

1. Record Nr.	UNINA9910820745603321
Titolo	Climate change [[electronic resource]] : observed impacts on planet Earth // edited by Trevor M. Letcher
Pubbl/distr/stampa	Amsterdam, : Elsevier, 2009
ISBN	1-282-73752-X 9786612737527 0-08-093303-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (493 p.)
Altri autori (Persone)	LetcherT. M (Trevor M.)
Disciplina	363.73874 551.6 22
Soggetti	Climatic changes Climatic changes - Environmental aspects Global environmental change
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Climate Change: Observed Impacts on Planet Earth; Copyright; Contents; Foreword; Preface; Contributors; Introduction; Part I: Possible Causes of Climate Change; Chapter 1: The Role of Atmospheric Gases in Global Warming; 1. Introduction; 2. Origin of the Greenhouse Effect: 'Primary' and 'Secondary' Effects; 3. The Physical Chemistry Properties of Greenhouse Gases; 4. The Lifetime of a Greenhouse Gas in the Earth's Atmosphere; 5. General Comments on Long-Lived Greenhouse Gases; 6. Conclusion; Acknowledgements; References Chapter 2: The Role of Widespread Surface Solar Radiation Trends in Climate Change: Dimming and Brightening1. Introduction; 2. Solar Radiation and its Measurement; 3. Trends in Surface Solar Radiation or Global Dimming and Brightening; 4. The Causes of Dimming and Brightening; 5. The Influence of Solar Radiation Changes (Dimming and Brightening) on Climate; 6. Conclusions; References; Chapter 3: The Role of Space Weather and Cosmic Ray Effects in Climate Change; 1. Introduction; 2. Solar Activity, Cosmic Rays and Climate Change 3. The Influence on the Earth's Climate of the Solar System Moving

Around the Galactic Centre and Crossing Galaxy Arms4. The Influence of Molecular-dust Galactic Clouds on the Earth's Climate; 5. The Influence of Interplanetary Dust Sources on the Earth's Climate; 6. Space Factors and Global Warming; 7. The Influence of Asteroids on the Earth's Climate; 8. The Influence of Nearby Supernova on the Earth's Climate; 9. Discussion and Conclusions; Acknowledgments; References; Chapter 4: The Role of Volcanic Activity in Climate and Global Change; 1. Introduction
2. Aerosol Loading, Spatial Distribution and Radiative Effect3. Volcanoes and Climate; 4. Summary; Acknowledgements; References; Chapter 5: The Role of Variations of the Earth's Orbital Characteristics in Climate Change; 1. Introduction; 2. Astronomical Parameters; 3. Orbital-Induced Climate Change; 4. Conclusion; References; Part II: A Geological History of Climate Change; Chapter 6: A Geological History of Climate Change; 1. Introduction; 2. Climate Models; 3. Long-Term Climate Trends; 4. Early Climate History; 5. Phanerozoic Glaciations; 6. The Mesozoic-Early Cenozoic Greenhouse
7. Development of the Quaternary Icehouse8. Astronomical Modulation of Climate; 9. Milankovitch Cyclicity in Quaternary (Pleistocene) Climate History; 10. Quaternary Sub-Milankovitch Cyclicity; 11. The Holocene; 12. Climate of the Anthropocene; 13. Conclusions; Acknowledgement; References; Part III: Indicators of Climate and Global Change; Chapter 7: Changes in the Atmospheric Circulation as Indicator of Climate Change; 1. Introduction; 2. The General Circulation of the Atmosphere; 3. The Poleward Expansion of the Tropical Circulation; 4. The Decreasing Intensity of the Tropical Circulation
5. Emerging Mechanisms

Sommario/riassunto

The climate of the Earth is always changing. In the past it has altered as a result of natural causes. Nowadays, however, the term climate change is generally used when referring to changes in our climate which have been identified since the early part of the 1900's. The changes we've seen over recent years and those which are predicted over the next 80 years are thought to be mainly as a result of human behaviour rather than due to natural changes in the atmosphere.* gives all the scientific details of possible causes and all the scientific evidence we have for climate change, in one
