PERIL OF FLOOD
Regional Standards & Best Practices Checklist
LAND USE POLICY TOOL | APPLICATION TO HAZARD VULNERABILITY

**Comprehensive Plan**

The community’s vision for its future and plan for realizing that vision addresses all statutory requirements and includes annexes, components, elements, etc., addressing:

- All-Hazards Mitigation
- Floodplain Management
- Evacuation
- Emergency Response
- Continuity of Operations
- Disaster Recovery
- Post-Disaster Redevelopment
- Capital Improvements
- Economic Development
- Coastal Management
- Shoreline Restoration
- Open Space
- Stormwater Management
- Historic Preservation

**Development Regulations**

- **Permitted Land Use**
  Provision regulating the types of land use (e.g. residential, commercial, industrial, open space, etc.) permitted in areas of community; may be tied to land development regulations

- **Density of Land Use**
  Provision regulating density (e.g. units per acre); may be tied to land development regulations

- **Subdivision Regulations**
  Provision controlling the subdivision of parcels into developable units and governing the design of new development (e.g. site storm water management)

- **Zoning Overlays**
  Provision to use zoning overlays that restrict permitted land use/density in hazardous areas; may be special hazard zones or sensitive open space protection zones

- **Setbacks or Buffer Zones**
  Provision requiring setbacks or buffers around hazardous areas (e.g. riparian buffers and ocean setbacks)

- **Cluster Development**
  Provision requiring clustering of development away from hazardous areas, such as through conservation subdivisions

**Land Acquisition**

- **Acquire Land & Property**
  Purchase land/property in hazard area

- **Open Space or Easement Requirement/Purchase**
  Provision encouraging open space purchase by the community or open space easements as an element of development approval

**Density Transfer Provisions**

- **Transfer/Purchase of Density Entitlements**
  Provision for transferring density entitlements to control density; maybe transfer of density entitlement or purchase of density entitlements
### Financial Incentives & Penalties

- **Density Bonuses**: Density bonuses such as ability to develop with greater density in return for dedication or donation of land in areas subject to hazards
- **Tax Abatement**: Tax breaks offered to property owners and developers who use mitigation methods for new development
- **Impact /Special Study/ Protection**: Provision requiring impact fees, special study fees, or protection fees for development in hazardous areas; fees could cover costs of structural protection

### Land Use Analysis & Permitting

- **Land Suitability**: Hazards are one of the criteria used in analyzing and determining the suitability of land for development
- **Site Review**: Provision requiring addressing hazard mitigation in process of reviewing site proposals for development
- **Design/Construction/Guidelines/ Requirements**: Guidelines or requirements that apply to the design or construction of developments in hazard areas

### Public Facilities (including Public Housing)

- **Siting**: Provision to site public facilities, including municipal buildings and public housing, out of hazard areas
- **Sizing/Capacity**: Provision limiting capacity of public facilities, including public housing, in hazard areas to cap amount of development

### Post-Disaster Reconstruction Decisions

- **Development Moratorium**: Provision imposing a moratorium on development for a set period of time after a hazard event to allow for consideration of land use change
- **Post-Disaster Land Use Change**: Provision related to changing land use regulations following a hazard event; may include redefining allowable land uses after a hazard event
- **Post-Disaster Capital Improvements**: Provision related to adjusting capital improvements to public facilities following a hazard event

### Capital Improvements

- **Infrastructure “Hardening or “Weatherproofing“**: Provision encouraging or requiring development in hazard zones to increase structural resilience to hazards
- **Elevating**: Provision pertaining to the physical elevation of structures in hazard zones
- **Drainage Improvements or Flood Control**: Provision that pertains to drainage or flooding issues within the community
- **Ecosystem Enhancement**: Provision to improve or preserve the functioning of the natural environment within the community
- **Slope/Dune Stabilization**: Provision that pertains specifically to stabilization of slopes or dunes or seeks to control erosion
Addressing Risk & Vulnerability

