

To: Stakeholders
 From: Scott DiBiase, Pinal County Air Quality
 Date: 1/2/2019

DRAFT 2018 Pinal County PM₁₀ & PM_{2.5} Exceedances **DRAFT**

***DRAFT* Summary of 2018 24-hour Average PM₁₀ Exceedance Day(s) by Monitoring Site**

Monitoring Site - AQS # (POC))	# PM ₁₀ 24-hr Average Exceedances				Total Exceedances
	Related to Wind	Related to Stagnation	Related to Combination of windy and stagnant conditions	Related to Transport	
Apache Junction – 04-021-3002	4				4
Casa Grande - 04-021-3001(3)	9				9
Combs - 04-021-3009 (3)	3				3
Eloy – 04-021-3014 (1) & (3)	8				8
Hidden Valley – 04-021-3015 (3)	14	14	1		29
Maricopa – 04-021-3016 (3)	7				7
Pinal Air Park – 04-021-3007 (3)					
PCH – 04-021-3011 (3)	9				9
Stanfield – 04-021-3008 (3)	15				15

***DRAFT* Summary of 2018 24-hour Average PM_{2.5} Exceedance Day(s) by Monitoring Site**

Monitoring Site - AQS # (POC))	# PM ₁₀ 24-hr Average Exceedances				Total Exceedances
	Related to Wind	Related to Stagnation	Related to Combination of windy and stagnant conditions	Related to Transport	
Casa Grande - 04-021-3001(3)	5	1			6
Hidden Valley – 04-021-3015 (3)	6	1	1		8

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***Data preliminary – subject to change ***

Date	Day of Week	Site	AQS #	PM ₁₀ 24-hr Average Concentration (ug/m ³)	PM _{2.5} 24-hr Average Concentration (ug/m ³)	Weather Type (Cold Front, Monsoon, etc.)	Exceedance(s) Related to Wind, Stagnation, Combo ⁱ , Transport	AQI Forecast ⁱⁱ /Dust Risk Forecast ⁱⁱⁱ
1/1/18	Mon	Casa Grande	04-021-3001		43.9	High pressure (Max. wind 9 mph)	Stagnation	Moderate/Moderate
1/9/18	Tue	Stanfield	04-021-3008	344		Cold Front (Max. wind 33 mph, Max. sustained wind 20 mph)	Wind	Moderate/High
		PCH	04-021-3011	266				
		Casa Grande	04-021-3001	181	16			
		Maricopa	04-021-3016	164				
2/2/18	Fri	Hidden Valley	04-021-3015	163	20.1	High pressure (Max. wind 9 mph, Max. sustained wind 4 mph)	Stagnation	Moderate/High
2/19/18	Mon	Stanfield	04-021-3008	417		Cold Front (Max. wind 36 mph)	Wind	Good/Low
		Eloy	04-021-3014	166				
		PCH	04-021-3011	189				
3/30/18	Fri	Hidden Valley	04-021-3015	174	19.3	High pressure (Max. wind 23 mph, Max. sustained wind 11 mph)	Stagnation	Moderate/Moderate
3/31/18	Sat	Hidden Valley	04-021-3015	159	27.9	High pressure (Max. wind 11 mph, Max. sustained wind 6 mph)	Stagnation	USG/High
4/12/18	Thu	Stanfield	04-021-3008	1,100	n/a	Cold Front (Max. wind 47 mph)	Wind	Unhealthy/High
		PCH	04-021-3011	780	n/a			
		Casa Grande	04-021-3001	451	42.5			
		Combs	04-021-3009	365	n/a			
		Eloy	04-021-3014	355	n/a			
		Hidden Valley	04-021-3015	244	20.2			

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4/19/18	Thu	Stanfield	04-021-3008	829	n/a	Cold Front (Max. wind 37 mph)	Wind	USG/High
		PCH	04-021-3011	205	n/a			
		Eloy	04-021-3014	180	n/a			
		Maricopa	04-021-3016	169	n/a			
		Hidden Valley	04-021-3015	160	29.1			
		Combs	04-021-3009	160	n/a			
4/23/18	Mon	Hidden Valley	04-021-3015	180	33.4	High Pressure (Max. wind 16 mph)	Stagnation	USG/High
5/9/18	Wed	Hidden Valley	04-021-3015	184	28.3	High Pressure (Max. wind 14 mph)	Stagnation	Moderate/High
5/11/18	Fri	Stanfield	04-021-3008	386		Upper Low (Max. wind 36 mph, max. sustained wind 20 mph)	Wind	USG/High
		PCH	04-021-3011	374				
		Eloy	04-021-3014	314				
		Hidden Valley	04-021-3015	276	49.0			
		Casa Grande	04-021-3001	275	36.7			
		Combs	04-021-3009	234				
		Apache Junction	04-021-3002	205	32			
5/16/18	Wed	Hidden Valley	04-021-3015	163	24.2	High Pressure (Max. wind 12 mph)	Stagnation	Moderate/High
6/2/18	Sat	Hidden Valley	04-021-3015	165	20.1	High Pressure (Max. wind 13 mph)	Stagnation	Moderate/Moderate

