AQI Equation

$$AQI = \frac{(AQI_{Hi}) - (AQI_{Lo})}{(Conc_{Hi}) - (Conc_{Lo})} \times \left((\mathbf{Conc_i}) - (Conc_{Lo})\right) + (AQI_{Lo})$$

Where
$Conc_i$ = Input concentration for a given pollutant
$Conc_{Lo}$ = The concentration breakpoint that is less than or equal to $Conc_i$
$Conc_{Hi}$ = The concentration breakpoint that is greater than or equal to $Conc_i$
AQI_{Lo} = The AQI value/breakpoint corresponding to $Conc_{Lo}$
AQI_{Hi} = The AQI value/breakpoint corresponding to $Conc_{Hi}$

Rounding vs. Truncating

For all AQI calculations, the **calculated average concentrations are truncated** to .001 ppm (1 ppb) for O3, 0.1 µg/m3 for PM2.5, and 1 µg/m3 for PM10. This truncated concentration is then used as the input ($Conc_i$) in the AQI equation above. The resulting **AQI is rounded** to the nearest whole number.

AQI and Concentration Breakpoints by Pollutant (2015)

Ozone	$Conc_{Lo}$ (PPM)	$Conc_{Hi}$ (PPM)	AQI_{Lo}	AQI_{Hi}
Good	0.000	0.054	0	50
Moderate	0.055	0.070	51	100
Unhealthy For Sensitive Groups	0.071	0.085	101	150
Unhealthy	0.086	0.105	151	200
Very Unhealthy	0.106	0.200	201	300

AQI values >300 are calculated using 1-hour O_3 breakpoints.

$PM_{2.5}$	$Conc_{Lo}$ (µg/m^3)	$Conc_{Hi}$ (µg/m^3)	AQI_{Lo}	AQI_{Hi}
Good	0.0	12.0	0	50
Moderate	12.1	35.4	51	100
Unhealthy For Sensitive Groups	35.5	55.4	101	150
Unhealthy	55.5	150.4	151	200
Very Unhealthy	150.5	250.4	201	300
Hazardous	250.5	500.4	301	500

PM_{10}	$Conc_{Lo}$ ($\mu g/m^3$)	$Conc_{Hi}$ ($\mu g/m^3$)	AQI_{Lo}	AQI_{Hi}
Good	0	54	0	50
Moderate	55	154	51	100
Unhealthy For Sensitive Groups	155	254	101	150
Unhealthy	255	354	151	200
Very Unhealthy	355	424	201	300
Hazardous	425	604	301	500

AQI values above 500 are considered Beyond the AQI. Follow recommendations for the Hazardous category. Additional information on reducing exposure to extremely high levels of particle pollution is available here [239].