

Communicating Current and Forecast Air Quality Conditions in Massachusetts



Meteorologists in MassDEP's Air Branch keep the public up-to-date with Air Quality issues with routine forecasting for:

Particulate Levels (PM_{2.5})

Ozone Levels (O₃)

Smoke from Distant Wildfires

Alerts are typically issued if the Air Quality Index (AQI) is forecast to average above 100 or in the Unhealthy for Sensitive Groups (USG) Range for either pollutant

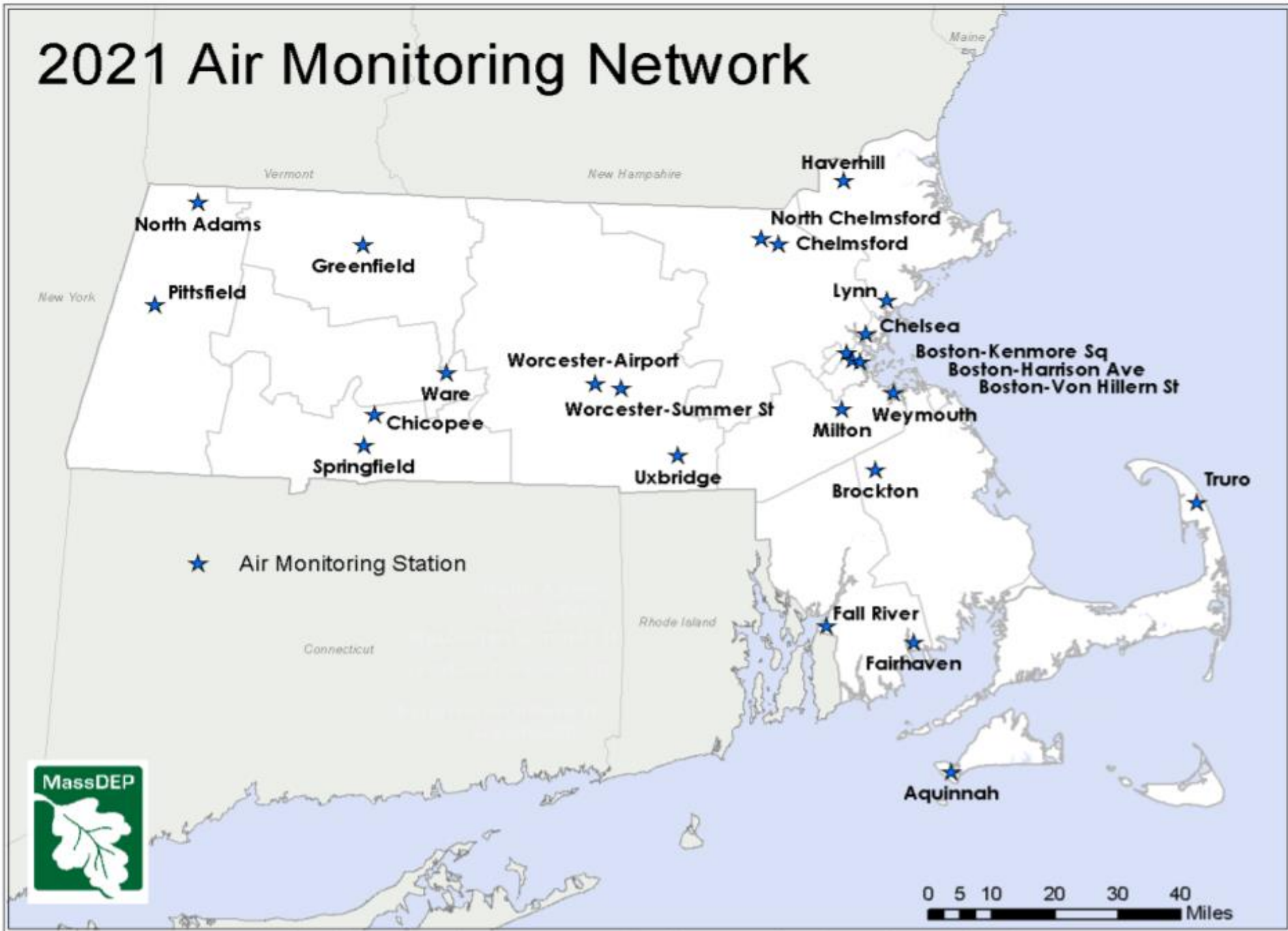
Some of the Tools used to Create our Air Quality Forecasts Include:

- Our Extensive Air Quality Monitoring Network
- Several Different Meteorological Forecast Models
 - Can influence pollutant concentration
 - Can influence pollutant concentration duration
 - Can influence pollutant transport
- Several Different Air Quality Forecast Models
- Colleagues in Neighboring States
- Experience!

MassDEP Operates a network of 23 ambient air quality monitoring stations in 19 communities. The Wampanoag Tribe of Aquinnah operates an ozone monitoring station on Martha's Vineyard.