1. The Community has considered the following risks:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge

2. The Community has identified and mapped the past extent of the following coastal hazards based on historical information, existing plans and reports, and scientific and local knowledge.
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge

3. The Community uses plans to identify the damage and cost of previous storms, floods, or erosion.

4. The Community tracks repetitive loss properties within the National Flood Insurance Program (NFIP).

5. The Community defines historic rates of local sea-level rise (SLR) through tide-gauges or research.

6. Have staff trained in mapping or monitoring the following:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge

7. Use maps and geo-spatial data to define and describe the future extent of the following coastal hazards:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge

8. Use plans to estimate future financial losses from SLR.

9. Evaluate property values for properties at-risk from SLR.

10. Use mapping and geo-spatial data to assess the coastal hazard vulnerability of the following community assets:
    - Critical facilities (hospitals, fire stations, etc.)
    - At-Risk Populations (elderly, low-income, disabled)
    - Buildings (number and type of structures)
    - Infrastructure (roads, schools, hospitals, public works, etc.)
    - Natural resources (Critical Areas, unique ecosystems and habitats, etc.)
    - Historical resources (historic districts, properties landmarks)
    - Cultural resources (libraries, museums, archeological)
    - Economic resources (business districts, factories, tourism areas)

11. Have staff trained in the use of FEMA’s HAZUS-MH.

12. Share risk and vulnerability assessments with these people and agencies:
    - Planning staff
    - Public Work officials
    - Transportation planners
    - Emergency Management
    - Elected officials
    - General Public
Land-Use Planning

1. Participate in the FEMA NFIP Community Rating System (CRS).
2. Include goals, objectives, policies, and strategies in the coastal management element of the comprehensive plan to reduce coastal hazard vulnerability.
   - Discourage development in vulnerable areas and identify specific land use tools to respond to coastal hazard threats.
3. Target frequently flooded areas to be planned/zoned for open space/recreation, easements, or acquisition.
4. Include goals, objectives, policies, and strategies in the comprehensive plan regulating development within areas vulnerable to coastal hazards.
5. Include goals, objectives, policies, and strategies in the comprehensive plan limiting development within the floodplain.
6. Include goals, objectives, policies, and strategies in the comprehensive plan that promote infill outside vulnerable areas.
7. Include goals, objectives, policies, and strategies in the comprehensive plan that promote infill outside vulnerable areas.
8. Include goals, objectives, policies, and strategies to address the impacts of climate change on drinking water availability in the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element.
10. Extend planning horizons to incorporate potential long-term coastal hazards such as:
    - Sea-level rise (SLR)
    - Coastal erosion
    - Increased storm activity and severity
11. Include goals, objectives, policies, and strategies to address relocation, abandonment, and protection of infrastructure at risk from coastal flooding or other coastal hazards in the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element.
12. Have a certified floodplain manager (CFM®) on staff.
13. Have a floodplain manager or planner who participates in one of more of the following organizations:
    - Association of State Floodplain Managers (ASFPM) or Florida Floodplain Managers Association (FFMA)
    - American Planning Association (APA) or Florida APA chapter
    - American Society of Civil Engineers (ASCE) or state or local section of ASCE
    - American Public Works Association (APWA)
14. Have technical and computer mapping capabilities.
15. Adopt the current editions of the Florida Building Code
16. Conducted a build-out analysis using existing zoning.
   - Evaluate the build-out analysis using existing zoning.
17. Require disclosure statements for vulnerable coastal properties.
18. Establish a timeline or strategic plan for the relocation, abandonment, or protection of buildings in areas at risk to coastal flooding or other coastal hazards.
19. Require additional elevation of residential, nonresidential, and public buildings and infrastructure to be above base flood elevations—also known as freeboard—within the 100-year floodplain.
20. Require flood-proofing of residential, nonresidential, and public buildings and infrastructure within the 100-year floodplain.
   - Required rebuilding—where allowed—to be more resilient to coastal hazard impacts (e.g., elevated, smaller footprint, or set back from the coast).
22. Use an early flood warning system.
   - Support citizen action groups that alert at-risk property owners during an event, educate residents about evacuation routes, and help residents evacuate prior to an event.
**All-Hazard Mitigation Planning**

