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Nota di contenuto	The Carbon Cycle in Yanqi Basin and Bosten Lake: Introduction -- Introduction of the Yanqi Basin and Bosten Lake -- Climate Change Over the Past 50 Years in the Yanqi Basin -- Characteristics of Soil Organic Matter and Carbon and Nitrogen Contents in Crops/Plants: Land Use Impacts -- Dynamics of Soil CO2 and CO2 Efflux in Arid Soil of Yanqi Basin -- Land Use Impacts on Soil Organic and Inorganic Carbon and Their Isotopes in the Yanqi Basin -- Distribution of Pedogenic Carbonate and Relationship with Soil Organic Carbon in Yanqi Basin -- Spatial Distribution of Organic Carbon in Surface Sediment of Bosten Lake -- Temporal Variability of Carbon Burial and the Underlying Mechanisms in Bosten Lake Since 1950 -- Carbon Sequestration in Arid Lands: A Mini Review.

Sommario/riassunto

This book integrates the analyses of organic carbon and carbonate accumulation in soil and lake sediment in a typical arid region of China that has experienced significant climate and land-use changes. It demonstrates that carbonate accumulation greatly exceeds organic carbon in both soil and sediment. It also shows that intensive cropping with sound land management in the arid land not only increases soil organic carbon stock, but also enhances accumulation of soil carbonate, particularly in subsoils. Carbon accumulation in the lake sediment increased between 1950 and 2000, after which it declined, and the authors explore how human activity and climate change may have caused the changes in carbon burial in the lake sediment. This book is of interest to researchers in a number of fields such as soil science, limnology and global change, as well as to the policy-makers.