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## General Ecosystem Models, moving towards modelling responses and effects of whole ecosystems

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Ecosystems are facing unprecedented pressures as a result of human activities. At the same time, ecology as a discipline is increasingly demanding more mechanistic understanding of what causes observed ecological patterns, in part for the development of the science but also to help mitigate impacts. Here, I will present the Madingley Model ([www.madingleymodel.org](http://www.madingleymodel.org)), a General Ecosystem Model that aims to provide a mechanistic understanding of how ecosystems, on land and in the seas, are structured and how they function, and for how anthropogenic changes might alter that structure and function. I will discuss the model's current capabilities, how it is being used, and highlight some necessary and exciting future directions for development.