

H. Northeast Plateau Air Basin

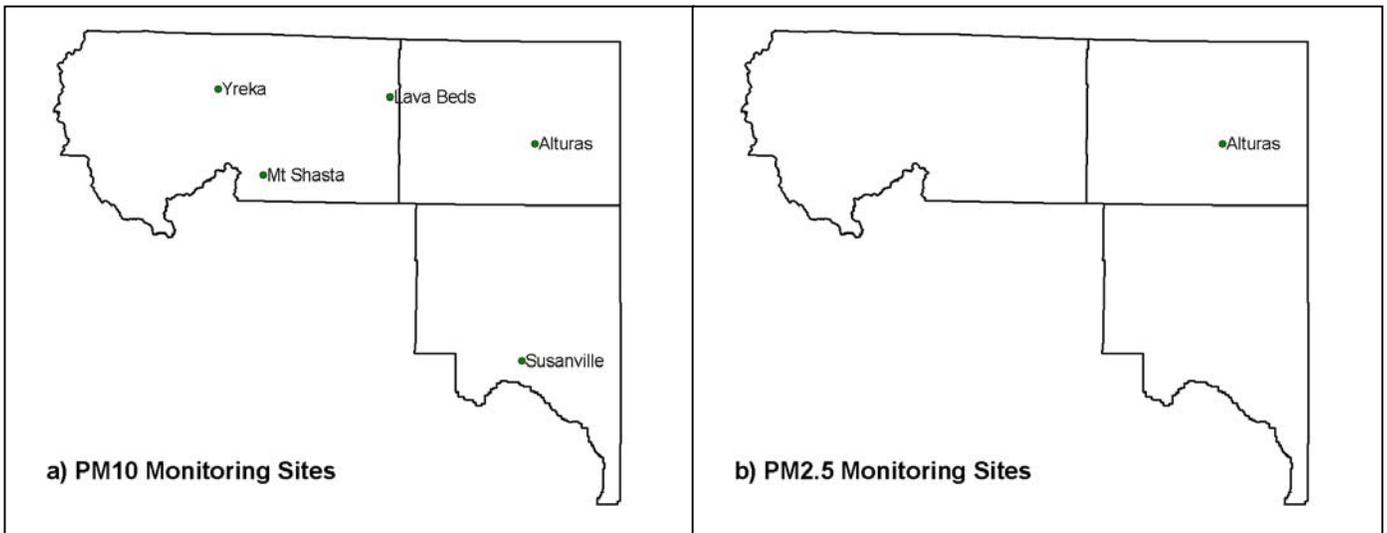


The Northeast Plateau Air Basin is comprised of three air districts, the Siskiyou County APCD, the Modoc County APCD, and the Lassen County APCD, which in turn consist of Siskiyou, Modoc, and Lassen Counties, respectively. Currently, the Siskiyou County APCD is designated attainment for the State PM₁₀ standards, while the remainder of the air basin is designated nonattainment. The entire air basin is designated unclassified for the

State PM_{2.5} annual standard – data are insufficient to support designation as attainment or nonattainment.

Figure H-1 shows the location of PM₁₀ (a) and PM_{2.5} (b) monitoring sites throughout the Northeast Plateau Air Basin.

Figure H-1. PM₁₀ and PM_{2.5} Monitoring Sites throughout the Air Basin



Siskiyou County APCD

Table H-1 provides information on yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Siskiyou County APCD in 2001 through 2003. In 2002, wildfires caused six estimated exceedances of the State 24-hour standard of 50 $\mu\text{g}/\text{m}^3$. Particulate levels did not exceed the State annual PM10 standard of 20 $\mu\text{g}/\text{m}^3$. Although there was no PM2.5 monitor in the air district during this period, one was moved to Siskiyou County APCD from Modoc County APCD in 2004.

Table H-1. PM10 and PM2.5 Air Quality in the Siskiyou County APCD.

Year	PM10 ($\mu\text{g}/\text{m}^3$)			PM2.5 ($\mu\text{g}/\text{m}^3$)	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour	Max Annual Average (Std.=12)
2001	0	33	17	No Monitor	
2002	6	77*	18		
2003	0	31	13		

* This value was excluded for determining attainment status. See text.

