Abstract

The need to understand and predict the processes that influence the Earth's atmosphere is one of the grand scientific challenges for the next century. Due to the complexity of observational data and the variability of geophysical phenomena at many spatial and temporal scales, statistical science has an important role to play in this effort. This volume is a series of case studies and review chapters that cover many of the recent developments in statistical methodology that are useful for interpreting atmospheric data. Although the applications in this volume target atmospheric sciences, the statistical methodology is general and addresses many common problems that arise in the analysis of spatial and spatio-temporal data. For this reason, it would also serve as a statistical source for graduate students and other researchers across a broad range of geophysical and environmental sciences. L. Mark Berliner is Professor of Statistics at Ohio State University. He has served as Project Leader for the Geophysical Statistics Project (GSP) at the National Center for Atmospheric Research (NCAR), 1995-97. Douglas Nychka is the current GSP Leader and a Senior Scientist at NCAR. Timothy Hoar is an Associate Scientist at NCAR.

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