Contents

1	Climate Change Modeling Methodology, Introduction	1
	Philip J. Rasch	
2	Coupled Climate and Earth System Models	5
	Peter R. Gent	
3	Cryosphere, Modeling of	31
	Cecilia M. Bitz and Shawn J. Marshall	
4	Oceanic General Circulation Models	63
	Jin-Ho Yoon and Po-Lun Ma	
5	Weather Prediction Models	89
	Julio T. Bacmeister	
6	Atmospheric General Circulation Modeling	115
	Philip J. Rasch	
7	Earth System Model, Modeling the Land Component of	139
	Guo-Yue Niu and Xubin Zeng	
8	Integrated Assessment Modeling	169
	James A. Edmonds, Katherine V. Calvin, Leon E. Clarke, Anthony C. Janetos, Son H. Kim, Marshall A. Wise, and Haewon C. McJeon	
9	Regional Climate Models	211
	L. Ruby Leung	
10	Climate Change Projections: Characterizing Uncertainty Using Climate Models	235
	Ben Sanderson and Reto Knutti	

11	Climate Predictions, Seasonal-to-Decadal	261
	Lisa Goddard	
12	Monsoon Systems, Modeling of	303
	Chien Wang and William K.M. Lau	
	Index	331