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Judith E Canner* (jcanner@csumb.edu), Department of Mathematics and Statistics, California State University, Monterey Bay, 100 Campus Center, Seaside, CA 93955. *How do we measure the response of species interactions to climate change? The use of models and experiments to study myrmecochory.*

The study of species interactions and climate change relies on an understanding of the transient and long-term responses of species to climate change. In particular, the shifting phenology of species may lead to the decoupling of species interactions with climate change. Though climate manipulation experiments are necessary to observe the cause-and-effect relationships of climate change, the transient dynamics observed in experiments may not reflect the long-term response of a species to climate change. We developed a model of the species interaction, myrmecochory (seed dispersal by ants) to observe the possible responses of the relationship to warming and to assess how we use experiments to predict plant population dynamics under warming. We compared our model under gradual warming conditions to models based on simulated press warming experiments of ant and plant dynamics and found that the predictions of short-term press experiments do not necessarily track the response of myrmecochore populations to gradual warming, especially at high levels of warming. Therefore, we must develop new ways to interpret climate manipulation experiments, in order to create useful models and to predict the persistence of species interactions under climate change. (Received September 21, 2010)