Table3.

Kilauea summit SO_2 emission rates, vehicle-based.

Note: for 2008-2010 the uncertainty in the radiative transfer of light through the plume may result in minimum constraint emission rates.

Simulated Radiative Transfer DOAS (SRT-DOAS), simulates realistic light paths in and around the volcanic plume containing variable amounts of SO2 and aerosols. These data are presented without SRT-DOAS adjustment. Date/Time is in Hawaiian Standard Time (HST).

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
1/5/07 10:30	150	10	5.5	6	6	--
1/12/07 10:34	70	10	7.2	38	6	--
1/17/07 9:56	80	20	6.7	39	6	--
1/24/07 9:49	90	20	3.9	48	6	--
2/11/07 16:11	140	20	7.2	23	3	--
2/12/07 10:56	110	30	6.6	34	6	--
2/16/07 9:03	130	30	5.6	39	6	--
2/21/07 11:08	110	10	8	37	6	--
2/26/07 10:35	130	60	4.5	38	5	--
3/21/07 9:53	120	40	7.4	35	6	--
4/2/07 10:16	100	20	6.4	36	5	--
4/20/07 9:45	130	20	5	38	6	--
4/26/07 15:47	120	10	6.2	69	2	--
4/27/07 9:35	100	30	4.7	37	5	--
5/2/07 10:23	120	20	7.8	38	4	--
5/9/07 15:44	120	10	7.8	35	4	--
5/10/07 10:03	120	20	8.7	40	6	--
5/16/07 13:42	90	10	4.2	32	6	--
5/24/07 10:01	130	20	8.4	37	5	--
5/31/07 10:36	100	5	5.8	35	4	--
6/6/07 10:00	120	20	7.3	35	7	--
6/14/07 9:03	110	20	5.4	39	8	--
6/17/07 9:51	120	20	6.6	36	7	--
6/18/07 10:02	250	50	6.3	36	6	--
6/19/07 9:01	400	110	4.5	27	7	--
6/19/07 16:00	300	70	5.5	36	6	--
6/20/07 9:15	250	60	6.6	39	7	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
6/20/07 16:00	300	30	5.5	41	5	--
6/21/07 11:00	190	50	8.1	38	5	--
6/21/07 15:00	240	30	8	38	6	--
6/22/07 8:40	160	20	7.9	27	5	--
6/22/07 14:15	190	50	7.8	36	6	--
6/23/07 9:27	140	20	8.3	31	5	--
6/24/07 9:13	120	10	7.1	41	6	--
6/26/07 9:26	180	20	4.6	35	6	--
6/27/07 9:17	120	40	8.9	37	8	--
6/28/07 8:30	110	20	7.8	21	6	--
6/29/07 9:01	160	20	8.6	24	6	--
7/2/07 9:52	130	40	4.2	48	5	--
7/3/07 8:39	130	30	5.4	43	6	--
7/6/07 8:58	180	20	9.3	31	6	--
7/10/07 9:33	150	50	3.9	40	3	--
7/12/07 14:40	150	30	7.4	44	6	--
7/18/07 9:54	140	20	6.4	32	6	--
7/19/07 14:15	110	30	7.8	41	8	--
7/22/07 9:30	120	20	6.3	29	5	--
7/25/07 9:20	150	30	8.4	38	6	--
7/31/07 10:56	140	30	6.2	38	6	--
8/2/07 9:03	190	30	7.1	28	6	--
8/4/07 17:00	210	40	6	39	3	--
8/6/07 10:30	150	40	7.7	35	6	--
8/7/07 9:30	140	30	5.7	31	6	--
8/14/07 9:07	160	30	8.3	36	6	--
8/16/07 11:00	170	30	6.8	36	4	--
8/20/07 10:30	150	40	7.6	41	6	--
8/23/07 10:30	180	60	6.8	40	6	--
8/31/07 9:30	180	50	3.6	38	5	--
9/2/07 16:00	250	70	6.8	40	4	--
9/10/07 10:30	260	100	6.7	31	4	--
9/11/07 8:30	200	20	6.5	29	6	--
9/12/07 9:00	230	40	5.7	23	6	--
9/13/07 10:00	180	50	5.4	36	6	--
9/17/07 10:00	180	10	5.8	36	4	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
9/18/07 10:00	230	30	6.7	27	6	--
9/20/07 9:30	180	20	8.3	37	6	--
9/26/07 9:30	180	10	5.3	25	6	--
9/27/07 9:40	170	50	4.7	30	6	--
9/28/07 8:50	190	20	5	31	6	--
9/28/07 14:30	170	40	6.2	34	2	--
10/2/07 9:40	210	20	7	41	6	--
10/4/07 8:45	170	40	5.6	37	6	--
10/5/07 9:00	180	20	6.7	34	6	--
10/9/07 9:45	170	30	5.6	31	6	--
10/11/07 10:10	220	30	5.8	36	6	--
10/15/07 9:57	170	40	6.3	31	6	--
10/16/07 9:30	180	40	3.3	56	4	--
10/18/07 9:00	160	60	3.3	38	4	--
10/22/07 10:00	190	50	4.5	51	6	--
10/23/07 9:15	170	30	4.6	37	6	--
10/25/07 10:00	200	70	3.9	27	5	--
10/26/07 9:30	150	40	5.7	40	6	--
10/31/07 8:45	130	30	5.4	27	6	--
11/8/07 9:19	200	60	6.2	42	6	--
11/9/07 9:50	210	40	5.4	38	6	--
11/14/07 9:30	240	30	7.3	40	6	--
11/16/07 9:13	160	30	4.5	31	6	--
12/10/07 9:40	BDL		5.7	33	6	--
12/11/07 9:45	BDL		6.9	15	3	--
12/13/07 15:13	40	1	8	39	2	--
12/17/07 13:25	150	50	7.8	36	5	--
12/18/07 9:37	150	40	8.2	30	6	--
12/21/07 9:50	220	30	6	25	6	--
12/23/07 10:20	240	80	7.2	29	3	--
12/26/07 10:18	290	60	6.9	33	6	--
1/2/08 10:05	380	50	9.6	27	6	--
1/4/08 9:53	380	40	9.4	30	6	--
1/13/08 9:40	580	140	7.5	22	6	--
1/14/08 10:22	470	130	8.7	10	6	--
1/15/08 14:33	530	100	6.5	33	3	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
1/19/08 11:07	660	120	6	33	6	--
1/21/08 8:54	590	160	9	26	8	--
1/23/08 9:10	590	40	5.3	32	6	--
1/25/08 9:20	490	70	7.2	31	6	--
1/29/08 9:39	720	140	7.8	27	6	--
1/30/08 10:19	840	100	6.7	34	8	--
2/1/08 9:07	730	160	6.1	32	8	--
2/1/08 15:16	730		5.7	41	1	--
2/1/08 16:01	710	130	4.2	37	6	--
2/6/08 13:18	440	120	4.9	39	6	--
2/8/08 9:53	690	110	4.9	32	6	--
2/11/08 14:29	1050	200	7.1	37	6	--
2/12/08 11:00	620	160	3.4	62	6	--
2/13/08 10:00	400	40	6.4	32	6	--
2/13/08 16:20	580		5.6	43	1	--
2/14/08 15:00	570	70	7.3	38	6	--
2/22/08 10:00	810	120	3	62	5	--