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6/4/18	Mon	Hidden Valley	04-021-3015	220	27.5	High Pressure (Max. wind 17 mph)	Stagnation	Moderate/Moderate
6/9/18	Sat	Hidden Valley	04-021-3015	162	32.2	Trough (Max. wind 25 mph)	Stagnation	Moderate/High
6/10/18	Sun	Hidden Valley	04-021-3015	194	41.7	Trough (Max. wind 27 mph)	Stagnation	Moderate/High
6/11/18	Mon	Hidden Valley	04-021-3015	175	31.6	High Pressure (Max. wind 14 mph)	Stagnation	Moderate/High
6/12/18	Tue	Hidden Valley	04-021-3015	223	n/a ¹	High Pressure (Max. wind 15 mph)	Stagnation	Moderate/High
6/13/18	Wed	Hidden Valley	04-021-3015	204	n/a	High Pressure (Max. wind 16 mph)	Stagnation	Moderate/High
7/1/18	Sun	Hidden Valley	04-021-3015	209	33.0	High pressure (Max. wind 18 mph)	Stagnation	Moderate/Low
7/5/18	Thu	Stanfield	04-021-3008	631		Outflow Winds (Max. wind 43 mph)	Wind	Moderate/High
		Hidden Valley	04-021-3015	403	50.7			
		PCH	04-021-3011	398				
		Casa Grande	04-021-3001	299	36.5			
7/6/18	Fri	Hidden Valley	04-021-3015	261	52.5	Pressure gradient (Max. wind 29 mph)	Wind	USG/High
		Stanfield	04-021-3008	193				
7/7/18	Sat	Hidden Valley	04-021-3015	184	41.8	Combination (Max. wind 28 mph)	Combo	USG/High

¹ Flow problem, Hidden Valley PM_{2.5} data invalidated for 6/12/18 and 6/13/18

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7/8/18	Sun	Stanfield	04-021-3008	664	n/a	Outflow Winds (Max. wind 55 mph)	Wind	USG/High
		PCH	04-021-3011	516	n/a			
		Hidden Valley	04-021-3015	489	63.5			
		Casa Grande	04-021-3001	227	24.5			
		Eloy	04-021-3014	182	n/a			
		Apache Junction	04-021-3002	173	n/a			
7/9/18	Mon	Stanfield	04-021-3008	607	n/a	Outflow Winds (Max. wind 42 mph)	Wind	USG/High
		Hidden Valley	04-021-3015	212	17.5			
		Eloy	04-021-3014	195	n/a			
		Apache Junction	04-021-3002	189				
7/30/18	Mon	Hidden Valley	04-021-3015	466	43.1	Outflow Winds (Max. wind 36 mph)	Wind	Moderate/Moderate
		Maricopa	04-021-3016	196	n/a			
8/1/18	Wed	Hidden Valley	04-021-3015	326	33.4	Outflow Winds (Max. wind 36 mph)	Wind	Moderate/High
		Stanfield	04-021-3008	184				
8/2/18	Thu	Apache Junction	04-021-3002	503	n/a	Outflow Winds (Max. wind 60 mph)	Wind	USG/High
		PCH	04-021-3011	403				
		Casa Grande	04-021-3001	331	37.8			

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8/7/18	Tue	Stanfield	04-021-3008	304	n/a	Outflow winds (Max. wind 40 ^{iv} mph)	Wind	Moderate/Moderate
		Hidden Valley	04-021-3015	272	19.3			
		Maricopa	04-021-3016	243	n/a			
		Casa Grande	04-021-3001	165	25.6			
8/8/18	Wed	Maricopa	04-021-3016	658	n/a	Outflow winds (Max. wind 38 ^v mph)	Wind	Unhealthy/High
		Hidden Valley	04-021-3015	149	42.2			
		Stanfield	04-021-3008	217	n/a			
		Eloy	04-021-3014	172	n/a			
8/9/18	Thu	Stanfield	04-021-3008	355	n/a	Outflow winds (Max. wind 74 ^{vi} mph)	Wind	USG/High
		Hidden Valley	04-021-3015	324	29.1			
		Casa Grande	04-021-3001	253	39.6			
		PCH	04-021-3011	181	n/a			
		Eloy	04-021-3014	164	n/a			
8/10/18	Fri	Maricopa	04-021-3016	319	n/a	Outflow winds (Max. wind 40 mph)	Wind	USG/High
		Hidden Valley	04-021-3015	314	21.5			
		Stanfield	04-021-3008	197	n/a			
8/12/18	Sun	Stanfield	04-021-3008	293	n/a	Outflow winds (Max. wind 55 ^{vii} mph)	Wind	Moderate/Moderate
		Maricopa	04-021-3016	348	n/a			
		Hidden Valley	04-021-3015	320	14.4			

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Bold text means the PM₁₀ and/or PM_{2.5} data is going to be flagged as exceptional/natural event in AQS
ADEQ flagged exceptional/natural event

ⁱ Combination of stagnation and winds (i.e. light winds in the morning with elevated PM₁₀ levels and higher winds in afternoon/evening with elevated PM₁₀ levels attributed to windblown dust).

ⁱⁱ Air Quality Index (AQI) forecast issued by Pinal County Air Quality – AQI Categories (Good (G), Moderate (M), Unhealthy for Sensitive Groups (USG), Unhealthy (U), etc.). PM10 Health Watch (HW) is for forecasted PM10 AQI levels of 90-100 on the AQI scale. PM10 High Pollution Advisory (HPA) is for forecasted AQI levels of 101+.

ⁱⁱⁱ 2014 Adopted legislation (HB2125) – A West Pinal County PM10 Nonattainment Area Dust Risk Forecast prepared by Pinal County Air Quality and issued by ADEQ – Risk categories (Low (L), Moderate (M), High (H)).

^{iv} NWS Storm Report – 8:15 pm, 8/7/18, estimated wind gust 5 miles west-northwest of Florence of 40 mph

^v NWS Storm Report – 10:52 pm, 8/8/18, reported wind gust of 38 mph 9 miles southeast of Maricopa

^{vi} PCAQCD Stanfield monitor – preliminary data, subject to change

^{vii} NWS Storm Report – 5:48 pm, 8/12/18, reported wind gust of 55 mph 5 miles west-northwest of Florence