PINAL COUNTY

AQI AIR QUALITY INDEX

FORECAST

GOOD (0-50)	MODERATE (51-100)	UNHEALTHY FOR SENSITIVE GROUPS (101-150)	UNHEALTHY (151-200)	VERY UNHEALTHY (201-300)	HAZARDOUS (301-500)

AIR QUALITY FORECAST FOR THURSDAY, SEPTEMBER 21, 2017

This forecast is updated by 1:00 p.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	Highest AQI forecasted value (see tables below for forecasts by monitoring location)				
	YESTERDAY TUE 9/19/17	TODAY WED 9/20/17	TOMORROW THU 9/21/17	EXTENDED FRI 9/22/17	EXTENDED SAT 9/23/17	EXTENDED SUN 9/24/17
OZONE	36 CASA GRANDE	48 GOOD	48 GOOD	49 GOOD	47 GOOD	46 GOOD
$PM_{2.5}$	48 HIDDEN VALLEY	62 MODERATE	70 MODERATE	65 MODERATE	60 MODERATE	50 GOOD
PM_{10}	81** STANFIELD	80** MODERATE	100** MODERATE	82** MODERATE	60** MODERATE	55** MODERATE
HEALTH WATCH/ ADVISORY*		*BLOWING DUST*	PM_{10} HEALTH WATCH HW *DUST*	*BLOWING DUST*	NONE	NONE

** Excludes the Hidden Valley Monitor, see Hidden Valley PM_{10} table below
PM_{10} = Particles 10 microns and smaller; $PM_{2.5}$ = Particles 2.5 microns and smaller
"Ozone Health Watch" means that the highest concentration of OZONE may approach the federal health standard.
"$PM_{2.5}$ and/or PM_{10} Health Watch" means that the highest concentration of $PM_{2.5}$ and/or PM_{10} may approach the federal health standard.
"High Pollution Advisory" (HPA) means that the highest concentration of OZONE, $PM_{2.5}$ or PM_{10} may exceed the federal health standard.
"DUST" means that short periods of high PM_{10} concentrations caused by outflow from thunderstorms are possible.

Health message for Wednesday-Thursday, September 20-21, 2017: Active children, adults and people with lung disease, such as asthma, should reduce outdoor activities.

Discussion

Updated Wednesday, September 20, 2017

Large-scale troughing will be the main feature in this week's weather as a couple of upper level impulses move down from the Pacific Northwest and influence our weather. Stronger winds and blowing dust may once again result in PM_{10} exceedances, especially Thursday. A PM_{10} Health Watch has been issued for Thursday and anyone with respiratory and/or heart ailments should limit outdoor activities during periods of blowing dust.

The ozone levels will be in the upper good AQI category for the foreseeable future as cooler temperatures keep ozone levels in check. $PM_{2.5}$ levels will follow behind PM_{10} and be in the good to moderate range of the AQI scale. Much cooler temperatures for the end of the work week and upcoming weekend with afternoon high temperatures only in the 80s! Forecaster: S. DiBiase

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

	Yesterday's Daily Maximum AQI @ Hidden Valley	HIDDEN VALLEY PM_{10} AIR QUALITY FORECAST				
SITE NAME	TUE 9/19/17	TODAY AQI FORECAST WED 9/20/17	TOMORROW AQI FORECAST THU 9/21/17	EXTENDED AQI FORECAST FRI 9/22/17	EXTENDED AQI FORECAST SAT 9/23/17	EXTENDED AQI FORECAST SUN 9/24/17
Hidden Valley (Twitter: HV_AQI)	69	88	95	88	85	75
HEALTH WATCH/ ADVISORY*		***BLOWING DUST***	**PM_{10} HW** HW ***DUST***	NONE	NONE	NONE

AIR QUALITY FORECAST FOR
$PM_{2.5}$ (PARTICLES)

SITE NAME	TODAY AQI FORECAST WED 9/20/17	TOMORROW AQI FORECAST THU 9/21/17	EXTENDED AQI FORECAST FRI 9/22/17	EXTENDED AQI FORECAST SAT 9/23/17	EXTENDED AQI FORECAST SUN 9/24/17
Casa Grande (Twitter: CG_AQI)	42	48	45	43	42
Hidden Valley (Twitter: HV_AQI)	62	70	65	60	50

AIR QUALITY FORECAST BY LOCATION FOR
PM_{10} (PARTICLES)

SITE NAME	TODAY AQI FORECAST WED 9/20/17	TOMORROW AQI FORECAST THU 9/21/17	EXTENDED AQI FORECAST FRI 9/22/17	EXTENDED AQI FORECAST SAT 9/23/17	EXTENDED AQI FORECAST SUN 9/24/17
Apache Junction (Twitter: AJ_AQI)	35	50	45	37	33
Casa Grande (Twitter: CG_AQI)	55	75	50	45	43
Eleven Mile Corner (Twitter: PC_Housing_AQI)	60	95	60	50	45
Maricopa (Twitter: Maricopa City_AQ)	55	85	50	45	44
Pinal Air Park (Twitter: PAP_AQI)	48	50	45	40	37
San Tan Valley Twitter: Santan_AQI)	55	85	50	45	42
Stanfield (Twitter: Stanfield_AQI)	80	100	82	60	55

AIR QUALITY FORECAST BY LOCATION FOR OZONE					
SITE NAME	**TODAY AQI FORECAST WED 9/20/17**	**TOMORROW AQI FORECAST THU 9/21/17**	**EXTENDED AQI FORECAST FRI 9/22/17**	**EXTENDED AQI FORECAST SAT 9/23/17**	**EXTENDED AQI FORECAST SUN 9/24/17**
Apache Junction (Twitter: AJ_AQI)	48	48	49	47	46
Casa Grande (Twitter: CG_AQI)	45	44	45	45	44
Pinal Air Park (Twitter: PAP_AQI)	47	46	45	45	45

* The symbols used for the Health Watch/Advisory are shown below

- Symbol for Health Watch (HW)

- Symbol for High Pollution Advisory (HPA)

AIR POLLUTANTS IN DETAIL

PM_{10} & $PM_{2.5}$ (PARTICLES):

Description – The term "particulate matter" (PM) 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^3)

Averaging interval – 24 hours (midnight to midnight).

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

O_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 billion (ppb).
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.