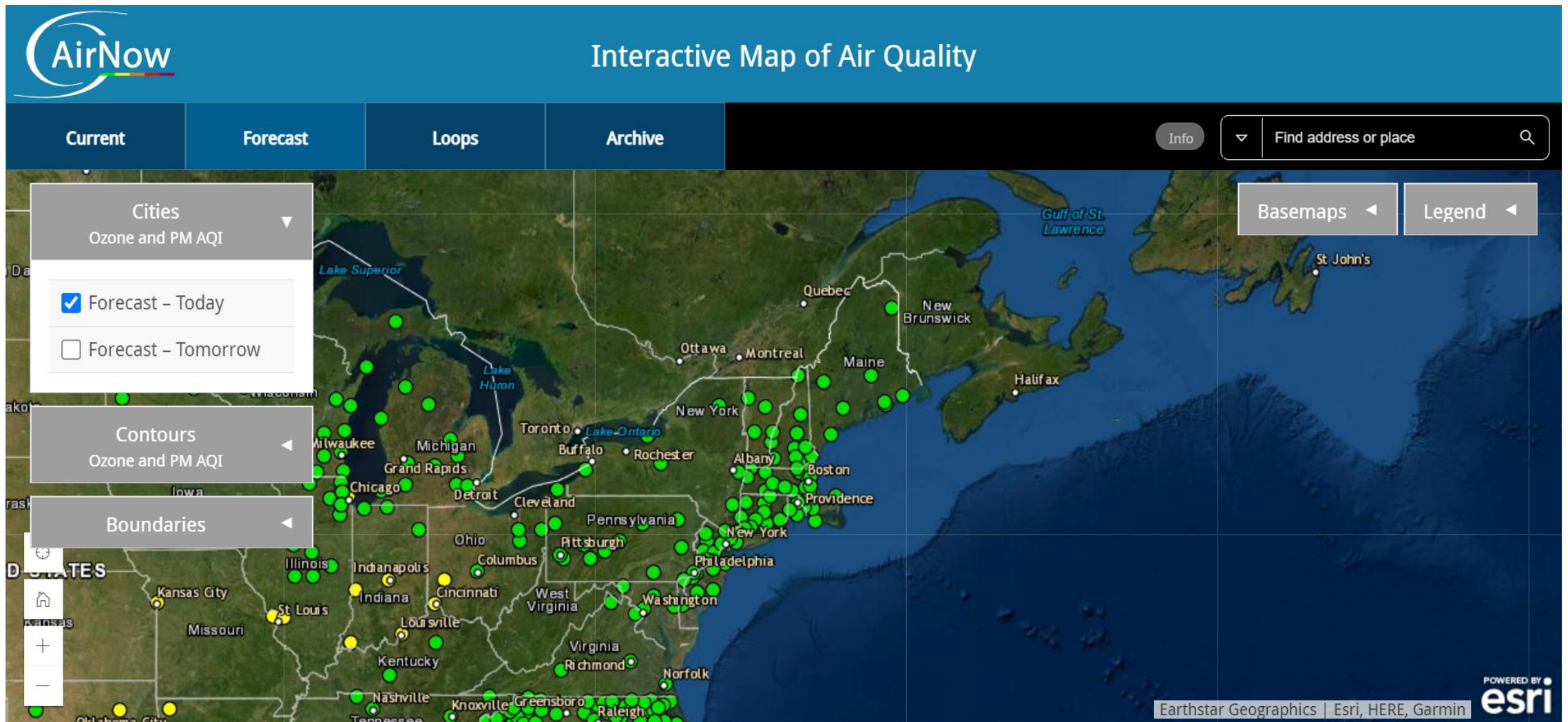
2021 Air Monitoring Network



Teamwork

- Massachusetts ozone season is March 1 – September 30
- From roughly May 1 through mid-September, the six New England States, New York, New Jersey, and EPA Region 1 conduct a Daily Forecasting Call
- We forecasters discuss current and forecast meteorological conditions and resulting Air Quality Conditions (ozone and PM2.5) for the following day.
- Enables a sharing of knowledge each day and perhaps different reasonings behind forecasts.
- In the end...Puts us all on the Same Page

Each State submits their resulting forecast to EPA's AirNow website



MassDEP Communicates Current and Forecast Air Quality Conditions for Massachusetts in a Number of Ways:

- EPA's AirNow website
- MassAir website
- Air Quality Hotline
- National Weather Service website
- Social Media

