36. Catchment and River Basin Management: (Earthscan Studies in Water Resource Management)/流域与流域管理（水资源管理研究）

出 版 年：2015 年

标准书号：9781849713047

摘　　要：The central focus of this volume is a critical comparative analysis of the key drivers for water resource management and the provision of clean water – governance systems and institutional and legal arrangements. The authors present a systematic analysis of case study river systems drawn from Australia, Denmark, Germany, the Netherlands, UK and USA to provide an integrated global assessment of the scale and key features of catchment management.

37. Decentralization and Coordination of Water Resource Management/水资源管理的分散和协调

出 版 年：1997 年

标准书号：9781461561170

摘　　要：Centralized, top-down management of water resources through regulations has created unnecessary economic burdens upon users. More flexible decentralized controls through the use of economic incentives have gained acceptance over the past decade. The theme of this book is the increasing efforts throughout water-scarce regions to rely upon economic incentives and decentralized mechanisms for efficient water management and allocation.

The book begins with a section of introductory chapters describing water systems, institutions, constraints, and similarities in the following regions: Israel and the Middle East, Turkey, California, Florida, and Australia. Four of these regions face similar climates with wet winters and dry summers. Florida has a more even seasonal distribution of rainfall, yet it uses similar management strategies in controlling groundwater demand and water quality.

The book concludes with a section on water management case studies. These case studies examine issues of conflict related to both water quality and water quantity. While the case studies address both international and intranational concerns in specific regions of the world, they portray broad principles that are applicable to many regions.

38. Integrated Watershed Management: Perspectives and Problems/流域综合管理：前景与问题

出 版 年：2014 年

标准书号：9789400792630

摘　　要：Headwaters are fragile environments threatened by anthropogenic actions. The regeneration of headwaters calls for a practical approach through integrated environmental management.

This book discusses various issues concerning headwater regions of the world under wide-ranging themes: climate change impacts, vegetal cover, sub-surface hydrology, catchment and streamflow hydrology, pollution, water quality and limnology, remote sensing and GIS, environmental impact assessment and mitigation, socio-economic impacts, public participation, education and management, and integrated watershed management.

39. Hydrology and the Management of Watersheds 4th Edition/水文与流域管理，第四版

出 版 年：2012 年

标准书号：9780470963050

摘　　要：This new edition is a major revision of the popular introductory reference on hydrology and watershed management principles, methods, and applications. The book's content and scope have been improved and condensed, with updated chapters on the management of forest, woodland, rangeland, agricultural urban, and mixed land use watersheds. Case studies and examples throughout the book show practical ways to use web sites and the Internet to acquire data, update methods and models, and apply the latest technologies to issues of land and water use and climate variability and change.

40. Environmental Risk Analysis for Asian-Oriented, Risk-Based Watershed Management: Japan and Malaysia/面向亚洲、基于风险的流域管理的环境分析：日本和马来西亚

出 版 年：2012 年

标准书号：9789811080890

摘　　要：This publication is a practical guidebook on environmental risk assessment, especially for watershed-scale management. It highlights case studies of watershed environmental risk in Malaysia, including the potential health risks as well as screening methods and management in practice. In order to apply environmental risk assessment methods for the management of toxic chemicals, it is necessary to consider the geological and climate features of each country as well as their cultural characteristics. Focusing on Malaysia as a representative country, the book also discusses studies in other Asian countries. The insights provided can be applied to advanced and developing countries alike. A suitable textbook for graduate students, it is also a valuable reference source for researchers, practitioners and policymakers.

41. Management of Mountain Watersheds/山区流域管理

出 版 年：2012 年

标准书号：9789400724754

摘　　要：The book aims to address the interdisciplinary targets of watershed management in mountain regions based on the current knowledge of the subject. The focus of the book is particularly on monitoring, research, and modelling the interactions between the climate, water cycle, and aquatic ecosystem. The issues of watershed management in mountain regions in different parts of Europe, Africa, America and Asia have been the central theme of the book, which is basically divided into five sections: Institutional aspects in control of mountain regions; Stream-flow processes in mountain catchments; Water chemistry and biota in mountain streams and lakes; Effects of forest practices and climate change on hydrological phenomena; and Soil conservation and control of floods and landslides.

42. Wetlands and Natural Resource Management/湿地与自然资源管理

出 版 年：2006 年

标准书号：9783540331872

摘　　要：The two volumes on “Wetlands as a Natural Resource” in the book series Ecological th Studies (Volumes 190,191) are based on the highlights of the 7 INTECOL International Wetland Conference in Utrecht,25–30 July 2004. This conference brought together about 900 participants from 61 countries,who discussed a very broad range of science-,poli- and management-oriented issues related to wetland ecology and hydrology, wetland conservation and creation, the impact of global change and wetlands as a resource in terms of food,flood protection and water quality enhancement. The participants were from different sectors of society,i. e. ,science and technology (scientists 45%; PhD s- dents 20%),natural resource management (20%) and policy (15%). There were 38 s- posia with invited speakers centered around the nine conference themes. We have given the organizers of these symposia the opportunity to produce one chapter for these books with the integrated content of their symposium. This has resulted in 25 chapters, of which 13 are included in Volume 190 under the heading “Wetlands and Natural Resource Management”and 12 in Volume 191 under the heading “Wetlands: Functi- ing,Biodiversity Conservation and Restoration”. With these books,we had the aim to summarize the most important recent scientific results in wetland science,their applications in wetland and water resource management and their implications for the development of global,national and regional policies in the perspective of the ever-progressing deterioration of natural wetlands and the major impacts that future climate change will have.

43. Wetland Environments: A Global Perspective/湿地环境：全球视角

出 版 年：2012 年

标准书号：9781405198417

摘　　要：Wetlands - swamp, marsh, bayou, tundra and bog - are places that are rarely visited and often misunderstood but they have, in fact, conspicuous roles in the physical, biological and cultural geography of the world. They are intrinsically beautiful environments where one may see the natural and essential values in the interaction of water, soil, vegetation, wildlife, and humans. Wetlands occur at the confluence of unique terrestrial, hydrological and climatic conditions that give rise to some of the most biodiverse regions of the world. They also play vital roles in the cycling and storage of key nutrients, materials and energy through the Earth?s system.

A complete study of wetland environments requires the assessment of their physical and biological attributes, properties and functions of these ecosystems, and the economic, political and social aspects that mediate their use globally. A systems approach is taken throughout this book which emphasizes the interactions between these elements of wetland ecosystems. Moreover, selected case studies from across the world are used to illustrate wetland characteristics and circumstances.

This book is intended to foster a greater awareness and appreciation of wetlands, promote a culture of conservation and wise management, and spread the knowledge that wetlands are important, indeed crucial, elements of the global environment. Our attempts to understand, manage and enhance wetlands in the twenty-first century are part of the larger effort to maintain a sustainable Earth.

44. Wetlands 5th Edition/湿地，第五版

出 版 年：2015 年

标准书号：9781118676820

摘　　要：The single most important book on wetlands, newly expanded and updated Wetlands is the definitive guide to this fragile ecosystem, providing the most comprehensive coverage and in-depth information available in print. Recently updated and expanded, this latest edition contains brand new information on Wetland Ecosystem Services and an updated discussion on Wetland, Carbon, and Climate Change and Wetland Creation and Restoration. Due to popular demand, the authors have brought back five streamlined chapters on wetland ecosystems that had been removed from previous editions, and provided more robust ancillary materials including an online color photo gallery, PowerPoint slides, and several video case studies.

45. Wetland Ecosystems/湿地生态系统

出 版 年：2009 年

标准书号：9780470286302

摘　　要：New focused text introduces readers to wetland ecosystems and systems approaches to studying wetlands With its comprehensive coverage of wetland science, management, and restoration, Mitsch and Gosselink's Wetlands has been the premier reference on wetlands for more than two decades. Following an introduction to ecosystems in general and wetland ecosystems in particular, Wetland Ecosystems examines the major types of wetlands found throughout the world: coastal wetlands, freshwater marshes and forested swamps, and peatlands. The final chapter reviews three fundamental systems approaches to studying wetlands: mesocosms, full-scale experimental ecosystems, and mathematical modeling.

46. Wetland Ecology: Principles and Conservation 2nd Edition/湿地生态学：原理与保护，第二版

出 版 年：2010 年

标准书号：9780521739672

摘　　要：Richly illustrated and packed with numerous examples, this unique global perspective introduces wetland ecology from basic principles to advanced applications. Thoroughly revised and reorganised, this new edition of this prize-winning textbook begins with underlying causal factors, before moving on to more advanced concepts that add depth and context. Each chapter begins with an explanation of the basic principles covered, illustrated with clear examples. More difficult concepts and exceptions are introduced only once the general principle is well-established. Key principles are now discussed at the beginning of the book, and in order of relative importance, enabling students to understand the most important material without wading through complex theory.

47. Coastal Wetlands: An Integrated Ecosystem Approach/滨海湿地：集成生态系统方法

出 版 年：2009 年

标准书号：9780444531032

摘　　要：Coastal wetlands are under a great deal of pressure from the dual forces of rising sea level and the intervention of human populations both along the estuary and in the river catchment. Direct impacts include the destruction or degradation of wetlands from land reclamation and infrastructures. Indirect impacts derive from the discharge of pollutants, changes in river flows and sediment supplies, land clearing, and dam operations. As sea level rises, coastal wetlands in most areas of the world migrate landward to occupy former uplands. The competition of these lands from human development is intensifying, making the landward migration impossible in many cases. This book provides an understanding of the functioning of coastal ecosystems and the ecological services that they provide, and suggestions for their management.

48. Coastal Wetlands of the World: Geology, Ecology, Distribution and Applications/世界滨海湿地：地质、生态、分布与应用

出 版 年： 2014 年

标准书号：9781107628250

摘　　要：Salt marshes and mangrove forests, the intertidal wetlands of the world's coastlines, provide key ecological services to all areas of the globe. This cutting-edge, richly illustrated book introduces the essential elements of coastal wetlands and their applications. The book opens by introducing coastal oceanography, the physical features of wetlands, their ecology, and human impacts upon them, giving all students the necessary background for wetlands studies. It then presents detailed case studies from around the world with extensive illustrations, supplying a wider, global-scale picture of wetlands geomorphology and biodiversity. The final chapters discuss some unique applications of coastal wetlands, including geological monitoring, uses in biotechnology and agriculture, and various experimental mesocosms.

49. Wetland Soils: Genesis, Hydrology, Landscapes, and Classification, Second Edition/湿地土壤：起源、水文、景观和分类，第二版

出 版 年： 2015 年

标准书号：9781439896983

摘　　要：Wetland Soils: Genesis, Hydrology, Landscapes, and Classification, Second Edition contains 11 new chapters and additional updates written by new authors with a broad range of related field and academic experience. This revised work augments the previous material on wetland functions and restorations, while maintaining the field-oriented focus of the first book. The reworked text includes current coverage of hydric soil field indicators, wetland soils, chemistry of wetland soils, and wetland hydrology. This book explains how wetland soils are formed, described, and identified, defines the functions they perform, and serves to assist decision-making in the field.

