Mississippi Air Quality & Asthma Toolkit

A practical, downloadable guide to understand local air quality in Mississippi and manage asthma safely. Includes action steps and checklists.

By Selika Sweet, MD, FAAP
Climate and Health Equity Fellow (CHEF)

Quick Overview

This toolkit helps Mississippians check local air quality (AQI), understand how air pollution triggers asthma, and make daily decisions to reduce exposure and manage symptoms. Use the city-specific action plan to adapt based on your local AQI.

⚠️*Please Note: According to Air Quality Forecast – MDEQ and Air Quality Index (AQI) Report | US EPA only 3-6 Mississippi metropolitan cities provide AQI results daily—and only during specific months.*

How Air Quality Affects Asthma

Key pollutants that commonly trigger asthma attacks:
- Ozone (smog) — irritates airways and causes inflammation.
- Particle pollution (PM2.5 and PM10) — small particles from smoke, dust, and combustion can penetrate deep into the lungs.

Both ozone and particle pollution are tracked through the AQI. When AQI rises above 100, people with asthma are at higher risk and should take precautions.

How to Check Your Local Air Quality (Mississippi)

1. AirNow (federal): Real-time AQI and forecasts for your city. Use the map or enter your ZIP code.
2. Mississippi Dept. of Environmental Quality (MDEQ): State forecasts, EnviroFlash sign-up for daily notices, and county-level information.
3. Local health organizations and the American Lung Association: additional guidance and State of the Air reports.

AQI Quick Actions for People with Asthma

AQI 0–50 (Good):
- Normal outdoor activity. Continue your asthma preventive medication as prescribed.

AQI 51–100 (Moderate):
- Sensitive individuals may notice symptoms. Consider reducing prolonged outdoor exertion.

AQI 101–150 (Unhealthy for Sensitive Groups - USG):
- Limit prolonged outdoor exertion. Move activities indoors with filtered air if possible.

Sources: US EPA / AirNow (airnow.gov); Mississippi Dept. of Environmental Quality (mdeq.ms.gov); CDC asthma data (cdc.gov); American Lung Association (lung.org).

AQI 151–200 (Unhealthy):
- Avoid outdoor exertion. Follow your asthma action plan; use rescue inhaler as prescribed.

AQI 201+ (Very Unhealthy / Hazardous):
- Stay indoors with windows closed, run an air purifier if available, seek medical attention for severe symptoms.

Daily Checklist (fill each morning)

- Check AQI for your city (AirNow or MDEQ).
- If AQI >100, alter outdoor plans and notify caregivers/school/work as needed.
- Take controller medications as prescribed.
- Keep quick-relief inhaler accessible.
- Know triggers (pollen, smoke from fires, industrial emissions) that may combine with AQI to worsen symptoms.

City-Specific Action Plan (copy this section for your city)

City: _____ ZIP: _____

Primary contacts: Physician: _____ Phone: _____

Preferred pharmacy: _____

Local AQI source(s): _____

Usual local triggers (check all that apply): [ ] Pollen [ ] Wildfire smoke [ ] Industrial emissions [ ] Road dust [ ] Other: _____

Custom actions when AQI 101–150:
- _____

Custom actions when AQI 151+:
- _____

Managing Asthma During Smoke Events or Industrial Releases

If you see visible smoke, strong odors, or receive local alerts for chemical releases:
- Stay indoors and close windows/doors.
- Turn on HVAC recirculation (if available) and use high-quality HVAC or portable HEPA filters.
- Avoid physical exertion and monitor symptoms closely. Use a rescue inhaler per your asthma action plan.
- If symptoms worsen (difficulty breathing, blue lips, fainting, or severe wheeze), seek emergency care.

Sources: US EPA / AirNow (airnow.gov); Mississippi Dept. of Environmental Quality (mdeq.ms.gov); CDC asthma data (cdc.gov); American Lung Association (lung.org).

Home & Travel Tips

- Create an indoor clean-air zone (small room with a HEPA filter and limited entry).
- Know when to limit car travel — particle pollution can concentrate near busy roads and industrial areas.
- For travel: check AirNow for the destination city and plan activities during lower-AQI hours (often morning).

Medication & Emergency Preparedness

- Keep an up-to-date asthma action plan from your healthcare provider (Green = good, Yellow = caution, Red = emergency).
- Maintain at least 1–2 weeks supply of controller & rescue medications when possible.
- Teach family/household to use inhalers and recognize signs of worsening asthma.