365 (or 366) Days/year

MassAir Website

< Mass.gov | Department of Environmental Protection

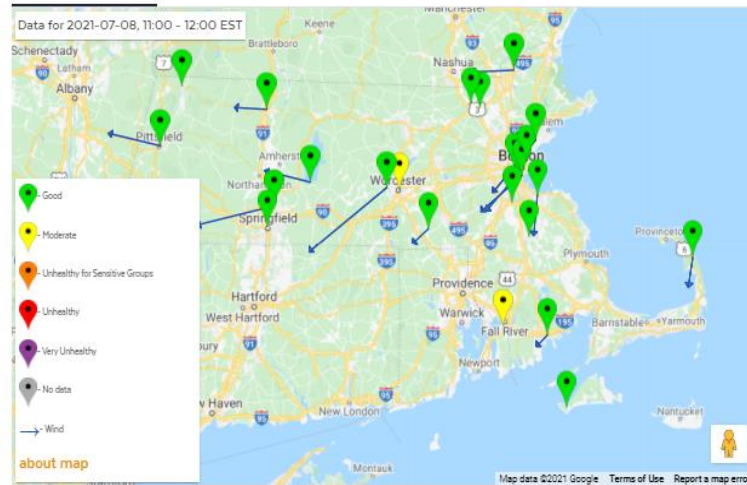


MORE ABOUT: [Air Quality](#) [Air Monitoring in Massachusetts](#)

Pollution Levels & Forecast Air Quality Trends & Data

Current Max Forecast Ozone Fine Particles (PM2.5) CO SO2 NO2

Map view Table view



HELPFUL LINKS



- [Check out haze cams >](#)
- [Follow us for forecast alerts >](#)
- [Get EPA daily forecasts >](#)
- [Download air monitoring data >](#)
- [Find annual air quality reports >](#)
- [Learn about air pollution >](#)
- [Learn about open burning >](#)
- [Contact MassDEP >](#)

IN THIS SECTION

- [Health Implications](#)
- [What causes good or bad air?](#)

MassAir Website

SATURDAY, June 5 at 7:40AM. SYNOPSIS: Morning fog in a few areas will dissipate allowing for mostly sunny skies across our region. Very warm conditions are expected with winds becoming west to southwest at 5-15 mph with a few higher gusts along the south coast during the afternoon. **AIR QUALITY:** Fine particle levels should average in the Good range on Saturday with a few low-Moderate readings possible. Ozone levels will likely average in the Good range across western and central areas of the State but elevating in southeastern areas during the afternoon. Unhealthy for Sensitive Groups (USG) readings are expected in southeastern areas during the afternoon and evening.

OPEN BURNING ADVISORY: Open burning is prohibited this time of year.

[Click on calendar icon below for next day forecast.](#)



[Check out haze cams ▶](#)

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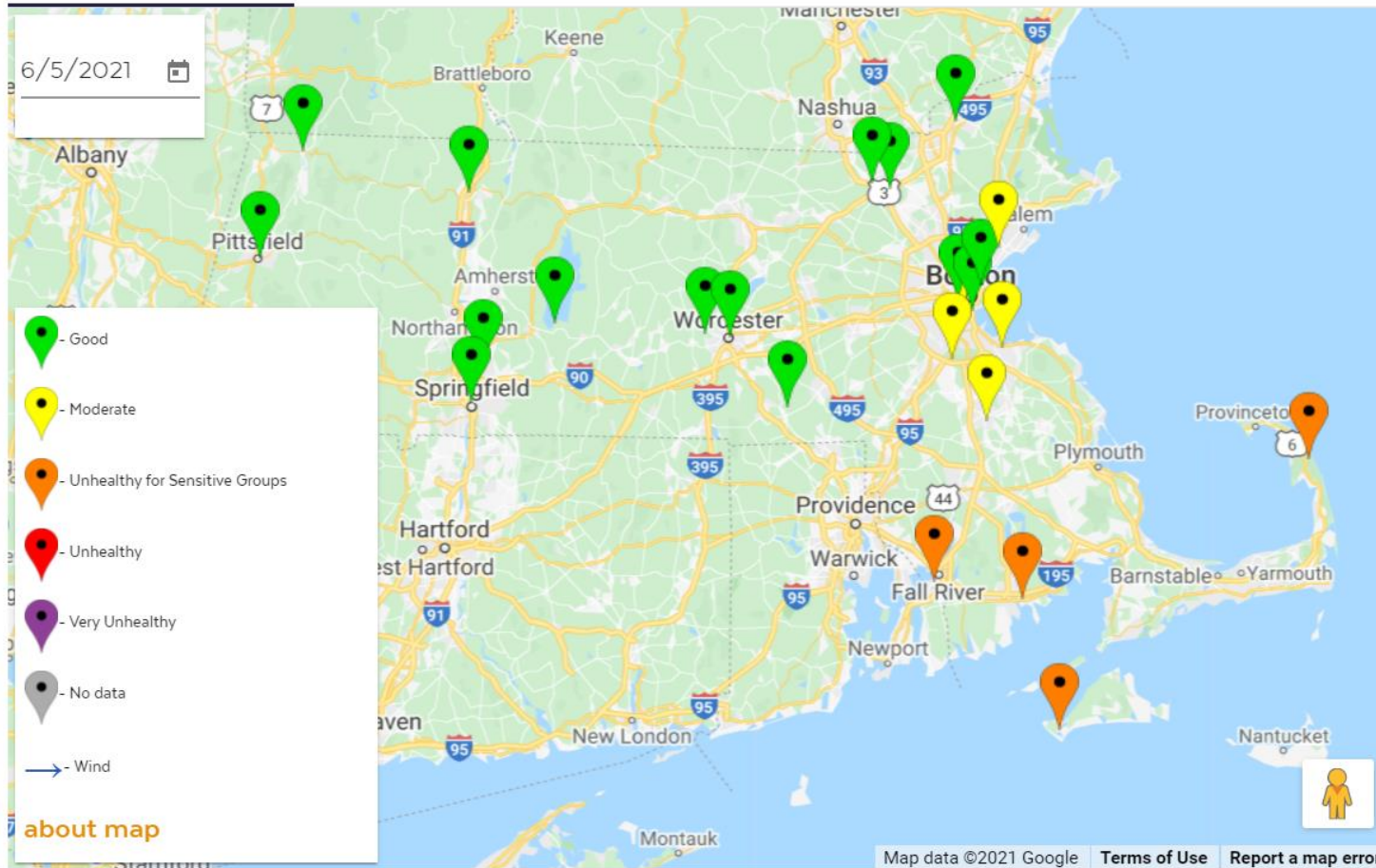
[Learn about open burning ▶](#)