50. Wetland Indicators/湿地指标

出 版 年：2016 年

标准书号：9781439853696

摘　　要：Understand the current concept of wetland and methods for identifying, describing, classifying, and delineating wetlands in the United States with Wetland Indicators - capturing the current state of science's role in wetland recognition and mapping.Environmental scientists and others involved with wetland regulations can strengthen their knowledge about wetlands, and the use of various indicators, to support their decisions on difficult wetland determinations. Professor Tiner primarily focuses on plants, soils, and other signs of wetland hydrology in the soil, or on the surface of wetlands in his discussion of Wetland Indicators.Practicing - and aspiring - wetland delineators alike will appreciate Wetland Indicators' critical insight into the development and significance of hydrophytic vegetation, hydric soils, and other factors.

51. Ecology of Freshwater and Estuarine Wetlands Second Edition/淡水河口湿地生态学，第二版

出 版 年： 2014 年

标准书号：9780520278585

摘　　要：This second edition of this important and authoritative survey provides students and researchers with up-to-date and accessible information about the ecology of freshwater and estuarine wetlands.Prominent scholars help students understand both general concepts of different wetland types as well as complex topics related to these dynamic physical environments. Careful syntheses review wetland soils, hydrology, and geomorphology; abiotic constraints for wetland plants and animals; microbial ecology and biogeochemistry; development of wetland plant communities; wetland animal ecology; and carbon dynamics and ecosystem processes. In addition, contributors document wetland regulation, policy, and assessment in the US and provide a clear roadmap for adaptive management and restoration of wetlands. New material also includes an expanded review of the consequences for wetlands in a changing global environment.

52. Wetland Habitats of North America: Ecology and Conservation Concerns/北美湿地生境：生态与保护问题

出 版 年： 2012 年

标准书号：9780520271647

摘　　要：Wetlands are prominent landscapes throughout North America. The general characteristics of wetlands are controversial, thus there has not been a systematic assessment of different types of wetlands in different parts of North America, or a compendium of the threats to their conservation. Wetland Habitats of North America adopts a geographic and habitat approach, in which experts familiar with wetlands from across North America provide analyses and syntheses of their particular region of study. Addressing a broad audience of students, scientists, engineers, environmental managers, and policy makers, this book reviews recent, scientifically rigorous literature directly relevant to understanding, managing, protecting, and restoring wetland ecosystems of North America.

二、自然资源管理相关中文图书（含译著）

1.自然资源和可持续发展

作　　者：(美)丹尼·E. 瓦齐等

标准书号：9787121287909

出 版 年：2017 年

出 版 者：上海交通大学出版社

摘　　要：本书基于自然保护、循环利用、可再生资源、生态恢复和人口控制，全面介绍了资源保护的各个方面，涵盖局地、区域、国家乃至全球尺度的资源和环境问题。

2.自然资源保护与生活

作　　者：(美) 丹尼尔 D. 查尔斯，约翰 P.瑞纳德

标准书号：9787505866317

出 版 年：2016 年

出 版 者：电子工业出版社

摘　　要：本书涵盖了自然资源和能源经济学当前的理论，深入探讨了贯穿整个自然资源经济学的概念，考察了应用于自然资源及能源问题的分析工具，并包括了一些对当前最重要的自然资源经济学问题进行经济分析的例子。

3.环境与自然资源经济学

作　　者：汤姆·蒂坦伯格，琳恩·刘易斯

标准书号：9787300229003

出 版 年：2016 年

出 版 者：中国人民大学出版社

摘　　要：本书是环境经济学方面的经典之作，通过完整的理论分析和有力的经验证据，清楚地向人们阐述了当今世界面临的复杂的环境和自然资源问题，并详细讨论了保护环境和自然资源、实现可持续发展的有关政策问题。

4.自然资源利用经济与管理

作　　者：（俄）H.H.卢基扬契可夫，И.M.波特拉夫雷

标准书号：7501753806

出 版 年：2002 年

出 版 者：中国经济出版社

摘　　要：本书介绍了俄罗斯自然资源领域的行政管理体制和经济运行机制，研究了当今世界人们广泛关注的可持续发展的各种理论。

5.能源与自然资源中的财产和法律

作　　者：(英)艾琳·麦克哈格

标准书号：9787301237328

出 版 年：2014 年

出 版 者：北京大学出版社

摘　　要：本书运用不同的主题性方法，讨论和研究了世界上主要地区不同法域关于能源与自然资源中的财产和法律制度，涉及它们的历史、背景、实施、效果、经验或者教训。

6.自然资源经济学

作　　者：(美)汤姆·泰坦伯格

标准书号：9787115291219

出 版 年：2012 年

出 版 者：人民邮电出版社

摘　　要：本书摘自《环境经济学与政策》，主要论述环境经济学中自然资源经济学的部分，包括能源、水、农业、生物多样性等章节。

7.自然资源与能源经济学手册.第 1-2 卷

作　　者：(美)阿兰·V. 尼斯，詹姆斯·L. 斯威尼

标准书号：9787505866317

出 版 年：2007 年

出 版 者：经济科学出版社

摘　　要：本书涵盖了自然资源和能源经济学当前的理论，深入探讨了贯穿整个自然资源经济学的概念，考察了应用于自然资源及能源问题的分析工具，并包括了一些对当前最重要的自然资源经济学问题进行经济分析的例子。

8.自然资源与能源经济学手册.第 3 卷

作　　者：(美)阿兰·V. 尼斯，詹姆斯·L. 斯威尼

标准书号：9787505888494

出 版 年：2010 年

出 版 者：经济科学出版社

摘　　要：本书探讨能源和矿产经济学，共分三个部分：第一部分(17-19 章)主要讨论基本概念，第二部分(20-22 章)介绍了用于可耗竭资源供求实证研究的一套分析工具，第三部分(23-27 章)讨论理论应用于政策与预测问题。

9.环境与自然资源管理的政策工具

作　　者：(瑞典)托马斯·思德纳

标准书号：7208059284

出 版 年：2005 年

出 版 者：上海人民出版社

摘　　要：本书详细论述了环境政策背后的经济学原理，提供了大量诸如公路交通、工业污染及自然资源和生态系统管理领域的政策设计的实例。

10.自然资源：分配、经济学与政策

作　　者：(英)朱迪·丽丝

标准书号：7100032237

出 版 年：2002 年

出 版 者：商务印书馆

摘　　要：本书关注全球可更新资源和不可更新资源问题。本书强调的两大问题是：谁对自然资源的配置掌握有真正的决策权？自然资源的开发利用和保护等一系列过程对谁有利。

11.发达国家自然资源管理制度

作　　者：陈永申

标准书号：7800096467

出 版 年：2001 年

出 版 者：时事出版社

摘　　要：本书所谈及的自然资源管理范围包括破产资源、海洋资源、土地资源及森林资源四大类，其管理制度研究的对象国主要为几个具有代表性的发达国家，包括美国、加拿大、德国、日本等国。

12.中国的自然资源

作　　者：霍明远，张增顺

标准书号：7040090201

出 版 年：2001 年

出 版 者：高等教育出版社

摘　　要：本书是一部图文并茂且系统阐述中国自然资源特点、演变和发展趋势的高级科普读物，全书共十章，前九章介绍中国的自然资源，后一章介绍中国的有关自然资源方面的政策、法规。

13.流域管理：东南亚大陆山区的生活和资源竞争

作　　者：(美)布莱克·D.拉特纳

标准书号：7541614394

出 版 年：2000 年

出 版 者：云南科技出版社

摘　　要：本书包括为什么有流域管理的问题、本地水平的挑战、国家水平的挑战、地区水平的挑战、结论等内容。

14.矿产经济学：自然资源开发与管理

作　　者：(美)鲁道斯基

标准书号：7562504954

出 版 年：1991 年

出 版 者：中国地质大学出版社

摘　　要：本书概述了与矿产资源经济学和管理学有关的基本原理及其在生产中的应用。

15.看世界 80 国，美洲和大洋洲的自然资源管理

作　　者：吴季松

标准书号：9787802340183

出 版 年：2007 年

出 版 者：中国发展出版社

摘　　要：本书介绍了加拿大和巴西以禁伐为主的森林管理，美国、墨西哥和澳大利亚以“宜荒则荒”为原则的荒原管理，墨西哥、巴西和澳大利亚以节水优先、供需平衡为指导的水资源管理等。

16.看世界 80 国，非洲的自然资源

作　　者：吴季松

标准书号：9787802340060

出 版 年：2007 年

出 版 者：中国发展出版社

摘　　要：本书指出了非洲自然资源的缺乏，急需现代化的管理。探讨了北非如何提高水资源利用，开展人造绿洲规划；在东非如何对热带草原的维护，发展草原生态系统；在西非如何加强热带雨林和河流管理；在南非强调城市和国家公园的管理等。

17.自然资源的合理利用和环境保护

作　　者：(苏)普罗库丁等

标准书号：7800104702

出 版 年：1989 年

出 版 者：中国环境科学出版社

摘　　要：本书收集了苏联、民主德国、保加利亚、波兰及其它一些社会主义国家科学家的一些研究论文。论文涉及矿山、河流资源和可耕地保护、工业的合理布局、交通运输网的建设、环境质量评价等内容。

18.自然资源利用经济学

作　　者：(苏)哈恰图洛夫

标准书号：7561002491

出 版 年：1988 年

出 版 者：辽宁大学出版社

摘　　要：本书较全面地介绍了国家自然资源的利用规划、管理和法律保护。另外,还搜集和整理了有关合理使用自然资源以及环境保护方面的大量的生动资料和一些具体实例和数据。

19.资源与环境管理

作　　者：(加拿大)布鲁斯·米切尔

标准书号：7100039169

出 版 年：2004 年

出 版 者：商务印书馆

摘　　要：本书揭示了自然资源与环境管理实践中的紧迫问题，阐述了一系列处理这些问题的基本概念和理论，并介绍了应用这些理论解决实际问题的相关案例。作者认为，资源和环境管理实质上更是对利用资源和环境的各色人等的管理，因此，这一领域充满着变化、复杂性、不确定性和冲突。在对资源和环境的这些基本性质及其重要意义作了专题论述后，作者系统地考察了对付它们的一系列战略、途径和方法，包括对未来的憧憬，生态系统方法，环境影响评价，适应性环境管理，伙伴关系和当事者途径，地方知识体系，性别与发展的关联，争执的化解，方案的执行、监测和评价，环境公正，等等。每一论题的论述中都利用了一些实际案例来加强理解。书中的很多概念和理论都是当今国际上相关领域的前沿论题，国内知之尚少，对我国今后的资源和环境管理有大可借鉴之处。

20.中国自然资源的开发、利用和保护

作　　者：黄民生，何岩，方如康

标准书号：9787030310910

出 版 年：2011 年

出 版 者：科学出版社

摘　　要：本书围绕合理利用与有效保护各种自然资源，从土地、气候、水、海洋、湿地、森林、草场、野生动植物、矿产、能源、地热、旅游、自然保护区和自然资源信息化与资源信息保障能力建设 14 个方面，概述了近 30 年来我国自然资源的开发利用状况及相应的保护措施等。

21.自然资源可持续利用战略与机制

作　　者：何建坤等

标准书号：7802091764

出 版 年：2006 年

出 版 者：中国环境科学出版社

摘　　要：在我国经济高速增长的背景下，自然资源对于经济发展的制约越来越明显，因此，开展自然资源可持续利用的研究显得十分必要和非常紧迫。本书以能源资源和生态资源为背景，探讨我国如何实现自然资源的可持续利用。

