DESCRIPTION

This series of five volumes proposes an integrated description of physical processes modeling used by scientific disciplines from meteorology to coastal morphodynamics. Volume 1 describes the physical processes and identifies the main measurement devices used to measure the main parameters that are indispensable to implement all these simulation tools. Volume 2 presents the different theories in an integrated approach: mathematical models as well as conceptual models, used by all disciplines to represent these processes. Volume 3 identifies the main numerical methods used in all these scientific fields to translate mathematical models into numerical tools. Volume 4 is composed of a series of case studies, dedicated to practical applications of these tools in engineering problems. To complete this presentation, volume 5 identifies and describes the modeling software in each discipline.

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