Addressing Climate Driven Displacement:

Planning for Sea Level Rise in Florida's Coastal Communities and Affordable Housing in Inland Communities in the face of Climate Gentrification

A Research Report for
The Leroy Collins Institute at Florida State University

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LeRoy Collins INSTITUTE


MORROW

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Acknowledgements

We would like to thank the LeRoy Collins Institute for supporting this research project by providing dedicated funding and crucial feedback on our research approach, findings and directions for future work.

We are grateful for the tireless work of all the research team members including Graduate Research Assistants Tia Maxwell and Paige DeBold for collecting and organizing data.

We appreciate the excellent work of Billie Ventimiglia, Senior Planner of the Barnebey Lab at FSU and Graduate Research Assistant Ashton Hess in proofing and copy editing the final report.

Finally we extend our deepest gratitude to our interviewees who took the time to share their knowledge, expertise and experiences with us to inform the richness of this study.

Executive Summary and Project Overview

The Problem

Sea level rise is a highly disruptive climate change impact to Florida's coastal residents, cities, and towns. One of the concerns posed by sea level rise is that at some point inundation rates are likely to exceed our ability to solve them even with enormous investment in infrastructure such as pumps, land elevation, and desalinization technologies. Eventually, people are likely to start moving inland from coastal areas as the costs of staying become too great. Recent literature on climate justice clarifies that displacement from the coast sometimes leads to pressure in communities that occupy higher ground or are further inland. Those that are further inland are more likely to be displaced by higher income residents who eventually move inland in the process of relocating to higher ground. Many inland households with high displacement risk in Florida are likely to be in lower income and working-class neighborhoods. As these neighborhoods undergo redevelopment and investment, current residents will face increasing pressures to relocate, either voluntarily (eg. selling their homes and businesses) or involuntarily (eg. being evicted for redevelopment projects or being unable to afford increasing rents). This phenomenon has come to be called "climate gentrification." Displacement, both from coastal zones due to flooding and inland due to gentrification, is disruptive. But, those least likely to be able to adapt and move to new areas (those with lower incomes and assets) face a greater burden from the disruption. This process of "climate gentrification" presents an equity challenge to Florida's cities as they face the dual crises of climate change and affordable housing shortages.

Project Goals

The purpose of this project is to examine these dynamics and determine how to get ahead of them to avoid the worst impacts of displacement through planning and policy interventions. Our goal is to contribute to knowledge and policy relevant information that can chart a course toward greater attention to climate justice in Florida. Our research question is: To what extent and how are communities in Florida preparing for potential

displacement from high cost coastal properties due to sea level rise (SLR) and the pressure of increasing displacement risks in higher elevation but often lower cost properties further inland?

We conducted a three part methodology to assess multiple angles of this challenge.

1) **Mapping**--The purpose of the mapping exercise is to identify areas at risk of primary (coastal) displacement and neighborhoods at risk of secondary (inland) displacement through multiple gentrification drivers (e.g. conventional, green, or climate). Our mapping identifies population characteristics at the census block group level of low, moderate, and high displacement risk so that we can understand who is likely to be impacted by each level of displacement risk.
2) **Policy analysis**--Through a policy analysis process modeled after the Plan Integration for Resilience Scorecard methodology, we have undertaken a two-tiered policy analysis. This analysis determines how effectively coastal municipalities are planning for sea level rise and protecting coastal neighborhoods and how effectively inland municipalities are planning to protect affordable housing and stabilize neighborhoods.
3) **Interviews**--Finally, by interviewing policy actors, planners, housing officials, and community advocates in our designated neighborhoods, we seek to understand how these issues are understood and framed at the local level and whether there are activities, plans, or strategies underway that are not yet incorporated into existing plans and policies.

Our work lays the foundation for local and regional actors to undertake similar analysis in their contexts to determine how to slow down coastal displacement and protect affordable and work-force housing while making room for coastal residents who wish to move inland.

Study Area

We selected three Florida counties--Miami-Dade, Pinellas, and Duval--as study areas due to their spatial distribution along Florida's coastline, large urban populations and concentrations of coastal development, and geographically varying racial and ethnic population compositions. Miami-Dade is the most populated county in Florida while Pinellas and Duval rank 6th and 7th respectively. All three face significant coastal flooding risks from sea level rise. In all three counties, residents living along the coast tend to have higher levels of education and affluence while residents residing in inland areas are more likely to exhibit varying levels of socioeconomic position and are composed of diverse racial/ethnic communities. Coastal communities face a significant challenge to develop adaptation and relocation strategies to mitigate against climate gentrification driven displacement risks and ensure the well-being and livelihood of low-moderate-income households (Curtis and Schneider, 2011.)

Results

Mapping

This study uses both hot spot analysis and principal components analysis to identify those areas vulnerable to displacement from the coast (first order displacement) and the potential for residents living on higher ground to be displaced by in-migration or other pressures (second order displacement). We created profiles of both first order and second order displacement to better understand the neighborhood changes occurring along the coast and in potential receiving communities on higher ground.

Through the Principal Components Analysis which summarizes and explores inter-relationships between correlated variables, we were able to explain around 90% of the variation across Census block groups to determine displacement risk. We interpreted grouped components across the three counties identifying risk groups across multiple factors including (1) low socioeconomic position, (2) Hispanic renters in unstable neighborhoods, (3) Hispanic homeowners, (4) single parent households in

stable neighborhoods, (5) renters in high eviction rate areas with desirable neighborhood characteristics (i.e. school proficiency), (6) persons living below the poverty level with less than a bachelor's degree, (7) high eviction rate neighborhoods, among others. We created maps and neighborhood profiles based on the PCA to approximate a displacement risk index score for each block group. We then used these scores to determine high-medium-low displacement risk to help identify neighborhoods that had the highest risk levels. Many of these neighborhoods were also targeted by redevelopment policies and programs such as Opportunity Zone and/or Community Redevelopment Agency designations. Through the mapping process, we were able to identify areas at risk broadly and cross-check our analysis with local actors who confirmed where inland gentrification risks were highest. We used this process to help select cases for further analysis.

Plan Analysis

The Plan Analysis used the network of plans analysis methodology developed by the research team to assess sea level rise (SLR) adaptation policies in coastal areas and to assess affordable housing and neighborhood stabilization policies in inland areas at risk of gentrification that we identified in the mapping process. Through this analysis, we developed scores for each policy type based on the level of commitment, specificity, robustness, and potential for impact if the strategies are implemented.

At the regional and county levels, SLR language focused mostly on direction-setting guidance. Much of the regional language involves acknowledgement, context setting, and some protection and accommodation measures with low commitment scores. In all study areas, we found virtually no policies that specifically address 1ft or more of SLR. We also found that at the city and neighborhood level, plans only minimally address SLR. There is a clear need for greater specificity and commitment to action through the inclusion of specific sea level projections and scenarios as well as policies to encourage adaptation or limit development in areas at risk of SLR inundation in the

future. The plans we reviewed seem to be setting the context for such actions, but not yet incorporating robust adaptation tools.

In regards to neighborhood stabilization, county, city, and neighborhood level plans provide a robust set of affordable housing and neighborhood stabilization measures. Regional plans provide only limited strategies to support affordable housing. This suggests that housing is addressed primarily at county, city, and neighborhood levels. It is encouraging that affordable housing protections are strong at these levels. However, the shortage of affordable housing in Florida continues to be a major issue. While affordable housing policies at the county, city, and local levels are robust, there continues to be a disconnect between policies on the books and their implementation that needs further investigation.

Interviews

We interviewed more than 30 planners, housing and community advocates, housing officials, and resilience officials from our three counties. Interviews revealed that in all three counties, the pro-development paradigm is a driving force even in the face of the impending risks related to sea level rise which are already evident in many neighborhoods. In each county, the coastline continues to experience building densification, installment of grand-scale public projects (especially in Miami), and high-end housing developments. Consequently, there is an emphasis on engineering solutions and structural accommodations in building design and codes to protect against sea level rise impacts. With land values on the rise, developers willing to invest, and massive profits being made in the real estate market over short term business cycles, the pump is primed to maintain the status quo of growth oriented development. Migration away from the coast and conversations about displacement are pushed further into the future and down the priority list as development continues largely unfettered. The reality of this future is not lost on some developers, who are also speculating and consolidating properties on higher ground in anticipation of increased

demand for higher ground real estate in the not too distant future.

Meanwhile, inland areas are also experiencing revitalization and redevelopment in underinvested and/or areas of decline. As these areas become more desirable and property values increase, housing and community advocates are increasingly concerned about affordable housing protections and gentrification. Housing practitioners have long understood that the pressures of gentrification and neighborhood change can lead to the eventual displacement of lower income residents. However, connecting gentrification pressures with climate change impacts remains tangential. Closing the disconnect between environmental/resilience, housing practitioners, and community advocates will be needed to effectively address the complex drivers of displacement in an integrated and cross sectoral way.

The ways in which actors are understanding and addressing these dynamics vary locally. In Miami-Dade, public officials and community advocates are aware of the risks and connections, but uncertainty remains about when the tipping point will be reached to trigger movement away from the coast leading to cascading impacts inland. Additionally, areas that are primed for potential displacement are explicitly identified as inland communities of color which are already undergoing neighborhood change. In Pinellas County, planners are in the process of mapping the vulnerabilities related to sea level rise, identifying sources of affordable housing stock, and delineating potential areas where primary and secondary displacement may occur in order to inform future decision making and policies. In Jacksonville-Duval, community advocacy organizations are sounding the alarm. Public agencies are working to join this momentum, but it appears that politics have slowed down significant progress until recently.

This research underscores four key gaps in 1) implementation, 2) equity, 3) affordable housing, and 4) integration. Implementation gaps are evident since policies to address sea level rise and protect affordable housing are on the books, but these policies have had minimal direct impacts, particularly concerning the provision of affordable housing.

Moreover, resilience projects have so far tended to focus major investments to protect areas with the highest economic values. This translates into an equity gap as those who have the greatest means to adapt are getting the highest levels of protection while those least able to adapt and most likely to be displaced are receiving the least investment. A growing gap in the availability of affordable housing for low income communities of color sets up a tenuous situation for those most at risk of displacement from multiple pressures of gentrification and neighborhood change further exacerbating the equity gap. Finally, many of our interviewees acknowledged that there is an integration gap as resilience and housing sectors continue to operate in disconnected silos.

Recommendations

Given that there is time before these dynamics of displacement unfold, Florida's policy makers, planners, public officials, advocates, and developers can lay the groundwork for a more equitable transition to the new reality imposed by climate change and sea level rise. We offer recommendations and consider pathways forward for actors at the state, regional, and local levels to address the four major gaps identified and develop equitable climate resilience and housing policies and plans. These recommendations are derived more broadly from the following implications:

Act now for future resilience-- There is time yet before SLR inundation becomes so problematic that mass population displacement from the coast will be unleashed. However, SLR inundation will reach these levels during the life of many of the structures being built today. Developers tend to operate on shorter timelines (project timelines) than property owners (investment, mortgage, and resident timelines). This disconnect makes it important for policies that provide guidance to developers for SLR resilience to be put into place. Moreover, the timeline for retreat may be decades in the making, but the loss of affordable housing will unfold over that time. Protections need to be put into place sooner rather than later.

Focus on affordable housing protection and provision-- From an equity standpoint, affordable housing protection and provision is the most important intervention that can be made in this context. Those least able to move and most likely to be displaced are low income households. The real estate development system will not provide adequate housing for low income households unless policies or incentives are put into place. Addressing affordable housing needs helps to avoid the worst impacts of gentrification and displacement while allowing those who are providing labor in service industries and other low-paying sectors to live closer to their places of employment.

Expand education and access to tools for residents and advocacy groups-- Advocacy groups, planners, and resilience officers still face a siloed bureaucracy where there are gaps in capacity and communication of information that supports the needs of residents. By developing mapping tools, as well as toolkits for residents to be better informed about program efforts, community advocates can help identify SLR risks and where development pressures are ongoing to support collective coalitions to mitigate displacement.

Develop an integrative and collaborative approach for climate justice and equity-- A more collaborative approach to working with business, government, and non-profit sectors to address the overlapping risks, needs, and priorities of different actors would at the very least help address the disconnect that seems to be happening in resilience and affordable housing. There is also a need to integrate more holistic approaches that also include health equity, workforce development, and building human capital through capacity building and technical support for existing residents.

Report Structure

The report is organized in five substantive parts and the results of our three tiered methodologies are organized as follows:

- **Part 1** provides the introduction and overview of Florida's policy responses to sea level rise as well as relevant literature on climate gentrification
- **Part 2** provides the results of our spatial analysis and mapping identifying neighborhoods at risk for displacement
- **Part 3** offers a policy analysis of a range of plan types to determine the effectiveness of both resilience and sea level rise policies and affordable housing protections
- **Part 4** presents perspectives of resilience officers, planners, housers, and advocates based on our in-depth interviews
- **Part 5** summarizes our key policy recommendations to slow both primary and secondary displacement resulting from sea level rise
- **Part 6** provides a conclusion, identifies limitations of the research, and offers guidance for further research to be conducted

1.0 Introduction and Context

Climate change is the defining challenge of the 21st century. During this century, we will determine whether or not we will hold off the worst of climate change's impacts by undertaking a transition to a low or zero-carbon energy future and the extent to which we will need to lay the foundation for adapting to the changes that are unavoidable and already playing out (IPCC 2014; McAlpine & Porter 2018). Florida is often considered ground zero for climate change impacts in the US. With a highly developed coastline under threat from tropical storms and sea level rise, and the entire state facing increased incidence of excessive heat events, wildfire, and drought, Florida is facing an all but existential crisis if little is done to avert the worst impacts from global warming and climate change.

Sea level rise is one of the most challenging of these climate change impacts. Florida is a hazard-prone state and is often held up as one of the most effective at preparing for and recovering from hazard events. Hurricanes, tropical storms, and flood events are commonplace in the state. Living in Florida simply means living with hazards. However, sea level rise poses a different challenge to policy makers, planners, and managers. Rather than a sudden and temporary event, sea level rise is a slow process of progressive and permanent inundation. Moreover, it impacts not only surface waters but also groundwater which threatens salinity rates and drinking water supplies in the state.

One of the concerns posed by sea level rise is that at some point inundation rates are likely to exceed our ability to solve them even with enormous investment in infrastructure such as pumps, land elevation, and desalinization technologies. According to the Miami-Dade County Sea Level Rise Strategy, Miami Beach has already invested hundreds of millions of dollars in sea level rise adaptation projects which are expected to buy up to 20 or 30 years before new investments will be needed (https://www.miamidade.gov/global/economy/resilience/sea-level-rise-strategy.page). Eventually, people are likely to start moving inland from coastal areas. As they do so, there is the potential that they will displace other households in already established

neighborhoods leading to secondary displacement. This phenomenon has come to be called “climate gentrification.”

The central concern here is displacement. There is the potential for coastal displacement as coastal residents have to move inland to avoid floodwaters from increasingly higher tides. This primary displacement may be followed by secondary displacement of residents who are inland and on higher ground as their properties become more desirable, land values increase, and lower income households are displaced as renters are moved out, tax rates extend tight household budgets, or redevelopment projects bulldoze and transform neighborhoods. Often, gentrification related displacement disproportionately impacts lower income or working class neighborhoods and frequently displaces communities of color.

Our research question is: To what extent and how are communities in Florida preparing for potential displacement from high cost coastal properties due to SLR and the pressure of increasing displacement risks in higher elevation but often lower cost properties further inland?

The purpose of this project is to examine these dynamics and determine how to get ahead of them to avoid the worst impacts of displacement through planning and policy interventions. Our goal is to contribute to knowledge and policy relevant information that can chart a course toward greater attention to climate justice in Florida.

1.1 Sea Level Rise in Florida

Sea level rise is one of the most widespread and recognizable consequences of climate change (Butler, Deyle, Mutnansky, 2016; Nicholls, & Cazenave, 2010). The nature of sea level rise is different from most other climate change driven coastal hazards such as intensification of tropical storms, heat waves, and storm-based flooding due to its more gradual timeline and persistent impacts. When the seas rise over the coming decades they will not recede. Each year marks a new normal for higher tides and narrower beaches, especially along sedimentary coasts. This presents an existential crisis for

coastal planners and communities in Florida. Of the 13.1 million people in the United States who could be potentially displaced by SLR related flooding by 2100, over 4 million reside in Florida's Miami-Dade, Broward, Pinellas, and Lee counties (Hauer, Evans, & Mishra, 2016). With low lying topography over much of the state and nearly 80% of the population in coastal zones, the potential inundation is overwhelming in terms of social, ecological, and economic impact.

Over the last two decades, Florida policymakers have been laying the groundwork to plan for sea level rise adaptation. In the early 2000s, the Crist administration established a climate change focused task force to develop state level plans for climate change mitigation and adaptation (Vella et al., 2016). Although the plans were abandoned under the Scott administration, sea level rise remained a focus of state climate adaptation policies. With the Community Planning Act of 2011, state statute allowed local governments to designate Adaptation Action Areas (AAAs) to allow for specific policies, programs, and projects to be developed and funded in areas most vulnerable to sea level rise (Butler, Deyle, & Mutnansky, 2016). In 2015, the state solidified this commitment to sea level rise adaptation planning with the passage of the Peril of Flood Act which requires consideration of sea level rise in all coastal comprehensive plans in the state (Butler, Holmes, & Lange, 2021). This policy change has spurred significant activity at the local level to integrate sea level rise into local comprehensive plans.

Our research to date has assessed how sea level rise has been taken into account in Florida's coastal communities before the passage of the Peril of Flood Act (Butler, Deyle, & Mutnansky, 2016; Vella et al., 2016) and changes to comprehensive plans in coastal communities since the passage of the act (Butler, et al., 2019). We have also conducted a comprehensive survey of local governments along Florida's coast to determine the state of sea level rise adaptation in Florida not captured in the comprehensive plans (Butler et al., 2019). Our findings suggest that the mandate for SLR planning in the Peril of Flood Act has indeed spurred significant focus on SLR as plans integrating SLR language moved from 22 in 2015 to 88 in 2019. Survey results

also pointed to the fact that SLR planning was undertaken in direct response to the new mandate (Butler, Holmes, & Lange, 2021).

Despite this surge of planning activity, Florida's planners are reticent to acknowledge that under the most dire projections, some coastal areas will become inundated and uninhabitable within a few decades (Butler et al., 2016;Tampa Bay Climate Science Advisory Panel, 2019; Southeast Florida Regional Climate Change Compact Sea Level Rise Work Group, 2020). While an increasing number of communities are beginning to recognize the importance and potential inevitability of the need to relocate urban infrastructure and public facilities (Butler et al., 2019), the idea of managed retreat is still a lower priority in current plans. Prior to the Peril of Flood Act, only three comprehensive plans mentioned the need to consider "retreat" from the coast. Four years after the act, 17 of the 88 (nearly 20%) coastal comprehensive plans addressing sea level rise incorporate relocation or retreat language into their policies. This growing recognition of the eventual need to migrate from the coast provides a foundation for anticipating when and how this retreat can be managed. But, policies to protect (keep water out) and accommodate (allow water in but maintain current uses) still dominate local plans (Butler, Holmes, & Lange, 2021).

At the same time, Florida's coastal planners are not broadly considering the cascading effects of potential coastal displacement. Frequently, floodplains are occupied by lower income households as land at risk of flooding tends to be cheaper than land outside of floodplains. Florida's coastal development often represents the inverse relationship as higher cost properties are closer to the coastline and inundation exposure from storms and sea level rise. Exceptions to this rule include areas along estuaries, bays, and rivers that are not beachfront, but that are sometimes occupied by lower resource households who may rely on access to coastal waters for their livelihoods. Still, Florida's historic development patterns and real estate values tend to demonstrate the people move to the state partially to be near coastal resources (Smith, 2005; Florida Oceans and Coastal Council 2010).

Recent literature on climate justice and climate gentrification clarifies that displacement from the coast sometimes leads to pressure in communities that occupy higher ground or are further inland (Keenan, et al. 2018). Furthermore, areas along the coast occupied by lower income or rural residents are less likely to receive investments in protective measures such as seawalls and beach nourishment. Therefore, lower income residents near the water are likely to be displaced sooner than higher income residents. Those that are further inland are more likely to be displaced by higher income residents who eventually move inland in the process of relocating to higher ground. In many Florida communities, inland neighborhoods are likely to become the receiving communities for some of the displaced residents from the more vulnerable coast (Martinich, et al. 2013). Some of these communities will be lower income communities of color. The potential result is a climate driven and multi-tiered process of gentrification where lower resource households are displaced, separated from their political and social networks, and disconnected from their ability to reap the potential benefits of adaptation measures (Shi et al., 2016).

1.2 Conceptualizing Climate Gentrification

Researchers in the field of climate justice have called for 1) greater participation of marginalized and vulnerable populations in adaptation planning processes; 2) more widespread adoption of adaptation policies, including in lower resource communities where more progressive planning efforts are challenging to undertake; 3) an enhanced role for regional and state governance levels to ensure more widespread adoption of climate adaptation that redresses social inequities; and, 4) a scaling of projects that will not only protect global centers of economic activity through large scale physical infrastructure projects, but also lower resourced and historically marginalized urban areas including both physical infrastructure and social institutional support (Shi et al., 2016). We seek to respond to this call by focusing on how to address climate justice challenges in Florida in the face of sea level rise.

“Climate gentrification” is a recent turn of phrase used to highlight the disproportionate impacts of climate change on lower income populations of color (Keenan, Hill &

Gumber, 2018; Anguelovski et al., 2019). The global community turned its attention to the idea of climate justice in international talks that identified the ongoing and future disproportionate impacts of climate change on small and developing nations' economies, livelihoods, and lands (Robinson, 2018). The pivot to climate gentrification adds nuance to this conversation by examining displacement of lower income populations of color as communities undergo neighborhood change and property values rise due to green or grey climate infrastructure investments and/or land speculation in higher elevation areas in flood prone cities. "Climate gentrification" gained traction in the late 2010s and can be traced to media and scholarly work in Miami, Florida in particular (Keenan, Hill, & Gumber, 2018), with expanding applications in Louisiana, New York, Texas, and others. Scholars have not settled on this term however, as some use "resilience gentrification" (Gould & Lewis, 2018) or "low carbon gentrification" (Bouzarovski, Frankowski, & Herrero, 2018) with similar meaning.

Climate gentrification is an under-researched concept that is early in its development and does not yet make the connections between green gentrification and climate adaptation pathways to displacement (Anguelovski et al., 2019). The key hypotheses associated with climate gentrification are multi-faceted, but the central idea is that land values track risk. As risks of climate impacts increase, land values will face downward valuation pressures. As risks decline, land values tend to rise. These dynamics might be driven by natural advantages (eg. higher ground being less flood prone) or by investments in adaptation (eg. building levees or seawalls to keep flood waters out of neighborhoods). Either of these factors can make land attractive to investors and developers as they identify properties to develop. Investments in parks, tree planting, walkability, and mass transit as low-carbon transition strategies might also increase real estate values on nearby properties. Small and large redevelopment projects that upgrade housing stock and commercial districts in low income neighborhoods on higher ground to avoid future coastal flooding from sea level rise might also shift lower value properties to higher value properties. In all of these cases, the theorized dynamics are the same—as property values rise, existing residents are displaced either voluntarily

(e.g. selling land if they own) or involuntarily (e.g. being evicted by new land owners as property developers convert low-income rentals to higher value uses).

While there is merit to this theoretical conceptualization of the phenomenon, there is a need to evaluate the underlying dynamics and drivers of gentrification to determine how and whether displacement of lower income populations of color is driven by climate induced investments or other drivers of residential displacement. We specifically focus on housing policy and affordable housing as a lens through which to view this phenomenon in contrast to the usual orientation to real estate and land values (Keenan, 2018). We explore how housing policy can be a useful intervention to reduce displacement pressures of low income households (those least capable of moving) regardless of the drivers of displacement.

There is a decades old literature on conventional gentrification driven by housing market factors and government investments. Many government initiatives of the mid-20th century, such as urban renewal and interstate highway construction, displaced low-income communities of color from the urban core (Sumka, 1979; Fullilove, 2016). Displacement is often discussed as a product of gentrification; however, this relationship is neither linear nor sequential. Residential displacement can occur prior to gentrification when there is disinvestment in neighborhoods, which creates vacant land, primes a neighborhood for eventual reinvestment and creates conditions that are ripe for gentrification. Residential displacement can also result from a myriad of additional disruptions such as natural disasters, rent increases, and highway or transit construction and expansion (Grier & Grier, 1978). Conventional understandings of gentrification focus on determining its drivers, effects on people's lives, neighborhood change, and resulting displacement (Marcuse, 1985; Smith, 1996; Shaw, 2008, Lees et al., 2008; Zuk et al., 2018). The related concepts of green and ecological gentrification postulate that displacement can occur with investments by "greening" neighborhoods or restoring environmental amenities, such as parks, trails, greenways, and infrastructure for alternative modes of transportation, which can attract new residents, sometimes

displacing longer term lower income residents (Curran, & Hamilton, 2012; Anguelovski, 2016; Rigolon & Nemeth, 2018, 2019; Gould & Lewis, 2017; Anguelovski et al., 2018).

We suggest that displacement of lower income populations is a common theme across these literatures. Regardless of the reasons for displacement, lower income households have the least resources to make a move and yet are the most likely to be displaced by gentrification processes. We suggest that affordable housing policy can be a useful lens through which to view potential responses to all manifestations of gentrification. The underlying drivers of displacement are linked to inequitable development practices, uneven public investments, and insufficient affordable housing policies to protect the most vulnerable from losing their homes. In this report, we develop a methodology for determining displacement risk, evaluating resilience and affordable housing policies, and assessing gentrification pressures in communities where climate change impacts are already linked to gentrifying neighborhoods. We hope this approach begins to address both of these fundamental critiques of the current literature on climate gentrification and more importantly begins to lay the groundwork for planners, managers, and policy makers at local, regional, and state levels in Florida to protect affordable housing, stabilize neighborhoods, and reduce displacement risk pressures for those who are least able to afford moving.

2.0 Mapping Displacement Risk

2.1 Overview and Framework

Adaptation planning involves prioritizing and mitigating the risks associated with future sea level rise (SLR). According to the Intergovernmental Panel on Climate Change (IPCC) sea levels around the globe are rising around 0.12 inches* per year (IPCC, 2013). Those living in low-lying coastal areas will face short- and long-term risks such as greater exposure to coastal hazards, inundation of homes and property, and lastly, managed retreat away from (inundated) coastal areas displacing low-to-moderate income inland residents (McLeman, 2018). Displacement describes enforced mobility through forced evictions and dispossession by way of pricing residents out of their homes and neighborhoods (Zuk, 2018; Grier and Grier, 1978). Displacement can occur for a variety of reasons ranging from interstate highway construction, urban renewal, slum clearance, red lining, rent increases, and natural disasters. Displacement can also occur prior to gentrification or as a result of gentrification or the process of neighborhood redevelopment where low-income groups are replaced by higher income groups.

This study presents a tangible framework to identify communities that exhibit characteristics conducive to displacement via inland migration from coastal residents who experience unbearable SLR, greater exposure to coastal hazards, and/or nuisance flooding, as well as other potential drivers. To advance the utility of the descriptive theory known as ‘climate gentrification’ this case study employs a range of socioeconomic, demographic, and housing variables to capture dynamic processes hypothesized to amplify Florida residents’ vulnerability to sea level rise for the sake of assessing the extent to which neighborhoods are at risk for ‘second order’ residential displacement.

Inland areas, away from the coast and outside the range of projected SLR will potentially be receiving areas for coastal migrants, or in-movers (Keenan, 2018; Hauer et. al, 2020). Over the next few decades, residents in vulnerable communities may be subject to 'second order' displacement, or residential displacement via in-movers pricing longtime residents out of their residential homes and neighborhoods (Elliott-Cooper, et. al, 2020). Many Florida cities and municipalities will have to confront the risks associated with SLR and will need to prepare by implementing protective housing policies and providing at-risk communities with the means to buffer themselves from displacement and the pressures of climate gentrification (Hauer et. al., 2020). When residents abandon their properties due to SLR and/or nuisance flooding, they will likely move inland near their former residence or to a new locale and may displace longtime residents (Zuk, 2018; Keenan, 2018; Elliott Cooper et. al., 2020). Identifying high-risk communities with limited economic and political power will enable planners to preserve, protect, and build affordable housing in receiving communities and implement managed retreat strategies to mitigate residential displacement before SLR inundation occurs.

Key factors from the displacement and gentrification literature describe dimensions of 'second order' residential displacement (Hauer et. al., 2020). Limited studies have examined the nature of displacement and climate gentrification using a variety of quantitative approaches (Hauer et. al. 2020; Hwang and Sampson, 2014). To operationalize factors that predispose neighborhoods to displacement risks, several studies use displacement risk in the context of gentrification and identify a number of variables that make residents vulnerable to displacement (Bates, 2013; Way, Mueller, & Wegmann, 2018; Institute of Housing Studies at DePaul University, 2018; Williams, 2020). These factors are a combination of demographic, socioeconomic, and housing variables. Demographic variables such as race/ethnicity, single-parent households; Socioeconomic variables such as median income, educational attainment, poverty, job proximity and school proximity, and Housing variables include cost burdened households, renter status, tenure, evictions, home values, gross rent, etc.

