

FUTURE EXTREME RAINFALL PROJECTIONS IN BROWARD COUNTY

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As part of Broward County's efforts to build resilience and address the impacts of climate change, especially sea level rise, the Broward County Board of County Commissioners approved the creation of a Future Conditions Map Series in the Broward County Code of Ordinances. The first map of the series – Future Conditions Average Wet Season Groundwater Elevation Map – was approved in July 2017 and establishes antecedent conditions for application in surface water permitting of all major redevelopment and new development projects. The map ensures drainage systems will function under conditions of additional sea level rise and more intense rainfall predicted through 2060 - 2069, decreasing future flood risk. The second map of the series – Future Conditions 100-year Flood Elevation Map – currently under development – will establish minimum finish flood elevations, under the same 2060-2069 sea level rise scenario, and a selected future 100-year rainfall event. This presentation will summarize the determination of extreme future rainfall scenarios for the study. Departing from a regionally accepted methodology, developed for South Florida Water Management District, Broward County has expanded the analysis of a varied set of downscaled rainfall datasets, including CORDEX, COAPS, BCCA, LOCA, Raw GCMs and Jupiter WRF, with the goal of reducing associated uncertainties in determining future rainfall through a super-ensemble approach.

PRESENTER BIO: Carolina Maran, Ph.D., P.E. is the Water Resources Manager with Broward County, where she is responsible for implementing countywide water resources programs and coordinating planning and policy concerns related to local water supply and stormwater management, including impacts from future climate conditions, across federal, state, regional and local agencies.