

technical appendix



2018 BC Lung State of the Air Report -- Technical Appendix (based on 2017 data)

Data Source:

B.C. Ministry of Environment and Climate Change Strategy and Metro Vancouver

Units:

All data presented in ppb except PM_{2.5}, which is presented in micrograms per cubic metre ($\mu\text{g}/\text{m}^3$)

Monitoring sites:

Monitoring is often conducted to address various objectives that may include measuring concentrations representative of: community exposure, industrial impacts, background concentrations, etc.

For the State of the Air Report, monitoring sites immediately adjacent to industrial facilities were not generally included unless these sites were also near areas of high population density.

Data completeness:

Data completeness criteria have been relaxed relative to previous reports to enable reporting of data from more stations.

In this report, a valid day has data for at least 18 hours (75%).

A valid year has data for at least 60% of days in each quarter and 75% of of hours over an entire year, with the following exceptions.

For peak (4th highest) 8-hour ozone levels, a valid 8-hour period has data for at least 6 hours, a valid day has data for at least 18 hours, and a valid year has at least 75% of days in the second and third quarters (April 1 to September 30).

For peak (1-hour) SO₂ and NO₂ levels, a valid daily maximum includes those days where less than 18 hours are available in a day but the maximum concentration exceeds the objective level.

Annual mean PM_{2.5} levels are based on the annual mean of daily PM_{2.5} concentrations.

Where data completeness requirements are not met, only number of hours per year, maximum value and number of exceedances are shown.

In some limited cases (e.g. Prince Rupert and Prince George), data monitored sequentially from two different sites have been combined to allow for reporting of a complete year of data.

Collocated monitors:

Where more than one PM_{2.5} monitor is operating at a single site, data are shown for the monitor currently considered the primary reporting monitor and/or the monitor reporting a complete year of data.

A common example is the collocation of new Federal Equivalent Method (FEM) instruments alongside the Tapered Element Oscillating Microbalance (TEOM) instruments. This is done primarily for testing purposes, to ensure satisfactory FEM performance prior to establishing the FEM instrument as the primary reporting monitor and decommissioning the older TEOM instrument.

Disclaimer:

While the information in these data summaries are believed to be accurate, the data summaries are provided as is without any warranty, and may be subject to change as changes to the underlying database occur.

Disclaimer (Metro Vancouver data):

1. Permission is granted to produce or reproduce these data, or any substantial part of them, for personal, non-commercial, educational and informational purposes only, provided that the data are not modified or altered and provided that this disclaimer notice is included in any such production or reproduction.
2. While the information in these data is believed to be accurate, these data and all of the information contained therein are provided “as is” without warranty of any kind, whether express or implied. All implied warranties, including, without limitation, implied warranties of merchantability and fitness for a particular purpose, are expressly disclaimed by Metro Vancouver. Metro Vancouver reserves the right to update data files from time to time and will not be held responsible for the validity of the archives maintained by other parties. It is the user’s responsibility to ensure that the data is up-to-date and to follow-up with Metro Vancouver should any questions related to the data arise.
3. The information provided in these data is intended for educational and informational purposes only. These data are not intended to endorse or recommend any particular product, material or service provider nor is it intended as a substitute for engineering, legal or other professional advice. Such advice should be sought from qualified professionals.

