

# City of Hudson Climate Smart Planning

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Climate Smart Resiliency Planning Tool is a checklist to identify gaps in a community's planning process.

The Climate Smart Resiliency Planning Tool was used to evaluate opportunities for the City of Hudson to improve its community's resilience to flooding and climate change. The Planning Tool reviews many long- and short- term aspects of storm and climate change preparedness by reviewing City and County planning documents, activities and management. Documents were reviewed, and municipal staff members were consulted in the process of completing the assessment. The assessment and recommendations have been shared through discussions at Common Council meetings.

Municipal staff engaged in the City of Hudson Climate Smart Planning assessment:

Tom DePietro, Common Council President

Rich Volo, Common Council

Michael O'Hara, Conservation Advisory Council

Jonathan Lerner, Conservation Advisory Council

Sheena Salvino, Director of Hudson Development Corporation

The completed assessment and recommendations highlight areas of opportunity for the City of Hudson to integrate flood and climate change preparedness into its municipal operations and planning.

## Areas of Strength

- The Hudson River has played a critical role in the history and culture of the City of Hudson. Recent measures taken by the City have been influential in preserving and fostering this relationship. These include:
  - The preservation of undeveloped shoreline, which is an effective tool for flood resiliency, but is also valuable for open space conservation and recreation. The Henry Hudson Waterfront Park is an excellent example of this practice.
  - Collaborative community organizations that provide resources for the community, such as the Hudson River Estuary Program grant funded Everett

Nack Estuary Education Center. This Education Center will provide interpretive education to the community and support scientist and student driven research.

- The City of Hudson's Community Resilience Building Report (2017) through The Nature Conservancy<sup>1</sup> does an excellent job of identifying climate risks to the community and mapping vulnerable resources and populations in relationship to these risks. The Community Resilience Process also established a core team to engage stakeholders to ultimately implement priority adaptation actions.
- The large and active Conservation Advisory Council meets regularly and has been effective at giving resiliency a platform. The Council was also critical in engaging stakeholders through the Community Resilience Building process.
- Excellent progress has been made in implementing the Local Waterfront Revitalization Program<sup>2</sup>, which addresses many issues that are analyzed by the Climate Smart Resiliency Planning Tool. Of note, the Local Waterfront Revitalization Program plans for development along the Hudson River that will connect people to the river while incorporating floodwater mitigation.

## Areas of Opportunity

- Consider participating in the Climate Smart Communities certification program<sup>3</sup>. The City has already addressed some of the certification requirements, including the Climate Smart Resiliency Planning Tool and the Community Resilience Building Process. **CSC PE7 Action: Climate Smart Resilience Planning (6pts)/ CSC PE7 Action: Climate Vulnerability Assessment (4-16 pts)**. Climate Smart Communities certification grants the City increased access to funding opportunities for implementation of projects.
- The City is currently developing a Natural Resource Conservation Plan, which will include open space plans. This plan could incorporate climate resiliency measures and shoreline, wetland and dune protection and restoration where applicable. **PE6 Action: Natural Resources Inventory (8-10 pts)**.
- Update the City of Hudson Comprehensive Plan (2002)<sup>4</sup> to include climate and flood resiliency measures through land-use planning, development planning and incorporating green infrastructure. **CSC PE6 Action: Comprehensive Plan with Sustainability Elements (3-21 pts)**.
- The City of Hudson Local Waterfront Revitalization Plan makes suggestions of local laws necessary to implement the LWRP. Reconsider implementing Local Consistency Review Laws and Zoning Map and Code Amendments.

