



Outdoor Air Quality Awareness Program

10 Points School District

The goal of the Outdoor Air Quality Awareness Program action is to encourage school districts or individual schools to use air quality information readily available from the United States Environmental Protection Agency's (EPA) Air Quality Index to guide their decision making regarding the safety of outdoor activities for students. In order to earn points for this action, a school district or school must establish a process for disseminating daily air quality information to the school community such as the EPA's Air Quality Flag Program, have a protocol in place consistent with EPA's recommendations for modifying outdoor activities when the air contains unhealthy levels of pollutants like particulate matter or ozone, and inform the school community about the initiative via the use of e-mail, social media, adoption. The program must be active during the school year in which an application for certification has been submitted.

Why is it important?

An Outdoor Air Quality Awareness Program educates the school community about outdoor air quality and the associated potential health risks. Air quality varies daily based on environmental conditions. Implementing this action can help the school community stay attuned to outdoor air quality conditions and respond accordingly to unhealthy air quality days. EPA's Air Quality Index (AQI) is a guide used to show how clean or polluted the air is. There are five relevant levels of air quality, ranging from "good" to "very unhealthy". Pollutants like particulate matter and ozone can damage the lungs of children who work or play outside. Ground-level ozone can cause breathing difficulty and coughing, and it can aggravate existing lung conditions such as asthma. Particle pollution, which consists of a mixture of solid and liquid particles, can get deep into the lungs and cause coughing, wheezing, reduced lung function, and asthma attacks. Therefore, knowing which days may be dangerous to a child's respiratory health is an important step in planning alternate outdoor activities or sometimes moving indoors to mitigate the effects of poor outdoor air quality.

Poor outdoor air quality is not just an issue specific to urban areas in which air pollution from traffic or manufacturing sources are evident. Woodstoves, wildfires, some agricultural operations, and power plants also contribute to poor air quality. Hazardous air quality can happen anywhere in New Jersey, so the location of a school does not preclude the benefits this action can have by identifying even rare instances of dangerous outdoor air quality.

Who should lead and be involved with this action?

This action can be implemented at the district or school level. Key participants in developing and implementing this program would be the district or school wellness council or other group comprised of school health staff, physical education teachers and coaches, and staff responsible for supervising children at recess. It is also important to reach out to school community to explain the benefits of the program.

Timeframe

This action can be implemented rather quickly, typically within 2 to 3 months since air quality information and guidance is readily available from the Environmental Protection Agency. While the development of this program may be done quickly, it is important to demonstrate an ongoing commitment to review the daily outdoor air quality readings, disseminate this information, and modify outdoor activities according to the agreed upon protocol.

Project costs and resource needs

The incremental cost to implement this action is relatively small. The daily air quality reading can be accessed online at will or automatically sent to an established group of school staff that subscribe to the free notification service. Some costs may be incurred to publicize the information to the larger school community such as updating a district or school website to post the information there or if a school decides to participate in the EPA's Air Quality Flag Program, it will need to purchase the flags used to indicate outdoor air quality on a particular day, which would cost approximately \$100.00 for a set of five color-coded flags.

What to do, and how to do it (“How to”)

This section provides guidance and recommendations for implementing the action. It does not need to be followed exactly as long as the requirements for earning points for this action are met.

The EPA and the New Jersey Department of Environmental Protection (DEP) have air quality monitors located across the state to record information then used to calculate the current Air Quality Index (AQI) value. The AQI is a measure of how clean or polluted air is, and the associated health effects. The AQI focuses on health effects a person may experience within a few hours or days after breathing polluted air. EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. For each of these pollutants, EPA has established national air quality standards to protect public health. Ground-level ozone (or smog) and airborne particles are the two pollutants that pose the greatest threat to human health in this country.