Summary of 2017 NO₂ Data

Station	Year	No. Valid Hrs	No. Valid Days	Annual Avg.	Percentiles (1h)					1h Max	Annual 98th Percentile of D1HM*	No. Days			% Valid Days Per Quarter			
					25th	50th	75th	98th	99th			>100 ppb	>60 ppb	>42 ppb	Q1	Q2	Q3	Q4
Abbotsford-Airport	2017	7959	332	7.7	3	6	11	23	25	33	29	0	0	0	81	96	98	89
Abbotsford-Mill Lake	2017	8503	360	9.1	4	7	13	26	28	43	36	0	0	1	100	98	97	100
Agassiz	2017	8599	364	7.7	3	6	11	22	24	40	30	0	0	0	100	100	100	99
Blueberry River	2017	7556	323	.	.	.	.	.	.	18	.	0	0	0	98	98	100	59
Burnaby-Kensington	2017	8616	363	12.2	6	10	16	35	38	57	46	0	0	16	99	99	100	100
Burnaby-Mtn	2017	8613	363	7.4	4	6	10	24	28	45	38	0	0	1	98	100	100	100
Burnaby South	2017	8595	361	13.5	7	12	18	34	37	53	44	0	0	9	96	100	100	100
Castlegar	2017	8250	353	6.4	3	5	9	21	23	34	29	0	0	0	98	96	98	96
Chilliwack	2017	8525	357	8.3	4	7	11	23	26	40	33	0	0	0	100	97	99	96
Colwood	2017	8353	364	4.9	1	3	7	19	21	32	26	0	0	0	100	100	100	99
Coquitlam	2017	6945	294	11.2	5	10	16	30	33	41	37	0	0	0	100	88	35	100
Courtenay	2017	8338	363	4.6	2	3	6	19	22	40	29	0	0	0	100	100	98	100
Duncan	2017	8279	359	4.4	2	3	6	16	18	30	23	0	0	0	100	96	100	98
Farmington	2017	584	25	.	.	.	.	.	.	24	.	0	0	0	0	0	0	27
Fort St. John	2017	7714	331	6.2	2	3	8	32	39	76	47	0	1	18	98	98	92	75
Hope	2017	8524	358	5.0	2	4	7	16	18	25	23	0	0	0	100	92	100	100
Kamloops Aberdeen	2017	8386	365	2.9	1	1	4	15	19	42	24	0	0	1	100	100	100	100
Kamloops-Fed. Bldg.	2017	8395	365	11.3	5	8	16	35	38	57	44	0	0	10	100	100	100	100
Kelowna	2017	8243	356	7.6	3	6	11	26	29	44	35	0	0	1	100	97	97	97
Langdale	2017	8291	360	5.5	3	5	7	16	19	59	26	0	0	1	97	100	100	98
Langley	2017	8590	363	6.1	3	5	8	20	23	42	29	0	0	1	100	99	100	99
Maple Ridge	2017	8629	365	8.6	4	7	12	27	31	47	38	0	0	2	100	100	100	100
Mission	2017	8499	356	6.9	3	5	9	23	26	40	32	0	0	0	97	98	100	96
Nanaimo	2017	8336	363	6.7	3	5	9	20	23	38	31	0	0	0	98	100	100	100
New Westminster	2017	8377	353	17.3	10	17	23	37	40	76	49	0	1	24	100	88	99	100
North Delta	2017	8501	359	14.1	7	12	20	38	42	53	50	0	0	23	94	99	100	100
N. Vancouver-Mahon Park	2017	8595	364	12.7	6	11	18	34	37	53	43	0	0	12	99	100	100	100
N. Vancouver-2 nd Narrows	2017	8415	354	13.3	7	11	17	37	41	75	50	0	3	30	98	90	100	100

Summary of 2017 NO₂ Data (continued)

Station	Year	No. Valid Hrs	No. Valid Days	Annual Avg.	Percentiles (1h)					1h Max	Annual 98th Percentile of D1HM*	No. Days			% Valid Days Per Quarter			
					25th	50th	75th	98th	99th			>100 ppb	>60 ppb	>42 ppb	Q1	Q2	Q3	Q4
Pitt Meadows	2017	8539	360	9.5	3	8	14	30	33	48	40	0	0	3	99	96	100	100
Port Moody	2017	8601	363	13.5	8	12	18	32	35	49	40	0	0	4	99	99	100	100
Powell River Cranberry Lake	2017	7338	318	2.9	1	2	4	12	14	35	21	0	0	0	100	99	100	50
Prince George-18th Ave MAML	2017	2637	114	.	.	.	.	.	.	38	.	0	0	0	0	0	25	99
Prince George Plaza 400	2017	3591	155	.	.	.	.	.	.	59	.	0	0	7	21	98	51	0
Prince Rupert-Fairview	2017	3567	154	.	.	.	.	.	.	19	.	0	0	0	0	0	72	96
Prince Rupert-Pineridge	2017	4707	204	.	.	.	.	.	.	42	.	0	0	0	100	99	26	0
Prince Rupert-Pineridge+Fairview	2017	8274	358	3.1	1	2	4	13	15	42	21	0	0	0	100	99	98	96
Quesnel	2017	8267	355	7.5	3	6	11	27	30	39	36	0	0	0	100	90	100	99
Richmond South	2017	8494	359	13.0	5	11	19	36	39	48	44	0	0	11	97	97	100	100
Rolla	2017	7585	326	1.8	0	1	3	9	11	31	18	0	0	0	96	99	98	65
Smithers	2017	8274	360	5.4	1	3	8	21	23	30	29	0	0	0	98	100	99	98
Squamish	2017	8663	362	6.1	3	5	8	20	22	34	27	0	0	0	97	100	100	100
Surrey	2017	7874	331	9.3	4	7	13	28	32	57	40	0	0	3	98	99	66	100
Taylor	2017	8168	351	3.4	1	2	4	18	22	41	28	0	0	0	93	93	98	100
Taylor Townsite	2017	4311	181	.	.	.	.	.	.	48	.	0	0	2	0	22	79	96
Terrace	2017	8240	354	2.6	1	1	3	15	18	29	22	0	0	0	99	99	93	97
Tsawwassen	2017	8592	364	7.1	3	5	10	26	30	52	37	0	0	2	100	99	100	100
Richmond-Airport	2017	8605	364	15.9	8	14	22	42	45	71	52	0	4	37	99	100	100	100
Vancouver-Dwtn	2017	8389	352	19.1	13	19	24	36	38	59	46	0	0	19	97	91	100	98
Vernon	2017	8283	358	10.4	5	8	14	31	33	46	39	0	0	4	96	100	100	97
Victoria	2017	8346	365	8.2	3	6	12	28	31	54	43	0	0	8	100	100	100	100
Whistler	2017	8666	362	4.4	1	3	6	17	21	32	26	0	0	0	97	100	100	100
Williams Lake	2017	7867	341	5.8	1	4	8	24	27	38	34	0	0	0	100	100	100	74

