Environments and Contaminants

Criteria Air Pollutants

Table E1: Percentage of children ages 0 to 17 years living in counties with pollutant concentrations above the levels of the current air quality standards, 1999-2016*

1999--2004						
Pollutant	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Any standard	75.8	77.4	78.2	77.6	78.3	76.8
Ozone (8-hour)	66.1	67.3	68.1	68.7	69.3	66.8
$PM_{2.5}$ (24-hour)	54.7	62.3	60.5	60.7	56.5	55.7
Sulfur dioxide (1-hour)	31.1	28.8	26.6	25.5	21.5	20.4
$PM_{2.5}$ (annual)	37.5	52.1	47.8	47.4	44.2	38.6
Nitrogen dioxide (1-hour)	23.2	19.4	17.3	18.8	17.3	16.0
PM_{10} (24-hour)	12.3	10.4	6.8	10.3	8.8	7.5
Carbon monoxide (8-hour)	5.7	4.4	1.0	4.1	1.0	0.1
Lead (3-month)	2.3	1.6	2.1	1.2	1.6	1.2
2005-2010						
Pollutant	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Any standard	78.1	76.4	77.0	72.9	67.1	72.7
Ozone (8-hour)	69.0	68.6	67.4	65.8	59.3	66.6
$PM_{2.5}$ (24-hour)	59.8	45.4	53.3	36.3	31.6	34.5
Sulfur dioxide (1-hour)	20.7	16.5	15.3	16.8	11.2	8.6
$PM_{2.5}$ (annual)	47.5	36.8	39.7	26.1	16.1	16.2
Nitrogen dioxide (1-hour)	13.7	12.3	10.7	12.3	8.5	7.1
PM_{10} (24-hour)	6.7	8.8	15.5	8.1	9.3	5.2
Carbon monoxide (8-hour)	0.6	0.5	0.1	0.2	0.0	0.0
Lead (3-month)	1.6	1.2	5.0	5.0	4.2	6.6
2011-2016						
Pollutant	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Any standard	70.7	70.6	61.7	60.3	61.6	62.4
Ozone (8-hour)	66.3	67.1	56.5	53.8	56.0	57.8
$PM_{2.5}$ (24-hour)	23.7	21.6	22.2	27.1	27.4	21.3
Sulfur dioxide (1-hour)	7.9	6.5	7.9	5.2	3.2	3.0
$PM_{2.5}$ (annual)	14.4	8.4	10.0	4.1	9.3	3.3
Nitrogen dioxide (1-hour)	3.3	3.0	5.1	6.8	7.7	2.0
PM_{10} (24-hour)	5.8	8.6	7.4	6.8	5.7	6.7
Carbon monoxide (8-hour)	0.0	0.0	0.0	0.0	0.0	0.0
Lead (3-month)	6.7	2.6	0.7	0.6	0.4	0.1

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

* EPA periodically reviews air quality standards and may change them based on updated scientific findings. Measuring concentrations above the level of a standard is not equivalent to violating the standard. The level of a standard may be exceeded on multiple days before the exceedance is considered a violation of the standard. See the indicator text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards for all years shown.

Table E1a: Percentage of children ages 0 to 17 years living in counties with pollutant concentrations above the levels of the current air quality standards, by race/ethnicity, 2016*

Pollutant	All Races/ Ethnicities	White non-Hispanic	Black non-Hispanic	American Indian/Alaska Native non-Hispanic	Asian or Pacific Islander non-Hispanic	Hispanic
Any standard	62.4	55.4	65.5	39.0	73.0	74.1
Ozone (8-hour)	57.8	50.6	61.1	31.8	68.0	69.7
$PM_{2.5}$ (24-hour)	21.3	15.9	20.0	16.0	28.1	32.5
Sulfur dioxide (1-hour)	3.0	3.2	5.0	2.4	2.5	1.7
$PM_{2.5}$ (annual)	3.3	1.7	1.6	2.0	3.7	7.5
Nitrogen dioxide (1-hour)	2.0	1.6	2.8	1.1	1.4	2.5
PM_{10} (24-hour)	6.7	4.5	5.3	9.5	5.7	12.1
Carbon monoxide (8-hour)	0.0	0.0	0.0	0.0	0.0	0.0
Lead (3-month)	0.1	0.1	0.2	0.5	0.0	0.1

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

* EPA periodically reviews air quality standards and may change them based on updated scientific findings. Measuring concentrations above the level of a standard is not equivalent to violating the standard. The level of a standard may be exceeded on multiple days before the exceedance is considered a violation of the standard. See the indicator text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards.

Table E1b: Percentage of children ages 0 to 17 years living in counties with pollutant concentrations above the levels of the current air quality standards, by family income, 2016*

Pollutant	All Incomes	< Poverty Level	≥ Poverty Level
Any standard	62.4	60.9	62.8
Ozone (8-hour)	57.8	56.5	58.1
$PM_{2.5}$ (24-hour)	21.3	22.9	20.9
Sulfur dioxide (1-hour)	3.0	3.5	2.9
$PM_{2.5}$ (annual)	3.3	4.2	3.0
Nitrogen dioxide (1-hour)	2.0	2.5	1.9
PM_{10} (24-hour)	6.7	7.7	6.4
Carbon monoxide (8-hour)	0.0	0.0	0.0
Lead (3-month)	0.1	0.1	0.1

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

* EPA periodically reviews air quality standards and may change them based on updated scientific findings. Measuring concentrations above the level of a standard is not equivalent to violating the standard. The level of a standard may be exceeded on multiple days before the exceedance is considered a violation of the standard. See the indicator text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards.