22.资源经济学（第三版）：自然资源与环境政策的经济分析

作　　者：约翰·C·伯格斯特罗姆，阿兰·兰多尔

标准书号：9787300207421

出 版 年：2015 年

出 版 者：中国人民大学出版社

摘　　要：第一部分分析自然资源与环境政策，以及自然资源的供应和稀缺。第二部分阐述自然资源与环境商品生产和消费的微观经济理论基础。第三部分将自然资源与环境公共政策的经济理论和制度呈现给读者。第四部分强调自然资源与环境政策和项目的价值评估，尤其是经济价值评估。第五部分就可再生资源和不可再生资源的优化管理进行了深入的分析。第六部分对空气污染、土地使用和水资源分配进行了经济分析，找到它们的市场解决方案。最后一部分对环境伦理学、资源保护与可持续性进行了探讨，并预测了自然资源与环境经济学学科的未来。全书视野广阔，不仅从经济方面，还从政治、法律和伦理方面，对自然资源与环境政策与项目进行分析。这样大大丰富了读者的视野和知识面，促进了学科的交叉融合。

23.国内外自然资源管理体制与发展趋势

作　　者：卜善祥等

标准书号：7800977420

出 版 年：2005 年

出 版 者：中国大地出版社

摘　　要：本书通过对国内外自然资源管理体制进行系统的研究，揭示了自然资源管理发展的内在规律，为深化我国自然资源管理体制改革、提高自然资源对国民经济的保障能力尽绵薄之力。

24.自然资源总论

作　　者：梁吉义

标准书号：9787807674849

出 版 年：2011 年

出 版 者：山西经济出版社

摘　　要：本书是一部应用系统论研究自然资源开发、配置、协调、方略、实证的专著。论述了自然资源系统的内涵、外延与特点，自然资源的价值理论、价值与价格、产权和承载力等。

25.自然资源约束下的我国资源型区域可持续发展研究

作　　者：彭皓玥

标准书号：978750952043

出 版 年：2009 年

出 版 者：中国财政经济出版社

摘　　要：本书从资源型区域的经济发展规律和特征入手，结合 BP 神经网络及遗传算法构建相关模型，揭示了自然资源约束下资源型区域可持续发展系统的复杂性机理。

26.环境与自然资源经济学：现代方法

作　　者：乔纳森·M. 哈里斯，布瑞恩·罗奇

标准书号：9787564226930

出 版 年：2017 年

出 版 者：上海财经大学出版社

摘　　要：本书主要内容有环境问题的经济分析；生态经济和环境核算、人口、农业和环境；能源和资源；污染：影响和应对政策等。

27.全球资源治理：对象、主题与行动

作　　者：杨杰，陈丽萍

标准书号：9787511734655

出 版 年：2018 年

出 版 者：中央编译出版社

摘　　要：本书通过对全球资源治理的主要对象、主题和主要行动的梳理，试图为读者勾勒出一个全球资源治理的大致轮廓，并通过选择论文，使读者能够对全球资源治理的基本现状与面临的问题有初步的了解。

28.自然资源开发利用与管理

作　　者：崔延松，张云，卢妍

标准书号：9787550903272

出 版 年：2012 年

出 版 者：黄河水利出版社

摘　　要：本书以流域可持续发展为研究背景，以自然资源稀缺为研究视点，以流域资源开发利用、环境保护、和谐流域建设为研究主线，在构建自然资源开发利用与管理体系的基础上，立足我国自然资源开发利用与管理的实际，从理论基础、管理导向和应用评价的视角，探讨了流域尺度下自然资源开发利用与管理在宏观、微观方面的诸多理论与现实问题。

29.自然资源对中国经济可持续增长的制约：理论与实证

作　　者：赵鑫铖

标准书号：9787514185317

出 版 年：2017 年

出 版 者：经济科学出版社

摘　　要：本书拓展一般增长模型，引入自然资源变量，使度量自然资源对经济增长的贡献变为可能。借鉴 Romer(2001)的增长阻力(growth drag)分析框架，本研究设定一个参照经济－自然资源与劳动力以相同的速度增长。与现实经济中自然资源一般小于劳动力增长速度的情况比照，模型定义了自然资源对经济增长制约程度的度量指标－增长阻力。运用中国 1978-2009 年的数据，讨论了自然资源对中国经济的增长阻力及各省经济的增长阻力。

30.中国环境经济发展研究报告，2016：概览自然资源管理

作　　者：宋马林，张宁

标准书号：9787030475800

出 版 年：2016 年

出 版 者：科学出版社

摘　　要：本书首先详细分析了我国自然资源管理状况及其制度建设，结合国外成功的案例探讨了适合我国的管理方案;然后在全国层面上对土地资源、水资源、能源、森林资源和海洋资源的利用状况进行了详细而科学的评价，并深入探究了时间和空间上的差异，给出了各地区资源利用效率的提升策略；最后以安徽省和江西省为例，探索了不同地区在资源利用和环境保护过程中遇到的问题，并给出科学合理的解决途径。

31.生态环境地质调查论文集

作　　者：中国地质调查局

标准书号：7116039937

出 版 年 ：2003 年

出 版 者 ：地质出版社

摘　　要：全书共收集 39 篇论文，分为生态环境地质调查综述；长江流域生态环境地质调查；黄河流域生态环境地质调查；东南沿海地区生态环境地质调查等七个专题。

32.生态环境地质指标研究

作　　者：李瑞敏，鞠建华，王轶

标准书号：9787802462915

出 版 年 ：2009 年

出 版 者 ：中国大地出版社

摘　　要：本书分为八章，内容包括概论、石漠化、沙漠化、草地退化、湿地退化、海岸线变化、城市水土环境变化、结论与建议。

33.国土空间规划原理与应用

作　　者：郑新奇，张丽君，胡业翠

标准书号：9787802469693

出 版 年 ：2016 年

出 版 者 ：中国大地出版社

摘　　要：本书内容包括了国土空间规划概述、国土空间规划原理、国土空间规划战略研判、国土利用状况评价诊断、国土空间规划数据基础、国土空间战略格局等。

三、自然资源管理相关外文科技报告

1. Natural Resources Assessment / 自然资源评估

报 告 号：ANL-NBS-GS-000001 REV 00

作　　者：D.F. Fenster

发布日期：2000-12-11

研究机构：Office of Scientific and Technical Information, Oak Ridge, TN

赞助机构：USDOE

发布国家：USA

摘　　要：The purpose of this report is to summarize the scientific work that was performed to evaluate and assess the occurrence and economic potential of natural resources within the geologic setting of the Yucca Mountain area. The extent of the regional areas of investigation for each commodity differs and those areas are described in more detail in the major subsections of this report. Natural resource assessments have focused on an area defined as the "conceptual controlled area" because of the requirements contained in the U.S. Nuclear Regulatory Commission Regulation, 10 CFR Part 60, to define long-term boundaries for potential radionuclide releases. New requirements (proposed 10 CFR Part 63 [Dyer 1999]) have obviated the need for defining such an area. However, for the purposes of this report, the area being discussed, in most cases, is the previously defined "conceptual controlled area", now renamed the "natural resources site study area" for this report (shown on Figure 1). Resource potential can be difficult to assess because it is dependent upon many factors, including economics (demand, supply, cost), the potential discovery of new uses for resources, or the potential discovery of synthetics to replace natural resource use. The evaluations summarized are based on present-day use and economic potential of the resources. The objective of this report is to summarize the existing reports and information for the Yucca Mountain area on: (1) Metallic mineral and mined energy resources (such as gold, silver, etc., including uranium); (2) Industrial rocks and minerals (such as sand, gravel, building stone, etc.); (3) Hydrocarbons (including oil, natural gas, tar sands, oil shales, and coal); and (4) Geothermal resources. Groundwater is present at the Yucca Mountain site at depths ranging from 500 to 750 m (about 1,600 to 2,500 ft) below the ground surface. Groundwater resources are not discussed in this report, but are planned to be included in the hydrology section of future revisions of the "Yucca Mountain Site Description" (CRWMS M&O 2000c).

2. Natural resource valuation: A primer on concepts and techniques / 自然资源评估：概念和技术入门

报 告 号：DOE/RL/01830--T62

作　　者：Ulibarri, C.A.；Wellman, K.F.

发布日期：1997-07-01

研究机构：Battelle Columbus Div., OH (United States)

赞助机构：USDOE

发布国家：USA

摘　　要：Natural resource valuation has always had a fundamental role in the practice of cost-benefit analysis of health, safety, and environmental issues. Today, this role is becoming all the more apparent in the conduct of natural resource damage assessments (NRDA) and cost-benefit analyses of environmental restoration (ER) and waste management (WM) activities. As such, environmental professionals are more interested in how natural resource values are affected by ER and WM activities. This professional interest extends to the use of NRDA values as measures of liability and legal causes of action under such environmental status as the Clean Water Act (CWA); the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, as amended); and the Oil Pollution Act (OPA) of 1990. Also, environmental professionals are paying closer attention to NRDA values in cost-benefit analyses of risk and pollution-abatement standards, and in meeting environmental and safety standards - forinstance, the attainment of dose limits as low as is reasonably achievable (ALARA). This handbook reviews natural resource valuation techniques that may be applied to resources at DOE siteswithin the foregoing contexts.

The discussion is aimed at noneconomists and pays specific attention to the more basic economic principles and techniques that are currently used by leading practitioners in the estimation of natural resource values. Box illustrations of case studies are used to highlight the application of these methods by a number of leading practitioners. The discussion does not recommend the use of any one method over another, nor does it analyze the correctness of any one application. Instead, the aim is to provide an overview of the applicability of the various methods to particular situations that may be relevant to ER and WM activities at federal facilities.

3. Integrating natural resource damage assessment and environmental restoration activities at DOE facilities / 美国能源部将自然资源毁坏评估和环境恢复活动结合起来

报 告 号：DOE/OR/21851--T2

发布日期：1993-10-01

研究机构：Radian Corp., Oak Ridge, TN (United States)

赞助机构：USDOE, Washington, DC (United States)

发布国家：USA

摘　　要：Environmental restoration activities are currently under way at many U.S. Department of Energy (DOE) sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. DOE is the CERCLA lead response agency for these activities. Section 120 of CERCLA also could subject DOE to liability for natural resource damages resulting from hazardous substance releases at its sites. A Natural Resource Damage Assessment (NRDA) process is used to determine whether natural resources have been injured and to calculate compensatory monetary damages to be used to restore the natural resources. In addition to restoration costs, damages may include costs of conducting the damage assessment and compensation for interim losses of natural resource services that occur before resource restoration is complete. Natural resource damages represent a potentially significant source of additional monetary claims under CERCLA, but are not well known or understood by many DOE staff and contractors involved in environmental restoration activities. This report describes the requirements and procedures of NRDA in order to make DOE managers aware of what the process is designed to do. It also explains how to integrate the NRDA and CERCLA Remedial Investigation/Feasibility Study processes, showing how the technical and cost analysis concepts of NRDA can be borrowed at strategic points in the CERCLA process to improve decisionmaking and more quickly restore natural resource services at the lowest total cost to the public.

