

# **Supplemental Material for: “A Practical Formulation for an Anisotropic and Nonstationary Matérn Class Correlation Operator”**

**Timothy A. Smith**

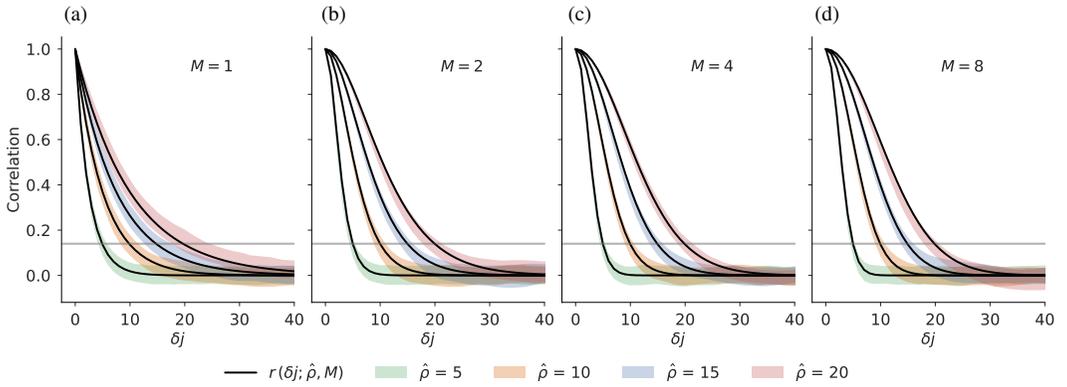


FIGURE S1 Correlation structure computed from the theoretical Matérn correlation function (black) and from 1,000 samples using a subset of the “Lat-Lon-Cap” grid within the Pacific Ocean (shaded coloring). The sample correlation is computed in the meridional direction,  $\delta_j$ , indicating the number of neighboring grid cells from  $0.2^\circ\text{N}$ . The shading indicates the spread between the first and ninth deciles, based on sample correlations at all depth levels and latitudes from  $157.5^\circ\text{W}$  and  $97.5^\circ\text{W}$ .

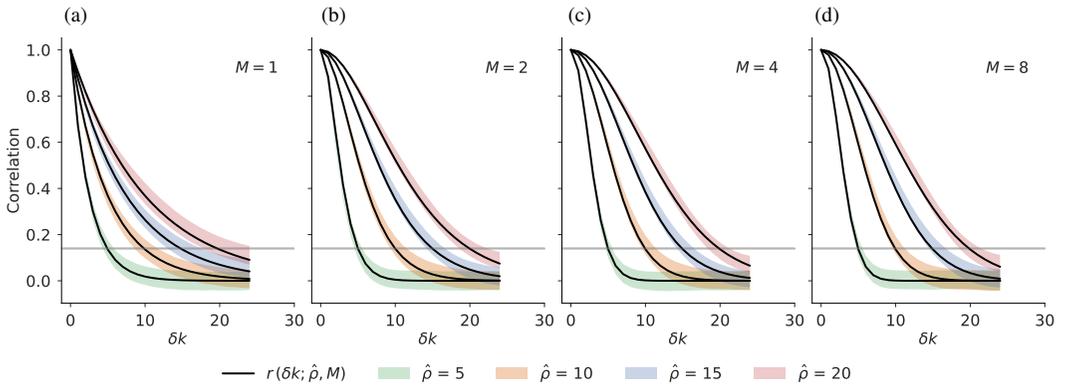


FIGURE S2 Same as Figure S1, but the sample correlation is computed in the vertical direction,  $\delta_k$ , indicating the number of neighboring grid cells from 722 m depth (the 25th vertical level). The shading indicates the spread between the first and ninth deciles, based on sample correlations at each grid cell from  $157.5^\circ\text{W}$  to  $97.5^\circ\text{W}$  in the zonal direction and  $70^\circ\text{S}$  to  $37^\circ\text{N}$  in the meridional direction. There are 50 vertical levels on the LLC grid.