Submitted to the Annals of Applied Statistics
arXiv: math.PR/0000000

APPENDIX OF GRAPHICS FOR DOWNSCALING EXTREMES: A COMPARISON OF EXTREME VALUE DISTRIBUTIONS IN POINT-SOURCE AND GRIDDED PRECIPITATION DATA

By Elizabeth C. Mannshardt-Shamseldin* Richard L. Smith† Stephan R. Sain‡ Linda O. Mearns‡ and Daniel Cooley§

Duke University, University of North Carolina at Chapel Hill,† The National Center for Atmospheric Research‡, and Colorado State University§*

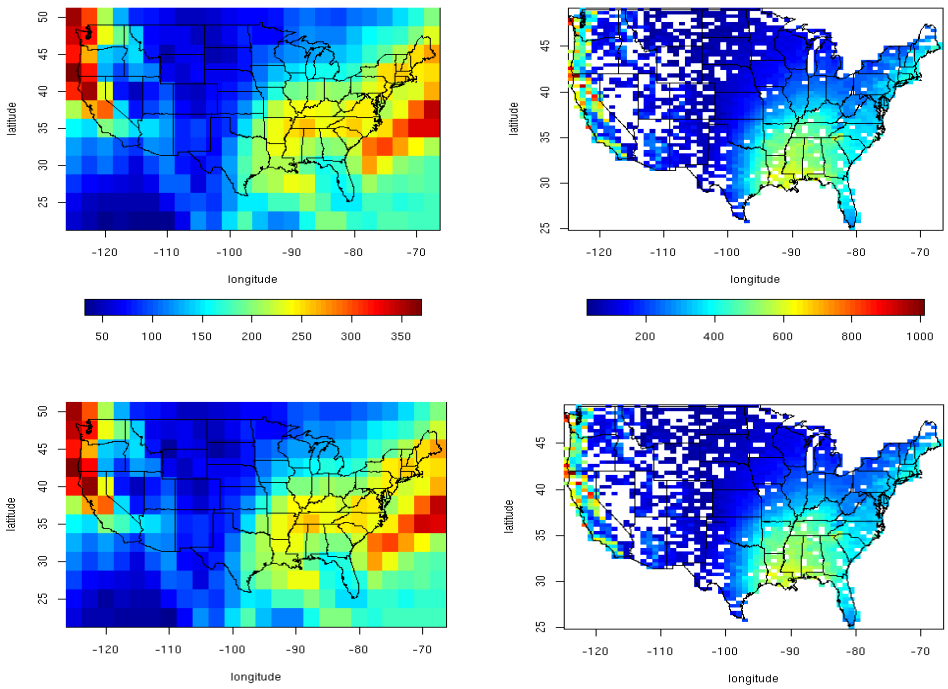

FIG 1. **GEV Parameter Estimates: μ:** *Comparison of GEV parameter estimates (μ) for both NCEP grid cells (left column) and NCDC point-level (right column) over both 95^{th} (top row) and 97^{th} (bottom row) percentile threshold choices.*

