



# Southeast Florida Regional Climate Change Compact

A White House Climate Action Champions Case Study

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## **Executive Summary**

The Southeast Florida Regional Climate Change Compact, a collaboration among the four counties of southeast Florida representing nearly six million residents and many other stakeholders, has worked since 2010 to advance climate mitigation and adaptation strategies. In 2014, with the assistance of the Miami Consulate of the Kingdom of the Netherlands, the Compact convened Southeast Florida Resilient Redesign, an intensive four-day workshop to develop innovative design strategies for three archetypal southeast Florida land use scenarios which could serve as models of resilience throughout the region. Following the success of the 2014 exercise, a second Resilient Redesign workshop was held in 2015—this time organized with the with the assistance of the Florida Climate Institute members: Florida Atlantic University, Florida International University, University of Florida and University of Miami—for three new communities. Compact partners intend to follow up on many of the ideas developed in these workshops and to hold additional Resilient Redesign events on an annual basis.

The Resilient Redesign events generated creative community resilience strategies through engagement with stakeholders and experts. By following the Resilient Redesign model, other communities can capitalize on local and outside knowledge to address their specific sets of climate challenges. The unique format of these workshops and the focus on projects representative of the landscape of the Compact have made Resilient Redesign a success and place the Compact on the cutting edge of resilience work.

## **Climate Action Champion**

The Southeast Florida Regional Climate Change Compact (“Compact”), a regional partnership to advance climate mitigation and adaptation strategies, was created by Palm Beach, Broward, Miami-Dade, and Monroe counties in 2009. In agreeing to work together under the Compact, the four counties jointly recognized the vulnerability of the Southeast Florida region to climate change and saw the benefits of coordination and collaboration to reduce emissions and adapt to climate impacts.

The Compact completed a unified sea level rise projection (first released in 2011 and updated in 2015), a regional sea level rise vulnerability analysis, and a regional greenhouse gas emissions inventory, before creating the Southeast Florida Regional Climate Action Plan (RCAP) to serve as the strategic framework for reducing greenhouse gas (GHG) emissions and adapting to the effects of climate change in the region. The RCAP features 110 recommendations for implementation during an initial five-year period (2012-2017). Workshops have helped advance the RCAP by focusing on specific sets of related recommendations. These workshops, including Resilient Redesign, have been supported by Kresge Foundation funding to the Institute of Sustainable Communities, the Compact’s major nonprofit partner.

## **Background**

Elizabeth Plater-Zyberk, then-dean of the University of Miami School of Architecture, suggested the original idea of using specific southeast Florida sites to examine the integration of climate adaptation considerations into land use planning at the very first RCAP workshop in September 2013.

Also in 2013, several Compact staff members journeyed to the Netherlands at the invitation of the Dutch government, to study water management and resilient design. Dutch consular officials in Miami sought continued engagement. Compact staff and Dutch officials were able to marry Plater-Zyberk's suggestion to the Dutch Dialogues interdisciplinary charrette model pioneered in New Orleans, and the concept of Resilient Redesign was born. The consulate identified funds to enable Dutch experts, some of whom were involved in the Dutch Dialogues in New Orleans and the US government's Rebuild by Design competition, to visit the region. Soon thereafter, Compact staff began reaching out to the academic and design communities in southeast Florida to identify potential participants. In addition, the Institute of Sustainable Communities supported the workshop through its Kresge Foundation grant to advance the RCAP.

## **Concept**

Each year, three archetypal southeast Florida landscapes have been selected to serve as sites for model design solutions which could apply to similar locations across the region. Following several months of planning, which involves the identification of expert participants from a cross-section of relevant disciplines, collection of data and generation of maps, and the management of workshop logistics, interdisciplinary teams assemble and develop resilient design approaches for each site over the course of four days. The teams consider expected climate change impacts and natural hazards, as well as area resources or constraints, social dynamics, compatibility with the community's vision and economy, water management infrastructure, shoreline (or coastal) protection, and implications to neighboring communities, historic preservation, uniformity, aging infrastructure, evacuation routes, soil permeability, flood hazards, and transit connections. These factors inform the concepts and design solutions developed for a particular site, and the architects and planners on each team bring the ideas to life through maps, plans, and sketches.