2/28/08 10:00	640	190	4.9	38	6	--
3/3/08 14:43	970	150	5.7	32	6	--
3/6/08 14:34	650	50	3.7	56	4	--
3/12/08 9:56	1580	250	5.2	41	6	--
3/13/08 10:30	1850	460	5.5	34	6	--
3/13/08 15:30	1800	660	5.6	37	5	--
3/14/08 11:18	1440	270	4.9	46	6	--
3/15/08 15:34	1340		5.3	40	1	--
3/16/08 14:34	1500	390	3.4	44	6	--
3/18/08 10:27	1630	130	6.4	40	6	--
3/19/08 10:30	1620	580	8	41	6	--
3/19/08 15:00	1950		8.1	42	1	--
3/20/08 9:15	1220	200	4.6	33	10	--
3/21/08 10:00	1230	380	3.4	85	6	--
3/23/08 14:00	1000	350	6.2	35	7	--
3/24/08 12:30	1580	310	4.7	68	7	--
3/24/08 14:30	680	160	3.3	72	4	--
3/25/08 10:00	720	80	4.8	36	4	--
3/25/08 10:45	1200	220	4.9	37	8	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
3/25/08 15:00	1220		5.6	34	1	--
3/26/08 14:00	1190	130	4.3	51	3	--
3/27/08 10:10	830	110	4.8	37	5	--
3/27/08 14:15	750		6.6	34	1	--
3/29/08 15:54	730	270	7.3	35	7	--
3/30/08 16:15	840	210	9.8	23	6	--
3/31/08 15:20	550	100	6.9	37	6	--
4/1/08 10:40	720	300	8.8	32	6	--
4/1/08 14:20	820	330	9.3	34	6	--
4/5/08 10:00	540	170	7.1	39	6	--
4/6/08 10:30	710	260	4.8	34	6	--
4/7/08 10:00	810	300	5.3	32	3	--
4/10/08 9:30	580	210	4.5	34	6	--
4/11/08 9:00	890	370	5.2	37	24	--
4/12/08 10:15	740	160	5.6	36	14	--
4/13/08 9:30	660	170	8.6	30	8	--
4/13/08 11:00	1030	350	10.4	35	6	--
4/14/08 11:15	840	360	6.1	35	6	--
4/15/08 9:40	970	150	5.4	49	12	--
4/18/08 12:00	1020	290	4	52	6	--
4/19/08 11:00	1210	250	5.1	45	6	--
4/20/08 10:40	870	450	6.6	38	12	--
4/21/08 14:30	1150	340	6.5	35	6	--
4/22/08 9:15	1200	440	3.3	35	6	--
4/27/08 10:00	1480	380	5.5	37	7	--
4/28/08 10:30	1910	780	6.7	29	10	--
4/29/08 10:50	940	230	9	13	4	--
4/30/08 9:40	850	210	9.3	33	10	--
5/1/08 9:05	1250	300	6.7	37	7	--
5/2/08 9:30	770	330	8	37	8	--
5/2/08 15:25	540	100	8.1	41	8	--
5/3/08 10:30	940	430	4.2	45	10	--
5/4/08 9:20	920	190	5.3	37	10	--
5/5/08 10:35	900	220	5.7	41	8	--
5/6/08 9:16	1040	160	4	30	8	--
5/7/08 8:45	1510	330	6.8	40	8	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
5/7/08 15:20	720	210	5.3	33	5	--
5/8/08 14:40	590	180	8.3	27	8	--
5/9/08 9:00	690	170	7.5	34	7	--
5/9/08 13:10	770	180	6.9	33	7	--
5/10/08 16:40	610	90	7.3	39	5	--
5/11/08 11:20	890	350	6.9	38	10	--
5/11/08 14:20	1280	640	6.8	35	8	--
5/11/08 15:10	840	250	6.9	39	7	--
5/11/08 17:10	480	110	6.7	37	11	--
5/12/08 10:20	810	110	3.9	75	6	--
5/17/08 9:30	1320	550	4.8	33	6	--
5/18/08 16:00	680	210	6.7	38	16	--
5/19/08 10:00	380	30	4.7	33	8	--
5/20/08 9:15	980	370	7.3	37	8	--
5/23/08 9:45	1120	280	4.9	31	8	--
5/24/08 11:00	1540	500	7.2	34	6	--
5/25/08 11:00	990	280	6.8	38	8	--
5/28/08 9:15	1180	200	4.1	50	8	--
5/29/08 10:50	1010	220	6.4	36	5	--
5/30/08 9:30	550	140	7.3	36	8	--
5/31/08 11:00	1380	700	8.2	33	6	--
6/2/08 10:15	1840	390	8.3	40	8	--
6/3/08 9:05	810	400	5.9	37	16	--
6/3/08 14:50	1160	340	4.9	38	5	--
6/4/08 10:20	860	300	3.7	51	8	--
6/5/08 10:05	940	190	5	46	8	--
6/6/08 9:30	1120	120	3.5	48	8	--
6/7/08 16:00	730	240	8.3	27	6	--
6/8/08 16:45	680	180	7.8	35	6	--
6/9/08 9:50	710	190	7.5	27	8	--
6/10/08 9:45	800	240	6.1	37	8	--
6/18/08 9:50	970	280	4.6	45	8	--
6/19/08 13:10	1230	320	8	37	8	--
6/20/08 9:05	510	130	6.3	29	7	--
6/21/08 10:00	660	130	7.1	36	6	--
6/22/08 16:05	590	120	8.1	33	5	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
6/23/08 14:00	920	310	9.7	26	7	--
6/24/08 10:15	1010	360	8.1	39	6	--
6/26/08 14:00	880	280	7.6	31	8	--
7/1/08 9:30	1120	230	5.3	31	6	--
7/4/08 9:30	1350	200	5	36	3	--
7/6/08 9:45	1370	190	4.6	31	5	--
7/7/08 10:45	690	100	2.3	80	4	--
7/11/08 9:35	1440	150	4.9	36	5	--
7/12/08 11:15	750	120	5.2	28	6	--
7/12/08 14:15	580	150	5.1	36	6	--
7/15/08 8:50	820	230	5.3	36	9	--
7/16/08 8:45	780	260	4	48	7	--
7/17/08 8:15	690	110	7.5	24	6	--
7/18/08 9:25	500	110	7.2	23	7	--
7/21/08 9:05	1280	380	5.8	34	7	--
7/23/08 10:20	580	140	5.1	41	8	--
7/24/08 9:30	640	180	9	24	14	--
7/25/08 8:20	830	230	6.1	32	8	--
7/30/08 9:00	620	140	6.7	19	6	--
7/31/08 15:00	770	340	7.6	34	7	--
8/4/08 10:15	700	160	7.4	33	10	--
8/7/08 9:20	910	180	10.7	20	8	--
8/8/08 9:00	640	200	6.1	22	4	--
8/9/08 13:00	490	70	7.4	36	3	--
8/11/08 11:00	810	350	8.7	29	21	--
8/11/08 16:00	540	170	8.2	35	9	--
8/12/08 9:25	640	200	5.6	40	6	--
8/15/08 9:15	590	190	6.9	31	6	--
8/17/08 15:00	670	180	8.2	32	6	--
8/18/08 14:11	710	160	7.1	39	5	--
8/19/08 10:06	910	230	9	34	6	--
8/20/08 9:26	790	220	8.7	39	8	--
8/21/08 8:46	700	180	8.8	22	24	--
8/22/08 10:12	580	180	7.6	26	8	--
8/25/08 13:32	950	70	10.7	30	8	--
8/26/08 8:50	570	90	6.7	30	8	--

