A high-angle aerial photograph of a coastal town, likely Plymouth, Massachusetts. The town is built on a peninsula with a large harbor filled with numerous small boats and yachts. The surrounding land is a mix of green trees and residential buildings. A road runs along the coastline, and a parking lot is visible in the lower right corner.

Climate-Ready Healthy Plymouth

Municipal Vulnerability Preparedness

Public Forum
January 27, 2019



Photo: marinas.com

Introduction



Photo credit: Sky
Skipper Drones

Climate-Ready Healthy **Plymouth**

Municipal Vulnerability Preparedness

Agenda

- Open House-Take a look at all the Plymouth data around you!
- Introduction to MVP
- Introduction to Climate Change and Plymouth
- Introduction to Plymouth Public Health
- Group Discussion-we want to hear from you!
- Closing and Next Steps



Old Colony Planning Council

This study seeks to identify specific and viable long-term **solutions to improve the resilience, vitality, and health of Plymouth.**

Solutions can only be identified if we **clearly define climate change and health challenges** we are trying to solve.

Your on-the-ground knowledge and expertise are critically important to this work. This meeting is a step in the process of defining the problem.



Photo: Mary Fariello Flickr



Project Overview



Photo: Jack Conway Realty



Old Colony Planning Council

Municipal Vulnerability Preparedness (MVP)

2017-2019



State and local partners:

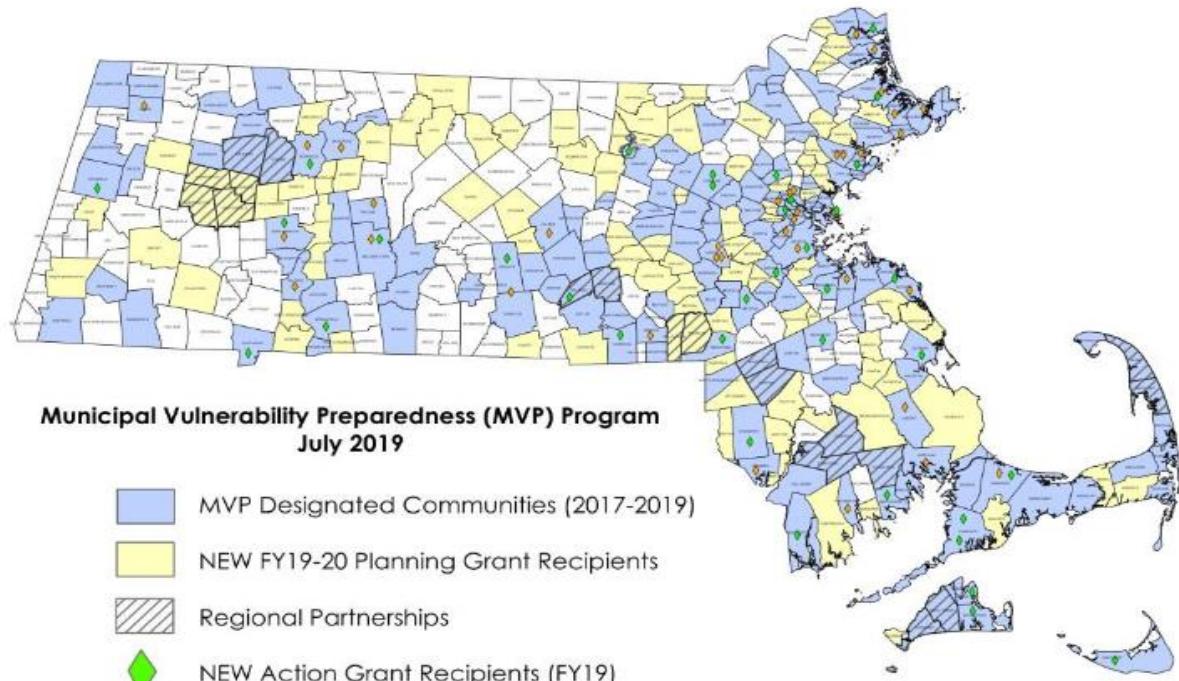
1. Engage Community

2. Identify CC impacts and hazards

3. Complete assessment of vulnerabilities & strengths

4. Develop and prioritize actions

5. Take Action





MAPC Staff



Darci Schofield

Senior Environmental Planner



Jeanette Pantoja

Public Health Planner II



Town of Plymouth Staff

Lee Hartmann

Planning Director



OCPC Staff

Laurie Muncy

Principal Comprehensive Planner



our work

 **MAPC**
METROPOLITAN AREA PLANNING COUNCIL

MAPC works to improve Metro Boston's livability.

...its prosperity, safety, health, climate resilience, equity, natural resources, governance, and neighborhoods. A key way we do that providing technical assistance to our municipalities. Learn here about the wide range of services we provide.

