

# Building a Climate-Resilient Florida

**In the face of a warming planet, Florida is positioned to bear the brunt of climate chaos. From sea level rise to severe storms like Hurricane Irma, Floridians could face increased flooding, compromised drinking water and significant economic losses.<sup>1</sup> With most of the population and economy concentrated in coastal counties, Florida needs to invest in building climate-resilient communities.**

## Climate Change in Florida

Florida is especially vulnerable to climate-related flooding, with projections estimating up to 3.5 feet of sea level rise by 2060, and 8.5 feet by 2100, in places like Tampa.<sup>2</sup> State-wide infrastructure costs have been assessed at nearly \$76 billion for sea walls alone.<sup>3</sup>

A dramatic economic reorientation to 100 percent renewable energy is necessary to stave off the imminent risks of climate catastrophe.<sup>4</sup> Despite its moniker as the Sunshine State, Florida generates just 1 percent of its electricity from solar, which encompasses nearly all of the state's clean energy.<sup>5</sup> Instead, Florida has locked itself into fossil fuel reliance. Its electric grid is set to have the nation's largest share of gas generation by 2021.<sup>6</sup> Gas plants increase climate-destroying emissions both from the facilities and from widespread methane leaks from connecting infrastructure.<sup>7</sup>

## Climate Resilience

Transitioning to 100 percent clean, renewable energy can stave off the worst effects of climate change, but Florida is already experiencing some impacts and needs to invest in building resilient communities. Climate resilience is the ability to adapt to, withstand and recover from the adverse impacts associated with climate change — like sea level rise, flooding and hurricanes.

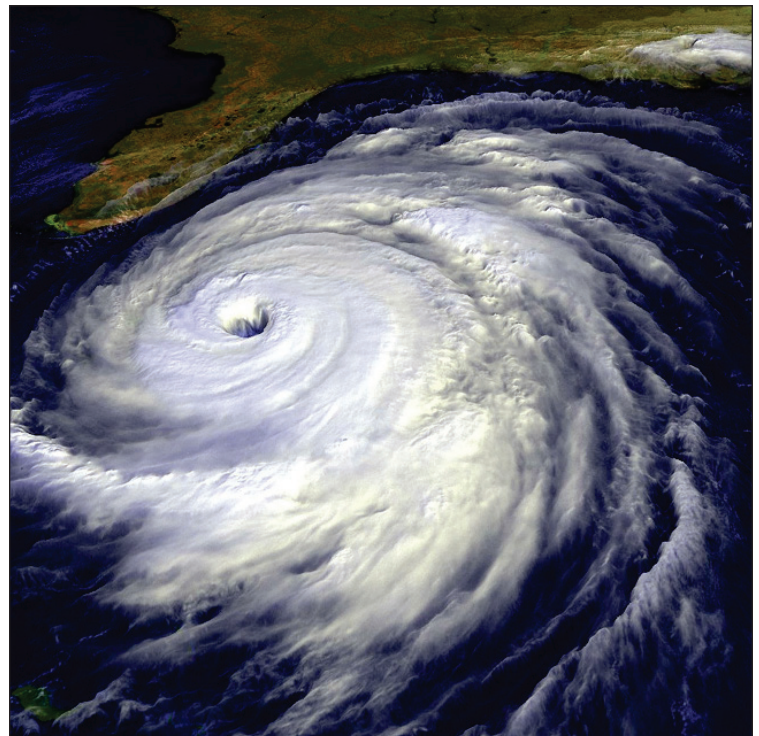
Communities must consider adaptation and preparedness strategies given that the U.S. Global Change Research Program projects that “the frequency, depth,

and extent of both high tide and more severe, damaging coastal flooding will increase rapidly in the coming decades.”<sup>8</sup>

## Sea Level Rise and Coastline Protection

Sea level rise has made Florida particularly vulnerable to storms, flooding, erosion and saltwater intrusion, increasing the need to invest in projects that protect coastlines. Strategies can include building structures like seawalls or using natural measures like mangroves, oyster reefs and living shorelines.<sup>9</sup> Protecting and rehabilitating natural coastal resources like marshes and estuaries can shield developed areas and save Floridians millions of dollars from storm-related property damages.<sup>10</sup>

Currently, the Florida Resilient Coastlines Program (FRCP) funds projects to “prepare Florida's coastal communities and habitats for the effects of climate change.”<sup>11</sup> With a budget of \$5.5 million, the program helps communities and local governments build resilience.<sup>12</sup> Any community — inland or coastal — can apply for resilience grants. The FRCP awarded over 30 grants in 2018 for projects like



mangrove restoration in Rookery Bay, replacing damaged seawalls with more sustainable living shorelines in Sarasota, green infrastructure to protect roads and communities from flooding in Miami Beach, and helping municipalities assess vulnerabilities and incorporate resilience into their planning.<sup>13</sup>

