A Q I  A I R  Q U A L I T Y  I N D E X

**FORECAST**

<table>
<thead>
<tr>
<th>GOOD (0-50)</th>
<th>MODERATE (51-100)</th>
<th>UNHEALTHY FOR SENSITIVE GROUPS (USG) (101-150)</th>
<th>UNHEALTHY (151-200)</th>
<th>VERY UNHEALTHY (201-300)</th>
<th>HAZARDOUS (301-500)</th>
</tr>
</thead>
</table>

**For**

**WEDNESDAY, NOVEMBER 30, 2022**

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)

<table>
<thead>
<tr>
<th>Highest AQI value/Site in Pinal County yesterday</th>
<th>Highest AQI forecasted value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MON 11/28/22</strong></td>
<td><strong>TUES 11/29/22</strong></td>
</tr>
<tr>
<td>OZONE</td>
<td>41 <strong>Queen Valley</strong></td>
</tr>
<tr>
<td>PM2.5</td>
<td>19 <strong>Hidden Valley</strong></td>
</tr>
<tr>
<td>PM10</td>
<td>43** <strong>Maricopa</strong></td>
</tr>
</tbody>
</table>

**Excludes the Hidden Valley Monitor, see Hidden Valley PM10 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 Tuesday, November 29, 2022

A cold front brings in cooler temperatures and southern Arizona still is expected to experience gusty winds this morning. However, the weather should return to light winds and warming up temperatures through the latter half of the week. Possible wet weather comes on Saturday and Sunday, but the level of uncertainty remains high for now.

With cold mornings and temperature inversions this week, the fine and coarse particulates are expected to elevate during dusk/dawn hours but are still forecasted to remain in the Good AQI category.

Hidden Valley is the exception to the forecast above only when the light southeasterly winds are predicted to hit the area. Thus, with days with these winds, the PM\textsubscript{10} levels are expected to rise in the mornings enough to flirt with the Moderate AQI category. This morning, for example, the winds were mostly southwest to west, so the particulate readings, so far, were not elevated significantly enough to worry about the Moderate category for the day yet (still have the likelihood for the evening temperature inversion).

Check back tomorrow for an updated air quality forecast.

**HOURLY MONITORING DATA** (Draft, preliminary data - subject to change)
**MONITORING NETWORK MAP**  **YESTERDAY’S AQI LEVELS**

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>HV PM\textsubscript{10} (Twitter: HV_AQI)</td>
<td>54</td>
<td>40</td>
<td>51</td>
<td>55</td>
<td>45</td>
<td>55</td>
<td>60</td>
</tr>
</tbody>
</table>

*HV AQI:* 55
AIR POLLUTANTS IN DETAIL

**PM\textsubscript{10} & PM\textsubscript{2.5} (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\textsuperscript{3}).

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

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

**O\textsubscript{3} 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 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.