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Rising Sea Levels Reshape Miami's Housing Market

Properties on the coast now trade at discounts as flood waters and 'king tides' damp enthusiasm for oceanfront living

By Laura Kusisto and Arian Campo-Flores Updated April 20, 2018 1:02 p.m. ET

MIAMI—Concerns over rising sea levels and floods are beginning to reshape one of the country's largest housing markets, with properties closer to sea level now trading at discounts to those at higher elevations.

Research published Friday in the journal of Environmental Research Letters shows that single-family homes in Miami-Dade County are rising in value more slowly near sea level than at higher elevations, as buyers weigh the possibilities of more-frequent minor flooding in the short term and the challenge of reselling properties that decades from now could be permanently submerged.

Jesse Keenan, a real-estate professor at the Harvard University Graduate School of Design and author of the paper, said he was initially surprised to see ordinary homeowners already seeming to factor future sealevel rise into their calculations.

Low-elevation properties are becoming Miami's laggards, he said. "To see them really separate is pretty shocking, because you can infer that this is a pricing signal from climate change."

Miami is a testing ground for the vulnerability of housing markets in other coastal cities, such as New York and Boston, because its elevation is as little as one foot above sea level and its porous limestone makes it especially vulnerable to rising sea levels.

Another <u>new paper</u>, from researchers at the University of Colorado at Boulder and Pennsylvania State University, shows that the trend in Miami is playing out across the country, with homes that are vulnerable to rising sea levels now selling at a 7% discount compared with similar but less-exposed properties. The paper, which is under peer review, shows that the size of the coastal discount has grown over time.

Ryan Lewis, an assistant professor at the University of Colorado's Leeds School of Business, said he and his co-authors noticed the strongest discounting among investors and second-home owners, who have the most choices about where to buy. Increasingly, he said, ordinary home buyers in places such as Miami, where there is strong awareness of the risks, also are starting to discount.

Market forces, he said, could cause migration away from the coasts.

"As prices decline, that's a signal to developers and investors that maybe you shouldn't be investing a lot of money in an area that will be flooded in 20 years," he said.

In Miami-Dade County, some areas flood during heavy rainfall and, even on sunny days, especially high tides known as "king tides" can swell the sea. A 2016 study in the journal Ocean and Coastal Management found that the frequency of flooding increased significantly in Miami Beach between 2006 and 2013, with rain-induced events jumping 33% and tide-induced events soaring more than 400%.

Kelly Exhibit G Mr. Keenan said king tide flooding is making people more wary of living in those areas. "When your neighborhood floods and it takes you an hour to get to the grocery store and it used to take 10 minutes, it's a hassle," he said. "It's hard to imagine why that wouldn't impact your decision" about where to live.

When Miami native Joel Fabelo and his wife were looking to buy a new home last year, one factor was critical: its elevation. The couple's previous waterfront home, on Belle Meade Island in Miami, increasingly flooded in the final five years they lived there. A half-dozen times a year, when tides were especially high, water rose over the seawall, submerging the backyard and leaving mullets swimming on the lawn.

"It was a shock to me," said Mr. Fabelo, a 54-year-old retiree. "It would be the ocean in my backyard."

The couple sold the house in 2014, mainly because they wanted to cash in during a strong market, but also because of their growing concern about sea-level rise and increasing flood-insurance costs.

They eventually settled on a 6,000-square-foot home in Fort Pierce, about 130 miles north of Miami, which they bought last year. Its elevation: 33 feet above sea level.

While the couple still live on the water, they now have to descend a stairway to reach their dock. "If we flood, then all of Florida is underwater," Mr. Fabelo said.

Many local developers and real-estate agents are skeptical that concerns about sea levels are affecting the market for waterfront property. They point to the mushrooming million-dollar condo buildings the color of beach glass that are making the shoreline ever more crowded.

Local builder David Martin said developers are taking precautions. He has built two properties in Coconut Grove, a neighborhood on the shore of Biscayne Bay, where he created a 17-acre park that can absorb water from flooding better than the asphalt that was there before.

The city can't afford to stop developing near the water because expanding the property-tax base helps the government pay for resilience measures, he said.

"Development will look at ways for creating the dollars necessary to solve a lot of these things," he said.

Miami Beach is pursuing a \$500 million program of infrastructure upgrades to reduce flooding. It is elevating roads in areas that get inundated frequently and installing about 80 new pumps over a 10-year period, starting in 2015, to push floodwaters out to sea.

It also raised the minimum height of newly constructed homes to one foot above base flood elevation, which ranges between five and eight feet above sea level in Miami Beach.

Across the bay, voters in Miami in November approved a proposed \$400 million bond offering that would include about \$200 million for projects to prevent flooding and mitigate sea-level rise.

Mr. Keenan's study looked only at single-family homes because condo prices tend to be highly volatile. Rising sea levels don't appear to be hurting the residential market overall in Miami Beach, where much of the priciest beachfront property sits.

He said that is likely because the very wealthy can afford the rising costs from insurance or damage from flooding and are more able to take the risk of their properties losing value.

"They can afford to lose the money," he said. "Even that probably has a breaking point. At some point even the wealthy will have to walk away."