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
8/28/08 9:50	860	310	6.6	38	7	--
8/29/08 9:10	640	230	6.2	33	6	--
9/2/08 10:20	1220	470	7.8	34	8	--
9/2/08 14:12	1580	320	6.8	32	6	--
9/2/08 15:35	720	140	6.8	32	4	--
9/3/08 10:30	1330	340	5.4	28	8	--
9/3/08 15:00	1420	230	5.8	39	6	--
9/4/08 11:05	820	240	8.3	38	12	--
9/5/08 11:00	1060	220	4	32	8	--
9/7/08 15:00	1070	380	8.5	38	5	--
9/11/08 9:40	830	150	3.8	33	6	--
9/15/08 10:17	1110	260	4.7	35	8	--
9/16/08 9:00	800	280	6.8	13	24	--
9/17/08 0:00	1120	460	6.5	35	14	--
9/21/08 11:45	1180	240	5.5	29	6	--
9/22/08 10:30	1350	340	6	39	8	--
9/23/08 14:26	840	340	6.7	35	6	--
10/1/08 9:08	890	260	7.9	28	24	--
10/3/08 8:53	820	230	8.9	23	22	--
10/5/08 11:30	920	260	6.1	29	3	--
10/5/08 13:00	920	220	6.2	34	4	--
10/6/08 10:46	950	230	6.1	43	6	--
10/10/08 12:30	1170	260	9.3	39	6	--
10/16/08 10:15	630	200	6.6	31	20	--
10/17/08 10:00	880	180	7.7	34	6	--
10/22/08 10:30	900	190	7.5	30	7	--
10/23/08 10:42	870	390	8.2	34	6	--
10/23/08 14:30	910	50	8.4	29	2	--
10/24/08 9:10	470	70	5.5	34	6	--
10/24/08 14:15	460	140	2.4	150	3	c
10/29/08 9:42	690	120	8.1	28	8	b
10/29/08 15:35	520		7.5	26	1	b
10/30/08 10:30	750	70	6.9	34	8	b
10/31/08 9:35	530	170	5.7	38	6	b
11/3/08 11:00	690	270	4.5	40	8	c
11/7/08 9:30	860	580	6.2	33	8	c

