

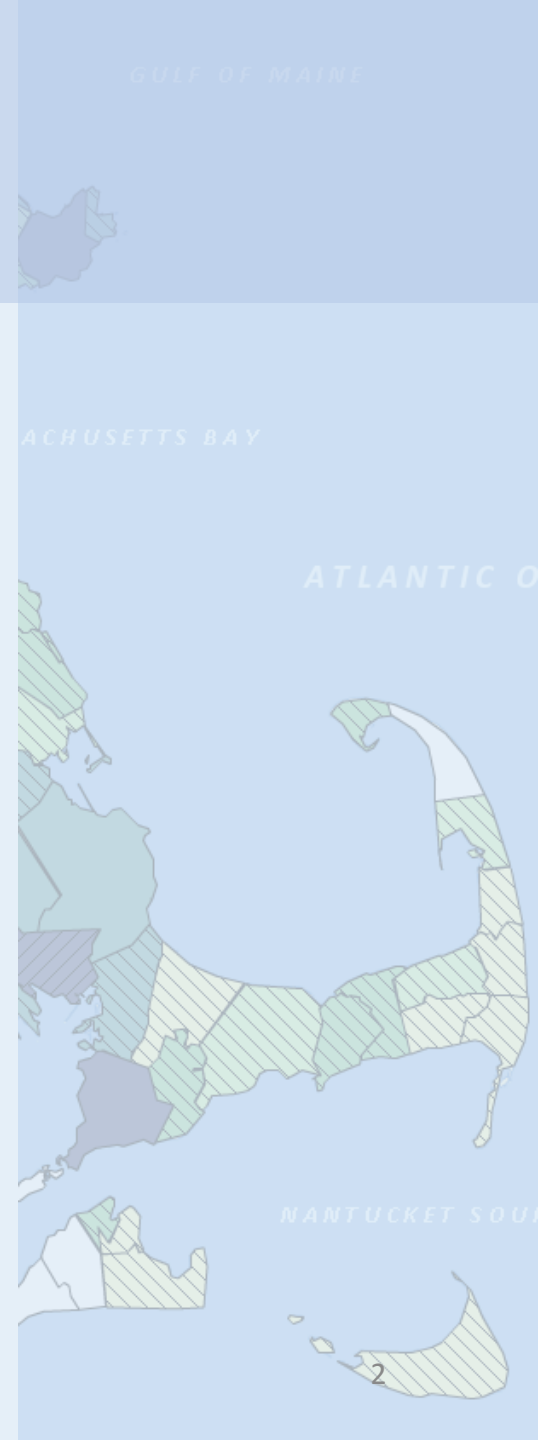
MA Environmental Public Health Tracking

Regional Planning Agency • Healthy Community Design
Climate Change + Health • May 26, 2016
Glennon Beresin, Program Manager EPHT



AGENDA

1. MA EPHT Overview
2. Demonstration
3. Future EPHT Tools

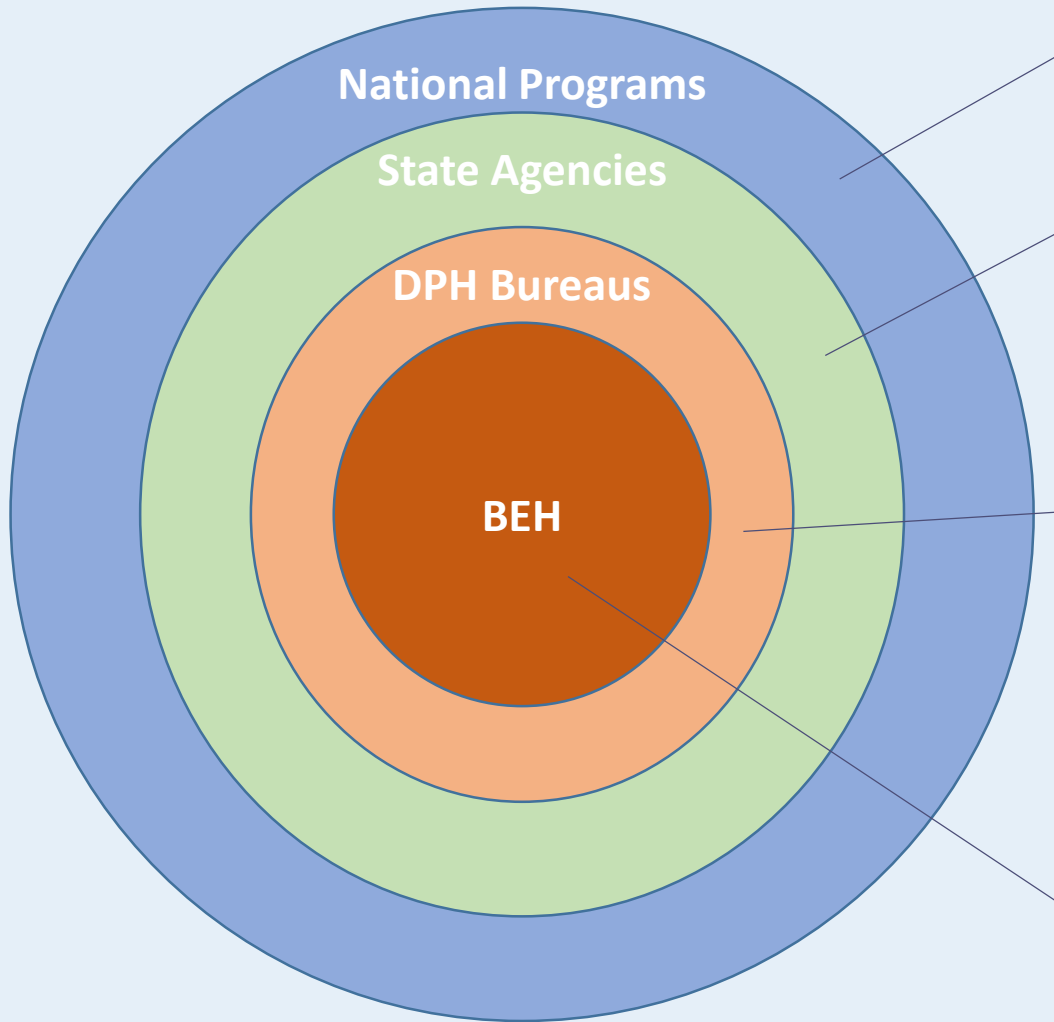


HISTORY

- In 2000, the Pew Environmental Health Commission identified the **lack of basic information** needed to **link environmental hazards and chronic diseases**.
- The MA EPHT is part of the CDC's federal Environmental Public Health Tracking program
- The first EPHT Portal was created in 2008
- The current version went live at the end of 2014
- Now, moving toward a focus on data utilization and enhancements



EPHT is a COLLABORATION



- The Centers for Disease Control
- US Environmental Protection Agency

- Center for Health Information and Analysis
- Massachusetts Department of Environmental Protection