4. Implementation of the natural resource damage assessment rule / 自然资源损害评估规则的实施

报 告 号： ES/ER/TM--24

发布日期： 1991-11-01

研究机构：Oak Ridge National Lab., TN (United States)

赞助机构： USDOE, Washington, DC (United States)

发布国家： USA

摘 要： Regulations have been promulgated by the Department of Interior (DOI) which provide an administrative process whereby natural resource trustees may establish the type and extent of injury and evaluate the damages to natural resources. These regulations provide an optional mechanism for Natural Resource Damage Assessments (NRDAs), with four major components. A workshop was held to develop recommendations for DOE-OR regarding implementation of the DOI NRDA regulations at the Oak Ridge Reservation (ORR). The attendants were divided into three working groups to consider (1) administrative/legal requirements, (2) ecological assessments, and (3) the NRDA/economic evaluation process. This report supplies an overview of the DOI NRDA regulations as well as summaries of the consensus of each of the three working groups to consider (1) administrative/legal requirements, (2) ecological assessments,and (3) the NRDA/economic evaluation process.

This report supplies an overview of the DOI NRDA regulations as well as summaries of the consensus of each of the three working groups. In addition, a DOE-OR Interim Policy Guidance for notification of natural resource trustees has been included as Appendix D to this report.

5. Deepwater Horizon Oil Spill Natural Resource Damage Assessment / 深海原油泄漏自然资源损害评估

报告号：PB2016103150

发布日期：2016-10-31

发布国家：USA

摘要：This environmental assessment (EA) addresses the first phase of the Florida Coastal Access Project, and tiers from the Final Phase III ERP/PEIS. The first phase of the Florida Coastal Access Project is consistent with the Final Phase III ERP/PEIS Preferred Alternative as described in the 2014 Record of Decision (79 FR 64831-64832 (October 31, 2014)) and the Trustees find that the conditions and environmental effects described in the broader NEPA review are applicable.

6. Natural Resource Condition Assessment for Gulf Islands National Seashore / 海湾群岛国家海岸带自然资源评价

报 告 号： PB2016104680

作　　者： Hatt, J. ； Worsham, L. ….

发布日期： 2016-10-46

发布国家： USA

摘　　要： This report provides an assessment of the condition of key natural resources at Gulf Islands National Seashore (GUIS). It discusses stressors that threaten these resources and the biological integrity of habitats in the park. This assessment focuses on vital signs outlined by the Gulf Coast Monitoring Network (GULN), and on other attributes relevant to the park’s natural resources. Assessed attributes are roughly organized into broad groups of resources as follows: air quality, weather and climate, coastal dynamics, water quality, terrestrial vegetation, seagrass, animal communities, and landscape dynamics.

7. Natural Resource Management Plan for Brookhaven National Laboratory / 布鲁克海文国家实验室自然资源管理计划

报 告 号： DE20111030633

发布日期： 2011-01-01

发布国家： USA

摘　　要： This comprehensive Natural Resource Management Plan (NRMP) for Brookhaven National Laboratory (BNL) was built on the successful foundation of the Wildlife Management Plan for BNL, which it replaces. This update to the 2003 plan continues to build on successes and efforts to better understand the ecosystems and natural resources found on the BNL site. The plan establishes the basis for managing the varied natural resources located on the 5,265 acre BNL site, setting goals and actions to achieve those goals. The planning of this document is based on the knowledge and expertise gained over the past 10 years by the Natural Resources management staff at BNL in concert with local natural resource agencies including the New York State Department of Environmental Conservation, Long Island Pine Barrens Joint Planning and Policy Commission, The Nature Conservancy, and others. The development of this plan is an attempt at sound ecological management that not only benefits BNLfs ecosystems but also benefits the greater Pine Barrens habitats in which BNL is situated. This plan applies equally to the Upton Ecological and Research Reserve (Upton Reserve). Any difference in management between the larger BNL area and the Upton Reserve are noted in the text.

The purpose of the Natural Resource Management Plan (NRMP) is to provide management guidance, promote stewardship of the natural resources found at BNL, and to sustainably integrate their protection with pursuit of the Laboratory’s mission. The philosophy or guiding principles of the NRMP are stewardship, sustainability, adaptive ecosystem management, compliance, integration with other plans and requirements, and the incorporation of community involvement, where applicable.

8. Adaptive Management Platform for Natural Resources in the Columbia River Basin / 哥伦比亚河流域自然资源适应性管理平台

报 告 号：PNNL-13875

作　　者：Vail, Lance W.；Skaggs, Richard

发布日期：2002-05-01

研究机构：Pacific Northwest National Lab., Richland, WA (US)

赞助机构：US Department of Energy (US)

发布国家：USA

摘　　要：This document describes a conceptual framework to operationalize adaptive management.Adaptive management is a systematic and rigorous scientifically defensible program of learning from the outcomes of management actions, accommodating change, and improving management. The critical requirements and toolboxes of an information management framework, referred to as the Adaptive Management Platform (AMP), to realize the goal of adaptive management are described. The AMP design that connects various modules to ensure that the decision-making needs are met. The modules are data management, visualization tools, optimization algorithms, and models of Columbia Basin physical and biological processes. When fully developed, AMP will enable subbasin planners and responsible entities throughout the Basin to collectively and continuously integrate data and decisions, assess cumulative trends and outcomes over time, and demonstrate discipline and accountability. AMP would function at the basin, ecoprovince, as well as the subbasin scale. AMP would assist in ensuring that uncertainties from individual modules and analytical integration are properly presented to decision makers.

9. Natural resource management activities at the Savannah River Site. Environmental Assessment / 萨凡纳河流域的自然资源管理活动．环境评估

报 告 号：DOE/EA--0826

发布日期：1993-07-01

研究机构：USDOE Savannah River Operations Office, Aiken, SC (United States)

赞助机构：USDOE, Washington, DC (United States)

发布国家：USA

摘　　要：This environmental assessment (EA) reviews the environmental consequences of ongoing natural resource management activities on the Savannah River Site (SRS). The Natural Resources Management Plan: Strategic Guidance for the Savannah River Site's Natural Resources Programs (DOE, 1991) is a core document supporting the implementation of current programs. Appendix A contains the Natural Resources Management Plant (NRMP). While several SRS organizations have primary responsibilities for different elements of the plan, the United States Department of Agriculture (USDA), Forest Service, Savannah River Forest Station (SRFS) is responsible for most elements. Of the river scenarios defined in 1985, the High-Intensity Management alternative established the upper bound of environmental consequences; it represents a more intense level of resource management than that being performed under current resource management activities. This alternative established compliance mechanisms for several natural resource-related requirements and maximum practical timber harvesting. Similarly, the Low-Intensity Management alternative established the lower bound of environmental consequences and represents. The Proposed Action of this EA describes the current level of multiple-natural resource management on the SRS; it is also the "No-Action" alternative, in that it represents no change from present activities. The Proposed Action integrates timber management with endangered species protection programs, balances regulatory compliance with natural resource and environmental protection programs, and actively conducts mission support and research program elements.

10. Natural Resource Condition Assessment for Stones River National Battlefield / 石河国家级自然资源条件评价

报 告 号： PB2017101061

作　　者： Momm, H.； Law, Z. ect.

发布日期： 2017-10-10

发布国家： USA

摘　　要： The National Park Service, Natural Resource Stewardship and Science office in Fort Collins, Colorado, publishes a range of reports that address natural resource topics. These reports are of interest and applicability to a broad audience in the National Park Service and others in natural resource management, including scientists, conservation and environmental constituencies, and the public. The Natural Resource Report Series is used to disseminate comprehensive information and analysis about natural resources and related topics concerning lands managed by the National Park Service. The series supports the advancement of science, informed decision-making, and the achievement of the National Park Service mission. The series also provides a forum for presenting more lengthy results that may not be accepted by publications with page limitations.

11. El Morro National Monument Natural Resource Condition Assessment / 埃尔莫罗自然资源状况评估

报 告 号： PB2017101059

作　　者： Valentine-Darby, P. ； Mathis, A.ect.

发布日期： 2017-10-10

发布国家： USA

摘　　要： Natural Resource Condition Assessments (NRCAs) evaluate current conditions for a subset of natural resources and resource indicators in national park units, hereafter “parks.” NRCAs also report on trends in resource condition (when possible), identify critical data gaps, and characterize a general level of confidence for study findings. The resources and indicators emphasized in a given project depend on the park’s resource setting, status of resource stewardship planning and science in identifying high-priority indicators, and availability of data and expertise to assess current conditions for a variety of potential study resources and indicators.

12. Final Report for the MANNRRSS II Program Management of Nevada's Natural Resources with Remote Sensing Systems, Beatty, NV / 内华达自然资源遥感管理系统（MANNRSS）II 项目报告

报 告 号：01009500

作　　者：Lester Miller；Brian Horowitz ；　ect

发布日期：2009-06-04

研究机构：National Nuclear Security Administration

赞助机构：USDOE National Nuclear Security Administration

发布国家：USA

摘　　要：This document provides the Final Report on the Management of Nevada’s Natural Resources with Remote Sensing Systems (MANNRRSS) II program. This is a U.S. Department of Energy (DOE)-funded project tasked with utilizing hyperspectral and ancillary electro-optical instrumentation data to create an environmental characterization of an area directly adjacent to the Nevada Test Site.

13. Environmental Assessment for the Integrated Natural Resources Management Plan for Edwards Air Force Base, California / 加利福尼亚州爱德华兹空军基地自然资源综合管理计划的环境评估

报 告 号：ADA616534

作　　者：Reina；Mull, Thomas

发布日期：2015-02-13

发布国家：USA

摘　　要：Pursuant to the National Environmental Policy Act of 1969, this Environmental Assessment (EA) documents the impacts of how Edwards AFB plans to implement the 2014 Edwards Air Force Base Integrated Natural Resources Management Plan. This EA includes impacts previously addressed in the Environmental Assessment for the Integrated Natural Resources Management Plan for Edwards Air Force Base, California (2001) and additional impacts not previously addressed in the 2001 EA. This EA evaluates the same alternatives previously evaluated in the 2001 EA. The proposed project involves management of the natural resources on Edwards AFB through the implementation of a targeted Integrated Natural Resources Management Plan (INRMP).

14. Colorado Energy and Natural Resource Management Program. Final report / 科罗拉多能源和自然资源管理计划.最终报告

报 告 号： DOE/R8/01016-T1

发布日期： 1983-08-01

研究机构：Colorado State Government, Denver (USA)

发布国家： USA

摘 要：The Colorado Energy and Natural Resource Management Program during the last reporting period of the grant accomplished the following: (1) completed two copies of a study by program staff of the future demographic and economic consequence of developing energy resources in the twelve-county region of northwest Colorado; (2) completed three 9-1/2" magnetic computer tapes which contain all of the data and model source code of the Colorado Resource Information System (CRIS); (3) established a working relationship with a sister agency, the Colorado Department of Local Affairs, to initiate a data collection program for the other Colorado regions; (4) completed an updated survey of coal operations in northwest Colorado in association with the Colorado Mining Association; and (5) won recognition by the Department of Natural Resources of the solid reservoir of energy and environmental data available in the CRIS. In brief, the Colorado Energy and Natural Resource Management Program successfully achieved all of its original goals. In fact, it may have surpassed its goal of demonstrating the use of automated resource management for policy analysis. This is true since CRIS is currently incorporated into the day-to-day work of the Department of Natural Resources.

15. Use of aerial videography to evaluate the effects of Flaming Gorge Dam operations on natural resources of the Green River / 利用航空摄像技术评估弗雷慕乔治大坝施工对绿河自然资源的影响

报 告 号：ANL/EAIS/CP--80295; CONF-9305250--1

作　　者： Snider, M.A. ； Hayse, J.W.