[Contact MassDEP ▶](#)

MassAir Website

Map view

Table view





MORE ABOUT: [Air Quality](#) [Air Monitoring in Massachusetts](#)

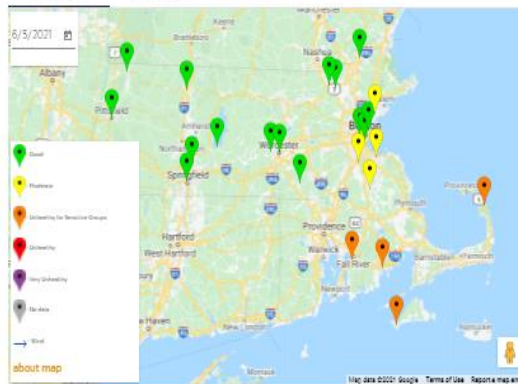
Pollution Levels & Forecast Air Quality Trends & Data

[Current Max](#) [Forecast](#) [Ozone](#) [Fine Particles \(PM2.5\)](#) [CO](#) [SO2](#) [NO2](#)

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Map view Table view



HELPFUL LINKS



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- [Contact MassDEP ▶](#)

The Old-Fashioned Way...

The Air Quality Hotline is updated every morning by 8:00AM. The recording includes the AQ Forecast for today and tomorrow.



Double the Old-Fashioned Way...

January 15 through May 1 is Massachusetts Open Burning Season. We record on a second phone line with an air quality/weather forecast that includes an “OK” or “No-Go” for open burning *based on air quality* today with an outlook for tomorrow.



NWS Website



Air Quality Alert Interface

Local forecast by
"City, St" or Zip Code



City, St Go

Links



Air Quality Alert Start Time	Thursday	July	8	2021	10	00	AM
Air Quality Alert End Time	Thursday	July	8	2021	10	00	PM
Issuance Type	Issue						
Is This a Test?	NO						
MASSACHUSSETTS							
<input type="checkbox"/>	All Zones						
<input type="checkbox"/>	Barnstable						
<input type="checkbox"/>	Central Middlesex County						
<input type="checkbox"/>	Dukes						
<input type="checkbox"/>	Eastern Essex						
<input type="checkbox"/>	Eastern Franklin						
<input type="checkbox"/>	Eastern Hampden						

NWS Website



NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

[HOME](#) [FORECAST](#) [PAST WEATHER](#) [SAFETY](#) [INFORMATION](#) [EDUCATION](#) [NEWS](#) [SEARCH](#) [ABOUT](#)

Local forecast by "City, St" or ZIP code


[Location Help](#)

News Headlines

- [Reported Rainfall Totals Over the Past 24 Hours](#)
- [NOAA Weather Radio off the air in the Hartford/Springfield area](#)
- [Hurricane Preparedness Week in Southern New England](#)
- [Join Us for Upcoming Webinars](#)

MY FORECAST

Boston MA

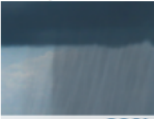


Overcast

67°F

19°C [Get Detailed info](#)