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
11/10/08 10:50	1250	200	5.2	41	4	c
11/13/08 11:00	1100	310	3.1	207	7	c
11/14/08 10:00	1170	130	1.2	169	3	c
11/17/08 10:30	820	120	9.3	29	8	c
11/18/08 10:30	750	250	8.4	32	14	c
11/19/08 9:30	640	190	8.1	23	8	b
11/20/08 9:45	1650	480	3.8	42	8	b
11/24/08 10:40	680	190	7	21	8	b
11/25/08 9:30	400	60	5.1	34	8	b
11/26/08 9:00	510	160	5.9	27	8	c
12/4/08 9:30	950	160	4.1	38	8	b
12/4/08 12:25	1050	270	4.4	43	8	c
12/5/08 9:30	480	170	8.6	33	8	a
12/8/08 10:45	300	190	4.8	34	8	b
12/10/08 15:40	330	80	1.6	197	6	b
12/11/08 10:53	320	80	2.2	197	8	c
12/16/08 10:45	370	150	3.2	35	8	c
12/16/08 15:24	440	140	3.2	84	8	b
12/17/08 9:36	480	90	2.7	35	8	b
12/22/08 10:22	920	540	6.6	35	8	b
12/23/08 9:30	860	330	7.5	31	8	b
12/24/08 9:30	400	180	7.9	21	8	c
12/29/08 11:20	870	140	7.2	24	7	c
12/29/08 15:45	820	210	6.1	39	4	b
12/30/08 15:30	620	250	5.6	6	6	b
1/2/09 11:20	550	180	4.5	34	6	b
1/7/09 11:00	770	180	8.6	41	8	b
1/8/09 13:45	650		5.4	44	1	b
1/13/09 11:10	1030	150	2.1	220	8	c
1/14/09 12:45	950	330	2.9	204	8	c
1/21/09 10:11	640	90	6.3	28	6	b
1/21/09 14:14	870	60	7	33	2	b
1/22/09 10:09	900	260	7	28	6	c
1/23/09 10:46	880	440	5.4	42	6	b
1/30/09 9:09	1080	300	7.8	30	8	b
2/2/09 10:04	1440	630	8.3	42	7	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
2/3/09 10:16	1220	320	9.7	30	6	b
2/4/09 11:19	890	310	6.4	35	6	c
2/4/09 13:22	1850	640	6.7	44	6	b
2/4/09 15:56	730	170	6.7	42	2	b
2/5/09 8:47	340	180	5.7	37	6	b
2/5/09 13:02	520	110	4.5	44	4	c
2/9/09 10:30	570	130	3.1	72	6	c
2/12/09 9:19	650	190	3.8	48	4	b
2/12/09 14:39	820	230	6.2	45	10	b
2/13/09 10:02	550	130	8.5	36	6	b
2/17/09 10:44	1030	380	9.4	46	6	c
2/18/09 8:34	910	210	9.7	35	6	c
2/19/09 9:06	730	160	8.6	36	6	c
2/19/09 15:17	630		7.5	36	1	c
2/20/09 11:47	520	310	6.4	45	6	c
2/24/09 9:23	760	370	6	34	6	c
2/24/09 11:51	1030	330	7.9	38	19	c
2/24/09 15:53	830	130	7.2	37	10	c
2/25/09 10:26	980	430	10.4	35	6	c
2/26/09 9:50	990	250	10.8	34	6	c
2/26/09 15:02	840	300	9.7	40	6	c
2/27/09 10:02	1140	190	10.7	33	6	c
3/1/09 12:12	1100	360	9.8	26	6	c
3/1/09 13:15	1080	420	9	34	2	c
3/4/09 9:43	1060	500	7.5	31	6	c
3/5/09 9:41	720	320	7.8	42	6	c
3/6/09 10:08	700	160	6.1	31	8	c
3/10/09 9:42	970	530	7.9	22	6	b
3/13/09 10:58	1170	240	2.6	220	8	b
3/13/09 13:30	1010	340	2.3	200	7	b
3/19/09 8:58	500	130	5.5	27	8	c
3/20/09 9:15	1020	240	4.4	46	8	c
3/23/09 10:06	870	460	6.4	65	8	c
3/25/09 9:04	520	50	5.2	28	4	c
3/25/09 10:36	710	240	5.4	32	8	c
3/25/09 12:42	780	310	6	40	16	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
3/25/09 15:35	820	110	6.3	35	4	b
3/26/09 9:09	860	340	5.3	45	8	b
3/27/09 14:15	700		6.3	33	1	b
3/27/09 16:25	1090		6	37	1	b
3/30/09 10:23	920	400	8.8	38	6	b
3/30/09 14:07	1000	250	9.4	34	16	b
4/1/09 9:15	510	120	5	27	6	b
4/1/09 15:28	550	100	6.5	37	3	b
4/2/09 9:30	700	210	7.5	37	6	b
4/2/09 15:30	760	160	6.6	36	3	b
4/3/09 9:00	580	130	6.1	35	6	b
4/3/09 14:29	720	190	7.7	38	6	c
4/6/09 13:59	850	220	7.7	30	2	c
4/7/09 10:25	910	280	6.9	41	8	c
4/8/09 13:26	1000	360	7.6	40	6	b
4/9/09 13:49	680	110	6.3	38	6	b
4/13/09 10:22	1000	520	5.3	41	6	b
4/14/09 10:41	980	300	8.7	30	6	c
4/15/09 9:05	730	360	7.3	36	11	b
4/15/09 14:38	730	150	6.1	39	10	b
5/8/09 13:40	1150	290	5.4	34	7	b
5/9/09 9:00	810	230	5	37	12	c
5/10/09 0:00	750	200	3.8	43	5	b
5/12/09 9:12	1180	240	4.1	40	8	b
6/2/09 9:00	820	380	4.5	37	10	b
6/4/09 9:05	720	360	5.4	33	9	b
6/5/09 9:27	840	280	7.5	34	9	b
6/5/09 14:12	710	220	7.6	43	4	b
6/11/09 9:07	1060	180	4.6	30	8	b
6/12/09 9:20	1000	150	3.6	34	8	b
6/12/09 13:23	990	80	5	51	2	b
6/15/09 10:11	930	130	3.6	47	8	b
6/15/09 14:13	920	330	4.7	47	3	b
6/16/09 9:35	690	240	6.2	40	8	b
6/16/09 13:15	980	380	5.6	38	2	b
6/17/09 9:17	850	480	4.6	43	8	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
6/17/09 14:17	1210	200	8.1	40	2	c
6/18/09 9:30	780	210	7.4	35	8	c
6/19/09 10:02	960	140	9.7	35	8	c
6/22/09 10:24	1040	380	9.5	43	13	c
6/22/09 13:30	1000	330	8.7	42	14	b
6/23/09 10:43	760	160	8.9	33	6	c
6/23/09 13:13	690	100	9.7	41	2	b
6/24/09 9:35	740	150	6.8	42	8	c
6/24/09 13:29	780	180	6.9	42	2	b
6/25/09 10:12	1030	340	4.8	50	8	c
6/25/09 13:18	800	100	3.6	43	2	b
6/26/09 9:11	820	220	6.2	41	8	b
6/26/09 13:11	780	60	6.6	41	2	b
7/3/09 9:41	360	90	4.7	35	6	c
7/5/09 10:17	210	90	7	38	7	b
7/7/09 9:17	330	150	8.9	32	12	c
7/7/09 13:44	260	180	6.3	41	2	c
7/8/09 9:23	260	50	7.9	43	8	b
7/9/09 9:23	300	130	5.9	31	12	b
7/9/09 13:29	360	100	8.4	37	2	c
7/9/09 15:21	360	60	8.3	37	6	b
7/10/09 10:00	320	150	5.8	38	8	c
7/10/09 13:23	270	90	6.3	37	2	c
7/13/09 13:23	380	90	4.8	54	6	b
7/14/09 9:18	310	120	6.9	34	6	c
7/14/09 13:30	440	10	8	37	2	c
7/15/09 13:25	380	130	8	36	8	b
7/16/09 9:33	390	180	4	51	12	c
7/16/09 15:06	340	210	7.4	42	10	b
7/17/09 9:15	410	160	6.8	21	8	b
7/20/09 9:54	1100	450	9.6	29	14	b
7/21/09 9:03	590	310	6.5	39	10	c
7/22/09 9:24	810	250	5.1	37	7	c
7/24/09 9:40	500	160	2.5	64	8	b
7/27/09 11:00	940	430	8.8	34	6	b
7/31/09 9:20	680	230	6.5	28	6	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
8/4/09 9:50	700	420	6.3	32	8	b
8/7/09 9:51	1820	920	7.4	42	7	b
8/10/09 9:52	1230	650	8.3	28	6	b
8/14/09 14:38	900	200	3.5	50	6	c
8/19/09 10:00	960	220	5.3	37	6	c
8/20/09 14:56	980	170	7.3	30	6	b
8/21/09 10:00	1140	460	8.4	46	8	b
8/25/09 9:00	900	220	8.8	28	6	b
8/26/09 10:13	1000	300	7.2	45	6	b
8/27/09 10:20	950	250	7.6	43	5	b
8/31/09 10:07	1010	400	8.2	43	7	b
9/1/09 10:02	800	160	7	45	6	b
9/2/09 10:35	1180	310	8.5	39	8	c
9/2/09 14:28	1200		8.4	48	1	c
9/3/09 9:50	790	320	6.8	45	6	b
9/8/09 14:43	890	320	7.3	42	6	b
9/10/09 10:56	970	120	3.8	59	4	c
9/11/09 9:15	1000	190	7.3	36	8	b
9/11/09 14:14	870	120	8	43	8	b
9/16/09 9:20	1220	190	8.2	35	8	b
9/17/09 11:10	1010	440	5.2	44	7	b
9/18/09 9:22	440	130	5.6	46	8	b
9/23/09 9:35	440	120	3.4	41	8	b
9/24/09 8:59	740	180	7.1	43	8	b
9/28/09 11:08	670	500	7.4	48	8	b
9/29/09 9:06	640	330	8.7	39	8	b
9/30/09 8:58	410	130	6.2	43	8	b
10/1/09 10:45	650	360	8.2	28	8	b
10/2/09 8:59	490	210	7.7	44	8	b
10/11/09 15:36	740	370	5.1	43	6	c
10/16/09 10:20	690	340	5.9	47	8	c
10/17/09 15:00	960	420	10	38	6	c
10/18/09 12:35	940	220	9.1	34	5	b
10/20/09 10:27	580	90	4.7	48	5	c
10/21/09 10:56	560	170	4.4	50	8	c
10/22/09 9:25	920	260	4.9	60	8	c

