Half the County in the Flood Zone: Climate Exposure as a Displacement Pressure in Miami-Dade

What the county's own parcel records say about flood hazard and who bears the cost

Abstract. Miami-Dade County's flood vulnerability data attaches a FEMA flood zone to every one of 923,140 parcels. 470,652 parcels — 51.0% — sit inside a FEMA special flood hazard area. Exposure ranges from 100% of parcels in Key Biscayne to 8.8% in Hialeah Gardens. This paper describes that exposure and explains how flood designation raises the cost of staying — through insurance, repairs and redevelopment — for households least able to pay it.

Key findings

- 470,652 of 923,140 Miami-Dade parcels (51.0%) are in a FEMA special flood hazard area.
- 273,966 parcels (29.7%) are in zone AE; 177,427 (19.2%) in shallow-flooding zone AH; 5,016 in coastal high-hazard zone VE.
- Key Biscayne (100%), Aventura (99.2%), Miami Beach (92.8%) and Miami Lakes (90.0%) have the highest shares.
- The City of Miami has the largest count: 60,967 parcels, 44.2% of its total.
- Flood designation turns climate risk into monthly costs — required insurance, elevation and repair — that fall hardest on renters and fixed-income owners.

Why flood risk is a displacement issue

Climate change displaces people in two ways. The first is dramatic: a storm destroys a home. The second is gradual and far more common: the cost of living in an exposed place rises until people who cannot pay it leave. Flood-zone designation is the mechanism that converts physical risk into those costs. Properties in a FEMA special flood hazard area with a federally backed mortgage must carry flood insurance; repairs after damage can trigger costly elevation requirements; and landlords pass these costs to tenants.

Data and method

Miami-Dade County publishes a Flood Vulnerability Viewer data service that records the FEMA flood zone for every parcel in the county. We read the full service directly — 923,140 parcels — and counted parcels by zone and by municipality. Special flood hazard areas are zones beginning with A or V, following FEMA's definitions. The service is public and needs no key, so every number can be reproduced by anyone.

Findings

470,652 parcels (51.0%) fall within a special flood hazard area. 452,237 are in zone X (outside the mapped hazard area), 222 in zone D (undetermined), 26 are recorded as open water and 3 have no zone.

Within the hazard area, 273,966 parcels (29.7% of the county) are in zone AE, with detailed flood-depth analysis; 177,427 (19.2%) are in zone AH, where shallow ponding is the main risk; and 5,016 are in VE, the coastal strip exposed to waves — the costliest place to build or insure.

Exposure differs sharply by place. All 7,376 parcels in Key Biscayne are in the hazard area, as are 99.2% in Aventura, 92.8% in Miami Beach and 90.0% in Miami Lakes. Cutler Bay (73.5%), Sunny Isles Beach (61.3%), Homestead (57.7%), Palmetto Bay (56.4%) and North Miami (53.2%) are also majority-exposed. The City of Miami has the largest number of exposed parcels — 60,967, or 44.2% of its 137,956 — and unincorporated Miami-Dade holds 182,558 (47.4%). Coral Gables (22.6%) and Hialeah Gardens (8.8%) show how much exposure changes across a city line.

Implications for displacement

Wealthy coastal communities are highly exposed but have the most resources to adapt. The larger displacement risk sits where exposure meets low income: renters in older buildings who absorb pass-through insurance costs, and long-time owners on fixed incomes facing rising premiums or post-storm repair bills. Local researchers have also described "climate gentrification" — investment shifting toward higher, drier neighborhoods, which can raise costs for the lower-income residents who already live there. Our data measures the first half of that story (exposure); pairing it with neighborhood income and rent data is the necessary next step.

For nonprofits, flood exposure data supports targeting insurance and repair assistance, preparing tenants' rights information for post-storm periods, and bringing specific, block-level numbers to resilience and zoning hearings.

Limitations

Parcels are not households: one parcel may hold a single house or a large condominium. FEMA zones describe mapped hazard, not flood history, and are revised periodically. This analysis does not measure insurance premiums, damage, or moves directly, and the climate-gentrification pattern referenced above is not tested with this dataset.

Sources

Miami-Dade County — Flood Vulnerability Viewer data service — https://gis.miamidade.gov/arcgis/rest/services/VulnerabilityViewer/MD_FloodVulnerabilityData/MapServer/0

FEMA — Flood zone definitions — https://www.fema.gov/flood-maps/glossary

Miami-Dade County Open Data — https://opendata.miamidade.gov/

All figures were pulled directly from the official sources above in September 2026 and checked for internal consistency. Prepared by Project ReFrame.