

# Air Quality Forecast and Dispersion Outlook of Allegheny County, Pennsylvania for 12/21/22

**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              |
|---|------------------------------------|------------------------------------|
| <b>Today</b><br>Wednesday<br>12/21/22   | PM2.5<br><b>Moderate</b><br>85 AQI | PM2.5<br><b>Moderate</b><br>84 AQI |
| <b>Tomorrow</b><br>Thursday<br>12/22/22 | PM2.5<br><b>Good</b><br>45 AQI     | PM2.5<br><b>Good</b><br>40 AQI     |




**Today's Forecast:**

PM2.5 is expected to be elevated Wednesday morning, but then concentrations drop some during the afternoon. Mixing will not be sufficient enough to keep the daily average out of 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) |
|-----------------|---|------------------------------|----------------------------|----------------|
| <b>Today</b>    |  Morning | 2 – Very Poor                | --                         | NE <5          |
|                 | Afternoon   | 6 – Very Poor                | --                         | NE <5          |
| <b>Tonight</b>  |  Evening | 5 – Very Poor                | --                         | E <5           |
|                 | Overnight   | 7 – Very Poor                | Weak-Moderate              | SE <5          |
| <b>Tomorrow</b> |  Morning | 14 – Generally Poor          | Moderate                   | SE 5-10        |
|                 | Afternoon   | 14 – Generally Poor          | --                         | E-SE 5-10      |

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 inversion of 5.9°C with a depth of 336 m is estimated to break at ~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