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<sup>1</sup> The Nature Conservancy Community Resilience Building Workshop (CRB): [www.communityresiliencebuilding.com/crbworkshopguide](http://www.communityresiliencebuilding.com/crbworkshopguide)

<sup>2</sup> City of Hudson Local Waterfront Revitalization Program: [http://www.cityofhudson.org/document\\_center/Waterfront/884.pdf](http://www.cityofhudson.org/document_center/Waterfront/884.pdf)

<sup>3</sup> Climate Smart Communities Portal: <https://climatesmart.ny.gov/>

<sup>4</sup> City of Hudson Comprehensive Plan: [http://www.cityofhudson.org/document\\_center/Business/126.pdf](http://www.cityofhudson.org/document_center/Business/126.pdf)

- There is an opportunity to officially adopt Columbia County Multi-Hazard Mitigation Plan<sup>5</sup>. The Multi-Hazard Mitigation Plan is multi-jurisdictional and covers the City of Hudson. Having a FEMA Approved Hazard mitigation plan allows the City to receive increased funds under the Hazard Mitigation Grant Program.
- The Conservation Advisory Council may have the capacity to function as or organize a Climate Smart Communities Task Force **PE1 Action: CSC Task Force (20 pts, bronze and silver certification mandatory)** and appoint a Climate Smart Communities Coordinator **PE1 Action: CSC Coordinator (10 pts, bronze and silver certification mandatory)** because of their existing goals of climate mitigation and adaptation.
- The City of Hudson has participated with the Cornell University Climate-Adaptive Design Studio<sup>6</sup> to produce designs for climate resilience and connected waterfront areas. There is an opportunity to incorporate these designs into future projects.

## Recommendations

The Following opportunities emerged under each section of the Climate Smart Resiliency Planning assessment:

### Section 2- Vulnerability and Risk Assessment

- Conduct a formal vulnerability assessment **CSC PE7 Action: Climate Vulnerability Assessment (4-16 pts)** that details the magnitude of consequences associated with past, current and future climate hazards. Include how these events will affect the community's internal operations, public health, environment, economy, and capital and operating costs. Consider using the Department of the State's Asset Inventory Worksheet and Risk Assessment Tool<sup>7</sup>. Ensure that vulnerability and risk assessments are shared with all relevant City officials and emergency manager.
- Train municipal managers on the use of available risk and vulnerability tools. Examples include:
  - FEMA's HAZUS-MH<sup>8</sup>.
  - Flood Insurance Rate Maps.
  - Cumulative Risk Assessments.
- Expand beyond mitigation strategies to include climate adaptation strategies. **CSC PE7Action: Climate Adaptation Strategies (2-8 pts).**
  - Identify and categorize them by type, administration, condition, timing and geography.

<sup>5</sup> Columbia County Multi-Hazard Mitigation Plan: [http://gallatin.yourtownhub.com/wp-content/uploads/2018/10/Columbia-County-HMP\\_Final\\_2018.pdf](http://gallatin.yourtownhub.com/wp-content/uploads/2018/10/Columbia-County-HMP_Final_2018.pdf)

<sup>6</sup> Cornell University's Climate Adaptive Design Studio: <https://landscape.cals.cornell.edu/home/recent-student-work/climate-adaptive-design/>

<sup>7</sup> Department of the State's Asset Inventory Worksheet and Risk Assessment Tool: <https://stormrecovery.ny.gov/community-regions/hudson-valley-and-westchester>

<sup>8</sup> HAZUS-MH: <https://www.fema.gov/hazus>

- Evaluate and prioritize adaptation strategies using metrics, such as strategy cost, feasibility, timing of implementation, efficacy and co-benefits.
  - Consider linking these strategies to capital budget cycles.
- Develop a build-out analysis using existing zoning ordinances and incorporate projected sea-level rise.