## Flood Insurance

Flood insurance is critical to ensuring that communities can recover from damages caused by climate change-induced flooding. Mortgage holders in flood-prone areas are required to purchase flood insurance, generally through the National Flood Insurance Program (NFIP).<sup>14</sup> However, the number of flood insurance policies has been declining, dropping from over 2 million policies in FY2013 to 1.7 million policies in FY2017.<sup>15</sup>

One avenue for more affordable insurance rates is the NFIP's Community Rating System (CRS), which provides discounts of up to 45 percent for communities that take extra steps to limit flooding.<sup>16</sup> As of May 2019, 240 Florida communities qualified for discounts, although most received just 15 percent off their premiums.<sup>17</sup> Greater discounts are given to communities that implement more

adaptation and mitigation strategies, incentivizing investments that improve sustainability and protect against flooding.<sup>18</sup>

In other words, if your city or county meets certain resilience standards, you may be eligible for discounts on your flood insurance rates. No Florida community has earned the maximum 45 percent discount — Ocala and Palm Coast have received the highest CRS ratings, earning discounts of 35 percent and 30 percent, respectively.<sup>19</sup>

## Conclusion and Recommendations

Florida is on the front lines of the climate crisis. Faced with storms, flooding, sea level rise and economic damages, the Sunshine State needs to take action to increase resilience against climate change.

You can help by calling on Governor DeSantis and state officials to invest in projects that protect our communities from flooding and sea level rise while making flood insurance more affordable. Ask the governor and state legislature to further increase funding for the FRCP.

## Endnotes

- 1 U.S. Global Change Research Program (USGCRP). "Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States." 2018 at 324; Miami-Dade County Department of Regulatory & Economic Resources, Miami-Dade County Water and Sewer Department, and Florida Department of Health in Miami-Dade County. "Septic Systems Vulnerable to Sea Level Rise." November 2018 at 5.
- 2 Reference year of 2000 for the Tampa Bay region. Burke, Maya et al. Tampa Bay Climate Science Advisory Panel. "Recommended Projections of Sea Level Rise for the Tampa Bay Region (Update)." April 2019 at 6 and 7.
- 3 LeRoy, Sverre et al. Resilient Analytics. Prepared for Center for Climate Integrity. "High Tide Tax: The Price to Protect Coastal Communities From Rising Seas." June 2019 at 2.
- 4 Davenport, Coral. "Major climate report describes a strong risk of crisis as early as 2040." *New York Times*. October 7, 2018.
- 5 Food & Water Watch analysis of 2018 net generation for all energy sectors in Florida and the United States. "Clean renewable" includes wind, solar, and geothermal. Data sourced from: U.S. Energy Information Administration (EIA). Electricity Data Browser. Available at <https://www.eia.gov/electricity/data/browser/>. Accessed June 2019.
- 6 Hopkins, Jamie Smith and Kristen Lombardi. Center for Public Integrity. "Sunshine State lags on solar power, doubles down on natural gas." *Florida Today*. December 8, 2017.
- 7 Howarth, Robert W. et al. "Methane and the greenhouse-gas footprint of natural gas from shale formations." *Climatic Change*. April 2011 at 679, 687 and 688; Jackson, Robert B. et al. "Natural gas pipeline leaks across Washington, DC." *Environmental Science & Technology*. Vol. 48, Iss. 3. January 2014 at 2051.
- 8 USGCRP (2018) at 329.
- 9 Florida Department of Environmental Protection (FDEP). "Florida Adaptation Planning Guidebook." June 2018 at 38 and 76.
- 10 *Ibid.* at 76.
- 11 FDEP. "Florida Resilient Coastlines Program." Available at <https://floridadep.gov/ResilientCoastlines>. Accessed June 2019.
- 12 Florida SB 2500 § 5.1755 (2019).
- 13 Florida Resilient Coastlines Program. "Inaugural Grant Abstracts." 2018 at 1 and 2; FDEP (2019).
- 14 USGCRP (2018) at 330.
- 15 U.S. Federal Emergency Management Agency (FEMA). "National Flood Insurance Program, Total number of policies in force, As of September 30, 2017." December 17, 2018; FEMA. "National Flood Insurance Program, Total number of policies in force, As of September 30, 2013." March 3, 2014.
- 16 FEMA. National Flood Insurance Program. "Flood Insurance Manual, Appendix F: Community Rating System." April 2019 at F-1; FDEP (2018) at 66.
- 17 FEMA (2019) at F-11 to F-18.
- 18 FDEP (2018) at 66 and 67.
- 19 FEMA (2019) at F-11 to F-18.

