

NC STATE UNIVERSITY

September 16, 2015

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Dear Biometrics Editors:

Please find the attached manuscript "A Space-time Skew- $t$  Model for Threshold Exceedances", submitted for publication in the *Biometrics* as a biometric methodology paper.

In this paper we address an important topic in assessing compliance for air quality regulations, namely, predicting exceedances of a fixed threshold. The approach we use builds on a spatial skew- $t$  process by incorporating random partitioning to allow for varying degrees of asymptotic dependence based on distance between sites and thresholding to allow the tails of the data to speak for themselves. Our method is applied to ozone data in the US, where we find improvements for predicting exceedances over Gaussian and more traditional max-stable methods for spatial extremes.

Thank you very much for your assistance! I look forward to hearing from you soon.

Sincerely,

A handwritten signature in black ink, appearing to read "Samuel A. Morris".

Samuel A. Morris  
PhD Candidate  
North Carolina State University