Today



30%

Chance Showers and Patchy Fog

NWS Forecast Office - Boston / Norton, MA

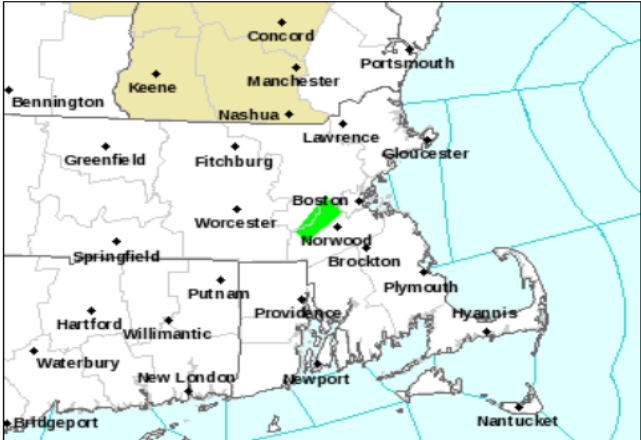
[Weather.gov](#) > Boston / Norton, MA

Boston / Norton, MA

Weather Forecast Office

[Current Hazards](#) [Current Conditions](#) [Radar](#) [Forecasts](#) [Rivers and Lakes](#) [Climate and Past Weather](#) [Local Programs](#)

Click a location below for detailed forecast.



[Watches, Warnings & Advisories](#)

[Flood Warning](#) ■

[Hazardous Weather Outlook](#) ■

[Zoom Out](#)

NWS Website

MY FORECAST

Denver CO



Mostly Cloudy

68°F

20°C

[Get Detailed info](#)

Today



Areas Smoke then
Chance T-storms and
Breezy

High: 93°F

NWS Forecast Office Boulder, CO

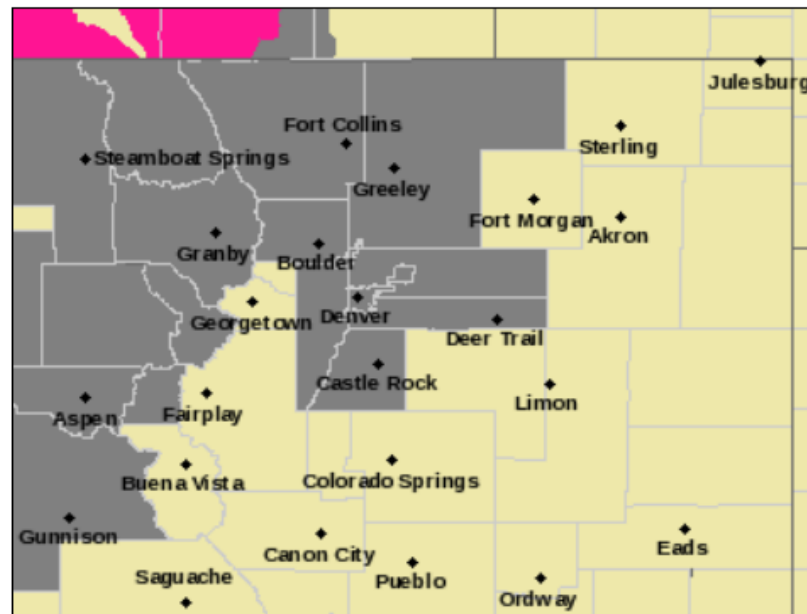
[Weather.gov](#) > Denver/Boulder, CO

Denver/Boulder, CO

Weather Forecast Office

[Current Hazards](#) [Current Conditions](#) [Radar](#) [Forecasts](#) [Rivers and Lakes](#) [Climate and Past Weather](#) [Local Programs](#)

Click a location below for detailed forecast.



[Watches,
Warnings &
Advisories](#)



[Red Flag Warning](#)



[Air Quality Alert](#)



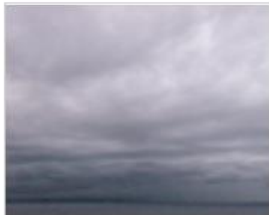
[Hazardous Weather
Outlook](#)



Last Map Update: Tue, Jul. 13, 2021 at 6:18:10 am MDT

NWS Website

MY FORECAST Boston MA



Overcast

67°F

19°C [Get Detailed Info](#)

Today



Chance Showers and Patchy Fog

High: 65°F

Tonight



Slight Chance Showers and Patchy Fog

Low: 63°F

[change location](#)

NWS Forecast Office - Boston / Norton, MA

[Weather.gov](#) > Boston / Norton, MA

Boston / Norton, MA

Weather Forecast Office

[Current Hazards](#) [Current Conditions](#) [Radar](#) [Forecasts](#) [Rivers and Lakes](#) [Climate and Past Weather](#) [Local Programs](#)

Observations (List)

Rainfall

Air Quality

Satellite

Observations (Map)

Marine Obs (Map)

Marine Obs (List)

Other Marine Reports

Observations (7 Days Decoded)

Click on a location below for detailed forecast.