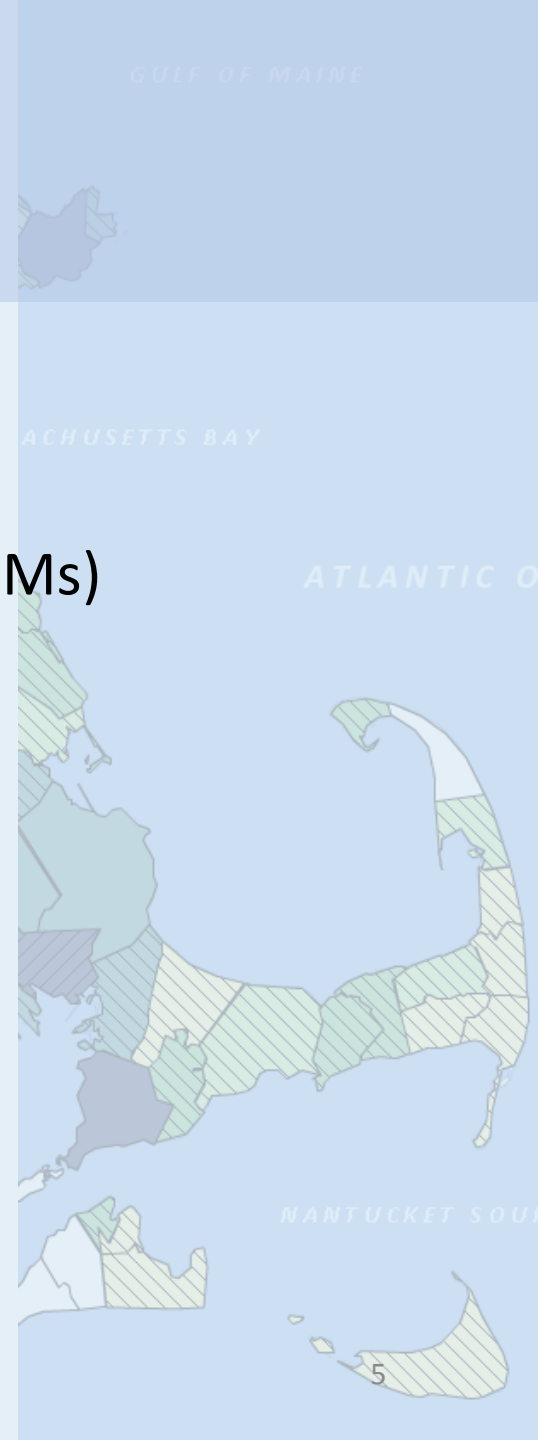
- MDPH Massachusetts Cancer Registry
- MDPH Registry of Vital Records and Statistics
- MDPH Center for Birth Defects
- MDPH Office of the General Counsel
- MDPH Bureau of Community Health and Prevention

- Community Assessment Program
- Environmental Epidemiology Program
- Environmental Health Outreach and Edu Program
- Environmental Toxicology Program
- GIS Center
- Indoor Air Quality

EPHT DATA

What Types of Data?

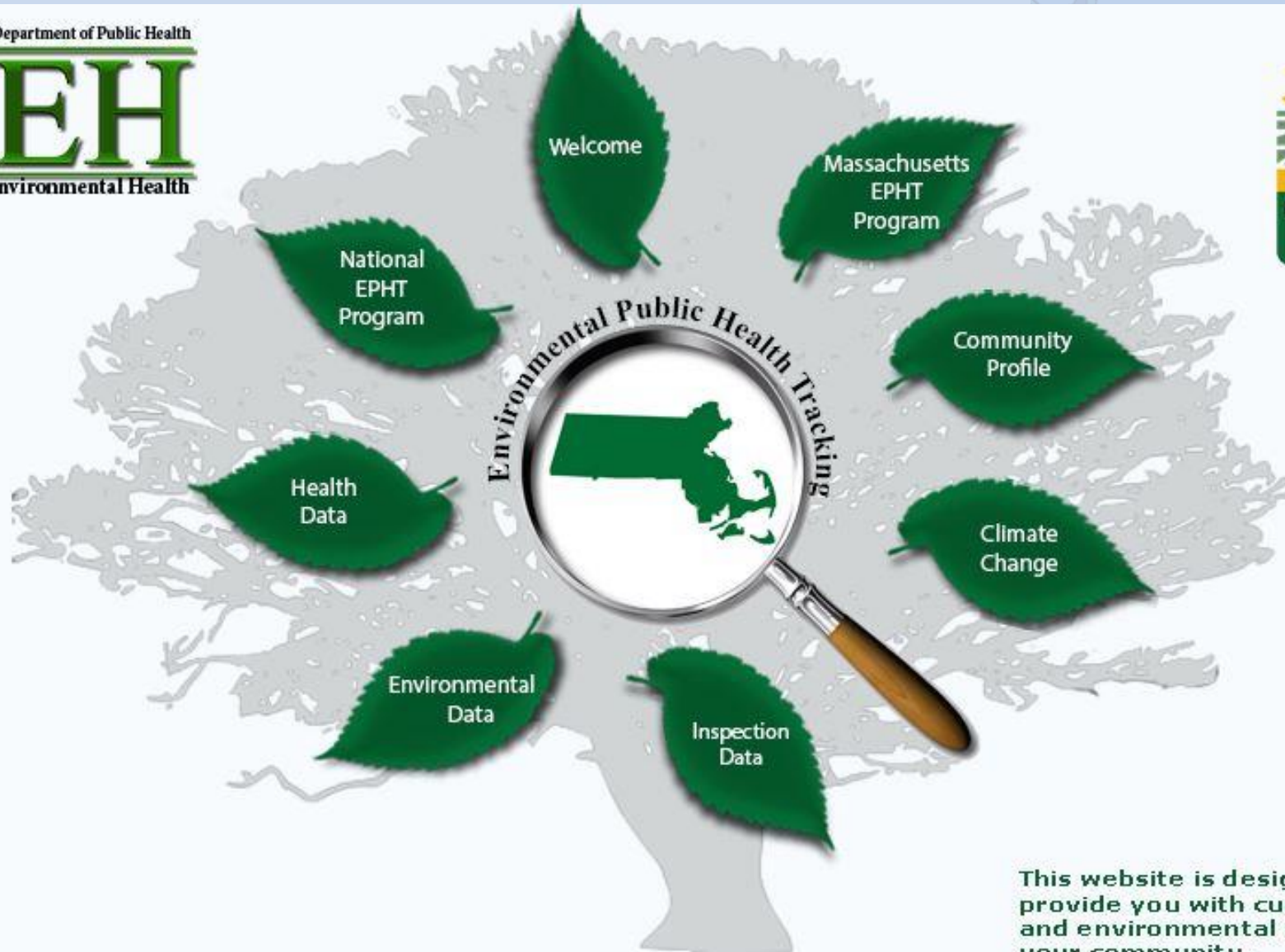
- a. Nationally Consistent Data Measures (NCDMs)
- b. Non-NCDMs



DEMONSTRATION

GULF OF MAINE

Massachusetts Department of Public Health



This website is designed to provide you with current health and environmental data for your community.





