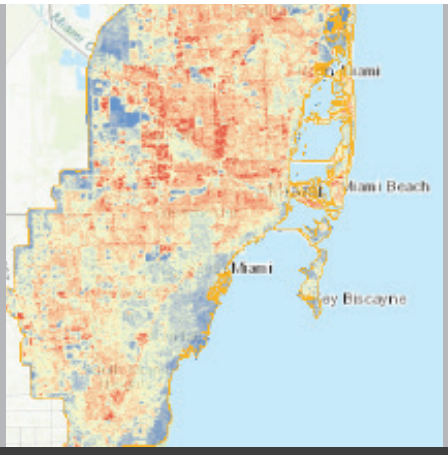
MIAMI CANOPY COALITION

Miami's Tree Canopy & Resilience Planning

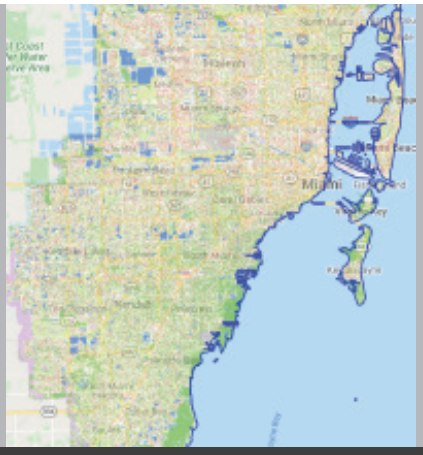
Climate Change will continue to impact the quality of life for Floridians in a number of ways. Trees are an important tool in the region's capacity to create resilience in the face of climate change. Increased temperature, the urban heat island effect, flooding from storms and sea level rise, and water quality impacts from urban runoff are some of the climate change hazards facing South Florida now and into the future. Trees are a critical component for combatting these impacts.

The Benefits of Trees for Resilience

- Tree canopies, root, and soil systems capture rainfall and reduce flooding Trees capture rainwater runoff, reducing pollutants & nutrients in waterways Trees improve air quality
- Trees reduce the urban heat island effect



Source: Miami-Dade County ArcGIS temperature layer



Source: FIU Transportation Outreach Planner

According to the U.S. EPA, roof and pavement surface temperatures on a hot summer day can be 50–90°F hotter than the air, while shaded are closer to air temperature.

The maps depict surface temperatures and tree canopy cover in Miami-Dade County. Warmer areas (shaded in red) are generally those with asphalt and concrete surfaces and sparse tree canopy. Cooler areas (shaded in blue) are found around water bodies, residential areas and parks with high tree canopy density and larger patches of grassland. Tree canopy is shown in green in the map on the right.

Recommendations for Incorporating Trees in Resilience Planning

- Update design criteria for public and private projects for improved tree canopy, drainage, and stormwater retention, including structured soil and similar technologies
- Incorporate trees and tree infrastructure into stormwater management planning and renewed stormwater management permits
- Improve upon development incentives and credits for stormwater enhancements and trees Utilize adaptation planning, zoning overlays, the public benefit program, and transfer of development rights to acquire heritage trees into the public trust
- Incorporate more trees and tree infrastructure into resilience planning
- Target lots with heritage trees for land acquisition for public benefit and parks
- Create tree planting guidelines for different regions of the city adaptive to current and future climate change impacts