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
10/26/09 12:17	1380	290	6	66	8	b
10/30/09 9:16	820	370	4.3	56	7	c
11/2/09 10:05	1200	770	4.9	50	8	b
11/3/09 9:23	500	230	4	39	6	c
11/4/09 11:00	990	130	10.4	46	6	b
11/5/09 12:09	890	170	7.6	49	13	c
11/5/09 15:12	700	270	6.8	39	8	c
11/6/09 13:34	720	180	6.7	48	5	c
11/9/09 11:14	440	70	4.1	48	6	b
11/16/09 10:32	580	300	4.2	48	8	c
11/17/09 10:30	1020	220	9.3	42	8	b
11/18/09 14:25	750	270	8.7	35	8	b
11/19/09 10:16	1080	220	8.9	37	9	a
11/20/09 11:06	850	340	9	45	7	b
11/23/09 11:41	950	210	7.9	44	8	b
11/24/09 9:52	810	190	7.4	40	8	c
11/28/09 10:48	1040	300	7.7	45	6	b
11/30/09 10:09	970	310	7.5	34	9	b
12/1/09 9:37	830	300	6.2	47	8	c
12/10/09 9:39	630	380	3.6	47	8	c
12/11/09 10:04	940	440	4.5	46	8	c
12/18/09 10:53	640	150	6.5	42	6	c
12/22/09 14:36	810	190	8.1	33	6	b
1/7/10 9:38	750	400	3.9	39	6	c
1/8/10 8:51	660	200	4.4	47	6	c
1/12/10 9:00	720	240	2.9	16	8	c
1/15/10 9:14	600	200	7.3	28	10	c
1/19/10 10:05	510	180	4.1	48	4	c
1/20/10 10:40	1110	330	9	27	6	b
1/21/10 10:47	560	190	6.2	15	7	b
1/28/10 9:00	420	160	3.9	41	6	c
1/28/10 15:39	930	240	5	44	8	c
2/1/10 11:30	590	250	2.6	70	6	c
2/4/10 11:12	1160	390	8.3	34	8	b
2/8/10 10:12	740	480	6.6	41	8	b
2/9/10 9:54	830	320	7.7	42	8	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
2/10/10 10:45	710	270	4.8	35	8	b
2/11/10 10:07	870	220	8.9	45	8	b
2/18/10 9:10	580	200	8.3	22	8	c
2/25/10 9:35	330	80	5.3	45	8	c
2/25/10 13:31	930	220	6.6	35	8	c
2/26/10 9:02	560	160	6.3	40	8	c
3/1/10 10:06	860	110	9.7	14	8	b
3/2/10 10:53	710	310	7.2	32	8	b
3/3/10 10:04	490	170	6.9	27	5	b
3/4/10 9:30	650	170	7.9	27	7	b
3/5/10 10:00	690	130	8.2	40	8	b
3/5/10 15:07	830	170	8.3	42	6	b
3/8/10 10:45	880	240	9.3	26	8	b
3/11/10 9:26	590	150	6	44	8	b
3/19/10 14:57	520	180	5.6	43	8	c
3/22/10 16:09	530	90	3	50	2	c
3/23/10 10:40	590	220	6.4	39	8	b
3/24/10 10:27	550	190	7.3	42	8	b
3/25/10 10:04	580	260	6.4	40	8	c
3/26/10 9:32	770	230	7.1	48	8	b
3/29/10 10:40	930	360	8.9	29	6	c
3/29/10 14:45	850	90	9.6	39	6	c
3/30/10 10:09	1320	370	10.6	34	8	c
3/30/10 14:00	1340	440	11.2	43	8	c
3/31/10 9:45	1370	420	11.7	26	8	c
3/31/10 14:18	930	300	10.5	44	6	c
4/1/10 11:10	960	280	8.6	44	8	c
4/2/10 9:26	610	260	7.3	44	6	b
4/2/10 15:19	650	200	7	45	6	b
4/8/10 10:38	620	210	5.2	41	8	c
4/8/10 14:19	570	190	6.1	47	8	c
4/9/10 10:18	500	120	4.3	50	6	c
4/12/10 14:43	600	230	5.6	43	5	c
4/14/10 11:00	550	220	6.5	41	7	c
4/14/10 14:52	750	150	7.5	41	6	c
4/15/10 9:29	670	180	7.2	43	8	c