Massachusetts Environmental Public Health Tracking



[Home](#)

[About MA EPHT](#)

[Health](#)

[Environmental](#)

[Inspections & Licenses](#)

[Climate Change](#)

[Glossary](#)

Welcome

This website is designed to provide you with the most current and accurate health and environmental information available for Massachusetts. You can use this information to learn about the health and environmental issues in your community.

The MA EPHT Program

Health Data:

- [Asthma](#)
- [Birth Defects](#)
- [Cancer](#)
- [Carbon Monoxide Poisoning](#)
- [Heart Attack](#)
- [Heat Stress](#)
- [Pediatric Diabetes](#)
- [Reproductive Outcomes](#)

- Welcome to MA EPHT
- National EPHT Program
- EPHT In Action
- Success Stories
- Tutorial
- Nurse and the Tracking Network Podcast
- Tracking-related Online Training
- Related Links
- About Our Data
- Contact Us

- [Climate Change](#)
- [Drinking Water Quality](#)
- [Radon](#)

Inspection Data:

- [Food Protection](#)
- [Mammography](#)

"...linking environmental and health data enables a timely response to potential public health problems related to the environment" Former CDC Director Dr. Julie L. Gerberding

Massachusetts Environmental Public Health Tracking (MA EPHT) Program Website

This website provides the most current and accurate health and environmental information available for Massachusetts. You can use this information to learn about the health and environmental issues in your community.

Search

Go

What's New on MA EPHT

July 14, 2015

New content area! Visit our [Radon](#) page for information about radon in Massachusetts.

June 29, 2015

Updated website design has been released. Click [here](#) for additional details.

June 23, 2015

Check out our updated [Climate Change](#) page. We have added a lot of new content including a climate vulnerability mapping tool.

June 5, 2015

MA EPHT has uploaded 2 new years of hospitalization and emergency department data. Data for 2011 and 2012

A key feature of this website is that you can make tables, charts, and maps of environmental and health data for the community that you live in. This website also provides important background information including limitations associated with the data. It is important to stress that the data cannot be used to determine the cause of disease. They can be used to identify areas where public health

CLIMATE

[Skip to main content](#)



Mass.gov



Massachusetts Environmental Public Health Tracking



[Home](#)

[About MA EPHT](#)

[Health](#)

[Environmental](#)

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[Climate Change](#)

[Community Profile](#)

[Glossary](#)

Climate Change

There is widespread agreement among climate scientists that the climate is changing. Massachusetts has been leading the nation in addressing ways to mitigate the effects of climate change by reducing greenhouse gas emissions, building a clean energy economy, and proactively preparing for the public health threats and challenges posed by a changing climate. Massachusetts is already experiencing the effects of climate change from hotter summers and rising sea levels to more frequent severe weather events and inland flooding. Climate impacts are predicted to degrade air quality; compromise infrastructure, homes and buildings; increase the risk of injuries and fatalities from storm events; increase the risk of food and drinking water contamination; and increase vector-borne illnesses. The aftermath of Hurricane Katrina and Super Storm Sandy show how extreme weather events and economic stress can negatively affect mental health by increasing the risk of anxiety, depression, and traumatization.

In general, public health impacts from climate change are predicted to include **increases** in:

- Number of residents experiencing heat stress
- Exacerbation of respiratory and cardiovascular diseases
- Exacerbation of asthma and allergies
- Illnesses associated with degraded water quality
- Geographic range and frequency of vector-borne diseases

Vulnerable populations - especially those with pre-existing health problems (e.g., asthma, cardiovascular disease), limited resources, and in close proximity to areas of greater risk (e.g., flood zones, living on the coast) - are most at risk to climate-related impacts. DPH/BEH is working with local health and municipal partners and other state and federal agencies to address the environmental and community health impacts of climate change. Below is a summary of ongoing efforts at DPH/BEH.

Massachusetts Climate Change Adaption Report

In May 2009, the Secretary of Massachusetts' Energy and Environmental Affairs (EEA) created the Climate Change Advisory Committee, under the authority provided in the state's 2008 Global Warming Solutions Act (GWSA). In addition to requiring targets to

Did You Know?

Beginning in 2008, Massachusetts has made a significant commitment to climate action and clean energy with the passage of five legislative acts: the Global Warming Solutions Act, the Green Communities Act, the Green Jobs Act, the Clean Energy Biofuels Act, and the Oceans Management Act. Massachusetts is also committed to a "Leading by Example" approach to climate action, mandating that state agencies undertake energy efficiency improvements and incentivizing municipalities to do the same.

Search

Go

Climate Change

Climate and Health Profiles

- [Extreme Heat & Air Quality](#)
- [Inland Flooding](#)
- [Sea Level Rise](#)
- [Severe Weather Events](#)

Conceptual Pathways

Vulnerable Populations

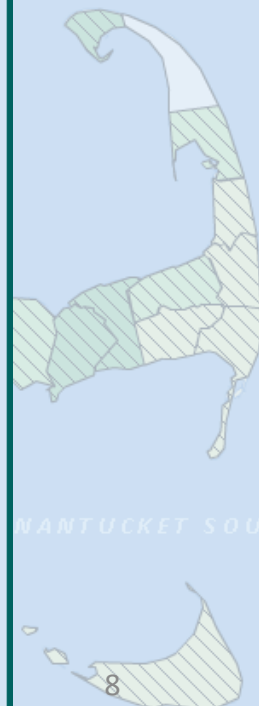
- [Mapping Tool](#)

Maps

- [Flood Zones](#)
- [Heat Vulnerability Index](#)
- [Vulnerable Populations](#)
- [EOHHS Regions](#)
- [EPRC Regions](#)

FAQs

Related Links

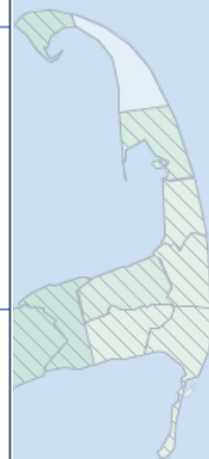


Climate Event/Impact	Risk Factor	Populations at Risk	Vulnerable Infrastructure, Systems, and Physical Features	Near - Term and Longer - Term Health Impacts	EOHHS Regions Affected	EPRC Affected
Increased temperature extremes	<ul style="list-style-type: none"> Extreme heat Extreme cold Air pollution Increase in amount and allergenicity of pollen Longer growing/pollen season 	<ul style="list-style-type: none"> Homes with no AC Urban areas and those without forest canopy The elderly and the very young Non-white races Homeless or transient individuals Outdoor workers, people active outdoors Low income communities Those with compromised immune systems Individuals with pre-existing respiratory and CVD conditions 	<ul style="list-style-type: none"> Heat can cause pavement to expand and soften, which can lead to rutting and potholes Heat can cause rail tracks to expand and buckle Increased energy consumption or overstressing of electrical grid Changes in ventilation heating and cooling loads/fresh air provision Damage to and degradation of building materials Alteration in indoor allergen levels Damage to crops and plants/negative impacts to agriculture 	<ul style="list-style-type: none"> Heat stress/stroke or hyperthermia Cardiovascular stress and failure Heat exhaustion Increases in heat-related mortality, cardiovascular related mortality, respiratory mortality and all-cause mortality Heat related kidney damage Increase respiratory symptoms Damage to lung tissue Inflamed airways Exacerbation of asthma and allergen-mediated illness Exacerbation of COPD Exposure to chemicals from damaged building materials Reduced access to food/malnutrition 	1 2 3 4 5 6	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



