



BACKGROUND

In October 2018, county and local government elected officials from throughout the Tampa Bay Region voted to sign a memorandum of agreement creating the Tampa Bay Regional Resiliency Coalition. The MOU calls for the creation of a Regional Action Plan with strategies for coordinated regional preparation for and adaptation to a rapidly changing global environment. The MOU also calls for the plan to identify funding strategies at the local, state and federal levels for mitigation and adaptation actions to deal with those impacts.

CONTEXT FOR READING THE OBJECTIVES AND ACTIONS

The Regional Resiliency Action Plan is intended to serve as a guiding framework and provided a menu of best practices, which will be implemented locally and together as a region. TBRPC staff reviewed resiliency plans, recommendations and frameworks used around the country and state to identify promising practices that would work in our region. The TBRPC staff also received recommendations on best practices being implemented in region – so the plan builds on the priorities and work of member governments. The plan defines regional collaboration and actions that will enhance consistency in implementation across jurisdictions.

The actions reflect a compilation of best practices, are voluntary and should be viewed by local governments as recommendations.

Recognizing that Coalition members have different levels of resources and are at different stages in resilience planning, the plan is designed to support local governments from small to large. It includes a range of actions which will enable local governments to implement “low hanging fruit” and new innovative approaches.

LOCAL GOVERNMENT AND STAKEHOLDER INPUT ON THE DRAFT PLAN

Stakeholder feedback is essential to ensure the proposed actions match local and regional priorities. The ownership of the plan belongs to the member governments of the Resiliency Coalition. As such the top priority is ensuring that the plan aligns with the priorities of member governments and is supported by the Coalition Partners.

The TBRPC asks that member government staff conduct meetings for interdepartmental teams for review, forward to staff who have not been able to participate in the workshops and share the plan with relevant advisory boards.

Coalition Partners, community stakeholders, and subject matter experts are invited to provide comments. Your input will help to ensure the plan aligns with leading practices, is consistent with leading academic research, federal and state agency goals, and supports the priorities of organizations serving the communities in the region.



HOW TO PROVIDE FEEDBACK

Click on the links to download the [Regional Resiliency Action Plan Draft](#) in Word or PDF format. Please use the [comment](#) feature in Word or [add comments](#) in Adobe PDF.

When reviewing the goals, objectives and actions, **please include the number**. Feel free to provide specific copy edits to help enhance public understanding. You can also indicate actions that should be consolidated or removed. Or you may also propose new actions.

If necessary, the TBRPC will also hold a meeting with Coalition Members and Partners to review and discuss key topics. We also ask that you provide written comments to support the editing process.

DEADLINE FOR INPUT

Please submit your comments and feedback to cara@tbrpc.org by **May 28, 2021**. The TBRPC will combine comments in June and post the updated draft in July.

HAVE QUESTIONS?

Contact Cara Woods Serra (cara@tbrpc.org) or CJ Reynolds (cjreynolds@tbrpc.org).

EXECUTIVE SUMMARY



Introduction

The Tampa Bay Regional Resilience Coalition was officially formed in October 2018 and grew to 31 members in 2021. Currently the Coalition includes 7 counties and 24 cities, and more than 90 Partners which include businesses, non-profit community organizations, universities and advocacy organizations.

The region's communities are diverse and range from dense urban centers on Tampa Bay to coastal beachfronts and suburban neighborhoods and agricultural lands and small towns in rural areas. The one unifying factor -- they all share a commitment to increasing the resilience of their communities to the impacts of extreme weather and climate change.

Defining Regional Risks and Costs of a Changing Climate¹

Organizations around the region have been collaborating to define climate change risks and impact for many years. In 2014, the Tampa Bay Climate Science Advisory Panel was formed and led by Pinellas County UF IFAS/Sea grant, with support from the Tampa Bay Estuary Program. The CSAP, a network of Tampa Bay area scientists, engineers and natural resource managers, produced the region's first sea level rise report in 2015, and released an updated report in the fall of 2018.

The report provides recommendations for SLR projections for the Tampa Bay region through 2100 and explains the rationale for the selections. With these shared projections, local governments can coordinate, develop, and implement appropriate coastal adaptation and risk reduction strategies.