发布日期：1993-07-01

研究机构：Argonne National Lab., IL (United States)

赞助机构：USDOE, Washington, DC (United States)

发布国家：USA

摘　　要： Peaking hydropower operations can profoundly alter natural stream flow and thereby affect the natural resources dependent on these flows. In this paper, we describe how aerial videography was used to collect environmental data and evaluate impacts of hydropower operations at Flaming Gorge Dam on natural resources of the Green River. An airborne multispectral video/radiometer remote sensing system was used to collect resource data under four different flow conditions from seven sites (each about one mile in length) located downstream from the dam. Releases from Flaming Gorge Dam during data collection ranged from approximately 800 to 4,000 cubic feet/sec (cfs), spanning most of the normal operating range for this facility. For each site a series of contiguous, non-overlapping images was prepared from the videotapes and used to quantify surface water area, backwater habitats, and areas of riparian vegetation under varying flow conditions. From this information, relationships between flow and habitat parameters were developed and used in conjunction with hydrologic modeling and ecological information to evaluate impacts of various modes of operation.

16. Assessing the impacts of climate change on natural resource systems / 评估气候变化对自然资源系统的影响

报 告 号： DOE/ER/61888--1

作　　者： Frederick, K.D.；Rosenberg, N.J. [eds.]

发布日期： 1994-11-30

研究机构：Resources for the Future, Inc., Washington, DC (United States).

赞助机构： USDOE

发布国家： USA

摘　　要： This volume is a collection of papers addressing the theme of potential impacts of climatic change. Papers are entitled Integrated Assessments of the Impacts of Climatic Change on Natural Resources: An Introductory Editorial; Framework for Integrated Assessments of Global Warming Impacts; Modeling Land Use and Cover as Part of Global Environmental Change; Assessing Impacts of Climatic Change on Forests: The State of Biological Modeling; Integrating Climatic Change and Forests: Economic and Ecological Assessments; Environmental Change in Grasslands: Assessment using Models; Assessing the Socio-economic Impacts of Climatic Change on Grazinglands; Modeling the Effects of Climatic Change on Water Resources- A Review; Assessing the Socioeconomic Consequences of Climate Change on Water Resources; and Conclusions, Remaining Issues, and Next Steps.

四、自然资源管理相关中文科技报告

1.近 30 年全球陆地生态系统碳源汇动态模拟及趋势预测研究技术报告

作　　者：张春华，居为民，陈镜明，王希群，周艳莲

作者单位：南京大学，国家林业局林产工业规划设计院

批 准 年：2010 年

出 版 年：2013 年

摘要：本研究利用发表的 3543 个森林生物量样地数据，将中国主要森林类型分为 30 种，分别建立林分生物量与蓄积量间的关系，并依据七次森林资源清查数据，采用生物量转换因子连续函数法估算中国森林的碳储量和生物量碳汇。结果表明：中国森林碳储量由第一次森林清查时的 4.93 Pg C 增加到第七次森林清查时的 8.12 Pg C，从 1973 年到 2008 年的 36a 中共积累了 3.19 Pg C，其中林分和其他森林类型分别积累 2.13 Pg C 和 1.06 Pg C，林分碳储量增加了 51.8%，主要来自于森林面积的增加。在最近两次森林清查中（1999-2008 年），森林林分是一个较强的碳汇，平均每年的固碳速率为 0.17 Pg C。在七次森林清查中，与其所占的面积相比，中国成熟林的碳密度和碳储量比重较大。目前，中国有 67% 的森林处于中幼龄阶段，随着它们的进一步发展成熟，森林将具有巨大的碳汇潜力。从 1973 年到 2008 年的 7 次森林清查中，除东北地区外，其他地区森林林分碳储量都增加，但其原因存在地区差异。在人口较少、土地资源丰富的华北、西南和西北地区，林分碳储量的增加主要由其面积增加引起；而在人口密度较大的中南和华东地区主要由碳密度的增长引起；东北地区林分碳储量的下降主要由其面积减少所致。

2.中国主要陆地生态系统服务功能与生态安全

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作者单位：中国科学院生态环境研究中心

批 准 年：2009 年

出 版 年：2013 年

摘　　要：本研究的主要内容如下：

（1）建立和完善生态系统服务过程和机理研究的试验、监测体系，收集长期生态学研究资料；开展生态系统观测、监测、样带调查和社会经济调查；收集和购置区域及全国尺度遥感影像及其它空间数据。初步形成从生态系统服务过程机理到区域和大尺度格局的数据获取和支撑体系。

（2）初步分析典型区域主要生态系统类型的时空变化和对主要生态系统服务功能的可能影响，研究区域生态系统服务功能的特征与相互作用，探讨生态系统服务功能定量评价方法，分析重要生态服务功能跨区域转移路径、流量和影响机制。

（3）研究人类活动和社会经济状况对区域生态系统服务功能的可能影响；探索区域生态系统服务功能和生态安全的表征和综合分析方法，研究生态系统服务功能变化驱动下我国生态安全变化的可能情景。

（4）开展宏观生态模型 GLO-PEM 和 CEVSA 的耦合机理和参数本地化及气候模式的参数本地化研究；开展生态参数遥感反演的软件研发，并进行测试和生态参数的遥感反演；进行 NPP 和 NEP 的模型模拟及验证，研究全国尺度生态系统服务功能综合评估模型。

3.生态系统格局与结构变化的遥感监测技术研发

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批 准 年：2006 年

出 版 年：2013 年

摘　　要：研究构建了覆盖全国的 70 年代后期 MSS、2005 年 TM 遥感影像数据库以及 1970 年代末期、1980 年代末期、1995 年、2000 年、2005 年五期土地利用/土地覆被时空数据集。构建了中国生态系统宏观结构变化驱动力分析模型，开发了区域土地动态变化模拟、分析预测系统。编写了过去 30 年中国生态系统宏观结构变化、驱动机制及未来情景的研究报告，编制了全国生态系统及主要生态系统类型空间分布图及其动态变化图。

4.“生态系统服务功能与生态—生产功能区优化布局”研究

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作者单位：中国农业科学院草原研究所

批 准 年：2007 年

出 版 年：2013 年

摘　　要：在历次全国草地资源调查的基础上，分析近 40 年来北方草地与农牧交错带土地利用与覆盖变化趋势及其驱动因素，对我国草地资源现状进行综合评估，对其功能与配置状况进行重新定位。建立草地与农牧交错带生态系统服务功能的动态和综合评估技术体系，明确农牧系统耦合机理及评估和计算其效应的方法，阐明草地、沙地和农田等景观之间及完整流域内的物质交换与功能补偿效应，建立土地利用转型与生态功能置换的原理与范式，对退耕还林（草）与围封转移政策、实践和可持续问题提供科学评估和咨询建议。在此基础上，提出我国北方草地与农牧交错区的草地资源现状优化布局，为国家制定生态环境建设与农牧业发展规划提供科学依据。

5.遥感监测、理解、生态污染预警的智能信息系统研究

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批 准 年：2009 年

出 版 年：2013 年

摘　　要：就遥感监测、理解、生态污染预警的智能信息处理关键技术及系统进行了系统、深入的研究。取得的重要技术突破、技术创新包括：对非下采样 Contourlet 变换进行了多种优化和改进；提出了基于区域竞争模型的多水平集图像分割方法、一种新颖的基于导数的局部特征描述子、一种快速的基于相空间划分的局部特征描述子、一种基于多尺度及角点检测的图像自动配准算法、基于 PCA 广义逆变换的特征空间差分变化检测方法、基于谱分析的降维框架、基于粗糙集和微粒群算法的特征选择方法、基于模糊粗糙集的最近邻聚类分类算法。解决了遥感监测、理解、生态污染预警的智能信息处理的关键科技瓶颈，对国家“对地观测”“污染控制与治理”方面的科技计划项目/重大专项的实施有支撑作用。关键技术：遥感监测理解和生态污染预警的数据挖掘技术。通过合作，聘任 IEEE Fellow，N.Kasabov 教授担任上海交通大学客座教授，并多次来中方讲学和合作研究；借鉴了新西兰在生态保护和环境污染预警监测的先进技术与经验，发挥了中国－新西兰各自的优势和特点，实现了中方、新方的强强联合，为我国遥感监测和理解、生态污染预警的推广应用打下了良好的基础，促进了我国新疆地区的环境监测和保护；帮助新疆大学提高了智能信息处理领域的科研水平、学科建设和人才培养。

6.国家自然资源与社会经济数据空间耦合及其共享服务研究

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批 准 年：2012 年

出 版 年：2013 年

摘　　要：国家自然资源与社会经济数据空间耦合及其共享服务是在“国家自然资源和地理空间基础信息库”一期及人口信息化建设基础上，研究多源、多时间序列、多粒度国家级自然资源、环境和人口数据空间耦合、知识加工和共享服务的核心技术，构建我国新一代的国家自然资源与人口数据综合共享服务系统，实现国家级、专题级和区域级自然资源与人口数据共享服务的新体系，为“国家自然资源和地理空间基础信息库”二期建设开展相关关键技术研究，从而保障信息库二期项目工程化实施建设，进而促进我国空间信息共享服务水平大幅度提升。本研究的主要研究内容包括：（1）多数据中心的国家自然资源与地理空间资源管理与服务技术规范（2）多数据中心自然资源与地理空间信息资源基于统一时空框架的组织管理技术（3）多数据中心协同工作支持的按需定制的自然资源与地理空间信息多样化产品制作技术（4）多数据中心空间数据共享交换与同步更新技术（5）国家自然资源与地理空间信息综合共享服务系统应用示范（6）面向公众的国家人口专题信息服务关键技术及应用研究本研究目前已形成标准、规范一致性测试软件等 7 个软件/系统，国家自然资源与地理空间信息服务质量评估体系（初稿）等 5 项项目标准规范，面向高性能三维可视化环境下综合分析应用的空间信息组织模型研究报告等 6 项关键技术报告本研究可为国家宏观经济决策以及国家重大开发举措如区域开发、生态环境规划和建设、重大自然灾害的防治与灾情评估以及国土环境的规划、整治、预测与决策支持等，提供准确、及时的自然资源和人口时空定量信息和综合集成分析工具，可面向公众、政府及行业部门，为全面协调可持续发展等重大资源环境和经济社会问题提供决策支持能力和社会服务能力。

7.国家尺度生态系统本底综合监测评估核心技术研究

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批 准 年：2006 年

出 版 年：2013 年

摘要：本研究以现代空间信息技术为支撑，综合运用生态学、自然地理学、水文学、土壤学、气象学等学科的知识和方法，制定完成了生态系统综合监测与评估指标体系、数据库设计和软件开发集成等一系列技术规范，开发完成了全国光合有效辐射估算系统、中国 LULUCF 碳核算与决策支持系统等一系列系统，建设和集成了全国生态系统监测与评估综合数据库，集成了中国陆地生态系统监测与评估综合运行平台，并已经交付相关单位运行。成果在三江源生态工程成效评估、南方冰雪冻害、玉树地震、“十二五”生态相关规划研究等方面开展了应用。主要内容包括：

（1）研究并制订了数据编码、元数据、软件接口等的数据标准与规范以及相关的技术流程规范，完成了 4 项生态系统综合监测评估数据相关的标准制定与 2 项运行平台与试运行、测试标准。

（2）开展了生态综合监测、评估各子系统的详细设计，包括系统网络构成/运行方式，综合数据库与数据库管理系统，模型/方法/知识工具库，生态参数遥感反演子系统，生态系统宏观结构分析子系统，生态系统服务功能评价子系统，网络信息发布平台。

