



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey
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Massachusetts Air Sensor Grant Opportunity Application Guidance and Grant Requirements April 23, 2024

Overview of this Grant Opportunity

The Massachusetts Department of Environmental Protection (MassDEP) is issuing this grant opportunity for tribal organizations, non-profit organizations, community-based organization, and municipalities in the Commonwealth to receive between five (5) and ten (10) PurpleAir sensors, at no cost, to measure levels of fine particulate matter (PM_{2.5}) in outdoor air in their local communities for at least one year. MassDEP has allocated approximately \$69,000 to the Air Sensor Grant Program, and this funding will be utilized by MassDEP to purchase PurpleAir sensors for distribution to eligible grant applicants.

MassDEP is offering this Air Sensor Grant Program to enable grant recipients to monitor outdoor air PM_{2.5} levels in their local communities, which can be a significant airborne pollutant that impacts public health. PM_{2.5} is a mixture of solid particles and liquid droplets found in the air and is so small that it can be inhaled deep into the lungs and may even enter a person's bloodstream. Breathing PM_{2.5} in the air can lead to adverse health effects, including aggravated asthma and other respiratory and cardio-pulmonary illnesses. Through this grant program, grant recipients will assess outdoor air PM_{2.5} levels to increase understanding of local air pollution by residents, schools, and community groups, and to identify any potential areas with higher pollution levels where mitigation efforts can be directed to protect public health.

PurpleAir Sensors: Description and functions for PM_{2.5} outdoor air monitoring

PurpleAir LLC manufactures and distributes PurpleAir Sensors, which are used to measure PM_{2.5} by a wide variety of governments, organizations, and citizens to monitor both indoor and outdoor air quality. MassDEP will be distributing the PurpleAir Flex sensor model to grant recipients.

All PurpleAir Sensors require access to an electrical source and a 2.4GHz WiFi network for installation. The PurpleAir Flex sensor that MassDEP is offering through this Program

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can be deployed at residential, municipal, commercial, or industrial locations. Once installed, the PurpleAir Flex sensor measures PM_{2.5} levels in real time, and the data is transmitted to the PurpleAir Map, which displays the air sensor's readings at various average intervals based on user selection (e.g. 2-minute, 10-minute, 1-hour, 24-hour, etc.) The PurpleAir Map stores the data where it can be viewed through any smart device.

Please note that you may download historical sensor data directly from PurpleAir's map up to a certain time point depending on the average interval of data selected. You may download data in 2-minute averages going back 3 days from present, 1-hour averages going back 14 days from present, and 24-hour averages going back 1 year from present. If you wish to download historical data outside these parameters, you can do so by creating an account to use PurpleAir's API (more information [here](#)). New users receive 1 million 'points' to download historical data for free. However, once those points have been spent, PurpleAir LLC charges a fee to buy more 'points' and download more data. The PurpleAir sensor data may also be viewed in real time on the U.S. Environmental Protection Agency's AirNow Fire and Smoke Map together with data from regulatory PM_{2.5} monitors operated by MassDEP and other regulatory agencies (see <https://fire.airnow.gov/>). PurpleAir provides a limited warranty on its air quality sensors for a one (1) year period from the date of shipment to be free from defects in material and workmanship.

Further details regarding PurpleAir sensors are available through a detailed FAQ on the PurpleAir LLC website at: <https://community.purpleair.com/c/faq/27>.

Eligible Applicants

The Air Sensor Grant Program is open to all tribal organizations, non-profit organizations, community-based organizations, and municipal entities located in the Commonwealth. Applicants must apply for a minimum of five (5) sensors, and may request up to ten (10), which must be installed outdoors, at any location within Massachusetts. Applicants are encouraged to partner with residents, schools, and local organizations that work on public health and environmental justice issues to pick locations for the sensors.

Tribal organization means the applicant must meet the definition of Indian tribe under Section 302(r) of the Clean Air Act: "The term 'Indian tribe' means any Indian tribe, band, nation, or other organized group or community, including Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians."

Non-profit organization, as defined by 950 CMR 106.00, means all corporations organized for a purpose consistent with M.G.L. c. 180, § 4, and not for personal financial gain. The term includes tax-exempt non-profit neighborhood organizations. Labor organizations, institutions of higher education, trade schools, and hospitals are not eligible to apply. Additionally, non-profit organizations described in Section 501(c)(4) of the Internal Revenue Code that engage in lobbying activities as defined in Section 3 of the Lobbying Disclosure Act of 1995 are not eligible to apply.