[LEARN ABOUT FUNDING OPPORTUNITIES FOR TECHNICAL ASSISTANCE](#)



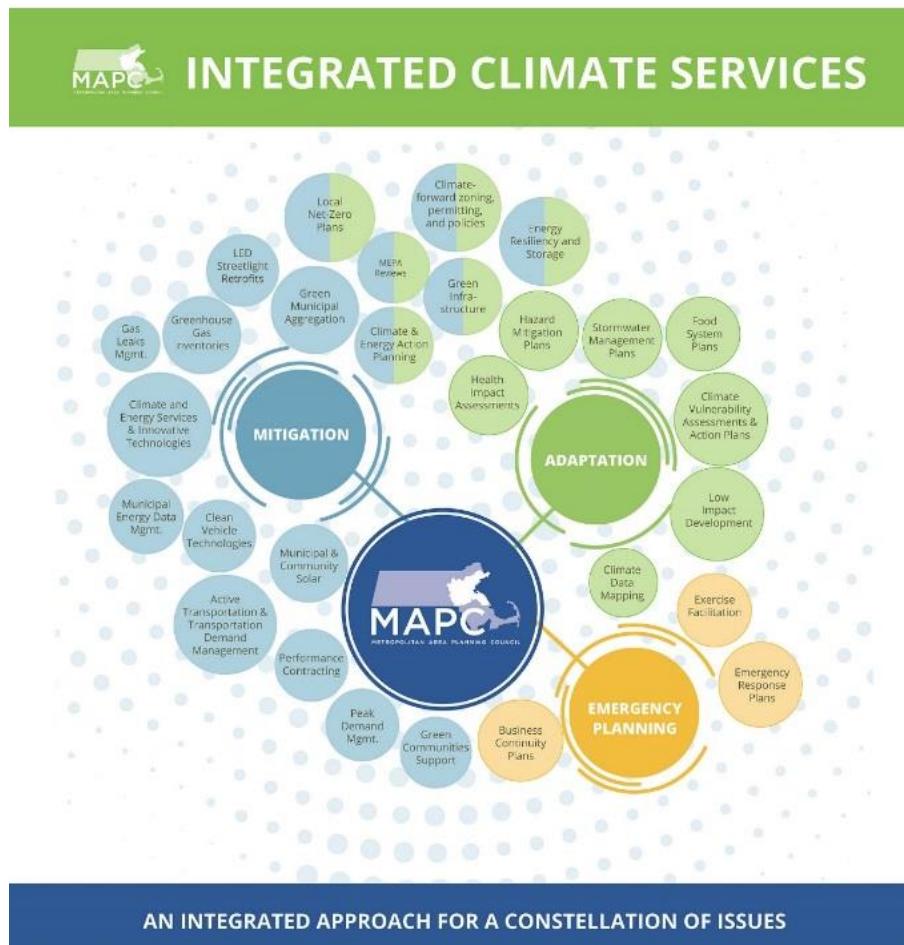
101 municipalities

1,440 square miles

Nearly 3.2 million residents

**1.8 million jobs
(2010 Census)**

Metropolitan Area Planning Council



Old Colony Planning Council



Old Colony Planning Council

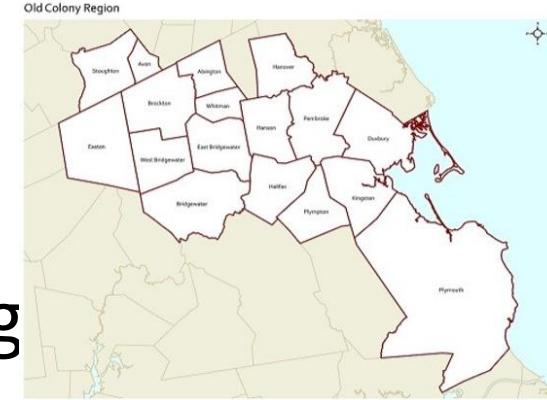
Old Colony Planning Council



Regional Planning Agency

Serving 17 Massachusetts Communities

- Transportation Planning
- Comprehensive Land Use Planning
- Economic Development
- Natural Resource and Environmental Planning
- Massachusetts Environmental Protection Act Review
- Geographic Information System Services
- Area Agency on Aging



Old Colony Planning Council

Core Team Members

Karen Keane

Lee Hartmann

Rich Vacca

Jonathan Beder

Henry Lipe

David Gould

Ken Tavares

Birgitta Kuehn

Malcolm MacGregor

Gerre Hooker

Bill Keohan

Dorie Stolley

Judy Savage

Matt Luongo

Evelyn Strawn

Christopher Moore



Old Colony Planning Council

Public Health

Planning and Development

Conservation

Public Works

Emergency Management

Marine and Environmental

Board of Selectmen

Board of Health

Planning Board

Conservation Commission

Community Preservation

Community Member

Community Member

Wildlands Trust

Community Member

BID-Plymouth

Scope of Work

- **Task 1: Existing Conditions**
- **Task 2: Climate Change and Health Vulnerability Assessment**
- **Task 3: Focus Groups (5)**
- **Task 4: Community Resilience Building Workshop**
- **Task 4: Public Outreach and Forums, Board and Commission Meetings**
- **Task 5: Final Report**

Project Outcomes

Comprehensive Climate Change and Health Vulnerability Assessment Report

Summary of Findings Municipal Vulnerability Preparedness

Community-Vetted Action Plan

MVP Designation-Qualify for State grants for implementation



Task										
	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Task 1 – Existing Conditions										
Task 2 – Comprehensive Climate Vulnerability Assessment and Analysis										
Task 3 – Focus Groups										
Task 4 – Community Resilience Building Workshop										
Task 5 – Final Report and Action Plan										
Public Forums										
Task Force Meetings										

