

## Rising Seas and Leadership as Senate Commerce Heads to Miami



SOURCE: flickr/David Kirsch

The view of Miami's densely built shoreline exemplifies the threat of rising seas. More than 75 percent of Florida's population lives in a coastal county, and \$145 billion worth of property is at risk from the projected 3 feet of sea-level rise.

By **Kristan Uhlenbrock** | May 1, 2014

Typical images of Miami include white sandy beaches, cruise ships entering and exiting the port, and a coastline heavily laden with skyscrapers. They don't usually depict how the city will look under 3 feet of water. Miami has an average elevation of 4.5 feet above sea level, and in recent years, some of its streets have begun to flood during events as commonplace as seasonal high tides.

Sea-level rise and climate change in South Florida were discussed at a **field hearing** at Miami Beach City Hall last week, where Sen. Bill Nelson (D-FL), chairman of the Senate Commerce Subcommittee on Science and Space, called South Florida "ground zero" for climate change. A panel of local experts and leaders, including Miami Beach Mayor Philip Levine, cited numerous examples of how climate change has already affected the region. "Sea-level rise is a reality in Miami Beach," said Mayor Levine. "We're past the point of debating the existence of climate change and are now focusing on adapting to current and future threats."

Addressing this impending crisis in the region will take serious action and leadership, as noted during last week's hearing. Thankfully, action is already occurring at the local level through the [Southeast Florida Regional Climate Change Compact](#), however, federal leadership is coming up short.

## 2 feet by 2060

Southeast Florida has experienced about [12 inches of sea-level rise](#) since 1870, a more rapid increase than the global trend. From warmer ocean temperatures to melting glaciers and ice, the global rate of sea-level rise is anticipated to increase throughout this century. A recent Intergovernmental Panel on Climate Change [report](#) projects an additional 1.5 feet to 3 feet of global sea-level rise by 2100. However, in South Florida, the U.S. Army Corps of Engineers is projecting sea-level rise to be worse: The Corps foresees a [2-foot increase by 2060](#), making this looming crisis a top priority for the region.

Climate change comes with another problem: severe weather. In South Florida, that means hurricanes. Research shows that Florida is the state most likely to be hit by a hurricane and on average will experience a major event [every four years](#). In addition to the damage from sustained high winds, hurricanes bring storm surges and heavy rains, which, when coupled with the slow-motion disaster of sea-level rise, become a deadly duo with immediate consequences.

The risk to Florida's communities is multiplied by three factors: population, infrastructure, and geography. More than 75 percent of Florida's population lives in a coastal county, and [\\$145 billion worth of property is at risk](#) from the projected 3 feet of sea-level rise. In Miami, travel and tourism is the city's number one industry and accounts for 14.2 million overnight visitors, according to Bill Talbert, CEO of the Greater Miami Convention and Visitors Bureau, who [testified at the hearing](#). Those visitors spent \$22.8 billion in 2013.

Then there is the geography. Most of South Florida consists of a porous, Swiss cheese-like limestone. Because of this composition and low elevation, seawater can easily infiltrate the groundwater system, contaminating drinking water and complicating sewage treatment operations. [At the hearing](#), Dr. Fred Bloetscher, associate professor at Florida Atlantic University, detailed how saltwater intrusion can reach as far as 10 miles inland, threatening much of the Miami-Dade County area.

## Recognizing the pressing issues

Encouragingly, Sen. Nelson, Mayor Levine, and other local leaders recognize the imminent threat of climate change to South Florida. During last week's hearing, Sen. Nelson acknowledged that "when there's high tide, there's flooding. It's real, and yet some of my colleagues in the Senate deny it." Sen. Nelson stopped short of naming his junior colleague in the Florida Senate delegation as one of those climate skeptics. However, Sen. Nelson noted Sen. Marco Rubio's (R-FL) absence at the hearing, despite

Sen. Rubio being both a Miami native and ranking member of the Senate Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard.

During his tenure as **state legislator**, Sen. Rubio worked to limit greenhouse gas emissions and cautioned against offshore drilling. Yet since his election to the Senate, Rubio has **questioned the science** of human-caused climate change, stating, “I don’t think there’s the scientific evidence to justify it.” Despite Sen. Rubio’s uncertainty, **97 percent of climate experts agree** that the evidence is overwhelming.