Community-based organization means the applicant must be an eligible non-profit or not for profit corporation in good standing under state law with authority to enter into binding legal agreements. The community-based organization need not be tax exempt under the Internal Revenue Code but may use documentation of tax-exempt status to demonstrate that it is a non-profit. Community-based organizations must specify the community they represent and provide documentation, such as their charter, mission statement, or other official documentation of the organization; and include a statement demonstrating the effectiveness as a representative of the applicable community.

MassDEP EJ Commitment: MassDEP is committed to advancing equity, diversity, and environmental justice (EJ) through its public investments. The agency seeks to prioritize the direction of these resources to benefit EJ communities and to address environmental inequities. To that end, MassDEP grant and funding programs include criteria and evaluation parameters that emphasize equity, diversity, and environmental justice, consistent with each program's statutory authority and source of funding. MassDEP encourages the placement of air sensors in EJ populations through this grant opportunity. Information on which communities are classified as EJ populations can be found at <https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts>.¹

Estimated Funding

As noted above, MassDEP has allocated approximately \$69,000 in funding in support of this program. All sensor awards are subject to the availability of funds. MassDEP reserves the right to increase or decrease the total amount of funding available through this program. In the event additional funding becomes available, MassDEP further reserves the right to make additional awards to successful grantees, or to make awards to applicants not who did not receive sensors in the initial grant offering.

Application Submission Process:

Applicants must perform the following steps to submit an application for this grant opportunity:

1. Read MassDEP's grant guidance document.
2. Visit the PurpleAir website at <https://www2.purpleair.com/> to become familiar with the PurpleAir Flex sensor.
3. Read MassDEP's PurpleAir Installation Guidance at <https://www.mass.gov/how-to/apply-for-a-massdep-air-sensor-grant>; as noted above, PurpleAir sensors require electricity and access to 2.4GHz WiFi.

¹ "Environmental justice is based on the principle that all people have a right to be protected from environmental hazards and to live in and enjoy a clean and healthful environment regardless of race, color, national origin, income, or English language proficiency. Environmental justice is the equal protection and meaningful involvement of all people and communities with respect to the development, implementation, and enforcement of energy, climate change, and environmental laws, regulations, and policies and the equitable distribution of energy and environmental benefits and burdens." See *Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs* (updated June 24, 2021), available at <https://www.mass.gov/doc/environmental-justice-policy6242021-update/download>.

4. Determine how many sensors the applicant will request (this number must be between 5 – 10 air sensors) and the geographic area (i.e., outside locations) within Massachusetts where the air sensors will be deployed.
5. Develop a brief project description for how the applicant plans to deploy the sensors (e.g., work with residents in specific neighborhood; work with schools to educate students on air quality; partner with local organizations or companies to work with residents to deploy sensors, etc.). Please indicate if some or all of the sensors will be deployed in a designated Environmental Justice (EJ) Population. Designated EJ populations can be identified on EEA's website at <https://www.mass.gov/info-details/environmental-justice-populations-in-massachusetts>.
6. Fill out the grant application at <https://www.mass.gov/how-to/apply-for-a-massdep-air-sensor-grant>
7. MassDEP will review each application for eligibility and completeness and will notify applicants of the outcome of the review.
8. For applications that meet eligibility requirements, MassDEP will issue an Approval Letter and grant agreement for execution by the Grantee.
9. Grantees will have 30 days to return the signed grant agreement to MassDEP.
10. Note to Applicants: Applications for sensors will be considered on a **FIRST-COME, FIRST-SERVED** basis until program funds for sensors are exhausted.

Grant Terms and Conditions

1. Grantees must execute a grant agreement with MassDEP prior to MassDEP's distribution of the PurpleAir sensors. A copy of the MassDEP grant agreement can be found on the MassDEP website as part of this grant opportunity.
2. Grantees must agree to work directly with sensor hosts (i.e., residents, schools, community organizations, companies or other entities who will operate the sensors) or with one or more local partner organizations who would work with sensor hosts to deploy the sensors (i.e., locate the equipment in an outside location) within 60 days of receiving the Purple Air Sensors from MassDEP.
3. Grantees must ensure and confirm with MassDEP that the local hosts provide an outside location with electricity and access to WiFi, install and set the PurpleAir Sensor to "public mode" so the sensors appear on the PurpleAir website, and ensure/allow the sensors to operate for at least one year.
4. Each Grantee must notify MassDEP in writing when the PurpleAir sensors have been deployed and appear on the PurpleAir website.

More Information

Applicants interested in MassDEP's Air Sensor Grant opportunity may submit questions to air.sensor@mass.gov.