● Task Force Meetings

● Board/Committee Presentations

● Community Open House

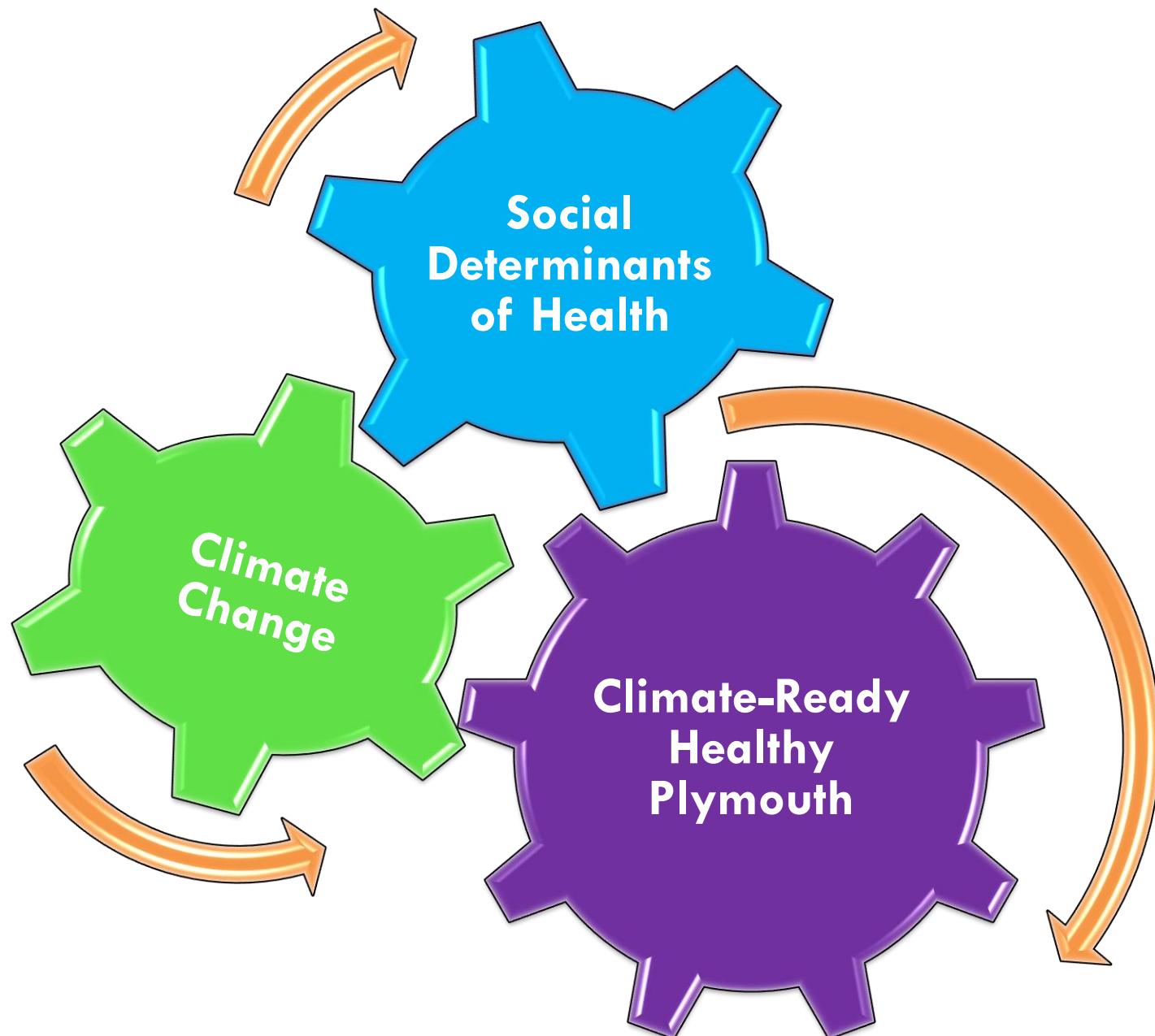
● Community Resilience Building Workshop



Climate Change and Public Health



Why Climate Change and Health?

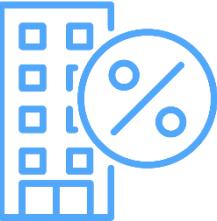


Why Climate Change and Health?



1. Humans have a right to the resources necessary for health.
2. People and their physical environment are interdependent.
3. Climate Change threatens the fundamentals that sustain life and health.
4. Everyone, everywhere is affected.
5. Health risk and impacts of climate change not equally distributed across people, communities, or nations.
6. Climate change exacerbates existing health inequities.



