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## Resilience biomimcry model for natural disturbance scenarios

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### RESUMO

Mobile links are 'keystone' organisms that move among habitats and provide essential ecosystem functions such as pollination, seed dispersal, or nutrient translocation. After disturbance, some ecosystem functions maybe come disrupted or may disappear altogether. Much like similar habitats joined by corridors, the mobile links connect areas that may be widely separated spatially or temporally. Species strategies and interactions must be reconfigured after disturbance based on residual organisms and any altered environmental constraints. Re-assembly of organisms might be based on an ecological memory that contributes and leads to the recovery of the affected area. This ecological memory is the complex network of species and their relations with each other and the environment. Based on the renewal cycle of Holling, we developed a biomimcry resilience model that identifies recovery strategies inspired by opportunistic species colonization, their accumulation and storage of resources and the reorganization phases to a new stability. We studied and characterized which interactions take place within and between disturbed and undisturbed areas that facilitate proliferation, regeneration and nutrient translocation. The resilience model also considered limitations such as distance from source areas, availability of dispersal agents and suitability of the disturbed environment. This resilience model was created to help understand natural recovery processes that can be emulated after disturbances and applied to human community disaster planning.

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