

1. Record Nr.	UNINA9910855364903321
Autore	Foken Thomas
Titolo	Micrometeorology [[electronic resource] /] / by Thomas Foken, Matthias Mauder
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2024
ISBN	3-031-47526-7
Edizione	[3rd ed. 2024.]
Descrizione fisica	1 online resource (XXI, 410 p. 121 illus., 6 illus. in color.)
Collana	Springer Atmospheric Sciences, , 2194-5225
Disciplina	550
Soggetti	Earth sciences Atmospheric science Climatology Earth Sciences Atmospheric Science Climate Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: General Basics -- Chapter 2: Basic Equations of Atmospheric Turbulence -- Chapter 3: Specifics of the Near-Surface Turbulence -- Chapter 4: Experimental Methods for Estimating the Fluxes of Energy and Matter -- Chapter 5: Modelling of the Energy and Matter Exchange -- Chapter 6: Measurement Technique -- Chapter 7: Microclimatology -- Chapter 8: Applied Meteorology. .
Sommario/riassunto	The book focuses on atmospheric processes that directly influence human environments within the lower 100–1000 meters of the atmosphere, spanning regions of only a few kilometers in size. It represents the English translation of the fourth edition of the German work titled "Applied Meteorology – Micrometeorological Methods". It provides a fundamental understanding of micrometeorology as applied to various disciplines, including biometeorology, agrometeorology, hydrometeorology, technical meteorology, environmental meteorology, and biogeosciences, through carefully selected examples. A central theme of this book revolves around the crucial issues of transport processes and fluxes between the atmosphere and the underlying

surface, with special emphasis on vegetated and heterogeneous surfaces. The authors comprehensively cover theory, measurement techniques, experimental methods, and modeling, presenting these concepts in a manner that can be readily applied for teaching, research, or practical applications. Compared to the second edition, the new features include updates and minor additions in all chapters, as well as selected new content that addresses the challenges posed by climate change. The authors Thomas Foken is a retired professor of micrometeorology at the University of Bayreuth. His research interests encompass the interaction between the Earth's surface and the atmosphere, with a specific emphasis on measuring and modeling the exchange of energy and matter, particularly in the domain of experimental meteorology. His noteworthy scientific contributions have earned him several international awards. Matthias Mauder is professor of meteorology at the TUD Dresden University of Technology. In his research, he integrates diverse observational methods with numerical modeling to enhance our comprehension of turbulent transport processes. His work spans investigations into the carbon and water cycles, regional climate dynamics, climate adaptation, and urban climate studies.

---