

Preface	vii
Contributors	xiii
Chapter 1 Introduction	1
Chapter 2 Atmospheric Parameterization Schemes for Evaporation over Land: Basic Concepts and Climate Modeling Aspects <i>P.R. Rowntree</i>	5
Chapter 3 Parameterization of Land-Surface Processes in Numerical Weather Prediction <i>Christian Blondin</i>	31
Chapter 4 Parameterization Schemes of Land-Surface Processes for Mesoscale Atmospheric Models <i>P. Bougeault</i>	55
Chapter 5 Evaporation Models in Hydrology <i>W. James Shuttleworth</i>	93
Chapter 6 A Two-Dimensional Model of the Hydrological Response of a Hillslope <i>Peter J. Camillo, Robert J. Gurney, and Judith E. Devaney</i>	121
Chapter 7 Introduction of a Realistic Soil-Vegetation Component in a Hydrological Model: Application to HAPEX-MOBILHY Experiment <i>C. Otlé and D. Vidal-Madjar</i>	137
Chapter 8 Land Surface Processes: Description, Theoretical Approaches and Physical Laws Underlying Their Measurements <i>Alain Perrier and Andrée Tuzet</i>	145

Chapter 9	Fluxes in the Surface Layer Under Advective Conditions <i>H.A.R. de Bruin, N.J. Bink, and L.J.M. Kroon</i>	157
Chapter 10	A Critical Assessment of the Samer Network Accuracy <i>J.-P. Goutorbe</i>	171
Chapter 11	Using One- or Two-Layer Models for Evaporation Estimation with Remotely Sensed Data <i>Peter J. Camillo</i>	183
Chapter 12	On the Maintenance and Measurement of Scalar Fluxes <i>John C. Wyngaard</i>	199
Chapter 13	Errors in Eddy Correlation Turbulence Measurements from Aircraft: Application to HAPEX-MOBILHY <i>Peter H. Hildebrand</i>	231
Chapter 14	Water Vapor Flux Measurements from Aircraft <i>R.L. Desjardins and J.I. MacPherson</i>	245
Chapter 15	Heat and Moisture Fluxes over the Pine Forest in HAPEX <i>L. Mahrt</i>	261
Chapter 16	Temporal Variation of Heat and Moisture Flux Within the Atmospheric Boundary Layer over a Grassland <i>Robert L. Grossman</i>	275
Chapter 17	Use of Soil Moisture Measurements in Hydrologic Balance Studies <i>Richard H. Cuenca and Joël Noilhan</i>	287
Chapter 18	Indirect Measurements of Fluxes Using Doppler Sodar <i>A. Weill</i>	301
Chapter 19	In Situ Water Vapor Measurements in the Lyman-alpha and Infrared Spectrum: Theory and Components <i>James E. Tillman</i>	313
Chapter 20	Remote Sensing Observations for the Monitoring of Land-Surface Fluxes and Water Budgets <i>Thomas J. Schmugge and F. Becker</i>	337

Chapter 21	Recent Advances in Modeling the Infrared Temperature of Vegetation Canopies <i>Toby N. Carlson</i>	349
Chapter 22	Computer Simulation of Regional Evapotranspiration by Integrating Landscape Biophysical Attributes with Satellite Data <i>Steven W. Running</i>	359
Chapter 23	Implications for Remote Sensing of Natural Switching from Atmosphere-Controlled to Soil-Controlled Evaporation or Infiltration <i>J. Philip O'Kane</i>	371
Chapter 24	An Example of Spatial Integration of a Land-Surface Parameterization in a Meso-Beta-Scale Model <i>P. Bougeault, B. Bret, P. Lacarrere, and Joël Noilhan</i>	383
Chapter 25	HAPEX-MOBILHY Data Base <i>J.-P. Goutorbe and C. Tarrieu</i>	403
Chapter 26	The FIFE Data <i>Donald E. Strelbel, P.J. Sellers, and F.G. Hall</i>	411
Appendix:	Acronyms and Abbreviations	415
Index	417