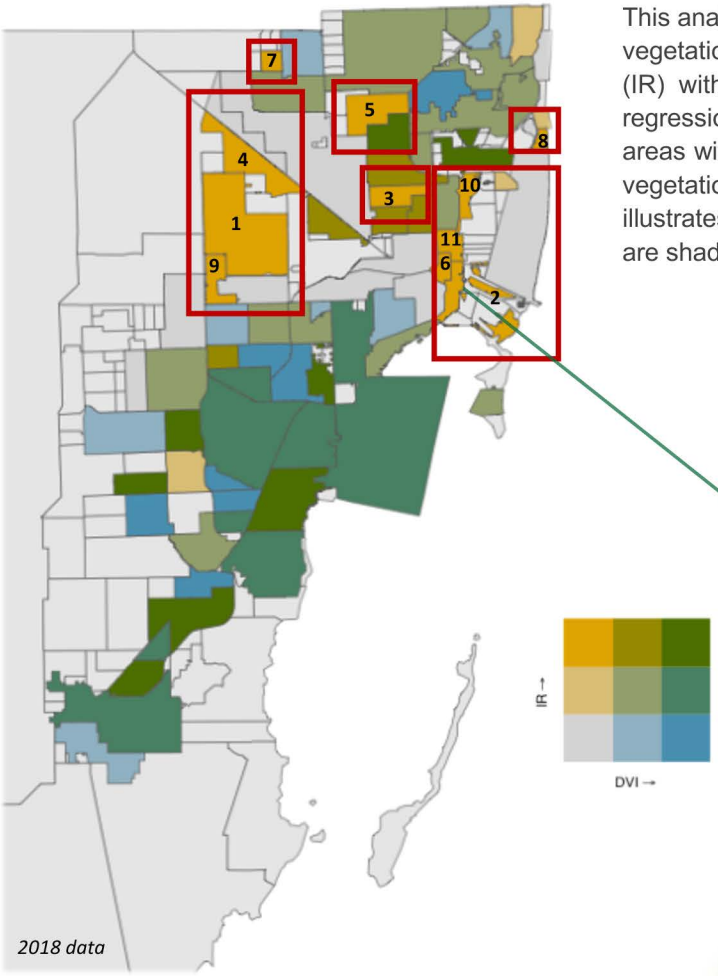
UNIVERSITY OF MIAMI
OFFICE of CIVIC & COMMUNITY ENGAGEMENT

SCAN360

CLIMATE and EQUITY

Vegetation & Cancer: Environmental conditions are important factors that contribute to increased cancer incidence and other poor health outcomes. In Miami-Dade County, vegetation density is an inequitably distributed environmental factor, with less vegetation and tree canopy in historically disinvested neighborhoods in the urban core.

Vegetation Density and Cancer Incidence in Miami-Dade



This analysis investigates the association between mean difference vegetation density index (DVI) and overall cancer incidence rates (IR) within Miami-Dade places and neighborhoods.* Preliminary regression models reflect significantly lower cancer incidence in areas within top quantiles for DVI compared to areas with the least vegetation (quantile 1). The bivariate map displayed on the left illustrates this relationship; areas with both increased IR and low DVI are shaded dark orange.

This is a snapshot of the center of Brickell, a densely populated urban area, where reported neighborhood mean DVI of ~.10 is the lowest in Miami-Dade.

Miami Places/Neighborhoods with High Cancer Incidence & Low Vegetation Density:

1. Doral city
2. Downtown/Brickell
3. Gladeview
4. Medley
5. Opa-locka
6. Overtown
7. Palm Springs North
8. Surfside town
9. Sweetwater city
10. Upper Eastside
11. Wynwood/Edgewater

DVI Classifications

-1.0 ≤ DVI ≤ 0.0	Water/bare soil
0.0 < DVI < 0.2	Barren land
0.2 ≤ DVI < 0.5	Sparse vegetation
0.5 ≤ DVI ≤ 1.0	Dense vegetation

- *DVI quantifies density and quality of vegetation using reflectance values obtained from satellite imagery***
- *Note: Miami neighborhoods within the bottom DVI quantile all fall within the barren land range*

** Miami-Dade "places" include census defined places within the county; "neighborhoods" include local districts within the City of Miami*

*** More information on DVI can be found at usgs.gov (https://www.usgs.gov/special-topics/remote-sensing-phenology/science/ndvi-foundation-remote-sensing-phenology#:~:text=NDVI%20values%20range%20from%20%2B1.0,(approximately%200.2%20to%200.5).)*

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