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Impacts of range shifts for partially sedentary populations

Climate change is inducing range shifts for many species. In order to survive species must adapt or move to keep pace with their shifting range, but what does this mean for populations that are partially sedentary, with only a fraction of the population able to disperse? In this talk we address this question using integrodifference equations. Using a combination of stability analysis and numerical simulation we show that, provided climate velocity is not too large, partially sedentary populations can outperform fully dispersing populations in one of two ways: (i) by persisting at climate speeds where a fully dispersing population cannot, and (ii) exhibiting higher population densities.