

Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 12/29/22

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 Thursday 12/29/22	PM2.5 Moderate 81 AQI	PM2.5 Unhealthy for Sensitive Groups 119 AQI
Tomorrow Friday 12/30/22	PM2.5 Moderate 72 AQI	PM2.5 Moderate 95 AQI




Today's Forecast:

High pressure providing a southwesterly breeze under mostly sunny skies early in the day will allow for the temperatures to warm into the early afternoon. Concentrations of fine particulate matter (PM-2.5) will climb with the formation of a strong temperature inversion with the much warmer air continuing to move in over the area just above the surface. Elevated PM-2.5 concentrations during the overnight/morning hours when the inversion is in place will be high enough that they will average out to be in the Code Orange range for the day. Therefore, an Air Quality Action Day has been declared for Thursday.

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	Fair – 21	Strong	S 5-10
	Afternoon	Fair – 24	--	SW 5-10
Tonight	 Evening	Poor – 9	--	S 5
	Overnight	Poor – 10	Weak	S <5
Tomorrow	 Morning	Fair – 23	Moderate	S 5
	Afternoon	Fair – 26	--	S 5-10

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

ACHD Remarks:

Today is an Air Quality Action Day for the Liberty-Clairton area.

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 5.2 °C with a depth of 263 m is estimated to break at ~11:30 AM.

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

An inversion above ~1000 meters is also 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

