

Water spray geoengineering to clean air pollution for mitigating haze in China's cities

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In the past 30 years, China has suffered from air pollution and heavy haze created by fast industrial growth and economic expansion. This article reviews the techniques for remediation of air pollution. Then, I propose a geoengineering method for mitigating air pollution and haze in China's cities by using water to scavenge air pollution. Here, water should be sprayed into the atmosphere like watering garden. The scientific rationale and mechanism for the geoengineering scheme are explained. It is found that precipitation scavenging coefficients are very sensitive to the size distributions of both aerosol and raindrops, and rain intensity. I found that the water spray geoengineering method can reduce the PM_{2.5} pollution in the atmosphere very efficiently to 35 $\mu\text{g m}^{-3}$ level in a very short time period from few minutes to hours or days, depending on the precipitation characteristics. In addition, the water spray geoengineering method has excellent advantages such as rapidity, already available technology, low cost, and a nature-like process. This proposed geoengineering scheme can be one of the answers for fighting air pollution in the cities globally.