- 1. Have a current FEMA-approved All-Hazard Mitigation Plan.
- 2. The All-Hazard Mitigation Plan describes past mitigation efforts (i.e., shoreline stabilization, land acquisition, etc.), along with their costs and effectiveness.
- 3. The All-Hazard Mitigation Plan provides a general explanation of the environmental, social, and economic consequences of failing to address coastal hazards.
- 4. The community acquires repetitive loss structures.
   - The community currently works to acquire them.
- 5. The All-Hazard Mitigation Plan include maps that indicate local coastal hazard risks.
- 6. The All-Hazard Mitigation Plan identifies strategies to manage the following coastal hazards as potential threats:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge
- 7. The All-Hazard Mitigation Plan identifies opportunities to incorporate hazard mitigation into existing planning mechanisms (e.g., land use planning, capital investments, shoreline restoration projects).
- 8. The All-Hazard Mitigation Plan identifies the federally-required update frequency (five (5) years).

**Emergency Response & Disaster Preparedness**

- 1. The community has first-hand experience with disaster recovery within the last ten (10) years.
- 2. The community has a communication system to use before, during, and after a disaster?
- 3. The community has assessed the vulnerability of major evacuation routes to the following coastal hazards:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge
- 4. The community has assessed the location of shelters in relation to coastal hazards, including access considerations:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge
- 5. The community has evaluated their critical facilities, such as hospitals, fire stations, and police stations, for vulnerability to the following coastal hazards including access considerations:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge
- 6. The community’s emergency management staff participates in the community’s comprehensive planning process.
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>The community have a capital improvements plan and equivalent budgetary process.</td>
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<tr>
<td>2.</td>
<td>Professional planners, engineers, and/or certified floodplain managers are involved in the capital improvements planning process.</td>
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<td>3.</td>
<td>The capital improvements plan identify the frequency necessary to update the plan.</td>
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<td>4.</td>
<td>The community has a detailed inventory, including elevations, of the structural components of emergency access routes (e.g., roads, bridges, and culverts).</td>
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<tr>
<td>5.</td>
<td>The community has procedures for regularly examining structural components of emergency access routes for damage.</td>
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<td>6.</td>
<td>Include goals, objectives, policies, and strategies in the comprehensive plan that promote infill outside vulnerable areas.</td>
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<td>7.</td>
<td>When critical transportation infrastructure is repaired, the following are considered to reduce future flood damages:</td>
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<tr>
<td></td>
<td>- Elevating roads above predicted flood levels</td>
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<td></td>
<td>- Moving roads landward as erosion occurs</td>
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<td></td>
<td>- Incorporating future flooding and sea-level rise into culvert size and placement</td>
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<tr>
<td>8.</td>
<td>When upgrading existing community infrastructure, the capital improvements plan considers the impact of the following coastal hazards:</td>
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<tr>
<td></td>
<td>- Coastal erosion and/or shoreline change</td>
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<td>- Sea-level rise</td>
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<td>- Storm surge</td>
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<tr>
<td>9.</td>
<td>When planning new community infrastructure, the capital improvements plan considers the impact of the following coastal hazards:</td>
</tr>
<tr>
<td></td>
<td>- Coastal erosion and/or shoreline change</td>
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<td>- Sea-level rise</td>
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<td>- Coastal flooding</td>
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<td>- Storm surge</td>
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<tr>
<td>10.</td>
<td>The community has a policy that identifies at what point it will stop upgrading existing community infrastructure to withstand increased coastal hazards and sea-level rise (SLR).</td>
</tr>
<tr>
<td>11.</td>
<td>Maps (or other geo-spatial tools like GIS) are used to spatially define the vulnerability of the following to coastal hazards:</td>
</tr>
<tr>
<td>11.1</td>
<td>Roads</td>
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<td></td>
<td>- Coastal erosion and/or shoreline change</td>
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<td></td>
<td>- Sea-level rise</td>
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<td>- Coastal flooding</td>
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<td></td>
<td>- Storm surge</td>
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<tr>
<td>11.2</td>
<td>Public buildings (schools, hospitals, fire stations, etc.)</td>
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<tr>
<td></td>
<td>- Coastal erosion and/or shoreline change</td>
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<td></td>
<td>- Sea-level rise</td>
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<td>- Coastal flooding</td>
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<td></td>
<td>- Storm surge</td>
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<tr>
<td>11.3</td>
<td>Public services and utilizes (wastewater treatment, water distribution, power transmission, etc.)</td>
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<tr>
<td></td>
<td>- Coastal erosion and/or shoreline change</td>
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<td>- Sea-level rise</td>
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<td>- Storm surge</td>
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</tbody>
</table>
1. Potential conservation land acquisitions and easements are assessed for their vulnerability to coastal hazards.