The updated CSAP projections showed that NOAA High, the worst-case scenario, increased from 3 feet to 3.6 feet of sea level by 2060—the horizon year of the Council's economic model (Insert image: SLR curves and CSAP table)

In 2017, the Tampa Bay Regional Planning Council produced *The Cost of Doing Nothing*, a report on the potential inundation impacts stemming from sea level rise in Hillsborough, Manatee, Pasco and Pinellas Counties. Since that report, the Council's jurisdiction expanded to six counties—adding Citrus and Hernando Counties.

Taking Stock of Climate Impacts

¹ <https://www.tbrpc.org/wp-content/uploads/2021/04/Taking-Stock-Economic-Impacts-of-Climate-Change-FINAL.pdf>

In 2021, the TBRPC produced *Taking Stock: Economic and Fiscal Impacts of Climate Change on the Tampa Bay Region Through 2060*, to define the implications of higher level of sea level rise, and to include the best available analysis of the impacts of increased temperatures on the Tampa Bay and Florida economies.

With support from the US Environmental Protection Agency's Gulf of Mexico Program, this study focused on the economic and broad fiscal implications of climate change: increased temperatures and sea level rise on infrastructure, jobs, income and Gross Regional Product, a measure of the overall size of the region's economy.

Several key findings in this study include:

- Combined effects of sea level rise, drops in labor productivity and energy sector impacts may accumulate to an annual loss of about 1 percent of Gross Regional Product by 2060, adversely impacting the region's competitiveness in a global economy;
- Job losses across the region accumulate to 15 thousand each year by 2060 (0.6 percent of all jobs);
- Nearly \$3 billion of private property across the region may be partly to fully inundated with a 3.5 foot increase in the sea level by 2045, and about \$7.5 billion may be inundated by 2060;
- Sea level rise impacts comprise about a half of the economic impact of climate change. The balance of economic impacts are driven by heat related impacts to labor productivity and energy sector impacts;
- The likelihood of higher costs for energy underscore the importance of energy efficiency. Energy inefficiency may undermine Florida's long term competitiveness;
- Local sales tax revenues and property tax revenue are anticipated to decline (1.6 percent and 2.7 percent, respectively, by 2060) across the region;
- Infrastructure rehabilitation and required upgrades will incur at least \$7.2 billion in expenditures, squeezing local and state resources;
- Increases in homeowner insurance rates may make home ownership more expensive, depending on the state and federal decisions on the national flood insurance program, and reduce disposable income and consumer purchases; and
- This report considers many, but not all, potential economic impacts of climate change by 2060; peak economic impacts are not likely to occur until later in the 21st century.

Conclusions: heat driven impacts substantially effect the regional economy, as much as, and in some cases, more than sea level rise impacts do. Moreover, heat impacts the region's economy both in terms of interactions with sea level rise, and impacts the economy in different ways. While sea level rise directly impacts property values and exerts influence on the rest of the economy through its impacts on land uses and property markets, heat impacts the economy primarily through losses in labor productivity and energy costs.

Unless immediate global action is taken, it may not be possible to mitigate heat impacts in the coming decades. However, it is still relevant to the public as the private sector adjusts to changes to energy costs and labor productivity, meaning that there will be consequences for the broader public—less reliance on labor means more investment must be made in retraining the workforce, rising energy costs may have implications for

power grid planning, energy efficiency in the built environment, and the mix of renewables in the state energy portfolio, among many potential considerations.

Florida's long-term economic competitiveness may be dependent upon industry's energy efficiency. Heat also impacts public decision making and the public bottom line, through impacts to public safety and public works personnel, to pavements, the transportation network, stormwater and other utility functions.

Next Steps: Even with this report's broad scope, there are many issues that are related to climate change that are not considered and need analysis. Issues include public health care costs, disproportionately large impacts of climate change on low-income people, the potential collapse of fisheries, the full spectrum of extreme weather impacts, global trade patterns and political trends are not considered in this report. While TBRPC is currently addressing many of the issues related to low-income housing through the REACH project, several of these issues can be addressed in the future by the Council, the Resilience Coalition and its partners and the state.

One very important perspective, the benefits of infrastructure investments to curtail the impacts of climate change, is the subject of a forthcoming study by the Tampa Bay Partnership. Together with *Taking Stock*, the region's public are developing a clearer perspective on the costs and benefits of adaptation to climate change in general, and sea level rise in particular.