Data	Geography	Data Sources	Methods
<ul style="list-style-type: none"> Asthma (inpatient and ED) Myocardial infarction Heat Stress 	Community	Hospitalization data from MDPH/ BEH EPHT Portal ¹	Rate of health outcomes in study area by community for 2008-2010
<ul style="list-style-type: none"> Congestive heart failure Stroke Hypertension 	Community	Hospitalization data from Center for Health Information and Analysis	Rate of health outcomes in study area by zip code for 2008-2010
<ul style="list-style-type: none"> Pediatric asthma Pediatric diabetes 	Grades K - 8 in Community	MDPH/BEH EPHT Portal ¹	Prevalence rates in 2009-2010; 2010-2011; 2011-2012.
<ul style="list-style-type: none"> Adult obesity data Adult hypertension Adult diabetes No exercise 	Community	BRFSS ²	Outcomes for 2009
<ul style="list-style-type: none"> Ozone Particulate matter (PM2.5) 	County	MDPH/BEH EPHT Portal ¹	Number of days over NAAQS and Number of person-days over the NAAQS for for 2000-2011

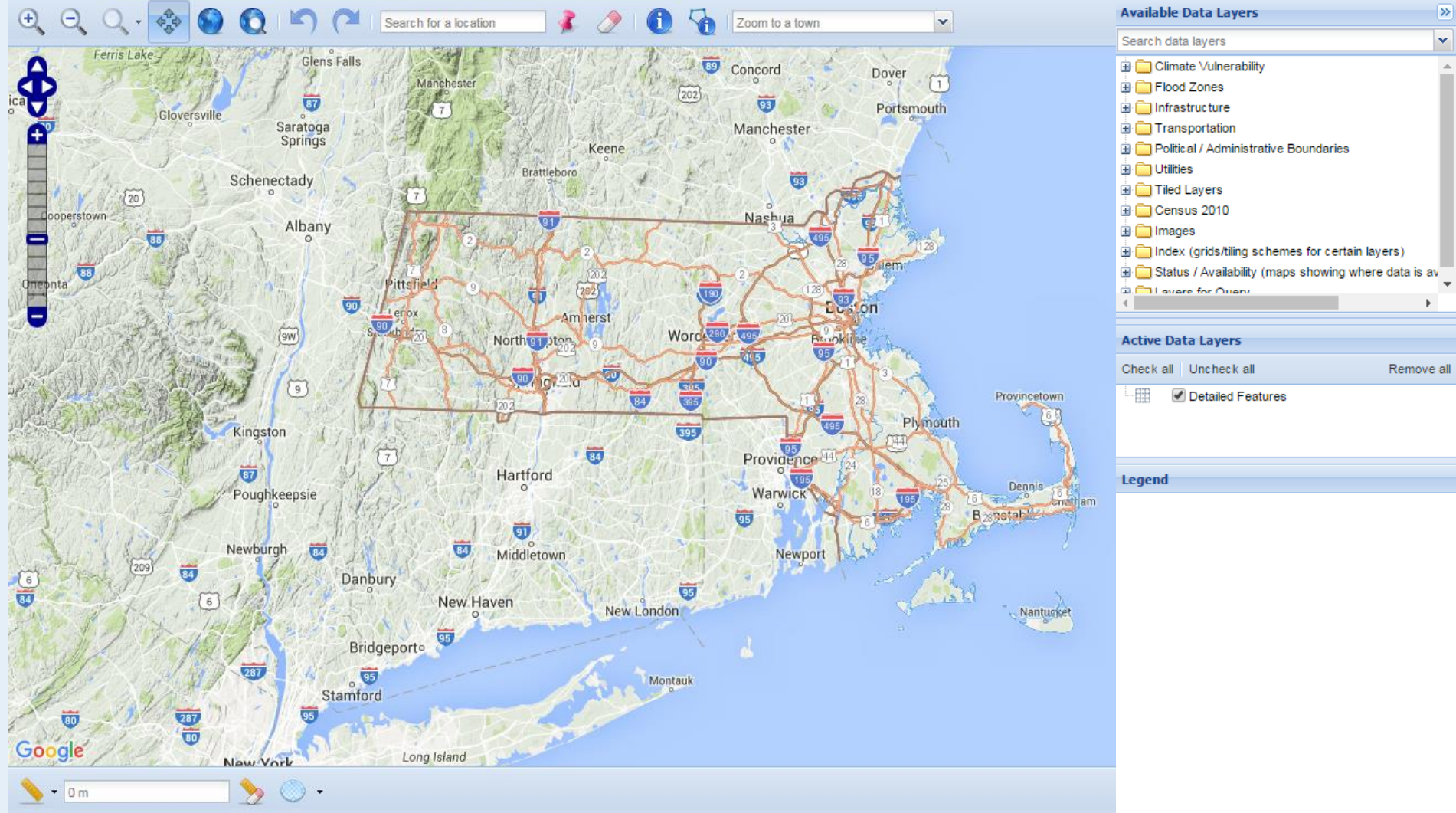
1. Environmental Public Health Tracking portal is a web-based portal housed at MDPH/BEH that contains a variety of data including health data, environmental data, and health promotion information (e.g., bike trails, walking trails)
2. Behavioral Risk Factor Surveillance System is an annual survey of health issues, health conditions, risk factors, and behaviors



CLIMATE

Climate Change Vulnerability Map

Provided by [Massachusetts Dept. of Public Health - Bureau of Environmental Health](#)

