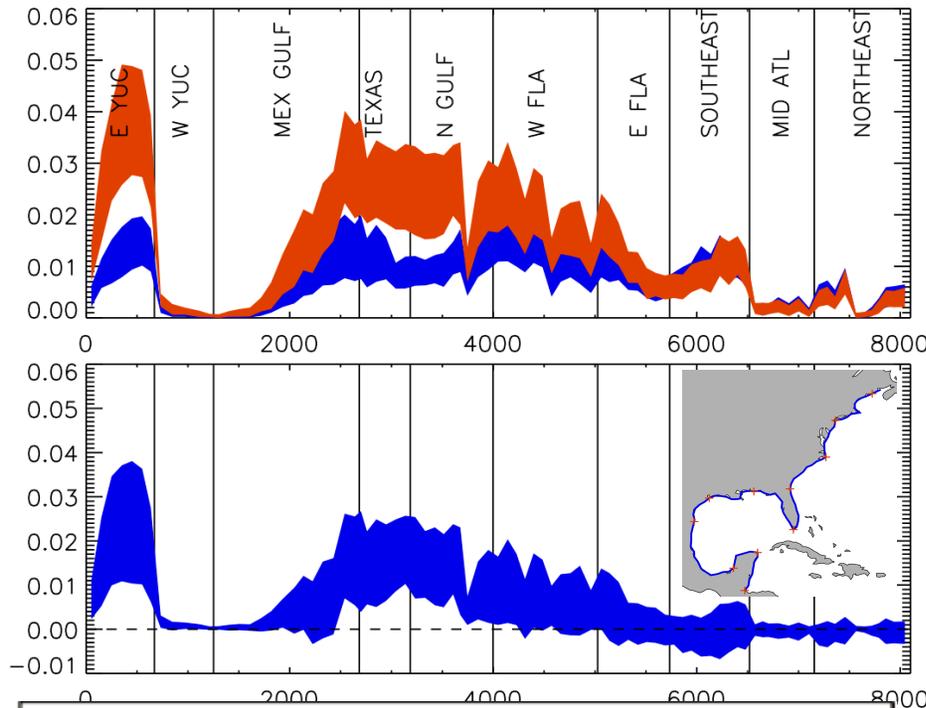


Hurricane Wind and Inundation Risk on the US Northeast and New York City: Progress Report

NASA NCA Support

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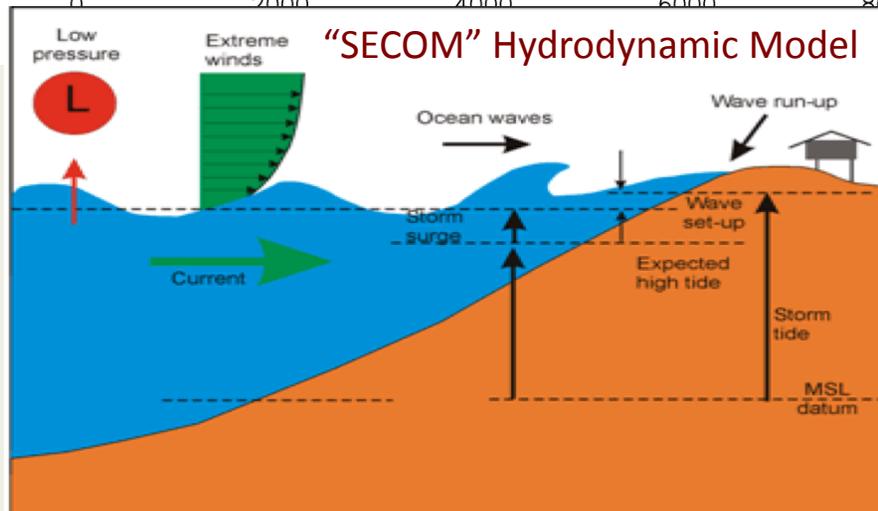


Annual landfall probability per 100km coastline in **HOT** years and **COLD** years with 95% confidence bounds.

Difference in **HOT**-**COLD** landfall probability with 95% confidence bound.

Work completed: Statistical-stochastic model for North Atlantic hurricanes includes influence of SST and ENSO on storm formation, propagation, and intensity. Estimate US landfall rates with uncertainty as function of SST. Increase in major landfalls on Gulf coast due to increase formation, shift in formation regions, and intensification. No increase east coast due to changes in track curvature.

Initial conclusions: Significant increased major hurricane landfall on US Gulf coast with SST. No increase on US east coast.



Work in progress: Use synthetic storms from statistical model to drive high-resolution 3D hydrodynamic model of NYC region (harbor and near-ocean) to estimate hurricane inundation risk and its climate sensitivity. Will include rainfall, wave, and surge effects.