



Lake plankton populations: nonlinearity vs. stochasticity

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Climate-induced defences play a key role in the nonlinear dynamics of plankton evolution in a lake. The phenomenology thereof is linked to the existence of a depth range where organisms are optically protected from their predators, and also find a sufficient supply of oxygen for survival. A statistical parameterisation of a previously proposed dynamical model for plankton concentration is analysed for low-dimensional vs. high-dimensional (stochastic) components, and its implications for water quality and aquatic habitat are being discussed.