



## The Atmospheric Boundary Layer

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By J. R. Garratt

Cambridge University Press. Paperback. Condition: New. 336 pages. Dimensions: 9.2in. x 7.2in. x 0.8in. A comprehensive and lucid account of the physics and dynamics of the lowest one to two kilometers of the Earth's atmosphere in direct contact with the Earth's surface, known as the atmospheric boundary layer (ABL). Dr. Garratt emphasizes the application of the ABL problems to numerical modeling of the climate, which makes this book unique among recent texts on the subject. He begins with a brief introduction to the ABL before leading to the development of mean and turbulence equations and the many scaling laws and theories that are the cornerstone of any serious ABL treatment. Modeling of the ABL is crucially dependent for its realism on the surface boundary conditions, so chapters four and five deal with aerodynamic and energy considerations, with attention given to both dry and wet land surfaces and the sea. The author next treats the structure of the clear-sky, thermally stratified ABL, including the convective and stable cases over homogeneous land, the marine ABL, and the internal boundary layer at the coastline. Chapter seven then extends this discussion to the cloudy ABL. This is particularly relevant to current research because the extensive...



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