

Start with Planning Policy Paper:  
**Planning for Resiliency**

February, 2018

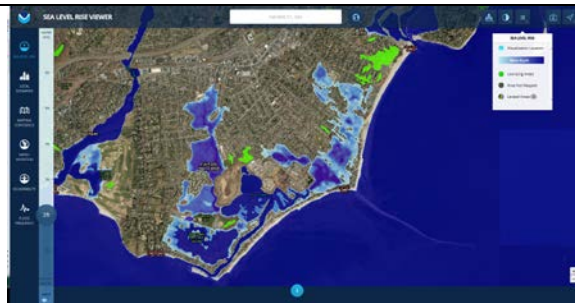
**Abstract**

Storms Irene and Sandy further awakened Connecticut to the need to focus on the state’s natural hazard vulnerability, climate change impacts, and rising seas and to plan for a more resilient future. Climate Change has already impacted the state through warmer water, erratic weather patterns and rising seas that cause tidal flooding in low-lying neighborhoods even on a sunny day. Economic impacts, moreover, are both along the coast (affecting Long Island Sound shellfish and fishery populations) and also inland (affecting agricultural productivity). Undoubtedly, the floods and inundation risks attributable to sea level rise, significant precipitation events and high winds are the state’s most significant vulnerability and the state’s most frequent occurrence hazard, with resulting financial impacts to government and the private sector.

Connecticut’s densest development is located along Long Island Sound, the spines of the Connecticut, Housatonic, and Thames River, and along the area’s extensive wetlands and watercourses resulting in high numbers of structures that house our people, our businesses, and, most importantly, our infrastructure are at great risk. Infrastructure includes not only road networks, but storm and waste water utilities, cable technology, and potable water supply. Economically, our interstate rail and highway networks, coastal airports and port districts are all vulnerable. Connecticut planners can be most effective in responding to Climate Change through carbon reduction strategies and through resiliency plans, community education, and local policies geared towards limiting future loss.



CT Peach crop loss (Hartford Courant 2016)



2' Sea Level Rise Impacts- Fairfield, CT  
 (NOAA Sea Level Rise Viewer)



Surge in tidal marshland areas  
 (Stanford Coastal News July 2013)



## Resiliency Planning Opportunities

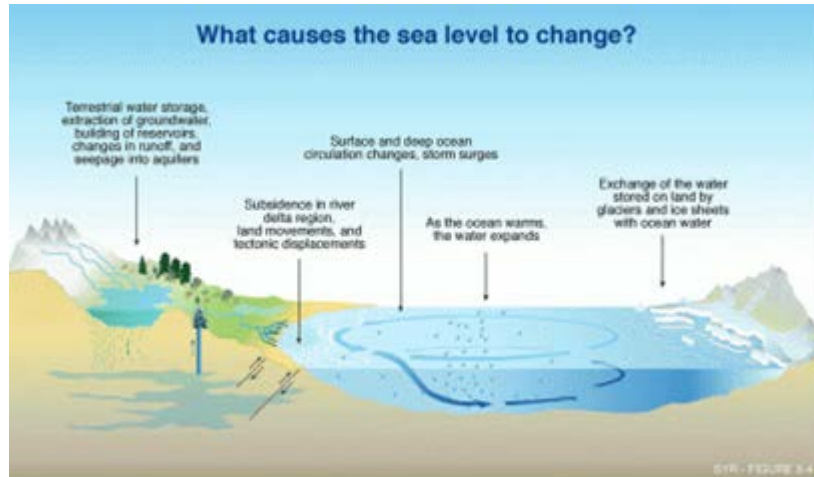
Local and regional planning documents provide the foundation for implementation of resiliency projects, goals and policies that could ultimately result in funding for more focused planning efforts and projects such as acquisition, relocation, elevation or mitigation for infrastructure. The following planning documents provide opportunities to identify risk areas and establish goals to assist communities in their resiliency efforts.

