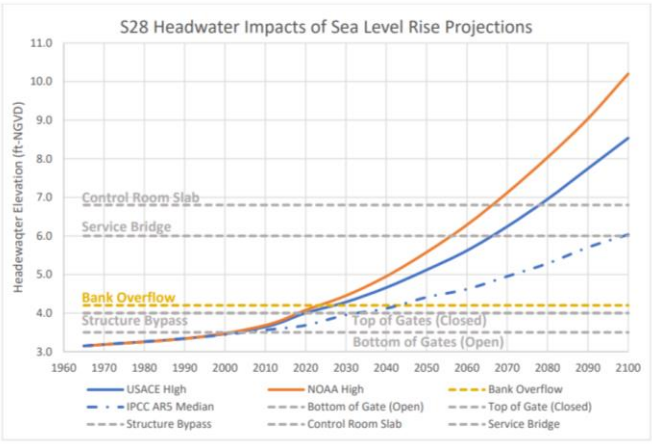
BUILDING FLOOD RESILIENCY IN CRITICAL BASINS IN SOUTH FLORIDA: C-8 BASIN

South Florida Water Management District (District) is requesting FEMA grant funding to advance flood risk reduction measures in the **C-8 Basin**, a region of about 270,000 people that covers 28 square miles, in the northeastern portion of Miami Dade County. The area drained by the C-8 Canal is **fully developed with primarily residential and commercial uses**. The C-8 Canal is the central flood control feature that receives and conveys basin floodwaters by gravity through the S-28 Coastal Structure to sea.

As evidenced during the recent Tropical Storm Eta, **sea level rise is limiting the ability of these central flood control features to convey floodwaters**. Serious flooding events have occurred around the C-8 Basin, with above 100-year rainfall volumes, and higher sea levels impeding the S-28 Structure to deliver those volumes to the sea.

The proposed projects in the C-8 Basin include local and regional flood mitigation **measures to reduce flood risk exacerbated by sea-level rise.**



* S-28 Headwater (Upstream) Impacts of Sea Level Rise Projections

Adding a forward pump station to the S-28 Structure, is necessary to provide flood control now and into the future so floodwaters can continue to be conveyed as sea levels rise. **Protection of water supply sources from saltwater intrusion** is a significant associated benefit of this work, including protection of the Biscayne Aquifer – a sole source aquifer for the region.

More specifically, the District, in partnership with Miami-Dade County and the Village of Miami Shores, is proposing the implementation of **innovative regional flood mitigation measures.** The project includes the following features:

- **Replacement of the S-28 Structure** with a more robust structure and elevated components to withstand the impacts of sea level rise and climate change.
- **Installation of a 500 cubic foot per second forward pump station** adjacent to the S-28 structure to maintain basin discharge levels while sea levels rise.
- **Construction of a flood barrier** tying S-28 Structure to higher ground elevations to mitigate the impacts of sea level rise and storm surge.
- **Enhancement of secondary canal banks** that drains to the C-8 Primary Canal to improve flood control throughout the basin.
- **Construction of a temporary floodwater detention area** in a portion of the Miami Shores Golf Course near the S-28 Structure to provide temporary storage of floodwaters during extreme rainfall events.
- **Installation of nature-based features** such as living shoreline along the C-8 Canal and vegetated flood control berms to enhance flood protection.

The total cost of the proposed flood mitigation measures, to be completed upon grant funding approval, is estimated at $71.5 million. The calculated benefit cost ratio is 2.98. The project will **reduce flood risk under sea-level rise, by restoring the basin's flood level of service and enhancing quality of life in the region**.