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| Nota di bibliografia | Includes bibliographical references and index at the end of each chapters. |
| Nota di contenuto | History and definition -- Surface layer properties and parameterizations -- Classification of footprint models -- Footprint studies -- Model validation -- Land surface – coupled footprints -- Application of footprint models to different measurement techniques -- Practical applications of footprint techniques -- Looking forward to the next generation of footprint models. |

Sommario/riassunto

How to interpret meteorological measurements made at a given level over a surface with regard to characteristic properties such as roughness, albedo, heat, moisture, carbon dioxide, and other gases is an old question which goes back to the very beginnings of modern micrometeorology. It is made even more challenging when it is unclear whether these measurements are only valid for this point/region and precisely describe the conditions there, or if they are also influenced by surrounding areas. After 50 years of field experiments, it has become both apparent and problematic that meteorological measurements are influenced from surfaces on the windward side. As such, extending these measurements for inhomogeneous experimental sites requires a quantitative understanding of these influences. When combined with atmospheric transport models similar to air pollution models, the ‘footprint’ concept – a fundamental approach introduced roughly 20 years ago – provides us with information on whether or not the condition of upwind site homogeneity is fulfilled. Since these first models, the development of more scientifically based versions, validation experiments and applications has advanced rapidly. The aim of this book is to provide an overview of these developments, to analyze present deficits, to describe applications and to advance this topic at the forefront of micrometeorological research.  .