

## **REGIONAL CLIMATE PROJECTIONS – FUTURE RAINFALL ESTIMATES FOR FLORIDA**

### ***Carolina Maran***

South Florida Water Management District, West Palm Beach, FL, USA

Water resources planning and management is highly dependent on rainfall occurrence and spatial distribution. Changes in rainfall patterns might result in more frequent and intense flooding or drought events. Due to the varied connections to Florida climate and weather, identifying trends in rainfall observations involves a series of complex analyses. Nonetheless, significant upward trends were observed in some wet season months in certain regions, potentially influenced by climate change and multidecadal oscillations. Understanding current and future rainfall patterns is, therefore, critical to guide operational decisions, flood protection, water supply and resiliency planning efforts. Downscaled global climate model results in Florida show relatively large bias, as a result of low resolution in existing climate models that do not fully capture rainfall influencing conditions in the State. The development of a statewide regional climate model would be to capture processes critical to rainfall occurrences, including Tropical Cyclones and sea breeze thunderstorms as well as air-sea interaction and ocean dynamics, among other important climatic processes.

**PRESENTER BIO:** Carolina Maran, P.E., Ph.D. is the Chief Resiliency Officer for South Florida Water Management District with more than 20 years of experience in water resources management and resiliency.