Low-to-middle income households, particularly those located in low-lying coastal areas, will likely be forced to migrate inland as the pressure from SLR gradually initiates saltwater intrusion, nuisance flooding, increased exposure to coastal hazards, and eventually, permanent inundation. To prepare for the consequences of residential displacement, adaptation and relocation strategies are steadily increasing in importance as the question of where coastal residents go, becomes more prescient (McLeman, 2018). Those vulnerable to 'second order' residential displacement include, but are not limited to the African American and Hispanic population, single parent households, those with less than bachelor's degree, households below the poverty level, areas with high eviction rates, a higher proportion of renters, and proximity to jobs and good schools.

We used a combination of hot spot analysis and multivariate analysis to identify areas at risk for displacement. Researchers commonly use multivariate techniques to simplify and group variables into a few meaningful components (Hwang and Sampson, 2014). These data reduction techniques aid in better representing and reducing data into interpretable measures and index construction (Hwang and Sampson, 2014; Wang et. al., 2017). This study uses the well-known principal components analysis ("PCA") to create synthetic displacement factors and construct an index to categorize neighborhoods as being at high, medium, or low risk for 'second order" displacement.

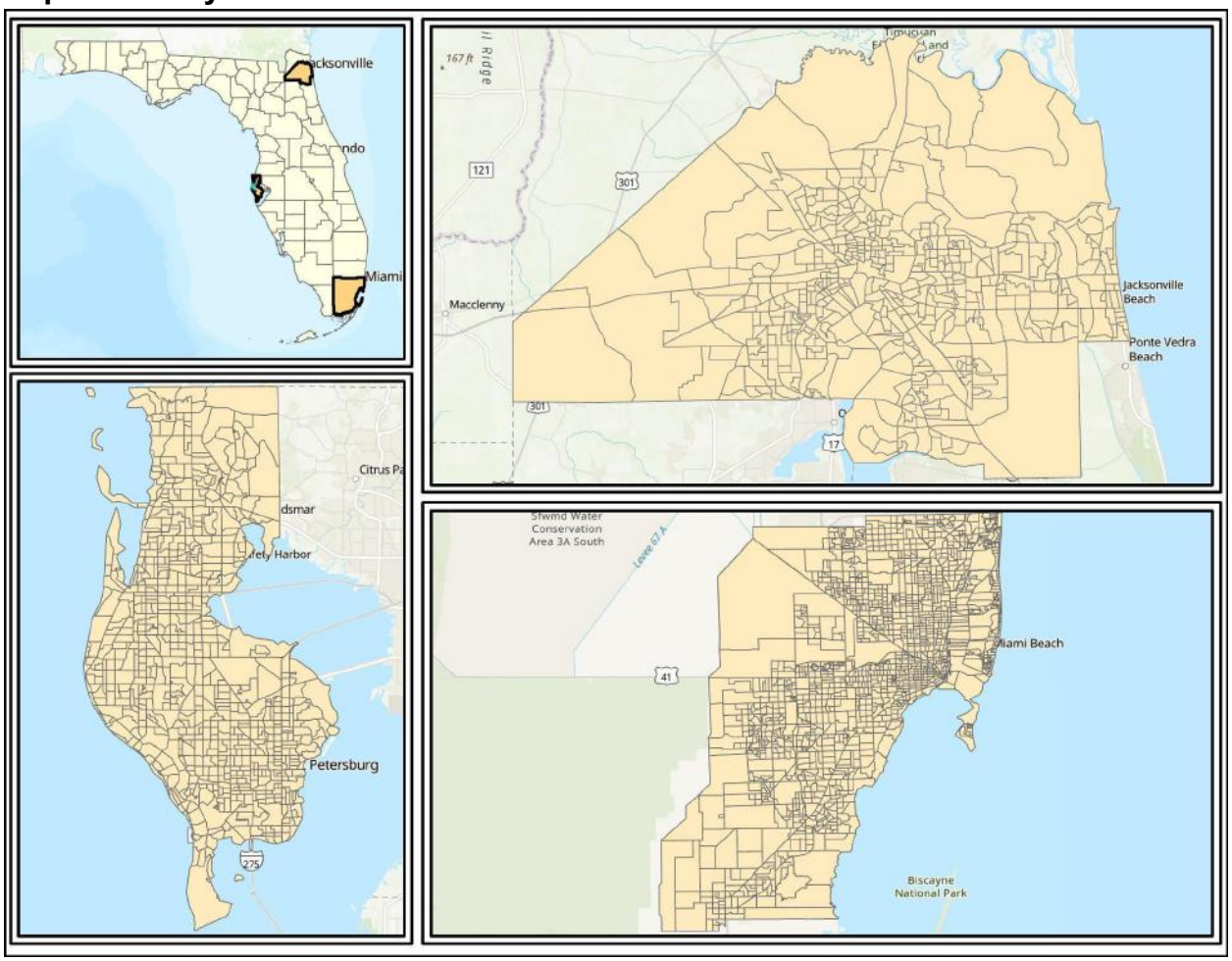
2.2 Methodological Approach

Three Florida counties were selected as study areas due to their spatial distribution along Florida's coastline, large population sizes and concentrations of coastal development, and geographically varying racial and ethnic population compositions (See Map 1). Residents living along the coast tend to have higher levels of education and affluence while residents residing in inland areas are more likely to exhibit varying levels of socioeconomic position and are composed of diverse racial/ethnic communities. With expected population growth, from around 6.6 million projected to around 10 million by 2030, it will be imperative for coastal communities to develop

adaptation and relocation strategies to mitigate against ‘second order’ displacement risks and ensure the well-being and livelihood of those low-moderate-income households facing displacement pressures (Curtis and Schneider, 2011).

Miami-Dade is located at the south easternmost tip of Florida and is the most populated county in Florida. Coastal areas in the county are vulnerable to SLR and the city of Miami has been recognized as the most economically vulnerable city to SLR in the world. Once SLR increases to around 1.5-2 meters, predictions suggest close to 2 million residents will retreat from inundation pressures (McLeman, 2018). Pinellas county is the sixth most populated county and lies along the Gulf coast of Florida. The county is surrounded on three sides by water and is considered part of the Tampa Bay metropolitan area; one of the state’s fastest growing metropolitan areas. Duval county is the seventh most populated county and is located in northeastern Florida along the Atlantic coast. Only one quantitative study examined processes indicative of ‘Second order’ displacement in Florida (Keenan, 2018). While Keenan’s study assessed home appreciation rates in relation to higher elevation, our study uses both hot spot analysis and principal components analysis to identify those areas vulnerable to displacement from the coast (first order displacement) and the potential for those residents (or others moving to Florida for a host of reasons) to displace residents living on higher ground away from coastal development. We also created profiles of both first order and second order displacement to better understand the neighborhood changes occurring along the coast and in potential receiving communities on higher ground.

Map 2.1: Study Area



2.3 Data Collection

A wide range of housing, socioeconomic, and demographic characteristics are known to predispose a neighborhood to the risk of residential displacement. Socioeconomic, demographic, and housing data came from the Census Bureau's American Community Survey (ACS). Eviction rates were obtained from Princeton University's Eviction Lab and job proximity and school proficiency indexes were obtained from United States Department of Housing and Urban Development (HUD) (U.S. Global Change Research Program, 2014; Desmond et. al., 2018; American Community Survey, 2018). Five-year socioeconomic, demographic, and housing estimates (2014-2018) were gathered at the block group level for each indicator. We drew from existing studies on displacement to

identify factors representative of demographic, socioeconomic, and housing conditions to develop our analysis (Bates, 2013; Wegmen et al, 2018; Institute of Housing Studies at DePaul, 2018; Williams, 2020). Socioeconomic conditions include % persons living below the poverty level, the job proximity index, school proficiency index, and % persons with less than a bachelor's degree. Housing and family characteristics consist of the % renter-occupied households, % single parent households, and eviction rates. Race/ethnicity indicators include % African American residents and % Hispanic residents. Other indicators such as % vacant housing units, median rent, median home value, and median income were tested, but produced less interpretable results.

All of the indicators chosen reflect known characteristics of out-movers, or populations predisposed to residential displacement or gentrification pressures. To prepare for the consequences of residential displacement, adaptation and relocation strategies are steadily increasing in importance as the question of, where coastal residents go, becomes more prescient (McLeman, 2018). Block groups that are vulnerable to displacement and are the most at risk to gentrification pressures have higher than average populations that make resisting displacement more difficult. These are characteristics of "receiving" neighborhoods, that are higher ground, won't be inundated at the 3 feet increase in sea level, but have higher than average renters, people of color, lack college degrees, have more single parent households, and have lower incomes (reduced ability to withstand housing price increases caused by gentrification). Locations that have not been inundated at SLR 3' provide an additional layer to understand risk in the context of potential climate gentrification.

Demographic changes that would be considered stabilizing factors include: increases in White residents, homeowners, college educated residents, and higher household incomes (housing price increase, often displaces existing residents – indicators likely to capture both in-migration of "gentrifiers" and the out-migration of longtime residents). These demographic factors are generally understood to reduce gentrification pressures

in the community based on prior gentrification studies (Bates, 2013, Way, Mueller, & Wegmann, 2018).

Longitudinal housing market indicators can identify housing price changes that accompany gentrification and displacement. These factors demonstrate some level of change already underway, which increases the likelihood that change will continue. We are also continuing to explore more localized factors as well such as age of housing, homestead exemptions, and sale prices, Community Redevelopment Areas (CRA), and Opportunity Zones (OZ) to understand the local context better to see where investment is being directed both publicly and privately.

2.4 Hot Spot Analysis

While we initially started with a range of vulnerability, demographic, and housing market indicators – we utilized prior studies (Bates, 2013; Way et al., 2018; Williams, 2020) to focus only on those indicators used that account for the most variation. Hot spot analysis identifies areas where significant spatial clusters of high values (hot spots) and low values (cold spots) exist. The hot spot tool computes a z-score with confidence interval and p-value. A higher or lower z-score indicates greater statistical significance of hot and cold spatial clusters. The maps shown in the Appendix display hot spot results for each of our displacement risk indicators from 2000, 2010, and 2018 –however in this study we highlight only 2018. The hot spot maps show concentrations of income, population groups, and household/family characteristics across block groups in Duval, Miami-Dade, and Pinellas county. We identified primary locations of hotspots at 95% or more confidence interval as South St. Pete, North Jacksonville, and multiple areas throughout Miami that are inland (See Appendix). Our hot spot analysis was an initial step to support developing an index where we're able to characterize second order displacement.

2.5 Principal Components Analysis

The PCA is a multivariate dimension reduction technique used to summarize and explore inter-relationships between correlated variables (James G., Witten D., Hastie T., Tibshirani R., 2013). The algorithm reduces a set of input variables into representative components which explain the most variation from the original data set. The PCA creates new synthetic variables that are linear combinations of the original displacement risk factors variables where in order each combination, or feature, explains more variation than the next (James et. al., 2013). Thus, the first component explains the maximum amount of variation, the second the second most, with each sequential feature being independent of the previous ones. Interpreting the components involves examining the "loading" or correlation between the original variables and the new axes (James et. al., 2013). Subsequently, the technique produces a representative set of variables which collectively represents the inter-relationships between socioeconomic and biophysical risks.

The Displacement Risk Index (DRI) was developed using the PCA. PCA's were run individually for each study area. Individual DRI indicators (school proficiency index, job proximity index, eviction rate, % persons living below poverty level, % of persons with less than a bachelor's degree, % renter occupied housing units, % single parent households, % African American residents, and % Hispanic residents) were considered in the analysis. A correlation based PCA reduced the indicators into component features that represent population sub-groups that are at risk of experiencing "second order" displacement. The PCA produced five interpretable components. To interpret the results of the PCA, the "loadings" or correlation between the original variables and the output linear combinations or components were examined. Loadings greater than 0.30 and less than -0.30 were considered significant variables in the output components (Hwang et. al., 2017; James et. al., 2013). Component scores represent the sum of all components in each study area and were classified as increasing or decreasing risk of residential displacement. An additive model was fit in order to generate the sum of component scores for each block group. The component scores calculated at the block

group level were standardized, equally weighted, and added into a unitless DRI score. The crude DRI score was subsequently categorized into moderate displacement (within one-half standard deviations of the mean), while values above and below one-half standard deviations of the mean were subsequently categorized as high and low displacement risk, respectively.

2.6 Principle Component Results

Individual PCA's yielded six components for Duval and Pinellas counties and five for Miami-Dade. Respectively, these components explained around 90%, 93%, and 87% of the variation in the original data set (see Map 1). Table 1 presents the results of the PCA for each study area.

Map 2.2: PCA Results across study areas

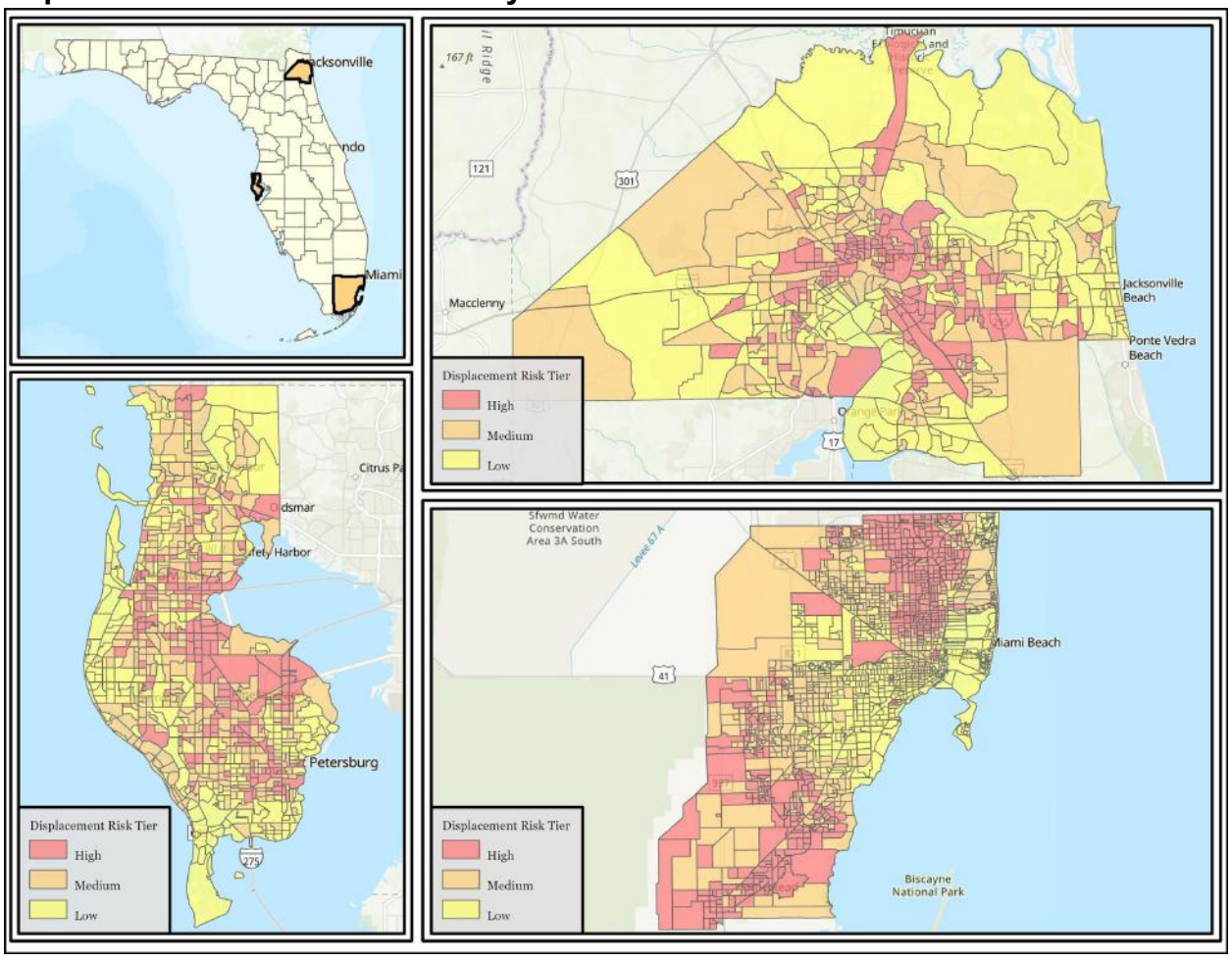


Table 2.1: PCA Results

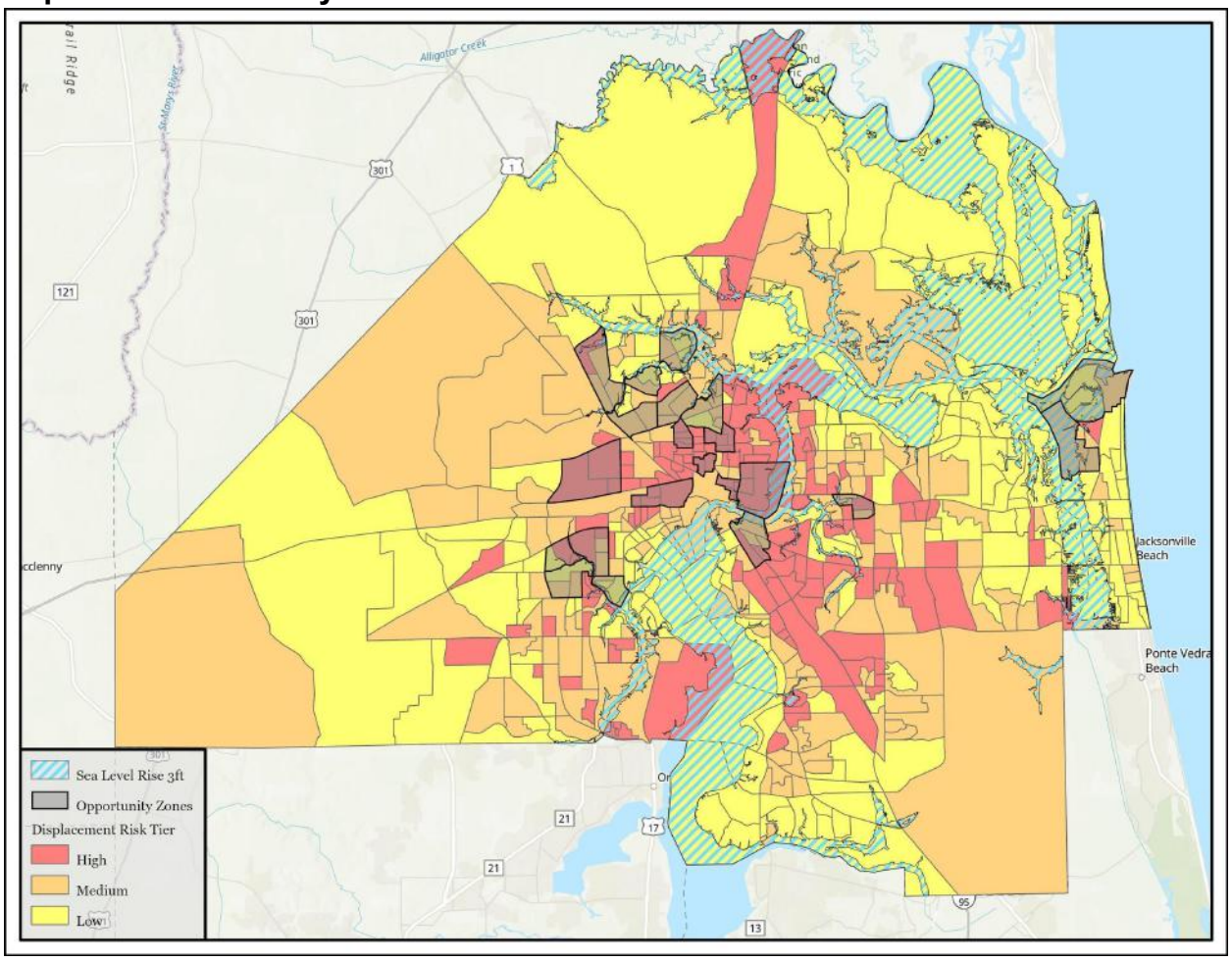
Duval	Comp. 1	Comp. 2	Comp. 3	Comp. 4	Comp. 5	Comp. 6
Loadings						
School Proficiency Index	0.366	0.232	0.14	0.295	0.598	0.469
Job Proximity Index		0.634	0.267	-0.598	-0.195	
Eviction Rate	-0.321	-0.248	-0.214	-0.517	0.67	
% Poverty	-0.41	0.203	0.152	0.132		0.531
% Less than Bachelors	-0.403	-0.163	-0.27		-0.184	0.479
% Hispanic		0.359	-0.843			
% Renters	-0.312	0.478		0.148	0.325	-0.201
% Single Parent Households	-0.312	0.146		0.495		-0.466
% African American	-0.435	-0.189	0.22			
Miami-Dade						
Loadings						
School Proficiency Index	0.411			-0.113	-0.601	
Job Proximity Index	0.146	0.199	0.73	0.1	0.26	
Eviction Rate	-0.217	-0.319		0.873	-0.273	
% Poverty	-0.414	0.272	0.114			
% Less than Bachelors	-0.393	0.204	-0.424		0.265	
% Hispanic	0.149	0.611	-0.332	0.33		
% Renters	-0.301	0.418	0.39			
% Single Parent Households	-0.387	0.175		-0.197	-0.639	
% African American	-0.418	-0.398		-0.246		
Pinellas						
Loadings						
School Proficiency Index	0.28	0.279	0.541		0.705	0.136
Job Proximity Index	-0.125	-0.61	-0.367		0.562	-0.113
Eviction Rate	-0.359	0.211	-0.325	0.392	0.238	0.588
% Poverty	-0.419	0.102		-0.111	0.184	-0.378
% Less than Bachelors	-0.367	0.102	0.148	0.667		-0.445
% Hispanic	-0.215	-0.508	0.455	0.235	-0.266	0.417
% Renters	-0.391	-0.196	0.26	-0.41	0.145	0.127
% Single Parent Households	-0.382		0.376	-0.24		-0.169
% African American	-0.35	0.423	-0.162	-0.314		0.251

In Duval county, these components were interpreted as (1) low socioeconomic position, (2) Hispanic renters, (3) Hispanic homeowners, (4) single parent households in stable neighborhoods, (5) renters in high eviction rate areas with desirable neighborhood characteristics (i.e. school proficiency), and (6) persons living below the poverty level

with less than a bachelor's degree. Components 1-3 and 5-6 imply increasing ‘second order’ displacement risk. In Miami-Dade county, components were interpreted as (1) low socioeconomic position, (2) Hispanic renters, (3) Hispanic homeowners, (4) Hispanic residents in unstable neighborhoods, and (5) single parent households in high eviction rate areas with desirable neighborhood characteristics (i.e. school proficiency). Components 1-2 and 4-6 imply increasing ‘second order’ displacement risk. Lastly, in Pinellas county, components were interpreted as (1) low socioeconomic position, (2) Hispanic renters, (3) Hispanic single parent households near higher proficiency schools), (4) persons with less than a bachelor’s degree living high eviction rate areas, (5) neighborhood near jobs and high proficiency schools, and (6) Hispanic and African American residents living in high eviction rate neighborhoods.

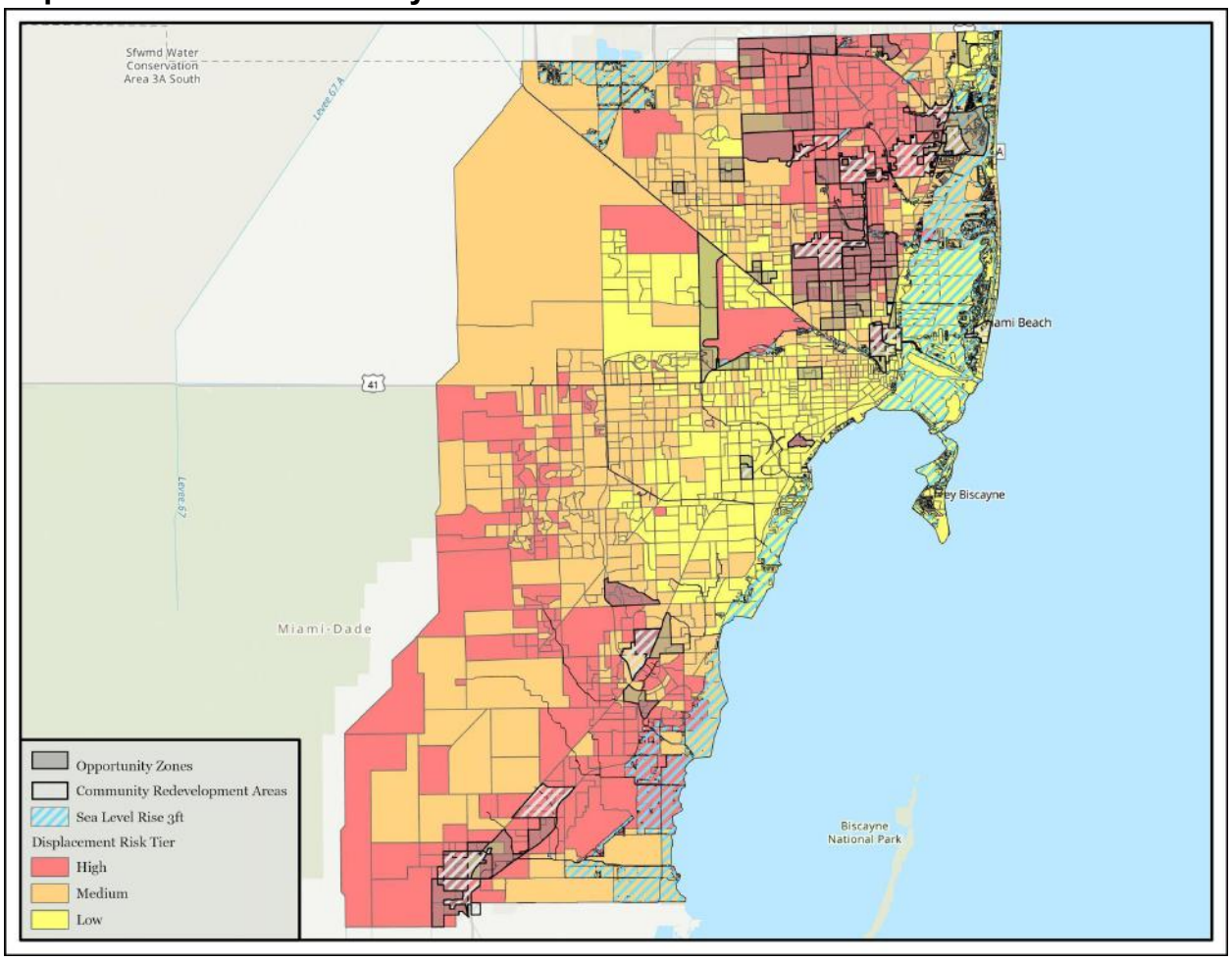
Results from the classification are displayed in maps 3, 4, and 5. Study area block groups were classified as high, medium, or low displacement risk. Duval county comprises 489 block groups; 147 were classified as high displacement risk, 163 as low displacement risk, and 179 as medium displacement risk. Mean characteristics for high displacement risk for the Duval county indicators are as follows: 85.6% person’s with less than bachelor’s degree, 13.5% Hispanic residents, 61.7% renter occupied units, 25.3% single parent households, 47.1% African American residents, 30.2% persons below poverty level, 9.4 eviction rate, 32.4 school proficiency score, and 70.3 job proximity score (See Map 3).

