Benjamin A Shaby* (bshaby@psu.edu) and Brian J Reich (bjreich@ncsu.edu). Fully Bayesian inference for spatial extremes using hierarchical extreme value processes.

We describe a an approach for constructing spatial max-stable models through a hierarchical representation that conditions on latent positive stable random variables. This class of models approximates and extends known spatial max-stable processes and, critically, is amenable to fully Bayesian inference through MCMC. Moreover, this hierarchical framework provides a foundation that can be extended in a fairly straightforward way to produce, for example, multivariate extreme value fields, or fields with more flexible spatial dependence structures. (Received September 16, 2013)