

W.L. Steffen · O.T. Denmead (Eds.)

Flow and Transport in the Natural Environment: Advances and Applications



Springer-Verlag



252/3244 INSTITUT
FÜR METEOROLOGIE U. KLIMATOLOGIE
UNIVERSITÄT HANNOVER
31 815 PNEUMUSER STR. 2 • 3000 LEONHARDT 11

W. L. Steffen, O. T. Denmead (Eds.)

Flow and Transport in the Natural Environment: Advances and Applications

Springer-Verlag Berlin Heidelberg New York
London Paris Tokyo

Contents

Solute transport and dispersion	1
William S. Jury	
Solute transport and dispersion - Commentary	17
J.H. Knight	
Quasianalytic and analytic approaches to unsaturated flow	30
J.R. Philip	
Quasianalytic and analytic approaches to unsaturated flow - Commentary	48
P.A.C. Raats	
Measurement of soil physical properties in the field	59
I. White	
Measurement of soil physical properties in the field - Commentary	86
B.E. Clothier	
Canopy transport processes	95
M.R. Raupach	
Canopy transport processes - Commentary	128
G.W. Thurtell	
Surface temperature and the surface energy balance	133
Ray D. Jackson	
Surface temperature and the surface energy balance - Commentary	154
K.G. McNaughton	
Stomatal physiology and gas exchange in the field	160
I.R. Cowan	
Stomatal physiology and gas exchange in the field - Commentary	173
B.J. Legg	

Air flow over complex terrain	183
J.J. Finnigan	
Air flow over complex terrain - Commentary	230
N.O. Jensen	
Convective processes in the lower atmosphere	240
John C. Wyngaard	
Convective processes in the lower atmosphere - Commentary	261
E.K. Webb	
Turbulent wakes in the atmospheric boundary layer	270
Peter A. Taylor	
Turbulent wakes in the atmospheric boundary layer - Commentary	293
W.H. Melbourne	
Particulate transport in the atmosphere: wind erosion	300
B.B. Willetts	
Processes of water erosion	312
C.W. Rose, P.B. Hairsine	
One-dimensional solid-liquid separation	327
D.E. Smiles, J.M. Kirby	
One-dimensional solid-liquid separation - Commentary	343
C.J.D. Fell, R.M. McDonogh	
Atmospheric dispersion - Observations and Models	352
J.C. Weil	
Atmospheric dispersion - Observations and Models - Commentary	377
Peter Manins	
Subject index	381