Process to Develop the Plan

The commitment to develop a Regional Resilience Action Plan (RRAP) was defined in the Resilience Coalition Memorandum of Understanding, signed by each of the members and celebrated in a signing ceremony in October 2018.

In 2019, TBRPC staff worked closely with the Coalition Steering Committee, staff in the counties and cities and key partners to define overarching resilience goals, local priorities, and resilience planning initiatives implemented by other cities around the state and the US.

The first major regional workshop to develop the RRAP occurred at the first Resilience Leadership Summit on January 7-8, 2020 at the St. Pete Carillon Hilton. During a ½ day session, more than 175 participants including elected officials, local government staff and business and community partners met in small groups and discussed key priorities.

The TBRPC staff then converted these priorities into a set of recommendations which were reviewed by the Resilience Coalition Steering Committee. In 2020-2021 during the COVID pandemic, TBRPC staff coordinated 10 virtual ½ day workshops which engaged staff, Partners across the region to hear presentations on best practices, discuss local and regional priorities.

Meeting in small breakout groups, attendees reviewed and provided written comments discuss draft goals and actions for each of the chapters. TBRPC staff also had meetings with subject matter experts and local governments and Partners who were implementing innovative resilience and sustainability programs.

In Spring-Summer 2021, the draft plan was reviewed by the Resilience Coalition Steering Committee and the Management and Planning Committee, and was distributed and posted to collect additional input.

Vision and Purpose

The Tampa Bay Regional Resilience Action Plan will help reduce risk to people and property by anticipating and preparing for sea level rise, storms, flooding, extreme heat and other emerging hazards.

The RRAP has a strong focus on risk reduction and adaptation – improving short-term disaster preparedness and supporting consistent long-term planning for climate change. It supports local government priorities to address climate mitigation, enhance sustainability goals and address social and racial equity. It also acknowledges the vital importance of conserving our natural resources and habitats, which support vibrant neighborhoods and strong economies.

The RRAP serves as a 5-year road map which defines goals, objectives, actions that will be implemented at the local level and through regional cooperation.

Guiding Principles

The Regional Resilience Action Plan is based on 10 core tenets.

Positive vision: Resilient strategies strengthen and protect vibrant communities and create multiple benefits. Respects the diverse geographies and community make-up -- from coastal to inland, urban to rural;

Actionable, measurable: Implement proactive, actionable goals and strategies which reduce short-term and long-term risks, vulnerabilities. Set measurable goals to track and celebrate progress – at the local level and regionally;

Fiscal Leadership: Implement management processes which assess costs, impacts and return on investments. Strategies that align with federal and state requirements to increase funding for local projects and improve insurance ratings for property owners;

Scalable: Promotes a range of goals, best practices and actions which can be implemented by local governments of any size;

Data-driven: Acknowledges climate change and its consequences, and bases decision-making on the best available science. Defines climate risks, impacts and indicators and uses local and regional data to define risks, vulnerabilities and targets for success.

Supports Health and Equity: Recognizes that extreme weather and climate impacts our health and well-being, and that existing income and racial disparities

can increase vulnerability to hazards. Implementing resilience and sustainability strategies will include targeted strategies and investments which will increase overall community resilience.

Community-focused: Resilience is more than infrastructure. It considers neighborhoods, housing and jobs. Increases knowledge and capacity of residents, businesses and non-profits to take action and support resilient place making. Contributes to economic prosperity.

Protects and Restores Paradise: Recognizes the importance of preserving natural spaces and habitats, using nature-based resilience strategies and green infrastructure to reduce flood risks and heat impacts, and support thriving communities.

Consistent and coordinated: working together to define standards, policies and methods to increase resilience consistency across jurisdictions and create a level playing field for resilient development.

Sustainable: Supports local government sustainability goals to improve energy efficiency and reduce emissions in municipal buildings and fleets; advances community and housing energy savings; planning to align housing, business zones, and transit. Green-tech local jobs. Collaborates with utilities to increase availability of renewable energy and energy security during disasters.

EXECUTIVE SUMMARY

Overview of the Plan

The RRAP is comprehensive document with five chapters that include 11 high level goals, dozens of objectives and actions for local implementation and regional collaboration. The goals and objectives are informed by state regulations and developed in context with other regional initiatives such as the region's Comprehensive Economic Development plan and the Tampa Bay Estuary Program's goals for climate ready habitats and conservation.