	<u>Transportation/streets</u> <u>Buildings/Infrastructure</u> <u>environmental exposure</u> <u>open spaces</u>
	<u>Formal education in schools</u> <u>Activities in community groups</u> <u>Informal Education</u>
	<u>Income</u> <u>Poverty</u> <u>Unemployment</u>
	<u>Rental/Own</u> <u>Homelessness</u> <u>Affordability</u> <u>Neighborhoods/access to parks</u> <u>Toxic Exposure</u>
	<u>Mental Health</u> <u>Domestic and Self Violence</u> <u>Collective (Large-scale conflict)</u> <u>Repression/Neglect</u> <u>Social Inequality</u>
	<u>Interpersonal</u> <u>Community</u> <u>Society</u>

Health: Plymouth Demographics

Plymouth Recent and Projected Population by Age



In 2030, seniors are projected to be about 30% of Plymouth's total population.

Under 15 years

Low-Income Households

7.5% of households in Plymouth are below the poverty level—lower than the national average

7.1% of households in Plymouth receive food stamps/SNAP benefits

Females over 65
The largest demographic living in poverty

White
The largest race or ethnicity living in poverty

\$83,745 median household income

Income of year-round full-time workers



The average male income is **3.4 times** higher than the average female income.

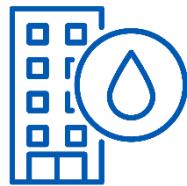
Health: Plymouth County Strengths



86.5% access to exercise opportunities, 86% live within a 10-minute walk to a park.



9.4% food insecurity



0-2% lack internet, proper plumbing or full kitchens.



97% have health insurance, 2nd highest in the state.



373 violent crimes per 100,000 people; has been trending down since 2007.

Health: Plymouth County Challenges



23% physically inactive, 3rd highest in the state.



29% Obesity, second highest in MA, and 11% Diabetes, second highest in MA.



37 drug overdose deaths per 100,000.
2nd highest rate in MA.

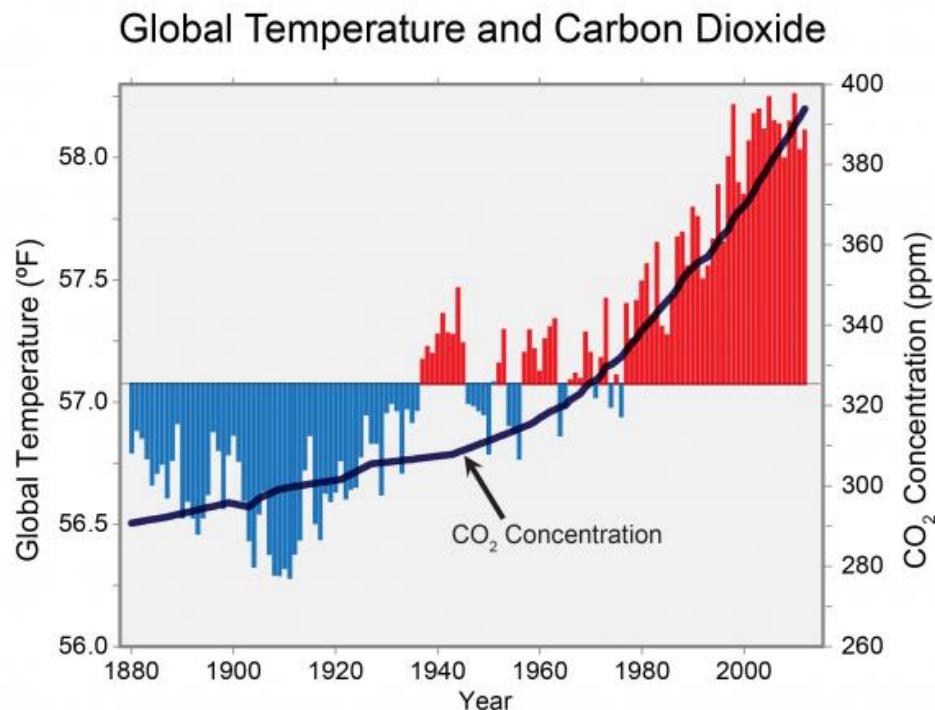
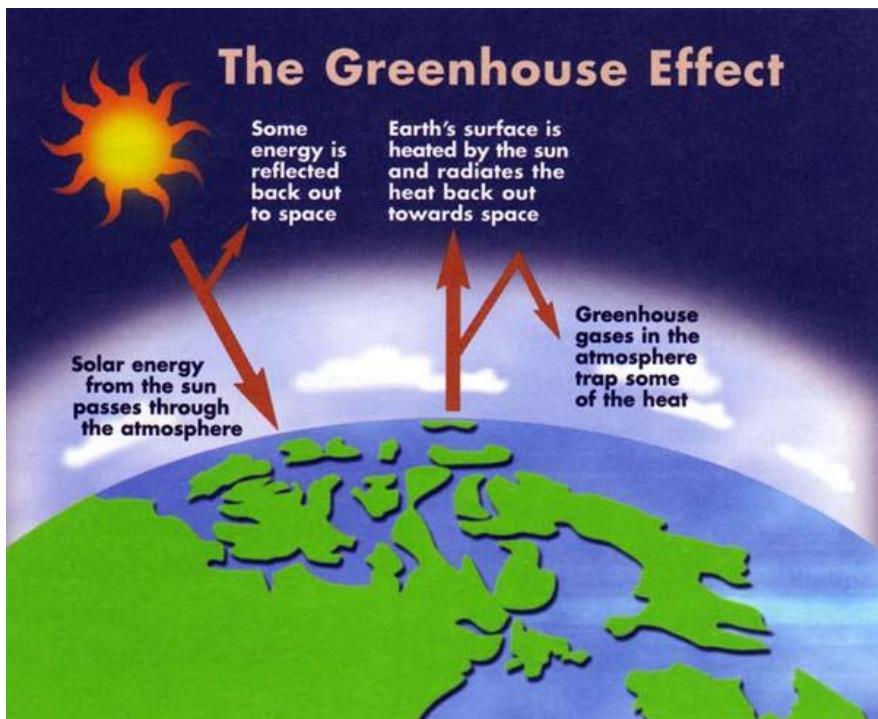


16.2% Adult smoking. 3rd highest in MA.