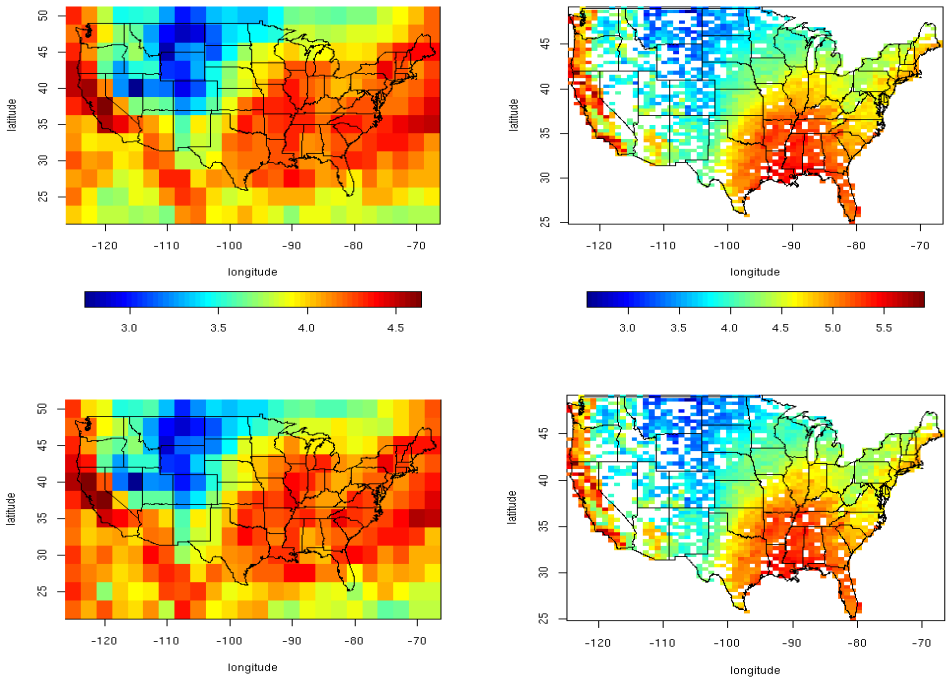

FIG 2. **GEV Parameter Estimates: log(ψ):** *Comparison of GEV parameter estimates (log(ψ)) for both NCEP grid cells (left column) and NCDC point-level (right column) over both 95^{th} (top row) and 97^{th} (bottom row) percentile threshold choices.*

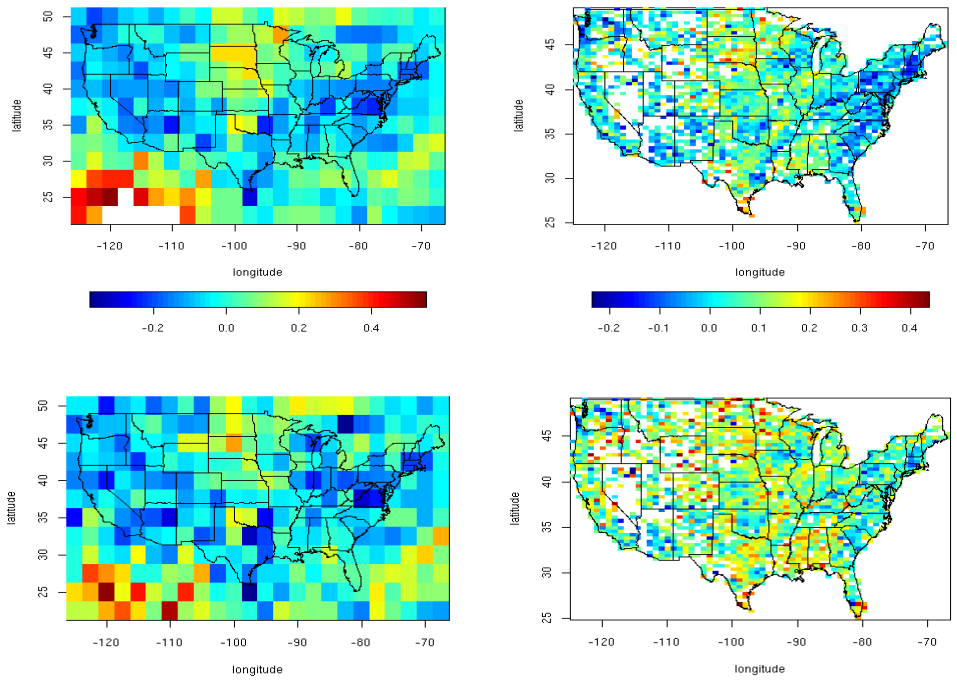

FIG 3. **GEV Parameter Estimates: ξ:** *Comparison of GEV parameter estimates (ξ) for both NCEP grid cells (left column) and NCDC point-level (right column) over both 95^{th} (top row) and 97^{th} (bottom row) percentile threshold choices.*

