

Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 8/3/22

Air Quality Forecast: This is the daily forecasted Air Quality Index (AQI) for each area provided by the PA Department of Environmental Protection. The AQI is based on PM2.5 or Ozone, whichever is forecasted to be higher.




Forecast Period	Pittsburgh Area	Liberty-Clairton Area
Today Wednesday 8/3/22	Ozone Moderate 70 AQI	PM2.5 Moderate 58 AQI
Tomorrow Thursday 8/4/22	Ozone Moderate 55 AQI	PM2.5 Moderate 52 AQI

Today's Forecast: Elevated levels of PM2.5 are likely prior to any inversion breaking early Wednesday, then better late morning and afternoon mixing and dispersion will lead to lower values. However, the daily PM2.5 average ends up in the moderate range. Ozone will also go moderate in parts of the area with sunshine most of the time and temperatures approaching the 90-degree mark.

See Page 2 for the Air Quality Index guide

[Data provided by the PA Department of Environmental Protection](#)

ACHD Air Dispersion 36-Hour Forecast: This is the dispersion forecast for Allegheny County starting from this morning through tomorrow afternoon. The atmospheric dispersion index is a rating of the atmosphere's ability to transport pollution away from its source and is based on emissions and weather. Better atmospheric dispersion can improve air quality.

Forecast Period		Atmospheric Dispersion Index	Surface Inversion Strength	Wind (dir mph)
Today	 Morning	Generally Good – 42	Moderate	S 5
	Afternoon	Generally Good – 56	--	SW 6
Tonight	 Evening	Very Poor – 5	--	SW 6
	Overnight	Very Poor – 3	--	S 3
Tomorrow	 Morning	Very Good – 103	Strong	S 2
	Afternoon	Very Good – 125	--	SW 7

See page 2 for the Atmospheric Dispersion Index guide and the daily Surface Temperature Inversion Report.

ACHD Remarks: GFS model sounding forecast for PIT tomorrow morning (Thursday) shows a moderate to strong inversion that could contribute to poor air quality overnight and into the morning. Conditions should improve by ~10am.

Data provided by the National Weather Service (NWS) [Fire Weather Planning Forecast](#) and [PIT NWS Products](#)

Guide to the Air Quality Index (AQI)

Color	Description	Meaning	AQI
Red	Unhealthy	Everyone should limit exertion outdoors.	151 - 200
Orange	Unhealthy for Sensitive Groups	Sensitive people should limit exertion outdoors.	101 - 150
Yellow	Moderate	Extremely sensitive people may wish to limit outdoor exertion.	51 - 100
Green	Good	No health impacts are expected in this range.	0 - 50

Guide to the Atmospheric Dispersion Index

Very Poor	Poor	Generally Poor	Fair	Generally Good	Good	Very Good
1 - 6	7 - 12	13 - 20	21 - 40	41 - 60	61 - 100	> 100

ACHD Surface Temperature Inversion Report:

This is the 7 AM surface-based temperature inversion report for Allegheny County.

This morning's inversion of 3.6° and a depth of 135 m is estimated to have break at 09:30.

This inversion can be characterized as: None / Slight / Weak / **Moderate** / Strong.

There is no upper level inversion reported.

What does the Surface Temperature Inversion mean?

A surface temperature inversion is a weather pattern that stops mixing of the air near the ground, and pollution released into the air tends to remain at higher concentrations.

Surface temperature inversion conditions include how strong the surface inversion is (in °C), how high the inversion is above the surface (in meters), and when the inversion is expected to break (in Eastern Standard Time). Also included is whether an upper-level inversion or inversions exist, starting at about 1,000 meters.

Surface Temperature Inversion Characterization

0-0.9 C°: Slight

1-2.9 C°: Weak

3-4.9 C°: Moderate

≥5 C°: Strong

