

2008 Ozone Season Report for the Kansas City Region

Summary

From April 1 – October 31 in the Kansas City region:

- MARC issued 47 yellow SkyCasts and two Orange skycasts. There were two Ozone Alerts.
- The region did not exceed the 84 part-per-billion (ppb) standard. There were three days on which peak eight-hour ozone concentrations exceeded the new 75-ppb standard.

2008 Revision of Ozone National Ambient Air Quality Standards

On March 12, 2008, the U.S. Environmental Protection Agency issued a final rulemaking revising national standards for ground-level ozone. The new primary, or health-based, standard is 75 ppb averaged over eight hours; the standard that it will replace is 84 ppb over an eight-hour period.

The 84-ppb standard is expected to remain in place until mid-2011, which is one year after designations under the new standard would become effective. However, EPA has requested that air quality forecasting programs begin to issue forecasts consistent with the new standard this year. EPA has revised the Air Quality Index (AQI) – a public information tool that associates colors and health messages with ranges of air pollutant concentrations – to reflect the new standard. Table 1 shows the ozone concentrations associated with each AQI color under both the current and new standards.

Table 1. Air Quality Index under the 1997 and 2008 Ozone Standards

Category	AQI Value	1997 8-hour ozone (ppb)	2008 8-hour ozone (ppb)
Good (Green)	0 – 50	0 - 64	0 - 59
Moderate (Yellow)	51 – 100	65 - 84	60 - 75
Unhealthy for Sensitive Groups (Orange)	101 – 150	85 - 104	76 - 95
Unhealthy (Red)	151 - 200	105 - 124	96 - 115
Very Unhealthy (Purple)	201 - 300	125 - 374	116 - 374
Hazardous (Maroon)	301 – 500	> 374	> 374

To ensure consistency with forecasting efforts nationally, MARC issued Ozone Alerts this summer whenever ozone concentrations were expected to exceed 75 ppb averaged over eight hours. Eight ozone monitors in the region (including those at Leavenworth and Trimble) were used to verify forecasts in 2008, and forecast verification will be based on the revised AQI.

2008 Ozone Data & SkyCasts

Table 2 summarizes SkyCasts and eight-hour monitored ozone readings for the 2008 ozone season. The table lists days that were forecasted to be a yellow or Ozone Alert day *or* had a maximum eight-hour ozone reading greater than or equal to 60 ppb. *Green SkyCast days with maximum eight-hour ozone values less than 60 ppb—days that were accurately forecasted to be green—are not listed.* The SkyCast categories are defined as follows: green corresponds to eight-hour ozone values less than 60 ppb, yellow is from 60 ppb to 75 ppb, and Ozone Alert is 76 ppb and above (orange is 76 - 95 ppb and red is 96 - 115 ppb).

**Table 2. Summary of 2008 SkyCasts and Daily Maximum Eight-hour Ozone Values
April 1 – October 31, 2008**

Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast	Date	Daily Max 8-Hr Value (ppb)*	Monitor(s) Recording Max Value	SkyCast
4/15	64	Leavenworth	Green	7/18	54	Liberty	Yellow
4/16	64	Liberty	Yellow	7/19	63	Liberty, Watkins Mill	Yellow
4/20	63	Leavenworth	Yellow	7/20	60	Liberty	Yellow
4/30	68	Rocky Creek	Yellow	7/21	73	Watkins Mill	Yellow
5/1	54	Leavenworth	Yellow	7/22	58	Heritage Park	Yellow
5/4	64	Liberty	Green	7/24	61	Mine Creek	Yellow
5/5	63	Watkins Mill	Yellow	7/26	60	JFK (KCK)	Yellow
5/16	60	Liberty, Watkins Mill	Green	7/27	62	Rocky Creek	Yellow
5/17	57	Liberty	Yellow	7/28	53	El Dorado Springs	Orange
5/19	59	Liberty	Yellow	7/31	67	Trimble	Yellow
5/30	52	Trimble	Yellow	8/1	62	El Dorado Springs	Orange
5/31	60	JFK (KCK)	Green	8/2	67	El Dorado Springs	Yellow
6/1	68	Leavenworth	Yellow	8/3	64	El Dorado Springs	Yellow
6/14	61	Liberty	Yellow	8/4	73	El Dorado Springs, Watkins Mill	Yellow
6/18	78	Trimble	Green	8/5	79	Richards Gebaur South	Yellow
6/19	63	Rocky Creek	Green	8/13	68	Richards Gebaur South	Green
6/20	69	Richards Gebaur South	Yellow	8/17	61	Trimble	Green
6/23	60	Leavenworth	Green	8/18	66	Rocky Creek	Yellow
6/25	62	Liberty	Green	8/19	57	Rocky Creek	Yellow
6/26	48	Rocky Creek	Yellow	8/22	62	Trimble	Green
6/30	48	Richards Gebaur South, Rocky Creek	Yellow	8/26	52	Heritage Park, Leavenworth	Yellow
7/1	72	Trimble	Yellow	8/27	62	Rocky Creek	Yellow
7/2	64	El Dorado Springs	Yellow	8/31	56	El Dorado Springs	Yellow
7/4	53	Heritage Park	Yellow	9/2	34	Liberty	Yellow
7/5	55	Leavenworth	Yellow	9/19	62	Trimble	Green
7/10	46	Liberty, Watkins Mill, Rocky Creek	Yellow	9/20	57	Liberty	Yellow
7/14	61	Watkins Mill	Yellow	9/21	43	Leavenworth	Yellow
7/15	62	Liberty	Yellow	9/26	64	Liberty	Yellow
7/16	70	Trimble	Yellow	9/27	75	Liberty	Yellow
7/17	78	Trimble	Yellow	9/28	63	Liberty	Yellow