*Percentiles of daily 1-hour maximum (D1HM) based on "Guidance on Application of Provincial Air Quality Objectives for NO₂" at:

https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/no2_aqo-implementation_guide.pdf

Summary of 2017 O₃ Data

Site	Year	No. Valid Hrs	Annual Avg.	Percentiles (1h)					1h Max	Daily 8h Max		No. Days >63 ppb	Percentage of Valid Days Per Quarter				
				25th	50th	75th	98th	99th		Annual Max	Annual 4th Highest		Q1	Q2	Q3	Q4	Q2+Q3
Abbotsford-Airport	2017	8382	22.3	11	23	33	48	55	81	67	64	4	92	95	99	92	97
Abbotsford-Mill Lake	2017	8488	20.7	10	20	30	48	56	84	68	66	5	97	99	96	98	97
Agassiz	2017	8431	20.9	10	21	30	51	59	91	73	66	4	100	89	99	97	94
Blueberry River	2017	7536	29.3	22	30	37	50	52	61	58	53	0	97	97	97	61	97
Burnaby-Kensington	2017	8635	18.5	9	18	27	41	44	83	67	52	1	99	99	99	100	99
Burnaby-Mtn	2017	8641	28.7	22	29	35	47	52	86	71	66	4	99	100	99	100	99
Burnaby South	2017	8584	18.5	10	19	27	40	43	68	56	46	0	96	99	100	99	99
Castlegar	2017	8253	20.6	11	19	29	48	51	64	56	51	0	99	95	96	95	95
Chilliwack	2017	8487	20.7	10	21	30	51	58	88	70	66	6	94	98	99	96	98
Colwood	2017	8330	23.4	13	24	34	45	47	64	54	50	0	99	99	98	100	98
Coquitlam	2017	6969	17.0	6	16	27	42	46	81	63	50	0	100	87	35	98	61
Courtenay	2017	8038	19.7	9	21	29	42	44	78	60	48	0	99	99	98	86	98
Duncan	2017	8271	19.2	7	19	30	45	49	78	64	54	1	99	95	99	97	97
Farmington Community Hall	2017	582	.	.	.	.	.	.	47	45	.	0	0	0	0	27	0
Fort St. John	2017	8207	25.7	19	26	33	46	48	56	53	50	0	97	98	92	98	95
Hope	2017	8421	21.1	9	21	31	52	60	94	79	72	7	96	91	100	100	96
Kamloops-Fed. Bldg.	2017	8392	21.6	11	22	32	48	51	82	63	55	1	100	100	98	100	99
Kelowna	2017	8268	24.9	16	25	34	49	54	75	66	58	1	100	97	96	97	96
Langley	2017	8526	22.1	13	23	32	45	50	79	67	61	3	100	99	99	98	99
Maple Ridge	2017	8326	21.0	10	21	31	48	56	91	72	68	6	84	99	100	99	99
Mission	2017	8571	23.5	15	24	32	52	60	94	80	70	6	99	99	100	97	99
Nanaimo	2017	8358	22.4	16	23	29	40	42	65	57	46	0	100	100	99	99	99
New Westminster	2017	8380	13.9	2	11	23	42	44	74	60	51	0	97	89	98	100	93
North Delta	2017	8535	18.5	9	18	28	41	44	69	60	46	0	93	100	99	100	99
N. Vancouver-Mahon Park	2017	8613	17.7	8	18	26	42	45	75	63	48	0	97	99	100	100	99
North Vancouver Second Narrows	2017	8349	15.9	7	15	24	38	41	76	61	42	0	97	89	95	99	92
Pitt Meadows	2017	8325	18.9	6	19	30	45	50	81	66	61	1	94	93	98	91	96
Port Moody	2017	8588	14.6	3	13	24	40	44	79	62	53	0	97	99	99	100	99