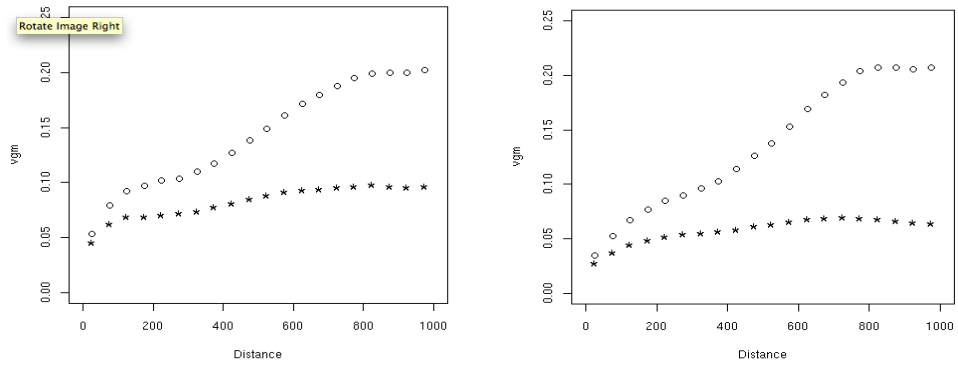

FIG 4. **Variograms: Basic vs Cubic Model:** *Empirical variograms, over a 1000 mile range, for residuals from the fitted model LogPoint $\sim$ Grid + Elevation with no latitude or longitude terms ('o') and the cubic model in lat and lon ('*') for the NCEP grid cell data. The left frame represents the spatial relationship across the continental U.S. The right frame considers stations east of 100° W.*

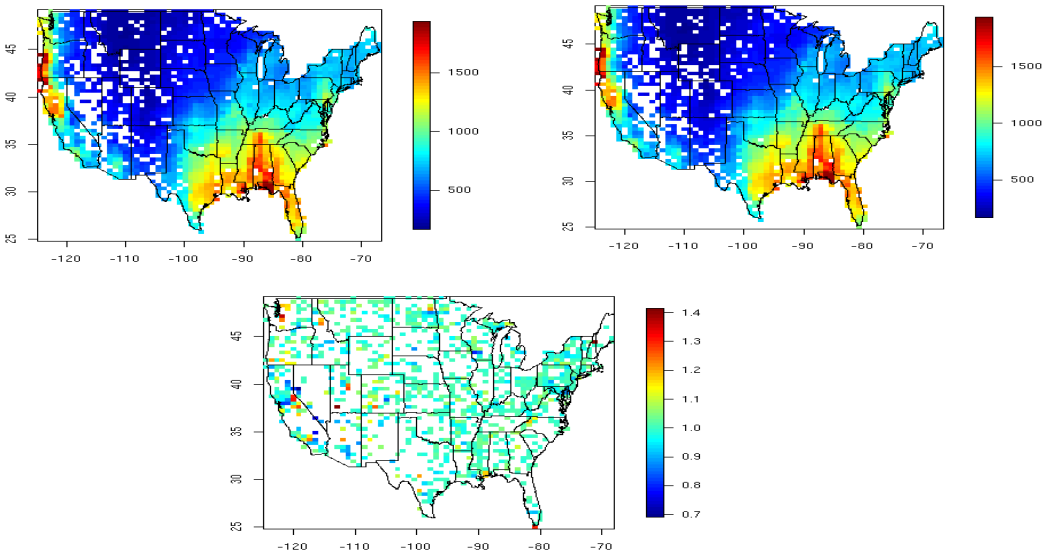

FIG 5. **Kriged vs Regression:** *Comparison of cubic regression model predictions (left) to kriged predicitons (right) and the ratio of kriged to regression model predictions for the CCSM grid cell data (bottom). Ratio considered for stations un-used in original analysis due to missing values or non-convergence.*
**There is still some sparseness in the smoothing due to the available latitude and longitude readings for only the 5873 stations' data.*