



There is a Daily and Annual PM_{2.5} Standard

What is the Daily National PM_{2.5} Standard?

- * The national 24-hour standard, or daily standard, is 35 $\mu\text{g}/\text{m}^3$.
- * Compliance with the daily standard is based on the “design value” average from any three consecutive years. The value used each year for the average is the highest value left after the highest 2% of the sample values are thrown out.
- * Forest fire smoke and other natural events do not count towards a violation of the standard.
- * Wherever PM_{2.5} sampling has been done in Missoula County, daily values over 35 $\mu\text{g}/\text{m}^3$ have been found.

Missoula’s Running 24-Hour PM_{2.5} Standard Design Values¹

(Based on three year average of yearly 98th percentile 24-hr values)

2002 – 2004 $\mu\text{g}/\text{m}^3$	2003 – 2005 $\mu\text{g}/\text{m}^3$	2004 – 2006 $\mu\text{g}/\text{m}^3$	2005 – 2007 $\mu\text{g}/\text{m}^3$
33	39	41	35.2

¹24-hour PM_{2.5} Standard Design Values over 35.4 exceed the national ambient air quality standard.

Missoula County is Very Close to Exceeding the Daily PM_{2.5} Standard

Missoula Meets the Annual PM_{2.5} Standard

- * The national annual average standard is 15 $\mu\text{g}/\text{m}^3$.
- * The annual standard is based on the average of three consecutive years.
- * As shown in the table below, Missoula County generally has good air quality. It is the few high fine particulate days in the winter that create concerns with the daily standard.
- * Each years annual average is below 15 $\mu\text{g}/\text{m}^3$. (see table below)

Missoula’s Annual Average PM_{2.5} Values

2002 $\mu\text{g}/\text{m}^3$	2003 $\mu\text{g}/\text{m}^3$	2004 $\mu\text{g}/\text{m}^3$	2005 $\mu\text{g}/\text{m}^3$	2006 $\mu\text{g}/\text{m}^3$	2007 $\mu\text{g}/\text{m}^3$	2008 $\mu\text{g}/\text{m}^3$
8.4	10.0	10.7	11.1	9.5	11.5	8.2

During Winter, Daily PM_{2.5} Standard Threatened

November Through February are the Worst Days

- ◇ Between 2002 and 2007, PM_{2.5} values over 35 $\mu\text{g}/\text{m}^3$ only occurred in the winter months of November through February:
 - * 5 days over 35 $\mu\text{g}/\text{m}^3$ were in January,
 - * 4 were in December,
 - * 2 were in November,
 - * 1 was in February.
- ◇ The worst dispersion and inversions center around winter solstice when solar input is lowest.
- ◇ Outdoor burning is not the main reason the daily standard is threatened, wintertime wood stove smoke is.
- ◇ Forest fire smoke and other natural events do not count towards a violation of the standard.

Missoula's 24-Hour High PM_{2.5} Values at Health Department Site

High PM_{2.5} Values Typically Occur Between November and February

2002		2003		2004		2005		2006		2007	
Date	$\mu\text{g}/\text{m}^3$	Date	$\mu\text{g}/\text{m}^3$	Date	$\mu\text{g}/\text{m}^3$	Date	$\mu\text{g}/\text{m}^3$	Date	$\mu\text{g}/\text{m}^3$	Date	$\mu\text{g}/\text{m}^3$
1/11	32.4	1/24	41.6	1/16	62.3	1/19	62.5	11/28	43.2	2/5	43.0
11/28	29.2	11/8	32.9	1/10	55.4	12/12	54.0	12/10	36.2	11/26	37.2
11/25	24.8	12/2	27.1	1/19	46.8	12/9	42.5	8/30 ¹	34.3 ¹	8/13 ¹	32.8
11/22	23.0	8/25	24.9	12/17	36.6	8/8	30.8	9/5 ¹	31.5 ¹	8/1 ¹	32.5
11/4	20.8	8/10	24.7	2/15	30.8	1/16	30.8	12/22	30.2	2/8	31.4

¹Values were influenced by wildfire smoke and may be flagged in the future. If flagged, the values will no longer be used to determine compliance or non-compliance with the PM_{2.5} standard.

Missoula's Running 24-Hour PM_{2.5} Standard Design Values¹

(Based on three year average of yearly 98th percentile 24-hr values)

Missoula County is Very Close to Exceeding the Daily PM_{2.5} Standard

2002 – 2004 $\mu\text{g}/\text{m}^3$	2003 – 2005 $\mu\text{g}/\text{m}^3$	2004 – 2006 $\mu\text{g}/\text{m}^3$	2005 – 2007 $\mu\text{g}/\text{m}^3$
33	39	41	35.2

¹24-hour PM_{2.5} Standard Design Values over 35.4 exceed the national ambient air quality standard.