The EPA's Air Quality Flag Program is an outdoor air quality program designed to promote awareness of outdoor air quality and help schools take actions to protect students' health, including those with asthma. The program directs schools to raise a flag each day that corresponds to how clean or polluted the air is. The color of the flag matches the EPA's Air Quality Index:



On unhealthy days, schools can use this information to adjust physical activities to help reduce exposure to outdoor air pollution, while still keeping students active. The four steps to starting a School Air Quality Program include:

1. Purchase the flags
2. Educate the school and the community
3. Fly the day's flag based on the currently available AQI from EPA
4. Take actions when the air quality is unhealthy

The EPA and partners developed a wealth of information and resources for schools to implement a successful program including a Coordinator's Handbook, fact sheet, sample parent letter, sample press release, educational materials, and guidance for developing the protocol for modifying student activities based on the AQI. For detailed information visit the [Air Quality Flag Program website](#).

Many schools across the United States are successfully using this program. Schools may use alternate ways to notify the school community about outdoor air quality if they do not wish to actually fly the flags on outdoor flagpoles. Schools may wish to hang the flag indoors on a wall, on a small portable flagpole, or simply hang a poster of the day's color in the entryway of the school. There are also several ways to notify the school community electronically. With the advent of these alternatives to disseminate the AQI, schools can customize the notification component of their program based on local preferences, resources, and technical capacities. The electronic options are briefly described below. To learn more about each of the options, please visit [AirNow's website](#).

Email/Text Alerts: EnviroFlash is a system that sends automatic e-mails or text messages to subscribers about a location's daily outdoor air quality forecast plus suggested safety measures when measured levels are unhealthy. To learn more about EnviroFlash and sign up for alerts please visit [EnviroFlash's website](#).

Phone App: An AirNow app is available on iTunes for Apple products, as well as on the Android mobile store (GooglePlay). The app, like the email alerts, will provide location specific daily outdoor air quality forecasts based on the

AQI, as well as current air quality information.

Website Widget: The Flag Program offers a free widget that allows organizations to post the daily outdoor air quality forecast and current outdoor air quality directly on their home page in a small graphic image. Implementing the widget simply involves adding a line of code below to a web page and the widget will display the correct outdoor air quality data for a zip code.

Regardless of the method used to track the daily AQI, a protocol for unhealthy outdoor air quality days needs to be developed, and the school community should be informed about how and why the program is being implemented

Protocol for Unhealthy Air Quality Days

The most important part of the program is to develop and implement a protocol for how the school will handle days with unhealthy outdoor air quality. While children in general are more sensitive to air quality issues than adults, children with respiratory issues, like allergies and asthma, or other medical concerns may be more at risk. EPA's [Air Quality and Outdoor Activity Guidance for Schools](#) recommended students with asthma should follow their asthma management plans and keep their quick-relief medicine handy. The action plan for poor air quality days should address the procedures for each air quality level (unhealthy for sensitive groups, unhealthy, and very unhealthy), and how specific activities like recess or physical education will be handled for students

The district and/or school staff needs to understand the procedures for the different air quality days and plan activities accordingly. Physical education teachers, coaches, and any other school staff that supervise outside activities should be made aware of any sensitive students in the group and ensure their needs are taken into consideration.

Appendix A provides a sample of school protocol that may be adopted for implementing the program and for adapting school activities to the air quality condition. The EPA generally recommends that on "orange flag" days, as either ozone or particle pollution grows unhealthy, students should reduce how hard and the length of time they exercise. Outdoor activities on "red" or "purple" days should be moved inside if possible, especially longer or more intense activities such as sports practices, games or meets. The protocol should address when and how these alternately scheduled activities will take place.

Educate the School Community

In addition to school staff, students and the larger school community should be informed about the Air Quality Index (AQI) and how the school uses it to help protect student health. Prior to implementing the program, students and parents should be notified in writing. While the school schedule does take up a significant portion of student time, encourage parents and students to be proactive in responding to current outdoor air quality conditions on weekends and after school hours. This should include providing instructions on how they can easily keep informed of the daily AQI (i.e. by signing up for email alerts, checking the school's website, etc.).

The implementation of this program is also a great opportunity to integrate lessons on air quality into classroom instruction. AirNow provides a variety of resources for all grade levels. For more information, please visit [AirNow's website](#).

