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## Sensitivity Analysis on Air Quality Index Calculation

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Ambient air pollution (AAP) is one of the greatest environmental risk for human health and well-being for both cities and rural areas. According to the World Health Organization (WHO), AAP levels exceed recommended limits almost 92% of the world's population. The Air Quality Index (AQI) is a simple, unitless index divided into six categories corresponding to a different level of health concern with a specific a specific color. There are lots of calculations to measure AAP and one of them, widely used in the world, is provided from EPA (U.S. Environmental Protection Agency). EPA establishes an AQI for five major air pollutants ( ground-level ozone particle pollution (PM<sub>2.5</sub> and PM<sub>10</sub>), carbon monoxide, sulfur dioxide nitrogen dioxide) regulated by the Clean Air Act. In this calculation, the highest AQI calculated for each pollutant constitutes the AQI value for that day. This calculation also brings sensitivity problems. This situation causes us to question the precision of the measurement. The main aim of this study is to show some calculation examples of concentration levels of the pollutants with the different cases. Thanks to these scenarios, the necessity of a much more precise measurement will be revealed.