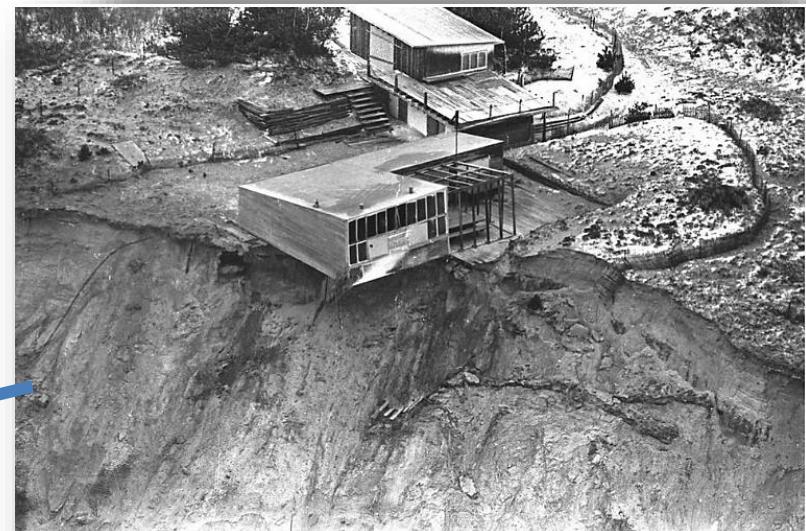
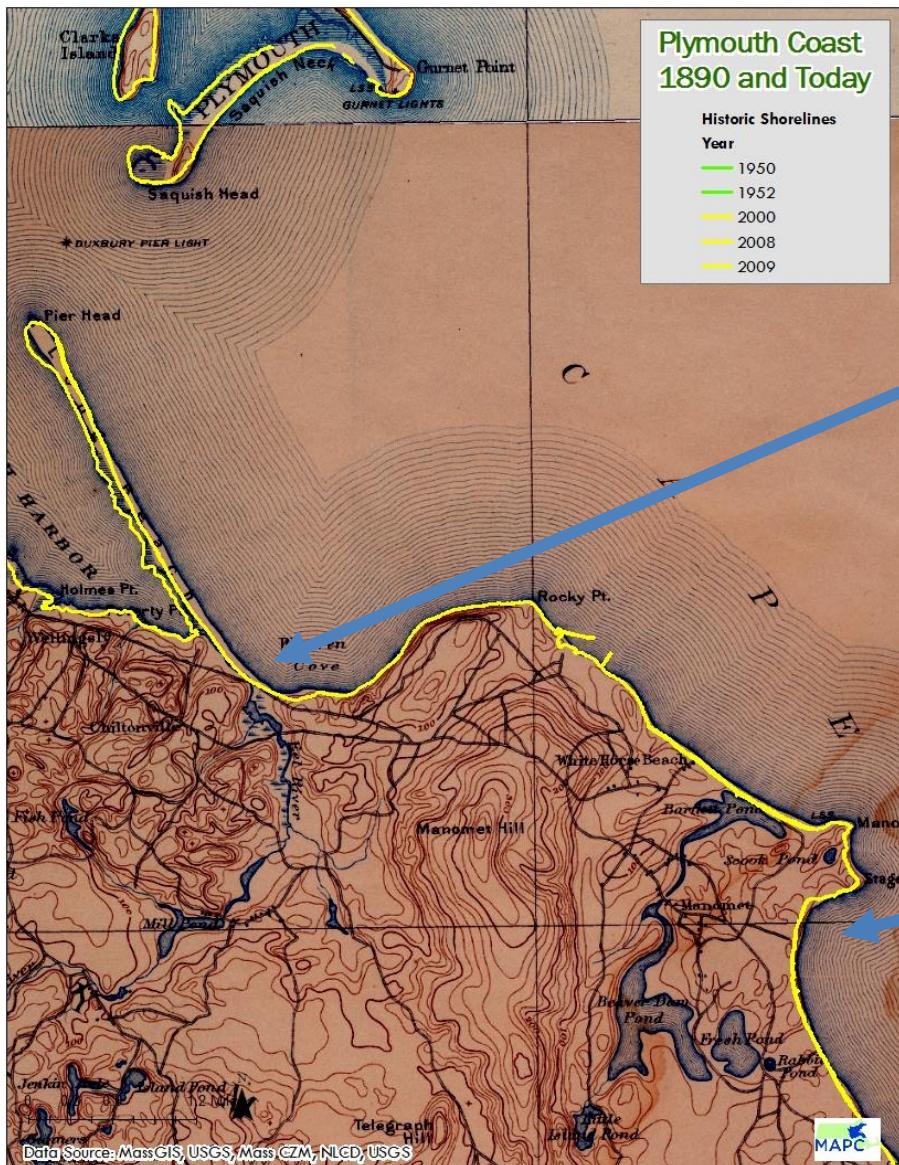
Climate Risk	1900-Present	2050	2100
Sea Level Rise	11" in Boston Harbor	≤4.2 feet	≤7.4 feet
Temperature	2° globally	~22 days over 90°	~50 days over 90°
Precipitation	>10% increase in Boston; 70% increase NE US	10 days with >1" Precipitation Events	1% Chance Storm becomes a 25% Chance Storm