What to submit to earn points for this action

In order to earn points for this action, a school district or school must have an outdoor air quality awareness program in place that includes a process for disseminating the daily Air Quality Index to the school community, a protocol consistent with the EPA's recommendations for modifying outdoor activities when the air contains unhealthy levels of pollution, and a process for informing the school community about the program. The program must be active during the school year in which an application for certification has been submitted.

Please provide the following documentation as part of the online certification application in order to verify that the action requirements have been met.

1. **Description of Implementation.** In the text box provided on the submission page for this action input a short summary (300 words or less) of the outdoor air quality awareness in place in the school district or school. The

summary should include when the program was implemented, the process used to inform the school community about daily outdoor air quality, and an estimate of how often students' outdoor activities are modified based on poor outdoor air quality concerns. If applicable also include how the awareness program is integrated into student learning activities.

2. **Upload a copy of the district or school protocol for unhealthy outdoor air days.** The protocol should outline the modifications to outdoor activities enacted for students with respiratory issues and the general student population on poor outdoor air quality days, including those designated as unhealthy for sensitive groups, unhealthy, and very unhealthy. The protocol should be consistent with EPA's recommendations.
3. **Upload samples of school community education materials.** This can include information posted on the district or school website, information distributed to parents, student materials, lesson plans, etc.

Approved actions will be set to expire on August 31 of the year the certification application was submitted. To reapply for this action, documentation must be updated to demonstrate that the program is still in effect.

IMPORTANT NOTES:

There is a limit of six uploaded documents per action and individual files must not exceed 20 MB. Excerpts of relevant information from large documents are recommended.

All action documentation is available for public viewing after an action is approved. Action submissions should not include any information or documents that are not intended to be viewed by the public.

Spotlight: What NJ Schools are doing

Whitehouse Elementary School

Whitehouse Elementary School implemented the Outdoor Air Quality Awareness Program as part of its Green Week programming in April 2015. In conjunction with its student leadership club, Whitehouse Elementary created a promotional video explaining the program and its importance to the school and the community's health. Additional educational material explaining the program was included in the school's monthly newsletter.

The school community can find the local outdoor air quality posted on the main page of the school's website through a free AirNow widget. The school's flag program poster is displayed at the front entry of the school and the outdoor air quality arrow is moved daily to indicate any air quality concerns. As part of its air quality protocol, the school sends out email alerts notifying faculty when the outdoor air quality fails to meet the proper standards and appropriate action is taken to utilize alternative recess and P.E. related activities that are typically held outside.

Three Bridges School

Three Bridges School implemented The Outdoor Air Quality Awareness Program to address major concerns regarding asthma awareness and breathing issues within the school community. As air quality within the building has always been a concern, the school began to extend education regarding outdoor air quality effects on breathing to students, families, and staff members. The school community can find the local outdoor air quality posted on the main page of our school's website through a free AirNow widget. Flags fly under the national flag on the school flag staff and are raised based on the quality report for the day, which is then shared via the school announcements.

Resources

Airnow Air Quality Flag Program <http://www.airnow.gov/flag>

Delaware Valley Regional Planning Commission Air Quality Book and Teachers Resources
<http://www.airqualitypartnership.org/education.htm>

Environmental Protection Agency School Flag Program Coordinator Handbook
<http://www.epa.gov/airnow/flag/handbook-2015.pdf>

EnviroFlash Air Quality Index Notifications <http://www.enviroflash.info/>

Appendix A – Sample School Protocol

Introduction and Background: New Jersey does not currently meet federal standards for acceptable levels of ozone in outdoor air. As a result, the New Jersey Department of Environmental Protection is required by federal rules to provide the public with outdoor air quality information, usually in the form of the Air Quality Index developed by the US Environmental Protection Agency.

Understanding available outdoor air quality information directly relates to the decisions schools must make regarding children's outdoor activities on poor outdoor air quality days. Through preparatory efforts the school districts can adapt to poor outdoor air quality days and still meet physical fitness goals for students.