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
4/19/10 10:22	790	210	7.8	35	6	b
4/20/10 15:08	660	170	7.7	48	8	c
4/21/10 9:39	630	200	6.5	47	8	c
4/22/10 9:46	700	230	7.4	44	8	c
4/23/10 9:46	770	230	7.2	43	8	b
4/26/10 10:28	1220	380	6.3	43	6	c
4/27/10 9:48	760	220	7.8	40	7	c
4/28/10 14:09	1010	310	8.1	47	7	c
4/29/10 10:26	780	340	6.2	45	4	c
5/5/10 9:56	880	170	7.6	49	8	c
5/6/10 10:58	980	220	7.6	50	6	c
5/7/10 9:35	820	210	5.4	51	8	c
5/11/10 15:51	540	100	5.7	38	3	c
5/13/10 9:24	610	160	5.5	44	2	c
5/14/10 10:52	490	190	4.5	35	5	c
5/14/10 13:35	620	200	6.7	39	5	c
5/17/10 10:31	800	360	4.7	54	6	c
5/19/10 9:55	780	260	7.7	28	8	b
5/20/10 9:17	570	140	6.7	39	6	c
5/20/10 13:13	1160	410	8.2	35	4	b
5/21/10 14:21	800	210	8.2	37	8	c
5/24/10 10:26	950	180	8.3	39	6	c
6/1/10 10:50	710	210	6.4	45	4	b
6/1/10 14:57	660	210	6.5	49	10	b
6/4/10 10:08	530	150	6	38	4	c
6/8/10 10:18	1040	110	10.5	47	4	c
6/15/10 8:01	380	150	5	46	24	b
6/17/10 14:43	710	210	7.6	40	8	b
6/22/10 10:29	1070	450	8.2	46	4	b
6/23/10 10:16	990	280	10.5	42	8	c
6/24/10 9:21	1310	400	11.9	45	8	b
6/25/10 9:59	340	40	5.3	36	2	b
7/2/10 9:47	950	250	8.1	45	8	a
7/7/10 9:03	400	190	7.4	41	31	b
7/9/10 9:51	590	100	6.9	42	8	a
7/13/10 9:00	520	220	3.9	52	8	b