Map 2.3: Duval County DRI



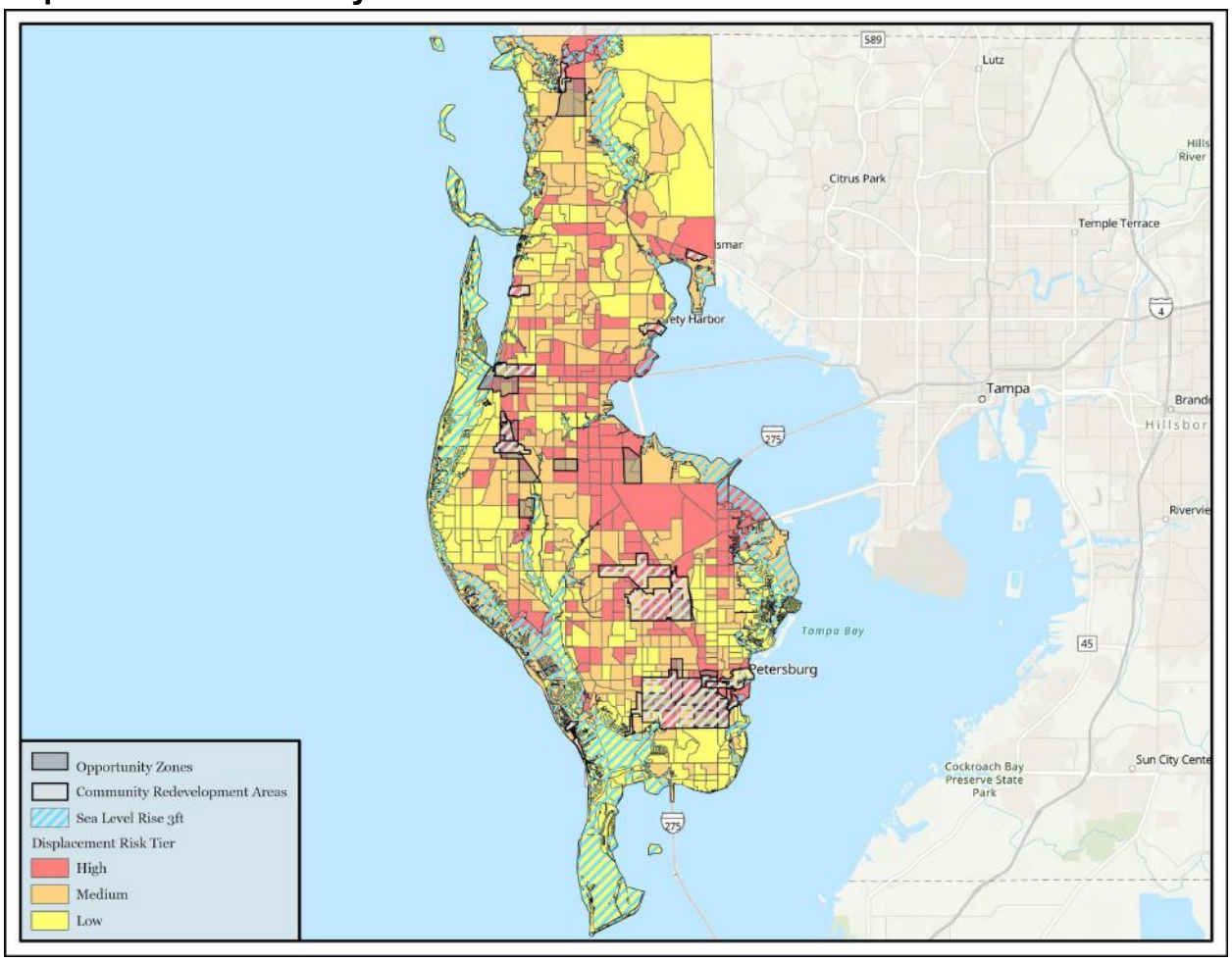
Miami-Dade county comprises 1,589 block groups; 456 were classified as high displacement risk, 543 as low displacement risk, and 590 as medium displacement risk. Mean characteristics for high displacement risk in Miami-Dade county indicators are as follows: 81.1% person's with less than bachelor's degree, 46.5% Hispanic residents, 42% renter occupied units, 22.8% single parent households, 44.4% African American residents, 22.2% persons below poverty level, 4.7 eviction rate, 46.2 school proficiency score, and 23.3 job proximity score (See Map 4).

Map 2.4: Miami-Dade County DRI



Pinellas county comprises 719 block groups; 189 were classified as high displacement risk, 236 as low displacement risk, and 295 as medium displacement risk. Mean characteristics for high displacement risk for Pinellas county indicators are as follows: 78.2% person's with less than bachelor's degree, 17.3% Hispanic residents, 52.1% renter occupied units, 20.8% single parent households, 14.7% African American residents, 19.9% persons below poverty level, 4.5 eviction rate, 49.4 school proficiency score, and 64.6 job proximity score (See Map 5).

Map 2.5: Pinellas County DRI



2.7 Profile Characteristics of first and second order displacement

In addition to conducting a hot spot analysis and PCA to understand areas that are at risk for second order displacement, we also developed profile characteristics for Duval, Pinellas and Miami-Dade to provide context for demographic, socio-economic, and housing characteristics for both first order and second order displacement. First order displacement is identified and characterized by population demographics leaving the coastlines – our maps project this to occur predominantly along the coastal areas, except in Duval County where SLR inundation will also be happening along the St. John's River. These areas are identified on the maps in the blue hatch marked sections which represent communities that will potentially need to move inland due to SLR inundation. The demographic, housing, and socio-economic characteristics of these

populations tend to be more highly educated, majority White, higher income, higher home value, lower eviction rate, lower poverty levels, and generally stable housing occupancy relative to the county as a whole (See Table 2).

Table 2.2: First Order Displacement Profile Characteristics

Displacement Risk Indicators	Pinellas	Miami Dade	Duval
% Less than Bachelor's Degree	56.5%	51.2%	67.3%
% Hispanic Residents	**5%**	**51.8%**	**6.4%**
% White Residents	**89.8%**	**78.5%**	**69.0%**
% African American Residents	5%	7.8%	24.4%
% Asian Residents	2.1%	1.7%	2.2%
% Owner Occupied Units	**74.1%**	**47.3%**	**62.1%**
% Renter Occupied Units	**25.8%**	**50.2%**	**37.8%**
% Single Parent Households	7.4%	12.6%	13.7%
Median Household Income	**$71,760**	**$70,906**	**$66,140**
Median Household Rent	**$992**	**$1,298**	**$1,028**
Median Home Value	**$316,426**	**$476,561**	**$211,355**
Eviction Rate	1.3	1.2	4.5
% Persons living below poverty level	9.4%	14.2%	13.1%
% Vacant Housing Units	**26.1%**	**25.5%**	**12.2%**

A few key findings in the profile characteristics of those facing first order displacement within block groups inundated at 15% area at risk include:

- Duval property (rental and owner occupied) values are relatively lower than Pinellas and Miami-Dade. Areas at risk for first order displacement have higher median home values than those at high and medium risk for second order displacement--these households will be able to move to a range of locations in their respective cities once they decide to leave the coastal zone. Miami home values skew well above the second order displacement median home value—indicating that coastal zone residents at risk of SLR have exceptionally high median home values compared to other areas in the county.
- Median Home values (market) are vastly different across the three groups in each county, but median values for rentals are not that different across the three counties.

- Pinellas and Miami-Dade have 25%+ vacancy rates in the first order displacement group, indicating there may be more seasonal and tourist rentals compared to Duval county. Rental occupancy rates are also very high in Miami (50%+) compared to 26% in Pinellas and 38% in Duval. This suggests that the rental market is very active in Miami-Dade County, perhaps due to higher land values, high density residential development, a preponderance of investment properties, or other factors that limit access to home ownership.
- Duval has a much lower vacancy rate in SLR risk areas (12%) and a relatively low rental rate too. We speculate that this could be due to fewer high rises, less coastal development density, and significant river based flooding along the St. John's river which make the area less attractive for second homes or vacation homes.
- The three counties have very different development markets. Pinellas and even more so Miami-Dade are attractive for high density development and vacation homes along the coast.

A few key findings in profile characteristics of those facing second order displacement within block groups in **Duval** include:

- Duval is heavily segregated between Black and White residents, highest risk of displacement is amongst African Americans and lowest amongst White residents.
- In high risk areas those at risk are majority renters and in medium risk areas, homeowners are at greater risk for displacement.
- Median home values are much lower in high risk areas ($85,000) compared to low risk areas ($237,422). Median household income is also consistent with lower-income populations residing in areas that are at high risk for displacement.
- Vacancy rates range from 16.5% (high displacement risk areas) to 10% (in low displacement risk areas), which is comparatively much lower than in Pinellas and Miami-Dade, indicating a weaker development market.

Table 2.3: Duval Displacement Risk

Duval Displacement Risk Indicators (2018)	High	Medium	Low
% Less than Bachelor's Degree	85.6	75.6	62.6
% Hispanic Residents	13.5	8.5	4.9
% White Residents	44.1	58.6	73.63
% African American Residents	**47.1**	**33.0**	**18.5**
% Asian Residents	3.3	3.2	3.72
% Owner Occupied Units	**38.3**	**52.6**	**76.75**
% Renter Occupied Units	**61.7**	**47.4**	**23.25**
% Single Parent Households	25.3	20.0	11.82
Median Household Income	$33,128	$49,480	$77,046
Median Household Rent	$846	$958	$1,063
Median Home Value	**$85,161**	**$149,809**	**$237,422**
Eviction Rate	9.4	4.9	2.25
% Persons living below poverty level	30.2	16.4	8.15
% Vacant Housing Units	**16.5**	**12.7**	**10.06**
Job Proximity Index	70.3	55.1	41.93
School Proficiency	32.4	39.8	54.79
Population	222,678	364,038	337,513

A few key findings in profile characteristics of those facing second order displacement within block groups in **Pinellas** include:

- Pinellas is predominantly White. White residents will be most impacted by displacement across the board – high, medium and low risk. However, Hispanic and African American risk of displacement includes much higher percentages in high displacement areas than medium or low displacement areas which is the inverse of White populations. Thus, while many White residents face high displacement risks, race continues to play a role in increasing displacement risk for populations of color.
- For high displacement risk, 52% of rentersand 48% of homeowners (48%) are impacted.
- Similarly to Duval county, median home values are much lower in high risk areas, but homes are about $40k higher in value compared to value in Duval.
- There are more vacant housing units – slightly more vacancies in medium and low risk areas indicating there are more rentals, more than likely, second homes,

or investment properties, that are unoccupied compared to Duval.

Table 2.4: Pinellas Displacement Risk

Pinellas Displacement Risk Indicators (2018)	High	Medium	Low
% Less than Bachelor's Degree	78.2	72.0	58.2
% Hispanic Residents	17.3	7.2	3.4
% White Residents	**75.4**	**82.0**	**85.1**
% African American Residents	14.7	10.5	9.3
% Asian Residents	3.6	3.4	2.4
% Owner Occupied Units	47.9	66.4	80.9
% Renter Occupied Units	**52.1**	**33.3**	**19.1**
% Single Parent Households	20.8	11.8	7.8
Median Household Income	**$42,603**	**$51,196**	**$72,617**
Median Household Rent	$1,001	$1,000	$909
Median Home Value	**$124,154**	**$176,102**	**$279,834**
Eviction Rate	4.5	2.2	1.1
% Persons living below poverty level	19.9	13.0	9.2
% Vacant Housing Units	**17.2**	**18.0**	**19.3**
Job Proximity Index	64.6	52.0	39.6
School Proficiency Index	49.4	55.5	53.5
Population	272,903	394,004	290,968

A few key findings in profile characteristics of those facing second order displacement within block groups in **Miami-Dade** include:

- Miami-Dade has a different demographic context compared to Duval and Pinellas counties. Hispanic, White, and Black residents face high risk of displacement, while only and White and Hispanic residents faceing medium risk of displacement
- Homeowners have a higher risk of displacement compared to renters across all displacement risk levels. Comparatively, ed to median home values, median rents across risk levels do not vary as much ($1000- $1300). Additionally, tThere is much more variation in median home values, which are much lower in high risk areas ($185k), compared to low risk areas ($440k).
- Vacancy rates are higher for medium and low risk areas which suggests more unoccupied rentals or seasonal rentals in Miami-Dade.

- Overall, the contexts of these three regions are vastly different, with differences in development pressures and profiles of who are at risk for first order and second order displacement.

Table 2.5: Miami-Dade Displacement Risk

Miami-Dade Displacement Risk Indicators (2018)	High	Medium	Low
% Less than Bachelor's Degree	81.1	72.4	52.6
% Hispanic Residents	**46.5**	**75.2**	**67.0**
% White Residents	**48.1**	**83.5**	**87.4**
% African American Residents	**44.4**	**8.6**	**3.5**
% Asian Residents	1.3	1.4	2.0
% Owner Occupied Units	**57.4**	**56.6**	**50.0**
% Renter Occupied Units	**42.0**	**42.5**	**47.9**
% Single Parent Households	22.8	14.5	8.8
Median Household Income	$47,011	$53,252	$71,350
Median Household Rent	**$1,009**	**$1,131**	**$1,320**
Median Home Value	**$184,439**	**$257,056**	**$437,648**
Eviction Rate	4.7	1.4	0.7
% Persons living below poverty level	22.2	17.6	13.5
% Vacant Housing Units	**8.3**	**8.8**	**19.2**
Job Proximity Index	23.3	40.8	79.7
School Proficiency	46.2	63.9	73.2
Population	874,903	1,059,818	771,492

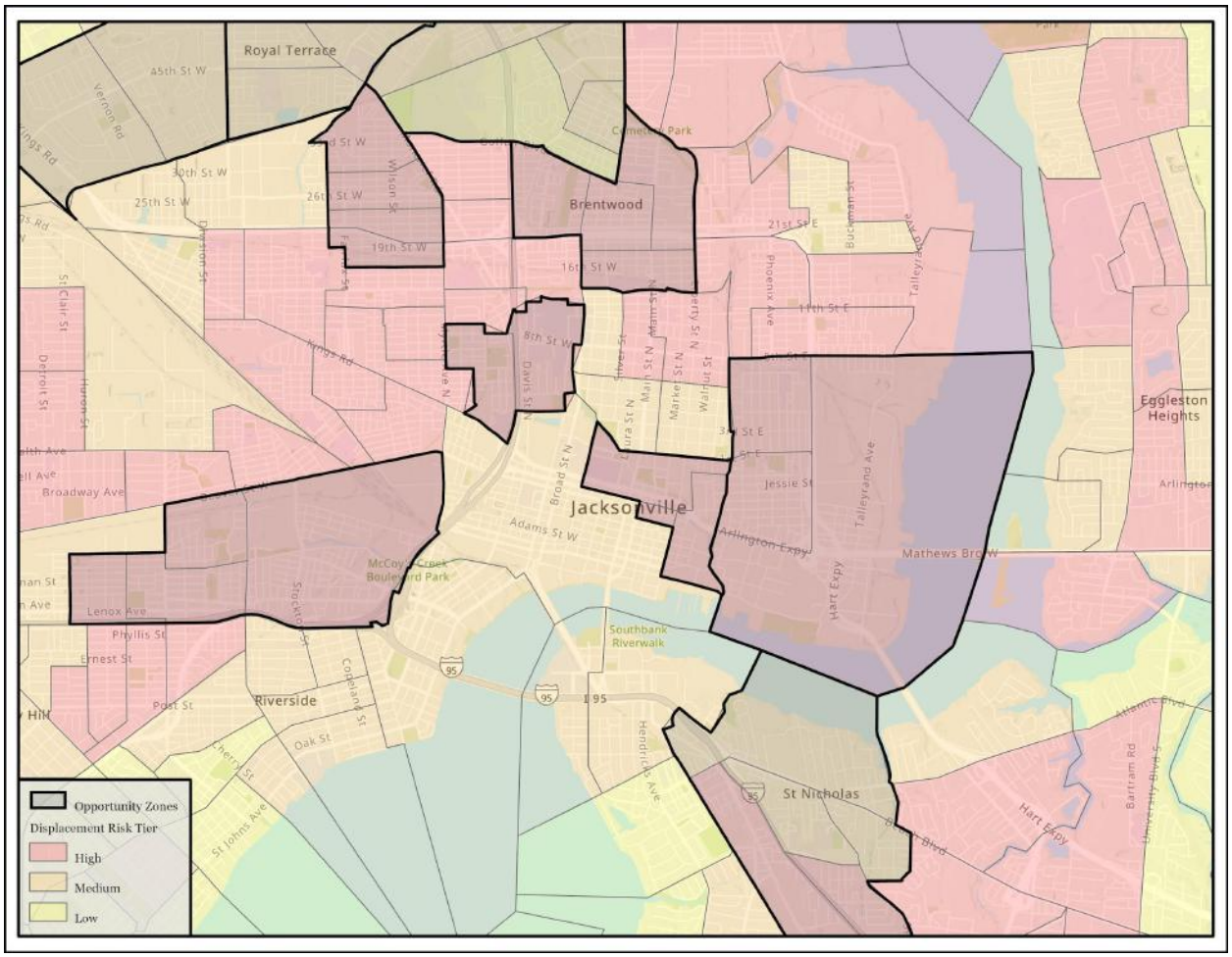
2.8 Neighborhood Selection

After understanding the broad context of areas at risk for first and second order displacement, we next identified those neighborhoods most at risk for residential displacement due to gentrification rather than SLR and sought to narrow our case selection down to just a few neighborhoods in each county. To do this, we added an additional layer of analysis that takes into account the localized context of each county to help understand where there are areas that are also being targeted for investment and neighborhood upgrading by the public and private sectors. Community Redevelopment Agencies (CRA) and Opportunity Zones (OZ) are two planning tools that are heavily used to spur private investments and are largely located in areas that

have been designated as slum and blight. Taking into consideration areas that have CRAs, OZs, or both, we further narrowed our neighborhood selection to focus on those areas that have neither a CRA or OZ policies in place, either a CRA or OZ policy in place, or both a CRA and OZ policies in place to support a comparative analysis. In addition to this localized approach, we also ground truthed our neighborhood selections with our interviewees who identified most of the areas presented in the PCA as those at greatest risk for second order displacement.

In Duval, based on the PCA and locations of CRAs and OZs, we selected six neighborhoods. The majority of the neighborhoods are located in the inner core around the downtown area (East downtown, Springfield, New Town, Durkeeville, and Mixontown) - many of which were known as historic African American communities. We also identified one coastal lower-income Black community (Mayport) that is located along the coast. Of these neighborhoods, only the downtown area has a CRA and one neighborhood has an opportunity zone (See Map 6).

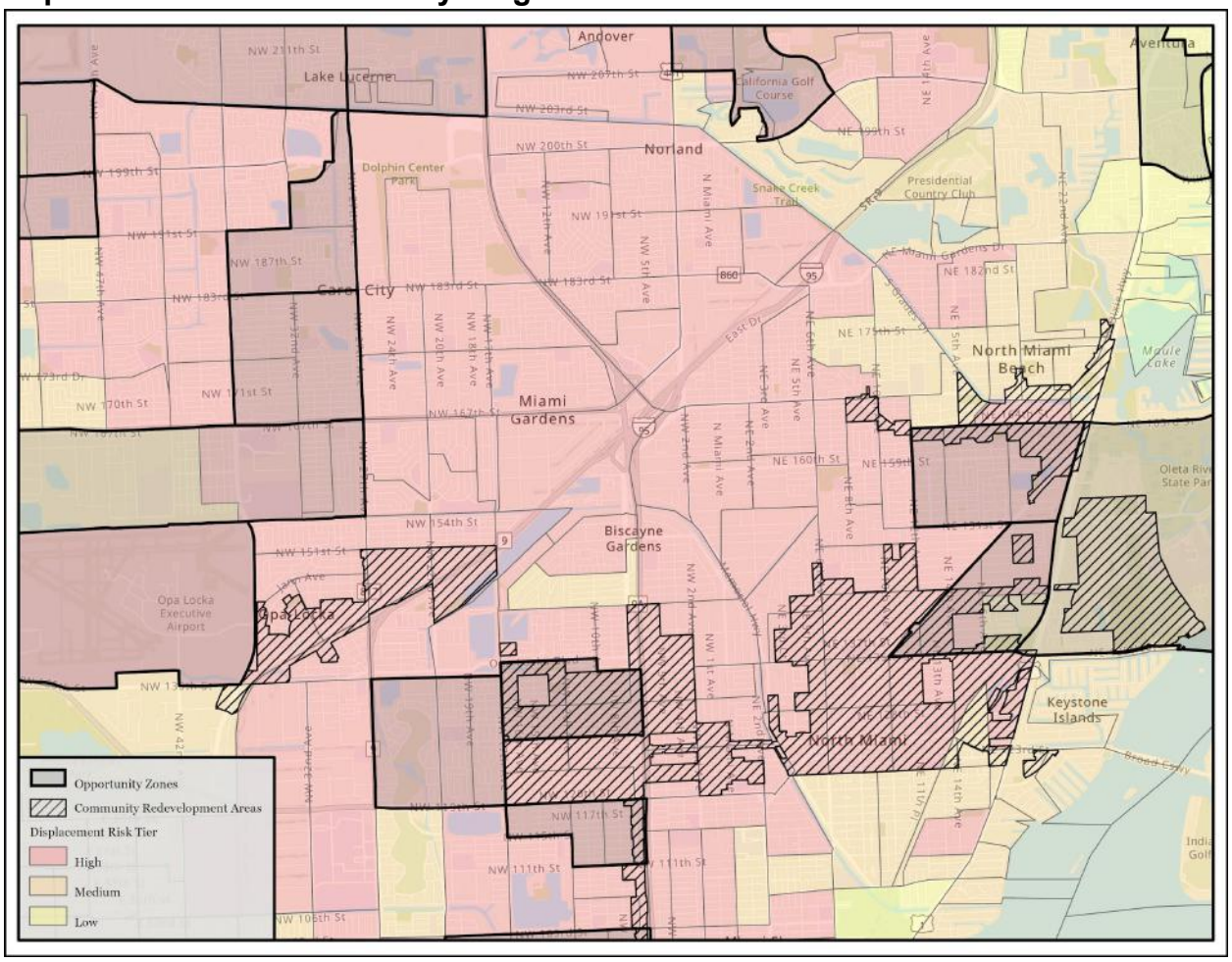
Map 2.6: Duval County Neighborhood Selections

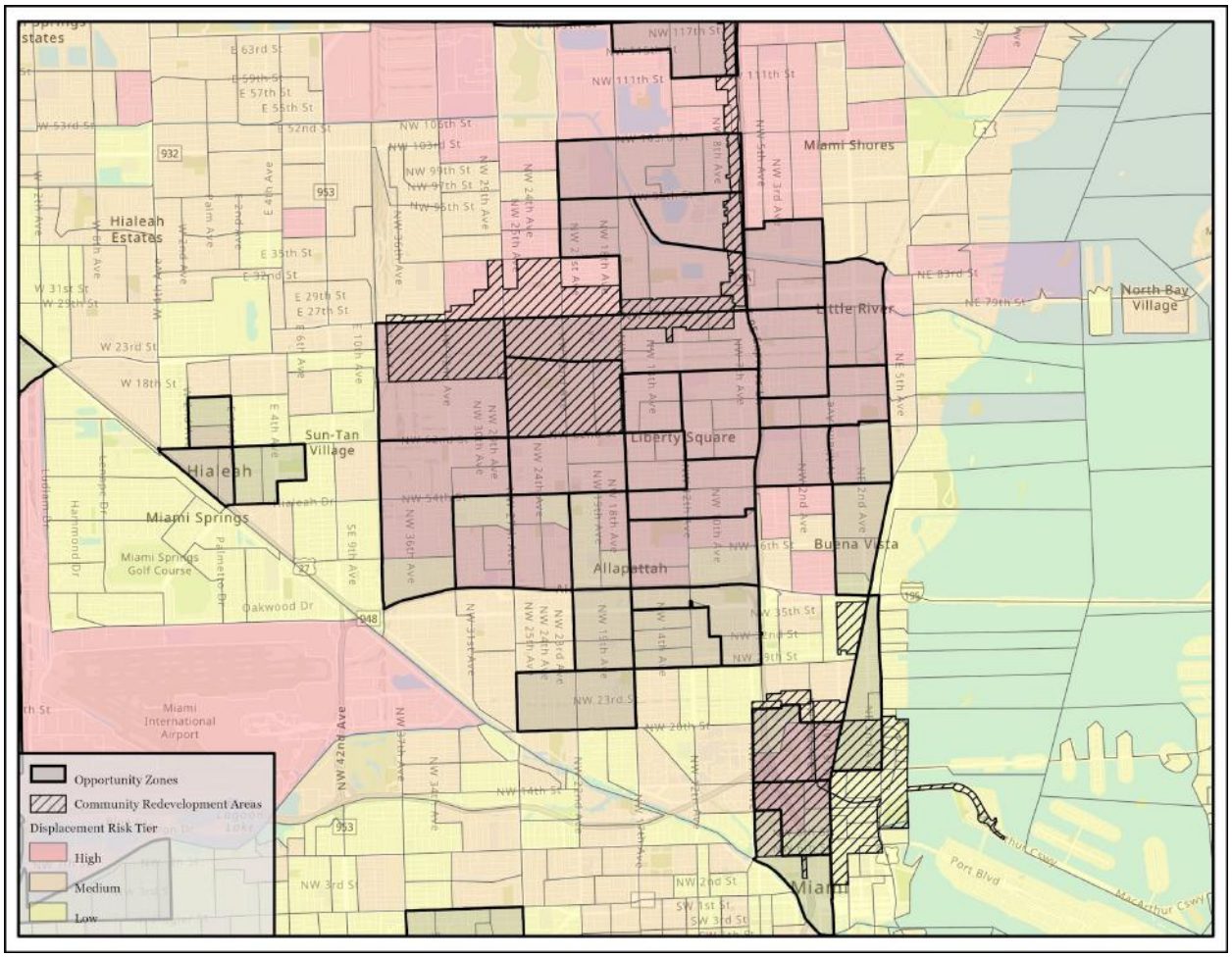


In Miami-Dade utilizing our DRI and overlaying CRA and OZ boundaries and ground truthing with interviews, we identified eight neighborhoods in three clusters throughout the county that are at risk for high residential displacement. The first cluster is located in North Miami, an area known as Miami Gardens, which is a suburban, middle class African American enclave that does not have a CRA or OZany policies in place. In contrast, in central Miami along transportation corridors, there is a cluster of inland neighborhoods that previously had significant concentration of public housing. These areas, many of which are either located within CRAs or OZs, have received major public and private investments where Special Area Projects and the most high profile developer-led projects are located, ranging from arts districts to innovation districts. These neighborhoods have also previously been documented in the media as

neighborhoods that are seeing climate displacement: Hialeah, Liberty City/Overtown, Little Haiti, Little Havana, and Allapattah. Additionally, we also assess an area further South, West Coconut Grove, which was a historical Bahamian community, and Cutler Ridge (See Maps 7-8).

