Why care about Climate Change?

Aquatic systems provide many ecosystem services that directly benefit human health and local economies, but to maintain these essential resources and services, we need to consider climate change as we adapt coastal planning strategies. If we don't prepare for the future, our communities and economies can be unnecessarily damaged by the challenges of climate change. Below are some of the ecosystem services that the Peconic Estuary provides.

• **Protection:** Healthy coastal ecosystems mitigate flooding by buffering coastlines from sea-level rise and storms.

• **Water quality:** Healthy wetlands improve water quality by filtering pollutants, but diminished populations of filter feeding bivalves, such as mussels, clams, and oysters, can negatively impact the water cleaning service that biodiverse communities provide.

• **Fisheries:** The Peconics' diverse assemblage of fish and invertebrates attracts many recreational anglers, sustains commercial fisheries, and provides a healthy source of local nutrition.

• **Tourism:** The natural beauty of the Peconic Estuary and the land within its watershed brings tourists from afar to enjoy the aesthetic beauty and a variety of recreational activities.

• **Climate change mitigation:** Marine ecosystems, such as marshes, actually help to sequester carbon by storing it in the sediment.

Peconic Estuary Partnership Contact Information

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The Comprehensive Conservation Management Plan (CCMP) is a blueprint of goals and actions for the next decade that the Peconic Estuary Partnership has adopted to protect and restore the Peconic Estuary and its watershed. To learn more about PEP's work for climate change, visit our website to view the goals and actions in our CCMP.

peconicestuary.org/ccmp2020/

Peconic Estuary Partnership

Resilient Communities Prepared for Climate Change

PROTECTING AND RESTORING
Peconic Estuary Partnership
LONG ISLAND'S PECONIC BAYS

Helping local communities to take meaningful, well-informed action to prepare for and adapt to climate change impacts in the Peconic Estuary.

Impacts of Climate Change in the Peconic Estuary watershed
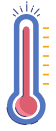
Temperature: Conservative projections for Long Island include air temperature increases from 3°F to 6.6°F by 2050 and ocean temperature increases between 4°F and 8°F over the next century.

Precipitation: More "extreme" precipitation events and more frequent droughts

Sea Level Rise (SLR): Locally, sea level may increase 7 to 12 inches by the 2050s,

Ocean Acidification (OA): The excess carbon dioxide in the atmosphere dissolves into seawater and undergoes a series of chemical reactions. The end result is lower seawater pH, which can harm sea life, particularly shelled organisms such as clams, oysters, snails, and others.

Water quality: Changes in precipitation can transport larger loads of pathogens, pollution, nutrients, and other materials from the land and from overflowing septic systems into our waters, which can cause more harmful algae blooms (HABs), threatening human health.

Marine Habitats: The loss of important marine habitats including seagrass beds, wetlands, and marshes has been linked with climate change. These habitats protect coastal communities from storms and flooding and are keystones of marine ecosystems

Species Diversity and Populations: In general, we expected a range shift of immigrating warm water tolerant species to the estuary and departure of cold water species, which will alter ecosystems

How is PEP planning for Climate Change?

Scientifically informed, proactive efforts can reduce the negative impacts of climate change in resource management and conservation. PEP has completed a risk-based assessment, to account for future sea level rise, storm inundation and erosion potential. As a result, a Climate Ready Action Plan was developed to guide municipalities and resource managers in the Peconic Estuary and the Shinnecock Indian Nation to adapt to the impacts of climate change through the prioritization of climate change risks and vulnerabilities

In 2016, PEP embarked on a Climate Ready Assessment (CRA) Project with Anchor QEA, LLC. to incorporate climate change into an updated **Peconic Critical Lands Protection Strategy (CLPS),** to conduct a risk-based climate change vulnerability assessment, and to develop an adaptation action plan consistent with USEPA's Climate Ready Estuaries Program. This project will result in the protection and acquisition of lands the will continue to preserve and improve water and habitat quality in the face of rising sea levels and increased temperatures. This strategy is included in the 2019 Climate Vulnerability Assessment and Action Plan. A Critical Lands Protection Strategy Criteria and Ranking Tool was also developed and launched in 2021 for municipalities, land stewards, and decision makers to help them decide which lands to acquire and evaluate which climate adaptation strategy is appropriate.

Peconic Estuary PROGRAM

September 2019
Peconic Estuary Program Climate Resiliency Assessment Services

Peconic Estuary Program Climate Vulnerability Assessment and Action Plan

In September of 2019, PEP published the Climate Vulnerability Assessment and Action Plan

What can YOU do?

There are things you can do in your daily life or around your property to minimize your carbon footprint and to mitigate the impacts of climate change.

- Coastal homeowners should consider living shorelines instead of hardened structures at the water's edge
- Reduce emissions by driving less. Instead, try carpooling, biking, walking, or public transportation
- Consider renewable energy sources at home, such as solar panels, and support renewable energy projects, such as wind farms
- Eat sustainably by shopping locally, gardening, composting, choosing organic, prioritizing vegetables, and selecting sustainable seafood (Cornell Cooperative Extension's Local Fish Program at localfish.org)
- Be energy efficient when choosing products. Turn off electronics and lights when not in use.
- Educate your friends, family, and neighbors about how to be environmentally conscious
- Choose sustainble materials like bamboo vs. plastic.
- Reduce, reuse, recycle
- Consume less, waste less