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
7/14/10 9:33	490	90	5.9	40	4	b
7/15/10 9:56	710	230	7.1	37	14	b
7/16/10 9:07	720	170	8.2	39	8	a
7/22/10 9:29	760	370	6.3	40	8	b
7/26/10 10:43	650	170	6	45	8	a
7/28/10 10:03	680	330	7.5	39	8	b
8/2/10 10:40	800	200	7.5	38	8	b
8/4/10 9:39	890	160	8.5	39	8	b
8/6/10 9:38	630	180	3.6	49	8	b
8/9/10 10:47	890	390	9.7	42	5	c
8/10/10 8:56	430	190	8.1	40	35	b
8/11/10 9:32	650	150	6.5	45	8	a
8/12/10 10:04	830	230	7.8	44	8	b
8/12/10 13:42	450	160	8.6	41	10	b
8/16/10 10:04	590	200	6.3	28	8	b
8/17/10 9:52	640	200	5.8	48	8	b
8/19/10 9:39	370	180	8.3	40	6	b
8/23/10 10:52	890	80	7.5	38	4	c
8/27/10 9:47	470	360	7.7	47	18	b
9/2/10 9:44	660	100	6.8	43	6	c
9/3/10 9:50	770	310	7.1	38	8	c
9/7/10 10:23	460	150	6.8	48	7	c
9/8/10 9:40	610	350	8.2	38	21	c
9/14/10 9:18	860	300	7.1	36	10	c
9/15/10 9:19	1110	330	8.6	41	5	c
9/16/10 9:20	610	140	8.5	32	6	c
9/17/10 9:16	1180	280	11	36	4	c
9/21/10 9:33	1160	190	4.6	42	7	c
9/22/10 9:45	470	50	5.1	40	5	c
9/24/10 10:20	610	190	5.5	45	6	b
9/28/10 9:02	230	50	5.4	42	10	b
10/4/10 10:16	970	210	6.9	46	8	b
10/6/10 9:18	400	100	6.4	38	9	b
10/6/10 13:48	840	320	6.8	48	11	c
10/7/10 14:02	810	270	5.3	51	8	c
10/12/10 10:19	700	290	4.9	50	14	c