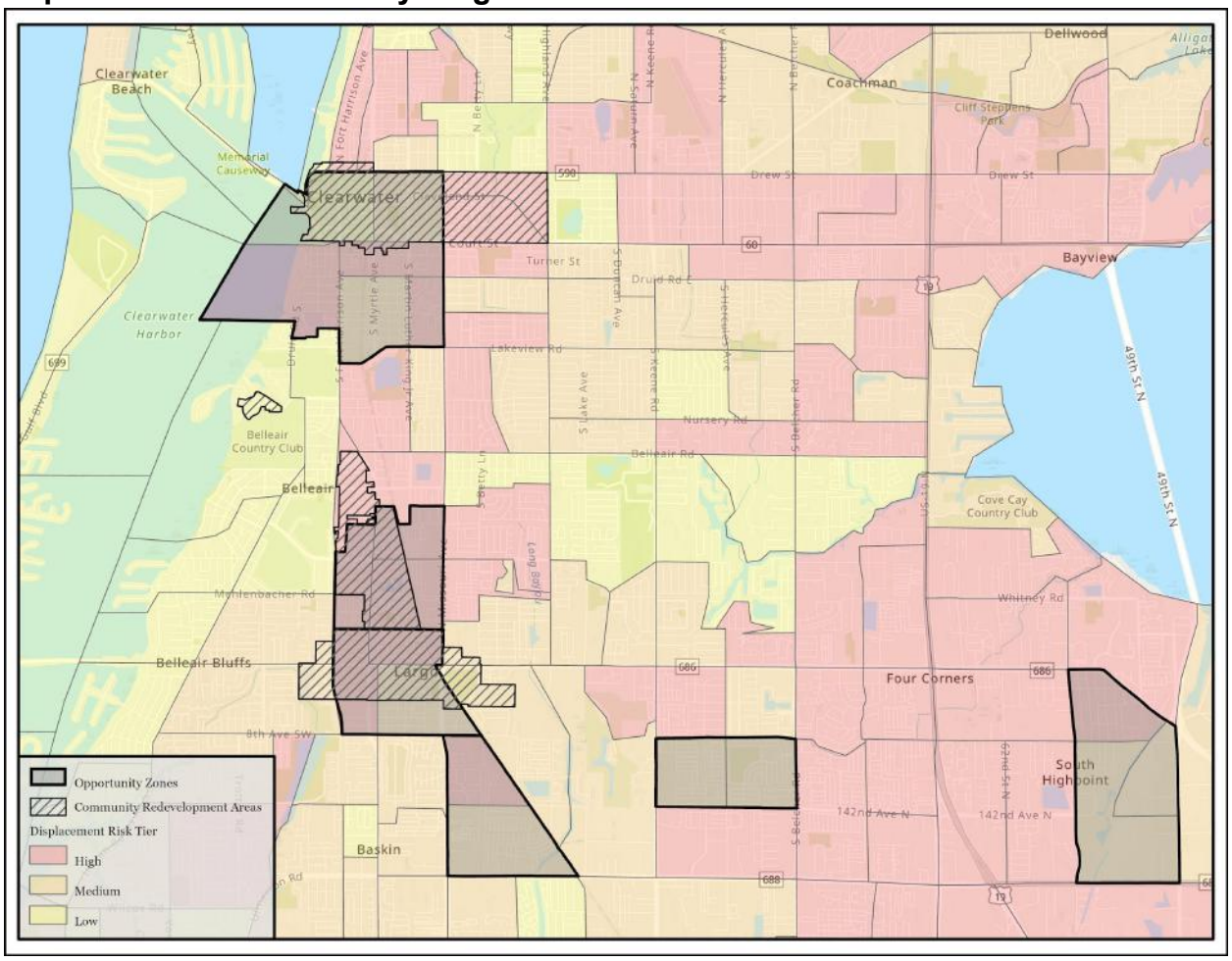
Map 2.7-8: Miami-Dade County Neighborhood Selections

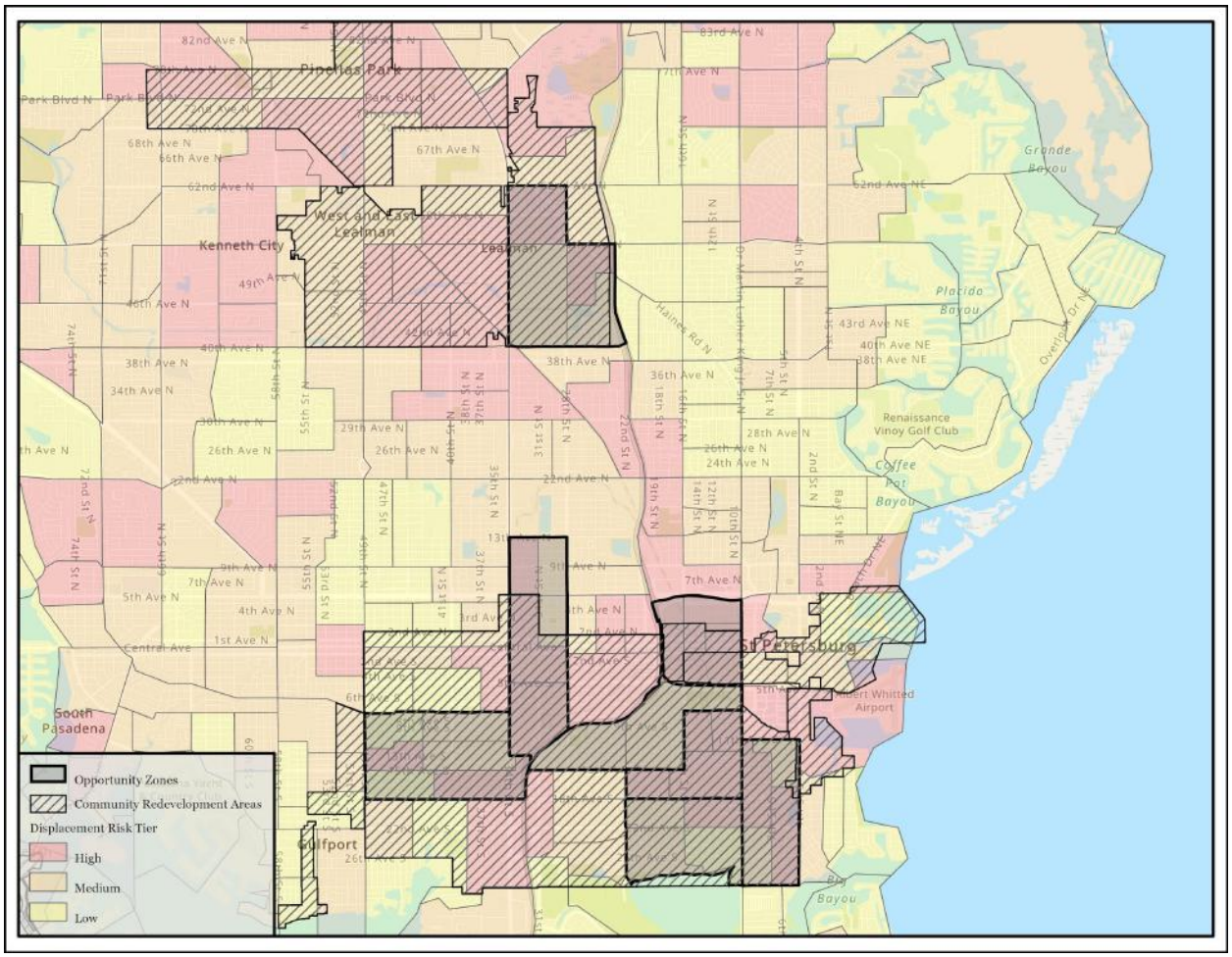




In Pinellas, when taken together, our DRI and locations of CRAs and OZs identified four neighborhoods that are at high risk of displacement. In contrast to Duval and Miami-Dade, all of the neighborhoods selected in Pinellas have either a CRA or an OZone policy or two policies. One neighborhood is located near the coast (Clearwater, Largo), and two inland areas (Lealman) and (South St. Pete) are further inland and primarily comprised of an African American population.

Map 2.9-10: Pinellas County Neighborhood Selections





For further comparative analysis, we have organized our neighborhood selection by those areas that do not have any protective housing policies in place; areas with a CRA or OZ; and areas with both a CRA and OZ (See Table 6). This framework builds upon our case study methodology and DRI to derive the neighborhoods that focus our policy analysis and interviews to better understand the myriad of drivers leading to displacement pressures on inland communities. The next chapters highlight our findings related to the effectiveness of networks of plans for SLR and affordable housing as well as personal accounts from local actors involved in planning and implementing strategies to mitigate future displacement.

Table 2.6: Neighborhood Selection

	Miami-Dade	Jacksonville-Duval	Pinellas
No policies	Miami Gardens	Springfield, Durkeeville, New Town	None
CRA or OZ	Little Haiti, Hialeah, West Coconut Grove, Allapattah	East Downtown, Mixontown, Mayport	Lealman
CRA & OZ	Liberty Square, Overtown	East Downtown	Clearwater, Largo, South St. Pete

3.0 Policy Assessment of SLR Response and Neighborhood Stabilization Measures

3.1 Introduction and Overview

This chapter uses a network of plans analysis methodology developed by the research team to assess sea level rise (SLR) adaptation policies in coastal areas and to assess affordable housing and neighborhood stabilization policies in inland areas at risk of gentrification that we identified in the case selection process (see Chapter 2). The network of plans analysis approach draws on the accepted technique, Plan Integration for Resilience Scorecard, to assess policies at regional, county, municipal, and neighborhood levels. Through this analysis, we developed scores for each policy type based on the level of commitment, specificity, robustness, and potential for impact if the strategies are implemented.

At the regional and county levels, SLR language focused mostly on direction-setting guidance. Much of the regional language involves acknowledgement, context setting, and some protection and accommodation measures with low commitment scores. In all study areas, we found virtually no policies that specifically addressed 1ft or more of SLR. We also found that at the city and neighborhood level, plans only minimally address SLR. There is a clear need for greater specificity and commitment to action through the inclusion of specific sea level projections and scenarios as well as policies to encourage adaptation or limit development in areas at risk of SLR inundation in the future. The plans we reviewed seem to be setting the context for such actions, but not yet incorporating robust adaptation tools.

In regards to neighborhood stabilization, county, city, and neighborhood level plans provide a robust set of affordable housing and neighborhood stabilization measures. Regional plans provide only limited strategies to support affordable housing. This suggests that housing is attended to primarily at county, city, and neighborhood levels. It is encouraging that affordable housing protections are strong at these levels.

However, the shortage of affordable housing in Florida and across the U.S. continues to be a major issue that has been exacerbated by the Covid-19 global pandemic and looming eviction crises. While affordable housing policies at the county, city and local levels are robust, there continues to be a disconnect between policies on the books and their implementation that needs further investigation.

We found differences in policy focus between regions and within counties and cities which may lead to unequal adaptation and neighborhood stabilization. In the absence of adequate protections for areas that face similar risks, we may see certain neighborhoods fare better than others leading to unequal development and varying levels of neighborhood stability. Regional, county, city, and local planners need to ensure even distribution of protections for all neighborhoods to prevent disproportionate burdens of displacement on lower-income communities of color.

3.2 Planning for Sea Level Rise

When SLR inundation becomes more permanent, coastal communities will be forced to adapt to this changing context. Adaptation measures can be incorporated into plans and policies to chart a path toward risk reduction as the impacts of SLR intensify over time. One well cited approach to adaptation comes from the IPCC planned adaptation strategies which categorizes SLR adaptation strategies into four key purposes relative to development: protect, accommodate, avoid, and retreat (Butler, Deyle, Mutnansky, 2016). The first two involve keeping development in place and reducing displacement risks of coastal populations. Protection involves armouring homes and infrastructure through both man-made infrastructure and the restoration of natural systems. This can include one-way pumps, beach nourishment prozukgrams, and building seawalls. The goal is to keep water out and allow development to continue to function as intended in the same location. Accommodation involves altering development standards and practices to minimize negative impacts of flooding (Nicholls, 2011). This can include improving floodproofing requirements for development, increasing base floor elevations, elevating property and infrastructure or other measures that allow development to

remain in place while accommodating hazard impacts such as occasional storm based flooding. Avoidance measures work to preserve natural systems and prevent development in flood prone areas. Avoidance measures include moratoriums on coastal development, larger setback requirements from mean high tide lines, land acquisition programs, and stricter codes and regulations for coastal development that limits development in areas at risk of coastal flooding (Nicholls, 2011). Retreat or relocation strategies aim to move existing development away from hazardous areas (Nicholls, 2011). Planned relocation initiatives can move entire neighborhoods and infrastructure away from vulnerable coastal areas(Alexander et al., 2012). While retreat is an eventual reality for many coastal communities, talk of relocation efforts is generally unpopular in Florida. The idea of retreat disrupts the growth machine system of for-profit coastal development which created these cities in the first place, and reduces the tax revenues from luxury coastal property development. A detailed description of protection, accommodation, avoidance, and retreat measures is listed in Table 3.1.

Table 3.1: Protection, Accommodation, Avoidance, and Retreat Strategies

Adaptive Planning Strategy	Response Option	Description
Protect Soft of hard engineering works designed to prevent flooding or erosion from SLR	Shoreline armouring	Designing new and replacement seawalls, bulkheads, and revetments to protect upland embankments or structures from higher flood elevation and increased erosion associated with sea level rise
	Beach and dune nourishment	Designing beach and dune building and renourishment projects to counteract the effects of increased chronic and/or acute erosion resulting from higher sea level
	Flood works	Designing new and replacement dams and levees to protect vulnerable assets from higher floods associated with sea level rise
Accommodate Altering existing assets to reduce vulnerability to SLR impacts	Elevate	Raising the first floor of new habitable structures and vulnerable infrastructure by some increment (freeboard) above current design flood elevations, e.g., the 100-year flood) to accommodate rising sea level
	Flood proof	Adding a freeboard to flood proofing measures for new structures
	Storm water system enhancements	Installation of new or modified structures to counteract reduced storm water head differentials and backflow into storm water discharge pipes, e.g., tide gates, storm water discharge pumps
	Retrofit	Retrofitting public facilities and infrastructure to enable continued functioning as sea level rises
Avoid Not placing assets in places exposed to SLR impacts	Setbacks	Require setback of structures based on projected boundaries of coastal erosion and storm surge flood zones
	Prohibit development	Zone vacant land projected to be vulnerable to coastal erosion and flooding as sea level rises so as to prohibit development

Retreat Relocating existing assets to places that are less likely to be exposed to SLR impacts	Postdisaster downzoning	Downzone built-out land within projected coastal erosion and storm surge flood zones so as to prohibit redevelopment of properties damaged by storm induced erosion and/or flooding
	Post-disaster relocation of public facilities and infrastructure	Relocate public facilities and infrastructure in concert with post-disaster downzoning
	Pre-disaster relocation of public facilities and infrastructure	Relocate public facilities and infrastructure in anticipation of advancing hazards, e.g., moving wellfields when groundwater chloride concentrations reach a specified threshold
	Rolling easement	Prohibit shoreline armoring and require that structures be moved landward or removed altogether when the mean high water line reaches the seaward toe of the structure or some similar threshold condition

Source: Butler, Deyle, Mutnansky (2016)

3.3 Planning for Affordable Housing and Neighborhood Stabilization

A number of studies explore efforts to slow the process of gentrification and reduce displacement pressures that follow, particularly through the protection of affordable housing (N.P.V. Center, 2014; Bates, 2013; Way, Mueller, & Wegmann, 2018; and Chapple et al., 2017). Bates (2013) outlines a number of strategies that slow the process of gentrification such as preserving affordable housing, bolstering community participation processes, and ongoing monitoring. Neighborhood stabilization can take many forms. Plan assessment tools gather information and involve monitoring to determine vulnerabilities and identify affordable housing needs. Planning tools include land use regulations, land disposition strategies, and tax relief as ways to support affordable housing creation and maintenance. Providing support for homeowners can help residents afford to stay in place by assisting with repairs, resolving land ownership questions, and minimizing predatory lending practices. Public participation and coalition building can also build support for programs and ensure neighborhood needs are met.

Development and market-based tools can assist planners leverage the housing market to promote availability of affordable housing. Coordination allows for agencies and planners at different jurisdictional levels to work together to gather funding and administrative support for affordable housing programs. Place-based and mobility-based programs support the creation and maintenance of a city's affordable housing stock as well as develop more opportunities for low income families to find affordable housing. The table below indicates the main strategies municipalities can use based upon a review of the literature categorized into general strategies (N.P.V. Center, 2015; Bates, 2013; Way, Mueller, & Wegmann, 2018; Chapple et al., 2017; Oscilowicz et al., 2021). Inspiration for this table came primarily from Way, Mueller, & Wegmann (2018) modified to include strategies from Bates (2013), N.P.V. Center (2015) and Oscilowicz et al., (2021).

Table 3.2: Policy Strategies to Reduce Gentrification Pressures

Strategy	Policy Tool Examples
Plan Assessment Tools	● Vulnerability Assessments of populations at risk ● Ongoing monitoring of affordable housing stock ● Racial impact assessments for Qualified Action Plans (QAP)
Planning Tools	● Land use restrictions that disincentivize redevelopment ● Dedicating surplus land for affordable housing ● Property tax relief to preserve rental properties ● Inclusionary housing ● Community Benefits Agreements (CBA) ● Reparations (homeownership and rental assistance programs) ● Neighborhood conservation overlay districts
Support for Homeowners	● Homeowner repair assistance ● Education on non-predatory lending ● Support for resident's acquisition of property
Support for Vulnerable Tenants/ Renters	● Emergency financial relief to renters at risk of displacement ● Increase legal protections for renters to reduce evictions ● Support tenant acquisition of units ● Tenant relocation assistance ● Rent stabilization (rent control)
Improving Public Participation	● Strengthen residents' voices in planning process ● Capacity building support for resident associations ● Comprehensive community engagement strategy ● Improve residents' access to information about affordable housing opportunities

Development and Market Based Tools	● Long-term resale restrictions for affordable housing units ● Create preservation funds targeted towards acquiring and rehabilitating at-risk apartments ● Leveraging TIF funding to encourage affordable housing creation
Coordination	● Enhanced coordination for NGO's, State, and Federal agencies
Place Based	● Facilitation and creation of mixed income development, public housing, workforce housing, and subsidized housing
Mobility Based	● Voucher programs ● Rapid rehousing of homeless populations through rental assistance

3.4 Methods

The purpose of this plan analysis chapter is two fold. First, we seek to determine the extent to which communities at risk of SLR inundation have planned for reducing the risk of displacement from SLR. Second, we evaluate the extent to which inland communities at risk of gentrification are planning for reducing the risk of displacement from redevelopment, real estate valuations, and other drivers of gentrification by protecting affordable housing and stabilizing neighborhoods. We evaluate the presence of various policy tools using a network of plans analysis approach to learn which strategies are used and how committed localities are to establishing implementable tools for reducing risk of displacement through anti-gentrification and SLR adaptation measures. We reviewed plan evaluation literature to understand how to construct the evaluation system to measure the existence, specificity, and effectiveness of SLR and anti-gentrification policies (Baer, 1997; Berke & Godschalk, 2009; Lyles, Berke & Smith, 2014; Berke et al., 2015). We developed a modified scorecard methodology to analyze how plans reduce these two displacement drivers. The plan scorecard approach draws on an established methodological approach, Plan Integration for Resilience Scorecard,

championed by Berke et al. (2015) and adopted by the American Planning Association as a standard methodology to evaluate resilience planning efforts (Malecha et al., 2019).

Through a survey of planners, and GIS mapping (see part 2), we determined several cities and neighborhoods that are vulnerable to SLR displacement and others that are vulnerable to secondary displacement through gentrification pressures. Tables 3.3 and 3.4 show which cities neighborhoods we used in our policy analysis. Tables 3.5 and 3.6 show which plans were analyzed within each county. Note that we did not undertake a comprehensive analysis for all plans for all municipalities at risk of coastal inundation. Instead, we selected a sample of places at risk of SLR. However, in future iterations of this work, a more comprehensive view could help assess where municipal plans unevenly deal with SLR which might lead to uneven displacement pressures from one municipality to another and between municipalities. The tables below indicate which neighborhoods, cities and regions were analyzed as well as which plans were scored.

Table 3.3: Areas Analyzed in the Miami Region

Region	County	City	Neighborhood
Miami Region	Miami Dade County	City of Miami	Overtown
			Allapattah
			Coconut Grove
			Little Haiti
		Miami Gardens	
		Miami Beach	
		North Miami	
		Aventura	
		South Miami	

Table 3.4: Areas analyzed in the Pinellas Region

Region	County	City	Neighborhood
Tampa Bay/Pinellas Region	Pinellas County	St. Petersburg	South St. Petersburg
		St. Pete Beach	
		Clearwater	
		Largo	
		Lealman (Census Designated Place)	

Table 3.5: Miami Area: City and Neighborhood Level Plans Analyzed Table

Jurisdiction	Plan Name
Region Level	
Miami Region	South Florida RPC Strategic Regional Policy Plan
County Level	
Miami-Dade County	Miami Dade Water Supply Facilities Work Plan
Miami-Dade County	Resilient 305
Miami-Dade County	Miami-Dade SLR Task force Recommendations
Miami-Dade County	Miami-Dade LRTP
Miami-Dade County	Miami Dade Local Mitigation Strategy
Miami-Dade County	Miami Dade Affordable Housing Preservation Plan
Miami-Dade County	Miami Dade Affordable Housing Framework
Miami-Dade County	Miami Dade Comp Plan
Miami-Dade County	Miami Dade Climate Change Action Plan
City Level	
City of Miami	City of Miami Affordable Housing Master Plan

City of Miami	City of Miami Neighborhood Plan
City of South Miami	South Miami Comp Plan
City of North Miami	North Miami Comp Plan
Miami Gardens	Miami Gardens Community Redevelopment Plan
Miami Gardens	Miami Gardens Action Plan
Miami Beach	Miami Beach Comp Plan
Aventura	Aventura Comp Plan
Neighborhood Level	
Coconut Grove	Grove 2030
Allapattah	Allapattah CDC
Overtown	Overtown Master Plan
Overtown	Overtown CRA Plan
Overtown	Southeast Overtown CRA Plan
Coconut Grove	West Grove CRA

Table 3.6: Tampa Bay/Pinellas Region Plans

Jurisdiction	Plan Name
Region	
Tampa Bay/Pinellas Region	Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region
Tampa Bay/Pinellas Region	Changing The Course: The Comprehensive Conservation and Management Plan for Tampa Bay
Tampa Bay/Pinellas Region	Tampa Bay Water Strategic Plan 2019-2024
Tampa Bay/Pinellas Region	SWFWMD Strategic Plan
County	

Pinellas County	Pinellas County Comprehensive Plan
Pinellas County	Pinellas County Capital Improvement Program
Pinellas County	Pinellas Local Mitigation Strategy
Pinellas County	DEP Resilient Coastline Projects Pinellas County Work Plan
Pinellas County	Pinellas County, Florida Action Plan
City Level	
St. Petersburg	City of St. Petersburg Florida Affordable Housing Incentive Plan 2020
St. Petersburg	City of St. Petersburg Comprehensive Plan
St. Petersburg	Integrated Sustainability Action Plan
St. Petersburg	DEP Resilient Coastline Projects St. Petersburg Work Plan
Clearwater	Clearwater Comp Plan
Largo	Largo Environmental Action Plan
Largo	City of Largo Forwarding Our Future Comprehensive Plan
Clearwater	Clearwater Downtown Redevelopment Plan: A Special Area Plan & Community Redevelopment Plan for the City of Clearwater
St. Petersburg Beach	DEP Resilient Coastline Projects St. Petersburg Beach Work Plan
St. Petersburg Beach	St. Petersburg Beach Comprehensive Plan
Largo	West Bay Drive Community Redevelopment District Plan
Neighborhood Level	
South St. Petersburg	South St. Petersburg Community Redevelopment Plan
Lealman (census designated place)	Lealman Community Development Area Plan

3.5 Scoring for Sea Level Rise Policies

In areas susceptible to sea level rise, we developed a three-tiered scoring rubric using a binary numeric coding system. The first tier is *direction setting* and includes language

that shows some level of acknowledgement of the need to reduce risks of inundation associated with SLR. The second tier is defined as *actionable policies* and includes language that specifies protection or accommodation measures in the plan. The third tier is defined as *robust policies* which add a level of specificity to the protection or accommodation measures by identifying an approach that will address at least 1 foot of SLR. The scoring mechanism is progressive--scoring a 1 in tier 3 automatically means that the language also meets the criteria for tier 1 and tier 2. We elaborate on the scoring approach below and provide example language in Table 3.7.

Many plans include aspirational or direction setting language that acknowledges SLR risk and then establishes a goal or objective in relation to that risk. Simply acknowledging SLR in plans does not ensure that displacement risk from inundation will be addressed effectively. However, it can be a first step. We scored all policies that mentioned SLR and coastal flooding risk reduction as a 1 in Tier 1. This allows us to simply count how many policies mention SLR and acknowledge that it is a problem that needs to be addressed in each plan.

Actionable policies represent a higher level of commitment in a plan. Such policies are more specific and identify ways to solve the problems defined in direction setting. Our focus was to look for policies that would reduce immediate or future displacement pressures from coastal inundation due to SLR. We scored policies as a 1 in Tier 2 if the language mentioned the need for and intent to apply protection and/or accommodation strategies to address SLR. Protection and accommodation measures are specifically designed to limit displacement by reducing the risks of inundation or the negative impacts of inundation. Protection aims to keep water out (ie. through sea walls or dune restoration). Accommodation strategies allow water in but reduce negative impacts of flooding (ie. through flood proofing buildings, increasing permeable surfaces for infiltration, or using pumps to remove water). Focusing on protection and accommodation shows the level of commitment municipal governments have to reduce the displacement of current residents vulnerable to SLR. We excluded retreat and

avoidance from this analysis as retreat efforts enable or encourage displacement while avoidance measures remove land from the available supply of developable areas. Thus, each of these strategies might exacerbate displacement due to SLR inundation.

Tier 3 establishes a proxy measure for robustness. Robust policies are those that are able to address SLR risks across a range of scenarios. In this case, we selected a measure of robustness as policies that establish a minimum level of protection to at least 1 foot of SLR above the baseline established in the plan. To score a 1 in Tier 3, the policy would have to reasonably protect against 1ft of SLR flooding. The reason we selected a 1 foot level of SLR is that most of the plans we analyze have a time horizon of 10-40 years. While 3 feet of SLR is widely expected by the end of this century, planners do not need to accommodate 3 feet of SLR on the time horizons of their current plans. The Southeast Florida Regional Climate Change Compact (2020), using data from NOAA, and the Intergovernmental Panel on Climate Change, estimates that by 2040 Florida will experience 10-17 inches of SLR. Therefore, planning for 1ft would reasonably protect housing and infrastructure for approximately 20 years if not more in most areas of Florida. This time horizon allows planners and developers to build resilience to SLR flooding over time and respond to changing conditions iteratively. Table 3.3 contains example plan language, its scores, and an explanation of scoring.

Chart 3.1: Sea Level Rise Scorecard

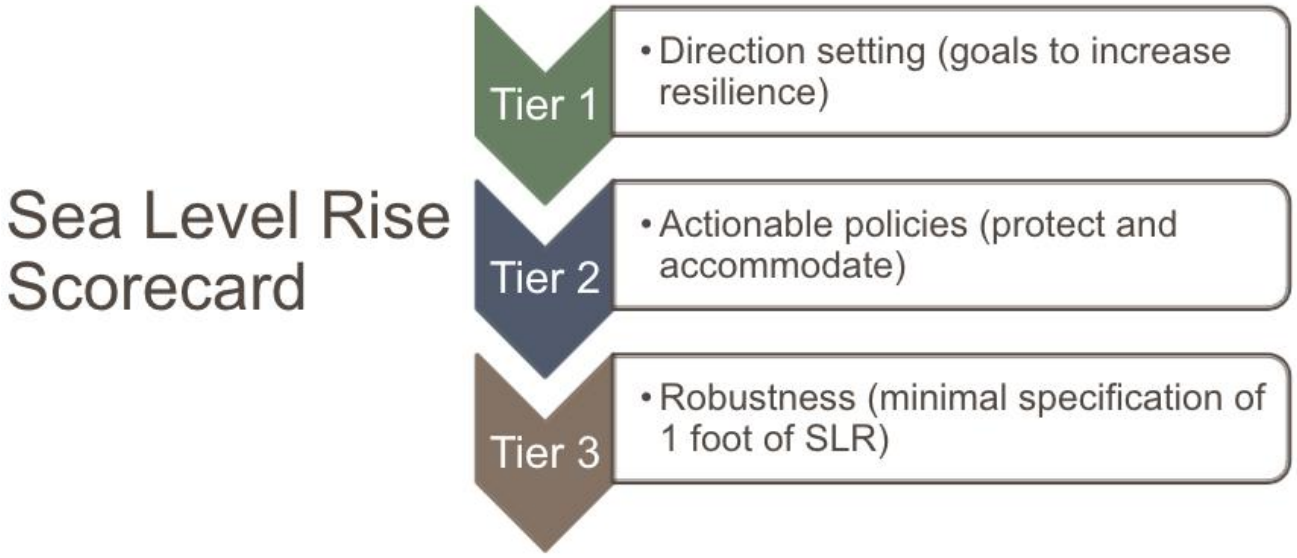


Table 3.7: Example Language

Plan Name	SLR Policy	Tier 1	Tier 2	Tier 3	Explanation
St. Petersburg Comprehensive Plan	CM11.14 In order to reduce flood risk resulting from or associated with high-tide events, storm surge, flash floods, stormwater runoff and the impacts related to sea-level rise, the City shall continue to promote the use of the development and redevelopment principles, strategies and engineering solutions contained in the Florida Building Code and the Land Development Regulations.	**1**	**0**	**0**	The policy mentions SLR flood risk, so it scores a 1 in Tier 1. However, the policy does not tie the city to any specific action but rather uses the term “promote” which can have varying levels of commitment giving it a 0 in Tier 2. Additionally, the policy will not specifically protect any land against 1ft of SLR.
City of Miami Comprehensive Plan	Policy PW-1.3.1: The City's adopted Water Supply Facilities Work Plan Update (Work Plan), dated September 2015, is incorporated as follows in Appendix PW-1 of the MCNP. This document is designed to: assess current and projected potable water demands; evaluate the sources and capacities of available water supplies; and identify those water supply projects, using all available technologies, necessary to meet the City's water demands for a 20-year period. The Work Plan shall remain consistent with projects as listed in the South Florida Water Management District's Lower East Coast Regional Water Supply Plan. The Work Plan will be updated, at a minimum, every 5 years	**1**	**1**	**1**	This policy mentions SLR and climate change which gives it a score of 1 in tier 1. This policy incorporates protection measures that will ensure coastal residents ability to stay in place by protecting their water supply in a measurable and specific way which gives it a score of 1 in tier 2.

	and within 18 months after the South Florida Water Management District's approval of an updated Lower East Coast Regional Water Supply Plan. The Work Plan shall address climate change and sea level rise that may impact the potable water infrastructure and sources. The potable water supply facilities necessary to satisfy projected water demands for the City of Miami during the 2014-2033 period are shown in Appendix A of the Water Supply Facilities Work Plan (Appendix PW-1).				This policy specifies adaptation to a 20 year time frame which would reasonably protect against 1ft of SLR.