Summary of 2017 O₃ Data (continued)

Site	Year	No. Valid Hrs	Annual Avg.	Percentiles (1h)					1h Max	Daily 8h Max		No. Days >63 ppb	Percentage of Valid Days Per Quarter				
				25 th	50 th	75 th	98 th	99 th		Annual Max	Annual 4 th Highest		Q1	Q2	Q3	Q4	Q2+Q3
Prince George 18th Avenue MAML	2017	2646	.	.	.	.	.	.	39	37	.	0	0	0	25	99	13
Prince George-Plaza 400	2017	5312	.	.	.	.	.	.	53	52	50	0	97	98	54	0	76
Prince George	2017	7958	21.4	9	22	33	46	47	53	52	50	0	97	98	79	99	89
Quesnel	2017	8383	19.4	7	18	30	47	49	70	55	50	0	100	97	100	99	98
Richmond South	2017	8520	17.6	5	17	28	43	45	74	65	49	1	99	97	99	97	98
Rolla	2017	7601	31.2	25	31	38	48	51	60	56	53	0	97	97	92	64	95
Smithers	2017	8232	17.4	5	16	28	44	46	55	52	50	0	99	91	98	99	95
Squamish	2017	8557	19.3	9	19	29	42	45	79	64	52	2	99	99	91	97	95
Surrey	2017	7831	21.4	12	22	30	45	48	77	68	53	1	98	97	61	100	79
Taylor-Golf Course	2017	8271	26.0	19	27	34	46	48	61	56	51	0	92	98	97	98	97
Taylor Townsite	2017	3871	.	.	.	.	.	.	54	47	.	0	0	7	76	97	42
Terrace	2017	8267	20.4	11	21	30	42	43	48	45	44	0	99	97	93	96	95
Tsawwassen	2017	8512	24.0	17	25	32	44	47	70	59	52	0	99	96	97	98	96
Richmond-Airport	2017	8616	16.8	6	17	26	39	41	75	63	43	0	98	100	100	99	100
Vancouver-Dwtn	2017	8414	8.6	2	7	13	28	31	64	47	36	0	99	85	98	96	91
Vernon	2017	8283	19.6	8	18	30	45	49	66	56	53	0	96	100	100	97	100
Victoria	2017	8357	21.9	13	22	31	43	45	60	48	46	0	99	99	99	99	99
Whistler	2017	8706	21.8	10	22	33	47	50	68	62	58	0	97	100	100	99	100
Williams Lake	2017	8058	21.0	11	21	31	44	46	64	54	49	0	99	100	99	83	99