（3）生态系统监测与评估综合数据库/元数据库数据量总计 7.15T。

（4）开发由模型输入参数预处理、图像预处理、NDVI 计算、LAI 计算、NPP 与 NEP 计算、ET 与波文比计算、气溶胶计算、陆面温度计算等模块构成，

并具有参数智能选择、适合一般专业人员操作的中国陆地生态参数遥感反演子系统。

（5）开发由生态系统时空变化、生态系统空间分布 HLZ 等分析模块，制图功能模块，森地、草地、农田、湿地、荒漠等空间分布与变化分析功能模块，以及生态系统宏观格局变化驱动力模块构成的中国陆地生态系统宏观结构分析子系统。

（6）开发由中国陆地生态系统支持、供给、调节功能的时空变化分析模块，森林与草地生态系统支持、供给、调节功能时空变化分析模块，荒漠与湿地生态系统的支持与调节功能时空变化分析模块，农田生态系统供给功能的时空变化分析模块，生态系统服务功能变化驱动力分析模块，自然保护区生态系统的支持功能的时空变化分析功能模块。

8.国家尺度生态系统服务功能变化及综合评估最终报告

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摘　　要：基于地理信息系统和数据库管理技术，结合遥感监测和野外定位观测，建立了全国尺度生态系统宏观结构及服务功能长时间序列数据库和评估模型库，聚焦水源涵养、水土保持、防风固沙、碳固定、生物多样性保护等生态系统服务功能，开展了过去 20 年和未来 20 年中国生态系统宏观结构和服务功能时空变化综合评估，分析了不同生态服务功能对自然和人为影响的响应规律。揭示我国近 30 年来主要陆地生态系统宏观结构和服务功能的变化过程及其驱动机制，揭示主要陆地生态系统的结构和功能对人为活动（土地利用变化等）及气候变化的响应机制。为生态系统服务功能评估及生态功能区的划分提供科学依据。依据生态系统服务功能的空间格局和区域主导服务功能，制定了全国生态系统服务功能区划。在此基础上，基于生态综合治理“保护优先，自然恢复为主”的原则，提出了优先加强对优良生态系统的保护；对成效明显的生态工程给予持续支持；对分散的生态工程进行整合和提升的生态综合治理模式。同时，提出了西部五大重点生态区差别化综合治理的思路，形成了分类治理策略和分区治理方案，以及各重点生态综合治理区的重点工程与配套措施。

9.自然保护区干扰生态系统的修复技术研究与示范

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摘　　要：针对南方雨雪冰冻灾害，选择江西九连山国家级自然保护区和广东鼎湖山国家级自然保护区，量化评估常绿阔叶林生态系统受损状况，进行灾后的生态系统修复技术研究与示范；在干旱地区选择额济纳胡杨林国家级自然保护区，半干旱地区选择锡林郭勒草原国家级自然保护区、乌拉山次生林自治区级自然保护区，开展典型退化生态系统的恢复技术研究与示范；在海南霸王岭国家级自然保护区、江西庐山国家级自然保护区森林类型自然保护区，开展典型外来种入侵生态效应评估，建立生态风险评估体系和重点入侵种的防控技术。 经过研究与示范，建立南方雨雪冰冻灾害区受干扰生态系统修复技术和规程；提出了干旱、半干旱地区典型退化生态系统恢复技术体系；构建了外来种入侵的生态风险评估和预警技术；提出了《自然保护区外来种入侵防控技术规范》；建立示范区 4 处，面积 670 公顷以上；制定了半干旱区自然保护区退化生态系统恢复技术规程、胡杨林生态系统恢复与保护的技术规程、自然保护区外来入侵种管理技术规范、南方冰雪灾害区域代表性森林类型自然保护区受干扰生态系统修复技术规程等自然保护区生态恢复与评估的行业规范 4 项。在研究基础上，提出了建立自然保护区实施退化生态系统修复建议，该思路在中国自然保护区管理和恢复生态学领域产生了重大影响，有关部门已在全国部分省(自治区)实施。部分研究成果已被列入全民环境教育教材《生态文明简明知识读本》对公众介绍，并进入美国大学环境类教科书，取得了明显的生态、社会、经济效益。

10.脆弱地区生态系统综合整治模式研发

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摘　　要：针对我国重点脆弱生态区生态系统退化严重和恢复困难等问题，阐明脆弱生态区典型退化生态系统类型、特点及空间分布特征，评价筛选不同类型区退化生态系统恢复的关键技术，优化集成综合治理模式，确定关键技术与综合治理模式的实施条件和适宜推广范围，提出脆弱生态区退化生态系统综合整治和管理的技术对策，为我国脆弱生态区的生态治理提供技术支撑。 本研究主要完成了以下研究工作：

（1）研究了典型脆弱区退化生态系统类型、特点及其空间分布特征 在全国土壤侵蚀敏感性、沙漠化敏感性、盐渍化敏感性、石漠化敏感性、冻融侵蚀敏感性和酸雨敏感性等生态环境敏感性评价的基础上，评价了我国脆弱生态区的空间格局，分析了不同生态脆弱区的生态系统特征和主要生态环境问题。

（2）开展典型脆弱区生态系统退化成因研究 通过实地考察和文献调研，系统分析了青藏高原高寒草甸、黄土高原丘陵沟壑区、干旱半干旱区、西南山地、西南喀斯特石漠化地区及海岸带地区生态系统退化成因，为生态脆弱区退化生态系统综合整治提供了科学基础。

（3）开展典型脆弱区退化生态系统治理技术和模式集成研究。 在开展脆弱地区生态区划的基础上，充分考虑不同技术和模式适用区的自然环境特征，开展代表性区域退化生态系统治理技术和综合整治模式的收集工作，通过系统分析和

整理筛选出适宜于我国不同脆弱生态区退化生态系统恢复的关键技术 149 项；集成了重点脆弱生态区退化生态系统整治模式 71 套。

（4）评价了典型脆弱区综合整治模式的区域适宜性 在开展退化生态系统治理技术和综合整治模式收集和筛选的前提下，结合不同技术和模式适用区的地形、降水、蒸发、积温、水资源等自然环境特征，重点评价了青藏高原高寒草甸、黄土高原丘陵沟壑区、干旱半干旱区、西南山地退化生态系统治理技术和模式的实施条件和适用范围。

（5）研究提出了典型脆弱区综合整治和管理技术对策 提出了西北沙漠化盐渍化区、青藏高原高寒区、黄土高原水土流失区、西南山地水土流失区、西南喀斯特石漠化区、南方红壤丘陵山地区和东南沿海湿地区等典型脆弱生态区生态保护目标、生态恢复原则及生态恢复对策。

（6）开发建立了我国典型生态脆弱区退化生态系统综合治理技术与模式数据库 数据库主要包括：各研究区的地形图、降水、蒸发、积温、植被、土壤等自然因子空间特征图；沙漠化、石漠化、冻融侵蚀、土壤侵蚀、盐渍化等生态环境敏感性评价图；脆弱区空间分布图、脆弱区生态功能分区图等成果图件；典型脆弱区退化生态系统综合整治技术、模式。

（7）典型脆弱区退化生态系统综合整治技术导则（或规程）7 套。

11.干旱半干旱区生态系统和水资源脆弱性评估及风险预估进展报告

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摘　　要：本研究选择干旱半干旱区典型区域的两类关键的脆弱性系统（生态系统和水资源系统）为研究对象，综合研究年代尺度气候变化背景下这两种系统的脆弱性及其机理，预估未来 10-30 年气候变化情景下的生态系统和水资源系统的脆弱性和可能面临的风险，为应对气候变化的区域战略提供决策建议。 基于年代尺度干旱对脆弱性的影响机理，系统分析气候转折性变化前后的水资源状况及不同区域水资源的承载能力，建立气候变化驱动下的全球典型干旱半干旱地区的影响评估模型、建立以气候变化为主要影响因子的水资源定量评估模型；利用已建立的干旱半干旱地区生态系统评估模型及水资源评估模型，运用气候变化预估的结果驱动，对未来 10-30 年我国典型干旱半干旱地区生态系统（草地和农业生态系统）、水资源系统的变化进行预估，系统分析未来 10-30 年这些地区生态系统和水资源的情景，基于模型定量评估其风险并提出应对措施。 本研究通过两年时间的研究确定了不同尺度干旱半干旱区生态系统和水资源对年代尺度气候变化的响应机制；确立了年代尺度干旱半干旱区典型生态系统和水资源脆弱性评价关键指标；准确预估出未来 30 年干旱半干旱区生态系统和水资源的脆弱性风险。 基于前期的研究得出，干旱区荒漠生态系统对于气候变化的胁迫具有较强的调节能力，干旱区绿洲生态系统主要是受人类活动的控制，但气候变化也对它有间接影响，北方农牧交错带雨养农田生态系统极大地受降水的影响，内蒙古草地生态系统明显受到降水和气温的双重影响，干旱半干旱区水资源大部分都与降水量呈现一致的年代际变化趋势。

12.我国西北干旱区绿洲现状、发展趋势与生态系统管理

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摘　　要：2010 年，贺兰山以西的西北干旱区绿洲 11 万 km^2，这占干旱区面积 3.6%土地居住着干旱区九成人口，集中了 95%的农业、工业，是干旱区社会经济可持续发展的基础。遥感分析显示 2010 年甘肃河西走廊绿洲面积 17400 km^2，比 1975 年扩大 1771 km^2，其中人工绿洲扩张达 1866.6 km^2 超过总面积的扩大，仅耕地就增长了 1326.2 km^2。 绿洲是干旱区由水支撑的特殊地理单元，干旱区以绿洲为中心，组成了一个完整的社会-经济-自然复合生态系统，这一系统是以资源流动为命脉、自然环境为依托、人为的行动为主导，社会体制为经络的半人工生态系统。由于绿洲的过度发展，绿洲生态系统出现：

1）河、泉断流，水库、塘坝干涸，水资源枯竭，内陆河水系瓦解；

2）超采地下水引起地下水位恶性下降；

3）荒漠—绿洲过渡带消失，绿洲直接受到周围沙漠风沙威胁；

4）水、盐平衡被打破，“有灌无排”使盐分在耕地积累，土壤盐分在表层积累，次生盐渍化有加重发展的趋势。

水是绿洲生态文明建设与区域可持续发展的关键因素，以流域为单元，进行水资源统筹利用规划与管理，统筹兼顾不同区域经济发展与生态环境建设对水的需求，应是区域生态环境管理的基础；提倡设施节水农业，积极调整作物种植结构尤其是区域经济结构，大力发展草地畜牧业及其他非种植业经济比例，以农业节水为突破口，逐步实现整个社会、经济和环境系统的同步节水。以生态系统健康发展为原则，按照生态规律进行土地资源的开发利用，土地资源的开发与保护

并重，进一步建设和完善农田防护林体系，维护天然植被生态。从维护流域生态功能和促进人地和谐的目的出发，进行流域整体的生态环境建设规划，提高区域整体的可持续发展能力。 干旱区绿洲生态系统管理要从水资源入手，首先，“以水定田”根据水资源状况规划绿洲的发展；第二，强化整个流域系统的水资源管理，包括上、下游，地表水和地下水的协调和统筹农业用水、工业用水和人畜饮用水；第三，改革耕作制度，调整种植结构和灌溉制度。本报告强调，囿于干旱区环境和水源运移规律，内陆河绿洲不能一味的强调“节水”灌溉。重点在于在深入调查研究的基础上，制定既满足作物用水、节约用水，又能控制耕作层土壤盐分，使之不产生盐害的科学合理的灌溉制度。包括灌溉方式，灌溉次数、时间和配水量，配套的技术和设施。

