



PM_{2.5} and PM₁₀: Atmospheric Behaviors and Correlation with Health Effects

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Message from the Guest Editors

Dear Colleagues,

Air pollution causes several million deaths each year. Epidemiological studies have shown that air pollution is related to many diseases in both the respiratory and cardiovascular systems, such as lung cancer and asthma, and arrhythmias and myocardial infarction. Air pollution has also been related to adverse birth outcomes, infant mortality, neurodevelopmental disorders, and child obesity. Among pollutants, particulate matter (PM) is considered as one of the most serious air pollutants. Both PM_{2.5} and PM₁₀ emitted from the combustion of fossil fuels and biomass contain strong toxic chemicals such as polycyclic aromatic hydrocarbons (PAHs) and their derivatives. The present air pollution levels are above the World Health Organization (WHO)'s guidelines in Africa, Southeast Asia, the Eastern Mediterranean, and the Western Pacific regions. It is important to understand the causes of air pollution in these regions, the exposure risks to humans, and the mechanisms of adverse health effects, not only to predict future air quality, but also to develop suitable countermeasures.

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