

# re·sil·ience

## Timeline

### January 2010

The Southeast Florida Regional Climate Change Compact, with members including Miami-Dade, Broward, Monroe and Palm Beach County, is born to coordinate mitigation and adaption activities across county lines.

### September 19, 2009

Virginia Key station records highest king tide elevation of 1.58 feet NAVD at 8:48 a.m.

### June 5, 2009

City records record rainfall of 9.88 inches following an intense rain event.

### May 20, 2007

City records record rainfall of 6 inches in 6 hours with a peak of 2.72 inches per hour.

### July 17, 2013

City Commission creates a Flood Task Force Ad Hoc committee.

### November 14, 2012

City Commission adopts the 2011 Stormwater Master Plan. Goals for the program include maintaining passable roads for emergency and evacuation traffic and keeping flood stages below the first floors of homes and buildings during intense rain events, such as 5.9 inches of rainfall in 24 hours. Based on intermediate sea level rise projections and a need to protect against projected spring and fall tidal conditions over the next 50 years, a minimum seawall height of 3.2 feet NAVD is recommended.

### January 6, 2014

Mayor and Commission create a Blue Ribbon Panel on Flooding and Sea Level Rise.

### July 23, 2014

City Commission approves the recommendation of the Blue Ribbon Panel on Flooding and Sea Level Rise to amend the 2011 minimum seawall elevation from 3.2 feet NAVD to 5.7 feet NAVD.

### February 12, 2014

City Commission approves the Blue Ribbon Panel on Flooding and Sea Level Rise's recommendation to increase the minimum elevation of stormwater inlets from 0.5 feet to 2.7 feet NAVD in order for the inlets to be above the highest tidal elevations of the year and projected rate of sea level rise.

### February 3, 2014

First trolley route, Alton-West, is launched in South Beach marking the beginning of the free citywide circulator.

### December 17, 2014

City Commission revises standard seawall height to allow for 3.7 NAVD seawall cap, with a caveat that the seawalls have the structural capacity to add a 2 foot cap in the future.

**May 2015**

City enters into a two-year partnership with the Harvard Graduate School of Design for a series of sponsored design studios to study the impacts and potential responses to sea level rise in coastal communities like Miami Beach. This multi-year research project aims to examine the implications of rising sea levels and increased storm events on the city's economy, ecology, infrastructure and community identity.

**February 2016**

The Environment & Sustainability Department is created.

**June 15, 2015**

City's Tree Preservation Ordinance passes creating the Tree Preservation Program that aims to preserve and protect the municipality's urban forest.

**September 27, 2015**

Virginia Key station records new highest king tide elevation of 2.07 NAVD at 7:42 a.m.

**February 11, 2015**

City Commission approves a desired minimum crown of road elevation to be 3.7 NAVD. This elevation was selected by using the highest high tide elevation, which at the time was 1.7 NAVD and adding 1 foot for an anticipated 30 year sea level rise and an additional foot to ensure the base of the road will be dry over the life of the road.

**July 21, 2015**

The Mayor's Blue Ribbon Panel on Flooding and Sea Level Rise recommends that the seawall cap on all new private construction and all public seawall construction be changed from 3.2 feet NAVD to 5.7 feet NAVD throughout the city. However, on existing private seawalls that are being replaced or repaired and are not associated with new building construction, a minimum 4.0 NAVD elevation shall apply with the structural design to accommodate a seawall height extension to a minimum 5.7 NAVD.

**September 2015**

A Chief Resilience Officer position is created at the city.

**January 2016**

First green bike lane is installed running from 16 Street and Washington Avenue to Alton Road.

**March 9, 2016**

City Commission adopts the updated unified regional sea level rise projection of the Southeast Florida Regional Climate Change Compact for planning purposes. By 2030, sea level rise is projected to be 6 to 10 inches above 1992 msl. By 2060, 14 to 34 inches and by 2100, sea level rise is projected to be 31 to 81 inches above 1992 MSL.

**June 8, 2016**

City Commission modifies the city's Storm Water Master Plan establishing the crown of road and back of sidewalk elevations to 3.7 feet NAVD, unless exempt due to hardship and the future grade to a minimum 3.7 feet NAVD for land development purposes.

The modification also addresses the stormwater level of service for roadways to ensure that the crown of road is not overtopped during the 5-year/24-hour design storm event by requiring new construction or substantial reconstruction on private property to retain stormwater runoff in the case of 7.5 inches of rainfall; requiring all new seawalls on private construction and public projects to be a minimum elevation of 3.7 feet NAVD; and establishing other safety parameters through the South Florida Water Management District.

**August 17, 2016**

City proactively launches voluntary water quality sampling program and begins collecting monthly samples from over 60 stations in Biscayne Bay and other city waterways.

**May 24, 2016**

City is chosen to join The Rockefeller Foundation's 100 Resilient Cities network to help build resilience.

**May 11, 2016**

City Commission amends Land Use Development regulations that pertain to the calculation of building height by establishing a freeboard minimum of 1 foot and maximum of 5 feet above base flood elevation for all properties and establishing minimum elevations of required yards in single-family districts.

**April 1, 2016**

City's new Green Building Ordinance goes into effect, requiring LEED Gold Certification or Living Building Challenge certification for new construction over 7,000 sq. feet.

**April 2016**

City creates and adopts a ten-year Transportation Master Plan to enhance sustainable transit options and prioritize pedestrians.

**December 2016**

City completes the first Greenhouse Gas Inventory using 2014 as the baseline year. This marks the first step in establishing emissions reduction targets in an effort to help reduce the city's contribution to global climate change.

**August 2018**

West Avenue project chosen for Resilience Accelerator Workshop, in collaboration with Columbia University, Miami-Dade County and the City of Miami, creating a more sustainable and resilient design for West Ave.

**September 2018**

Urban Land Institute releases their final report.

**April 2018**

Urban Land Institute visits Miami Beach to evaluate the city's resilience and stormwater program.

**September 26, 2018**

City releases report from third-party water quality expert which analyzes the first full year of sampling data collected. The review evaluates the program design and determines no red flags. The presentation is followed by a technical water quality discussion with representatives from the Florida Department of Environmental Protection, Miami-Dade County, the City of Miami and other regional stakeholders to discuss the findings.

**May 2019**

Resilient305 Strategy to be published.

**January 2019**

City releases proposed Clean Water Strategy that builds on existing stormwater management program.

**December 20, 2018**

City hosts City of Miami, Village of Key Biscayne, Miami-Dade County and University of Miami representatives to begin discussing a unified and collaborative regional water quality sampling plan.

**November 2017**

Harvard University Graduate School of Design completes their study and publishes a report titled South Florida and Sea Level – The Case of Miami Beach.