图书基本信息

- 书名: <<中国至2050年海洋科技发展路线图>>
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内容概要

As one of the eighteen field-specific reports comprising the comprehensive scope of the strategic general report of the Chinese Academy of Sciences, this sub-report addresses long-range planning for developing science and technology in the field of marine science. They each craft a roadmap for their sphere of development to 2050. In their entirety, the general and sub-group reports analyze the evolution and laws governing the development of science and technology, describe the decisive impact of science and technology on the modernization process, predict that the world is on the eve of an impending S&T revolution, and call for China to be fully prepared for this new round of S&T advancement. Based on the detailed study of the demands on S&T innovation in Chinas modernization, the reports draw a framework for eight basic and strategic systems of socio-economic development with the support of science and technology, work out Chinas S&T roadmaps for the relevant eight basic and strategic systems in line with Chinas reality, further detail S&T initiatives of strategic importance to Chinas modernization, and provide S&T decision-makers with comprehensive consultations for the development of S&~ innovation consistent with Chinas reality. Supported by illustrations and tables of data, the reports provide researchers, government officials and entrepreneurs with guidance concerning research directions, the planning process, and investment. Founded in 1949, the Chinese Academy of Sciences is the nations highest academic institution in natural sciences. Its major responsibilities are to conduct research in basic and technological sciences, to undertake nationwide integrated surveys on natural resources and ecological environment, to provide the country with scientific data and consultations for governments decision-making, to undertake government- assigned projects with regard to key S&T problems in the process of socio-economic development, to initiate personnel training, and to promote Chinas high-tech enterprises through its active engagement in these areas.

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章节摘录

插图:1) Theme 1: Natural and cultural marine resource management. Include: understanding the status and trends through accurate and timely comprehensiveassessment of accumulation and distribution of marine resources; forecasting the stability and sustainability of marine resources through the understanding of the relationship between the marine species and habitats of the environment; understanding possible impact from human development on the stability and sustainability of marine resources; applying advanced knowledge andtechnology, and benefiting from a variety of natural resources from the openocean, coastal zone and the Great Lakes.2) Theme 2: To improve the resilience of natural disasters. Include:understanding the occurrence of natural disasters and the mechanism and improving the forecasting ability to the future disaster events; understandingcoastal and marine system responses to natural disasters to assess the futureshortcomings against natural disasters; developing multi-hazard assessment and the mitigation model, policies, and strategies.3) Theme 3: The implementation of operations at sea. Include: understanding the interaction between maritime operations and theenvironments; with the characteristics of influential environmental factors onmarine operation, predicting the oceans state; making use of environmentalimpact and sea operations to improve the marine transport system.4) Theme 4: The role of the oceans in the climate system. Include:understanding the interaction between ocean and the climate system indifferent regions; understanding the impact of climate variability and changeon the oceans, the marine ecosystem, and the biogeochemical cycles; predictingthe future climate change and its impact on the marine impact based on the understanding of the oceans.5) Theme 5: To improve the level of ecosystem health. Include:understanding and predicting the course of nature and human activities onecosystems; assessing the impact of various human developments on ecosystemsthrough understanding the natural and human activity, socio-economicevaluation, and the simulation; by strengthening the understanding of marineecosystem, applying appropriate indicators and measurements on sustainableuse and effective management.6) Theme 6: To improve the level of human health. Include: understandingthe formation and development of human health-threatening marine disasters; understanding ocean-related human health risks and the potential benefits of marine resources to the human health; understanding how to use and assess marine resources, as well as how human activities can prevent thehealth hazards from the oceans; through understanding marine ecosystems and biodiversity, developing marine products and the biological model.

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