## **Project Spotlight: Resilient Redesign 2014**

For the first Resilient Redesign workshop, held August 10-14, 2014, organizers selected three sites: Alton Road in Miami Beach (dense urban barrier island), an area of Sweetwater in Miami-Dade County (suburban), and Dania Beach Boulevard in Dania Beach (older urban commercial corridor).

On the first day, Sunday, August 10, visiting experts and local stakeholders made site visits, exploring the cultural, economic, social, historic, topographic, infrastructure, and building stock characteristics of the locations. Days 2 and 3 consisted of nearly 50 professionals, including water managers, architects, engineers, parks managers, planners, hydrologists, and engineers, including academics, convening at the Miami Center for Architecture and Design in downtown Miami for an intense design charrette. The full group reviewed the southeast Florida landscape and development history, and then divided into three teams corresponding with the three sites. Visiting experts from the Netherlands served as leaders of each team, with some Dutch and local experts floating among the teams to provide perspective and feedback.

On the final day, August 14, each team presented its resilient site design concepts to the full group and stakeholders from the selected communities, with each team explaining the conditions affecting its

given site as well as the rationale for the chosen approaches. Stakeholders welcomed the concepts—which included everything from elevation of barrier island neighborhoods to the construction of large artificial beach dunes with underground parking—as provocative, yet realistic, and pledged to take many of the concepts back to their communities.

### **Project Spotlight: Resilient Redesign 2015**

After the success of the 2014 event and the enthusiasm it generated, the local organizers (minus the Dutch consulate) decided to hold a similar exercise in 2015. This time with the assistance of the FCI university members: FAU, FIU, UF and UM. Three new sites were chosen:

- Along the Intracoastal Waterway in Delray Beach (historic waterfront residential community).
- Along Hollywood Boulevard in east Hollywood (a diverse urban environment, including the edge of a central business district, historic and waterfront properties, and a commercially-oriented barrier island).
- The Salt Ponds in Key West (a low-lying area in the southeast corner of the city, near the Monroe County International Airport).

A similar four-day format was employed for the workshop, held July 19-22, 2015: site visits on Sunday (though participants only toured the site relevant to their assigned team, given the long distances separating Key West from the other cities), followed by two days of intense charrette work and a final day of presentations from each site team to a large group, including stakeholders representing the three cities. The 2015 workshop consciously incorporated low-income/workforce housing concerns and historic preservation issues more thoroughly, based on observations from the 2014 workshop.

The workshop was held at the Florida Atlantic University campus in Davie, in cooperation with the Florida Climate Institute member universities of Florida Atlantic University, Florida International University, the University of Miami, and the University of Florida. Faculty and staff from those institutions played key roles in the organization of the event and on the site teams, alongside Compact county staff, municipal staff from the three cities, the South Florida Water Management District, and the Institute for Sustainable Communities. Local architects, engineers, planners, and other experts rounded out the teams. To highlight the Key West case, proposals included relocating the Monroe County International Airport to share the Naval Air Station on neighboring Boca Chica Key, moving State Road A1A inland away from the coast, and developing an innovative set of planning and investment ideas for the Lower Mid-Town West neighborhood (which recorded the largest number of National Flood Insurance Program claims in the city).

### **Co-benefits**

Two panels during the Sixth Annual Southeast Florida Regional Climate Leadership Summit in Miami Beach in October 2014 featured Resilient Redesign. Dutch architect Steven Slabbers and other Resilient Redesign participants presented an overview of the charrette process and detailed the design concepts developed during the workshop, too much acclaim from the audience of over 500 attendees. The results

of the second Resilient Redesign will be presented at the Compact's 2015 Regional Climate Leadership Summit in Key West in early December 2015.

For Dania Beach, the Resilient Redesign process occurred around the same time that the city government and Florida Department of Transportation were considering major projects in the study area. Broward County and the City of Dania Beach were able to secure a Regional Sustainable Environmental Science (RESES) grant from the US Environmental Protection Agency to continue the Resilient Redesign work through the development of a decision-making framework for considering the concepts and incorporating cost-benefit scenarios.

In response to the strong working relationship and identification of mutually supportive goals which arose among faculty/staff from universities participating in Resilient Redesign and Compact partner staff, the Compact and the Florida Climate Institute agreed to create a formal partnership agreement to align Compact research needs with the research agenda of FCI. The language of the agreement was finalized in 2015, with formal approval by the four Compact county commissions expected in late 2015 or early 2016.