### Section 3- Public Outreach and Engagement

- Consider installing high water mark signs at public locations.
- Publicize the availability of floodplain information and coastal erosion maps to insurance agents, real estate agents, lenders, and the community.
- Consider developing public-information plans to provide residents with information about expected inundation areas, evacuation routes and pick up locations, location of severe weather shelters, and location of pet shelters prior to the threat of a storm. **CSC PE7 Action: Early Warning Systems and Evacuation Plans (under review<sup>9</sup>).**
- Inform residents about available disaster resources through City website links, television, radio, social media, etc. **CSC PE9 Action: Social Media (3pts)** Resources could include:
  - ASPCA’s disaster preparedness steps for domesticated animals<sup>10</sup>.
  - FEMA’s “Are You Ready” guide.
  - FEMA’s Coastal Construction Manual<sup>11</sup>.
  - Provide residents with guidance on the development of personal and family evacuation plans or what to include in emergency or evacuation kits (FEMA’s Ready.gov checklist).
- Take steps to ensure that information is shared in multilingual and culturally sensitive ways.

### Section 4- Integration of Municipal Plans

- Revisit the City of Hudson Comprehensive Plan and consider updating it to explicitly include resiliency within the plan’s mission. Adopt the updated plan and enact zoning to comply with these measures.
- Ensure that the City budgets include adequate funds for costs related to adapting infrastructure for greater flood and projected sea-level rise resiliency. Incorporating adaptation consideration into an asset management or capital improvement plan is an ideal method to build resiliency into routine maintenance and upgrades. **CSC PE8 Action: Green Economic Development Plans (4 pts).**
- Officially adopt Columbia County’s Multi-Hazard Mitigation Plan.
- Create a Floodplain Management Plan:
  - Include a Certified Floodplain Manager<sup>12</sup> in the planning process.

<sup>9</sup> Definition of “Under Review”: These actions are currently being reviewed by the Climate Smart Communities interagency team.

<sup>10</sup> ASPCA’s Disaster Preparedness for Domesticated Animals: <https://www.asPCA.org/pet-care/general-pet-care/disaster-preparedness>

<sup>11</sup> FEMA’s Coastal Construction Manual: <https://www.fema.gov/media-library/assets/documents/3293?id=1671>

<sup>12</sup> ASFPM Certified Floodplain Manager Program Information: <http://www.floods.org/index.asp?menuid=426&firstlevelmenuid=180&siteid=1>

- Consider participating in the National Flood Insurance Program<sup>13</sup>, which provides affordable insurance to community members by encouraging communities to enforce floodplain management regulations, thus reducing flood impacts.
- Enact a flood damage prevention ordinance.
- Consider creating a storm water management plan that includes green infrastructure and low impact development regulations to decrease runoff.

## Section 5- Disaster Preparedness and Recovery

- Consider participating in the National Weather Service Storm Ready Community program<sup>14</sup>, which helps communities take a proactive approach to prepare for extreme weather and natural disasters.
- Relay weather threats to the public via multiple forms of communication (website, radio, television, social media, etc.) in addition to developing a formal early flood warning system **CSC PE7 Action: Early Warning Systems and Evacuation Plans (under review)**.
- Take advantage of programs like NY-Alert<sup>15</sup> and FEMA’s Community Emergency Response Team (CERT)<sup>16</sup> training to better prepare for disasters.
- Establish an emergency response or short term recovery plan and/or flood response that includes coastal flooding. The plan could:
  - Identify first responders, a hierarchy of authority during emergencies, and contacts for operators of municipal facilities. Include coordination and communication among critical stakeholders.
  - Include steps for emergency protective measure like sandbagging, erecting warning devices, and search and rescue.
  - Create an organizational framework to conduct a preliminary damage assessment.
  - Designate an emergency operations center and storm shelters outside of flood-hazard areas that have backup power and are designed to withstand high winds.
- Develop an evacuation plan that could include:
  - Clearly defined municipal responsibilities.
  - Multiple evacuation routes with flood-prone areas identified.
  - Identification of vulnerable populations that may require assistance.
- Create a heat-warning system and establish cooling shelters.
- Create a long-term recovery plan with lines of coordination in transitions from the short term plan that:

<sup>13</sup> FEMA’s National Flood Insurance Program: <https://www.fema.gov/national-flood-insurance-program>

<sup>14</sup> National Weather Service Storm Ready Community Program: <https://www.weather.gov/StormReady>

