

Scheme	Description	Decorrelation length scale $L$
Wind shear (Di Giuseppe and Tompkins, 2015)	Random/maximum, only wind shear	$L = 4.4 - 0.45 \times \frac{dV}{dz}$
Wind shear (this study)	Random/maximum, only wind shear	$L = 2.19 - 0.14 \times \frac{dV}{dz}$
Wind-shear–instability (this study)	Random/maximum, wind shear and instability	$L = 2.18 - 0.09 \times \frac{dV}{dz} - 0.15 \times \frac{\partial \theta_{es}}{\partial z}$
Latitude (Shonk et al., 2010)	Random/maximum, only latitude	$L = 2.899 - 0.02759 \times  \Phi $