

Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 12/21/2021

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 Tuesday 12/21/21	PM2.5 Moderate 54 AQI	PM2.5 Moderate 75 AQI
Tomorrow Wednesday 12/22/21	PM2.5 Good 37 AQI	PM2.5 Good 40 AQI

Today's Forecast: PM2.5 values may still be above 25 µg/m3 Tuesday morning prior to 10 a.m. as dispersion will remain rather poor. Southeast winds and slightly better dispersion will lower the high values late in the morning/early afternoon, but not enough to keep PM2.5 out of the lower moderate range. Another PM2.5 peak is possible Tuesday night out ahead of a cold frontal passage.

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	Poor – 8	Weak	SSE 1 to SE 2-3
	Afternoon	Generally Poor – 15	--	SE 3 to SSE 2
Tonight 	Evening	Very Poor – 3	--	SSE 2-3 to SW 6
	Overnight	Poor – 9	--	SW 6 to WNW 9
Tomorrow 	Morning	Good – 82	None	WNW 9 to NW 13-14 Gust 20-26
	Afternoon	Good – 93	--	NW 10-14 Gust 25-26

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

ACHD Remarks:

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 surface inversion of **2.0°C** with a depth of **142 m** is estimated to break at **10:00 AM**. This surface inversion can be characterized as: None / Slight / **Weak** / Moderate / Strong.

No upper inversion starting below ~1000 m is 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