Summary of 2017 PM_{2.5} Data

Site	Year	No. Valid Hrs	Annual Avg. of 1h Values	Percentiles (1h)					Max 1h Value	No. Valid Days	24h Average			No. Days		Percentage of Valid Days Per Quarter			
				25th	50th	75th	98th	99th			Annual Average	Annual 98th Percentile*	Annual Max	>25 µg/m3	>28 µg/m3	Q1	Q2	Q3	Q4
Abbotsford-Airport	2017	7561	6.2	2	4	7	36	45	123	313	6.3	33	66	10	9	73	98	100	72
Abbotsford-Mill Lake	2017	8507	6.7	3	5	8	38	47	140	353	6.7	37	58	11	11	100	99	88	100
Agassiz	2017	8666	7.1	2	4	7	53	68	164	359	7.0	56	99	14	13	98	98	98	100
Burnaby-Kensington	2017	8603	6.4	2	4	6	46	57	124	357	6.4	46	68	13	13	98	100	98	96
Burnaby South	2017	8369	6.0	2	4	7	33	46	110	347	6.0	32	54	12	11	99	90	92	99
Burns Lake	2017	8323	7.3	2	4	9	34	43	101	341	7.2	26	35	7	4	100	99	96	79
Castlegar	2017	6588	.	.	.	.	.	.	149	272	.	50	98	23	21	100	96	99	4
Chilliwack	2017	8647	6.9	2	4	7	51	61	160	358	6.9	49	88	15	15	99	99	100	95
Colwood	2017	8700	6.5	2	5	8	30	36	89	365	6.5	24	47	7	6	100	100	100	100
Courtenay	2017	8658	10.2	2	5	12	52	59	111	362	10.2	34	74	34	23	98	100	99	100
Crofton Georgia Hts	2017	8350	6.5	2	4	7	37	47	81	348	6.4	37	49	13	11	99	100	93	89
Crofton-Substation	2017	8335	6.4	2	5	8	34	44	79	355	6.4	33	49	11	10	96	100	95	99
Duncan-Cairnsmore	2017	8455	8.8	2	5	11	39	44	70	352	8.8	32	39	26	14	99	97	90	100
Duncan-Deykin	2017	8373	7.8	3	5	9	35	44	110	349	7.8	38	48	13	12	98	95	95	96
Campbell River	2017	8334	7.9	3	6	9	35	43	103	347	7.9	25	60	7	4	100	88	100	92
Fort St John 85th Avenue	2017	7384	.	.	.	.	.	.	155	305	.	.	39	4	2	80	59	97	98
Fort St. John-Key Learning Centre	2017	7807	5.9	2	4	7	24	31	296	322	5.9	18	49	4	3	98	67	100	88
Fort St. John-Old Fort	2017	8034	4.4	1	3	5	21	27	86	336	4.5	16	32	3	2	81	95	92	100
Gibsons Municipal Hall	2017	4183	.	.	.	.	.	.	94	171	.	50	61	12	12	.	1	97	88
Golden	2017	8648	11.8	3	6	13	71	94	209	361	11.8	63	118	31	28	100	96	100	100
Grand Forks	2017	8068	11.8	4	7	15	52	58	226	335	11.7	45	104	33	26	74	100	92	100
Harmac	2017	8489	8.1	2	5	10	42	51	99	361	8.0	34	50	17	13	100	100	100	96
Hope	2017	8579	7.5	2	4	7	61	87	158	353	7.5	63	97	16	16	100	88	99	100
Horseshoe Bay	2017	8530	5.1	2	3	5	40	50	123	352	5.1	40	70	12	12	93	99	98	96
Houston	2017	8714	9.3	2	4	10	55	69	133	363	9.3	30	63	20	12	100	98	100	100
Kamloops-Aberdeen	2017	8742	13.0	1	3	6	159	219	383	365	13.0	158	211	31	31	100	100	100	100

Summary of 2017 PM_{2.5} Data (continued)

Site	Year	No. Valid Hrs	Annual Avg. of 1h Values	Percentiles (1h)					Max 1h Value	No. Valid Days	24h Average			No. Days		Percentage of Valid Days Per Quarter			
				25th	50th	75th	98th	99th			Annual Average	Annual 98th Percentile*	Annual Max	>25 µg/m3	>28 µg/m3	Q1	Q2	Q3	Q4
Kamloops-Fed. Bldg.	2017	8601	15.3	3	6	11	135	180	862	361	15.3	130	274	34	33	100	100	100	96
Kelowna	2017	3583	.	.	.	.	.	.	42	149	.	.	20	0	0	98	67	0	0
Kitimat-Haisla**	2017	8689	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Kitimat-Haul Rd	2017	8583	3.6	1	3	5	15	18	84	364	3.6	12	18	0	0	100	100	99	100
Kitimat-Riverlodge	2017	8716	4.3	2	4	6	14	16	47	365	4.3	11	14	0	0	100	100	100	100
Kitimat-Whitesail**	2017	8695	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Langdale	2017	8344	9.3	4	7	10	55	67	202	345	9.3	57	71	12	12	93	86	100	99
Langley	2017	8673	6.5	2	4	7	37	46	262	361	6.5	33	49	11	10	100	99	100	97
Lavington	2017	8536	11.5	3	7	13	71	82	156	358	11.5	67	85	32	29	100	93	100	99
Mission	2017	7518	.	.	.	.	.	.	112	312	.	47	70	13	13	57	88	100	97
Nanaimo	2017	8439	5.9	2	4	7	36	48	100	354	5.9	38	53	11	11	94	100	100	93
Nelson	2017	1729	.	.	.	.	.	.	205	70	.	148	159	25	24	0	0	75	1
New Westminster	2017	8508	7.5	3	5	9	35	49	98	352	7.5	35	53	11	11	100	88	99	99
North Delta	2017	8588	6.8	3	5	8	33	42	72	357	6.8	32	45	12	10	94	100	97	100
N. Vancouver-Mahon Park	2017	8630	6.3	2	4	6	47	62	121	357	6.3	48	66	13	13	100	95	97	100
N. Vancouver-2nd Narrows	2017	8387	7.7	3	5	8	50	59	117	345	7.7	51	70	13	13	93	89	98	98
Peace Valley	2017	8143	3.5	1	2	4	18	24	125	335	3.5	17	33	2	2	92	88	96	91
Pitt Meadows	2017	8635	6.1	2	4	7	38	47	99	360	6.1	39	59	12	12	98	98	100	99
Port Alberni-Elem. School	2017	7490	9.9	3	6	12	44	50	85	313	9.9	33	44	24	16	100	100	71	73
Port Alberni-Port	2017	1584	.	.	.	.	.	.	63	65	.	.	24	0	0	0	0	0	71
Port Moody	2017	8623	7.1	3	5	8	48	57	119	357	7.0	45	75	12	12	98	98	96	100
Powell River-James Thomson	2017	7916	3.1	0	1	3	27	41	75	333	3.0	28	57	7	7	84	100	87	93
Powell River-Wildwood	2017	7902	3.6	0	2	3	36	50	110	330	3.5	35	67	11	10	64	100	97	100
Prince George 18th Avenue MAML	2017	2741	.	.	.	.	.	.	85	115	.	.	30	1	1	0	0	25	100
Prince George Plaza 400	2017	5581	.	.	.	.	.	.	1433	231	.	54	282	15	15	98	99	58	0