2. Potential conservation land acquisitions and easements are assessed for their natural protective properties, such as storm surge buffer, flood water management, and erosion control.

3. Potential conservation land acquisitions and easements are assessed for their ability to provide long-term suitable habitat.

4. Conservation land acquisition or easement programs within the community direct funding to areas identified as the most ecologically valuable land.
   - 4.1 The community has assessed the future extent of these ecologically valuable areas within the community, with a tool such as the Sea Level Affecting Marshes Model (SLAMM)?

5. The Conservation Element of the Comprehensive Plan:
   - 5.1 Addresses open space conservation as a way to minimize the effect of coastal hazards
   - 5.2 Is regularly evaluated and updated in coordination with the Comprehensive Plan

6. Public open space is maintained in a manner that provides protection from coastal hazards.

7. The Comprehensive Plan designates areas requiring special protection (such as wetlands, beaches, and floodplains).

8. The Conservation Element of the Comprehensive Plan includes coastal hazards and climate change or the comprehensive plan has a sea-level rise (SLR) planning element that addresses potential changes in sensitive areas.

9. The community considers the following threats in the Conservation Element of the Comprehensive Plan:
   - Coastal erosion and/or shoreline change
   - Sea-level rise
   - Coastal flooding
   - Storm surge

10. The community has local ordinances or land development regulations to protect the following from development or disturbance:
    - Dunes
    - Bluffs
    - Eroding Cliffs
    - Wetlands
    - Beaches

11. The General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element in the Comprehensive Plan considers the impacts of coastal hazards (e.g., salt water intrusion) on the availability of freshwater for drinking water and living resources.

12. The community has protective measures in place for aquifer recharge areas, including wells, springs, seeps, lakes, and headwaters.
Economy & Society

1. The community has mapped the vulnerability to coastal hazards of the following:
   - At-risk populations (elderly, low-income, disabilities, etc.)
   - Historical resources (historic district, properties, landmarks)
   - Cultural resources (libraries, museums, archeological sites)
   - Economic resources (business districts, factories, tourism, working waterfronts)

2. The community has an economic development plan or strategy.
   2.1 The economic development plan or strategy identifies economic vulnerabilities due to coastal hazards.

3. The community’s economic base is diversified.

4. Plans or studies describe the cost of damages from previous storms, floods, erosion, or the economic losses due to closures during disaster events and the recovery process?

5. Plans or studies estimate future financial losses that may result from sea-level rise (SLR).

6. The following social systems strongly define your community’s identity:
   - Faith-based networks
   - Cultural heritage/historic districts
   - Neighborhood associations
   - Business-related networks
   - Civic organizations (Kiwanis CLub, Rotary Club, etc.)
   - Universities or colleges
### Agriculture

**GOAL:** Ensure the continued viability of agriculture in the face of climate change through policies and actions that encourage sustainable production, remove barriers to production, promote economic incentives, improve water reliability, and promote best management practices.