Community Resources & Support

- Mississippi Department of Environmental Quality (MDEQ): state air quality forecasts and EnviroFlash sign-up.
- AirNow.gov: real-time AQI and smoke/ozone forecasts.
- American Lung Association: asthma management resources and local programs.
- Local health department and primary care provider for individualized medical advice.

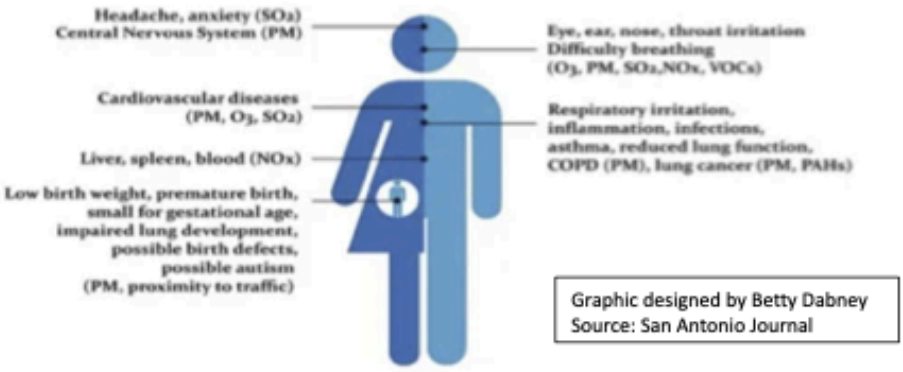
Notes & Personal Observations

Use this space to track how your symptoms relate to local AQI and any patterns you observe.

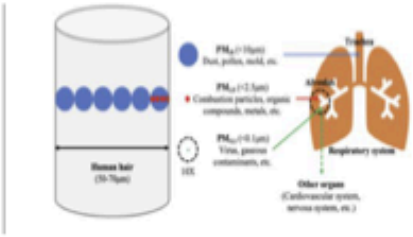
Today's Date	AQI Air Quality Index	Symptoms	Action Taken

Sources: US EPA / AirNow (airnow.gov); Mississippi Dept. of Environmental Quality (mdeq.ms.gov); CDC asthma data (cdc.gov); American Lung Association (lung.org).

Health Effects of Air Pollution



What you don't see can hurt you! When air pollution is very high, you may see a haze, but most often, the individual particle pollution or Particulate matter (PM) is too fine for you to see. These particles are a mixture of tiny bits of solids, liquids, and gasses in the air and are small enough to be inhaled into the lungs. EPA classifies Particle pollution (PM) by size. There are the coarse particles PM_{10}, that are 10 microns or less in size;(all smaller than a strand of human hair); then there is fine particulate matter ($PM_{2.5}$,) which is 2.5 microns or less. And finally, there is Ultrafine Particulate matter ($PM_{0.1)}$) the tiniest, which can get into your bloodstream.



Where does Particle pollution come from? Factories, power plants, and diesel- and gasoline-powered motor vehicles (cars, trucks and buses) and equipment either directly emit fine particles or generate other pollutants such as nitrogen oxides (NOx), known as precursors because they can then form into fine particles in the atmosphere. Other sources of particle pollution include wildfires, burning wood in wood stoves or residential fireplaces and burning biomass for electricity. (ALA; lung.org, Yang et al, 2020))

How can I protect/myself/my family (especially those with asthma/lung disease)?

1. **Be aware of the Air Quality. Check the Air Quality Index, if available in your county. (AQI-www.airnow.gov)**
2. **Wear masks when you are aware of pollution in your surroundings.**
3. **Limit outdoor time/play during high levels of air pollution, especially during periods of excessive heat. (Heat pushes the air pollution closer to the ground).**
4. **Drive less when you can, keep car in good repair, and avoid idling your engine for long periods; Consider electric/hybrid vehicles and electric hand powered lawn tools. Support Electric school busses in your district. (Clean School Bus grant funding)**
5. **Limit backyard fires, using burn barrels, and wood stoves.**
6. **Plant and care for trees. (Trees help protect against air pollution and excessive heat)**
7. **Use less energy. Be Energy efficient. Your Electric company can check your home.**
8. **Be a champion for CLEAN AIR!**
9. **For more information, contact us at msclimateandhealthequity.com**

Sources: US EPA / AirNow (airnow.gov); Mississippi Dept. of Environmental Quality (mdeq.ms.gov); CDC asthma data (cdc.gov); American Lung Association (lung.org).