

## YUMA AIR QUALITY FORECASTING

### Frequently Asked Questions

#### **What has been ADEQ's historical role in air quality forecasting in Yuma?**

The agency began a Yuma and Vicinity Dust Control Action Forecast in 2003, in which winds and wind-blown dust risk predicted for the next three days. Wind speeds were predicted each of the days with an accompanying color-coded box that listed the blown-dust risk as either low, moderate or high.

#### **What changed in 2011?**

ADEQ began a full-scale air quality indexing effort, just as it has in the Phoenix metropolitan area, for the Yuma area. The Yuma air quality index (AQI) forecast utilizes a PM-10 monitor placed at the Rural Metro Fire Department headquarters, 2323 S. Arizona Ave., for hourly readings of PM-10 coarse dust particles in the air. Beginning March 1, 2011, data from an ozone monitor placed at the same site was utilized during ozone season through the end of October. The color-coded AQI provides preliminary data of air quality readings for the day before and forecasts for the current day, the day after and an extended forecast. The AQI is also a simple index to understand since pollutants are measured on a scale of zero to 100 with readings of 100 or more in the unhealthy range.

#### **Why were the changes made?**

ADEQ's mission is to protect the public health and environment of Arizona. We are currently standardizing the way in which we do air quality forecasting around the state and sharing more data with the public with those forecasts. Air-quality forecasts were added outside the Phoenix area in Yuma and Nogales during 2010 and 2011.

#### **By what time each day is the forecast made?**

The forecast is updated by 1 p.m. Sunday through Friday and is valid for areas within and bordering the City of Yuma.

#### **Is it true that the air quality forecast has raised Yuma's national profile?**

Yes. Yuma was listed on the U.S. Environmental Protection Agency's national daily compilation of air quality forecasts at [www.airnow.gov](http://www.airnow.gov) in 2011. EPA's AirNow program awarded certificates of recognition to Yuma schools and other organizations which have been participating in ADEQ's Yuma Flag Program.

#### **The Yuma area is currently listed by the U.S. Environmental Protection Agency as being in non-attainment for PM-10. Will this new air quality forecast system**

#### **help in the area coming back into attainment?**

This is one of the tools that will be used in hopes that Yuma will be redesignated as in attainment by the EPA. Other tools that will be used are continuous PM-10 monitoring and documenting that some past exceedances are due to natural "exceptional events" dust storms.

#### **Yuma is in attainment for ozone. Why was the ozone monitor installed?**

The city's consistent readings have been very close to the .075 parts per million ozone exceedance standard. The EPA has also discussed at length reducing that standard. In addition to serving a public health benefit, this ozone monitor will help establish trends and develop practices to reduce emissions.

#### **What is Particulate Matter?**

Particulate Matter is a mixture of microscopic solids and liquid droplets suspended in air. This pollution is made up of a number of components including acids such as nitrates and sulfates, organic chemicals, metals, soil or dust particles and allergens like pollen and mold spore fragments. The size of particles is directly linked to their potential for causing health problems. Particles less than 10 micrometers in diameter pose the great-

est problems because they can get deep into your lungs and some may even get into your bloodstream. Even smaller particles are found in smoke and haze, 2.5 micrometers or less. A PM-10 particle is one-seventh the width of a human hair.

### **What is ozone?**

Ozone is a gas, a form of oxygen. In the upper atmosphere it plays a beneficial role by providing a shield from ultraviolet rays. But it is a harmful pollutant at ground level. It inflames lung tissues and can cause coughing, chest pains and asthma. Ozone pollution is created when certain chemicals in auto emissions interact with heat and sunlight. Emissions from certain manufacturing operations also contribute to ozone pollution.

### **What is a High Pollution Advisory?**

A High Pollution Advisory (HPA) is issued when forecasters believe that the highest concentration of PM-10, PM-2.5 or ozone for the day may exceed the federal health standards. On a day that an HPA is issued, ADEQ also will send media releases to the Yuma area with health tips to minimize exposure to pollutants and suggested courses of action to reduce the amount of pollution generated.

### **What is a Health Watch?**

A Health Watch is issued when forecasters believe that the highest concentration of PM-10, PM-2.5 or ozone for the day may approach, but not exceed, the federal health standards.

### **What are the details of the previous air quality flag program in Yuma?**

The program was tethered to the Dust Control Action Forecast and projected wind conditions with three colored flags representing the likelihood of wind-blown dust risk. If wind conditions were light, a green flag was flown at the Sunset Community Health Center, the Regional Center for Border Health, Yuma County Public Health Services and four schools within Yuma. If winds were moderate, a yellow flag was flown. If wind conditions were forecasted high, a red flag was flown to indicate potential health risks from wind-blown dust.

### **What has changed in the air quality flag program with a new forecasting system?**

With the implementation of the new Yuma air quality index, four different-colored flags are flown to characterize air quality conditions and potential risks after a much more extensive analysis of

monitoring data and crafting forecasts. Green flags indicate good air quality days, yellow flags indicate that unusually sensitive people could experience health effects and would want to limit outdoor exposure, orange flags indicate unhealthy for sensitive populations with limitations on rigorous outdoor exposure and red means the air quality is unhealthy for all populations.

### **For more information**

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