

YUMA AIR QUALITY FORECASTING

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 risk of wind-blown dust were predicted for the next three days. Wind speeds were predicted each of the days with an accompanying color-coded box that listed the risk of wind-blown dust as either low, moderate or high.

What changed in 2012?

ADEQ began producing a full-scale air quality forecast for the Yuma area, similar to that in the Phoenix metropolitan 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. On Feb. 29, 2012 ADEQ began forecasting for Ozone. 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 0 to 500 with readings above 100 falling into the unhealthy range.

Why were the changes made?

ADEQ's mission is to protect the public health and environment of Arizona. We standardized the way in which we do air quality forecasting around the state and

share more data with the public with those forecasts. Air quality forecasts were added outside the Phoenix area in Yuma and Nogales during 2012.

By what time each day is the forecast made?

The forecast is updated by 10 a.m. Monday 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 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 listed by the U.S. Environmental Protection Agency as being in non-attainment for PM-10. Will this air quality forecast system help the area come back into attainment?

This is one of the tools that will be used in hopes that Yuma will be re-designated 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?

Ozone Monitoring in Yuma originally started in 1997 as a special purpose monitors (SPM). Monitoring location(s) have changed through the years, but has been located at the Yuma Supersite (Rural Metro fire station) since 2008. The city's consistent readings have been very close to the .070 ppm ozone exceedance 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 greatest 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 ultra-violet 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 such as those in auto emissions and other industrial processes interact with focused sunlight. Emissions from certain manufacturing operations also contribute to ozone pollution.

What is a High Pollution Advisory?

A High Pollution Advisory (HPA) notifies the public that the level of an air pollutant is expected to exceed the federal health standard.

What is a Health Watch?

A Health Watch notifies the public that the level of an air pollutant is expected to approach the federal health standard.

How does the air quality flag program forecast work?

With the implementation of the Yuma air quality index, four different-colored flags are flown to characterize air quality conditions and potential risks after 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 should limit outdoor exposure; orange flags indicate the air quality is unhealthy for sensitive populations with limitations on rigorous outdoor exposure; and red means the air quality is unhealthy for all populations.

For more information:

Yuma Air Quality Forecast

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Yuma Air Quality Flag Program

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