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Nota di contenuto	An introduction to combustion in organic materials -- Smouldering fires in natural fuels -- Experimental understanding of wildland fires -- Wildland fire behaviour and danger ratings -- Satellite remote sensing of wildfires -- Understanding the ecological impacts of fires -- Plant adaptations to fire an evolutionary perspective -- Fire and the land surface -- Black carbon in soils and sediments -- Identifying past fire events -- A 21,000 year history of fire -- A 450 million year history of fire -- The atmospheric impact of wildfires -- Experiments on atmospheric oxygen and fire -- Fire feedbacks on atmospheric oxygen -- Biochar and carbon sequestration.
Sommario/riassunto	Fire plays a key role in Earth system processes. Wildfires influence the

carbon cycle and the nutrient balance of our planet, and may even play a role in regulating the oxygen content of our atmosphere. The evolutionary history of plants has been intimately tied to fire and this in part explains the distribution of our ecosystems and their ability to withstand the effects of natural fires today. Fire Phenomena and the Earth System brings together the various subdisciplines within fire science to provide a synthesis of our understanding of the role of wildfire in the Earth system. The book shows how knowledge of fire phenomena and the nature of combustion of natural fuels can be used to understand modern wildfires, interpret fire events in the geological record and to understand the role of fire in a variety of Earth system processes. By bringing together chapters written by leading international researchers from a range of geological, environmental, chemical and engineering disciplines, the book will stimulate the exchange of ideas and knowledge across these subject areas. Fire Phenomena and the Earth System provides a truly interdisciplinary guide that can inform us about Earth's past, present and beyond. Readership: Advanced students and researchers across a wide range of earth, environmental and life sciences, including biogeochemistry, paleoclimatology, atmospheric science, palaeontology and paleoecology, combustion science, ecology and forestry.