Purpose of the Policy: The potentially adverse effects of unhealthy outdoor air quality on the health of students and employees are acknowledged. It is the purpose of this policy to: (I) establish a communications protocol from the school district and school sites to students, employees, parents, and a designated network of individuals in the community; (II) identify action levels based on state regulations and federal Air Quality Index levels reported by the air district; and (III) outline procedures aimed at reducing student exposure to unhealthy outdoor air.

I. Notification of Unhealthy Outdoor Air Quality

Receiving and transmitting air quality information: It is the responsibility of the Superintendent/Principal, or his or her designee(s) to monitor outdoor air quality information available on a daily basis specific to the school's geographic location and provide that information to the school community. Upon notification of poor outdoor air quality school sites should implement the policies and procedures for reducing potential human exposures.

Training should be conducted for school staff, including walk-on and part-time coaches and physical education personnel, about the outdoor air quality in the region and school policies and practices for poor outdoor air quality days. Staff will be included in the lesson-planning stages for poor outdoor air quality days and procedures to follow regarding sports practice sessions and games (both for days when the outdoor air quality is poor, and the special needs of 'sensitive groups').

The school will explain the Air Quality Index and school policies affecting outdoor activities on poor outdoor air quality days to parents.

The school will communicate with parents of children with asthma, or other respiratory or cardiac diseases that might limit their full participation in outdoor sports, on poor outdoor air quality days. Staff will strongly encourage the use of asthma management plans in place.

II. Actions for Outdoor Air Quality Categories

Specific Considerations and Actions to Reduce Exposures Ozone affects each individual differently. Children with asthma or other respiratory diseases are more susceptible to the health effects of ozone. Each child may show symptoms at different levels of ozone. The best way to monitor activities during periods of high ozone levels is to ask children to report any symptoms related to difficulty breathing to a staff member (teacher, nurse, coach). If a child is particularly affected by ozone, or has been in the past, take steps to ensure their exposure or activity level is reduced to decrease the chance of symptoms. Alternatively, children could be moved indoors for continued exercise (indoor environments can have 20-80 percent less ozone). Children with asthma should have an asthma management plan on file in the school office so that symptoms can be treated immediately and appropriately. Instructors should work with students with exercise-induced asthma to assure premedication and access to quick relief or rescue medication, and/or implement any directives for activity modifications.

III. Reducing Student Exposure to Unhealthy Air

Physical Education Classes and Recesses on Poor Outdoor Air Quality Days

What would normally be safe for eight hours of exposure ("safe" means not likely to result in adverse health effects in the

general population) becomes less so with increased breathing rates and the duration of exposures. Therefore, an exposure risk reduction strategy involves reducing intensity (breathing rates) and duration (time) of vigorous outdoor activities.

Physical education instructors should be prepared with alternative sports and exercises that can be performed on poor outdoor air quality days. Exercise is important to lung development, heart health, physical fitness, and weight management. Permitting *no* physical activity should be the *last* consideration.

Children with asthma action plans developed in conjunction with their physician, parents, and school nurse should always follow their plan. It is recommended that the School District provide appropriate staff with a copy of the “**New Jersey Guidance for Schools on Poor Air Quality Days for Ozone and Fine Particles**” created in conjunction with this policy for use on poor outdoor air quality days.

Athletic Programs

Practices

Possible ways to reduce health risks from higher exposures to outdoor air pollutants on poor outdoor air quality days:

1. Reduce intensity of the activities: a. Switch out players more often during practice and games b. Focus on skill development versus endurance training c. Take frequent rest and water breaks
2. Spend part of practice indoors and part outdoors
3. Split practice into two parts: one before and one after school
4. During high ozone days, move practices to before school
5. Shorten the length of practices
6. Move inside when practical

Games

Possible ways to reduce health risks from higher exposures to outdoor air pollutants on poor outdoor air quality days:

1. Work with the [New Jersey Education Consortium](#) in coordinating sporting events that may be subject to cancellation due to poor outdoor air quality.
2. Work with neighboring school districts and schools on policies for canceling and rescheduling sporting events on poor outdoor air quality days (include with inclement weather policies).