

Definition

Air quality monitoring is the process of measuring various pollutants and gases in the atmosphere to assess the quality of the air we breathe. It helps in understanding pollution levels, identifying sources of pollution, and taking measures to protect public health and the environment. Monitoring typically involves the measurement of pollutants like particulate matter (PM_{2.5} and PM₁₀), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), and volatile organic compounds (VOCs). Data from these monitoring systems are used by governments, environmental agencies, and researchers to make informed decisions and develop strategies to improve air quality.

****Benefits:****

- 1. ****Public Health:**** Monitoring air quality helps protect public health by providing early warnings about dangerous levels of pollutants. It allows individuals to take precautions, especially those with respiratory conditions.*
- 2. ****Environmental Protection:**** Monitoring helps in identifying sources of pollution, which can lead to more effective regulatory measures to reduce emissions and protect ecosystems.*
- 3. ****Policy Development:**** Data from monitoring systems are crucial for policymakers to develop and implement regulations aimed at improving air quality and reducing pollution.*
- 4. ****Research:**** Air quality data supports scientific research on the effects of air pollution on human health and the environment, helping us better understand the complexities of air quality.*

