

SALMON-CHALLIS NATIONAL FOREST  
PARTICULATE SAMPLING DATA  
SUMMER 1998 FIRE SEASON

NORTH FORK RANGER DISTRICT -North Fork, Idaho: Elevation 3,620 feet  
(Approximately 25 miles north of Salmon, Idaho)

AUGUST 1998	26	WED #689	15.4	PM-10 micrograms per cubic meter
	27	THUR #690	12.5	ug/m3 24 hour reading
	29	SAT #692	23.4	ug/m3 24 hour reading
	31	MON #693	11.9	ug/m3 24 hour reading

SEPTEMBER 1998

	2	WED #694	41.0	ug/m3 24 hour reading
	4	FRI #695	44.5	ug/m3 24 hour reading
	6	SUN #696	18.2	ug/m3 24 hour reading
	8	TUE #697	6.9	ug/m3 24 hour reading
	10	THU #698	4.9	ug/m3 24 hour reading
	12	SAT #699	9.0	ug/m3 24 hour reading
	14	MON #700	6.0	ug/m3 24 hour reading
	20	SUN #703	1.7	ug/m3 24 hour reading

SALMON, IDAHO : Elevation 3,900 feet

The State of Idaho, Division of Environmental Quality operates two Hi-Vol PM-10 samplers in the Salmon area. One is located on top of a building at Pioneer School and a second one about 1.5 miles south at the Bureau of Land Management site. The following data is from the same days as listed above for the North Fork site:

PM - 10 READINGS

	SCHOOL SITE (in town)	BLM SITE (south of town)
SEPTEMBER 1998	2 WED: 89 ug/m3 -24 hour reading	79 ug/m3 - 24 hour reading
	8 TUE: 18 ug/m3 -24 hour reading	17 ug/m3 - 24 hour reading
	14 MON: 30 ug/m3 -24 hour reading	20 ug/m3 - 24 hour reading

The readings at North Fork Ranger District, Salmon City and Bureau of Land Management sites were from Hi-Vol samples. The data from the North Fork Ranger District on September 2, 1998 (41.0 ug/m3) and September 4, 1998 (44.5 ug/m3) were LESS than the 1991 and 1992 City of Salmon summer average's of 54 ug/m3 that contained smoke from the Rush Creek prescribed natural fire, in the Frank Church-River of No Return Wilderness and the Selway-Bitterroot Wilderness Fires. A 24-hour reading from the Rush Creek/Selway prescribed natural fires (west and northwest of Salmon) in Salmon on September 27, 1991, was 106 ug/m3; October 9 was 128 ug/m3 and 146 ug/m3 on October 15, 1991. On August 22, 1992, smoke from the Boise-Foothills

wildfire (150 miles southwest and 270,000 acres) produced poor visibility of only a few miles in the Salmon Valley and produced a 24- hour, PM-10 of 136 ug/m<sup>3</sup> in Salmon. On September 28, 1993, smoke in the Salmon Valley reached 150 ug/m<sup>3</sup>, from forest fires to the west. During August 1996, the SWET Wilderness wildfire north of the Salmon River, between the Salmon and Bitterroot National Forests produced large amounts of smoke in the Main Salmon River drainage towards North Fork and in the Salmon Valley. The Salmon City PM-10 site in 1996 had 24-hour readings on August 7 (25 ug/m<sup>3</sup>), August 13 (71 ug/m<sup>3</sup>), August 19 (18 ug/m<sup>3</sup>), August 25 (64 ug/m<sup>3</sup>) and August 31 (37 ug/m<sup>3</sup>). The data during September 1998 in Salmon were much lower than the worst high days in 1991, 1992 and 1993 and are comparable to the 1996 Salmon City data.

The recent Salmon 24- hour data from above information shows that on September 2, 1998, that 89 ug/m<sup>3</sup> (in town) and 79 ug/m<sup>3</sup> (BLM site) were recorded that did impact the valley. The smoke that impacted North Fork and the Salmon Valley were an accumulation of about 3 major forest fires within the Main Salmon River drainage (Fires A/B/C, North Fork Complex and Main Salmon River) and 2 major wildfires near the Middle Fork Peak Lookout (Jackass and Goat). The Main Salmon River fires were under Prescribed Natural Fire criteria. The inversion layer within the Main Salmon River generally did not get above the ridges or mountain peaks and would follow the Salmon River eastward into the Salmon area. When the smoke did travel above the ridges and mountain peaks, it traveled northeast into the Bitterroot Valley, Wisdom, Missoula and Anaconda in Montana. Numerous local public complaints were observed such as: headaches, poor visibility and increased breathing problems. Generally, you can conclude, that smoke from this summer forest fire season has impacted the Salmon Valley and is comparable to past smoke history in the area during the summer months. The main difference in the amount of smoke in the Salmon Valley is wind directions.

BELOW ARE PM 2.5 DATA            IMPROVE SITE - AUGUST 1998  
 SALM1: SALMON-CHALLIS NATIONAL FOREST- IMPROVE MODULE A;  
 NORTH BALDY MOUNTAIN 9,000 FEET ELEVATION

SALM1	AUGUST 12, 1998	6.408 micrograms per cubic meter
SALM1	AUGUST 15, 1998	5.974 ug/m <sup>3</sup>
SALM1	AUGUST 19, 1998	8.566 ug/m <sup>3</sup>
SALM1	AUGUST 22, 1998	13.762 ug/m <sup>3</sup>
SALM1	AUGUST 26, 1998	6.368 ug/m <sup>3</sup>
SALM1	AUGUST 29, 1998	12.849 ug/m <sup>3</sup>
SALM1	SEPTEMBER 02, 1998	15.364 ug/m <sup>3</sup>
SALM1	SEPTEMBER 05, 1998	17.298 ug/m <sup>3</sup>

Gary Jackson  
 Air Program Manager  
 Salmon-Challis National Forest  
 Salmon, Idaho  
 Updated November 8, 2001