Date/Time (HST)	measured SO_2 (t/d)	SD (t/d)	WS (m/s)	WD (degree)	N	quality code
10/13/10 9:32	850	240	7	40	12	c
10/14/10 9:41	750	170	4.6	35	10	c
10/15/10 9:39	740		6.8	41	1	b
10/22/10 9:12	1070	710	4.3	47	12	b
10/26/10 10:04	720	130	7.1	37	10	b
10/27/10 10:00	330	120	8.4	26	12	b
10/28/10 10:08	510	120	6.8	35	10	b
10/29/10 9:27	750	280	7.5	38	12	b
11/2/10 9:53	690	180	3.9	40	6	c
11/3/10 10:37	630	40	4	48	5	c
11/5/10 9:45	340	150	8.1	39	12	b
11/8/10 10:11	360	130	7.2	38	10	b
11/9/10 10:07	1090	210	3.4	58	6	c
11/10/10 9:37	440	270	6.4	46	12	b
11/12/10 9:44	680	210	6.8	38	12	b
11/23/10 13:48	640	130	4.6	52	7	b
11/26/10 9:25	260	70	8.7	37	10	b
11/30/10 9:42	480	180	3.5	48	10	c
12/1/10 9:39	220	80	6.5	42	12	b
12/2/10 11:00	710	270	8	30	18	b
12/14/10 9:18	200	50	4.9	42	11	b
12/30/10 10:33	620	270	7.5	43	12	b

Abreviations: t/d=metric tonne (1000 kg)/day, SD=standard deviation, WS=wind speed,
WD=wind direction east of true north, N=number of traverses, BDL=below detection limit
Date HST indicates date/time at the beginning of measurement session.
Data Quality Codes:
Data quality codes were instituted for the ERZ traverse data as the 15 km between the vent and measurement site allowed for variable plume structure and measurement quality. Quality codes were initiated at the summit in fall of 2008.

A - BEST QUALITY DATA -usually with strong, steady, well constrained wind conditions, and a compact, consistent plume shape (15.7% of data). Nearly all spectra have sufficient radiance for good spectral fitting and accurate column amount.

Date/Time (HST) measured SO_2 (t/d) SD (t/d) WS (m/s) WD (degree) N quality code

B - GOOD QUALITY DATA - usually with moderately consistent plume shape and location of plume on road. Collected under moderately strong, uniform winds, with good constraint on wind speed and direction. For summit data, some spectra in core of plume may have poor column amount retrievals due to low radiance.

C - ACCEPTABLE DATA - may have variable plume location and shape. Wind speed and direction may be variable or poorly constrained. Some runs may measure a partial plume, and result in a minimum emission rate. For summit data, some spectra in core of plume have poor column amount retrievals due to low radiance. Measurements made under conditions of significant meteoric cloud (>50%), with suspected wind shear, or instrument inconsistencies are included in this category.

-- no data quality code available