<sup>15</sup> NY-Alert is a New York State service that alerts citizens of hazards and emergencies via email or telephone. <https://nyalert.gov/>

<sup>16</sup> CERT program is offered by FEMA to train volunteers in basic response skills to assist in community disaster relief. <https://www.fema.gov/community-emergency-response-teams>

- Identifies redevelopment opportunities outside of flood-hazard areas or opportunities to retrofit or relocate existing structures or infrastructure in hazard-prone areas.
- Advocates for the use of advisory flood maps to define post-disaster redevelopment building elevations.
- Identifies roles and functions of elected and appointed officials, state and federal agencies, and NGOs in coordination to provide maximum benefit to disaster areas.
- Includes provisions to reduce greenhouse gas emissions from reconstructed areas.

## Section 6- Hazard Mitigation Implementation

- Consider taking the Climate Smart Communities Pledge.
- Create a Climate Action Plan to enact measures and polices to reduce greenhouse gas emissions and increase the community’s resilience to climate change. **CSC PE2 Action: Government Operations Climate Action Plans (12-16 pts) or Community Climate Action Plan (16 pts).**
- Take part in FEMA’s Community Rating System<sup>17</sup> **CSC PE7 Action: National Flood Insurance Program Community Rating System (3-9 pts).**
- Propose retrofitting public infrastructure and critical facilities to withstand flood damage, and provide training in retrofitting flood-prone residential buildings and NYDEC Post Flood Stream Intervention training for appropriate staff<sup>18</sup>.
- Consider utilizing tools such as transfer/purchase of development rights, conservation overlay districts or cluster development, zoning for open or recreational space, protective buffer ordinances, rolling easement, or buyouts of vulnerable properties to manage development in hazard prone areas.
- Support land-acquisition programs to purchase land conservation easements in hazard-prone areas. **CSC PE7 Action: Restoration of Floodplains and Riparian Buffers (2 pts).**
- Engage in shoreline, wetland, or riparian buffer restoration and protection by **CSC PE7 Actions: Restoration of Floodplains and Riparian Buffers (1-10 pts) or PE7 Action: Nature-based Shoreline Protection (under review).**
  - Encouraging sustainable enhanced methods of shoreline protection encouraged through incentives or regulation.
  - Establishing special area ordinances for habitat preservation.
  - Implementing impact fees to pay for restoration and protection efforts.
  - Developing a plan to control invasive species.

<sup>17</sup> FEMA’s Community Rating System is a voluntary incentive program that encourages community floodplain management that exceeds the minimum National Flood Insurance requirements. <https://fema.gov/national-flood-insurance-program-community-rating-system>

<sup>18</sup> NYSDC Post Flood Stream Intervention Trainings: <https://www.dec.ny.gov/lands/86450.html>

- Consider using grant programs such as the FEMA Hazard Mitigation Grant Program, FEMA pre-disaster Mitigation Grant Program, and FEMA Flood Mitigation Assistance Program to implement mitigation projects.

## Potential Funding Sources

- DEC Climate Smart Communities Grant Program: <https://www.dec.ny.gov/energy/109181.html>
- DEC Grant Applications: <https://www.dec.ny.gov/pubs/grants.html>
- DEC Hudson River Estuary Program Grants: <https://www.dec.ny.gov/lands/5091.html>
- FEMA Hazard Mitigation Grant Program: <https://www.fema.gov/hazard-mitigation-grant-program>
- FEMA Pre-disaster Mitigation Grant Program: <https://www.fema.gov/pre-disaster-mitigation-grant-program>
- FEMA Flood Mitigation Assistance Grant Program: <https://www.fema.gov/flood-mitigation-assistance-grant-program>
- HUD Community Development Block Grants: [https://www.hud.gov/program\\_offices/comm\\_planning/communitydevelopment/programs](https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs)
- NYS Department of State Grants (including Local Waterfront Revitalization Program): <https://www.dos.ny.gov/funding/>