Hearing witnesses also identified opportunities for action, including installing pumps to remove floodwaters that result from high tides and summer rains. The stormwater drainage system in South Florida was designed to rely on gravity, but with rising seas, the city will require additional measures to pump water up and out, similar to the system that protects New Orleans. Upgrades to Miami Beach’s drainage system will likely cost between \$300 million and \$400 million. Mayor Levine hopes that work will begin later this year, but funding is a concern. A project of this scale will require a **combination of assets** from city funds to outside resources, such as federal grants.

## It takes leadership

The inescapable threat of rising seas makes South Florida a priority for immediate action to help residents prepare for and adapt to climate change. This will require leadership from the local, state, and federal governments.

Currently, the most promising action is occurring at the local level. The **Southeast Florida Regional Climate Change Compact** has taken action to address the effects of climate change on coastal communities, and its success to date makes it a model for local and regional governments across the country. Comprised of four counties in South Florida – Miami-Dade, Broward, Monroe, and Palm Beach – the Compact published a Climate Action Plan in 2012, identifying risks and recommending solutions in sectors such as transportation, energy, and water. The Compact prioritizes spending and coordinating efforts to maximize efficiency. For example, the group may identify that one county will be better served by applying for a federal grant while the others hold back on competing for the same pot of money, according to Kristin Jacobs, Broward County Commissioner and leader in ratifying the Compact.

Conversely, leadership has been notably lacking at the federal level, particularly in Congress. The **president’s Climate Action Plan** takes good steps toward tackling climate change and includes measures to build community resilience. And in early May, the administration will release the third U.S. National Climate Assessment, which, according to the **draft report**, will draw attention to South Florida’s high to very high vulnerability to sea-level rise.

Despite the Obama administrations’ efforts, however, congressional politics continue to impede progress. In addition, budget cuts at federal agencies jeopardize programs necessary to understand and predict severe weather events and the effects of climate change. Couple this with congressional **attacks on climate change research** and

activities, and the cross-the-board cuts known as sequestration, and you are left with an unprepared nation.

Although many may disagree about the specific policy steps needed to deal with climate change, the debate about its existence is over in both the scientific community and in the communities of South Florida. “After all, when saltwater has overtopped the seawall and filled your swimming pool, or sewer water is backing up in your house, do you care to which [political] party the person you call for answers belongs?”, Jacobs asked during the hearing.

At least the residents of South Florida have one strong ally in the Senate. After viewing a [graph](#) depicting the steady and dramatic increase in sea level over the coming century, Sen. Nelson observed that “it doesn’t happen all at once in the year 2100; it’s happening right now.”

*Kristan Uhlenbrock is the Associate Director of Ocean Communications at the Center for American Progress. The Center’s Michael Conathan and Shiva Polefka contributed to this article.*

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**To speak with our experts on this topic, please contact:**

**Print:** Allison Preiss (economy, education, poverty)  
202.478.6331 or [apreiss@americanprogress.org](mailto:apreiss@americanprogress.org)

**Print:** Tom Caiazza (foreign policy, health care, energy and environment, LGBT issues, gun-violence prevention)  
202.481.7141 or [tcaiazza@americanprogress.org](mailto:tcaiazza@americanprogress.org)

**Print:** Elise Shulman (Oceans)  
202.741.6256 or [eshulman@americanprogress.org](mailto:eshulman@americanprogress.org)

**Print:** Chelsea Kiene (women's issues, Legal Progress, Half in Ten Education Fund)  
202.478.5328 or [ckiene@americanprogress.org](mailto:ckiene@americanprogress.org)

**Print:** Tanya Arditi (Immigration, Progress 2050, race issues, demographics)  
202.741.6258 or [tarditi@americanprogress.org](mailto:tarditi@americanprogress.org)

**Spanish-language and ethnic media:** Jennifer Molina  
202.796.9706 or [jmolina@americanprogress.org](mailto:jmolina@americanprogress.org)

**TV:** Rachel Rosen  
202.483.2675 or [rrosen@americanprogress.org](mailto:rrosen@americanprogress.org)

**Radio:** Chelsea Kiene  
202.478.5328 or [ckiene@americanprogress.org](mailto:ckiene@americanprogress.org)