Table H-2 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. For example, the maximum 24-hour PM10 concentration in 2002 shown in table H-1 was due to wildfires and was excluded in determining the designation values shown in Table H-2. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Siskiyou County APCD currently is attainment for both the State 24-hour and annual average PM10 standards. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

Table H-2. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

	PM10 ($\mu\text{g}/\text{m}^3$)		PM2.5 ($\mu\text{g}/\text{m}^3$)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	48	18	No Monitor

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

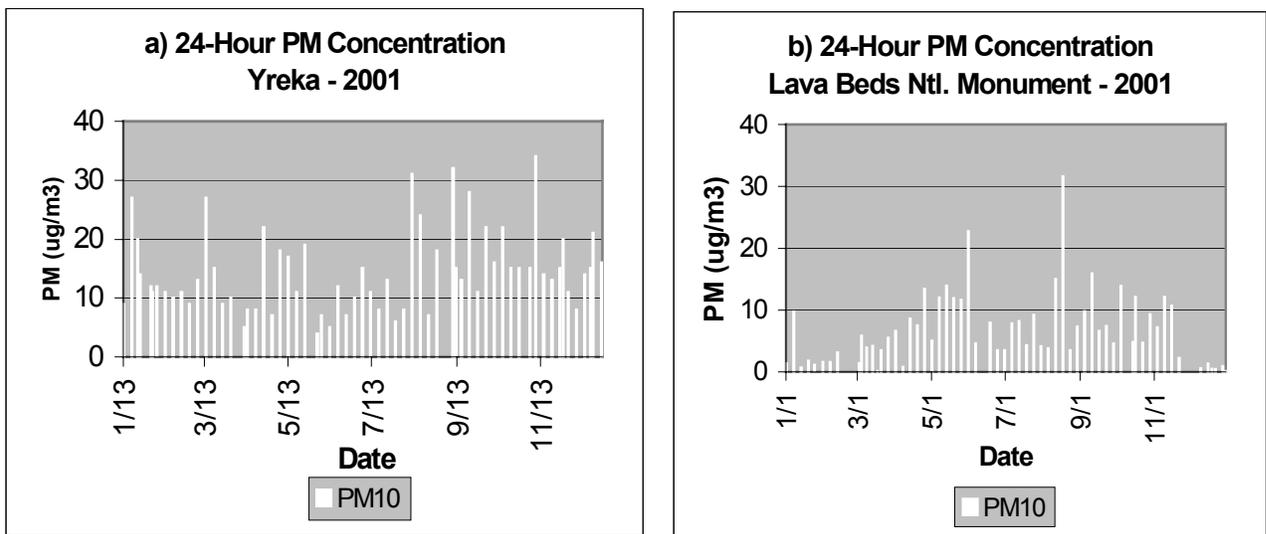
Table H-3 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. While concentrations were highest at Yreka, none of the three monitors in the air district exceeded either the 24-hour or the annual State PM10 standards.

Table H-3. Monitoring Site Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

Site	PM10 (ug/m ³)		PM2.5 (ug/m ³)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Lava Beds	43	5	No Monitor
Mount Shasta	47	11	No Monitor
Yreka	48	18	No Monitor

Figure H-2 illustrates the variation in PM10 levels throughout 2001 at Yreka (a) and Lava Beds (b). At Yreka, higher PM10 concentrations occur during the fall and winter. The colder, more stagnant conditions during this time of the year are conducive to the buildup of PM, including the formation of secondary ammonium nitrate. In addition, increased activity from residential wood combustion may also occur. During the rest of the year activities that resuspend dust, such as emissions from paved and unpaved roads and construction may contribute more significantly to PM10. At Lava Beds, PM10 concentrations, while very low throughout the year, are highest in spring and fall. Although no PM2.5 data is available, based on 1999 and 2000 monitoring data from Modoc County APCD, we estimate that PM2.5 comprises approximately 39 percent of PM10 on an annual average basis. Further, based on similarities with the northern Sacramento Valley and the North Coast Air Basin, we estimate that the fraction of PM2.5 comprised of secondary ammonium nitrate and sulfate is approximately 30 percent.

Figure H-2. Seasonal Variation in PM10 Concentrations.