13.喀斯特生态系统服务功能优化和综合调控研究

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摘　　要： 喀斯特景观的高度空间异质性，决定了生态系统服务功能的高度时空分异性。从景观格局变化分析入手，对生态系统服务功能定量评价，分析水分和养分循环过程的空间分异以及人类活动对生态服务功能的影响，提出土地利用结构优化配置与适应性景观生态设计的生态修复综合调控方案。 喀斯特区域土地利用结构优化配置与适应性景观生态设计的生态修复综合调控:结合景观变化数据与生态过程数据，分析农户行为偏好和政策因素影响下的景观格局要素间的优化关系，建立反映小尺度景观结构和功能的喀斯特峰丛洼地景观生态分类系统，提出适应性景观生态设计的优化模式.对人类扰动小、保护性种植的草地畜牧业复合生态系统的长期试验，提出在生态环境脆弱的喀斯特区域构建以草食畜牧业为核心的农林牧复合生态模式，大大减轻了耕作垦殖对坡耕地的破坏，草食畜牧业成为农民新增收入的主要来源. 研究成果为西南喀斯特地区正在大规模实施的石漠化综合治理工程和区域可持续发展提供重要的理论依据和科学方法。

14.喀斯特峰丛山地脆弱生态系统重建技术研究

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摘　　要：研究针对岩溶山区石漠化、水土流失、居民贫困等严重问题，提出了岩溶石漠化是土地退化过程的概念，揭示了广西岩溶石漠化形成演变过程和动力机制，形成了石漠化综合治理的科学思路、理论依据和方法，建立了取得显著效益的示范区及石漠化综合治理一系列技术试验和示范工程，通过建立指标体系和评价模型对广西典型岩溶环境的生态脆弱性和岩溶生态系统服务功能进行了定量评价，同时建立了广西岩溶石漠化信息系统，形成了自主研发与科技引进相结合的石漠化及其综合治理方面高水平的系统性科技集成成果，为西南岩溶石漠化综合治理提供了科学依据和成功样板。 主要创新成果：一是明确了岩溶石漠化是土地退化过程的概念，并揭示了广西石漠化的形成演变过程及驱动机制；二是促进了石漠化区植被恢复的物种选择及生态产业培育科技创新；三是取得了表层岩溶水调蓄和开发利用以及内涝防治技术突破；四是发现了岩溶山区的水土漏失特殊过程，研发了生物措施与工程措施相结合的水土流失防治技术体系；五是建立了典型岩溶山区生态重建模式；六是建立了岩溶峰丛山地脆弱生态系统评价指标体系和评价模型；七是创建了广西石漠化区科学数据共享与决策支持平台。

15.重庆地区喀斯特山地退化生态系统恢复与重建技术开发研究报告

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摘要：本研究系统分析重庆地区地质、地形、土壤、水文、植被和地球化学特定背景下的生态环境问题现状及发展态势，深入研究生态系统退化机理，科学规划喀斯特生态脆弱区退化生态系统恢复与重建的整治方案与实施策略，筛选集成现有生态系统综合治理技术，开发创新退化生态系统整治的关键技术，实现重庆地区喀斯特山地退化生态系统综合整治技术与模式的示范与推广。

1. 针对重庆地区石漠化严重、植被恢复困难的特点，在对当地生态系统退化机理和适生植物、优势种和种群生态学研究的基础上，选择不同退化生态系统为对象，主要研究高效封山育林的时间空间规律、优选合理的人工诱导方案（物种筛选、种苗基地建设、适生乡土植被等）、制定林草植被的配置原则及实施技术，开展植被恢复的关键技术研究与示范。

2. 针对农田水土流失严重的问题，以土壤肥力生物热力学理论为基础，结合岩溶生态脆弱区种植模式的调整，进行土壤快速培肥、退化农业土壤质量定向培育以及地力调控技术研究，在进行有效土地整改的基础上，研究农耕区以水土保持为目标的耕作制度、农田管理措施，建立农耕地水土保持模式，并开展示范。

3. 针对地表水资源极度亏缺，地下水利用困难等问题，选择典型流域进行定位监测，在岩溶水赋存介质的特性、含水介质结构特征、地表水与地下河的水文过程及其补给、排泄和相互转换机制研究的基础上，揭示重庆地区降水资源化潜力、水资源形成机制及地下水循环规律，研究雨水集蓄技术及喀斯特水的赋存

规律与合理开发利用模式，并对水质安全与水处理关键技术进行攻关，开展试验示范。

4. 针对喀斯特山地水土保持、水资源利用与生态型农业协调发展的要求，在生态敏感性和适宜性分析的基础上，根据气候，植被，土壤及地质地貌等环境因素特点，重点进行特色林果、优质高产中药材等生物资源的筛选、培育、养殖及产业化经营技术的研究与示范。对其他特色资源进行综合开发，延伸特色产品的产业链，因地制宜，构建喀斯特山地特色生态产业。

5. 以提高生态自然生产力和区域农民、农业的可持续发展为核心目标，落实技术成果，研究适合喀斯特山地的庭园经济和生态农业模式，建立生态效益与经济效益和社会效益三位一体的综合整治示范工程。遵循可持续发展和效益优先的原则，培养示范区的自生能力，探索生态产业的经营和可持续发展管理模式及其推广机制与保障体系。

16.西南喀斯特山地石漠化与适应性生态系统调控研究最终报告

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摘　　要：本研究瞄准西南喀斯特山区石漠化过程和适应性生态修复的基础理论问题，以西南喀斯特不同生态环境区典型小流域为研究对象，从研究喀斯特山地石漠化过程/机理和时空变化出发，以岩石/土壤/水/生物圈层相互作用过程及其对石漠化的响应为科学核心，重点研究喀斯特山地石漠化过程中的水土流失、生态系统退化的生物地球化学作用、生物适应对策和物种优化配置理论，服务功能优化和区域社会发展。主要研究成果如下：

1）从西南喀斯特地质地理演化出发，阐述了石漠化的时空演化规律，建立地块-景观-区域石漠化等多尺度空间综合评价指数，描述石漠化景观格局变化的模型，预测潜在环境影响下石漠化演变趋势。

2）系统利用径流场、核素等研究，提出了土地石质化是石漠化核心的观点，首次通过研究提出了我国西南喀斯特山地水土流失的可允许流失量，提出了“因土因水制宜”的喀斯特石漠化垂直分带治理模式和向国家提出了“解决我国喀斯特石漠化地区农田干旱缺水问题的建议”，并获得国务院领导的重要批示。

3）系统揭示了不同石漠化阶段生态系统土壤的水分和养分分布特征及其与地形地貌之间的关系，综合利用同位素和植物生理生态学方法研究揭示了不同喀斯特生态环境下的植物生态耗水规律，首次构建了涉及多种径流成分的植被-土壤、裂隙-水文相互作用的分布式水文模型，揭示了养分循环及耦合循环与植被覆盖变化的内在生物地球化学过程机理。

4）比较完整地在不同水平上研究了植物对频繁发生的干旱胁迫、土壤缀块分布和钙含量高等的适应性；基于对不同石漠化阶段植物群落物种组成和植物群落演替规律的系统分析，揭示了不同石漠化阶段喀斯特植被的生物多样性、生物量与生产力特征、影响植被恢复的关键因素；建立了不同立地类型下石漠化生态修复的物种及群落结构配置模式，提出了喀斯特石漠化植被生态恢复与适应性修复的相关建议。

5）从景观格局变化特征分析入手，对喀斯特区域生态服务功能进行了定量评估，提出了不同干扰强度下喀斯特生态系统服务功能提升的综合调控途径；并进行了景观格局优化配置预案多目标评价，提出适应型景观生态设计。

17.西南湿润区深水湖泊生态系统演化及突变与早期信号判识研究报告

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摘　　要：本研究针对全球变化和人类活动不断加强下湖泊与湿地生态系统的变化以及所触发的环境问题，以西南湿润区深水湖泊生态系统为例，调查了该地区湖泊生态系统特点；研究了区域内湖泊生态系统百年来的演化过程，揭示了不同海拔深水湖泊的营养水平的长期变化特点；研究了该地区典型湖泊生态系统演化过程中突变的原因以及突变过程中早期信号的表现形式；并定量区分了人类活动和气候变化对生态系统的演化的贡献。通过该项目的研究，辨识出西南湿润区典型湖泊生态系统特征和驱动因子以及二者之间的关系；指出 flickering 现象可能指示了强烈干扰下生态系统突变，并且系统变率的升高可以作为早期信号预警突变点的接近；该研究同时认为，相对于气候变化，人类活动影响生态系统状态的变化的比重越来越重。该项目为综合利用现代湖泊监测数据、古湖沼学手段和模拟手段，开展复杂生态系统长期变化研究提供了范例，进一步认识了全球变化和人类活动加强的背景下，湖泊生态系统的演化方向。

18.湖泊与湿地生态系统对全球变化的响应及生态恢复对策研究

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摘　　要：开展了不同研究区 110 个典型湖泊与湿地生态与环境调查与监测，初步建立了表征不同区域典型湖泊/湿地生态系统结构的指标体系，阐明了生态系统重建代用指标与关键环境因子关系；提出了生态系统突变与早期信号判识方法；建立了过去 2000 年来典型湖泊/湿地高分辨率理化与生物/生物标志物指标序列，探讨了生态系统特征与生物多样性演化历史。 通过对湖泊及其补给径流的系统监测，确认了冰川融水对湖水理化性质和介形种群结构的决定性作用。通过面上调查确认了浮游动物对湖泊盐度和冰融水输入的响应。首次建立了适用于青藏高原的长链不饱和烯酮-温度转换方程，初步确定了不同补给类型湖泊中西藏溞壳体数量与湖泊环境变化的关系。研究揭示了东部浅水湖泊碳埋藏规律，指出长江中下游湖泊有机碳埋藏量随面积的增加呈现对数递减的规律，首次估算出长江中下游浅水湖群碳埋藏总量：自 1850s 以来有机碳埋藏量达 80*1012g C，其埋藏效率为该流域土壤的 3.4 倍，为国家相关政策的制定、国际政府间的谈判提供了有力的数据支撑。尝试用全球古气候模型降尺度到鄱阳湖流域，重建鄱阳湖流域 1000 年气候变化，并由此驱动水文模型，揭示湖泊流域的水文生态过程。在流域水文模拟方面，采用 WATLAC 模型，首次完成了鄱阳湖千年古气候-水文连续模拟计算。 以云南洱海为例，采用古湖沼和现代湖泊监测数据并结合模型，分析研究了洱海富养化过程中生态系统结构的转换特点，探讨了湖泊生态系统突变的早期信号表征，揭示了在强烈干扰条件下，生态系统在突变前存在频繁波动特征，即 flickering 现象。该研究为生态系统发生突变的早期信号提取提供重要理论依据。研究同时认为，在评估生态系统安全性方面，应更加重视 flickering 现象的出现。该项研究为利用古湖沼学和模拟手段，开展复杂生态系统长期变化研究提供了新思路。