- **AG-1** Promote policies that preserve the economic viability of agriculture.
- **AG-2** Continue to meet the water needs of agriculture.
- **AG-3** Promote locally produced foods and goods.
- **AG-4** Align research and extension with climate-related needs of agriculture.
- **AG-5** Maintain or create agriculture purchase of development rights programs.
- **AG-6** Assess opportunities for growers and agricultural landowners to manage land to lessen the impacts of climate change and incentivize those actions.
- **AG-7** Seek a national designation as a critical source of domestic agricultural products.
- **AG-8** Identify and reduce obstacles for enabling urban agriculture, gardening, and other backyard agricultural practices.
- **AG-9** Increase resources for the study and implementation of invasive, non-native pest and pathogen prevention; early detection; and rapid response.
- **AG-10** Promote sustainable aquaculture, perennial crops, diversified farming systems, precision agriculture, and re-con touring field elevations.
- **AG-11** Assess and address public health risks of more frequent and intense high-heat days to agriculture and farm workers.

### Energy & Fuel

**GOAL:** Reduce consumption of electricity and fuel and increase renewable energy capacity to increase resilience, reduce greenhouse gas emissions, and improve emergency management and disaster recovery.

- **EF-1** Promote renewable energy through policies and technological development in order to reduce greenhouse gas (GHG) emissions.
- **EF-2** Advance energy efficiency and conservation through technological solutions, behavioral strategies, and policies in order to reduce greenhouse gas (GHG) emissions.
- **EF-3** Increase accessibility to energy efficiency solutions for limited-income families.
- **EF-4** Increase accessibility to distributed renewable energy technology.
- **EF-5** Utilize renewable and distributed energy technologies for emergency management and disaster recovery.
- **EF-6** Streamline permitting and administrative processes to reduce the soft costs associated with renewable energy technologies.
- **EF-7** Establish financing mechanisms for current homeowners to invest in renewable energy and energy efficiency.
- **EF-8** Build the capacity for distributed renewable energy and energy storage technologies in future building stock.
- **EF-9** Enable grid-independent energy and waste-to-energy systems.
- **EF-10** Enable a fuel-efficient public vehicle fleet.
- **EF-11** Establish a fuel-efficient county and municipal vehicle fleets.
- **EF-12** Promote community use of electric vehicles (EV).
Regional Collaboration & Coordination

GOAL: Strengthen coordination and collaboration on climate change issues by building the capacity to meet evolving needs.

☐ CC-1 Establish and implement a regional communications strategy among business, government, and community leadership.

☐ CC-2 Update regional unified sea level rise projections.

☐ CC-3 Explore opportunities to better coordinate cross-agency and cross-jurisdiction reviews of major infrastructure projects.

☐ CC-4 Continue to provide high-quality implementation support resources for jurisdictions seeking to implement sustainability and resilience measures.

☐ CC-5 Develop and track regional indicators of climate change impacts, emissions reduction, and adaptation action.

☐ CC-6 Create an advisory group composed of organizations that represent the region’s climate work, equitable community development, and vulnerable populations in order to track and share best practices on equitable climate action with the region.

Natural Systems

GOAL: Implement monitoring, management, and conservation programs designed to protect natural systems and the services they provide to society while improving their capacity for climate adaptation

☐ NS-1 Foster public awareness of the impacts of climate change on natural systems and ecosystem services.

☐ NS-2 Promote collaborative federal, state, and local government conservation land acquisition and easement programs.

☐ NS-3 Support regional wildland fire management coordination efforts.

☐ NS-4 Develop sustainable financing for the monitoring, protection, restoration, and management of natural areas and ecosystem services.

☐ NS-5 Identify or create a group to coordinate a plan to create adaptation corridors, living collections, and other approaches to species dispersal and conservation.

☐ NS-6 Conduct a predictive assessment of current and potential invasive species ranges and impacts.