*The 2008 eight-hour monitored ozone readings have not been quality assured and may contain errors. Readings in **bold** represent eight-hour peak concentrations above the 75 ppb standard.

Table 3 lists area monitors that have recorded eight-hour peak values exceeding the new 75 ppb standard and the dates on which the exceedances occurred.

**Table 3. Eight-Hour Ozone Exceedances
April 1 – October 31, 2008**

Daily Maximum 8-Hour Value (ppb)								
	Liberty	JFK	Rocky Creek	Richards-Gebaur	Watkins Mill	Heritage Park	Trimble	Leavenworth
6/18							78	
7/17			77				78	
8/5				79				

*The Trimble and Leavenworth monitors are outside the maintenance area boundary but are used to verify SkyCast ozone forecasts due to their proximity to the boundary.

Kansas City Ozone Design Values, 2003 - 2008

Compliance with the eight-hour ozone standard is based on the three-year average of the fourth-highest ozone reading from each monitor. Under the current standard, if a monitor's three-year average value is 85 parts per billion (ppb) or higher, that monitor is in violation. Under the 2008 eight-hour standard, violations will occur when the three-year average is 76 ppb or higher. Table 4 shows the fourth-high eight-hour readings for 2003 – 2008, as well as the design values, or three-year averages, for 2005 through 2008.

Table 4. Fourth-High Readings and Design Values, 2003-2008

<i>Missouri</i>	<u>Fourth-High Eight-Hour Values</u>						<u>Design Values</u>				
	2003	2004	2005	2006	2007	2008	03-05	04-06	05-07	06-08*	
Liberty	88	71	88	93	81	66	82	84	87	80	
Watkins Mill	85	67	79	91	73	69	77	79	81	77	
Rocky Creek	88	69	87	87	89	69	81	81	87	81	
Richards-Gebaur	82	61	81	78	72	66	74	73	77	72	
Trimble		71	87	85	83	70	n/a	81	85	79	
<i>Kansas</i>											
JFK (KCK)	84	63	79	81	73	63	75	74	77	72	
Heritage Park	81	66	81	76	71	62	76	74	76	69	
Leavenworth	82	67	78	74	80	64	75	73	77	72	

*The 2008 eight-hour monitored ozone readings have not been quality assured and may contain errors. Readings in **bold** represent design values above the 75 ppb standard.

**Table 5. 2008 Fourth-High Values That Would Trigger a Violation
Of the 84-ppb standard**

Missouri	8-Hr Value (ppb)	Kansas	8-Hr Value (ppb)
Liberty	81	JFK (KCK)	101
Watkins Mill	91	Heritage Park	108
Rocky Creek	79	Leavenworth	101
Richards Gebaur	105		
Trimble	87		

**Table 6. 2008 Fourth-High Values That Would Trigger a Violation
Of the 75-ppb standard**

Missouri	8-Hr Value (ppb)		Kansas	8-Hr Value (ppb)
Liberty	54		JFK (KCK)	74
Watkins Mill	64		Heritage Park	81
Rocky Creek	52		Leavenworth	74
Richards Gebaur	78			
Trimble	60			