

Ecosystem Dynamics

From the past to the future

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This book examines terrestrial ecosystem dynamics from the past and into the future. Many ecosystems today are responding to the dual pressures of rapid climate change and intensified human impact and this analysis places these changes in a temporal context to show the past state of ecosystems and explore where they might be headed. A major theme is the dynamic interaction between human societies and ecosystem functioning and services. The book offers a special analysis of the cultural services provided by ecosystems through time. Data and insights from the last 10 000 years are used to place present-day ecosystem status into a temporal perspective and to test models that generate forecasts of future conditions.

There are detailed descriptions of research tools such as ecosystem and bioclimatic models, and the authors introduce the data used for the analysis of ecological processes past, present and future. Various types of future scenario are discussed and some sociological aspects are covered in addition to ecological and climatic issues. The analyses of trends in biodiversity highlight some emergent principles for conservation and generate suggestions of how to handle dynamic processes in land management.

The book is authoritative but accessible and provides a useful background for undergraduate and postgraduate students of geography, geology, environmental sciences, conservation, ecology, biology and paleoecology, as well as practitioners and researchers interested in the balance between culture and nature and in future sustainable management of terrestrial ecosystems.

- Unique in its long timescale (last 10 000 years), this text places modern ecosystems within a dynamic perspective
- Unites key aspects from bioscience and Earth science in an innovative and relevant manner
- Includes palaeodata-model comparisons to test the ecosystem models used to forecast future conditions
- Describes interactions between society and ecosystem functions and services
- Provides temporal analysis of ecosystem services to generate insight into future sustainable management of terrestrial ecosystems
- Describes the implications of ecosystem dynamics for conservation biology
- Full colour throughout, including maps, tables, figures and photographs
- Global case studies
- Companion Web site

Companion Website

A companion website with additional resources is available at www.wiley.com/go/bradshaw/sykes/ecosystem



Also available
as an e-book

Cover design: Cylinder

WILEY Blackwell

www.wiley.com/wiley-blackwell

ISBN 978-1-119-97077-4



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