### **Ongoing challenges and lessons learned**

Successful implementation of the ideas generated throughout the Resilient Redesign workshop may face challenges, due to funding constraints, the inertia of business-as-usual approaches, and outdated public policies and private practices. However, the design concepts emerging from Resilient Redesign help to identify much more specifically the potential costs (and benefits) of adaptation and the barriers to implementation. With a greater understanding of these limits, policymakers and stakeholders can develop strategies to overcome them.

Resilient Redesign organizers offer a number of lessons for communities which might be considering a similar resilient design initiative:

- Outside experts suggested 30 participants as the ideal number, though the southeast Florida Resilient Redesign events included about 50 each year.
- Outside expertise is really critical for the first workshop, particularly experts who have already participated in or led similar efforts, such as Dutch Dialogues or Rebuild by Design.
- The workshop will benefit if team and design leads have dynamic and engaging personalities.
- Planning in earnest does not need to begin much sooner than three months before the workshop.
- Maps, data, and other resources must be prepared in advance.
- External financial support for facilitators, travel and lodging for outside experts, tour buses, refreshments, etc., is helpful. Nonprofit organizations, local foundations, or universities could fill this role.
- Community partners must be engaged and willing.
- Ideally, all participants will visit participate in all site tours.

- The charrette should be held in a room large enough to accommodate all three teams simultaneously, in order to maintain dynamics and momentum.
- The room should be large enough that there is enough space to acoustically separate the teams. Group discussions can be loud.
- Charrette introductions should include overviews of all three sites, regional climate impacts and social/demographic information, infrastructure, transportation, geology, and other relevant conditions.
- Some participants—particularly the subject experts—should float among the teams.
- Teams should report out to the whole group at various points throughout the charrette days.
- Participants should attend in their professional capacities, not merely as interested citizens, to ensure they feel some obligation to carry out their assigned duties.
- The final presentations—visuals as well as the content to be delivered verbally—should be reviewed and approved by team members, with no additional changes allowed prior to the presentation. Otherwise, strong viewpoints held by the presenters may influence the tone and content of the site presentations.
- Teams should make arrangements for the completion and refinement of sketches and final presentations in the days and weeks after the workshop.

## Resources/Learning More

1. [Video of Resilient Redesign II workshop in July 2015.](#)
2. [Video of the Resilient Redesign panels and presentations from the Sixth Annual Southeast Florida Regional Climate Leadership Summit on October 1, 2014.](#)
3. [Institute for Sustainable Communities article on 2014 Resilient Redesign.](#)
4. [Southeast Florida Regional Climate Change Compact event page on Resilient Redesign II.](#)
5. [Compact main website.](#)

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## Project Facts

### Project Duration

Approximately three months of preparation  
culminating in a four-day workshop, with  
post-event refinement and public  
presentations.

### Project Cost

2014 event: approximately \$20,000  
(included travel for several Dutch experts to  
the US)

2015 event: less than \$10,000 (2015 event).

### Project Staff Required

The event is now planned and executed  
largely using internal staff resources from  
the participating entities, including the  
Institute for Sustainable Communities. The  
2014 event did rely on funding and limited  
staff support from the Dutch consulate in  
Miami, which did not participate in 2015.  
Support in 2015 was received by Florida  
Atlantic University in terms of staff  
assistance and facilities.

### Population Served

Ultimately, the entire population of  
southeast Florida, 5.7 million people, may  
benefit from this work.

### Community Type

Urban/suburban areas, mainly coastal.

### **Partners**

- Counties: Broward, Miami-Dade, Monroe, and Palm Beach
- Cities: Dania Beach, Delray Beach, Hollywood, Key West, Miami Beach
- Institute for Sustainable Communities
- Dutch Consulate in Miami (2014)
- Florida Climate Institute (Florida Atlantic University, Florida International University, University of Florida, University of Miami)
- South Florida Water Management District
- American Institute of Architects
- Others

### **Project Impact**

- Creative, tangible land use and climate adaptation strategies worthy of further investigation.
- Excitement and positive engagement around the issue of community resilience in southeast Florida.
- US EPA grant to Broward County and City of Dania Beach to continue working on Resilient Redesign approaches in that city.
- Greater engagement by the design community in southeast Florida in resilient community planning.
- Formal partnership agreement between the Compact and the Florida Climate Institute.