Chapter 1 Risks and Future Conditions defines and organizes how we track climate factors that are driving changes, and how those changes will potentially impact our communities and region's assets. The chapter organizes these data into the categories of climate change indicators, climate driver indicators which provides the science behind the problems our communities face, and identifies the scientific and technical data that is needed to support sound decision making.

Chapter 2 Community Vulnerability details the current social and economic vulnerability of our communities, defining specific racial and income inequity. This chapter considers vulnerability of our housing stock, and also food supply and agriculture systems. It notes how these factors will be exacerbated by climate and extreme weather.

Chapter 3 PEOPLE focuses on best practices in resilience leadership and capacity building to strengthen community organizations, businesses and our local governments - which are necessary to catalyze resilience actions throughout our communities and support our residents.

Chapter 4 PLACE addresses key interconnected categories: housing and land-use; ecosystems and infrastructure and transportation. It examines these challenges and describes ongoing local and regional resilience efforts. It is the largest chapter

Chapter 5 PROSPERITY describes goals for supporting key sectors of our local and regional economies, integrating workforce development and new jobs in context of resilience, and conducting economic vulnerability assessments.

Regional Resilience Action Plan Goals

Chapter 1: Risks & Future Conditions	
Goal 1	Community Resiliency is at the top of the Public Agenda and sustained with science and data.

Chapter 2: Community Vulnerability

Goal 2	Adaptation and resilience planning strategies are based on rigorous, consistent, scientifically defined vulnerability assessments.
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Chapter 3: People

Goal 3	Promote leadership, education and empowerment both in government, and community and business organizations to foster the implementation of resiliency strategies.
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Chapter 4: Place

Goal 4	New and existing housing becomes more resilient and energy efficient.
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Goal 5	The region supports a diverse array of multimodal-supporting land uses developed with resilient and energy efficient construction.
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Goal 6	Resilient adaptation protects, preserves and restores thriving habitats and abundant wildlife.
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Goal 7	Public infrastructure, services and assets becomes more resilient through innovative best practices.
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Goal 8	The Region has a connected multimodal transportation network that is resilient to extreme weather, reduces local emissions and enhances equitable mobility and public safety.
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Goal 9	Food systems become more resilient and access to healthy foods is improved.
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Chapter 5: Prosperity

Goal 10	Businesses prepare and recover quickly from the impacts of extreme weather events and hazards.
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Goal 11	The regional workforce is skilled and can rapidly adapt to changing business environment conditions.
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Targets

Regional Targets

Regional targets are intended to measure progress of regional efforts such as convening of work groups, conferences, workshops, or developing new tools or reports

that are jointly produced. Regional targets may also include improvements to air quality, water quality or other indicators that are being tracked in Chapter 1. Targets will be monitored annually.

Local Targets

Local targets will measure local government progress toward implementation of specific goals/actions in the RRAP. The individual governments will self-report and track their progress. It will allow the Coalition members to facilitate knowledge sharing amongst each other, and for the TBRPC to highlight member governments achievements, and provide annual track progress towards implementation of the action plan. Local governments will report on their progress each year.

Reading the Plan

Example Action:

<p>Local governments will use ClearSky tools and resources to identify critical systems and facilities which are candidates for solar and backup battery and micro-grids.</p>	<p>Lead Organization: Local governments Partners: TBRPC, Utilities, Neighboring jurisdictions Comprehensive Plan Themes: Public Facilities, Utilities Topic Tags: Emergency Management, Utilities, Energy</p>
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Category	Description
Lead (1)	This identifies the lead organization(s) that will drive the action described. In some cases, there may be multiple leaders. When the leader is listed as "local governments" this indicates that each member government will take the lead to implement this action within their jurisdiction.
Partners (2)	Organizations that will assist the lead organization by providing data, resources, or expertise. Community organizations can provide greater insight into the needs of their communities.

Comprehensive Plan Themes (3)	<p>This identifies elements or chapters of the comprehensive plan which are related to the RRAP action to assist with future local government updates.</p> <p>Local governments are moving towards themed chapters that make the comprehensive plan easier to use and more approachable for a broader audience.</p>
Topic Tags (4)	<p>The topic tags are intended to acknowledge that many of the actions address cross-cutting issues. For example, public health, while not its own chapter, is woven throughout the document. Topic Tags also allow readers interested in a specific topic to easily find actions related to that topic.</p>

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