

AIR POLLUTION

What is Air Pollution

- Any visible or invisible particle or gas found in the air that is not part of the original, normal composition.

Types

- Natural: forest fires, pollen, dust storm
- Unnatural: man-made; coal, wood and other fuels used in cars, homes, and factories for energy

How is it measured?

AQI: Air Quality Index

- Indicates whether pollutant levels in air may cause health concerns.
- Ranges from 0 (least concern) to 500 (greatest concern)

Air Quality	Air Quality Index	Protect Your Health
Good	0-50	No health impacts are expected when air quality is in this range.
Moderate	51-100	Unusually sensitive people should consider limiting prolonged outdoor exertion.
Unhealthy for Sensitive Groups	101-150	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
Unhealthy	151-200	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion, everyone else, especially children should limit prolonged outdoor exertion.
Very Unhealthy (Alert)	201-300	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion everyone else, especially children, should limit outdoor exertion.

Classification

Primary Pollutants:

I) Gaseous Pollutant

- Carbon oxide
- Sulfur oxide
- Nitrogen oxide

II) Particulate Matter

Carbon Monoxide

- colorless, odorless
- produced when carbon does not burn in fossil fuels
- present in car exhaust
- deprives body of O₂ causing headaches, fatigue, and impaired vision

Sulfur Dioxide

- produced when coal and fuel oil are burned
- present in power plant exhaust
- narrows the airway, causing wheezing and shortness of breath, especially in those with asthma

Nitrogen Dioxide

- reddish, brown gas
- produced when nitric oxide combines with oxygen in the atmosphere
- present in car exhaust and power plants
- affects lungs and causes wheezing; increases chance of respiratory infection

Particulate Matter

- particles of different sizes and structures that are released into the atmosphere
- present in many sources including fossil fuels, dust, smoke, fog, etc.
- can build up in respiratory system
- aggravates heart and lung disease; increases risk of respiratory infection

Smog

- Combination of gases with water vapor and dust
 - Combination of words smoke and fog
 - Forms when heat and sunlight react gases (photochemical smog)
 - Occurs often with heavy traffic, high temperatures, and calm winds

Effects of Smog

- 1st smog related deaths were in London in 1873; death toll 500 people; can you imagine how much worse the atmosphere is now?!
- Limits visibility
- Decreases UV radiation
- Yellow/black color over cities
- Causes respiratory problems and bronchial related deaths

Air Pollution Effects

- Green House Effect
- Global Warming
- Thinning of Upper Ozone layer
- Acid Rain

THANK YOU