### Hurricane Sandy Impacted:

- 5 counties
- 2 tribal nations
- 12,380+ residents (registered for FEMA assistance)
- \$11.5 million approved for housing assistance
- \$32+ million approved in low-interest disaster loans

### CT Natural Hazard Mitigation Plan Update (2014, p.2)

- **Plan of Conservation and Development (POCD)** - State Statute requires updating local Plans of Conservation and Developments every 10 years and has a mandated sea level rise section for communities adjacent to Long Island Sound. POCDs can include other resiliency discussion as it affects economic development, agriculture, public infrastructure, and housing in vulnerable areas and direct future land use policies to make these areas more resilient. Local planners can also be a partner in including resiliency discussion in Regional POCDs.
- **Hazard Mitigation Plan (HMP)** – HMPs are required for municipalities or regions that pursue federal disaster reimbursement or grant funding and allow for communities and regions to identify and plan for the mitigation of multiple natural hazards including Nor’Easters, ice storms and droughts.
- **Coastal Resiliency Plans** – Several regional councils of government have initiated this effort with their member towns that specifically examines the sea level rise impacts including the Southern Connecticut Regional Framework for Coastal Resilience cited in the references section.
- **Community Rating System Plans (CRS)** – CRS is a voluntary program of the National Flood Insurance Program and can be initiated by local communities or regions to identify efforts to reduce future flood risks through a combination of education and outreach, better floodplain management regulations, implementing best GIS practices, acquisition and open space management in the floodplain, dam safety and management, and storm water information and management. Most importantly communities must develop a Repetitive Loss plan for flood areas that have been damaged by multiple flooding events that shows mitigation progress for these areas over time.
- **Capital Improvement Plans (CIP)** – CIPS serve as a local municipality’s 5-year funding plan for facilities and infrastructure. Planners can review these plans to ensure that additional new public investment is limited in high-risk areas and future funding is promoted to make structures.
- **Transportation Improvement Plans (TIP)** – Housed within regional councils of governments, TIPs represent a 5-year funding plan for local and regional transportation projects. Vulnerable flooding locations, future sea level rise and inundation threats should be part of the discussion to ensure that our at-risk transportation network is resilient from these impacts moving forward. Planners should also review state-funded transportation projects, not included in the TIP, but potentially affected by Climate Change.



***CIRCA forecasts 50 centimeters or 1 foot 8 inches of sea level rise by 2050 and recommends municipalities use this future inundation height for regulatory and planning purposes in high risk flood areas. (October 2017)***

**Connecticut’s Resiliency Education Resources**

Connecticut has initiated several collaborative efforts that assist planning professionals. These include resiliency planning efforts that providing technical data and community education opportunities as well as a pilot project in a few of our major cities that provides an opportunity to see implementation of a resiliency project in person.

- **Connecticut Institute for Resilience & Climate Adaptation (CIRCA)** – Created in 2013, CIRCA is housed at the University of Connecticut and brings together several academic disciplines that can provide the scientific data needed for the state to understand future climate change threats, sea level rise risks, and best resiliency practices moving forward. CIRCA provides a broad range of workshops on projects, planning and new data. <http://circa.uconn.edu/>
- **State Agencies Fostering Resilience (SAFR)** – SAFR is a consortium, originally pulled together in a broad coalition of leaders in state policy and management, transportation, economic development, housing, regional COGS, insurance, law, and academic institutions in order to apply for the National Disaster Resilience Competition project for federal funds for Storm Sandy’s hardest hit communities in Fairfield and New Haven Counties. SAFR continues to provide workshops and education opportunities in resilience and infrastructure opportunities and their pilot project in Bridgeport.
- **UConn Center for Land Use Education and Research (CLEAR)** – CLEAR provides ongoing educational workshops for local environmental protection and land use decision makers through training and workshops in topics such as Climate Adaptation, Green Infrastructure, Coastal Planning, and others.
- **Environmental Protection Agency’s Flood Resilience Checklist** - Take the Flood Resilience Checklist to determine your community’s preparedness for possible floods. <https://www.epa.gov/sites/production/files/2014-07/documents/flood-resilience-checklist.pdf>.

***“One-third of CT’s residents live along the coastline ....with an estimated \$405 billion in insured assets...”***

***The Nature Conservancy’s Coastal Resilience web portal***

## Moving Resiliency Policy Forward

Changing climate threats require updating local, regional, and state land use policies that refocus development in safer areas and – over time – reduce the built environment’s vulnerability in higher risk areas. Planners are at the forefront of revising local land use regulations and policy documents to ensure that they move the state forward towards a safer and more vibrant Connecticut.

