



Book | © 2022

Assessing the Antarctic Environment from a Climate Change Perspective

An Integrated Approach

[Home](#) > [Book](#)

Editors: [Neloy Khare](#)

Provides a comprehensive overview of Antarctic environmental changes in space and time

Discusses global trends and patterns in the climate change research in the Antarctic region

Details Cenozoic evolution of Antarctic ice sheet, circum-Antarctic circulation, and Antarctic climate

Part of the book series: [Earth and Environmental Sciences Library](#) (EESL)

6055 Accesses | **4** [Citations](#) | **11** [Altmetric](#)

Sections

[Table of contents](#)[About this book](#)[Keywords](#)[Editors and Affiliations](#)[Bibliographic Information](#)

This is a preview of subscription content, [access via your institution](#).

Table of contents (18 chapters)

Search within book

Front Matter

[PDF](#) ↓

Pages i-xxv

[Geopolitics, Environmental Change and Antarctic Governance: A Region in Need of a Transformative Approach to Science Diplomacy](#)

Dhanasree Jayaram

Pages 1-17

[Impact of Antarctic Science on Climate Change Research: Global Research Landscape](#)

Prabir G. Dastidar, Nelay Khare

Pages 19-35

[Climate Change Over the Antarctic and the Southern Ocean and Its Impact and Bearing on the Global Climate System](#)

Shabnam Choudhary, Nelay Khare

Pages 37-46

[Cenozoic Evolution of Antarctic Ice Sheet, Circum Antarctic Circulation and Antarctic Climate: Evidence from Marine Sedimentary Records](#)

Ashutosh K. Singh, Devesh K. Sinha, Vikram Pratap Singh, Kirtiranjana Mallick, Ankush Shrivastava, Tushar Kaushik
Pages 47-71

[Dronning Maud Land \(Antarctica\) and Reconstruction of Its Glacial History with Cosmogenic Radionuclides](#)

Waseem Ahmad Baba, Pankaj Kumar, Jitendra Kumar Pattanaik, Nelay Khare
Pages 73-95

[Late Quaternary Climate Change in Schirmacher Region, East Antarctica: As Revealed from Terrestrial Diamicts and Lacustrine Sediments](#)

Prakash Kumar Shrivastava, Rajesh Asthana, Sandip Roy
Pages 97-106

[A Review of the paleoclimatic Studies from Lake Sediments of Schirmacher Oasis, East Antarctica](#)

Pawan Govil, Abhijit Mazumder
Pages 107-126

[A Synthesis of Glacial-Interglacial Paleoenvironmental Records from Lake Sediments of Schirmacher Oasis, East Antarctica](#)

Anish Kumar Warriar, B. S. Mahesh, Joju George Sebastian, A. S. Yamuna Sali, Rahul Mohan
Pages 127-140

[Nutrient Cycling and Productivity in Antarctic Lakes](#)

Shabnam Choudhary, G. N. Nayak, Nelay Khare
Pages 141-152

[Chemical and Isotopic Characterization of Lakes in the Larsemann Hills, East Antarctica](#)

T. R. Resmi, Girish Gopinath, P. S. Sunil, M. Praveenbabu, P. Arjun, Rahul Rawat
Pages 153-166

[Effect of Ionosphere Scintillations on the Loss of Lock-In GPS Signals at Antarctica Region](#)

A. K. Gwal, Suryanshu Choudhary, Ritesh Yadav
Pages 167-187

[Study of Positional Error on Ionospheric Scintillation Over Antarctic Region and Loss due to Locking of GPS signal](#)

A. K. Gwal, Suryanshu Choudhary, Ritesh Yadav
Pages 189-205

[Climate Change and Seabirds: Insights from Ecological Monitoring of Snow Petrels in the Indian Antarctic Program](#)

Anant Pande, Kuppusamy Sivakumar
Pages 207-234

[Antarctic Lichen Response to Climate Change: Evidence from Natural Gradients and Temperature Enchantment Experiments](#)

Sanjeeva Nayaka, Himanshu Rai
Pages 235-253

[Higher Rate of Pigment Synthesis in Antarctic Plants: A Strategy of Survival Under UV Radiations](#)

Jaswant Singh, Rudra P. Singh, Rajni Khare
Pages 255-275

[Geoscience Studies in Antarctica by CSIR-National Geophysical Research Institute, Hyderabad](#)

Joshi K. Catherine, Ch Mohana Lakshmi, Amit Kumar, Saroj K. Mondal, V Rajesheswar Rao, Vineet K. Gahalaut
Pages 277-286

[Seismo-Geophysical Studies in the Antarctic Region: Geodynamical Implications](#)

O. P. Mishra
Pages 287-341

[Revealing the Contemporary Kinematics of Antarctic Plate Using GPS and GRACE Data](#)

P. S. Sunil, Ajish P. Saji, K. Vijay Kumar, M. Ponraj, S. Amirtharaj, Ajay Dhar
Pages 343-359

[Back to top ↑](#)

About this book

The present book covers diversified contributions addressing the impact of climate change on the Antarctic environment. It covers the reconstruction of environmental changes using different proxies. The chapters focus on the glacial history, glacial geomorphology, sedimentology, and geochemistry of Antarctic region. Furthermore, the Cenozoic evolution

of the Antarctic ice sheet is discussed along with a Scientometrics analysis of climate change research. The book serves as a useful reference for researchers who are fascinated by the polar region and environmental research.

[Back to top ↑](#)

Keywords

Antarctic glaciation **Organic pollutants**

Dronning Maud Land

aerosol characteristics

**Gravity Field and Steady-State Ocean
Circulation Explorer**

Environmental Impact

[Back to top ↑](#)

Editors and Affiliations

**Government of India, Ministry of Earth
Sciences, New Delhi, India**

Neloy Khare

[Back to top ↑](#)

Bibliographic Information

Book Title	Book Subtitle	Editors
Assessing the Antarctic Environment from a Climate Change Perspective	An Integrated Approach	Neloy Khare
Series Title	DOI	Publisher
Earth and Environmental Sciences Library	https://doi.org/10.1007/978-3-030-87078-2	Springer Cham
eBook Packages	Copyright Information	Hardcover ISBN
Earth and Environmental Science, Earth and Environmental Science (R0)	The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2022	978-3-030-87077-5 Published: 19 December 2021
Softcover ISBN	eBook ISBN	Series ISSN
978-3-030-87080-5 Published: 20 December 2022	978-3-030-87078-2 Published: 01 January 2022	2730-6674
Series E-ISSN	Edition Number	Number of Pages
2730-6682	1	XXV, 359
Number of Illustrations	Topics	
30 b/w illustrations, 108 illustrations in colour	Earth Sciences , Climate Change , Ecology , Environmental Social Sciences	

[Back to top](#) ↑

Not logged in - 14.139.244.10

UGC Trial Account (3000178880) - Mohanlal Sukhadia University (3000172241) - Convener, UGC-Infonet Digital Library Consortium (3000132959) - Information and Library Network (INFLIBNET) Centre (3994475188)

SPRINGER NATURE

© 2023 Springer Nature Switzerland AG. Part of [Springer Nature](#).