Last Map Update: Tue, Jul. 13, 2021 at 8:18:13 am EDT

[Watches, Warnings & Advisories](#)



Flood Warning



Hazardous Weather Outlook



Weather Story

Maximum Temperature Forecast

	7/13			7/14			7/15			7/16			7/17			7/18		
	Tue	Wed	Thu	Thu	Fri	Sat	Fri	Sat	Sun	Sun	Mon	Mon	Tue	Tue	Wed	Wed	Thu	
Boston	65	64	64	65	70	71	72	80	81	82	79	83	84	84	75	82	83	83
Brockton	65	65	64	74	76	76	79	80	81	82	79	83	84	84	75	82	84	79
Cambridge	64	64	64	65	70	71	72	80	81	82	79	83	84	84	75	82	84	81
Hartford	67	71	71	68	74	81	80	79	79	84	84	72	83	84	79	81	82	80
Lowell	66	65	64	63	71	70	72	79	79	83	83	72	83	84	76	81	82	79
New Bedford	64	64	64	64	70	70	70	80	82	78	84	81	83	76	72	80	81	77
Providence	64	68	67	64	75	80	79	76	81	80	72	83	84	82	72	81	84	79
Worcester	63	64	64	64	74	75	75	80	82	82	72	83	84	84	74	82	83	77

Local Radar



Satellite



Social Media



4:15

MassDEP
7,319 Tweets

Tweets Tweets & replies Media Likes

 **MassDEP** @MassDEP · 6/28/21

[#Air](#) Quality Alert: Unhealthy [#airquality](#) expected tomorrow from 11am-11pm in [#Bristol](#) & [#Plymouth](#) counties for sensitive groups like the elderly & those with [#asthma](#) & respiratory issues. Forecasts & real-time data at MassAir online tinyurl.com/f7466357

1

Some additional ways the public stays informed...

- Community Monitoring
- Huge interest in expanding air quality monitoring efforts by cities/towns and individuals using low-cost sensors
- MassDEP has been and is working with Environmental Justice Communities to establish increased local air monitoring
- EPA's AirNow Fire and Smoke Map displays the data from these low-cost sensors along with data from State-agency permanent monitors allowing greater coverage and tapping the interest of more citizens