Climate Change: How does it occur?



US National Climate Assessment 2018

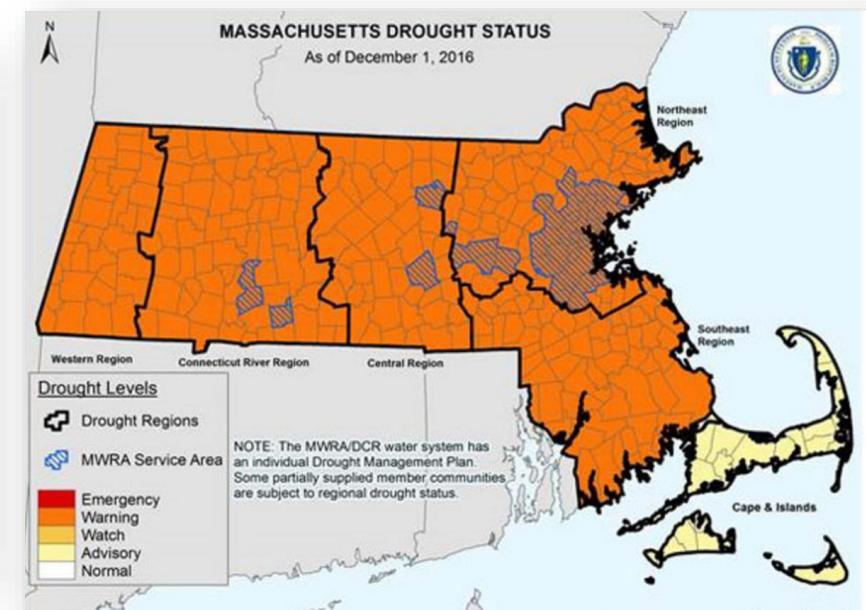
Climate Change: Sea Level Rise



▲ HIDE CAPTION
A house comes close to falling over eroding cliffs into the ocean near Plymouth. Photo by Kevin Cole.

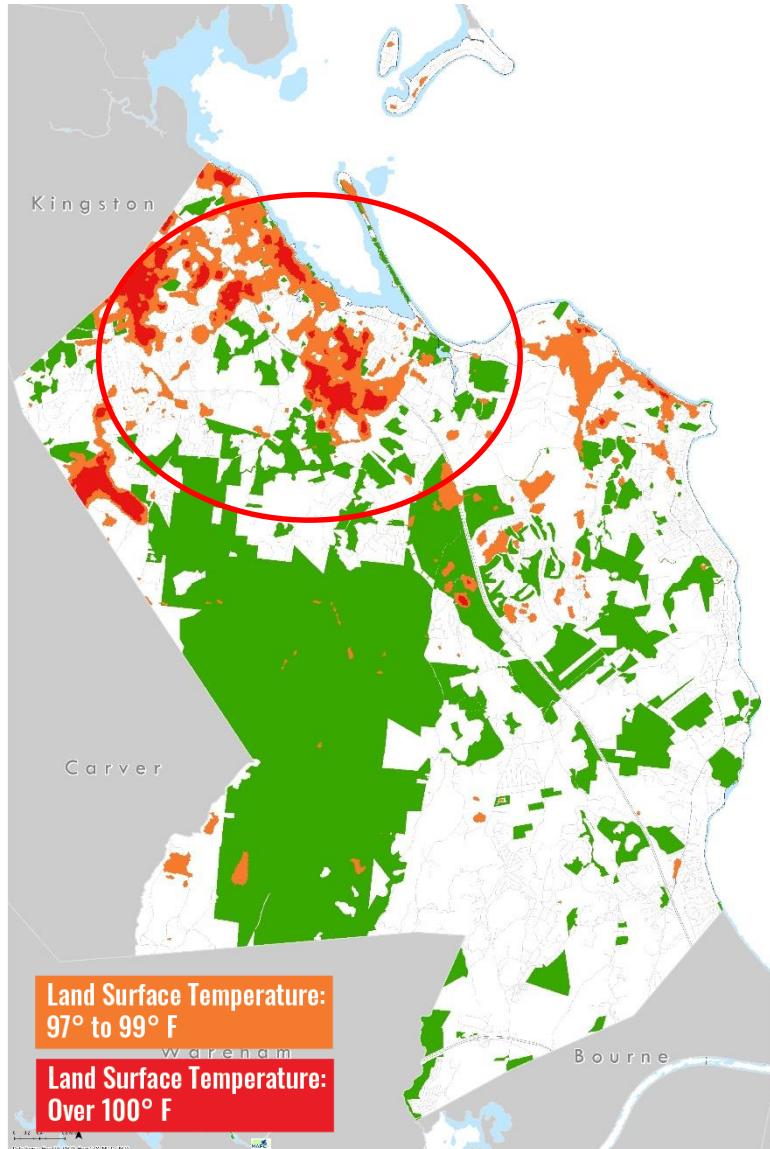
Winter Storm Riley 2018 and Blizzard of 1978. Photo credit Wicked Local Plymouth

