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The combination of spatial and temporal variability can have counterintuitive effects on the persistence of populations. For instance, using random difference equations Jansen and Yoshimura (1998) have shown numerically that two sink populations (i.e. populations that in isolation are doomed to extinction) can persist when coupled by dispersal. The goal of this talk is to provide a mathematical framework to prove theorems about these numerical observations. (Received September 28, 2005)