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Commentary

An overview on air quality index

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DESCRIPTION

The Air Quality Index, or AQI, is a system used to warn the public if air pollution is dangerous. AQI tracks ozone (smog) and particulate matter (small particles from ashes, power plants and industries, automotive debris, soil dust, pollen, and other pollutants), as well as four other widespread pollutants. Newspapers, radio, television, and websites report AQI levels throughout the year. Tracking current air quality information can help us take steps to protect our self, children, and others from unhealthy levels of air pollution.

The AQI calculation requires concentration of air pollution for a specified period of time, obtained from an air monitor or model. Taken together, concentration and time represent the amount of air pollution. Dosage-related health effects are established by epidemiological research. Pollutants vary in intensity, and the function used to convert air pollutants to AQI varies with the contaminant. Its air quality index values are typically grouped into ranges. Each range is assigned a descriptor, a colour code, and a standardized public health advisory.

The AQI can increase due to an increase of air emissions. Stagnant air, often caused by an anticyclone, temperature inversion, or low wind speeds lets air pollution remain in a local area, leading to high concentrations of pollutants, chemical reactions between air contaminants and hazy conditions.

In the event of poor air quality, such as an episode of air pollution, where AQI indicates that excessive exposure could cause significant damage to public health, agencies may request emergency systems that allow them to order larger products (such as coal-fired power plants) to reduce pollution until hazardous conditions are reduced.

Many air pollutants do not have a related AQI. Many countries monitor the low levels of ozone, particles, sulphur dioxide, carbon monoxide and nitrogen dioxide, and calculate the air quality indicators for these pollutants.

AQI public availability

Real-time monitoring data and colour quality forecasts for air quality indicators are available on EPA's Air Now website. Some organizations provide monitoring to members of sensitive groups such as asthmatic, children and adults over the age of 65. Historical air data including AQI charts and maps are available on the EPA Air Data website. Detailed map of the current AQI level and its two-day forecast are available on the Aerostate website.

History of the AQI

AQI first emerged in 1968, when the National Air Pollution Control Administration took the initiative to improve the air quality index and apply the operation to metropolitan area. The impetus was to draw public attention to the issue of air pollution and to indirectly push local public officials to take action to control the sources of pollution and improve air quality in their areas.

Steps to protect our lives from air pollution

Air pollution can threaten anyone's health. Be aware of how we can feel on days of high pollution and take steps to help protect our self's.

• Children and adolescents, the elderly people with respiratory problems including asthma, people with cardiovascular disease or diabetes, and active outdoor adults, including outdoor workers and healthy exercisers, are all at high risk. They are the first to feel the effects of ozone depletion and particles, and they need to take extra steps to protect themselves from harm.

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• If the daytime level is orange or worse, adjust our daily plans. Avoiding long-term hard work outside. The health effects of pollution become worse during prolonged exposure, as well as deep, rapid breathing accompanied by exercise. Avoiding crowded places.