

## Preface

China, located in East Asia, is characterized by monsoon climate, an unique climate type among various climate classification of the world.

There has been long history of regional climate study in China, beginning from late 1890s, represented by a number of scientists, such as Zhu, K. Z., Tu, C. W., Zhu, B. H., Yao, Z. S. and Zhang, B. K., etc. The introduction of modern atmospheric dynamics, synoptic meteorology and numerical modeling into the climate research has made further development of regional climatology in China (e. g. Ye, D. Z., Tao, S. Y., Chao, J. P., and Zeng, Q. C., etc).

In last several decades, the development of regional climate model, application of satellite information and information technique, implementation of continental scale experiments of energy/water balance of land surface and other advanced approaches have significantly promoted the progress of regional climate study in various parts of world.

As one volume of the book series of *Regional Climate Studies*, this book aims to summarize the progress of regional climate study of China mainly in last decade. It focuses on the physical and dynamic characteristics of climate of China based on current researches by applying these advanced approaches, rather than giving detail description of regional climate variables.

The volume consists of 11 chapters, beginning with the general introduction of monsoonal features of climate, followed by the paleo-climate (chapter 2), inter-decadal (chapter 3), interannual (chapter 4) climate variabilities and aridity trend of northern China as a specific regional climate issue (chapter 5). The effects of Tibetan Plateau, and soil moisture of land surface process on the regional climate of China are analyzed to understand the physical basis of climate variation in Chapter 6 and 7. To link with the impact of climate, the climate extremes and climate related disasters are presented in Chapter 8. Chapter 9 is a special one deal with the regional climate modeling. Finally, Chapter 10 and 11 present the projection of future climate and the assessment on impacts of climate variation on water resource and agriculture in China.

We would like to thank Drs Ichtiague Rasool and Hans-Jurgen Bolle to invite us to make our contributions to the book series of Regional Climate

Studies. Thanks go also to the authors of all chapters for their contributions to the book.

A special thank goes to NUIST for partly support in the drafting process. Finally Dr Xu Z. F. has made great contributions in compiling the manuscripts and making the index of the book.

December, 2007

The Editors

Regional Climate Studies of China

Fu, C.; Jiang, Z.; Guan, Z.; He, J.; Guo, W. (Eds.)

2008, XVII, 476 p., Hardcover

ISBN: 978-3-540-79241-3