



# PINAL COUNTY



**AIR QUALITY INDEX**

## FORECAST

|                       |                             |   |                               |                                    |                               |
|-----------------------|-----------------------------|---|-------------------------------|------------------------------------|-------------------------------|
| <b>GOOD</b><br>(0-50) | <b>MODERATE</b><br>(51-100) | <b>UNHEALTHY FOR SENSITIVE GROUPS</b><br>(USG)<br>(101-150) | <b>UNHEALTHY</b><br>(151-200) | <b>VERY UNHEALTHY</b><br>(201-300) | <b>HAZARDOUS</b><br>(301-500) |
|-----------------------|-----------------------------|---|-------------------------------|------------------------------------|-------------------------------|

This forecast is updated by 10:00 a.m. Monday through Friday and as needed (AQI Forecast on [Twitter](#) – see tables below for location-specific Twitters)

|  | Highest AQI value/site in Pinal County yesterday      | Highest AQI forecasted value |                  |                |                |                 |                 |
|--|---|------------------------------|------------------|----------------|----------------|-----------------|-----------------|
|  | TUES<br>12/5/23                                       | WED<br>12/6/23               | THURS<br>12/7/23 | FRI<br>12/8/23 | SAT<br>12/9/23 | SUN<br>12/10/23 | MON<br>12/11/23 |
| <b>OZONE</b>   | 31<br><i>Apache Junction</i><br><i>Pinal Air Park</i> | 35                           | 35               | 30             | 35             | 35              | 35              |
| <b>PM<sub>2.5</sub> **</b>   | 56<br><i>Casa Grande</i>                              | 55                           | 50               | 45             | 45             | 50              | 45              |
| <b>PM<sub>10</sub> **</b>  | 32<br><i>Casa Grande</i>                              | 30                           | 35               | 50             | 45             | 40              | 45              |
| ** Excludes the Hidden Valley Monitor, see the Hidden Valley table below |   |                              |                  |                |                |                 |                 |



- Symbol for **High Pollution Watch (HPW)** – Issued when there is potential for a pollutant to exceed the federal health standard. Issued in advance (2 or more days) as a lookout for potential poor air quality (Above 100 AQI). As the date nears and the confidence in the forecast increases, the High Pollution Watch will be upgraded to a High Pollution Advisory.



- Symbol for **High Pollution Advisory (HPA)** – When it's imminent or there is a high probability for a pollutant to exceed the federal health standard.

[AQI and your health](#) | [Air Quality Guide for Ozone](#) | [Air Quality Guide for Particulates](#)

## Discussion

Updated Wednesday, December 6, 2023

We are currently experiencing above-normal temperatures due to strong high pressure. Yesterday, Phoenix even saw record-high temperatures. However, a weather system off the Southern California coast is expected to weaken the ridge and cause temperatures to drop back to normal in the next few days, bringing breezy conditions across the county on Friday.

Unfortunately, due to ongoing temperature inversions and stagnation conditions, our fine particulate levels (PM2.5) remain in the double digits, resulting in the Moderate AQI category yesterday, and the same is forecasted for today. Coarse particulates, on the other hand, are expected to remain in the Good category this week, except for Hidden Valley. This is mostly due to a mixture of local sources and southeasterly winds.

As we approach the winter solstice, with shorter daylight hours and a lower angle of sunlight, ozone levels tend to stay in the good air quality category.

Please come back tomorrow for the latest update.

[HOURLY MONITORING DATA](#) (Draft, preliminary data - subject to change)  
[MONITORING NETWORK MAP](#)   [YESTERDAY'S AQI LEVELS](#)

|                                 | Yesterday's Daily<br>Maximum AQI @<br>Hidden Valley | <b>HIDDEN VALLEY (HV)<br/>PM<sub>2.5</sub> and 10 AQI FORECAST</b> |                  |                |                |                 |                 |
|---------------------------------|---|--|------------------|----------------|----------------|-----------------|-----------------|
|                                 | TUES<br>12/5/23                                     | WED<br>12/6/23   | THURS<br>12/7/23 | FRI<br>12/8/23 | SAT<br>12/9/23 | SUN<br>12/10/23 | MON<br>12/11/23 |
| HV<br>PM2.5                     | 48  | 50   | 50               | 45             | 45             | 40              | 50              |
| HV<br>PM10<br>(Twitter: HV_AQI) | 38  | 50   | 55               | 40             | 35             | 40              | 60              |

## AIR POLLUTANTS IN DETAIL

### **PM<sub>10</sub> & PM<sub>2.5</sub> (PARTICLES):**

**Description** – The term “particulate matter” (PMS) includes both solid particles and liquid droplets found in air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. Particles less than 10 micrometers in diameter tend to pose the greatest health concern because they can be inhaled into and accumulate in the respiratory system. Particles less than 2.5 micrometers in diameter are referred to as “fine” particles and are responsible for many visibility degradations such as the “Valley Brown Cloud” (see <http://www.phoenixvis.net/>). Particles with diameters between 2.5 and 10 micrometers are referred to as “coarse”.

**Sources** – Fine = All types of combustion (motor vehicles, power plants, wood burning, etc.) and some industrial processes. Coarse = crushing or grinding operations and dust from paved or unpaved roads.

**Potential health impacts** – PM can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases, such as asthma and chronic bronchitis.

**Units of measurement** – Micrograms per cubic meter (ug/m<sup>3</sup>)

**Averaging interval** – 24 hours (midnight to midnight).

**Reduction tips** – Stabilize loose soils, slow down on dirt roads, and carpool.

### **O<sub>3</sub> OZONE:**

**Description** – This is a secondary pollutant that is formed by the reaction of other primary pollutants (precursors) such as VOCs (volatile organic compounds) and NOx (Nitrogen Oxides) in the presence of heat and sunlight. The ozone “season” generally occurs during the spring and summer months (April-October) when high temperatures and extended daylight hours create the conditions most conducive to ozone formation.

**Sources** – VOCs are emitted from motor vehicles, chemical plants, refineries, factories, and other industrial sources. NOx is emitted from motor vehicles, power plants, and other sources of combustion.

**Potential health impacts** – Exposure to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate pre-existing respiratory diseases such as asthma. Other effects include a decrease in lung function, chest pain, and cough.

**Unit of measurement** – Parts per million (ppm).

**Averaging interval** – Highest eight-hour period within a 24-hour period (midnight to midnight).

**Reduction tips** – Curtail daytime driving, refuel cars and use gasoline-powered equipment as late in the day as possible.