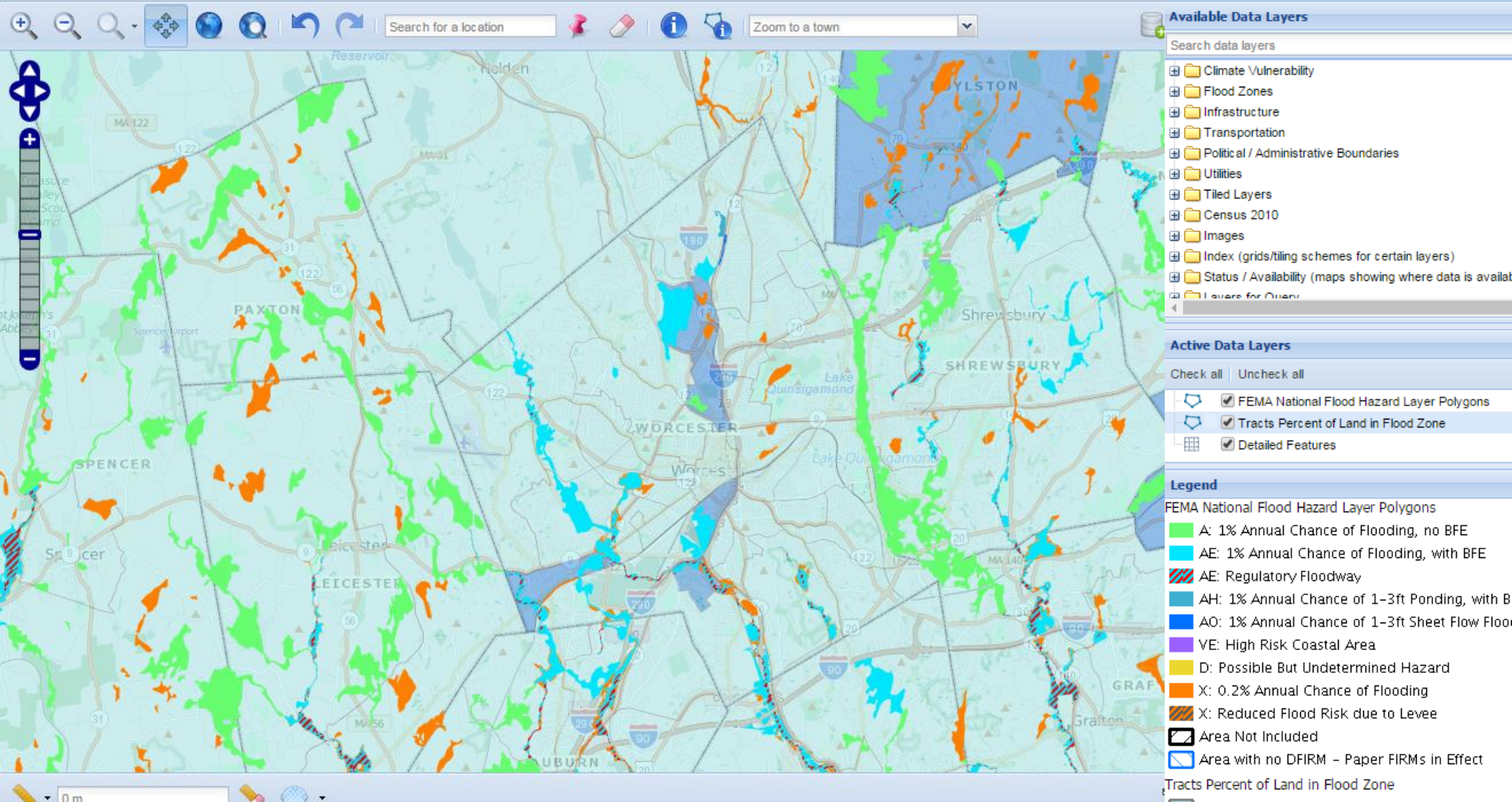


CLIMATE

GULF OF MAINE

Climate Change Vulnerability Map

Provided by [Massachusetts Dept. of Public Health - Bureau of Environmental Health](#)



Asthma

Hospitalization (All Ages)

Pediatric Prevalence

Asthma Overview

Asthma is an illness that affects the respiratory tract and airways that carry oxygen into and out of the lungs. During an asthma attack, these airways constrict, resulting in wheezing and difficulty breathing. Asthma can affect people of all ages. However, it often starts in childhood and is more common in children than adults.

Asthma is a common chronic disease that continues to increase in prevalence. It is the most common chronic disease in children. The state of Massachusetts has an elevated rate of asthma compared to the national prevalence rate.

Causes of asthma are unknown. However, episodes of asthma (asthma attacks) can be triggered by certain environmental pollutants such as air pollution, mold, pets/pet dander, and dust mites. A number of studies have reported links between exposure to air pollution and asthma. Reducing exposure to these pollutants can help prevent symptoms. Other factors are also linked with asthma. Therefore, when comparing asthma rates across geographic areas, factors such as access to medical care and health behaviors (e.g., diet or exercise) must also be considered. The Massachusetts Department of Public Health (MDPH) participates in two programs associated with tracking asthma rates in the state.



Asthma hospitalization

Hospitalization resulting from asthma occurs regularly and often when unnecessary. Contributing factors include uncontrolled asthma conditions, limited access to health care services, and/or inadequate medical treatment practices.

Data on hospitalization visits are collected by the Massachusetts Center for Health Information and Analysis (CHIA) from all acute care hospitals and satellite emergency facilities in the state. CHIA collects information on all inpatient hospital admissions and emergency department (ED) visits.

MDPH analyzes these data and provides asthma hospitalization rates for adults and children of all ages for both inpatient hospital admissions and ED visits. Some asthma patients enter the hospital through an ED, but are later admitted to the hospital as inpatients. These patients are included in both the ED visit and inpatient hospitalization rates.

Pediatric asthma tracking in elementary and middle schools

Asthma is a chronic disease that most commonly starts during childhood. To track asthma prevalence among children in Massachusetts, a state-wide surveillance program was implemented with participation from public and private schools serving grades

Search

Go

[Asthma](#)[FAQs](#)[Related Links](#)

ASTHMA

GULF OF MAINE



Massachusetts Environmental Public Health Tracking



Content Area

Select a Topic:

*

- ☒ Asthma
- ☐ Carbon Monoxide
- ☐ Heat Stress
- ☐ Myocardial Infarction

Select a Sub-Topic:

*

- ☐ Emergency Dept Visit
- ☒ Hospital Admission

Geography Type

Select Geography View:

*

- ☐ State
- ☐ County
- ☒ Community
- ☐ EP Region
- ☐ EOHHS Region

*

- ☒ Abington
- ☒ Acton
- ☒ Acushnet
- ☒ Adams
- ☒ Agawam
- ☒ Alford
- ☒ Amesbury
- ☒ Amherst
- ☒ Andover

[Select all](#) [Deselect all](#)

Year Range

Select Year or Year Range

From:

* 2000 ▼

To:

* 2010 ▼

Demographic Information

Select Rate Type:

*

- ☒ Separately by Age Group *
- ☐ All Age Groups Combined (age-adjusted)

* Mapping is disabled when viewing data separately by age group.

