UNIVERSITY OF MIAMI
OFFICE of CIVIC & COMMUNITY ENGAGEMENT

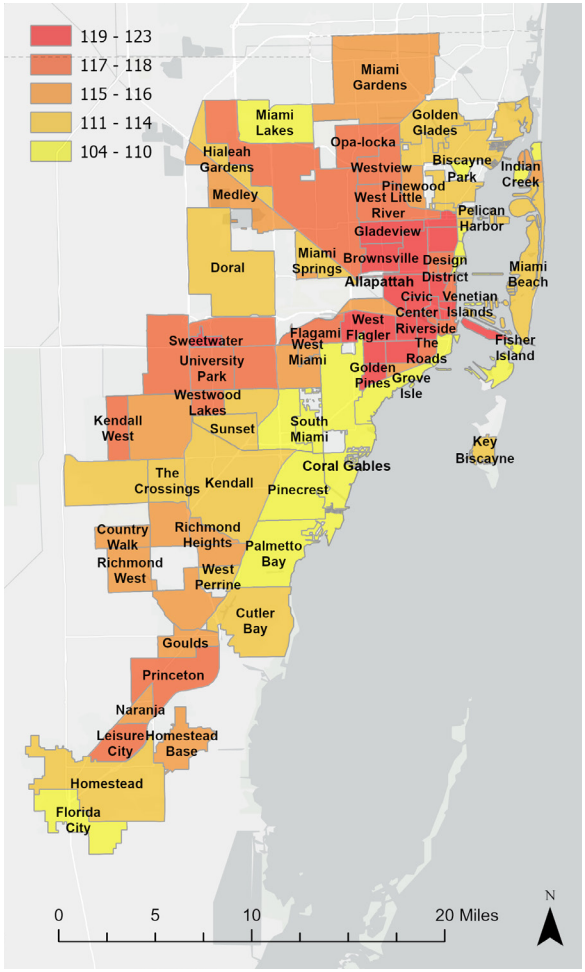
This work was generously supported by:
JPMORGAN CHASE & CO.

CLIMATE and EQUITY

NEIGHBORHOOD SURFACE TEMPERATURES

A comparative analysis of surface temperatures in Miami neighborhoods reveals a positive correlation between tree canopy coverage and protection against extreme heat. Areas that have experienced historic disinvestment demonstrate the lowest tree canopy coverage, which contributes to these areas feeling the harshest extreme heat conditions.

MEAN HIGH SURFACE TEMP (°F)

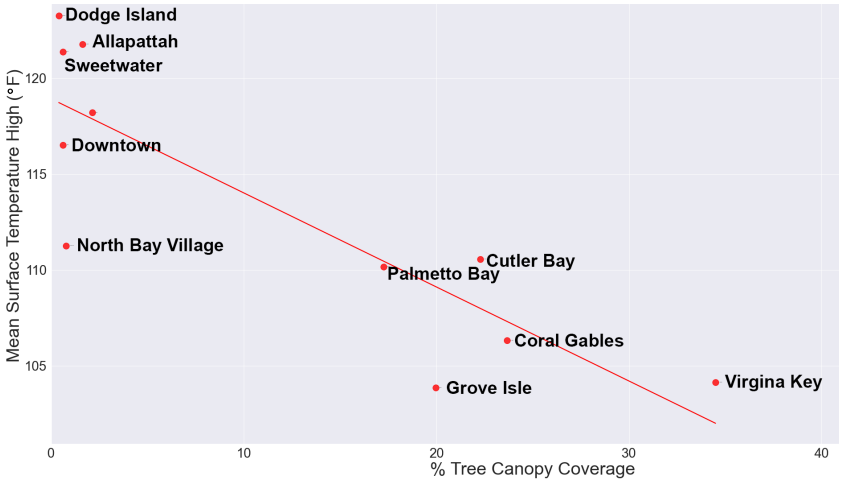


HEAT MAP

(LEFT) This map shows the high surface temperatures that Miami neighborhoods endure. Notably, the map reveals a concentration of high temperatures in the Overtown and Allapattah areas relative to the neighboring communities.

%TREE CANOPY VS MEAN HIGH SURFACE TEMP (°F)

(BELOW)
This line graph shows that neighborhoods with a lower percentage of tree canopy coverage have higher surface temperatures. These are historically marginalized communities that have been altered by the construction of I-95 and other paved thoroughfares, leading to increased traffic and pollution without investment in shade trees and other nature-based cooling mechanisms.



Data Source: ESRI, Heat Health Census Tracts, 2021
SCAN QR CODE TO ACCESS DATA SOURCE

NEIGHBORHOOD SURFACE TEMPERATURE COMPARISION

While trees can have a cooling effect on cities, large areas of concentrated development and roadways raise temperatures by retaining heat through what's known as the Urban Heat Island effect. Keeping in mind that concentrations of paved surfaces raise temperatures, we see that neighborhoods like Allapattah experience extreme surface temperatures similar to that of Dodge Island, an artificial concrete island in Miami.