Modoc County APCD

Table H-4 provides information on yearly variations in the highest PM10 and PM2.5 concentrations recorded across the Modoc County APCD in 2001 through 2003. In 2001, particulate levels exceeded the State 24-hour PM10 standard of 50 $\mu\text{g}/\text{m}^3$. Although data are insufficient to determine the calculated days exceeding this standard, from 58 out of the 60 scheduled days with measured PM concentrations in 2001, one day exceeded the standard. Data are also insufficient to determine if particulate levels exceeded the State PM10 annual standard of 20 $\mu\text{g}/\text{m}^3$ and the PM2.5 annual standard of 12 $\mu\text{g}/\text{m}^3$.

Table H-4. PM10 and PM2.5 Air Quality in the Modoc County APCD.

Year	PM10 ($\mu\text{g}/\text{m}^3$)			PM2.5 ($\mu\text{g}/\text{m}^3$)	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour	Max Annual Average (Std.=12)
2001	Incomplete Data	67	Incomplete Data	35*	Incomplete Data
2002	No Data			5	Incomplete Data
2003				10	Incomplete Data

* The maximum 24-hour PM2.5 values are provided for information only.

Table H-5 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Modoc County APCD currently is nonattainment for the State 24-hour PM10 standard. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

Table H-5. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

	PM10 ($\mu\text{g}/\text{m}^3$)		PM2.5 ($\mu\text{g}/\text{m}^3$)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	67	Incomplete Data	Incomplete Data

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table H-6 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. Only a single monitoring site at Alturas is operated in the District.

Table H-6. Monitoring Site Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

Site	PM10 (ug/m ³)		PM2.5 (ug/m ³)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Alturas	67	Incomplete Data	Incomplete Data

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure H-3. Seasonal Variation in PM10 and PM2.5 Concentrations.

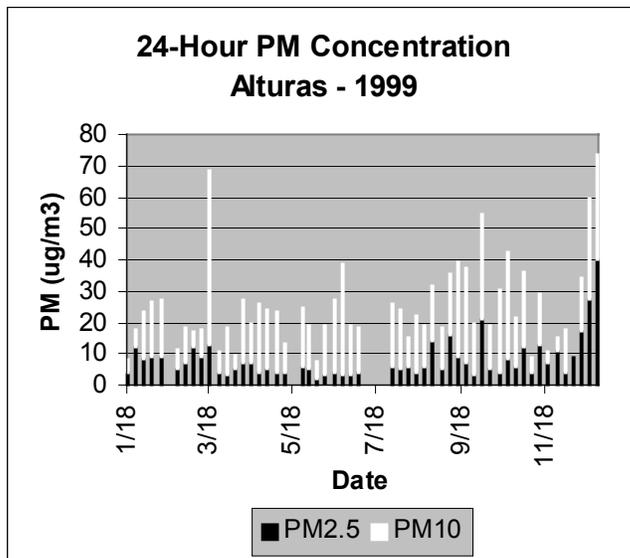


Figure H-3 illustrates the variation in daily PM10 and PM2.5 levels throughout 1999 at Alturas. The total height of the bars represents PM10 concentrations, while the height of the black portion of the bars represents the PM2.5 fraction. PM10 and PM2.5 levels are highest during December. Colder, more stagnant conditions during this time of the year are conducive to the buildup of PM, including the formation of secondary ammonium nitrate. In addition, increased activity from residential wood combustion may also occur.

During the rest of the year, the coarse fraction (particles between PM2.5 and PM10 in size) is more prominent. The coarse fraction is primarily due to activities that resuspend dust, such as emissions from paved and unpaved roads and construction. Based on 1999 and 2000 monitoring data, we estimate that PM2.5 comprises approximately 54 percent of PM10 from October-December and approximately 39 percent of PM10 on an annual average basis. Further, based on similarities with the northern Sacramento Valley and the North Coast Air Basin, we estimate that the fraction of PM2.5 comprised of secondary ammonium nitrate and sulfate is approximately 30 percent.

Lassen County APCD

Table H-7 summarizes maximum PM10 concentrations recorded across the Modoc County APCD in 2001 through 2003. In 2001, particulate levels exceeded the State 24-hour PM10 standard of 50 $\mu\text{g}/\text{m}^3$. Although data are insufficient to determine the calculated days exceeding this standard, from 37 out of the 60 scheduled days with measured PM concentrations in 2001, five days exceeded the standard. Data are also insufficient to determine if particulate levels exceeded the State annual PM10 standard of 20 $\mu\text{g}/\text{m}^3$. There is no PM2.5 monitor in the air district.