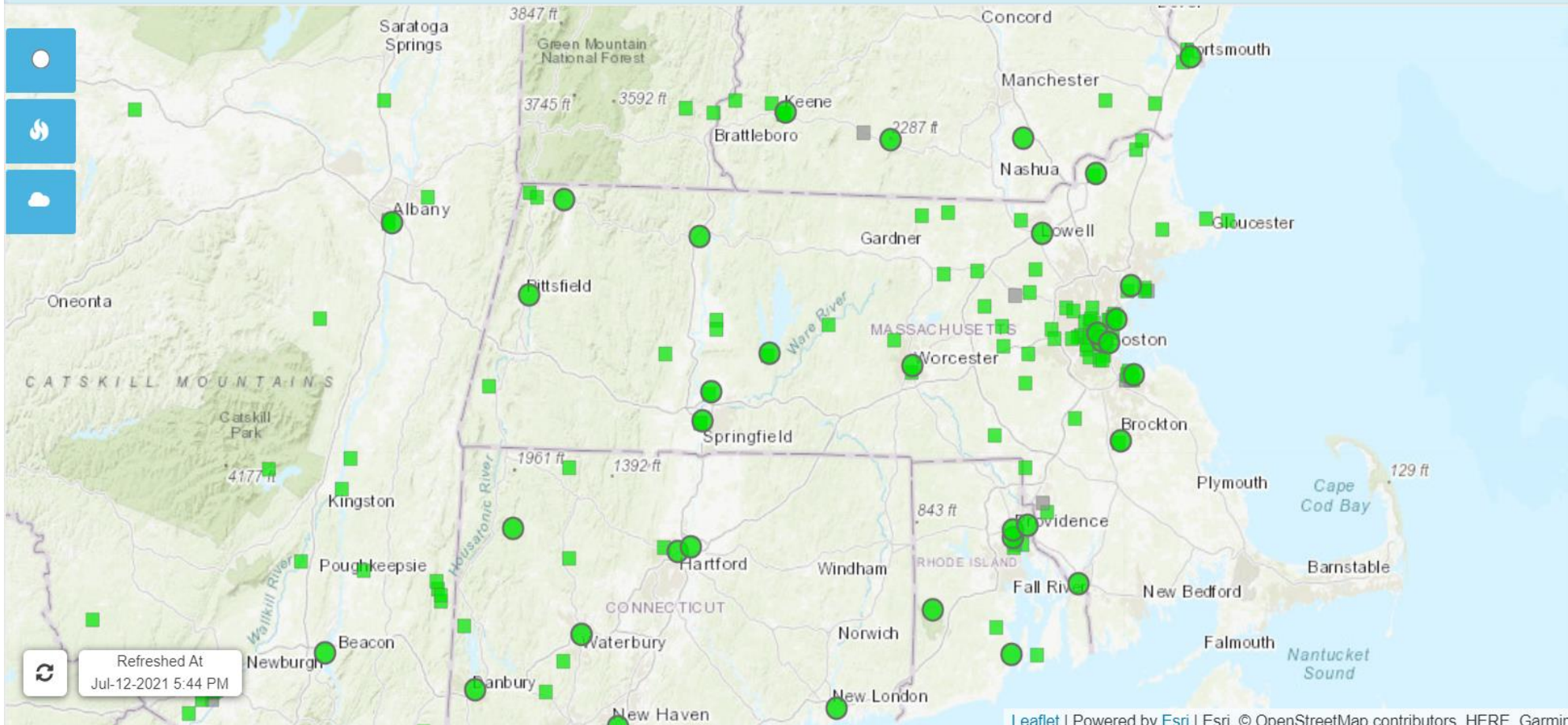


Fire and Smoke Map



FAQ

Notice: The Sensor Data Pilot adds a new layer of air quality data from low-cost sensors. Learn more [here](#).



Air Quality (PM_{2.5})

- Permanent Monitors
- ▲ Temporary Monitors
- Low Cost Sensors
(Not for regulatory purposes)

shows only fine particulates.

Fire Information

- 🔥 Large Incidents
- 📡 Satellite Detections

Smoke Plumes

- 🌫️ Smoke Plume Extent

Special Smoke Statements

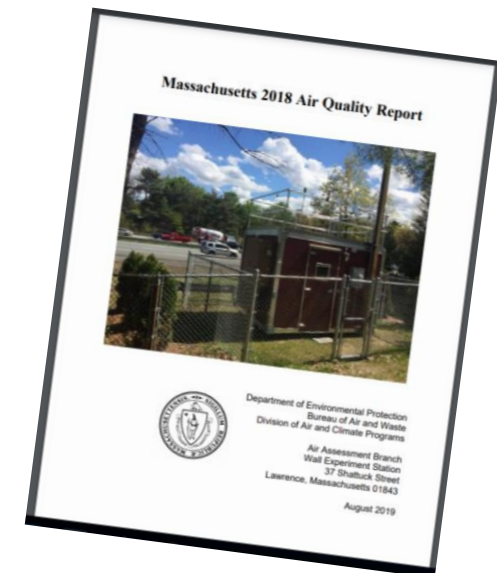
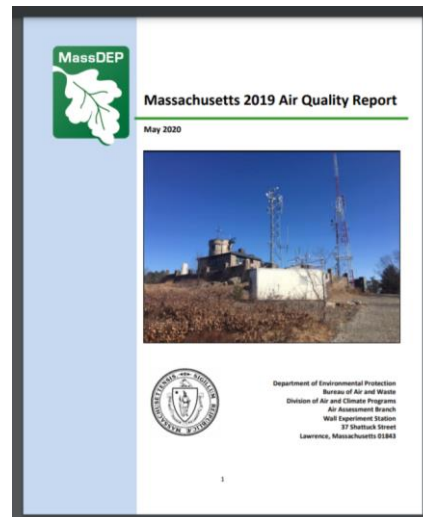
- Boundaries

Basemaps

- Aerial
- Terrain

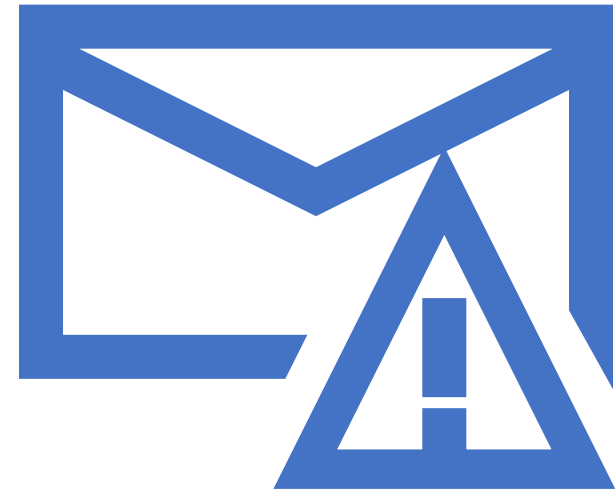
Some additional ways the public stays informed...