Select Age Groups:

From:

* 35 to 64 Years ▼

To:

65 and over ▼

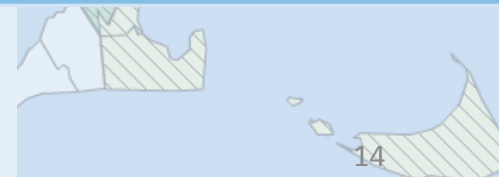
Select Sex:

*

- ☐ Male
- ☐ Female
- ☒ Total

Cancel

Submit



ASTHMA

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Select Geography:

- ☒ Abington
- ☒ Acton
- ☒ Acushnet
- ☒ Adams
- ☒ Agawam
- ☒ Alford
- ☒ Amesbury
- ☒ Amherst
- ☒ Andover
- ☒ Aquinnah
- ☒ Arlington

[Select all](#) [Deselect all](#)

Select Time Period:

From:

2000

To:

2012

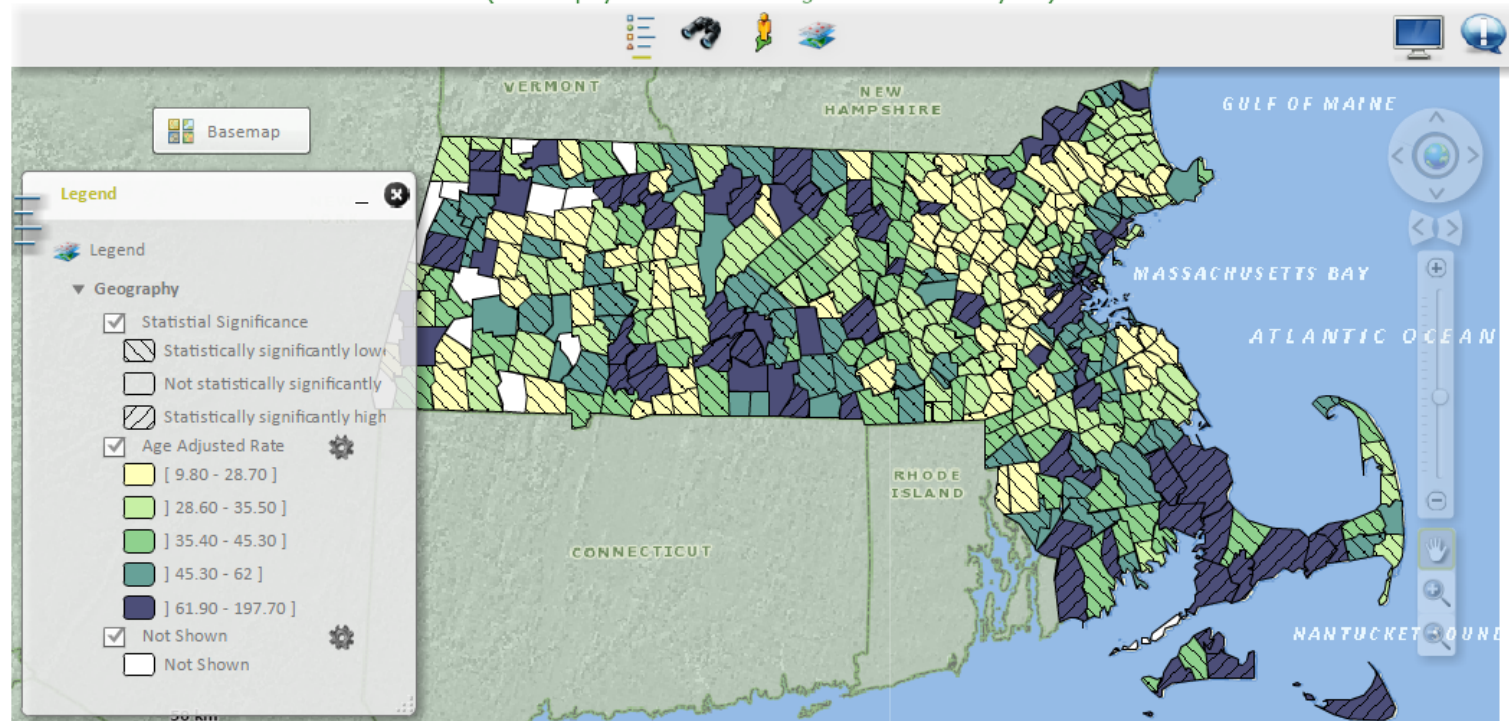
Select Sex:

- ☐ Female
- ☐ Male
- ☒ Total

Submit

Age Adjusted Rates of Emergency Dept Visit for Asthma per 10,000 People, for Males and Females Combined for 2000 - 2012 *

(rates displayed are annual averages for the selected years)



ASTHMA

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Select Geography:

- ☒ Abington
- ☒ Acton
- ☒ Acushnet
- ☒ Adams
- ☒ Agawam
- ☒ Alford
- ☒ Amesbury
- ☒ Amherst
- ☒ Andover
- ☒ Aquinnah
- ☒ Arlington

[Select all](#) [Deselect all](#)

Select Time Period:

From:

2000

To:

2012

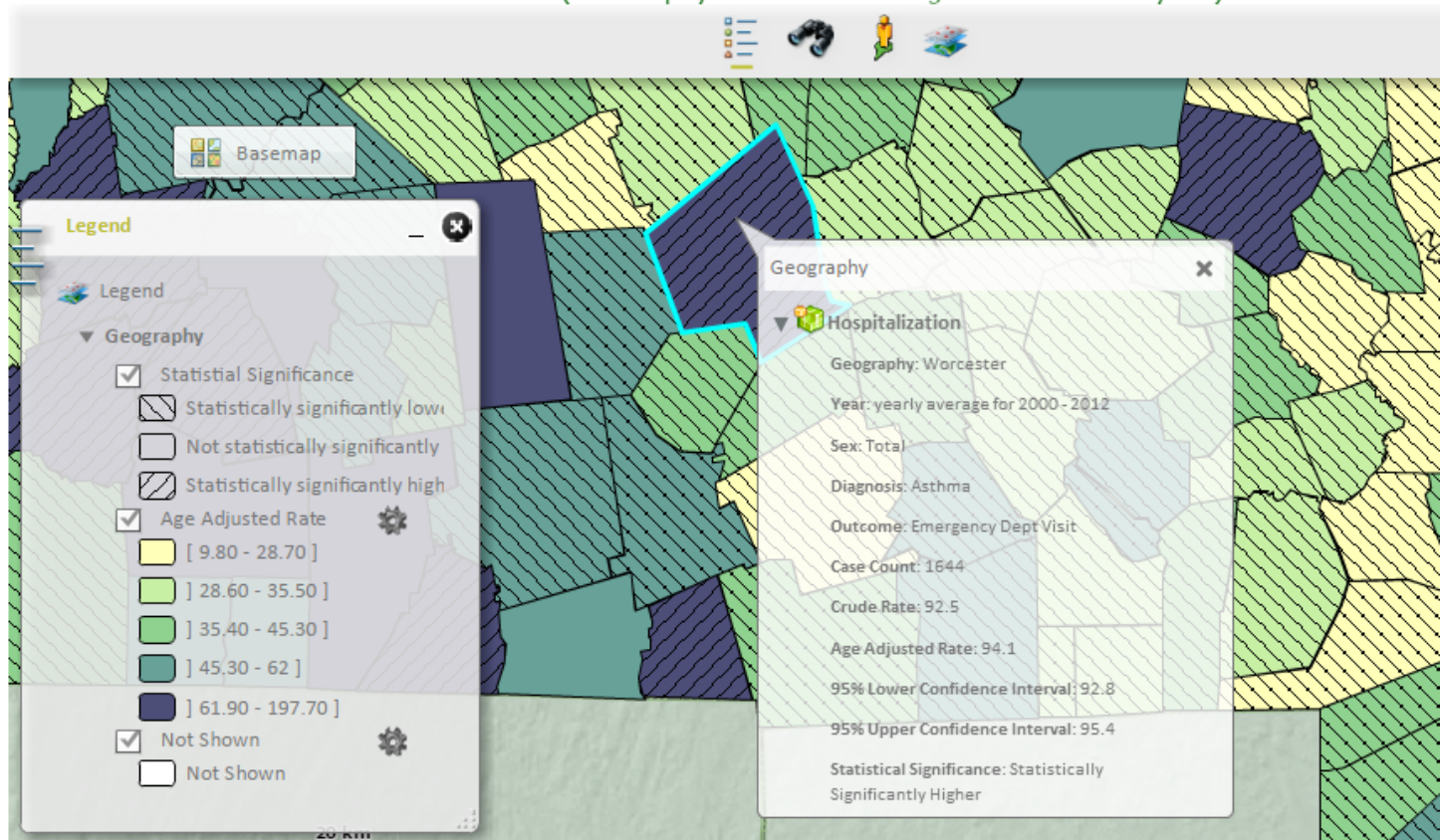
Select Sex:

