



IMPACTS OF CLIMATE CHANGE

How does climate change impact each item below?

Fish



Rising water temperature can alter the migration and movements of warm-adapted species and cold-adapted species. A range shift of immigrating warm water tolerant fish species to the Peconic Estuary and emigrating cold water fish away from the estuary will alter ecosystem dynamics for native community members.

Houses



Many houses, especially those along the shorelines will be impacted by sea level rise, strong storm surges, erosion and flooding. Many homeowners may have to retreat from the shoreline and many will choose ways to make the shorelines of their properties resilient. Living shoreline approaches are healthier for the environment and are effective for stabilizing the shore.

Turtles like Terrapins



Terrapins rely on eelgrass habitat for foraging. Rising water temperatures and reduced water clarity are contributing to the loss of eelgrass. As sea level rises, sea walls and hardened structures are lining our shorelines preventing terrapins from accessing the beaches for nesting. The gender of turtle hatchlings is dependent on the temperature of the sediment. Increased temperature may favor females & reduce males.

Water (Bays and Oceans)



Increases in precipitation and extreme rain events, will likely lead to increased runoff of nutrients, herbicides, and pesticides to bays and oceans, and may also lead to increased atmospheric deposition. Increases in sea level will likely result in regular inundation of septic systems in coastal communities, either through regular tide cycles or elevation of groundwater level. This will lead to increases in the amount of nitrogen and pathogens transmitted directly to estuarine waters, and further harmful algal bloom events. Water temperatures are projected to increase as well as ocean acidification.

Wetlands and Shorelines



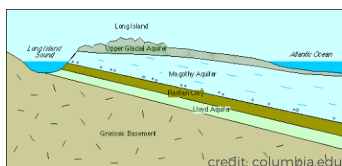
The rate at which the sea-level is rising is making it difficult for wetlands to migrate inshore fast enough. In many cases around the Peconic Estuary low marsh plants are not able to hold their ground and high marsh plants are becoming more dominant in wetlands. With significant coastal development and increased shoreline hardening with sea walls and bulkheads, coastal habitats will be prevented from migrating landwards as sea level rises too. Open access for people to the shorelines also decreases. Climate change is linked to loss of wetlands which provide an important feeding and nursery habitat for wildlife.

Shellfish like Scallops



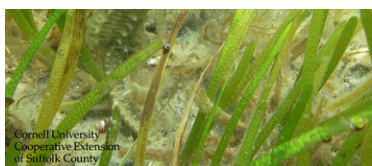
Increasingly acidic oceanic waters limits the ability of calcifying organisms, like shellfish, to build their shells or skeletons. Warming temperature can also be a stressor for these organisms and may change their seasonal behavior.

Groundwater



As sea level rises, groundwater is threatened by saltwater intrusion. The saltwater interface will increase in elevation and will result in the reduction of thickness of the freshwater aquifer system. This is a threat to our drinking water supply and our freshwater fed habitats.

Seagrass like Eelgrass



Research suggests that rising water temperatures and reduced water clarity are contributing to the loss of eelgrass beds which provide an important feeding and nursery habitat for recreational and commercial fisheries.

Birds like Ospreys



Birds' migrating patterns may change as temperatures alter around the globe. Food supply for birds will also alter as ecosystem dynamics change.