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Titolo	Fundamentals of Boundary-Layer Meteorology // by Xuhui Lee
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Soggetti	Atmospheric science Climatology Ecology Atmospheric Science Climate Sciences Terrestrial Ecology
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	Introduction to micrometeorology -- Fundamental equations -- Governing equations for mean quantities -- Forces in balance and structures of the lower atmosphere -- Generation and maintenance of atmospheric turbulence -- Tracer transport in the canopy and in the surface layer -- Principles of eddy covariance -- Radiation balance and energy balance -- Density effects. - Budgets of trace gases in the atmospheric boundary layer.
Sommario/riassunto	This textbook introduces a set of fundamental equations that govern the conservation of mass (dry air, water vapor, trace gas), momentum and energy in the lower atmosphere. Simplifications of each of these equations are made in the context of boundary-layer processes. Extended from these equations the author then discusses a key set of issues, including (1) turbulence generation and destruction, (2) force balances in various portions of the lower atmosphere, (3) canopy flow, (4) tracer diffusion and footprint theory, (5) principles of flux measurement and interpretation, (6) models for land evaporation, (7) models for surface temperature response to land use change, and (8) boundary layer budget calculations for heat, water vapor and carbon

dioxide. Problem sets are supplied at the end of each chapter to reinforce the concepts and theory presented in the main text. This volume offers the accumulation of insights gained by the author during his academic career as a researcher and teacher in the field of boundary-layer meteorology.

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