

**S2 Fig.** Simulated heterogeneous landscape used in the multi-state biased correlated random walk simulations, from Gaussian random field with an exponential covariance function with variance = 1, nugget = 0 and a set of patch concentration ( $\mu_Q$ ) and patch size ( $\gamma_Q$ ) resulting in three level of patchiness: 1) low ( $\mu_Q = -1.5$ ,  $\gamma_Q = 2$ ), 2) intermediate ( $\mu_Q = -0.5$ ,  $\gamma_Q = 2$ ) and 3) high ( $\mu_Q = 1$ ,  $\gamma_Q = 10$ ).