3.6 Scoring for Anti-gentrification and Affordable Housing protection policies

For inland areas susceptible to gentrification and residential displacement, we developed a similar three-tiered scoring rubric using a binary numeric coding system. Taking inspiration from the resiliency scorecard work of Lyles, Berke and Smith (2014) and Malecha et al. (2019), this scoring system evaluates affordable housing preservation and neighborhood stabilization language in a network of plans. Similar to the scoring system for SLR, we use a binary (0 or 1) scoring for language in three tiers of scoring criteria. The scoring mechanism is progressive, to score a 1 in Tier 3, the language will automatically meet the criteria for Tiers 1 and 2. The first tier includes language that identifies a lack of affordable housing, a need to protect affordable housing, risk of gentrification, or need for neighborhood stabilization. The second tier includes actionable policies that specify a level of commitment towards the identified strategy. Tier three is defined as robust policies that have been identified in the literature as effective policies to promote neighborhood stabilization and/or protect or create affordable housing.

Many plans identified a lack of affordable housing or a risk of gentrification within the plan's jurisdiction. We scored all policies that mention the lack of affordable housing and need for neighborhood stabilization as a 1 in tier one. This will allow us to count how many policies address this issue or mention strategies that could stabilize neighborhoods in each plan. However, simply acknowledging the problem within plans does not ensure affordable housing will be created or that gentrification pressures will be mitigated.

Plans can mention potential strategies or lay out options for neighborhood stabilization and affordable housing preservation, however commitment levels to each strategy can vary dramatically. We scored policies as a 1 in Tier two if the language suggested a level of commitment towards implementing the strategies identified in the policy. Commitment levels can be ascertained by 1) a level of specificity for each policy including funding sources, timelines, allocation of resources, and measurable targets, or 2) indicating that the strategy is a required rather than suggested action by including concrete and directive language such as "will" or "shall". The greater the level of specificity or directiveness increases the likelihood that the policy will be implemented (Laurian et al., 2004). Finally, tier three establishes a proxy measure for effectiveness. Effective neighborhood stabilization strategies can increase the availability of affordable housing, allow for residents to remain in place, and mitigate gentrification pressures. Effectiveness measures or "best practices" include anti-displacement policies such as inclusionary housing, right of first refusal, property tax abatement, rent stabilization, aomg others. Drawing from comprehensive reports and studies done by the N.P.V. Center (2015), Bates (2013), Way, Mueller, & Wegmann (2018), Chapple et al. (2017), and Oscilowicz et al. (2021) we created a list of anti-displacement policies that can reduce residential displacement and minimize unintended consequences (see table 3.2). A count of these strategies can show how many policies are using verified tactics that promote neighborhood stabilization and protect and/or create affordable housing. Table 3.8 contains example plan language and an explanation of scores in each tier.

Chart 3.2: Housing and Gentrification 3 tiers

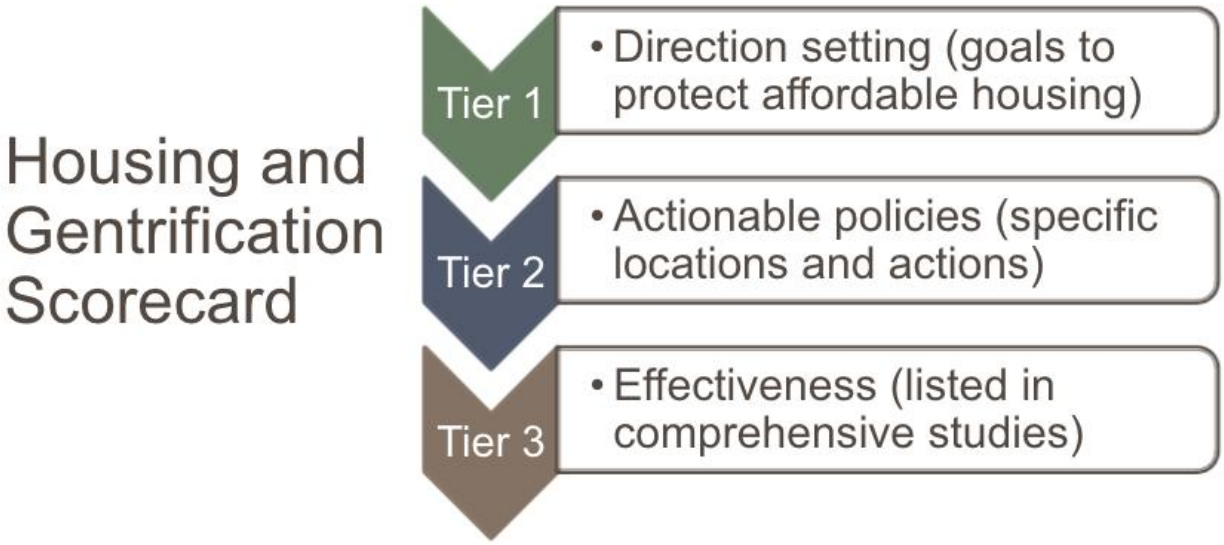


Table 3.8: Example Language

Plan Name	Policy	Tier 1	Tier 2	Tier 3	Explanation
South St. Petersburg CRA Plan	6. Encourage formal and informal collaboration between South St. Petersburg neighborhood associations to identify and share "best practices" and effective strategies for improving neighborhoods.	**1**	**0**	**0**	This policy may increase collaboration however, it does not specify commitment levels or how they are going to achieve an outcome.
South Florida RPC Strategic Regional Policy Plan	**Policy 2.7 Ensure the maximum utilization of federal and state resources that support the provision of services to low-income residents by ensuring adequate local match, where required.**	**1**	**1**	**0**	This policy scores a 1 in Tier 1 as it may reduce gentrification by providing support to low income residents. This policy scores a 1 in Tier 2 as it uses words like "ensuring" and indicates a high level of commitment. It also specifies a level of local commitment to matching state and federal funding aimed at low-income residents. This policy scores a 0 in Tier 3 as ensuring local match of service support is not indicated in the literature as a neighborhood stabilization strategy.
St. Petersburg Comprehensive Plan	**H3.12 The City will provide density bonuses to developers of affordable housing through the implementation of the Workforce Housing**	**1**	**1**	**1**	This policy will increase the availability of affordable housing, so it scores a 1 in Tier 1. The policy uses language such as "will" and provides a clear action to be taken so it scores a 1 in Tier 2. Density bonuses are also mentioned in the literature as a proven method to reduce gentrification pressures, so it scores a 1 in Tier 3.

	Density/Intensity Bonus Ordinance.				

3.7 Plan Scorecard Analysis

The scorecard analysis sheds light on the extent to which plans at different jurisdictional levels address sea level rise mitigation measures and neighborhood stabilization and affordable housing protection measures. Once scores were calculated for the plans, we replicated Berke et, al., 2019's methodology in creating a location-based score. The score for each community is a summation of all relevant nested plans at higher levels of governance. For example, the score for the neighborhood of South St. Pete included a summation of the scores for the Regional Planning Council plans, County plans, City Plans, CRA plans, and neighborhood revitalization plans. Any plan that governs a portion of the neighborhood was included in this analysis. Scores were also generated for areas that are at risk for SLR inundation only. These scores focus on SLR adaptation measures rather than anti-gentrification language. We were unable to gain access to a sufficient number of plans and various types of plans in the Jacksonville/Duval case to include in our analysis. Thus, we generated scores for Pinellas and Miami-Dade Counties. We hope to be able to incorporate plan analysis for Jacksonville/Duval once these plans are accessed. Once scores were generated for Pinellas and Miami-Dade, we compared the results of each tabulation. Differences in each score show that certain neighborhoods are more protected than others even though neighborhoods are in the same county.

3.8 Scorecard Results

Scorecards were condensed into scores at each jurisdictional level: regional, county, city, and neighborhood. This section provides scoring breakdowns of plans governing neighborhoods in Pinellas and Miami-Dade Counties. We constructed tables and scores for several municipalities in each county which can be found in the Appendix.

3.9 Miami-Dade County

In Miami-Dade, sea level rise language scored high at the county level in tier one with a score of 134 which indicates that 134 unique policies addressed sea level rise across a range of plans at county level and higher. The score drops off dramatically in tier two with only 29 tier two policies. This clarifies that of the 134 policies, only 29 of them included language with specific commitments to address SLR. Miami-Dade county has a total of 1 policy that met all three criteria. SLR language is limited at the City level with only 14 in tier one and a score of 2 in tier two. At the neighborhood level, SLR language is essentially non-existent with scores of 0 across the board. There is a wide range of strategies focused on neighborhood stabilization in Miami-Dade at the county level with a score of 159 in tier 1, 66 in tier 2, and 59 in tier 3. This means that at the county and regional level, Miami-Dade has 159 policies on the books that acknowledge the need to protect affordable housing and stabilize neighborhoods, 59 of which meet the effectiveness criteria of being identified as best practices in the literature.

Table 3.9: Scoring Example Miami Region and County Plans

Plan	Jurisdiction	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
South Florida RPC Strategic Regional Policy Plan	Miami Region	12	2	0	49	20	16
Miami Dade Water Supply Facilities Work Plan	Miami-Dade County	0	0	0	0	0	0
Resilient 305	Miami-Dade County	4	2	0	2	0	0
Miami-Dade SLR Taskforce Recommendations	Miami-Dade County	74	19	0	0	0	0
Miami Dade LRTP	Miami-Dade County	0	0	0	1	0	0
Miami Dade Local Mitigation Strategy	Miami-Dade County	3	0	0	0	0	0

Miami Dade Affordable Housing Preservation Plan	Miami-Dade County	0	0	0	28	20	18
Miami Dade Affordable Housing Framework	Miami-Dade County	1	0	0	56	7	7
Miami Dade Comp Plan	Miami-Dade County	45	7	1	72	39	34
Miami Dade Climate Change Action Plan	Miami-Dade County	7	1	0	0	0	0

We see a great deal of variation at the city level between cities in how prepared they are for both SLR and neighborhood stabilization. Cities such as North Miami incorporate a great deal of SLR language in their plans and show the highest commitment level seen in plans with 23% of SLR language meeting the criteria for tier 2.

The City of Miami however, seems to have a much more robust set of policies for neighborhood stabilization. It is important to note that some of these cities contain areas that are susceptible to SLR and gentrification induced displacement such as the City of Miami, while some are only vulnerable to SLR pressures such as Miami Beach and Aventura that have a very small amount of low income residents and do not contain neighborhoods identified as vulnerable to gentrification.

Table 3.10: Miami Area City Level Scores (excluding region and county scores)

City	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
City of Miami	14	2	0	35	25	25
Miami Gardens	0	0	0	21	11	11
Miami Beach	3	2	0	13	11	11
North Miami	43	10	0	19	16	16
Aventura	1	0	0	11	2	2
South Miami	20	0	0	13	7	7

At the neighborhood level we see a great deal of variation between levels of protection for neighborhoods susceptible to gentrification. West Coconut Grove appears to be the most well protected while Little Haiti appears completely reliant on city, county, and regional protection measures. The neighborhood of Overtown appears to have about half as many protection measures as West Coconut Grove. This indicates a high degree of variability of affordable housing protection and neighborhood stabilization measures between neighborhoods within the same city. We could not find any neighborhood level plans for the neighborhood of Little Haiti, leaving it the least protected to gentrification and displacement pressures of all neighborhoods studied.

Table 3.11: Neighborhood Level Plans (excluding region, county and city scores)

Neighborhood	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
Allapattah	0	0	0	7	7	2
West Coconut Grove	0	0	0	52	20	17
Overtown	0	0	0	27	13	12
Little Haiti	0	0	0	0	0	0

We conducted this analysis on several neighborhoods. Table 3.11 provides a score overview from each jurisdictional level from the Greater Miami region to an example neighborhood of Overtown. Overtown is a neighborhood or district that is nested within plans at the city, county, and regional level that could impact policies for affordable housing and neighborhood stabilization as well as SLR adaptation. Thus, the scores become cumulative as we drill down to the neighborhood level. At the city level, we see much more focus on neighborhood stabilization than SLR with housing scores of 35 in tier one, 25 in tier two, and 25 in tier three. The city level plans not only include protective policies, but more than two-thirds of those policies are among the most effective strategies. At the neighborhood level, where SLR scores are non-existent, neighborhood stabilization and housing scores are 27, 13, and 12 for each tier respectively.

Table 3.12: Overtown Neighborhood Scores

Location: Overtown Miami	Jurisdiction	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
Region Total	Region	12	2	0	49	20	16
County Total	County	134	29	1	159	66	59
City of Miami Total	City	14	2	0	35	25	25
Overtown Neighborhood	Neighborhood	0	0	0	27	13	12
Overall Total		160	33	1	270	124	112

3.10 Pinellas County

For SLR in the Pinellas region, we analyzed the cities of St. Petersburg, St. Petersburg Beach, Clearwater, and Largo and the census designated place of Lealman. At the regional level, Pinellas county scores a 25 in tier one, 8 in tier two, and 0 in tier three indicating some regional acknowledgement of SLR as a hazard but minimal policy commitments and no policies that specify addressing a 1 foot level or more of SLR. At the county level, Pinellas SLR scores are the lowest compared to other jurisdictional levels with a 9 in tier one, 4 in tier two, and 0 in tier 3.

Table 3.13: Pinellas Region and County Scores

Jurisdiction	Plan Name	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
Tampa bay/Pinellas Region	Tampa Bay Comprehensive Economic Development Strategy (CEDS) Annual Update of the 2017-2021 CEDS	6	0	0	0	0	0
Tampa bay/Pinellas Region	Future of the Region: A Strategic Regional Policy Plan for the Tampa Bay Region	15	7	0	17	4	4
Tampa bay/Pinellas Region	Changing The Course: The Comprehensive Conservation and Management Plan for Tampa Bay	2	1	0	0	0	0
Tampa bay/Pinellas Region	Tampa Bay Water Strategic Plan 2019-2024	1	0	0	0	0	0
Tampa bay/Pinellas Region	SWFWMD Strategic Plan	1	0	0	0	0	0
Pinellas County	Pinellas County Comprehensive Plan	0	0	0	51	30	29
Pinellas County	Pinellas County Capital Improvement Program	4	4	0	1	1	1
Pinellas County	Pinellas Local Mitigation Strategy	1	0	0	0	0	0
Pinellas County	DEP Resilient Coastline Projects Pinellas County Work Plan	4	0	0	0	0	0
Pinellas County	Pinellas County, Florida Action Plan	0	0	0	32	30	30
Region and County	Overall Total	34	12	0	101	65	64

We find few neighborhood stabilization and affordable housing policies at the regional level in Pinellas with scores of 17, 4, and 4 for each housing tier respectively. At the county level, there is strong acknowledgement of the need for neighborhood

stabilization with a score of 84 in housing tier one. A majority of those policies meet the criteria for tier two with a score of 61 and tier three with a score of 60.

City scores differ dramatically between municipal governments. We see substantial SLR scores at the city level in St. Petersburg and Clearwater with the highest scores for tier 1 of SLR. We found some areas to have minimal SLR direction setting, such as St. Petersburg Beach, Lealman, and Largo. These contrast starkly against St. Petersburg and Clearwater which have ample direction setting and some commitment to protection and accommodation.We see strong presence of strategies for neighborhood stabilization in Clearwater and St. Petersburg at the city level. However, these scores decline when compared to scores earned by other municipal governments such as that of Lealman and Largo, and even further in St. Petersburg Beach. Table 3.14 contains plan scores for all Cities analyzed in Pinellas County.

Table 3.14: City Level Scores in Pinellas County

City	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
St. Petersburg	49	12	0	69	46	45
Largo	2	0	0	24	17	17
St. Petersburg Beach	5	2	0	6	5	5
Clearwater	64	26	0	73	57	55
Lealman (census designated place)	0	0	0	18	12	11

The plan integration scorecard approach accumulates scores across levels of governance. For example in the South St. Petersburg neighborhood we add the scores from the pinellas region, Pinellas County, and City of St. Petersburg (see table 3.15 below). Here, we see relatively high scores for housing with scores of 69 in tier one, 46 in tier two, and 45 in tier three. At the neighborhood level, there is almost no acknowledgement of SLR, however we see strong housing acknowledgement and commitment with scores of 89 in tier 1 and 75 in tier two. At the neighborhood level, a relatively steep dropoff occurs from tier two (75) to tier three (38) compared to only a small decrease at the city and county level between those tiers. Thus, while the neighborhood level plans have a high number of policies overall and many of those policies are specific commitments, fewer of them meet the criteria of effectiveness. Table 3.15 provides a scoring breakdown at each jurisdictional level for the South St. Petersburg neighborhood in Pinellas County.

Table 3.15: South St. Petersburg Scores

Location: South St. Petersburg	Jurisdiction	SLR 1	SLR 2	SLR 3	Housing 1	Housing 2	Housing 3
Pinellas Region Total	Region	25	8	0	17	4	4
Pinellas County Total	County	9	4	0	84	61	60
City of St. Petersburg	City	49	12	0	69	46	45
South St. Pete	Neighborhood	0	0	0	89	75	38
Overall Total		83	24	0	259	186	147

3.11 General findings of policy analysis for SLR protection and accommodation

Finding 3.1: At the regional and county level, sea level rise language is relatively widespread, but mostly focused on direction setting with vague policy statements
Through analysis of sea level rise policies and plan language we found that at the regional and county levels, sea level rise language is focused mostly on direction setting. Pinellas and Miami-Dade regional and county plans acknowledge SLR as a hazard. Regional and county comprehensive plans provide some guidance for protection and accommodation measures. However, they rarely include specific actions or identify locations that are the focus of specific projects or regulations. Acknowledgement is a start, but more commitment and specificity is needed at the regional and county levels to protect infrastructure and development from SLR related hazards.

Finding 3.2: Municipal level plans (neighborhood or municipal plans) tend to have high variability in language focusing on SLR mitigation.
We also see little SLR language in some plans at the local level and a great deal in others. This could be because SLR is easier to address at regional and county levels

because it affects large geographic areas and because adaptation measures are heavily dependent on what neighboring communities are implementing. Inconsistencies among municipalities in regards to SLR language could mean some cities are more prepared than others, which may lead to discrepancies among who is most affected by SLR flooding. Some county and city level plans also identified SLR as a hazard without committing to specific actions (eg. Clearwater and St. Petersburg). This fits well with Butler, Deyle, & Mutnansky, (2016) findings that municipal governments address sea level rise with a “wait and see” or “take into account” approach by not specifying direct actions.

However, there may be a disconnect between actions taken by municipal governments and what we can see in plan language. For example, the City of Miami Beach has minimal language in their plans regarding SLR; however, they have made substantial investments in raising underground infrastructure and roads, installing one way valves in stormwater systems, and installing pumps to move water off the island. Thus, some of the SLR mitigation and adaptation strategies may be incorporated into other areas of county or municipal government activities such as public works and engineering.

Also, at the time of this writing, many local comprehensive plans are being updated in response to the Peril of Flood Act which requires all coastal comprehensive plans to address flood risks associated with SLR among other sources. Moreover, new rules at the state level require a SLR assessment before approval of projects that use state funding for infrastructure. Finally, the 2021 state budget created new project funding targeting under the Florida Resilient Coastlines Program at the Department of Environmental Protection. Therefore, the landscape of SLR planning is changing rapidly which could lead to significant changes in how regional, county, and city level plans address SLR as a hazard going forward.

Finding 3.3: Almost no municipality in our selected counties has established policies that specifically protect against SLR inundation up to the 1-foot SLR level

We find essentially no policies or plan language at the municipal level that specifically protects areas at 1 foot of SLR. The only policy we could find to come close to meeting this criteria is in the City of Miami Comprehensive plan. This policy outlines a timeframe for the Water Supply Facilities Work Plan which states it will be updated to meet the city's water demands for a 20 year period while incorporating SLR and climate change. In all other plans analyzed we could not find any specification of 1 foot of SLR which would protect development for approximately 20 years. This lack of specificity may leave municipal governments scrambling to adapt as effects of SLR are felt more often and in more extreme magnitudes. While SLR projections change as scientists build better climatological models, 1foot of SLR is consistently cited with high confidence to be seen in the near term (IPCC, 2014; Southeast Florida Regional Climate Change Compact 2020; Sweet at al., 2017).

On the other hand, if planners and managers are incorporating up to date analysis in their permitting processes, then it is conceivable that vague policies would allow for them to incorporate protection against 1 foot or more SLR into their approvals of development proposals and designs. We do not have evidence that this is the case yet, but building codes and base floor elevations and other measures are ways to address this issue directly. An analysis of policy implementation and other policies outside of plans is needed to further explicate this issue.

3.12 General findings of policy analysis for affordable housing and neighborhood stabilization

Finding 3.4: Regional plans have limited coverage of affordable housing and neighborhood stabilization strategies and policies

Regional plans appear to be minimally focused on neighborhood stabilization and affordable housing preservation. Compared to other jurisdictional levels, the Pinellas regional-level plans scored lowest with scores of 17, 4, and 4 for each housing tier respectively. This is less evident in the Miami region; however, regional plans tend not to consider housing issues plaguing specific neighborhoods. Regional plans tend to assist local municipalities in direction setting rather than specific actions. While affordable housing and neighborhood stabilization measures are appropriate at the local level, there may be value added to providing regional perspectives, resources, and analysis to address region-wide shortages in affordable housing and impacts of gentrification at a broader scale.

Finding 3.5: County, City, Neighborhood, and CRA plans provide a generally robust set of affordable housing and neighborhood stabilization strategies.

Overall, county, city, neighborhood, and CRA plans provide a generally robust set of affordable housing and neighborhood stabilization strategies. Some inland communities that are at risk for gentrification have policies and programs in place to protect affordable housing and stabilize neighborhoods that meet criteria of effectiveness as defined in the broader literature on these topics. We find that much of the neighborhood stabilization language at the neighborhood level that meets tier two criteria also meets tier three criteria. This means that planners in these areas are using a well established set of best practices to stabilize neighborhoods and promote affordable housing. It must be noted that this analysis does not account for how well these policies are implemented to determine the extent to which these strategies are put into action. However, if these policies are implemented and fully funded, then it should follow that neighborhoods where these policies are in place would benefit from greater stabilization and affordable housing protections which would reduce gentrification driven displacement pressures.

Finding 3.6: Protection for affordable housing and neighborhood stabilization policies are uneven among neighborhoods within the same county or city

While planners are employing a robust set of neighborhood stabilization policies, levels of protection can differ between neighborhoods even within the same city and county. This means that certain neighborhoods will be protected more than others, setting the stage for uneven displacement pressures between neighborhoods with similar demographic/socioeconomic characteristics. Local governments appear to be protecting certain neighborhoods at the expense of other less protected areas who may see displacement inducing development as a consequence. Many neighborhoods studied appear to have little to no planning actions at the neighborhood level. These forgotten neighborhoods may see more intense displacement and gentrification pressures when compared to neighborhoods with strong neighborhood/CRA plans.

Finding 3.7: Regions differ in levels of plans focused on affordable housing protection and neighborhood stabilization.

One notable difference between the two areas studied is the difference in the scales at which these affordable housing strategies are planned. In Miami-Dade, most of the affordable housing preservation and neighborhood stabilization happens at the county level, whereas in Pinellas most strategies are found in city and neighborhood level plans. This regional difference may create different sets of needs for each region. This shows that there is not a one-size-fits-all approach for each region studied. Understanding that context matters when stabilizing neighborhoods is important as each region, county, city, and neighborhood have different needs and may require tailored support. In Miami-Dade, more plan development support is needed at the neighborhood level; whereas in Pinellas, more plan development support is needed at the county and regional levels. This tailored approach to supporting these two regions can ensure that resources are allocated as efficiently as possible.

3.13 Conclusion

The plan analysis scorecard revealed several key aspects of both housing and sea level rise planning and policies in Pinellas and Miami-Dade counties. Although, we cannot generalize to the state based on these findings, there are some important features of note that should be the focus of further research.

First, it appears that sea level rise is widely recognized as an issue in the plans we analyzed, but there is limited specific commitment to addressing SLR risks in specific places. We found language focused on direction setting, but few if any policies that directly addressed inundation risks, even at the level of 1 foot of SLR. If cities are going to slow SLR induced displacement from coastal development, a more robust set of policies will be needed. More specific thresholds for SLR planning can help ensure cities are able to continue providing services, and more residents are able to remain in place. With the increasing salience of sea level rise, cities inevitably will be forced to make decisions over which areas to protect and which to abandon. Planning for specific sea levels can ensure proactive action to limit displacement risks or at least prolong the timeline for when people will need to retreat from certain areas. Sea level rise is only a part of the picture, as climate change will bring many other ecological problems for development such as more intense droughts, more severe storms, and increased temperatures. More research is needed to understand how Florida's cities and counties are planning for the range of climate impacts expected to impact the state.

Local level plans tended to have relatively robust housing policies in place, especially to protect affordable housing. Based on best practices in the literature, Pinellas and Miami-Dade counties and local level municipal and neighborhood level plans incorporate many of the tools that should protect and potentially generate affordable housing stock. Despite strong policies and programs on the books, each of our study areas is facing an affordable housing crisis that mirrors the crisis at the state and national levels. This is somewhat puzzling as each of these regions have effective strategies for neighborhood stabilization and for bolstering affordable housing. More

research is needed to understand how these strategies are translated into implementation and where the gaps are in achieving stronger affordable housing creation and protection outcomes.

As a final note, there are several limitations to this research and a call for further analysis:

1) Hazard planning incorporates some aspects of sea level rise related impacts, such as coastal flooding. Therefore, SLR may be incorporated into some of these types of policies and programs.
2) We know of numerous projects that are being implemented in our study areas that are not necessarily in the plans we analyzed but that have the potential to reduce displacement risks along the coast. Project level analysis may capture some of these outcomes.
3) Plans are changing over time. We might expect updates to some of the plans which are in progress to incorporate more robust policies, especially pertaining to SLR in light of the Peril of Flood Act.
4) Policy implementation is not in the scope of this study. We recommend an in depth analysis of policy implementation to further dissect the disconnect between strong affordable housing policies and lagging affordable housing provision.

4.0 Resilience, Planner, and Advocacy Perspectives

4.1 Introduction and Overview

In this section, we share the insights and perspectives we gathered through interviews with planning staff, resilience and housing officials, and community advocates. In all three counties, the pro-development paradigm is a driving force even in the face of the impending risks related to sea level rise, which are already evident in many neighborhoods. As Florida continues to be a destination state for migrants and visitors from other parts of the United States and the world, the development market is booming. In each county, the coastline continues to experience building densification, installment of grand-scale public projects (especially in Miami), and high-end housing developments. Consequently, there is an emphasis on structural engineering solutions, nature based solutions, and structural accommodations in building design and codes to protect against sea level rise impacts. With land values on the rise, developers willing to invest, and massive profits being made in the real estate market over short term business cycles, the pump is primed to maintain the status quo of growth oriented development. Migration away from the coast and conversations about displacement are pushed further into the future and down the priority list as development continues largely unfettered. The reality of this future is not lost on some developers, who are also speculating and consolidating properties on higher ground in anticipation of increased demand for higher ground real estate in the not too distant future.

Meanwhile, inland areas are also experiencing revitalization and redevelopment in underinvested and/or areas of decline. As these areas become more desirable and property values increase, housing and community advocates are increasingly concerned about affordable housing protections and gentrification. Housing practitioners have long understood that the pressures of gentrification and neighborhood change can lead to the eventual displacement of lower income residents. However, connecting

gentrification pressures with climate change impacts remains tangential. Closing the disconnect between environmental/resilience officials, housing practitioners, and community advocates will be needed to effectively address the complex drivers of displacement in an integrated and cross sectoral way.

The ways in which actors are understanding and addressing these dynamics vary locally. In Miami-Dade, public officials and community advocates are aware of the risks and connections, but uncertainty remains about when the tipping point will be reached to trigger movement away from the coast leading to cascading impacts inland. Additionally, areas that are primed for potential displacement are explicitly identified as inland communities of color which are already undergoing neighborhood change. In Pinellas County, planners are in the process of mapping the vulnerabilities related to sea level rise, identifying sources of affordable housing stock, and delineating potential areas where primary and secondary displacement may occur in order to inform future decision making and policies. In Jacksonville-Duval, community advocacy organizations are sounding the alarm. Public agencies are working to join this momentum, but it appears that politics have slowed down significant progress until recently.

This research underscores four key gaps in 1) implementation, 2) equity, 3) affordable housing, and 4) integration. Implementation gaps are evident since policies to address sea level rise and protect affordable housing are on the books, but these policies have had minimal direct impacts, particularly concerning the provision of affordable housing. Moreover, resilience projects have so far tended to focus major investments to protect areas with the highest economic values. This translates into an equity gap as those who have the greatest means to adapt are getting the highest levels of protection while those least able to adapt and most likely to be displaced are receiving the least investment. A growing gap in the availability of affordable housing for low income communities of color sets up a tenuous situation for those most at risk of displacement from multiple pressures of gentrification and neighborhood change further exacerbating the equity gap. Finally, many of our interviewees acknowledged that there is an integration gap as

resilience and housing sectors continue to operate in disconnected silos. The major policy implications from this research are critical for moving towards action in shaping a more climate resilient future and in order to effectively manage the risks of displacement from the coast and the equity outfalls from this potential migration. We attend to the policy recommendations to address these gaps in the next section of this report. In this section, we elaborate on our key findings which reveal aspects of the four gaps.