☐ NS-7 Promote the protection and restoration of coastal natural systems and the creation of living shorelines.

☐ NS-8 Support coral reef protection, restoration, and sustainable-use initiatives to help Florida’s sensitive reefs adapt to the changing climate and ocean acidification.

☐ NS-9 Advocate for federal and state funding for applied monitoring and climate-related science, conducted in partnership with the Florida Climate Institute.

☐ NS-10 Examine and propose revisions to environmental regulations to account for the effects of climate change.

☐ NS-11 Identify the effects of climate change on fish populations, the sustainability of key fisheries, and the fishing industry, then develop adaptation plans as needed.

☐ NS-12 Promote the protection, restoration, and creation of freshwater wetlands, open space buffer areas, and connectivity between freshwater and estuarine waters.

☐ NS-13 Develop and implement long-term, sustainable, solutions to beach erosion and sediment supply.

☐ NS-14 Maintain, create, and/or restore urban tree canopy.
Public Health

GOAL: Build capacity to proactively mitigate climate-related public health risks.

- PH-1 Understand and communicate public health risks associated with climate change.
- PH-2 Adopt and update all Florida Department of Health plans to reflect climate and sea level rise impacts on public health.
- PH-3 Adapt federal and state public health resources to support specific community needs.
- PH-4 Reduce extreme heat exposure to promote public health.
- PH-5 Advocate for policy changes and funding for local health departments to collect data more frequently to influence public health plans.
- PH-6 Increase reporting of health data monitoring systems to evaluate emerging diseases related to climate change.
- PH-7 Develop tools to assess the impacts of climate change and sea level rise on existing chronic conditions and to report trends or concerns for action.

Risk Reduction

GOAL: Prepare for the inevitable shocks and stresses through coordinated and interdisciplinary risk reduction and emergency management planning and investment.

- RR-1 Identify and quantify infrastructure and populations at risk to sea level rise and storm surge.
- RR-2 Integrate climate scenarios into emergency planning, evacuation training, and exercises.
- RR-3 Integrate climate vulnerability analysis data, as well as climate adaptation planning and funding, into existing emergency planning and funding documents.
- RR-4 Create and invest in strategic pre-disaster plans for post-disaster recovery.
- RR-5 Identify the most advanced insurance coverage models to reduce exposure in the face of climate-related risks.
- RR-6 Prioritize adaptation investments to reduce the impact of flooding and sea level rise on transportation infrastructure, particularly on evacuation routes.
- RR-7 Ensure local comprehensive plans align with the state Coastal Construction Control Line.
- RR-8 Continue to adopt and update consistent plans at all levels of government in the region that address and integrate mitigation, sea level rise (SLR), and climate change adaptation.
- RR-9 Review the Florida Building Code through the lens of climate vulnerability.
- RR-10 Understand and communicate risk information to all residents.
- RR-11 Promote and leverage existing policies and programs designed to reduce flood risks and economic losses.
- RR-12 Increase long-term community resilience and disaster recovery through distributed renewable energy and battery storage systems.
- RR-13 Use effective social media for emergency messaging, public health updates, and tidal flooding updates.
- RR-14 Encourage individual small business recovery plans and personal home adaptation plans.
- RR-15 Support disaster planning and preparedness training for city and county staff.
- RR-16 Connect with members from highly vulnerable populations to build trust and inform emergency management planning.
- RR-17 Ensure the emergency management definition of “communities at risk” includes economically vulnerable people.
- RR-18 Align and integrate emergency management staff and responsibilities with chief resilience officer roles to bolster long-term plans.
**Civic Engagement**

**GOAL:** Build public awareness of the climate-related risks and opportunities for early, coordinated action to address these risks.

- PO-1 Assess community needs to guide local government communications.
- PO-2 Promote public awareness and understanding of climate impacts, as well as the personal actions and public policy options available to respond to climate change.
- PO-3 Inspire community action to address the causes and impacts of climate change.
- PO-4 Create open data platforms and digital tools.
- PO-5 Create culturally- and linguistically-appropriate information gathering tools and strategies to help inform decision-makers of the priorities and concerns in communities.

