

Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 6/29/23

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 Thursday 6/29/23	PM2.5 Unhealthy 196 AQI	PM2.5 Unhealthy 192 AQI
Tomorrow Friday 6/30/23	PM2.5 Moderate 100 AQI	PM2.5 Moderate 100 AQI




Today's Forecast:

Wildfire smoke will continue to blanket the region on Thursday leading to another day with unhealthy levels of air quality. Warmer air lifting northward aloft will contribute to the development of another overnight temperature inversion. High pressure will provide minimal cloud cover which is typically favorable for better radiational cooling during the overnight hours. A layer of wildfire smoke, however, can sometimes act like a blanket of cloud cover over the region, thus limiting that radiational cooling to some degree. Unhealthy levels of air quality with concentrations of fine particulate matter (PM-2.5) remaining elevated. Winds look to be light for the day so even after the temperature inversion breaks during the morning hours mixing will be very limited. Ozone formation has not been as limited to the west so far Wednesday afternoon where high pressure has decreased the cloud cover despite hazy conditions due to unhealthy levels of PM-2.5. With limited cloud cover Thursday, ozone concentrations may climb well into the moderate range.

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 Poor – 15	Moderate	S <5
	Afternoon	Fair – 37	--	SW/S 5
Tonight	 Evening	Very Poor – 4	Weak	SE <5
	Overnight	Very Poor – 5	Strong	SE <5
Tomorrow	 Morning	Fair – 38	Moderate	S/SW 5-10
	Afternoon	Good – 74	--	SW 5-10

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

ACHD Remarks:

An Air Quality Action Day has been declared for Pittsburgh Area and 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 4 °C with a depth of 133 m is estimated to break at 9:30 AM.

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

There is an 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