Climate Change: Precipitation

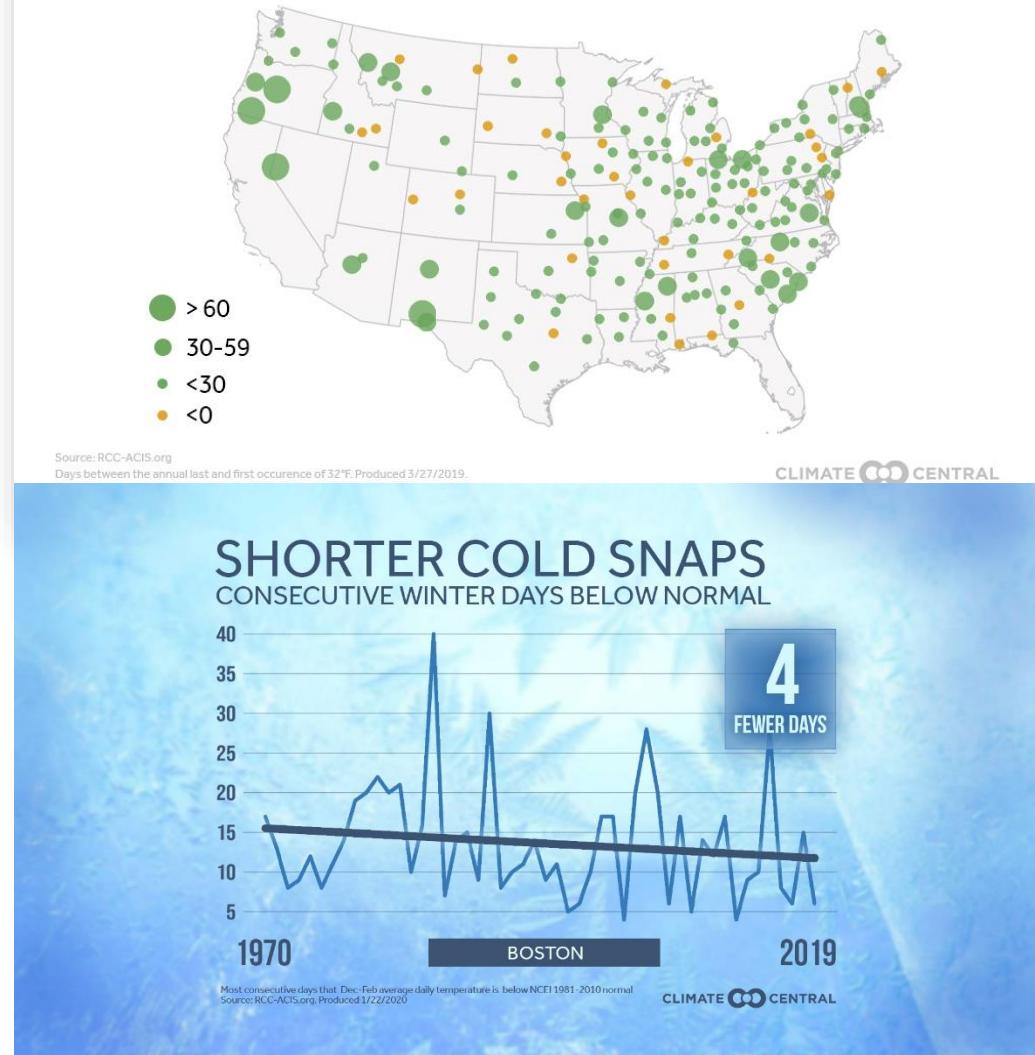


Top Left: July 12, 2019 Source; CBS Boston; Top Right MA Drought 2016 (www.mass.gov); and Myles Standish State Park Fire 1964 (massmoments.org),