**Water**

**GOAL:** Advance the water management strategies and infrastructure improvements needed, in parallel with existing water conservation efforts, to mitigate the potential adverse impacts of climate change and sea level rise on water supplies, water and wastewater infrastructure, and water management systems, inclusive of canal networks, pumps, control structures, and operations.

- WS-1 Foster innovation, development, and exchange of ideas for managing water.
- WS-2 Ensure consistency in water resource scenarios used for planning.
- WS-3 Plan for future water supply conditions.
- WS-4 Coordinate saltwater intrusion mapping.
- WS-5 Maintain inventories of water and wastewater infrastructure.
- WS-6 Develop a spatial database of resilience projects for water infrastructure.
- WS-7 Foster innovation, development, and exchange of ideas for managing water.
- WS-9 Update the regional stormwater rule.
- WS-10 Integrate combined surface and groundwater impacts into the evaluation of at-risk infrastructure and the prioritization of adaptation improvements.
- WS-11 Advance green infrastructure and alternative strategies.
- WS-12 Integrate hydrologic and hydraulic models.
- WS-13 Practice integrated water management and planning.
- WS-14 Advance comprehensive improvements to regional and local stormwater management practices.
- WS-15 Foster scientific research for improved water resource management.
- WS-16 Expand partnerships and resources to further innovation in water resource management.
- WS-17 Advance capital projects to achieve resilience in water infrastructure.
- WS-18 Coordinate innovation and regional funding.
- WS-19 Recognize adaptable infrastructure.
- WS-20 Expand surface water storage.
**Sustainable Transportation**

**GOAL:** Adapt to the impacts of climate change and reduce greenhouse gas emissions by reshaping where and how to build and move from place to place.

- **ST-1** Incorporate unified sea level rise projections, by reference, into all city, county, and regional agency comprehensive plans, transportation and other infrastructure plans, and capital improvement plans.
- **ST-2** Ensure locally produced maps for planning and project documents include the latest storm surge and sea level rise projections.
- **ST-3** Use vulnerability and risk assessment analyses and tools to identify priorities for resilience investments.
- **ST-4** Designate adaptation action areas, restoration areas, and growth areas as a priority-setting tool for vulnerable areas, and as a means to maximize benefits to natural systems while guiding people and commerce to less vulnerable places.
- **ST-5** Ensure beneficial social equity outcomes in considering the impacts of land use policy, public infrastructure, and public service decisions on high-vulnerability populations.
- **ST-6** Develop localized adaptation strategies for areas of greatest climate-related vulnerability in collaboration with appropriate agencies and jurisdictions to foster multi-jurisdictional solutions and maximize co-benefits.
- **ST-7** Incorporate strategies to reduce risk and economic losses associated with sea level rise and flooding into local comprehensive plans, post-disaster redevelopment plans, building codes, and land development regulations.
- **ST-8** Consider the adoption of green building standards to guide decision-making and development and to provide an incentive for better location, design, and construction of residential, commercial, and mixed-use developments and redevelopment.
- **ST-9** Implement best practices for the identification, evaluation, and prioritization of threatened resources to preserve historic and archaeological resources and increase resource resilience.
- **ST-10** Employ transit-oriented developments and other planning approaches to promote higher-density development capable of supporting more robust transit.
- **ST-11** Modify local land use plans and ordinances to support compact development patterns, creating more walkable and affordable communities.
- **ST-12** Develop and implement policies and design standards that recognize the transportation system’s most vulnerable users and incorporate sustainable elements.
- **ST-13** Conduct an assessment of unused or underutilized properties and develop an approach for utilizing such properties that enhances overall resilience goals.
- **ST-14** Adopt social equity policies that support equitable economic growth and increase affordable housing opportunities near critical infrastructure.
- **ST-15** Develop policies to enhance the urban tree canopy to protect pedestrians and bicyclists from heat and pollution exposure.
- **ST-16** Phase out septic systems where necessary to protect public health and water quality.
- **ST-17** Ensure investments reduce greenhouse gas (GHG) emissions and increase the resilience of the transportation system to extreme weather and climate impacts.
- **ST-18** Increase the use of transit as a transportation mode for the movement of people in the region.
- **ST-19** Expand, connect, and complete networks of bicycle and pedestrian facilities, including those supporting access to transit.
- **ST-20** Expand the use of transportation demand management strategies to reduce peak period and single-occupant vehicle travel.
- **ST-21** Address resilience, maximize efficiency, and increase the use of low-carbon transportation modes for the movement of freight in the region.
- **ST-22** Implement transportation system management and operations strategies to maximize the efficiency of the existing transportation system in a coordinated manner across local governments and agencies in the region.
- **ST-23** Use evidence-based planning and decision-making for transportation system investments and management.
**Social Equity**

