

1. Record Nr.	UNINA9910768456303321
Autore	Ussiri David A. N
Titolo	Carbon Sequestration for Climate Change Mitigation and Adaptation // by David A. N. Ussiri, Rattan Lal
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-53845-4
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIV, 549 p. 57 illus., 53 illus. in color.)
Disciplina	577.27
Soggetti	Environment Soil science Agriculture Environmental Sciences Soil Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Chapter 1: Introduction: Climate Overview -- Chapter 2: Variability and Change In Climate.-Chapter 3: Introduction to Global Carbon Cycling: An Overview of the Global Carbon Cycle -- Chapter 4: The Global Carbon Inventory -- Chapter 5: Historical Perspectives of the Global Carbon Cycle -- Chapter 6: The Modern Carbon Cycle -- Chapter 7: Historical and Contemporary Global Methane Cycling -- Chapter 8: Mitigation of Climate Change: Introduction -- Chapter 9: Introduction to Terrestrial Carbon Sequestration -- Chapter 10: Greenhouse Gas Mitigation Under Agriculture and Livestock Landuse -- Chapter 11: Global Forests Management for Climate Change Mitigation -- Chapter 12: The Role of Bioenergy in Mitigating Climate Change -- Chapter 13: Carbon Capture and Storage in Geologic Formations.
Sommario/riassunto	This volume sets out the scientific basis for the current understanding of climate change. It synthesizes and collates an extensive scientific knowledge to show why climate is changing, and the consequences of those changes. Starting with global carbon cycling over geological history of the Earth, the behavior of the carbon cycle is traced back millions of years prior to human influence and shows that the current

atmospheric concentration of carbon dioxide is unprecedented, which cannot be found in geological records of at least the past two million years. This book sets the foundation for understanding the contemporary carbon cycling, and shows that the contemporary carbon cycling cannot be isolated from geologic history of carbon cycle. This volume also describes the role of carbon sequestration – both natural ecological, engineered and geoengineered options – for mitigating the increasing atmospheric CO<sub>2</sub> concentration. The role of emerging chemical sequestration and climate engineering as future alternatives to avoid dangerous temperature increase are explored. Although the targeted audience is the educators, students, researchers and scientific community, the simplified analysis and synthesis of current and up to date scientific literature makes the volume easier to understand and a tool policy makers can use to make an informed policy decisions.

---