4.2 Key Findings

In this section, we provide a brief overview of the 11 key findings from the interviews we conducted.

Resilience Perspectives

- Counties are building the capacity to address resilience to sea level rise through a range of adaptation strategies. These are underway in plans and projects and are being considered in future projects and plans as well. However, the question of displacement or managed retreat is largely ignored in policy circles for now.
- Coastal development continues, largely unabated, with some adaptations built in (elevating structures and infrastructure, for example). Any “retreat” from the coast is piecemeal and taking place in individual real estate transactions. But, with someone always ready to purchase properties, there is little to no evidence of an exodus from the coast.
- Engineering and planning solutions are being applied along the coast, which, in many respects, shores up the coastal real estate market and assures private developers that they can continue to invest and develop along the coast.
- Gentrification can be seen in some inland communities, but resilience focused planners are not seeing this as driven by coastal retreat. Rather, there are other factors including the lack of available land for development closer to the coast and greater affordability inland that drive people to invest in these neighborhoods.

Housing Officials / Planner Perspectives

- Preserving, protecting and adding affordable housing is a low priority compared to reinvestments occurring in inland communities. These investments are readying neighborhoods for eventual new populations – leaving out existing residents who are unable to afford these newly upgraded communities.
- Implementing affordable housing protections or maintaining existing preservation of affordable housing are simply not enough to stem the tide of development pressures and wealth preservation orientation in Florida.
- Although there are numerous affordable housing policies on the books in Jacksonville, Pinellas, and Miami-Dade, policies are largely reactive and understaffed city planners and advocacy groups remain two steps behind developer timelines.

Advocacy Perspectives

- Gentrification is happening, driven by multiple pressures with limited mitigation measures in place to protect at-risk housing. As sea level rise becomes more salient in coastal areas, inland migration can lead to increased displacement risks on lower-income communities of color. While this is recognized in concept, public officials are largely overlooking the pleas of advocacy groups.
- Not integrating planning responses limits progress in developing effective solutions that address both resilience and housing which leaves some potential synergies and spillover effects under examined.
- Advocates are working to identify community needs, conduct visioning activities, developing plans, and building capacity to implement programs and projects in neighborhoods. But, they struggle with limited staff capacity, limited funding, and often piecemeal impact without substantial buy-in from local officials.
- Coalitions and collaborations developed by community advocacy organizations are helping fill gaps left by city-county agencies.

4.3 Resilience Perspectives

Sea level rise is already causing nuisance flooding, coastal erosion, and saltwater intrusion into groundwater in South Florida. Projections in the greater Tampa Bay region as well as in North Florida suggest that these impacts are not far behind or are already starting to happen. The sense of urgency is growing as sea level rise and its long-term impacts have the potential to make some areas in these cities uninhabitable without substantial investment in adaptation measures including engineering and hard infrastructure strategies. Planners and community leaders in all of the selected counties are aware of the challenge and they are seeking ways to address it.

In our interviews with regional, county, and city planners, managers, and other public officials, we heard relatively consistent stories that reinforced the idea that sea level rise is considered a hazard and a nuisance to be addressed, but not a transformative problem in the near term. The growth and development paradigm that has dominated Florida in the past continues to wield much influence in policy circles. We touch on some of the perspectives we heard that reinforce this idea in what follows.

Finding 4.3.1: Counties building capacity to address SLR

Sea level rise is increasingly salient in all three counties selected for this study. They are at different levels of analysis, understanding, and urgency regarding what, how, and when to act. Miami Dade has been working on climate change related issues for at least two decades spanning both mitigation and adaptation. The county and many of its municipal governments have understood that climate change will have significant impacts on the region from accelerating sea level rise, increased heat waves, tropical cyclone intensification, and saltwater intrusion. Pinellas, as one of the most flood prone counties in the country, has understood that climate change will have longer term impacts, but also has been slow to adopt policies until they have a strong information base for decision making. Jacksonville-Duval County has been on-again, off-again. While city leaders signed on to the Rockefeller Foundation 100 Resilient Cities program, a new mayor abandoned the focus on resilience in 2016. Business leaders have worked

to keep resiliency on the table in the city and different agencies and advocates scattered throughout the region have taken on aspects of the work in relatively uncoordinated ways until recently.

To help build capacity of the local governments and other actors, regional collaboratives focused on resilience have emerged in all three places. The Southeast Florida Climate Change Compact gained national notoriety and representatives from that regional group were appointed to advisory roles at the federal level during the Obama administration. The compact has been instrumental in supporting counties and cities in the greater Miami area in developing plans, policies, and programs to address climate change and sea level rise in particular. Meanwhile, Miami-Dade county, the City of Miami, and the City of Miami Beach have partnered to develop Resilient 305 which is an organization that has developed an action plan for those three municipalities to try to address sea level rise while allowing for continued growth and development in the region. The Tampa Bay Regional Planning Council has been instrumental in facilitating sea level rise adaptation planning as well. It is the lead organization in developing a regional resiliency collaborative modeled on the Southeast Florida Climate Change Compact. Pinellas county and many of the cities within it have joined that collaborative. In Jacksonville-Duval, business leaders in the county and city organized a resiliency committee to fill in the gap when the city dropped out of the 100 Resilient Cities program. The Public-Private Regional Resiliency (P2R2) committee, in partnership with the Northeast Florida Regional Planning Council, has led the charge on bringing resiliency back to the forefront of political conversations in the city and county.

In all three of our counties, advocates, city and county leaders, and planners have built a foundation for addressing resilience in their respective locations and in specific ways. This effort has successfully generated information that provides a deeper and more localized understanding of the phenomenon and a strong foundation for planning decisions. All three counties have benefited from regional sea level rise projections and vulnerability assessments and are continuing to refine these sources of information.

Using this information base, planners and advocates have been effective at putting the issue of SLR and coastal resilience on the radar of elected officials in each county. Elected officials have responded with support and funding to organize planning and decision making forums and committees, address infrastructure needs, and engage in regional efforts to look beyond jurisdictional boundaries to shared risks.

The issue of gentrification in general, and climate gentrification more specifically, appears to be underexplored in our counties. One of the challenges is that housing issues and displacement from gentrification tend to be analyzed and attended to separately from issues of coastal resilience and SLR. This siloed approach is a point of frustration in our interviews with advocates who, in both Jacksonville and Miami-Dade, have been instrumental in bringing an integrated perspective into discussions in resilience committees and commission meetings. While the cities and counties continue to struggle to bring this integrated approach into implementation, the discussions are underway about how to bring affordable housing and resilience together. In Miami-Dade, specifically, the county recently completed a study of how to upgrade public housing developments to improve resilience through flood-proofing, energy efficiency, and other improvements. In Pinellas County, the county and regional partners are working on a Vulnerability Assessment that looks specifically at how affordable housing will be impacted by coastal flooding from sea level rise and other storm events. We share more about partner efforts in the advocates perspectives section below.

Finding 4.3.2: Coastal Development Continues, Retreat Not Happening Yet

When we asked planners and managers whether they were noticing any pressure to move inland along the coast or other areas susceptible to sea level rise inundation, all of our interviewees responded in the negative. Public officials in all of our counties observed that sea level rise has done little to nothing to reduce demand for coastal properties and development. Public officials we spoke to in all three counties also observed that property values do not seem to be impacted by sea level rise. From their perspectives, property values remain high in coastal areas at risk of inundation. People

continue to want to move to the coast and be near water.

We presented the overall tension to all of our interviewees--that SLR has the potential to displace people along the coast who might seek places to settle on higher ground inland. In Miami-Dade County, we heard planners and managers respond with phrases like: “I don’t think anybody is planning on moving anywhere… No modern city has ever picked up and left.” Another stated, “I don’t think we have the language that’s working right now to talk about people moving out of their neighborhoods because of climate change.” There are also risks talking about retreat and sea level rise. There are some who don’t want to talk about “migration” or “retreat” “because it threatens property value.” Rather than conceptualize what will happen on a more permanent basis, some of our interviewees pointed to the fact that the “emergency management scheme is to be ready to deal with [one-off] events,” not long term transformations. While sea level rise is increasingly a concern, the idea of retreat is simply not integrated into public decision making. One interviewee shared that when they go to conferences about climate change adaptation, retreat is part of the vocabulary of the attendees, but not in the public discourse back home.

In Pinellas County, the story is somewhat different. One of the planners we spoke with revealed that a lot of lower and moderate income households with properties on the coast, particularly the barrier islands, are being bought out by higher income investors who have enough money to buy an older home, demolish it, and build a newer larger home to modern standards and codes. Whenever there is coastal flooding, another group of properties change hands and get this upgrade which is an injection of wealth and another source of gentrification in the coastal high hazard zone. Some areas around the Tampa Bay side of the county are also beginning to experience “blue sky flooding” and “tidal influenced inundation a few times a year.” Along with tropical storm surge flooding, these events are making more people think about moving from the coastal zones than in previous years but, it is not happening in large numbers yet. And, new development is driving up prices and leading to people moving out more than the

flooding pressures. So, while some people are leaving the coastal area, they are being replaced by newer and higher cost development rather than representing a longer term retreat. They still have to go somewhere. One of the planners we talked to speculated that “as these people leave the island, where are they going to go? They’re going to go inland… where the low income population is…” With that said, this official shared that “we acknowledge sea level rise and we’re planning for it in many ways… but I’m not sure that pen has met paper yet regarding displacement from climate impact.”

Several of our interviewees from Jacksonville noted that development continues in the coastal communities of Duval County and property values seem to continue to rise. Mayport Village, an historic African American community near Mayport Naval Station is perhaps one exception. Mayport Village has high vulnerability to sea level rise and coastal flooding. As an old shrimping community, it has faced economic decline as well. Otherwise, property values tend to be stable and development continues along the coastal areas and riverfront.

Finding 4.3.3: Engineering and Planning Solutions

In many respects, what we heard reinforced the idea that sea level rise is an engineering problem more than a land use problem. In Miami-Dade, in particular, the problem has been met with extensive engineering investments including valves to keep water from backing up into stormwater systems, elevating land, limiting habitable spaces on lower floors of high-rise buildings, and elevating sea walls. The Resilient 305 strategy was discussed by several of our interviewees who highlighted the fact that the overarching goal is to figure out how to accommodate new development in ways that will be adaptable to sea level rise. While the idea of "retreat" was interesting conceptually to some of our interviewees, none of our interviewees thought that managed retreat would be on any political agenda for the foreseeable future. Instead, the focus is on how to accommodate growth in Florida's three largest urban areas, not how to curb land development in areas at risk of sea level rise inundation.

As an interviewee in Miami-Dade put it, “We’ve always adjusted the land and we’ve always been moving water. We’re moving water now with some of the biggest pumps in the world. We’re well aware that we’ll be moving water.” Another interviewee noted that “if you look at our sea level rise strategy, it’s a plan for how we can keep people here...how can you keep assets functional…” One of the officers who focuses on code enforcement noted that:

> “I do work with our resiliency office… what I do is more not so much where to build, but how to build if you want to build through the building code… If you’re going to build here [near the coast], I can tell you how to build... and bring you the provisions in the building code that tell you how…”

The code includes limitations of impervious cover, flood proofing, set backs, basefloor elevation standards above FEMA requirements, and more.

Land development is driven primarily by private development interests. So, land use planning can provide some boundaries within which that development occurs. But, as one of our interviewees pointed out in Miami-Dade, “Most of the primary construction is private and is done in the world of finance, including a lot of international finance for us.” As a result, most of the efforts to adapt to sea level rise are driven by building codes and engineering standards. Construction standards in Miami Dade have been mostly driven by hurricane winds so there are strong regulations regarding wind. But, a lot of buildings have “unintentional adaptation” because of the high cost and limited availability of land. Instead, most high rise structures have the first several floors used for parking decks due to parking regulations. As one interviewee noted, “the only thing you have at grade level or at street level...is a lobby or access point.” While some of those regulations are relaxed near rail lines, many buildings in Miami can handle a relatively substantial storm surge and recover rapidly without much damage.

In both Jacksonville-Duval and Pinellas, the SLR threats are a little less acute and

further in the future. Thus, the discussions about engineering solutions and infrastructure seem to be slightly lagging behind South Florida. However, there are a couple of projects in Jacksonville (Emerald Trail and Hogan's Creek and McCoy's creek restoration) that several interviewees talked about as having potential to help mitigate riverine flooding, including flooding from SLR, as well as serve as a catalyst for neighborhood development projects in lower-income neighborhoods in the city. We discuss these in more detail in the advocacy perspectives section.

Pinellas County is approaching the problem from a planning orientation. The county is undertaking a sophisticated sea level rise modeling effort that will account for storm surge and SLR depth across multiple scenarios and assess risks to critical facilities and public infrastructure among other assets. This information database will be able to direct planning decisions. As that project wraps up, there are a number of other activities taking place. We heard from interviewees of several projects that aim to get ahead of SLR impacts such as the Tampa Bay Partnership's effort to develop a "business case for resilience" study, the Regional Planning Council's focus on affordable housing and resilience, the Saint Petersburg area Chamber of Commerce's sustainability checklist to policy advocacy (which includes questions around flooding and flood insurance in the coastal high hazard area), and a county-wide sustainability and resilience action plan which will include social vulnerability measures. There are also engineering efforts under consideration in some of the Pinellas municipalities. According to one of the planners we spoke with, some of the coastal communities are "trying to figure out, how do we raise ourselves, essentially… nobody's ready to retreat yet." Instead, they are thinking about how to use building floor and height regulations and fill to elevate land and avoid flooding impacts.

In terms of the intersection between SLR, coastal displacement, and gentrification, it is not really on the radar of planning officials in Pinellas we spoke with.

Finding 4.3.4: Gentrification Drivers Not Due to Coastal Retreat

Our interviewees observed that there are other drivers leading to gentrification pressures in inland neighborhoods. In some respects, those neighborhoods are increasingly desirable as coastal areas are nearly built out and remain highly expensive. Instead, developers are starting to speculate and amass properties in some of the lower income neighborhoods. New residents are finding lower cost properties to be attractive. Our interviewees brought up multiple drivers of growth including continued population growth, the Covid-19 global pandemic, immigration, and economic opportunity. Some of our interviewees speculate that the pandemic has opened up more opportunities to relocate as remote work has increased in prominence.

Miami-Dade, in particular, continues to see an influx of population from international immigration. One of our interviewees noted that nearly 60% of greater Miami's population was not born in the US,

> "People moved here for a number of reasons...because of hurricane and earthquake events in Central America and Haiti,... economic events are usually the ones that drive most of the people… They'll come to where they feel there's a place they can raise a family…"

They noted population increases from the Bahamas after Hurricane Dorian, Puerto Rico after Hurricane Maria, Haiti after the 2010 earthquake, and continued economic struggles associated with extensive poverty and ongoing periodic hazard events. While some of the neighborhoods in North Miami used to be occupied by people from New York and New Jersey, today they are home to majority Haitian immigrants or Cuban immigrants. Neighborhood change is driven as much by the influx of immigrants as it is by any other factor of economic or social change. As one of our planners shared, "The real issue is like, how do you talk about displacement and migration, when what you are seeing is that rent and home prices are going up and we're not building nearly fast enough to accommodate other people coming here."

Another aspect of gentrification and land use change is that there are few places left to develop as much of the greater Miami area is largely built out and there aren't many places that can accommodate a large-scale retreat from the coastal areas. Where Miami is looking to increase densities near the rail lines which happen to be on higher ground, there is pushback from locals losing the historical significance, losing trees, and facing gentrification pressures. Moving tens of thousands from lower ground to higher ground is going to run into these challenges going forward in Miami Dade. One interviewee pointed out that they know developers who are buying up older homes "in a not very affluent neighborhood… 6-10 lots, as many as they can grab…" and then building high rise buildings in just a few years on those sites. He later shared that,

> "I don't know if it is malicious gentrification or just the nature of the market looking for lots… to quote Mark Twain, 'real estate's the best investment, there ain't making any more of it.' That's our situation, we're basically held at the development line and you can't go further west than that…"

Neighborhood change in Jacksonville is ongoing as gentrification is underway in many of the neighborhoods near downtown and along the St. John's River such as Springfield, LaVilla, Riverside, and Five Points. But no one we spoke with was able to link inland movement of coastal residents to low and moderate income neighborhoods. One of our interviewees in Jacksonville noted that while they do not have a lot of data yet, there is increasing anecdotal evidence that people are moving in from larger cities and finding cheaper properties in Jacksonville where they moved to live while working remotely during the pandemic. They wondered if some of these new residents would stay after the intensity of the pandemic began to decrease.

In Pinellas County, planners we spoke with pointed to a lack of data on affordable housing in the county which is hampering their ability to know which areas are experiencing gentrification pressures. What they are seeing is that coastal properties

are continuing to increase in value and income levels of residents are increasing as well. Interviewees mentioned some evidence of gentrification along the coast at present. There are efforts underway to study housing dynamics in Lealman, along the US 19 corridor, and in other neighborhoods. But, they do not yet have the data needed to confirm the gentrification pressures in these areas.

4.4 Housing Official and Planner Perspectives

Providing, protecting, and adding affordable housing has consistently been a challenge across the U.S., and is a more prevalent issue in Florida particularly with increasing population growth and redirection of funding for affordable housing. This has left a shortage of roughly 800,000 units of affordable housing in Florida (Shimberg Center for Housing Studies, 2019). Additionally, Community Redevelopment Areas (CRA) and Opportunity Zones (OZ) are designated primarily in areas seeing disinvestment or that have been targeted for future investments. However, funding is not necessarily allocated for affordable housing. Instead, large-scale developer-led projects with minimum requirements for affordable housing often gain access to these funds. Thus, it is difficult to fill this gap in affordable housing. Furthermore, within areas designated as CRA and OZs we have uncovered through our interviews and case selection process that these are the very communities that continue to face the most significant threat to residential displacement due to a combination of gentrification, green gentrification, and climate gentrification drivers.

In our interviews with housing officials, and city planners, we heard insights on how the dynamics of actually planning for and implementing affordable housing protections are playing out on the ground in the face of significant development pressures. There are local variations in anti-displacement and affordable housing policies. In Jacksonville, development is much slower paced and the environment welcomes private sector investment that is largely unchecked, with fewer anti-displacement policies on the books or integrated into future developments. In Pinellas, there are more pronounced development pressures and strong policy protections for affordable housing in progress; however, whether these policies are actively preventing displacement of existing

residents remains to be seen. Finally, in Miami-Dade, hyper-gentrification is ongoing in many inland communities of color. Although there is a desire to engage in affordable housing protections, the political context is not strong enough to challenge development momentum from both domestic and foreign investors who are hedging the market with short development timelines that will not be impacted by the longer-term impacts of sea level rise.

Finding 4.4.1: Lack of integration of resilience and affordable housing policies
We learned from our interviews with housing officials and planners that resilience and affordable housing strategies are not integrated and there is less support for preserving and protecting affordable housing in low-income inland communities that have at best minimal controls in place. This illustrates a significant gap in both the planning and also implementation of affordable housing policies despite the desire of planners to engage with county-wide strategies to provide and protect existing affordable housing. Much of the affordable housing policies are found in Comprehensive plans or within legislation that is project specific because in both Miami-Dade and Pinellas Counties, the Comprehensive plans are still being expanded and updated.

When interviewees were asked about plans and policies that integrate resilience and affordable housing, planners at the City of Miami explained that they are currently working on policy strategies for future land use planning and incorporating housing affordability, resilience, and sustainability into the comprehensive plan update. However, the City of Miami is perpetually understaffed, and playing catch up as a planner noted, “we are moving from crisis to crisis and not really giving each crisis its full due.” With that foundation, the City of Miami has been able to leverage crisis moments to enact a number of policies, whether focused on resilience and sea level rise or housing affordability. The paradigm however remains to “build, build, build.” Planners do acknowledge that there is a “recognition of sea level rise and gentrification and displacement being an issue, but none of that gets in the way of development.”

As noted by a planner:

> "what we haven't seen is a decrease in permitting and development in the areas that are also at risk, such as Little Haiti. It stems from Miami being perpetually a place that is a constant magnet for development, foreign investment, etc. This is perceived as a pro by developing these large-scale projects in areas that are demographically and socioeconomically at risk areas such as Little Haiti."

This inherently poses a conundrum between the pro-development orientation of Miami and the aims of planners to support development, but also enact policies that protect at-risk communities. These concerns are echoed by members of the City of Miami Climate Resilience Committee (CRC) that makes recommendations to address both sea level rise and affordable housing, but rarely see these issues urgently addressed. For instance, the CRC passed a resolution to take a closer look at climate gentrification in Miami after Keenan's (2018) paper was published connecting rising real estate values and migration to higher ground, primarily in at-risk communities of color. Although the Commission directed the City Manager to do that work, the City Manager delegated the responsibility to the Department of Planning and Zoning which focused their report on gentrification more broadly instead of limiting their work to climate gentrification. A CRC member expressed concerns that this report did not, "have new and novel ideas or proposals that could have been taken and recommended to the Commission." This reinforced sentiments that the omission was "on purpose" to not address key issues around affordable housing and displacement of residents in at-risk communities of color seeing significant impacts from development pressures. Although the report does not take into consideration the pressing issue of climate gentrification, this report should reveal more about broader gentrification pressures in neighborhoods like Liberty City, Little Haiti, and Wynwood.

A housing official also acknowledged the difficulty of working in a very challenging environment in Miami-Dade to protect and preserve affordable housing with little

integration of resilience and housing policy or the funding resources to make a difference, particularly for subsidized housing. For instance, maintaining subsidized housing in metro areas that have robust real estate markets such as Miami at the local level and even state level housing has risen very high on the list of concerns of local decision makers.

Finding 4.4.2: Data gaps limit understanding affordable housing and displacement risk

Our interviewees also shared the challenges they faced in terms of identifying areas that are at risk of displacement, as well as effective processes for addressing the affordable housing shortage. In Pinellas, planners explained there is a lack of mapping data to show impact to potential areas at risk, noting that the most significant challenge is the gaping hole in their data collection when it comes to housing. Planners asked, "how do you identify where those areas are?" Planners in Pinellas are able to identify where restricted housing units (subsidized) are located, but for areas like Pinellas Park or Lealman -- which have concentrations of low-moderate income housing stock – there is limited mapping data to show how those units may be impacted in terms of potential residential displacement. Furthermore, when planners were asked about affordable housing units at-risk and the areas that may be facing the most potential secondary displacement pressure, we were told that they, "are at the very beginning of this kind of a discussion." The data gaps identified by these interviewees suggest that affordable housing at-risk and displacement risk are still not well understood, despite robust housing policies on the books and under consideration. In Pinellas, the post-disaster redevelopment plan is in the process of being updated, but there is a need for more current data. A vulnerability assessment is also underway, and planners expect to receive more updated data on sea level rise, which can then be integrated into the Local Mitigation Strategy, Post Disaster Recovery Plan (PDRP), and other resiliency efforts underway.

When discussing the issue of climate gentrification, planners in Pinellas shared that residents have raised concerns and:

> "it is something that we have heard many times getting mentioned in our discussion on what the scope for the PDRP should be, and we should be looking at adaptation strategies and thinking about all these different issues which are interrelated […] it's just that we haven't had the opportunity to actually see what the data tells us and how we can utilize that to inform us what needs to be done."

While Pinellas has multiple regional efforts underway to address resilience and affordable housing shortages, much of the work is still in progress with limited data available, which means policy adoption and implementation are largely stalled until these studies are completed.

Similarly, in Miami-Dade, a housing official further outlined how difficult it is to make subsidized housing work, despite receiving a $2 million Florida Department of State grant. Although this allowed for the conversion of 9,000 public housing units into Rental Assistance Demonstration Units (RAD), housing officials do not have a good assessment of resident needs in regards to resiliency concerns and there is limited funding to do so – this is a significant gap in not only assessing but implementing housing that is resilient. Reinforcing these dynamics, a housing official told us that although the County of Miami-Dade is

> "committed to redeveloping our public housing properties to help build new housing stock. But, without independent engineering studies of our needs of existing stock but even future properties we are at the mercy of our developer partners and local codes."

Finding 4.4.3: Gentrification underway in inland areas due to multiple drivers including public and private investments

Across Pinellas and Miami-Dade, it is easy to distinguish the neighborhoods that are

being targeted for neighborhood improvements within CRA or Opportunity Zones, located on higher ground. There are a myriad of drivers causing increased development pressures including gentrification, green gentrification, and climate gentrification. Regardless of the drivers, neighborhood changes are coalescing in ways that leave residents in areas at high risk for displacement facing insurmountable challenges to stay in their communities. Furthermore, there is little political will to protect at risk neighborhoods as an interviewee told us,

> “the city [Miami] was not trying to have sustained conversation about keeping low income folks in their homes because that as a program or tenet is fundamentally opposed to urban densification, which is what they want to do to make room for the high income residents who are currently at greater risk.”

This clash between a pro-development orientation in Miami-Dade has left housing officials, planners, and advocates concerned about the long-term impacts of not addressing climate gentrification now when it is avoidable as opposed to down the line when it becomes a crisis. Because of the differing opinions and careful engagement on the issue of climate gentrification, we asked our interviewees to share their thoughts on why climate gentrification is still up for debate. One interviewee said,

> “Rome wasn't built in a day, and neither will the next resilient neighborhood founded on communities of color but occupied by anybody but communities of color. It is a slow process and it is a process that can be mediated quite quickly, because the neighborhoods that we designate as being communities of color have not had communities of color only land there for a long time. So the disconnect is that you're not necessarily going to see a mass exodus in 2021 of folks from the beach to Liberty City, because guess what money and privilege mean? That you can move at the drop of a dime. ‘I don't need to set up right now. I can enjoy the water, I can enjoy the coast until I can’t, and then it's nothing for me to pay the

moving company and just move.'"

Another interviewee also shared that,

> "you do hear some people that bring up like "Oh, I live in Liberty City, and I have people that are knocking on my door telling me to sell my home because it's in a good location. They're going to offer me X amount of money." So, you do start to hear stories like that, when you talk to our community members, and I think that kind of paints the picture of like there's something interesting happening here, there are some steps that real estate is taking to kind of prepare for what's coming."

Climate gentrification is an intersectional process of neighborhood change where developers are preparing for the future and city planners and housing officials are trying to keep up with overwhelming development pressures. Another interviewee further highlights this dichotomy describing perspectives of those moving into inland higher elevation neighborhoods,

> "my summer home was on the beach. In 2032, it is in Liberty City, which is the new waterfront property in 2042. It's nothing. And so I think that what people want to see is this like mass migration, but it's deeper than that. It's intersectional in that who owns this land and who will make a decision about what happens on this land when we do start to pay attention to what's happening on the coast when it goes from being inconvenient to unbearable."

Finding 4.4.4: Real Estate Speculation Ongoing

There has also been a shift in the process of real estate speculation in Miami, where previously coastal or inland areas at risk for sea level rise inundation, were not within the risk tolerance of developers and investors, which is currently changing. A planner shares their perspectives on how real estate speculation has changed over the past five years,

> “the real estate person side is like we've got at least two business cycles left [for developing along the coast…] There was a report on climate change for the Commodity Futures Trading Commission (CFTC). The head of the task force or work group that put it together is a financier who's gotten really into climate [...] he's just you know, like one of those guys, who made lots of money, using the system as it is and doing risk analysis and investing based on risk and he said climate is now within our risk portfolio.”

Additionally, people are also less risk averse as a planner explained that people “don't worry about it going underwater in the next 2, 3, 4 years they're still not worried about that […] I asked everybody that I met in Miami like what do you think about sea level rise. And a lot of people have said, like ‘I don't.’ This didn’t necessarily happen five, six years ago.” In other words, previously climate was outside the CFTCs and individual risk parameters, and now not only are real estate speculation decisions are shifting, but also the decisions of individuals are also shaping processes of gentrification as the risk tolerance has increased. The gentrification happening in Liberty City or Little Haiti area

> “is showing that there's some strategic buying group but that's all supported by other folks going into just buying houses and living there. Kind of classic gentrification because new amenities are showing up in those neighborhoods and the streets are being redone and they feel safe […]and that will drive gentrification.”

Another interviewee also offers their perspectives on the cynical and nefarious nature of how neighborhood change is occurring in Miami,

> “so the other thing that money and privilege afford you is the ability to really have foresight […] You have economists on staff who can tell you exactly how long it's going to take to make your money back before sea

> level rise becomes a major issue, at which point you don't care because you built up your next waterfront property on higher ground […] it's honestly much more nefarious than that."

This speculative real estate investment is illustrated by investments in Overtown. Developers are building on higher ground creating pressure for residential displacement due to the increase in housing costs because of the influx of large-scale development. An advocate explained that Overtown is seeing

> "this resurgence, you know. There's investment and there's Red Rooster and [...] And you know they say that's for Overtown residents, but Red Rooster is serving up $70 oxtail and the only people that they want to accommodate in Overtown are people in income restricted units. There's no room for an influx of black wealth to Overtown as it currently stands."

