

FPLOS: ASSESSING VULNERABILITY OF SFWMD'S FLOOD PROTECTION ASSETS AND PROPOSING ADAPTIVE SOLUTIONS

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The South Florida Water Management District (SFWMD) is a regional agency in the state of Florida responsible for the operation and maintenance of the primary flood control system in a 16-county service area stretching from Orlando to the Florida Keys. The primary flood control system, the Central and Southern Florida (C&SF) Project, was constructed by the US Army Corps of Engineers starting in the 1950s and serves a population of over 9 million people. Several of the flood control assets, including canals, and gravity spillways, are approaching the end of their design life. These assets are experiencing loss of efficiency due to conditions, such as higher sea level and denser and more spatially extensive urbanization, than was assumed during the original design. To address these issues, SFWMD implemented the Flood Protection Level of Service (FPLOS) Program. Under the program, SFWMD assesses the vulnerability of the region to increased flood risk under current and future conditions, determines mitigation and adaptation strategies to manage flood risk, and provides a strategy to facilitate implementation of the recommended adaptation and mitigation strategies.

This presentation outlines the FPLOS Program and highlights insights from a recent study on the C-8 and C-9 Water-shed in Miami-Dade and Broward Counties. In order to address the vulnerabilities identified in earlier study, the adaptation study underscores the significance of identifying strategies that effectively manage flood risks while considering constraints like water quality impacts and the transfer of residual flood risk. The study for the C-8 and C-9 watersheds produced adaptation strategies and mitigation projects to reduce flood risk under current and future conditions, including land use changes and sea level rise. This was accomplished through a systematic public planning process, which incorporated stakeholder engagement, hydrologic and hydraulic modeling, economic analysis, flood damage assessment, and adaptation pathway planning.

PRESENTER BIO: Akin Owosina is Chief of Hydrology and Hydraulics Bureau at the South Florida Water Management District. He is a certified professional engineer with over 33 years' experience in water resources and modeling. He oversees the work of engineers and modelers responsible for flood and restoration studies in South Florida.