Easy-to-Read Annual Air Quality Reports



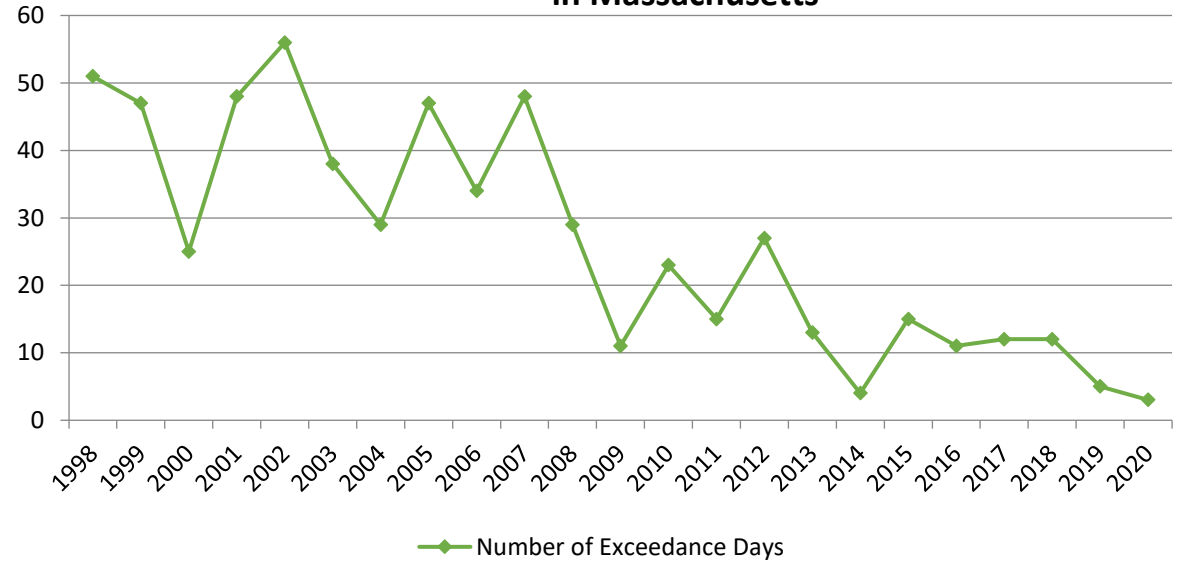
Keep Your Co-Workers and Colleagues Informed too!

- State Agencies and Virtual Offices can be “big” places...
- Your co-workers may not know what you do and the Good work being done by the agency to help keep the air clean, the public informed, and the public involved
- Here in Mass I send out brief Mon-Fri morning email to (growing) list of co-workers summarizing meteorological and air quality forecast data for today and tomorrow including the “why”. Also add a related meteorological, air quality, or even astronomical “tidbit” once or twice a week to keep the emails interesting.
- More detailed summary email submitted after each Open Burning Season and Ozone Season.

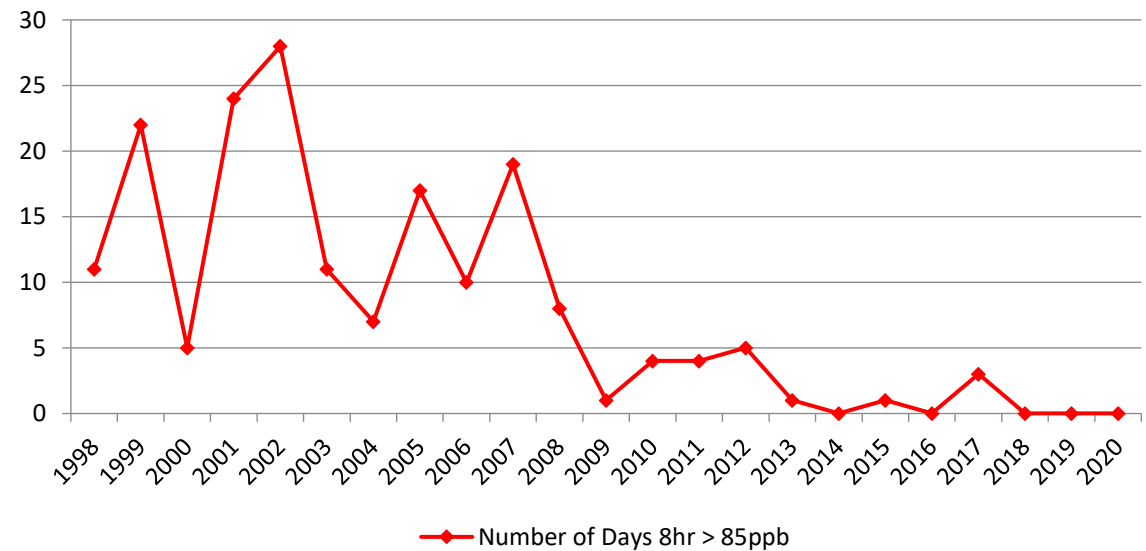


It's Good to Keep
the Public
Informed...There's
a lot of Good
news out there...

**Number of Ozone Exceedance Days (8hr >70ppb)
in Massachusetts**



**Number of Ozone Unhealthy Days (8hr >85ppb)
in Massachusetts**



A photograph of a sunset over a valley. The sun is a bright yellow-orange orb on the left side of the frame, partially obscured by thin, wispy clouds. The sky transitions from a pale yellow near the horizon to a soft, hazy blue at the top. In the foreground, the dark silhouettes of evergreen trees are visible against the bright sky. The valley below is shrouded in a light mist or haze, with some distant lights and structures visible.

Thank You!...

Questions?

steven.coughlin@mass.gov