

Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 12/8/23

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 Friday 12/8/23	PM2.5 Moderate 54 AQI	PM2.5 Moderate 65 AQI
Tomorrow Saturday 12/9/23	PM2.5 Good 44 AQI	PM2.5 Good 44 AQI




Today's Forecast:

A morning inversion along with a southwest wind will result in PM2.5 being highest overnight tonight/early Friday morning. Afternoon mixing should be adequate to where PM2.5 averages for the day are in the moderate range. Skies will turn partly to mostly sunny as temperatures rise into the middle 50s. Clouds will move in Saturday with a brisk south to southwest wind most of the day, and while PM2.5 will be elevated Saturday morning, the stronger afternoon mixing and the chance for rain coming in early Saturday night will result in air quality ending up in the high end of the good range. Air quality Sunday and Monday will be in the good category.

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	27 – Fair	Strong	S 5-10
	Afternoon	41 – Generally Good	--	S 5-10
Tonight	 Evening	7 – Poor	Weak	S 5-10
	Overnight	8 – Poor	Weak	S 5-10
Tomorrow	 Morning	18 – Generally Poor	--	S 5-10 Gusts 20
	Afternoon	34 – Fair	--	S 5-10

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

ACHD Remarks:

Significant potential for precipitation starting in the evening of Saturday, December 9, 2023 into the morning of Sunday, December 10, 2023.

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 **6.8°C** with a depth of **677m** is estimated to break **12:00 PM**.

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

There is no inversion above ~1000 meters reported.

What does the Surface Temperature Inversion Report 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

