

# Waquoit Bay Coastal Training Program

## Plan to Protect: How Coastal Communities can Prepare for Climate Change

### INITIAL SCOPING: A SAMPLE OF SECTORS AND POTENTIAL CLIMATE CHANGE IMPACTS IN THE U.S. NORTHEAST

Sector	Impacts in some regions could include...
Hydrology and water resources	<ul style="list-style-type: none"> <li>-Reduced water quality from heavy rainfall and increased flooding</li> <li>-Variability in amount of water supply dependent upon seasons</li> <li>- Winter and Spring stream flow high with potential for increase in water supply</li> <li>-Summer and Fall stream flow low with potential for decrease in water supply</li> <li>-Increase in frequency of short term droughts</li> <li>-Increase in water demand</li> <li>-Increased salinity in coastal aquifers</li> </ul>
Agriculture	<ul style="list-style-type: none"> <li>-Longer growing season with positive and negative effects on crops</li> <li>-Potential to experiment with new crops</li> <li>-Increased summer heat stress on dairy production</li> <li>-Increase in weed and pest problems with an increase in pesticide and herbicide use</li> <li>-Increase in potential damage to crops and soil from heavy rainfall and drought</li> <li>-Loss of types of cranberries, grapes, apples, etc. due to a shorter chilling period</li> </ul>
Aquatic Ecosystems	<ul style="list-style-type: none"> <li>-Increase stress and potential loss/migration of coldwater fish</li> <li>-Loss of coastal wetlands and habitats from sea level rise</li> <li>-Shift in distribution and range of coldwater fish; especially cod</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>-Loss of habitat</li> <li>-Shift in species diversity; especially among songbirds</li> <li>-Increased competition from invasive species</li> </ul>
Forests [parks, urban forests, etc.]	<ul style="list-style-type: none"> <li>-Decrease in fir and spruce trees for pulp production</li> <li>-Increase in range of invasive species [plants and insects] that affect tree species</li> <li>-Shift in distribution and range of tree species</li> </ul>
Recreation	<ul style="list-style-type: none"> <li>-Significant decrease among winter recreation due to decrease in snowpack</li> <li>-Increased production of snow making at ski/snowboarding resorts; rise in costs</li> <li>-Potential for increase in beach recreation from warmer temperatures</li> </ul>
Energy	<ul style="list-style-type: none"> <li>-Reduced heating use during winter months</li> <li>-Increased cooling use during summer months</li> <li>-Increase in incentives for more renewable energy resources especially solar and wind</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>-Shift in road maintenance from less snow and ice pack to more rainfall/washouts</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>-Increased flooding and water damage especially in Woods Hole and Boston</li> <li>-Increased damage to private property in coastal regions from storm surges</li> </ul>
Coastal resources and ecosystems	<ul style="list-style-type: none"> <li>- Increased salinity in coastal aquifers from sea level rise</li> <li>-Loss of coastline in historic Cape Cod areas</li> <li>-Increased damage and erosion to beaches and dunes from sea level rise</li> <li>-Loss of wetland habitats</li> </ul>
Business	<ul style="list-style-type: none"> <li>-Shifts in employment and business opportunities</li> </ul>
Health	<ul style="list-style-type: none"> <li>-Slight potential increase of Lyme disease from ticks and vector borne diseases from mosquitoes [WNV] as winter and summer temperatures and precipitation increase</li> <li>-Potential increase in paralytic shellfish poisoning from red tides</li> <li>-Potential decrease in winter colds and flu</li> </ul>

	<ul style="list-style-type: none"><li>-Increase in heat stress</li><li>-Increase in air pollution and poor air quality [rise in ozone, pollen, etc.]</li></ul>
Emergency response	<ul style="list-style-type: none"><li>-Increase of emergency response units for elderly population from heat stress</li><li>-Increase of emergency response units for extreme weather events [flooding, storms, heat/wild fires, etc.]</li></ul>