- ☐ Female
- ☐ Male
- ☒ Total

Submit

Age Adjusted Rates of Emergency Dept Visit for Asthma per 10,000 People, for Males and Females Combined for 2000 - 2012 *

(rates displayed are annual averages for the selected years)



ASTHMA

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Select Geography:

- ☒ Abington
- ☒ Acton
- ☒ Acushnet
- ☒ Adams
- ☒ Agawam
- ☒ Alford
- ☒ Amesbury
- ☒ Amherst
- ☒ Andover
- ☒ Aquinnah
- ☒ Arlington

[Select all](#) [Deselect all](#)

Select Time Period:

From:

To:

Select Sex:

- ☐ Female
- ☐ Male
- ☒ Total

Select Age Groups:

From:

To:

Submit

Crude Rates of Hospital Admission for Asthma per 10,000 People, for Males and Females Combined for 2000 - 2010 *

Abington

Year	Age Group	Case Count	Crude Rate	95 % Confidence Intervals	Statistical Significance of Difference from State Prevalence
2000	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2001	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2002	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2003	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2004	35 to 64 Years	11	17.2	7.0 - 27.4	Not statistically significantly different
	65 and over	NS	NS	NS	
2005	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2006	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2007	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2008	35 to 64 Years	NS	NS	NS	
	65 and over	NS	NS	NS	
2009	35 to 64 Years	11	15.8	6.5 - 25.1	Not statistically significantly different
	65 and over	NS	NS	NS	
2010	35 to 64 Years	11	15.6	6.4 - 24.8	Not statistically significantly different
	65 and over	NS	NS	NS	

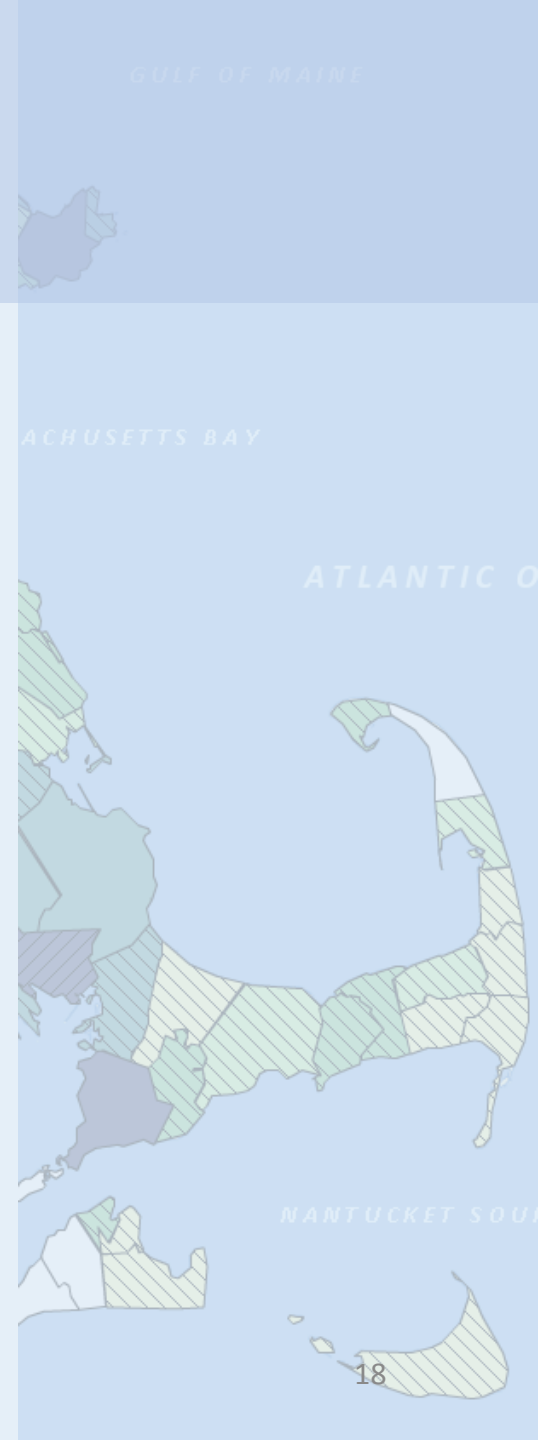
Acton



NANTUCKET SOUND

FUTURE WORK

- Performance Enhancements
- Software Updates and improved visualizations
- Targeted outreach materials
- User Feedback & Training
- Applied, cross-cutting “Modules”



FUTURE WORK

Data Enhancements

Data Modules In Progress

- Social Determinants of Health
- Community Health Needs Assessments (CHNA)
- Health Impacts Assessments (HIA)

New Climate NCDM's in development

- Extreme Weather related morbidity and mortality
- Lyme Disease
- Heat Index



FUTURE – Customizable Geographies

Selection

Layer for the selection

Map Value

Selection Tools

Mode

☒ Add ☐ Remove

Total

13 object(s) selected

Name

Map

Table

OBJECTID	Geo Code	Geo Description	Census Tract
1045	25017370102	25017370102	2501737010
1372	25017370202	25017370202	2501737020
1379	25017370101	25017370101	2501737010
1391	25017369000	25017369000	2501736900
1392	25017368902	25017368902	2501736890
1406	25017368901	25017368901	2501736890
1407	25017368800	25017368800	2501736880

