

FACT SHEET



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Local Air Quality Advisory (LAQA) Recommended Actions for Fine Particulate Matter (PM_{2.5})

Office of Air Quality – Air Programs Branch

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IDEM will forecast a Local Air Quality Advisory (LAQA) when fine particulate matter, known as PM_{2.5}, may rise to unhealthy levels in outdoor air for a short period of time. This fact sheet provides background information on LAQAs and suggested precautions for affected groups, as well as the role citizens play in improving air quality.

Local Air Quality advisory vs. Air Quality Action Day:

- **Local Air Quality Advisory (LAQA):** For times when the overall daily PM_{2.5} concentration may not warrant an Air Quality Action Day, but hourly values may reach the Unhealthy for Sensitive groups (Orange) Air Quality Index (AQI) level or higher over a shorter timeframe (i.e., over several hours).
- **Air Quality Action Day (AQAD):** For days when ground-level ozone and PM_{2.5} are forecasted to build up to unhealthy levels, orange or higher on the AQI index, in the outdoor air over an extended period of time and may exceed U.S. EPA's health-based air quality standards.

Background:

- IDEM meteorologists work daily to examine concentrations of air pollutants in the outdoor air, monitor weather conditions, and coordinate with air quality professionals from local metropolitan areas and neighboring states to issue air quality forecasts.
- IDEM issues Local Air Quality Advisories when hourly AQI values, caused by a build-up of PM_{2.5} or smoke, are forecasted above 100 on the AQI for several hours, typically during prolonged stagnant conditions overnight.
- These conditions can occur due to overnight temperature inversions causing little to no wind and stable conditions. PM_{2.5} concentrations will typically decrease in the late morning as wind speeds and temperatures increase, breaking the temperature inversion and allowing pollutants to mix out from the surface.
- Indiana collects ground-level ozone data from March 1 through Oct. 31 each year, when the pollutant is most likely to form. Indiana monitors PM_{2.5} year-round.
- A LAQA can occur anytime of the year. Historically, these elevated PM_{2.5} overnight events occur on or around Independence Day celebrations and in late fall or winter from residential leaf, recreational or agricultural burning.
- The public can find daily air quality forecasts and air quality alerts and advisories at www.SmogWatch.IN.gov

Potential Health Effects of PM_{2.5}:

Groups likely to be affected by poor air quality are advised to reduce or avoid exertion and heavy work outdoors during a LAQA.

- Fine particulate matter is made up of microscopic dust, soot, liquid droplets, and smoke particles that are 2.5 micrometers wide or smaller. Because PM_{2.5} is so small, it can settle deep into the lungs and is difficult to exhale. PM_{2.5} can adversely affect anyone and is especially harmful for sensitive populations.
- While PM_{2.5} values may not exceed the daily maximum National Ambient Air Quality Standard (NAAQS) of 35 µgm³ (which would result in an AQAD), elevated hourly PM_{2.5} values may cause temporary breathing problems or aggravate existing health issues for sensitive populations.
- People at risk are particularly vulnerable after several days of high PM_{2.5} exposure, which can cause coughing, aggravated asthma, decreased lung function, irregular heartbeat, heart attacks or premature death.

Citizen's Role:

- Take appropriate health precautions on LAQAs by reducing or avoiding exertion or heavy work outdoors.
- Follow the pollution prevention tips below for PM_{2.5}.
- Follow advisories from appropriate authorities, including local health departments.

Pollution Prevention Tips for PM_{2.5} LAQAs:

- PM_{2.5} is emitted by many types of combustion sources, from industrial boilers to gasoline and diesel engines. It can also form from chemicals including sulfur dioxide and nitrogen oxides from power plants, industries and cars.
- **To reduce PM_{2.5}:**
 - Avoid unnecessary fires and wood burning in fireplaces or wood-fired boilers.
 - ***Remember, Indiana's open burning laws make it illegal to burn trash and generally prohibit open burning.***
 - Drive less: carpool, use public transportation, work from home when possible, and combine errands.
 - Avoid using gasoline-powered lawn or snow removal equipment or gas-powered recreational vehicles.
 - Keep your engine tuned, avoid idling at the drive-thru, and properly inflate tires.
- To conserve energy, turn off lights and set the thermostat ≤70° in winter and ≥75° in summer; look for ENERGY STAR® label for home/office equipment and appliances.

Additional Information:

- Indiana's SmogWatch website and daily forecasts: www.SmogWatch.IN.gov
- Indiana's air monitoring data and reports: idem.IN.gov/airmonitoring
- Open burning and recycling information for Indiana: idem.IN.gov/openburning
- U.S. EPA's AirNow and AQI information: airnow.gov
- U.S. EPA information about smoke and health effects: epa.gov/burnwise/wood-smoke-and-your-health
- ENERGY STAR® certified products: ENERGYSTAR.gov