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Altri autori (Persone)	MichenerRobert H LajthaKate
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Nota di contenuto	Stable Isotopes in Ecology and Environmental Science; Contents; Contributors; Abbreviations; Introduction; 1. Stable isotope chemistry and measurement: a primer; Introduction; What isotopes are, what makes them distinct; Properties of ecologically useful stable isotopes; Technological advances and current trends in the ecological use of isotopes; Acknowledgments; References; 2. Sources of variation in the stable isotopic composition of plants; Introduction; Carbon isotopes; Nitrogen isotopes; Hydrogen and oxygen isotopes; Conclusions; References 3. Natural 15N- and 13C-abundance as indicators of forest nitrogen status and soil carbon dynamicsIntroduction; Significance of 15N-abundance to soil carbon sequestration; Vertical changes in soil 13C-abundance and soil carbon dynamics; Conclusions; Acknowledgments; References; 4. Soil nitrogen isotope composition; Introduction; Sources of variation in soil d15N; Patterns of soil nitrogen isotope composition;

Conclusions; References; 5. Isotopic study of the biology of modern and fossil vertebrates; Introduction; Vertebrate tissues in the fossil record
Controls on the isotopic composition of vertebrate tissuesPreservation of biogenic isotope compositions by vertebrate fossils; Paleobiological applications; Conclusions; A post-script on workshops and literature resources; References; 6. Isotopic tracking of migrant wildlife; Introduction; Basic principles; Marine systems; Terrestrial systems (excluding deuterium); Using deuterium patterns in precipitation; Conclusions; References; 7. Natural abundance of 15N in marine planktonic ecosystems; Introduction; Background; Isotopic variation in marine nitrogen
Source delineation and isotope budgetsAnimal fractionation and food web processes; Isotopic transients in marine systems; Compound-specific nitrogen isotope analyses; Conclusions; Acknowledgment; References; 8. Stable isotope studies in marine chemoautotrophically based ecosystems: An update; Introduction; Isotopic tracing of carbon at methane seeps; Whale falls; Hydrothermal vents; Conclusions; References; 9. Stable isotope ratios as tracers in marine food webs: An update; Introduction; Methods of assessing food webs; Phytoplankton and particulate organic carbon
Phytoplankton and particulate organic nitrogenMarine food webs; Stable isotopes in marine conservation biology; Conclusions; Acknowledgments; References; 10. Stable isotope tracing of temporal and spatial variability in organic matter sources to freshwater ecosystems; Introduction; Overview of river food webs and stable isotope approaches; Stable isotope ratios of organic matter sources in stream ecosystems; C, N, and S isotopic variability and its applications in river ecology; Conclusions; Acknowledgments; References; 11. Stable isotope tracers in watershed hydrology; Introduction
Basic concepts in watershed hydrology

Sommario/riassunto

This book highlights new and emerging uses of stable isotope analysis in a variety of ecological disciplines. While the use of natural abundance isotopes in ecological research is now relatively standard, new techniques and ways of interpreting patterns are developing rapidly. The second edition of this book provides a thorough, up-to-date examination of these methods of research. As part of the Ecological Methods and Concepts series which provides the latest information on experimental techniques in ecology, this book looks at a wide range of techniques that use natural abundance iso