Table E2: Percentage of children ages 0 to 17 years living in counties with 8-hour ozone and 24-hour $PM_{2.5}$ concentrations above the levels of air quality standards, by frequency of occurrence, 2016*

Ozone (8-hour)									
1999-2007	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
No days with concentrations above standard	2.1	1.8	2.2	2.0	2.1	4.3	2.0	2.7	4.1
1-3 days	1.6	5.2	4.4	5.5	4.8	11.9	5.9	5.6	5.0
4-10 days	7.6	18.1	8.2	5.4	12.6	23.7	10.4	17.9	16.3
11-25 days	19.8	20.8	24.4	17.4	32.3	17.0	26.8	23.6	24.6
26 or more days	37.0	23.2	31.1	40.3	19.6	14.2	26.0	21.5	21.5
No monitoring data	31.9	30.9	29.7	29.3	28.6	28.9	28.9	28.6	28.5
2008-2015	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
No days with concentrations above standard	6.6	13.9	6.9	7.8	6.8	17.4	20.4	18.2	16.4
1-3 days	10.6	20.6	12.7	11.6	7.8	24.8	25.3	19.4	19.2
4-10 days	23.0	23.6	26.0	20.0	18.0	17.4	17.7	18.9	22.8
11-25 days	20.8	6.0	20.4	23.3	25.8	7.9	3.2	10.6	8.4
26 or more days	11.3	9.0	7.5	11.4	15.4	6.4	7.6	7.1	7.3
No monitoring data	27.7	26.8	26.5	25.9	26.1	26.1	25.8	25.8	25.8
$PM_{2.5}$ (24-hour)									
1999-2007	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
No days with concentrations above standard	13.4	10.4	12.3	12.4	15.8	14.1	10.5	23.5	15.8
1-7 days	36.0	41.2	38.9	37.3	37.4	39.8	41.8	36.2	39.2
8-10 days	1.4	2.7	1.6	3.5	3.5	5.2	4.8	6.4	2.0
11-25 days	10.9	11.0	12.5	12.1	10.2	8.5	10.8	0.9	10.0
26 or more days	6.4	7.4	7.4	7.8	5.4	2.2	2.4	1.9	2.1
No monitoring data	31.9	27.3	27.2	26.9	27.7	30.1	29.7	31.1	30.9
2008-2015	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
No days with concentrations above standard	32.3	36.9	34.2	37.6	42.2	42.7	41.0	41.5	47.0
1-7 days	28.9	27.9	29.9	19.8	20.1	17.7	23.9	23.8	19.0
8-10 days	4.5	0.9	1.0	2.5	0.5	1.1	0.9	1.3	0.4
11-25 days	1.9	1.9	3.2	0.4	0.7	1.4	1.5	2.3	1.9
26 or more days	1.0	0.9	0.3	1.0	0.4	2.0	0.8	0.0	0.0
No monitoring data	31.4	31.5	31.4	38.7	36.2	35.1	31.9	31.1	31.9

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

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Table E3: Percentage of days with good, moderate, or unhealthy air quality for children ages 0 to 17 years, 1999-2015

Pollution Level								
1999-2006	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Good	36.2	36.9	37.5	38.7	40.2	42.6	41.0	42.3
Moderate	24.8	27.4	27.4	26.1	26.2	25.2	25.4	24.8
Unhealthy	11.0	9.4	9.5	9.8	8.0	6.6	8.0	7.0
No monitoring data	27.9	26.3	25.7	25.4	25.6	25.6	25.7	26.0
2007-2014	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Good	41.7	44.8	49.6	48.1	47.9	48.4	51.2	52.0
Moderate	25.1	23.4	21.1	22.3	22.0	21.0	20.3	20.3
Unhealthy	6.9	5.4	3.8	4.3	4.8	5.4	3.3	3.1
No monitoring data	26.3	26.4	25.5	25.3	25.3	25.2	25.2	24.6
2015	**2015**							
Good	52.4							
Moderate	19.9							
Unhealthy	3.5							
No monitoring data	24.3							

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

NOTE: Good, moderate, and unhealthy air quality are defined using EPA's Air Quality Index (AQI). The health information that supports EPA's periodic reviews of the air quality standards informs decisions on the AQI breakpoints and may change based on updated scientific findings. See text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards for all years shown.

Table E3a: Percentage of days with good, moderate, or unhealthy air quality for children ages 0 to 17 years, by race/ethnicity, 2015

Pollution Level	All Races/ Ethnicities	White non-Hispanic	Black non-Hispanic	American Indian/ Alaska Native	Asian or Pacific Islander	Hispanic
Good	52.4	50.6	56.0	44.5	58.8	52.9
Moderate	19.9	16.1	20.6	14.9	25.2	26.5
Unhealthy	3.5	2.0	2.3	2.0	5.4	7.0
No monitoring data	24.3	31.3	21.0	38.7	10.6	13.6

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

NOTE: Good, moderate, and unhealthy air quality are defined using EPA's Air Quality Index (AQI). The health information that supports EPA's periodic reviews of the air quality standards informs decisions on the AQI breakpoints and may change based on updated scientific findings. See text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards.

Table E3b: Percentage of days with good, moderate, or unhealthy air quality for children ages 0 to 17 years, by family income, 2015

Pollution Level	All Incomes	< Poverty Level	≥ Poverty Level
Good	52.4	49.9	53.0
Moderate	19.9	20.4	19.7
Unhealthy	3.5	3.9	3.3
No monitoring data	24.3	25.8	23.9

DATA: U.S. Environmental Protection Agency, Office of Air and Radiation, Air Quality System

NOTE: Good, moderate, and unhealthy air quality are defined using EPA's Air Quality Index (AQI). The health information that supports EPA's periodic reviews of the air quality standards informs decisions on the AQI breakpoints and may change based on updated scientific findings. See text for additional discussion. The indicator is calculated with reference to the current levels of the air quality standards.