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Sommario/riassunto	"The past five decades have witnessed a rapid growth of computer models for simulating ecosystem functions and dynamics. This has been fueled by the availability of remote sensing data, computation capability, and cross-disciplinary sciences. These models contain many sub-modules for simulating different processes and forcing mechanisms, albeit it has become challenging to truly understand the details due to their complexity. Most ecosystem models, fortunately, are rooted in a few core biophysical foundations, such as widely recognized Farquhar's model, Ball-Berry-Leuning-Medlyn family models, Penman-Monteith model, Priestley-Taylor Model, Machaelis-Menten kinetics, and others. After an introduction of biophysical essentials, four chapters present the core algorithms and their behaviors in modeling ecosystem production, respiration, evapotranspiration, and global warming potentials"--