- **Regionalize Disaster and Mitigation Planning.** Disasters are not limited to local political geographies and planners need to support broadening the discussion. Recent Regional Hazard Mitigation Plans and Coastal Resilience Plans completed by MetroCOG, Southeastern Connecticut Council of Governments, and the South Central Regional Council of Governments are great examples of positive collaborative planning. The Regional Plan Association (RPA) has recently also suggested a Regional Coastal Commission for resiliency planning for the tri-state area. The Coastal Commission may be one of many avenues to develop a dedicated funding stream and statewide system for project delivery.
- **Prioritize Infrastructure Investment.** Even absent future hazard risks, CT’s aging and outdated infrastructure needs serious attention. The State and municipalities need to do more than maintain legacy systems of infrastructure—roads, bridges, stormwater, sewers, and other utilities. In these political times with diminishing financial resources, agencies need to review the benefits and costs to maintaining infrastructure in areas that maybe not be accessible long-term due to rising sea level.
  - **Municipal Precedents** – The City of Meriden created a public green space that day-lighted the Harbor Brook and much-needed flood storage. The project has spurred additional downtown development and is a highlight for resiliency projects. [http://www.meriden2020.com/Things\\_To\\_Do/meriden-green/](http://www.meriden2020.com/Things_To_Do/meriden-green/). Likewise, the City of Bridgeport, working with the SAFER team, is addressing vulnerable public infrastructure in multiple locations <https://resilientbridgeport.com/>.
- **Include Habitat Protection and Regional Fisheries in Resiliency Planning.** Tidal marshlands are the region’s fishery nurseries and can only be located along our coastlines. As cited in recent collaborative work by The Nature Conservancy, marshlands also act as important buffers to break down wave energy during storm surge events. As seas rise, housing and other non-water-dependent land uses need to be relocated to accommodate marshland advancement and protect our regional fisheries and natural storm surge protection.
- **Protect Tax Revenue by Promoting Expanded Private Investment out of Future Flood Risk Areas.** SAFR’s recommendations (and current housing demand trends) support future economic development activity and alternative housing opportunities in Transit-oriented development areas and higher elevation town centers that are located out of the flood zone or inundation areas. Local zoning regulations need to be revised to support reinvestment in these areas.

- **Buffer High Risk Areas with Green Spaces and Greenway Amenities.** Reduce private risk in these areas by acquiring at-risk properties and creating public open spaces that can absorb flood waters and inundation while providing a community amenity and improving neighborhood quality of life.

### Summary

The damage resulting from Irene and Sandy, coupled with the ongoing impacts of climate change and sea level rise, have collectively raised the profile of resiliency and the need for both private and public investment to address a myriad of impacts. In no uncertain terms, Connecticut faces many challenges due to Climate Change, but these threats also provide unique opportunities to improve our state’s quality of life and further economic development and housing goals while reducing future risk. CCAPA members have assisted in the development of sound planning and conceptual designs for coastal and inland resiliency. With the urgent need at hand, planners are ready to lead the discussion and facilitate efforts on program funding, regulatory alignment and the administrative capacity necessary to carry-out specific projects, particularly for public infrastructure.

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### ABOUT CCAPA AND THE “START WITH PLANNING” INITIATIVE

CCAPA members are deeply passionate about Connecticut and we play a key role in the development, transportation environmental protection of our common home. At this critical moment in the State’s history, CCAPA launched the Start with Planning initiative because we understand the dimensions of Connecticut’s challenges and we embrace a way forward built on core values, a pace of work and the “Team Connecticut” approach. With special attention to the interrelatedness of decisions, social equity and the long-range consequences of our current actions, CCAPA members are well-positioned to facilitate these important local and statewide conversations. For more information on this topic, email us at [info@ccapa.org](mailto:info@ccapa.org)

### REFERENCES

1. APA’s Naturally Resilient Communities Initiative - found at [www.planning.org/nationalcenters/hazards/naturallyresilient/](http://www.planning.org/nationalcenters/hazards/naturallyresilient/)
2. The Nature Conservancy Coastal Resilience Web Portal for Connecticut - <http://coastalresilience.org/project/connecticut/>
3. A Report by the Governor’s Steering Committee on Climate Change, “CT Climate Change Preparedness Plan – Adaptation Strategies for Agriculture, Infrastructure, Natural Resources and Public Health Climate Change Vulnerabilities” – 2011
4. Regional Plan Association, “Coastal Adaptation: A Framework for Governance and Funding to Address Climate Change” – October 2017
5. Regional Plan Association, “Under Water: How Sea Level Rise Threatens the Tri-State Region – A Report of the Fourth Regional Plan” - December 2016
6. SAFR Connecticut Connections, US Department of Housing and Urban Development’s National Disaster Resilience Competition, “The State of Connecticut Phase II Draft Application for Public Comment,” – December 9, 2015
7. Southern CT Regional Council of Governments, the Nature Conservancy, and the CT Metropolitan Council of Government, “Southern Connecticut Regional Framework for Coastal Resilience – Final Report” – June 2017
8. US Environmental Protection Agency, “Flood Resilience Checklist” – July 2014