Climate Change: Temperature

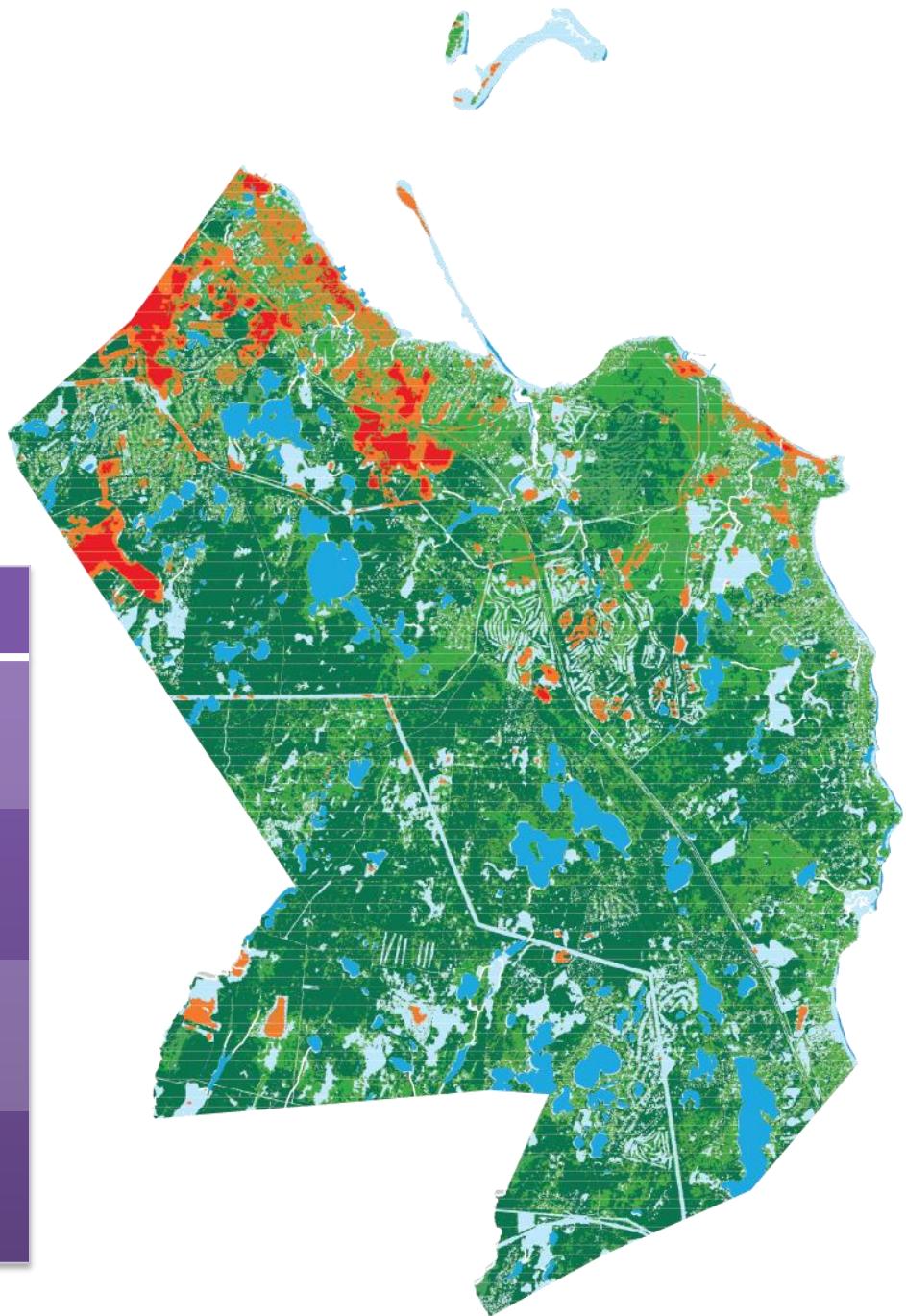


Growing Season Change in Number of Days Since 1970





Tree Benefit	Amount
Total Air Pollution Removal	\$2.4 million/year
Carbon Capture	22,147 ton/year
Transpiration	3,236.1 MG/year
Avoided Stormwater Runoff	\$1.8 million/year





Share Your Experiences



Photo: jessicahiremenblog.com

Share Your Experiences

Option 1: Join our Cell Phone Polling for Live Results!

With your cell phone..

Text “MAPC” to the number 22333

Follow instructions in the next slides ahead.

Option 2: Hate texting?

Answer questions on the back of the agenda!

Either way, we want to hear from you!

WHAT CLIMATE CHANGE IMPACTS HAVE YOU EXPERIENCED OR YOU ARE CONCERNED ABOUT IN THE FUTURE?

WHAT ARE SOME CHALLENGES TO PUBLIC HEALTH TODAY OR IN THE FUTURE WITH CLIMATE CHANGE?

HOW URGENT OF AN ISSUE DO YOU THINK CLIMATE CHANGE IS FOR PLYMOUTH?

- Very Urgent
- Moderate to Very Urgent
- Moderately Urgent
- Moderate to Less Urgent
- Less Urgent

HOW MUCH DO YOU THINK FUTURE CLIMATE CHANGE WILL AFFECT YOU OR YOUR FAMILY PERSONALLY?

A Great Deal
Highly
Moderately
Less Likely
Not at All

HOW MUCH WOULD YOU SUPPORT CLIMATE ACTION BY THE TOWN OF PLYMOUTH?

As much as I can

A lot

A moderate amount

A little

Not at all



Group Discussion



Old Colony Planning Council

Photo: Mary Fariello Flickr

Climate-Ready Healthy Plymouth

Next Steps and How to Stay Involved

- Next Public Forum May 2020
- Question, comments? Contact:

Darci Schofield, MAPC, dschofield@mapc.org

Jeanette Pantoja, MAPC, jpantoja@mapc.org



Photo:

Photo: Mary Fariello Flickr