Table H-7. PM10 and PM2.5 Air Quality in the Lassen County APCD

Year	PM10 ($\mu\text{g}/\text{m}^3$)			PM2.5 ($\mu\text{g}/\text{m}^3$)	
	Calculated Days over State Std.	Max 24-hour (Std.=50)	Max Annual Average (Std.=20)	Max 24-hour	Max Annual Average (Std.=12)
2001	Incomplete Data	93	Incomplete Data	No Monitor	
2002	No Data				
2003					

Table H-8 provides the 24-hour and annual designation values for the State standards for the 2001-2003 period. Designation values represent the highest 24-hour PM10 concentration measured during the three year period, after concentrations measured during highly irregular and infrequent events have been excluded, and the highest estimated PM10 and PM2.5 annual average in the same period. The designation values are determined for each site, and the highest site is used for determining an area's designation. Based on these data, the Lassen County APCD currently is nonattainment for the State 24-hour PM10 standard. The District is designated as unclassified for the State annual PM2.5 standard – available data are insufficient to support designation as attainment or nonattainment.

Table H-8. Air District Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

	PM10 ($\mu\text{g}/\text{m}^3$)		PM2.5 ($\mu\text{g}/\text{m}^3$)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Designation Value	93	Incomplete Data	Incomplete Data

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Table H-9 provides designation values for each monitoring site in the air district to provide further information on the geographic distribution of concentrations. Only a single monitoring site at Susanville is operated in the District.

Table H-9. Monitoring Site Level Designation Values* for the State PM10 and PM2.5 Standards (2001-2003 Period).

Site	PM10 (ug/m ³)		PM2.5 (ug/m ³)
	24-Hour (Std.=50)	Annual Average (Std.=20)	Annual Average (Std.=12)
Susanville	93	Incomplete Data	No Monitor

* Designation value is the value used for determining attainment status. It is the highest measured value over three years after excluding highly irregular or infrequent events.

Figure H-4. Seasonal Variation in PM10 Concentrations.

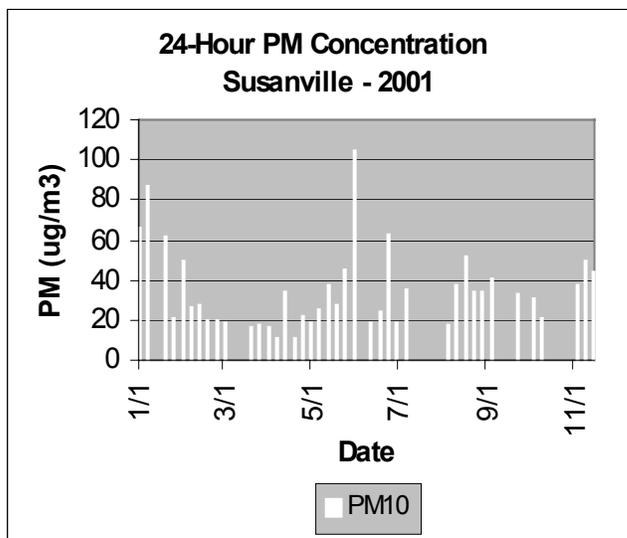


Figure H-4 illustrates the variation in PM10 levels throughout 2001 at Susanville. Higher PM10 concentrations occurred during the summer and winter. During the winter, the colder, more stagnant conditions are conducive to the buildup of PM, including the formation of secondary ammonium nitrate. In addition, increased activity from residential wood combustion may also occur. During the rest of the year activities that resuspend dust, such as emissions from paved and unpaved roads and construction may contribute more significantly to PM10.

Although no PM2.5 data is available, based on 1999 and 2000 monitoring data from Modoc County APCD, we estimate that PM2.5 comprises approximately 39 percent of PM10 on an annual average basis. Further, based on similarities with the northern Sacramento Valley and the North Coast Air Basin, we estimate that the fraction of PM2.5 comprised of secondary ammonium nitrate and sulfate is approximately 30 percent.