

1145-92-1435

Ram C Neupane* (ram.neupane@tamut.edu), 7101 University Avenue, SCIT 104G, Texarkana, TX 75503, and **James Powell** (jim.powell@usu.edu), 3900 Old Main Hill , Animal Science(ANSC), Logan, UT 84322. *Modeling Pinyon-Juniper Dispersal in Real Landscapes.*

Tree distribution models are commonly used to understand the structure of forest communities in space. These models take geographic variables as input and are therefore helpful for long-term decision support and climate adaptation planning. Normally the process of seed germination and seedling survival are resolved probabilistically with explanatory variables such as soil type, elevation and weather inputs using landscape and regional presence-absence data. How seeds are distributed in these models, however, is far more problematic since it is difficult to accurately parameterize dispersal models using large-scale presence-absence data, particularly for actively dispersed tree species. The challenge is that variables conditioning vertebrate seed dispersal are not represented in large scale distribution models, and in fact vary on scales around ten to hundred meters that are much smaller than the smallest pixel size for the distribution model of more than a kilometer. The homogenized seed dispersal kernel offers a tool to make use of this scale separation. In this paper we develop scenarios for seed dispersal on landscape scales, linking small-scale variables with dispersal probabilities on large scales and we reflect the species, pinyon and juniper, dispersal in real landscapes. (Received September 21, 2018)