Selection Summary

Selection Name

Map Value | 13 object(s) selected

Filter :

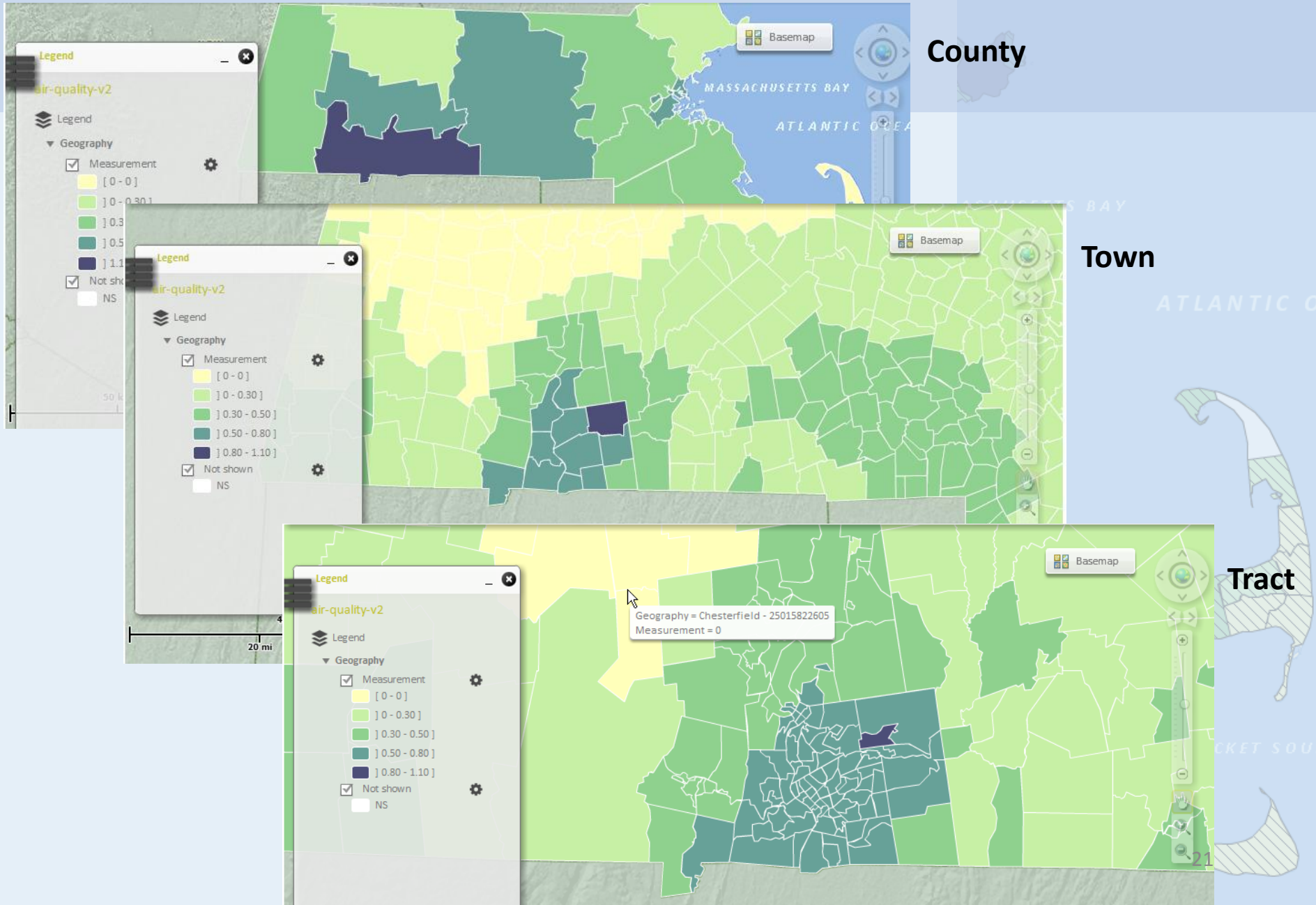
Showing 13 entries

Export

CSV GEOREPORT

Air Quality Monitoring and Modeled Data Combined

Percent of Days with PM2.5 Concentrations Over the NAAQS for 2007



Climate NCDM's

Table 2. Annual average hospitalizations/ED visits by weather associated E-code

Weather Type	New York State (2000-2013 Hosp; 2005-2013 ED)		Florida (2006-2014 Hosp; 2005-2014 ED)		Michigan (2004-2013)		New Hampshire (2000-2009)	
	Hosp (%)	ED (%)	Hosp (%)	ED (%)	Hosp (%)	ED (%)	Hosp (%)	ED (%)
Heat	129 (45.1)	878 (56.5)	627 (61.7)	3169 (84.6)	43 (23.0)	N/A	7 (14.6)	136 (46.4)
Cold	140 (49.0)	450 (29.0)	340 (33.5)	187 (5.0)	135 (72.2)	N/A	38 (79.2)	109 (37.2)
Storm/Flood	4 (1.4)	49 (3.2)	6 (0.6)	55 (1.5) (median=21)	2 (1.1)	N/A	<1 (<2.1)	2 (0.7)
Lightning	5 (1.7)	23 (1.5)	22 (2.2)	129 (3.4)	4-5 (<2.7)	N/A	<1 (<2.1)	20 (6.8)
Weather not specified	8 (2.8)	153 (9.9)	21 (2.1)	207 (5.5)	1-2 (<1.1)	N/A	1 (<2.1)	26 (8.9)

CONTACT US!

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BEH Massachusetts Environmental Public Health Tracking
Bureau of Environmental Health

Home About MA EPHT Health Environmental Inspections & Licenses Climate Change Community Profile Glossary

Welcome to the Massachusetts Environmental Public Health Tracking (MA EPHT) Program Website

This website is designed to provide you with access to current and accurate health and environmental information available for Massachusetts. You can use Massachusetts Environmental Public Health Tracking (MA EPHT) information to learn about the health of your community and access information about your environment.

The MA EPHT Portal includes the latest available data for:

Health Data:	Environmental Data:	Climate Change Data:	Inspection Data:
Asthma	Air Quality	Vulnerable Populations	Food Protection
Birth Defects	Drinking Water Quality		Mammography
Cancer	Radon		
Carbon Monoxide Poisoning			
Childhood Lead Poisoning			
Heart Attack			
Heat Stress			
Pediatric Diabetes			
Reproductive Outcomes			

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These web pages are supported through Cooperative Agreement with the U.S. Centers for Disease Control and Prevention (CDC). Web contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC.

We look forward to sharing this important information with you and welcome your comments and suggestions as we move forward.

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