The investments being made will not benefit existing residents, who will eventually be displaced. Moreover, a planner further acknowledges that the supply side of housing is the focus of the City, as they become, "better equipped to have a conversation around what policies can we enact to think about population displacement. Still, in Miami, [...] that trend is going to be towards doing something supply side." So the focus remains on providing new affordable housing that will largely remain unaffordable for existing residents with few protections in place for existing housing such as rent restrictions, or first right of purchase for existing housing units. Despite residents' desire to maintain ownership of their properties in neighborhoods such as Overtown or Little Haiti despite the cost burden associated with an influx of new development, it is difficult to balance. As an advocate told us, "asking people to stay in the neighborhood to hold on longer "sounds crazy" when developers are offering money now... "it sounds crazy to be like 'you gotta stay put because [selling] in 12 years don't improve your social standing right now...with this check that the developer is offering in 20 years'... they like 'Girl, I'm trying to be rich today.'" This further feeds into the cyclical conversations that, "climate gentrification isn't a real thing. It's not anything we have to worry about. It's just a natural

cycle. It's just displacement."

Finding 4.4.5: Negotiated tactics required to build or preserve affordable housing

Housing officials and planners have a desire to engage in affordable housing protection, but they have to be creative in negotiations with the private sector to get affordable housing built, repaired and preserved. In Miami Dade, projects are negotiated to produce affordable housing through zoning, leveraging surplus land, and community benefit agreements, whereas Pinellas is still in the planning stages and working towards more integrated approaches to preserve and protect affordable housing county-wide. Overall, in Miami-Dade there are minimal controls in place to stem the tide of development growth, where Pinellas has a significant number of policies in planning stages or adopted, but are not yet seeing the impacts of affordable housing policies that have been implemented. Much remains to be seen of the actual outcomes that mitigate residential displacement in Pinellas.

Project based affordable housing provisions

City planners in Miami-Dade are enacting double density provisions that require affordable housing if the desired income mix is met or developers contribute to an affordable housing trust. Double density bonuses are tailored to exactly what is needed down to the exact property. The aim of this provision or proposed changes to land development regulations was to build up comprehensive planning and its function for the public and allow developers to double their density so projects meet a specific income-mix (https://www.miamitodaynews.com/2017/01/10/miami-affordable-housing-plan-double-densities/).

With this program, for example, a planner told us, "developers can double their density, so if you had a one acre piece of property that you are allowed to build 65 dwelling units with 30% market rate, then in terms of units and if you do that and unlock the doubling of the density you can get up to 100%, more than what you could have built." This is an incentive to provide a greater income mix of units, and developers can build twice as

many units overall depending on the mix of units that include low income and very low-income units. Also, the housing is rent limited for 30 years and there are two automatic 10-year renewals. Developers receive parking reductions and height increases, so planners are able to increase housing opportunities more generally. Developers are then able to go to the City Commission at the 30-year mark and make their case about removing the covenant so they can release the units from being income restricted.

Another tool to leverage affordable housing is to utilize surplus land owned by the city or county to incorporate affordable housing units as part of proposed private developer led projects. Housing officials and planners explained that the County has typically required 10% of the units to be affordable for developers to utilize surplus land, which is a low threshold. The County could be more aggressive and require upwards of 25% affordable housing with a push towards greater equity rather than catering to market rate residents. Planners do acknowledge that increasing the threshold of affordable housing is challenging because Miami is generally built out and surplus land is in high demand, “like everybody's trying to grab at it.” Furthermore, the city itself is not a major owner of land that would be considered surplus or vacant and rarely have a large chunk of land to leverage. However, the county does and could push a more equitable agenda.

When asked about these strategies, planners in Miami-Dade noted that the primary focus is on Special Area Projects (SAP) or Transit Oriented Development (TOD) projects that are private-sector large-scale developments being built in neighborhoods that are strategically located within CRAs and Opportunity Zones. For instance, Magic City Innovation District is a 17-acre mixed-use commercial, office, hotel, residential and parks master plan in Little Haiti set to be a new model for future innovation districts and real estate development. Its marketing materials specify that this project is representative of, “viable solutions to protect against storm surges and respond to climate change environmental impact in years to come. Magic City Innovation District's® elevation and infill location provides the basis for achieving long term urban resiliency in

South Florida." This project is one of many large-scale developments underway in inland communities located on higher ground in communities of color at-risk of gentrification displacement pressures.

Projects such as Magic City, make it difficult for advocacy groups to even compete with community land trusts or co-op housing alternatives because it is merely a drop in the bucket and is not enough protection against aggressive development interests and wealth preservation orientation in Florida. An advocate further describes what non-profit developers are up against in the hyper gentrified city of Miami when asked about whether those efforts are making a difference in providing more affordable housing,

> "Right now not at the scale [...] that is necessary to mitigate even 10% of the damage. Like the concept of a community land trust, especially in a place like Miami, takes some refining. And we're probably more about that acquisition can't happen at the same speed that development is happening."

This advocate also points out that if city policies focused on keeping people in their homes, instead of pricing them out on the back end, there would be more potential not to replace entire neighborhoods.

Public Private Partnerships

Public private partnerships for mixed-income communities replacing public housing are also being used by the County Housing Authority to build and renovate existing public housing in Miami-Dade. Liberty Square Rising is the largest public housing redevelopment project in Miami-Dade County history being led by Related Development. It's one of the county's "big experiments" using public private partnerships to deliver a 1,500 unit mixed-income community with a combination of 50% low-income and 50% workforce and market rate housing. The first two phases have been completed. The aim is to offer more flexible housing options while also integrating community building support systems such as a community center, grocery store,

museum, and charter school.

A major element of this project was a Community Benefits Agreement (CBA) that was developed prior to the project being built, which served as a guide to hold the developer accountable. Included in the CBA were provisions for education, job training, minority business enterprise (MBE), women's business enterprise (WBE) hiring requirements for project construction, MBE/WBE business enterprise requirements, small business requirement, and office spaces available for Headstart and supportive agencies. In addition to these provisions, there were consequences in the contract that if the developer failed to meet the human infrastructure requirements, the developer would have to pay liquidated damages. As a housing official told us,

> "this could amount to a few million dollars over the time of construction phases and […] at the end of the day, developers do not like to lose a penny. They can be very, very cheap. So, you know, we had real money penalties and we still do obviously associated with non-compliance. And, we had liquidated damages tied to other parts of the CBA with a value between $10-20 million."

This is one key example of a CBA and master development agreement that provides a level of accountability that is rarely achieved in public private partnerships at this scale. It's negotiated agreements that are in play particularly with subsidized housing projects to get some percentage of affordable housing built.

City-wide housing strategies

City-wide housing strategies that are more integrated have been taken in Pinellas in contrast to Miami's more project-based approach. There is significant planning underway to build more affordable housing through the Penny for Pinellas infrastructure surtax to support affordable housing along with a community land trust. This has been approved by voters and reapproved by voters every 10 years and the most recent round

identified funding specific to affordable housing and economic development initiatives. Pinellas County has also stood up a program within the Housing and Community Development department focused on building affordable units and funding projects throughout the county through a countywide program. These programs are focused on understanding what is happening on the ground in the county, but have yet to be fully implemented. Despite a more calculated approach, an interviewee told us, there is a "Need to get to the point of educating everyone - we accept the impacts are coming." The level of engagement as explained by a planners is,

> "understanding where affordable housing is now within the county, areas where they might be in danger or threatened over time due to the gentrification, due to sea-level rise, what are types of regulatory incentives that we can develop from a county-wide perspective that we can then use to encourage development in areas where we find it most appropriate."

Underscoring the need for data and a more conservative approach to preserve affordable housing in at-risk areas, planners are keen on following the data to confirm future policy decisions on where to build and how to address at-risk affordable housing. When asked about whether climate gentrification was on their radar, planners in Pinellas discussed a current review of the comprehensive plan and told us

> "one of the things that we're looking at is including language within our comp plan which addresses adaptation planning. We realize the significance of this issue and have tried to incorporate this in the ongoing efforts, and also thinking of incorporating that into our future efforts, it's just that all the dots are not connected yet."

Still in a planning stage that may yield robust implementation of affordable housing and preservation policies – it remains to be seen how effective these policies are at preventing displacement and preserving communities facing displacement pressures.

Planners in Pinellas at the Tampa Bay Regional Planning Council are also leading efforts towards a more integrated and holistic strategy integrating both resilience and affordable housing through a collaboration of housing resilience and recovery planners and community leaders including the Florida Housing Coalition, United Way Suncoast, University of Florida Shimberg Center for Housing Studies, and the University of South Florida. They are currently engaged in the Resilience and Energy Assessment of Communities and Housing (REACH) project, which aims to do the following:

- Increase availability and access to affordable, resilient housing
- Develop baseline community vulnerability assessment
- Assess risks local communities face related to weather events and sea level rise
- Assess policy review process for housing stock
- Incorporate climate vulnerability assessments, resilience, and affordable housing, into neighborhoods and community development strategies

4.5 Advocacy Perspectives

We interviewed a range of advocacy organization representatives operating at the grassroots level to mobilize the communities they serve and advance more equitable outcomes. Their organizational missions range from community economic development, housing preservation and revitalization, and environmental conservation and justice. They provide a range of services that include direct service provision, capacity development, and communications and outreach. As lower income communities face multiple pressures from lack of access to affordable and quality housing stock, limited employment opportunities, and the threat of gentrification and neighborhood change, community advocates understand that sea level rise will further amplify these stressors and threaten to destabilize these at-risk neighborhoods.

Development in Florida has occurred over decades in economic booms, particularly in coastal zones despite the exposure to hazards of the coast. Population growth trends indicate a continued influx of new residents on an already highly urbanized peninsula. Given the constraints around developable land and demand for housing along or near

the coast, there is rapid proliferation of dense, high rise, luxury condominiums in highly urbanized areas. As populations continue to flock to Florida from other parts of the United States and the world, planners are observing a significant “increase, accumulation, and injection of wealth” concentrated in coastal communities with limited measures in place to incentivize different kinds of development. Consequently, older homes are increasingly becoming susceptible to redevelopment to meet current building standards and structural adaptations to accommodate increased flooding. While most advocates are focused on the potential for displacement associated with gentrification, interviewees recognized the impending complications that are coming due to climate change impacts. An advocate in Miami indicated that “affordable housing was a much more palpable topic for politicians to talk about than sea level rise”, asserting that “people are scared to talk about retreat” and “it’s not really the norm to talk about where people should go as we lose land to sea level rise.” However, another interviewee discussed the reality of retreat by longer term residents on the coast, who may own older properties, without adequate insurance or assistance for repair. Some of these residents may abandon coastal areas after repeated flooding and migrate inland, not necessarily to another flood zone, but inland to higher ground areas. These first tier in-migrants are frequently more income limited than those who take their place along the coast in redeveloped and upgraded homes. This movement is piecemeal and hard to quantify, making it hard for planners and advocates to keep track of displacement drivers and dynamics.

Inland neighborhoods, in contrast, which are historically lower to moderate income and frequently communities of color, suffer long term disinvestment and face challenges such as environmental pollution, crumbling infrastructure, and depressed economies. Cultural histories have been built over time in these neighborhoods with the presence of long-term generational residents and new arrivals seeking to enter these neighborhoods for affordable housing options and to benefit from social ties and capital. In Jacksonville, a number of African American neighborhoods such as Springfield, Durkeeville, New Town, and LaVilla were established in the early 20th century (Davis

2018). In Miami-Dade, neighborhoods such as Little Haiti, Overtown, and Little Havana have long been destinations for newly arrived immigrants from the Caribbean. What new arrivals are facing are limited opportunities for ownership, leading to a higher percentage of renters who are even more subject to displacement as rents increase. Residents who do own face increasing pressure to sell. One advocate observes that this “paints the picture that there’s something interesting happening with the steps real estate is taking to prepare for what’s coming.”

Finding 4.5.1: Gentrification is happening with limited mitigation measures

Our interviewees indicated that these neighborhoods are located near higher income areas and are proximally primed to become potential areas for new investment and speculation. Some are already targeted for investment as they fall into CRA districts or Opportunity Zones. These neighborhoods are already experiencing gentrification and witnessing the expansion of major projects. There is ongoing concern of the double edged sword of neighborhood upgrades. While desirable for current residents, improvements to the built environment, services, and more opportunities for economic development can set the stage for displacement and neighborhood change if no protections to stabilize neighborhoods are implemented. As value appreciates, upgraded neighborhoods attract wealthier residents and potential speculators, shaping the market pressures to become less affordable, leading to gentrification and subsequent displacement of existing residents. As one planner in Pinellas County hypothesized, the intentions of the funneling investment to these areas may lead to maladaptive outcomes:

> “Imagine a scenario where we spend all these dollars for redevelopment for existing community members only for them to get driven out from gentrification, because people are eventually going to say “you know what, the coast is expensive, and Lealmann’s pretty nice now, all the work, the county put all that money into it”.

Another advocate in Jacksonville describes the concern existing residents have as urban greening projects happen in their neighborhoods,

> “you make it beautiful, you've got the kayaking going on, you've got all these parks, and who's going to want to move in? No offense, white people, but yes, those who will want to have some nice recreational spaces. And, so these folks were afraid of losing their homes. A lot of that is because there's a lot of rentals in the area”.

An advocate in Miami describes the discussions she has with residents who tell her about:

> “knocks on the door all the time of people telling me to sell my home,”....it's something that I’ve heard multiple times come up from residents, especially in the inland higher elevation areas. I think the pressure is there and it's probably not going to go away anytime soon. You know, the way that development is going here, I mean. You just see places like Little Haiti and Overtown and Wynwood, I mean it's already completely different but it's encroaching onto these areas. Look at Wynwood in the North or the South; it's encroaching into these historically either Black or Haitian communities and I don't see that stopping anytime soon. There aren't really measures in place to stop that or to incentivize different kinds of development, so I think that'll stay for quite some time.”

There was consensus across community advocates that they needed to push against developer interests and seek to protect communities of color that are facing threats of displacement. A Miami-based advocate noted the pressures of market and economic displacement that have been ongoing and will continue “as we won’t stop seeing the local politics move to where they’re not giving developers a free pass.” Climate change will amplify this process and those with the least capital or influence suffer the

consequences. Advocacy groups ask city and county officials to consider the various equity implications of decisions. They also challenge the business as usual pro-development, political machine that operates in each region. As one community advocate describes, constant conversation with developers to “keep a balanced economy of housing options” is needed to provide for market rate mixed family housing options while tying housing to workforce options, senior living, or alternative models to attain affordable housing and other desirable neighborhood amenities in the vicinity. As previously noted in the Housing Perspectives section, a Miami-based interviewee frames the challenging reality of balancing the competing priorities of preventing climate displacement and neighborhood upgrading in communities of color:

> “Rome wasn’t built in a day, neither will the next resilient neighborhood founded on communities of color but occupied by nobody, but communities of color”

This community advocate also points to the power imbalances which govern decision making processes:

> “who owns this land and who will make decisions about what happens on this land, when we do start to pay attention to what's happening on the coast? When it goes from being inconvenient to unbearable? and who will be in a position to be able to intervene? Not renters…..You have a community of people who are basically at the whims of those who have accumulated land.”

These responses to gentrification pressures are driven by advocacy groups’ observations that the pressures are already happening, whether driven by climate change or sea level rise or not. The City of Miami commissioned a study on climate gentrification, yet no progress has been made on the study according to our interviewees. Additionally, there seems to be an element of intentional narrative framing that ignores community concerns of risk and vulnerability, muting any substantial

“outrage or accountability action around gentrification or climate gentrification that would make [developers] feel like they even need to lobby in.” Barely staying ahead of the trends to protect affordable housing and make it possible for residents who want to continue to live in the community to stay is a major challenge that occupies most of their energy.

Finding 4.5.2: Lack of integrative planning responses amongst local actors

Advocacy groups are building coalitions to do the work themselves by engaging communities, developers, and businesses. Advocates are pushing for more integrated approaches that are comprehensive and address workforce development, affordable housing, flood proofing, stormwater management, and access to open space and overall community health. Some organizations are generalists, cross boundary groups which support various projects, and supplement the work of existing organizations rather than spearheading programs. This holistic model seeks to bridge gaps and generate more sustainable solutions that have the potential to achieve multiple goals. One non-profit organization in Miami fundraised for two years to buy a plot of land to create sustainable and affordable housing. A Jacksonville-based community organization purchased land in the neighborhoods with the intention to protect long term residents and historic housing stock. They started out working on small-scale revitalization projects for residents in need through in kind donations from businesses and other partners. The group plans to scale up their efforts and build market rate and restricted income housing developments. Another community development corporation, described as a “small but mighty” organization, created an equitable development plan to counteract predatory speculation and buyers, by involving community leaders to identify priorities through visioning processes and community analysis. They are on the ground, working to establish community land trusts and to purchase surplus land to build affordable housing through partnerships with financial institutions. In Jacksonville, advocacy organizations are highly mobilized, planning creatively and considering approaches that are integrated to other needs to keep current residents in place so they can benefit from the climate proofing and upgrades. One interviewee commented that

the Planning Department seems to be “getting ready to integrate” social and economic analysis; however, the process lacked community input. As these community efforts continue there may be several opportunities to strengthen partnerships between governmental and non-governmental actors however, the political will or sustained momentum to do so has yet to be realized.

In Miami, the infusion of money and focus on development sets-up a challenging dynamic for community advocates to gain ground. While describing the nefarious nature of development as something that goes beyond the ebb and flow of free markets, one community advocate explains the prevailing climate enables and is focused on maximizing profits and returns on investments often by larger development corporations. Interviewees in Miami indicate that government agencies and developers are not actively thinking about the intersections of development, displacement and climate change to the extent that is needed. One Miami based advocate highlighted the promise of community land trusts, community benefit agreements, and other innovations that may bring local power to communities to direct development. However, another interviewee indicated that the provisions in community based tools are not strong enough to stave off the development machine and eliminate embedded power imbalances. Using the Community Benefit Agreement that was recently entered in force in Little Haiti as an example, they explain:

> “you have all this money to program for Little Haiti, but the reality is all of those landlords - those white landlords or those non black, non Haitian landlords - as soon as the opportunity presents they're going to come up with whatever creative way they can to evict every Haitian resident in Little Haiti and so those trust dollars will not travel with those people. It’s money locked into a neighborhood that is no longer conducive to the population that is its lifeblood”.

The advocate goes on to assert that in Miami “you can only move at the speed of

money” and the scale of implementation of community based tools cannot match the pace of development or substantially mitigate the damage, especially in a context where land is “being snatched up left and right.” This perspective emphasizes the grim outcomes for lower income populations when plans to mitigate displacement and neighborhood change are stuck in the pre-implementation phase, while the pressures of development and displacement churn on unabated.

Interviewees pointed to lack of access to capital as a critical challenge. A major and not surprising constraint for these groups is the lack of funding to expand their work and capacity to take on and sustain multiple projects. It appears that while there is more freedom, flexibility and funding available for repairs of commercial properties, there is much less support available for small scale residential projects to repair older homes. By relying on partnerships, these groups are able to leverage volunteers, staff capacity, relationships, and influence. One advocate attested that it “it's just a band aid, but at least at the something we're trying to make sure that our longtime residents do feel valued”.

Finding 4.5.3: Advocates are using collaboration and specific projects to fill the gap left by city-county agencies

Community advocates have been working to bring a more integrative approach which addresses both resilience and affordable housing issues. One community advocate underscored the absence of connections and importance of community groups filling the integration gap left by government agencies and nurturing leaders from these neighborhoods to better respond to the intersectionalities and chart their future. Another emphasized “we’re not going to wait for them”. Regional and local government agencies struggle to work across boundaries to integrate considerations and agencies such as public works, social determinants of health and housing :

> “I think people are thinking that person or that office is going to pull this all together, you know, the governmental thinking is that way….others think

> that it's going to be ...the Community coalition that actually helps pull all these pieces together for and with the city."

To provide an example, Resilient Jax is a promising collaboration of Jacksonville non-profit organizations developed to connect with regional planning, local government agencies, and business partners in order to plan for disaster response and long-term recovery and resiliency planning. As described by one participant, Resilient Jax is "a coalition of entities with a stake in climate change in NE Florida." It is working to bring community organizations together with an "emphasis on trying to get more from Northwest Jacksonville which is predominantly African American, to see this is an issue that is impacting their neighborhoods as well." The group has been involved in "every single major municipal resiliency planning effort to date" to try to bring a more integrated approach into the city and county responses to climate change adaptation that takes into account affordable housing and equity. The focus is on the urban core to bring resources into disinvested neighborhoods through the integration of disaster recovery funding with existing projects focused on affordable housing, community development, and workforce development.

Community members remain skeptical of the potential for implementation of integrated equity planning efforts by government agencies that are disconnected from the local contexts as one advocate describes:

> "they don't inherently have a good understanding of the communities here….and they're not necessarily caring to start conversations with communities about what it means to put up this building in their backyard".

Another government official highlights the challenges of community fatigue faced by a project focused on conducting a community survey to understand needs and priorities to address neighborhood change:

> "one of the problems is that we were coming in saying that we're going to

> help them and they'd heard that before. It was nothing new to them - every five or six years or so. Here's another agency saying ``oh *let's do this*…" So, what they have going on now is nothing new, but it just appears to be more of a threat now".

Additionally, the lack of implementation and monitoring by government agencies to translate plans, strategies, and recommendations into action, erode the credibility of resolutions to address priority issues. One interviewee in Miami describes a city-led effort to conduct a climate gentrification study that presented little new information or novel proposals to address the issues and momentum behind the effort eventually faded. As previously stated in the Housing Perspectives section, one advocate believed this drag on action may be purposeful because:

> "they were not trying to have sustained conservations about keeping low income folks in their homes because that is fundamentally opposed to urban densification, which is what they want to do to make room for the high income residents who are currently at greater risk"

Another advocate identified lacking accountability measures and rapidly changing dynamics as possible reasons for why the process "completely fell off."

As a result, community organizations are stepping in to organize and coordinate residents to strategically plan and manage implementation around their major priorities. An advocate emphasized the reality that these efforts needed to be concentrated and sustained for action to be realized; however, "you cannot rely on the city for that." That has motivated some of the advocacy organizations to move projects forward and take them to the city. One example highlighted by some interviewees is the Jacksonville City Council approval of Groundwork Jacksonville's (GJ) Emerald Trail Master Plan to create a 30-mile network of bicycle and pedestrian trails that will connect Downtown to 14 historic neighborhoods. The Emerald Trail network is estimated to cost $31 million and

take 10 years to complete. GJ has engaged with stakeholders, businesses, and residents to develop the master plan in an effort to integrate anti-displacement policies, working on a community land trust, holding community classrooms on environmental stewardship, workforce job creation, and supporting the restoration of McCoys Creek and Hogans Creek, which previously flooded inland Black neighborhoods. Hogan's Creek and McCoy's Creek handle a lot of stormwater and have been in disrepair for some time. Some of our community advocates as well as public officials described the potential of these projects to address urban stormwater issues that have exacerbated flooding as well as serve as a driver of redevelopment community investments in many of the lower-income and predominantly Black neighborhoods in Jacksonville. We also heard some consternation that the project could lead to gentrification pressures. But, advocates and undertaking equitable planning efforts in some neighborhoods to try to get ahead of that issue. The project's intention is to revitalize and protect the environment "for the use of people that are there, and not just for those who now want to move in afterwards."

Another example in Miami, is a new online tool developed by the University of Miami in collaboration with Citi. This tool, called LAND — Land Access for Neighborhood Development — aggregates and visualizes the locations of all vacant and underutilized county, municipal and institutional land, assisting elected officials, planners, developers, and community groups to identify areas for potential affordable-housing development and other opportunities. The tool has revealed 500 million square feet — a combined area roughly the size of Manhattan — of vacant or underused county, municipal, or institution-owned land in Miami-Dade County. At the time of our interviewees, the project team had submitted a resolution to the City to use LAND as a tool to aggregate land specifically for the purposes of building affordable housing.

Advocacy groups struggle to build political support for their efforts to preserve or build affordable housing in low-income inland communities as compared to developer interests. This places an extra burden on these groups who are already

under-resourced relative to their aspirations. As one interviewer describes the situation, while affordable housing for very low income people is “at a crisis point,” developers continue to go the path of least resistance and highest profit, unless there are mechanisms in place to incentivize variation in housing sizes and prices in their projects. Community advocates described their efforts to connect and generate dialogue with city organizations, residents, and business to gain a seat at the table and influence over development decisions. However, the relationships are often tenuous and/or adversarial, with limited partnerships and few opportunities for dialogue before decisions are made. Advocates also point out the lack of anti-gentrification champions at the government agencies with punitive power that are willing to “fall on the sword” to turn promises into action. As one Miami-based advocate explains:

> “resolutions can make it through….but without the people actually having the power to follow up, things are allowed to the wayside, and so it’s not actually political support or resistance, it’s political indifference”.

As a result, while there have been some successes, including some substantial projects like LAND and the Emerald Trail, most of the work done by the advocacy organizations is struggling to catch up and make more than marginal progress in filling the affordable housing gap.

4.6 Summary

In summary, the planners and managers we spoke with suggest that people continue to want to live near water in Florida. Counties and cities in coastal areas seem to be willing to accommodate that desire by allowing land development to continue while accommodating growth through engineering measures that will hopefully offset the timing of the impacts of sea level rise. Sea level rise adaptation is definitely on the radar of public officials and they are working at city, county, and regional scales to try to get ahead of the problem. But, any serious consideration of slowing down development or undertaking managed retreat from those areas that are at highest risk in the nearest

term is simply not happening. Most of the pressure for development in inland and upland neighborhoods in our three counties is not being driven by present movement inland from the coast, but rather new residents coming to one of the fastest growing states in the nation. At least in the near term, any movement of populations away from the coast will be driven by individual decisions where engineering measures are insufficient or investments have yet to be made to offset sea level rise impacts that are already happening.

Gentrification has multiple drivers. Gentrification pressures in our three counties are much more complex than the original hypothesis suggests. Indeed, climate gentrification may be among the least potent drivers of inland neighborhood change and displacement. Instead, other economic and social drivers as well as direct and indirect investment driven by policy incentives (Opportunity Zones and CRAs) are likely leading to the majority of gentrification pressure at present. As inevitable migration from the coast begins to happen in the future, these inland neighborhoods may have already transitioned to a completely new demographic, cultural, and economic reality than is currently present. While planners and housing officials have this issue on their radar, most of their work to protect and create affordable housing is having a marginal effect in meeting the increasing demands for low to moderate income housing. Future research in this area will need to dig deeper into this question and track more specifically what other displacement drivers are at work to more effectively address them and what techniques can be used to fill the growing affordable housing gap.

Advocates are on the leading edge of trying to come up with creative solutions and stabilize neighborhoods. They are often frustrated by the lack of attention that city leaders and planners pay to affordable housing and displacement. However, they are gaining traction in all of our counties, to put some policies and projects on the table that are being adopted and funded by city officials. Many of our interviewees, both advocates and public officials, have the idea of climate gentrification on their minds, but few are tackling the issue in any meaningful way as they simply aren’t seeing too much evidence of it being a pressing problem right now. Communities are facing more

immediate threats related to extreme heat and storms. Advocates have much on their plates already so adding another layer of complexity to the mix will be challenging. However, they are also among the few who are seeing the complexity holistically and seeking integrated solutions. Their insight and perspective on coming up with creative solutions may be essential for developing effective responses going forward.

5.0 Policy Recommendations

5.1 Key Overarching Policy Implications for Action

Sea level rise will necessitate eventual retreat from coastal areas even as development patterns continue to intensify on Florida's coastlines. Confidence is high around projections for the short and medium term increases in sea levels, while some uncertainty still remains about trajectories over the long term. Consequently, state, regional, and local agencies are developing planning information bases and strategies to accommodate and respond to changes in sea levels. However, we find that translating these strategies to action is limited as agencies are under-planning for the potential magnitude of sea level rise impacts resulting in a **gap in implementation** of adaptation plans and policies. There is a clear doubling down on staying in place and reliance on engineering solutions to protect wealth, property, and people from incoming waters.

There is also a quiet recognition this is not a permanent future and speculation in inland areas occupied by lower-income communities of color is occuring. Historical patterns of racial and class segregation and an ongoing **gap in affordable housing**, put communities of color at greater risk of gentrification. Developers, operating on 1-2 business cycles, recognize the inland opportunities presented by potentially cheap land with lower physical exposure that can be redeveloped and upgraded. Drivers of displacement and gentrification operate in complex ways, and sea level rise can serve as an amplifier to these dynamics and lead to a widening **equity gap** between the wealthy communities receiving climate proofing investments and low-income communities that are displaced by economic redevelopment and neighborhood revitalization efforts by both the public and private sectors. Thus, resilience planners are focused on preventing displacement from hazards on the coast, while housing practitioners are working to ameliorate displacement associated with gentrification.