19.河口生态系统对重大水利工程的响应过程和机理研究

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摘　　要：为了研究长江口在水沙及河貌、盐度、水质、气候的变化作用下长江口主要浮游植物、浮游动物、底栖生物、鱼类以及滩涂植被的群落结构的响应过程和机理，掌握长江口生态系统结构和功能在变化环境下的演变规律，本研究采用机理研究、统计、数据挖掘的方法建立生物种群变化对环境变化的响应模型，并与水环境模型耦合，研究在重大水利工程影响下的长江口生物群落变化规律。收集了长江口的水文、水环境和生物数据，分析了长江口水质和初级生产力的时空分布，初步掌握了其变化规律；以 Elcirc 和 Shelf 开源水动力模型为基础，初步建立了基于无结构网格的长江口水动力模型，在此基础上基于相关水质和生态转化理论分别进一步开发了水质模型。研究为下一步工作奠定了良好的基础。

20.湿地系统生态需水机理、模型与配置研究

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摘　　要：由于高强度人类活动的扰动，我国湿地面临着生态需水严重短缺、水环境功能退化和水生态过程的变异的环境风险和生态危机，有效处理好湿地与水的关系即生态需水问题，进一步协调生产、生活和生态用水的冲突，具有重要的战略意义。本研究以湿地生态需水机理－模型－配置－调度为主线，在以下四方面取得了创新性成果：

（1）阐明了湿地生态系统横向水文梯度差异、纵向流量过程变化以及垂向水位波动对湿地生态系统的影响，重点揭示了垂向水文过程影响下的生态需水动力机制；阐释了植被密度对湿地芦苇蒸散发耗水的影响机理；阐明了地下水位埋深对湿地土壤水盐及蒸散发生理生态要素的影响，提出了湿地生态系统的水盐胁迫阈值。

（2）考虑河流、湖沼及河口等不同类型湿地间水文过程的连通性，提出了区域尺度湿地生态需水整合模型，进而建立了体现湿地生态系统整体平衡要求的多过程生态需水整合模型；基于不同水文学或水力学条件对湿地生态服务功能的影响，提出了多功能生态需水整合模型，为湿地生态需水机理与水资源管理的有效衔接提供了技术手段。

（3）引入网络环度和连通性指标构建了生态水系网络，形成了基于湿地内部网络结构优化的生态需水配置模型；创建了“三生”用水系统网络结构可持续性水平指数，提出了基于网络结构可持续性水平的“三生”用水优化配置模型；

以“三生”用水协调配置为目标，构建了综合多目标满意度的“三生”用水协调配置模型，支撑生态需水的合理分配。

（4）提出了兼顾人类和生态需求的水库兴利库容确定技术和水库生态调度图优化技术，明确了适宜水文情势扰动范围内的河流最大可供水量，发展了面向河流生态流量过程的水库生态调度技术；从非工程措施角度，构建了基于投入产出方法的水足迹核算模型，提出了水足迹强度指数，明确了流域不同年份各部门水足迹以及虚拟水贸易量，实现了虚拟水战略实施合理性评价。 研究成果对提出面向湿地生态保护与修复的生态补水策略、生态需水配置模型、水利工程调度模式等提供直接的支持。为湿地保护、流域水资源管理中，为实现区域生态保护与社会经济协调发展提供切实可行的理论和技术方法的支持。

21.湿地生态系统保护与恢复技术试验示范最终报告

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摘　　要：本研究紧密结合全国湿地保护工程实施规划，采用生态工程及生物技术，重点解决湿地保护与恢复中的关键技术难点，建立系统、先进、适用的技术体系和试验示范基地，为扭转我国湿地保护与管理工作中缺乏实用技术的局面，保护现有湿地、遏制湿地污染、逐步恢复退化湿地生态系统的结构和功能，为使湿地达到的自我持续状态，为改善区域生态环境、维护区域生态安全提供强有力的技术支撑。 研究任务包括：1、典型湿地保护技术试验示范，包括湿地保护的功能区划技术试验、湿地关键动植物物种的保护技术试验示范、湿地生态补水技术示范；2、污染湿地的生态修复技术试验示范，包括植物净化功能试验示范、“人工浮岛”技术试验、污染湿地生境修复试验示范；3、退化湿地生态恢复技术试验示范，包括湿地植被恢复技术示范、湿地基底恢复试验示范、岸带护坡技术试验示范；4、典型湿地可持续综合利用技术试验示范，包括城市与近郊湿地景观生态建设与管理技术试验示范、人工湿地高效生态利用技术研究与示范。本研究创新应用技术“干旱半干旱区湿地补水技术”、“鹤类保护技术”、“迹地型退化湿地保护技术”、“污染湿地级联耦合技术”等 12 项；提出湿地恢复模式 24 种，建立试验示范区 11 个，面积达 30 265 亩；提出污染湿地净化技术 2 项，典型湿地保护技术规程 4 项；创新“退化湿地恢复技术体系”等技术集成 7 套，为典型湿地保护、污染湿地生态修复、退化湿地生态系统恢复以及典型湿地可持续综合利用提供了强大的科技支撑。

22.黄河重要水源补给区湿地生态系统修复技术

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摘　　要：玛曲湿地是黄河源区水源补给最为关键地段。湿地面积从上世纪七十年代的 100 万亩萎缩至目前的 30 万亩左右，沼泽湿地更是以每年 60 公顷的速度消失。水源补给量减少，流入黄河的 27 条主要支流中，已有 11 条常年干涸，另有不少成了季节河。玛曲退化湿地的保护和修复，直接关系到我国黄河的水源补给及高寒湿地生物多样性的保护，意义重大。因此，本研究依据任务合同书针对玛曲湿地开展了相关监测及研究工作。通过 3 年多的研究，已完成本研究相关考核指标，取得如下主要成果：调查分析了首曲湿地土壤和植物群落特征，建立湿地生态系统关键性量化指标；提出不同退化程度的湿地植被快速恢复技术体系和合理放牧模式，建立示范区 400 公顷；根据湿地植物群落演替规律，提出由高生产力功能转向高效保水性功能的植被管理技术体系；首次提出联户经营模式，提出了相应的高寒湿地保护模式一套；筛选出玛曲湿地低耗高效型水分利用植物，提出退化湿地人工建植技术体系；以湿地植物繁殖物候对环境变化的敏感性为核心，首次提出湿地植物群落中毒杂草和高耗水植物数量的安全阈值；建立毒杂草和高耗水植物危害的中、长期预警技术。

23.黄河生态系统保护目标及生态需水

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摘　　要：为了探索黄河生态系统保护的目标和规模，确定相应的生态需水的课题研究目标，完成研究提出的研究任务，本研究围绕研究目标开展了以下主要工作：分析黄河流域天然植被演替过程及其需水量；阐明黄土高原侵蚀环境演变；对流域自然生态系统进行分区，提出流域生态系统保护目标；分析河流生态系统保护规模及其径流条件要求，为维护黄河健康生命提供可行的技术支撑。 黄河流域天然植被演替过程及其需水量研究的核心内容包括：①1950s-1970s 黄河流域天然植被状况推演模拟技术及空间分布状况历史重建；②生态用水与耗水量过程的动态监测技术及黄河流域 20 世纪 50 年代以来植被生态用水量定量模拟。黄土高原侵蚀环境演变规律研究核心内容包括：①基于监测数据的黄土高原降水、植被、径流和侵蚀产沙等环境因子的时空变化规律；②黄土高原影响侵蚀的环境分区；③黄土高原近万年来的侵蚀环境推演技术研究及典型时段的降水、植被等侵蚀环境推演；④黄土高原全新世以来的土壤侵蚀强度和黄土高原土壤侵蚀强度的空间分异研究。 黄河流域主要生态系统保护目标核心内容包括：①生态水文分区，②基于生态水文分区的主要生态系统保护目标的定量分析。 黄河河流生态系统保护目标及相应径流条件核心内容包括：①研究黄河和沿黄典型湿地生态系统和物种的生物多样性、生态学特征和生态功能定位；②确定黄河河流生态系统保护目标及相应径流条件。

24.黄河水源补给区生态系统空间格局与动态监测

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摘要：在对玛曲县及甘南全州高寒生态系统时空格局及其演变历史与趋势、高寒生态系统对气候的响应及退化主导因素、高寒生态系统生态承载力与优化调控及恢复治理总体方案、国家生态保护项目区及玛曲高寒生态系统动态监测与恢复成效量化评估技术研究基础上，该研究解决的关键技术问题包括：玛曲县及甘南全州高寒草地适宜载畜量遥感快查技术、草—畜平衡监测与评估技术、基于植被盖度的草—畜平衡直观监测与评估技术、高寒生态系统退化监测技术、草地质量评价指标、高寒草地生态风险评估技术。依据研究任务合同书，通过近 3 年多的研究，研究组从高寒生态系统时空格局及其演变历史与趋势、高寒生态系统对气候的响应及退化主导因素、高寒生态系统生态承载力与优化调控及恢复治理总体方案、国家生态保护项目区及玛曲高寒生态系统动态监测与恢复成效量化评估技术 4 个方面全面开展了相关监测及研究工作，已全面完成研究目标及任务。在地面监测点及试验区的动态监测研究基础上，提出提高高寒草地生态承载力的技术方案；在动态监测近 10 年甘南草地畜牧业及社会经济发展状况基础上，提出玛曲县及甘南全州草—畜平衡监测与评估技术体系；提出高寒生态系统退化监测方法及技术体系和应用普及模式；提出玛曲县及甘南全州项目实施成效长期监测和量化指标体系；提出“高寒草地适宜载畜量遥感快查技术体系”行业标准；提出了高寒牧区生态风险评价和生态健康评价标准及方法。

25.草地生态系统适应性管理研究

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摘　　要：以北方草地和生态系统为研究对象，在生态系统尺度上阐明了草地生态系统功能的生态学调控与维持机理，草地管理措施、干扰与外来物种引入等对生态系统功能的负效应与正向调控，在景观尺度上阐明了生态系统管理的综合途径。研究结果如下： 1. 草地生态系统根系生长和死亡变化的主要原因是气候变化导致的生态系统总生产力和地下碳分配的变化，草原植物根系生长、死亡和现存量的变化规律及其影响因素是预测生态系统对气候变化的反馈以及生态系统管理模式调整的关键。 2. 气候变化不仅使草地生产力降低，而且使冷温带荒漠灌丛进入寒温带草原，寒温带湿润森林和北温带湿润森林向东北部移动，与中国北方天然草原和森林面积减少相一致。 3. 枯枝落叶在草原管理过程中具有重要意义，定量研究典型草原枯枝落叶对草原植被不同植物功能群组的影响发现，枯枝落叶可以改变草地植物群落植物种类组成，可通过改变枯枝落叶量的草原管理措施达到管理草地的目的。 4. 植物群落的稳定性和物种多样性与群落生产力的关系受不同施肥种类和强度的影响，该结论可以精准的调控草地适应性管理中的施肥种类及施肥量。 5. 在家庭牧场尺度，通过草地实时动态监测，定量划分草地资源健康等级，提出了适宜北方牧区夏季放牧冬季舍饲（3 个月）的新型家庭牧场生态草原畜牧业生产经营模式，是草地适应性管理的新途径。6. 利用饱和链烷技术结合近红外光谱技术（NIRS）可以有效的预测放牧状态下绵羊采食成分中各类牧草的比例，对草畜系统的精准管理具有重要意义。

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