**GOAL:** Create equitable climate policies, programs, and decision-making processes that consider local socio-economic and racial inequities and ensure all can participate and prosper.

- **EQ-1** Encourage dialogue between elected officials, staff, and socially vulnerable populations about local climate impacts and community priorities to inform leaders of community needs.
- **EQ-2** Integrate social vulnerability data into all local government processes.
- **EQ-3** Support public infrastructure that enables economic mobility, health, and safety for all community members.
- **EQ-4** Address the needs of socially vulnerable populations by engaging existing community leaders and representative organizations in decision-making processes, particularly for critical public infrastructure.
- **EQ-5** Build the capacity of existing and future leaders of socially vulnerable populations to ask, analyze, and communicate about their community’s climate resilience.
- **EQ-6** Partner with intermediary organizations that have deep community ties with socially vulnerable populations to co-create engagement and outreach strategies.
- **EQ-7** Provide equity and social justice training for local government staff.

**Water**

**GOAL:** Establish an economic resilience strategy involving elected and business leadership, inclusive of funding mechanisms to guide, incentivize, protect, and promote public and private investments and the economic integrity of the community.

- **ER-1** Establish a regional economic resilience communications strategy.
- **ER-2** Advance regional resilience infrastructure standards.
- **ER-3** Seek federal and state engagement to develop a resilience strategy.
- **ER-4** Pursue the development of regional water models.
- **ER-5** Integrate resilience and economic development.
- **ER-6** Establish funding strategies to provide for equitable investment.
- **ER-7** Engage in the National Flood Insurance Program (NFIP) process.
- **ER-8** Serve as a model for regional resilience.
- **ER-9** Strive for economic equity in adaptation planning.

**Public Policy**

**GOAL:** Guide and influence all levels of government to address climate change in relevant policies, programs, and legislation.

- **PP-1** Support—at all levels of government—policy, legislation, and funding to reduce greenhouse gas emissions in all sectors, use less energy and water, deploy renewable energy and low-carbon transportation, prepare for and adapt to climate impacts, build community resilience, and study climate and earth science.
- **PP-2** Develop common positions on climate, energy, and resilience issues, and advocate for those positions before state and federal legislatures, regulatory bodies, and the executive and judicial branches of government.
- **PP-3** Urge federal, state, regional, and local partners to prioritize climate change considerations in the planning, construction, and operation of the regional water management and flood control system.
- **PP-4** Participate in coalitions of public-, private-, nonprofit-, and/or academic-sector actors dedicated to climate, energy, and resilience issues.
- **PP-5** Coordinate climate, energy, and resilience policies among counties, municipalities, school districts, and other units of government in the region.
- **PP-6** Prioritize climate policies that advance social and economic equity for high-vulnerability populations and limited-income residents.
- **PP-7** Consider the direct and indirect impacts of projects, policies, and investments on relevant stakeholders.
- **PP-8** Encourage the general public to engage in civic discourse regarding climate, energy, and resilience issues.