At first glance, the drivers of these different forms of displacement and the solutions to address them appear unrelated. However, community based organizations are highlighting the intersections between these dynamics and advocating to close the sectoral gap between housing and resilience to develop more integrated solutions that attend to increasing climate resilience and promote greater housing and economic security for those most at risk and with the least capacity to adapt. Closing this **integration gap** will require cross-sectoral collaboration and coordination of state, regional, and local actors. We offer recommendations and consider pathways forward for actors at the state, regional, and local levels to address the four major gaps identified and develop equitable climate resilience and housing policies and plans.

Recommendation 5.1.1: A resilient Florida coast in the face of sea level rise requires action now

Sea level rise is often framed as a distant problem that communities will have time to address in the future. However, sea level rise has been increasing over the past few decades and accelerating faster than models anticipated. Although there is still time before SLR inundation generates mass displacement from the coast, t structures constructed today will experience problematic rises in sea level over their lifespans. While the rates of sea level encroachment vary across different parts of the state, local governments in coastal Florida are facing the reality of making complex decisions on developing capacity to understanding their localized risks and allocating resources to develop and implement politically palatable, robust strategies that are integrated and generate co-benefits. The continued intensification of development on the coast sets up a grim reality, that Florida municipalities are under-planning for the risk of sea level rise and potential losses that can occur. Although there is variance in projections over the long term, there is also consensus around the likelihood that Florida's coast will witness at least 3 feet of sea level rise in this century. Moreover, some parts of Florida are already experiencing impacts related to sea level rise. The timeline for retreat may be decades in the future, but the loss of affordable housing is happening now. Consequently, the time to prepare for sea level rise impacts is now. This includes

developing strategies for protection and accommodation of existing coastal communities, as well as preparing for eventual retreat. In the absence of adequate implementation of sea level rise planning and clear policies and systems of support, businesses and homeowners will be left to make individual risk calculations with imperfect information.

Recommendation 5.1.2: Focus on affordable housing development, protections, and preservation needed to meet the shortfall in affordable housing and reduce risk of displacement

International human rights law recognizes access to safe and adequate housing as a human right. A recent study by the National Low Income Housing Coalition indicated that fair market rent for a 2-bedroom home is now unaffordable for 40-hour week minimum wage workers in every US county (Aurand et al., 2021; https://reports.nlihc.org/gap). These stark numbers reflect a troubling trend in housing unaffordability occurring nationally, and the gap will continue to grow as wages remain stagnant and unemployment rates increase. A lack of affordable housing options leaves lower income families facing extreme cost burdens and creates significant barriers to economic mobility and reducing intergenerational poverty. Persistent racial disparities in homeownership, housing cost burdens, and spatial segregation in high poverty areas put communities of color at greater risk of displacement and instability. The University of Florida's Shimberg Center for Housing Studies estimates an almost 800,000 unit shortfall in affordable housing in Florida (Shimberg Center, 2019). Traditional real estate markets responding to this shortage will not occur unless policies and/or incentives for affordable housing are enforced. Therefore, implementing policy protections that promote, expand, and protect the provision of quality affordable housing and preserve existing affordable housing stock are critical for addressing the housing gap and ameliorating the potential for residential displacement.

Recommendation 5.1.3: Focus on education and access to tools for residents and advocacy groups

Community based advocacy organizations often bridge gaps between government agencies and residents by not only amplifying concerns and priorities of community members, but also as planners, implementers, and monitors of projects and programs. Regional and municipal government agencies often operate in silos and/or at a macro-scale which can miss the historical nuances, existing dynamics, and cultural variations that exist between and within communities. Even well intentioned attempts to engage with communities can be perceived as superficial, temporary, and lacking follow-through and accountability. Conversely, the success of community advocacy organizations depends on fostering strong relationships, trust, and delivering results to the populations they serve. These groups are often most closely connected to the communities that already have established infrastructure to engage, gather data, educate, organize, and mobilize community residents. Moreover, community organizations seek to empower communities by cultivating local leadership and capacity building to institutionalize and sustain actions over time. Community advocacy organizations are key for closing the integration gap by providing technical assistance, toolkits, and education to better inform communities of their risks, assets, development pressures, and needs. Government agencies should develop strong partnerships with advocacy groups to shape more targeted, place-based solutions that support environmental justice, affordable housing, and neighborhood stabilization goals.

Recommendation 5.1.4: Integrative perspectives and holistic, collaborative approach is required to achieve climate justice and equity

Sea level rise will have multiple cross-sectoral and scalar impacts. Rigid bureaucratic silos do not neatly map onto interdependencies of sea level rise impacting economies, ecologies, and communities. The complexity of adapting to sea level rise requires the integration of perspectives across specialities and sectors by breaking down barriers to communication, problematization approaches, technical jargon, priorities, and institutional processes. Resilience planners have expertise in understanding the

science, engineering, and environmental dimensions entailed in planning for and responding to sea level rise impacts, while housing planners are well versed in strategies and tools to build new affordable housing and preserve existing affordable housing. There is also a need to integrate considerations of health equity, workforce development and building human capital by expanding technical support and services provided by non-profit and advocacy organizations. We recommend resilience offices, housing agencies, developers and non-profit sectors build stronger and integrated connections for collaborative planning which enable dialogue, learning, idea exchange, and coordination to generate integrated solutions and co-benefits that match the multifaceted nature of displacement from sea level rise.

5.2 Recommendations for State Agencies and Policymakers

State actors play an important role as sources of legislative authority, technical assistance, funding, and directing policy and decision-making. In the absence of clear guidance and/or policy mandates from the top, decision-making becomes piecemeal as local entities with varied technical expertise, capacity, and political contexts are left to interpret vague directives that lead to discordant plans and gaps in implementation. In order to **address gaps in implementation** it is recommended that state agencies and policymakers should:

- Provide clear guidance on SLR policy and program expectations to municipalities
- Include technical support, policy language guidance, funding, and monitoring support to municipalities implementing projects

State and federal agencies are the main conduits of funding to support local housing initiatives. When funds which are dedicated to housing are under threat of reallocation to other priorities and programs, this erodes the ability for local entities to **close the gaps in affordable housing**. In order to address gaps in housing, it is recommended that state agencies and policymakers:

- Direct specifically designated sources of funding for housing (e.g. Sadowski Funds) to support affordable housing initiatives
- Identify new potential sources and maintain diverse sources of funding to support affordable housing

While understanding how the most vulnerable locations and populations will be impacted by sea level rise and displacement may be clear in theory, these intentions often do not translate into practice when using traditional decision-making models and policy design which do not address the gap in equity outcomes and disproportionate impacts. In order to understand and **remedy the gaps in equity** State agencies and policymakers should:

- Change planning paradigms from focusing on wealth preservation to neighborhood stabilization by investing in resilience and SLR adaptation projects in lower income communities
- Integrate equity frameworks or rubrics into selection processes for funding SLR adaptation policies
- Move beyond traditional cost-benefit analysis approaches which do not consider and/or lead to equity outcomes. Incorporate equity outcomes in impact assessments and decision making tools e.g. Racial Equity Impact assessments (Examples of resource toolkits: LivingCities: https://livingcities.org/wp-content/uploads/2021/02/Racial-Equity-Here-Learning-Report_-Lessons-from-5-Cities-Operationalizing-Racial-Equity.pdf;
  Government Alliance for Racial Equity: https://www.raceforward.org/practice/tools/racial-equity-impact-assessment-toolkit;
  Chicago Department of Housing: https://www.chicago.gov/content/dam/city/depts/doh/qap/qap_2021/draft_reia_qap.pdf)
  Racial Equity Alliance: http://www.racialequityalliance.org/tools-resources/

Policy Link: https://www.sparcchub.org/resources/toolkit-racial-equity-impact-assessment-for-policy-makers/; https://allincities.org/toolkit/racial-equity-impact-assessments

State agencies are also well positioned to **bridge the integration gap** by establishing cross-sectoral connections and environments that are conducive to fostering more integration and collaboration. State agencies and policymakers can:

- Support capacity building for integration of housing and resilience perspectives and actions by hosting seminars or other outreach methods that highlight integrated strategies
- Develop issue forums / working groups to facilitate cross sectoral and agency collaboration and sharing of current issues e.g. Resilience Coastlines forum; Department of Environmental Protection (FLDEP), Department of Economic Opportunity (FLDEO) and Division of Emergency Management (FLDEM) working groups
- Use competitive funding streams (e.g. Resilient Florida Grants) to promote integrated approaches to building resilience that include bolstering resilient affordable housing

5.3 Recommendations for Regional Agencies

While regional agencies may not have legislative authority, they can serve as a key resource to local municipalities to provide guidance on interpreting state directives and identifying opportunities to develop effective plans, programs, and projects. Regional agencies can also use their expertise to support the translation of these plans and policies to **fill gaps in implementation** by:

- Moving towards implementation as an imperative and focus on action oriented solutions in regional planning efforts to address sea level rise (e.g. the Regional Climate Action Plan of the Southeast Florida Regional Climate Change Compact)

- Building capacity through cross-local interactions to support learning and strategy development (e.g. through Regional Planning Councils and other inter-local networks and collaborative groups)
- Providing guidance and technical support for planning, implementation, and monitoring of projects

Florida's regional agencies have a strong record in developing technical support, decision making tools, and working groups to assist local and state actors. Opportunities to generate a stronger planning intelligence base around the state of housing can equip housing practitioners with clearer approaches to **mitigate regional scale housing gaps**. Regional agencies should:

- Support collaborations between housing departments, housing authorities, and advocacy groups to advance a comprehensive and cross-jurisdictional affordable housing and resilience approach to residential displacement due to sea level rise

As a major source of guidance and capacity building, regional agencies have the opportunity to elevate the importance of equity dimensions of planning decisions through the incorporation of equity indicators in their guidance and tools used by State and local entities. In order to **center equity** in the planning process, regional agencies can:

- Move beyond traditional cost-benefit analysis approaches which do not consider and/or lead to equity outcomes and/or integrate equity analysis and distribution of benefits into those analyses.
- Incorporate equity outcomes in impact assessments, planning processes, investments and decision making tools e.g. Racial Equity Impact assessments for Qualified Action Plans (Low Income Housing Tax Credit - LIHTC funding)
- Change planning goals and objectives from a focus on wealth preservation to neighborhood stabilization

Regional agencies serve as planning and technical capacity development organizations that are naturally organized to operate in a collaborative and cross boundary manner. As these agencies establish various opportunities to build bridges across sectors to promote learning, idea exchange, and project coordination, regional agencies should **address the integration gap** between resilience and housing sectors by:

- Supporting integrated analyses such as those conducted by the Resilience and Energy Assessment of Communities and Housing (REACH) project at the Tampa Bay Regional Planning Council (https://www.tbrpc.org/reach/)
- Leverage existing collaborative networks to remove silos on resilience work and build stronger ties with affordable housing programs that focus on mitigating displacement

5.4 Recommendations for Local Agencies

Local agencies are the frontlines of developing and implementing plans and policies. They are responsible for interpreting data, models, and tools developed at other scales to adapt to their local contexts, finding creative ways to fund proposed activities, strategically coordinating with partners, and navigating the political landscape of the elected officials and the public. As such, much authority lies at the local level to directly influence the nature of activities and policies and the ways they are implemented. A commitment at the local level to implement resilience planning actions that effectively address affordable housing needs, reduce displacement, and promote equitable outcomes in integrated ways should be prioritized by:

- Upgrading policy commitments for resilience to SLR while assessing timing and impact of eventual retreat
- Enhancing enforcement of existing housing policies and update/upgrade policies to go beyond preserving existing housing (Naturally Occurring Affordable Housing -NOAH, public housing) to creating new workforce housing

- Utilizing planning tools to analyze potential for aggregating vacant land for affordable housing (e.g. Land Access for Neighborhood Development - LAND tool in Miami)
- Commiting to assessments on the multiple drivers of displacement - gentrification, green gentrification, and climate gentrification
- Developing stronger affordable housing policies that are actionable based on the current markets
- Fostering political will and promoting resident empowerment and coalition building
- Engaging in reparative planning and anti-displacement policies to secure housing for existing renters and homeowners
- Refraining from reproducing and exacerbating existing vulnerabilities for communities of color due to hazards and lack of affordable housing
- Taking into consideration the racialized impacts of displacement and neighborhood improvements in comprehensive plans, housing plans, resilience plans, etc.
- Integrating housing, resilience, and hazard mitigation across agencies and sectors at local level (including advocacy groups and public sector agencies and departments)

5.5 Recommendations for Advocacy Groups

Advocacy groups operate at the neighborhood level and play integral roles in providing services, training, and programs to support communities facing disenfranchisement in the planning process. These groups vary in focus and mission, but all advocate that the time for action is now and are calling for more integrated, equitable practices and accountability in government policies and actions. Advocacy organizations also operate as flexible and responsive bridge organizations that can understand needs and strategies that are tailored to the communities they serve and collaborate with partners to implement programs and plans. In order to continue advocating for equitable planning

practices when addressing gaps in implementation and integration of resilience and housing plans, advocacy groups must:

- Promote avenues to capital / funding to implement projects
- Fill the implementation / equity gaps with smaller scale projects to promote neighborhood stabilization and eventually scale up to broader neighborhood initiatives / projects
- Engage in reparative planning with a focus on repairing the role structural racism plays in shaping policies and programs and identifying anti-racist, anti-displacement solutions that will be the most effective over the long-term
- Foster political will and support and focus on resident engagement, education, and empowerment
- Develop stronger relationships across advocacy areas, with government agencies and business leaders

6.0 Conclusion, Implications, and Recommendations

In this report, we have sought to develop a methodology and utilize it to examine the drivers of climate related displacement (both coastal first order due to flooding and inland second order due to gentrification) in Florida with a focus on sea level rise hazards as the source of displacement pressures. Our work began with the hypothesis that as coastal inundation risks from SLR increase over time, coastal residents have the potential to be displaced from increasingly frequent nuisance and severe flooding events. This displacement would cause residents along at-risk coastlines and tidally influenced rivers to move to higher ground which is often further inland. Our research has utilized mapping of risks and population characteristics plans analysis to determine what policies might be in place to soften displacement pressures, and interviews with key actors on the ground to identify other dynamics that the mapping and policy analysis cannot uncover. In this conclusion, we summarize our key findings, identify limitations of our research, and provide guidance on future research directions.

6.1 Mapping

Our mapping of Pinellas, Duval, and Miami-Dade counties confirmed several dynamics of sea level rise driven coastal and inland displacement risk. First, as hypothesized, census block groups at risk of sea level rise induced inundation this century tend to include residents who are wealthier, whiter, and more highly educated than county averages. They also tend to have significantly higher property values, lower poverty rates, and higher home owner occupied rates than their overall average. There are a relatively high number of rental and vacant units along these coastal properties which indicates that the vacation rental markets tend to skew results along the coast to a certain degree. When we ran our displacement risk index in each county, those areas at most risk of displacement (which are inherently lower income neighborhoods) tend to have higher renter occupied units, higher percentage of people of color, much lower incomes and lower home values, lower educational attainment rates, and higher poverty rates. They tend to be further from employment centers and have lower school

proficiencies as well. Surprisingly, median rent values are not that dissimilar across the different tiers of displacement risk in each county. Also, vacancy rates are highly divergent with higher vacancy along the coastal areas in Miami-Dade, about the same across all three groups in Pinellas, and higher in lower income areas in Jacksonville-Duval. By and large, these findings confirm our hypothesis that segregation by race and income concentrate lower income communities of color in mostly inland areas, often higher ground, but not necessarily risk free as inland flooding is a challenge in some of the target neighborhoods. We added boundaries for OZs and CRAs to clarify which neighborhoods have been targeted for redevelopment by these designations.

Our mapping exercise allowed us to determine which neighborhoods were most at risk for displacement along the coast at 3 feet of SLR as well as those most at risk of gentrification inland. Through this exercise, we confirmed some of our hypotheses about the characteristics of these neighborhoods. There are limitations to our analysis that we must acknowledge. The most important challenge is the population characteristics of each county are highly variable. Pinellas is nearly 75% white while Miami-Dade is nearly 70% Hispanic. Duval county is over 30% African American. These racial and ethnic characteristics of the population in each county influence how the data sort which neighborhoods are most at risk of displacement inland. Miami-Dade also has numerous cultural and ethnic enclaves that the data cannot easily identify which adds nuance to the dynamics of gentrification and displacement in the city. Despite these potential deficiencies, our interviews confirmed that many of the neighborhoods identified in the displacement risk mapping aligned with what planners, housing advocates, and public managers saw as the areas most at risk of gentrification and displacement. Thus, using the mapping as a first tier analysis for case identification appears to have been an informative and effective exercise.

6.2 Policy Analysis

Our policy analysis sought to clarify the extent to which and how our selected counties, cities, and neighborhoods are addressing sea level rise protection as well as affordable

housing protection. We modified the Plan Integration for Resilience Scorecard network of plans analysis methodology which has become a standard adopted by the American Planning Association for plan analysis. While our modified approach integrated new variables and layers to the analysis, we have been able to identify several important attributes of plans and policies in our selected counties.

First, sea level rise resilience planning tends to consist of relatively vague policies at higher levels of government. Regional planning councils tend to have more robust vulnerability assessments and policy guidance that filters down to local plans. County level plans also tend to address SLR adaptation strategies to a certain extent. However, most of the policies are direction setting, few specify protection measures, and only a tiny fraction of policies specify a level of protection that would address a one-foot or more SLR. This suggests that SLR adaptation is slowly coming into focus in Florida, but the level of policy commitment and specificity remains relatively low. Moreover, policies do not tend to show up in neighborhood level planning documents where these exist.

Second, affordable housing protection measures are relatively widespread and sophisticated in the plans we were able to review. County level and city level plans have housing sections and many of these had a high number of not only direction setting policies, but also more specific programs and investments. Many of those programs and investments tended to be on the list of most effective policies and projects in affordable housing and anti-gentrification literature. Based on this analysis, there seems to be a high level of protection for affordable housing on the books.

Limitations of this analysis include: 1) an inability to access sufficient plans in Duval-Jacksonville to conduct the analysis so we only can compare Pinellas and Miami-Dade; 2) the scoring system gives a gross measure of overall coverage in plans, but it does not have a way to evaluate outcomes of these policies to determine their effectiveness; 3) the scoring provides an overall view of the level of coverage of policies, but cannot sort which ones have different magnitudes of impact; and 4) we are

certain that there are other policies and programs and investments ongoing in these communities that are not captured by an analysis of a network of plans. These limitations are important for multiple reasons. First and foremost, we find that the affordable housing and anti-gentrification policies on the books in Pinellas and Miami-Dade tend to be aligned with best practices in the housing field. However, we also know that Florida is undergoing an affordable and work-force housing crisis. Therefore, this begs the question: if there are solid policies on the books, why are we not providing sufficient affordable housing? Clearly, we need to learn more about policy implementation and effectiveness. Second, without plans and policies from Duval, we have a gap in our comparisons which limits our ability to examine some of the challenges specific to each place associated with the dynamics of race and income including legacies of racial segregation, the role of cultural enclaves, and the policies and motivations of reinvestment in areas targeted for redevelopment (CRA and OZ areas). Third, many of the investments addressing SLR resilience are happening outside of policy frameworks in plans and are instead focusing on ordinances, capital investments and projects, and other programs. While these are not captured in plans, they can make a significant difference in slowing displacement pressures on coastal communities. Future analysis needs to attend to these other aspects of SLR adaptation. We suspect a similar dynamic in affordable housing provision. Finally, for the policy analysis to help local and regional planners, we propose a set of rankings of policies on an effectiveness scale that can be spatially aligned so that magnitude and coverage could be more effectively accounted for. Despite these limitations, the policy analysis was effective in understanding how different levels of government are attending to displacement pressures in their plans and where they seem to be a higher or lower priority.

6.3 Interviews

Our interviews were quite revealing and helped to fill in some of the gaps that we identified in our spatial and policy analysis sections. The key finding on coastal SLR resilience was that property development does not seem to be turning away from the

coast. If anything, our interviewees see that investment is doubling down and property values are at a minimum stable and mostly rising on par with the market. On the affordable housing and anti-gentrification front, we heard a lot of interest in trying to address the problem, but local actors tended to be frustrated by the continued dominance of developers who are frequently several steps ahead of advocates and planners who seek to protect or provide affordable housing at meaningful levels. The policies seem to be insufficient to address these issues as well as significant gaps in implementation of policies on the ground. Each of our counties and cities attend to these dynamics in different ways.

To attend to the issues of coastal flooding and SLR, Miami-Dade is primarily engaged in 1) counting on new upgraded building codes to require SLR adaptation; 2) investing in infrastructure improvements including elevating roads and structures, adding pumps and valves in stormwater systems, putting in flood proofing technologies, and greening areas subject to flooding; and 3) applying new development standards such as elevating base floors, putting parking decks on lower levels, and other strategies to minimize risk during coastal storms which should be applicable to SLR inundation as well. Officials are generally not preparing for or supporting disinvestment or retreat from the coast. Cities and the county are trying to address affordable housing but to varying levels of success. One of the most impressive policies we heard about was the double density bonus that the City of Miami gives developers along their transit corridor to add affordable and workforce units to their projects. This seems to have been one of the most effective policies we came across in our research to date. This policy is only applicable to a narrowly defined development corridor, but it has been highly popular among developers. This is, however, not enough to stem the tide of large-scale development projects that are exacerbating displacement pressures and leaving existing residents vulnerable to residential displacement. Advocates and public housing authorities tend to struggle to hold developers to account when they've agreed to certain provisions for housing, employing local contractors and builders, or other measures. Community Benefit Agreements have been especially useful for

mixed-income community projects where developers are required to adhere to major public benefits packages. Miami-Dade is also able to use a surplus of public land as a negotiating tool to gain affordable housing concessions. However, there is limited use beyond requiring 10% affordable housing units for developments. The county has also committed to upgrading lower income housing to be more resilient in the face of climate change as part of their push for more equitable solutions. However, this program does not extend to the provision of new affordable housing. All of these strategies are limited in terms of their scope and applicability and Miami-Dade continues to lose affordable housing and see gentrification happening in many lower income communities of color. A lot of the gentrification pressure seems to be driven by new residents moving to the region rather than coastal residents moving inland.

Pinellas County is undertaking a highly sophisticated vulnerability assessment which they expect to use to guide future decision making regarding sea level rise. The assessment will include economic analysis, analysis of affordable housing, and a focus on equity. The REACH project is also focusing on building resilience for and expanding provision of affordable housing and workforce housing. The public officials we spoke with highlighted these studies while projecting a “wait and see” focus on action. They would like to see the vulnerability assessment and REACH studies before committing to further action in policy and program development. There are some neighborhoods and communities where gentrification pressures are building. However, we were not able to clarify with Pinellas officials how those dynamics seem to be playing out on the ground.

Jacksonville-Duval faces a different set of issues associated with flooding as the St. John’s River and its tributaries will allow sea level rise flooding to move deep inland into the county. The city is highly segregated by race and income. Some areas that are vulnerable to inland flooding are lower income African American communities. Others are higher income neighborhoods that are on the banks of the river. These segregated neighborhoods face a range of different pressures. We were unable to engage in interviews with many public officials. However, there has been a shift in the county to

focus on community resilience in recent years and business leaders have played a big role. Affordable housing advocates are struggling to stay ahead of affordable housing needs, housing repairs, and neighborhood level investments. Several advocates mentioned the potential connectivity of the Emerald Trail project along the St. John's River and some of its tributaries which may address some flooding issues as well as provide a high quality environmental amenity to some of the neighborhoods it traverses. There is some concern about potential "green gentrification" that could arise from the project, but there are advocates such as Groundworks Jacksonville working to stay ahead of that pressure.

Our interviews were able to add depth and nuance to the analysis and inform our policy recommendations in a more grounded way. For further research, we would like to expand our analysis to include interviews with a broader array of stakeholders and officials from multiple cities within our selected counties and ensure that advocates, planners, and public officials are represented in all of our counties. Getting perspectives from developers would be valuable and informative, albeit notoriously challenging. We also suggest that future research should focus more attention on policy implementation and on capital investments and projects. These additional avenues for future interviews can help fill some of the gaps we've identified herein.

6.4 Implications and Policy Recommendations

From our analysis, we have numerous implications and policy recommendations which we elaborate on in Part 5. In this section, we provide a short overview of a handful of principles that we deem to be among the most important.

1. **Time to act now for future resilience--** There is time yet before SLR inundation becomes so problematic that mass population displacement from the coast will be unleashed. However, SLR inundation will reach these levels during the life of many of the structures being built today. Developers tend to operate on shorter

timelines (project timelines) than property owners (investment, mortgage, and resident timelines). This disconnect can be challenging and makes it important for policies that provide guidance to developers for SLR resilience to be put into place. Moreover, the timeline for retreat may be decades in the making, but the loss of affordable housing will unfold over that time. Protections need to be put into place sooner rather than later. See #2.

2. **Focus on affordable housing protection and provision**-- From an equity standpoint, affordable housing protection and provision is the most important intervention that can be made in this context. Those least able to move and most likely to be displaced are low income households. The capitalist real estate development system will not provide adequate housing for low income households unless policies or incentives are put into place. Addressing affordable housing needs is how to avoid the worst impacts of gentrification and displacement while allowing those who are providing labor in service industries and other low-paying sectors to live closer to their place of employment.
3. **Focus on education and access to tools for residents and advocacy groups--** We heard from several interviewees about the gaps in access to data to support identifying areas that are at risk to displacement and supporting more robust affordable housing strategies. Advocacy groups, planners, and resilience officers still face a siloed bureaucracy where there are gaps in capacity and communication of information that supports the needs of residents. By developing mapping tools, as well as toolkits for residents to be better informed about program efforts, community advocates can help identify SLR risks, and where development pressures are ongoing to support collective coalitions to mitigate displacement.
4. **Climate justice and equity necessitates an integrative perspective and collaborative approach**-- We heard from multiple interviewees that because of the impacts of climate change on hazard mitigation, climate adaptation, affordable housing, transportation, green infrastructure, stormwater management, etc., more effective approaches require an integrative perspective

across silos and sectors. A more collaborative approach to working with business, government, and non-profit sectors to address the overlapping risks, needs, and priorities of different actors in the cities and counties would help address the disconnect that seems to be happening in resilience and affordable housing at the very least. There is also a need to integrate more holistic approaches that also include health equity, workforce development, and building human capital through capacity building and technical support for existing residents.

6.5 Concluding Thoughts

Sea level rise represents a significant challenge to the state of Florida this century. It has the potential to undermine the economic drivers of the past 100 years--development and tourism--as land becomes inundated at an accelerating pace. Despite the fact that the timelines for full coastal inundation are somewhat distant, it is highly feasible that by the end of the 21st century, southern Florida will have crossed a tipping point where only a select few will have the means to stay in place. With groundwater resources contaminated by chloride and flood waters filling streets and stormwater infrastructure, sections of each of our study areas are likely to be uninhabitable. The appetite for real estate development seems to ignore this eventuality. Displacement of Floridians from the coast and subsequently inland is likely to follow. Drivers may include declining property values, increasing insurance claims, realigned risk management calculations by banks and insurance companies, and public investments and policies that slowly guide new development away from the present day coast. This pressure is slowly building, but the evidence of current inland movement and declining values along the coast is scant to non-existent. In short, we're not there yet. Putting some measures in place to slow that concentration along the coast may not be needed quite yet, but cities and counties should be thinking toward that eventuality.

Given that there is time before these dynamics of displacement unfold, Florida's policy makers, planners, public officials, advocates, and developers can lay the groundwork

for a more equitable transition to a new reality imposed by climate change and sea level rise. Whether or not there is political will to accomplish what needs to be done is a question we do not attempt to answer in this report. However, we have provided policy recommendations for how local and regional actors can address these challenges in their counties, cities, villages, and towns throughout the state. The focus of our study is on that scale. Clearly, the state can support these efforts with grants, technical expertise, policy mandates, and budget allocations to help support resilience investments and affordable housing provisions. However, many of the policies and investments pertaining to land use, public housing, and infrastructure will be driven by local planners and decision makers.

Displacement is disruptive. People who are forced out of their homes (or at least feel they have no other choice) become disconnected from their communities, their sense of place and belonging, their social networks, their patterns, and their daily rhythms. This disruption can be weathered as people adapt to new places. However, those least able to move (low income households, the elderly, single parent households, etc.) are usually the most likely to have to move first as they are the most at risk of displacement drivers. They are also the most impacted by the disruption as they frequently lack the means to reestablish their lives rapidly in a new place. Establishing strategies on dual fronts of displacement pressure, Florida's coastal communities can buy time before coastal displacement is overwhelming and shore up policies and investments in lower income neighborhoods to minimize future displacement through gentrification there. It is an imperfect solution to an insurmountable problem, but it reduces the pace and scale of the disruption and reduces the harm faced by those who are likely to suffer most.

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Alamy Stock Photo. (2014) Aerial view of Biscayne Bay and Midtown viewed from upper floor of new condominium high-rise tower in Midtown Miami, Florida USA. Alamy.com.

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