# Contents

List of Contributors ................................................................. xv

Part I Climate Change at Present

Science, Politics, and Public Perceptions of Climate Change .......... 3
Richard C. J. Somerville

Part II Paleoclimate

Paleoclimate Implications for Human-Made Climate Change ........... 21
James E. Hansen and Makiko Sato

Simulation of Glacial Cycles with an Earth System Model ............. 49
Andrey Ganopolski and Reinhard Calov

Modeling the Interglacials of the Last 1 Million Years ................. 57
André Berger and Qiuzhen Yin

Relating the Astronomical Timescale to the Loess–Paleosol Sequences in Vojvodina, Northern Serbia ........................................ 65
Slobodan B. Marković, Ulrich Hambach, Thomas Stevens, Biljana Basarin, Ken O’Hara-Dhand, Momčilo M. Gavrilov, Milivoj B. Gavrilov, Ian Smalley, and Nenad Teofanov

A Spatial View on Temperature Change and Variability During the Last Deglaciation: A Model Analysis ........................................ 79
Didier M. Roche, Hans Renssen, and Didier Paillard

Perspectives of Parameter and State Estimation in Paleoclimatology ................................................................. 93
André Paul and Martin Losch

A Brief History of the Astronomical Theories of Paleoclimates ....... 107
André Berger

Canon of Eccentricity: How Milanković Built a General Mathematical Theory of Insolation ..................................................... 131
Aleksandar Petrović
Exaggerated Milankovitch-Like Eccentricity Cycles and Extreme Exoplanet Climate Variation .................................................. 141
David S. Spiegel, Sean N. Raymond, Courtney D. Dressing,
Caleb A. Scharf, and Jonathan L. Mitchell

Part III  Ecohydrology, Water Resources and Climate Change

Aquatic Vegetation in River Floodplains: Climate Change Effects, River Restoration and Ecohydrology Aspects ............................ 149
Georg A. Janauer

Canadian Regional Climate Model as a Tool for Assessing Hydrological Impacts of Climate Change at the Watershed Scale ................ 157
Biljana Music, Daniel Caya, Anne Frigon, André Musy, René Roy, and David Rodenhuis

Analysis of the Changes of the Streamflows in Serbia Due to Climate Changes .................................................. 167
Dejan Dimkić and Jovan Despotović

Part IV  Regional Climate Modeling

Considerations of Domain Size and Large-Scale Driving for Nested Regional Climate Models: Impact on Internal Variability and Ability at Developing Small-Scale Details ........................................... 181
René Laprise, Dragana Kornic, Maja Rapaić, Leo Šeparović, Martin Leduc, Oumarou Nikiema, Alejandro Di Luca, Emilia Diaconescu, Adelina Alexandru, Philippe Lucas-Picher, Ramón de Elía, Daniel Caya, and Sébastien Biner

Value Added in Regional Climate Modeling: Should One Aim to Improve on the Large Scales as Well? ........................................ 201
Fedor Mesinger, Katarina Veljovic, Michael J. Fennessy, and Eric L. Altshuler

Eta Model Simulations and AMSR Images to Study an Event of Polynya at Terra Nova Bay, Antarctica ............................... 215
Sandra Morelli and Flavio Parmiggiani

Some Indicators of the Present and Future Climate of Serbia According to the SRES-A1B Scenario ........................................ 227
Aleksandra Krzžič, Ivana Tošić, Borivoj Rajković, and Vladimir Djurdjević

Index .......................................................... 241