Summary of 2017 PM_{2.5} Data (continued)

Site	Year	No. Valid Hrs	Annual Avg. of 1h Values	Percentiles (1h)					Max 1h Value	No. Valid Days	24h Average			No. Days		Percentage of Valid Days Per Quarter			
				25th	50th	75th	98th	99th			Annual Average	Annual 98th Percentile*	Annual Max	>25 µg/m ³	>28 µg/m ³	Q1	Q2	Q3	Q4
Prince George-Plaza+18th Ave	2017	8322	10.1	3	5	11	45	74	1433	346	10.1	48	282	16	16	98	99	83	100
Prince Rupert-Fairview	2017	3801	.	.	.	.	.	.	27	158	.	.	16	0	0	0	0	72	100
Prince Rupert-Pineridge	2017	4874	.	.	.	.	.	.	126	201	.	.	9	0	0	97	99	26	0
Prince Rupert-Pineridge+Fairview	2017	8675	3.1	0	2	5	12	14	126	359	3.1	8	16	0	0	97	99	98	100
Quesnel	2017	8725	14.2	4	8	15	88	127	284	363	14.2	74	173	34	30	100	98	100	100
Richmond-Airport	2017	8712	6.2	3	4	8	26	33	75	364	6.2	22	37	6	4	99	100	100	100
Richmond South	2017	8260	6.4	3	5	8	26	36	66	338	6.3	20	37	4	4	98	90	83	100
Smithers	2017	8708	8.3	2	4	10	44	53	129	365	8.4	35	63	14	11	100	100	100	100
Squamish	2017	8302	7.2	2	4	7	65	80	159	346	7.2	69	98	13	12	96	87	98	99
Surrey	2017	7872	5.8	3	4	7	21	26	62	325	5.8	17	32	3	2	96	96	65	100
Taylor	2017	5843	.	.	.	.	.	.	68	241	.	.	36	3	2	93	26	45	100
Terrace	2017	7820	6.4	2	4	8	29	34	131	327	6.4	19	35	1	1	62	100	96	100
Tsawwassen	2017	8415	5.0	2	3	6	24	33	98	348	5.0	23	34	5	4	99	100	89	93
Valemount	2017	8323	17.2	2	5	14	141	200	422	342	17.4	98	140	63	54	98	77	100	100
Vanderhoof	2017	8485	10.1	3	6	12	47	59	626	353	10.1	47	92	24	20	98	96	97	97
Vernon	2017	8304	11.4	4	7	12	70	79	162	343	11.5	69	82	32	28	92	96	98	90
Victoria	2017	8571	7.2	2	5	9	32	38	74	357	7.2	24	42	6	2	100	100	93	98
Whistler	2017	7482	10.9	3	6	11	79	110	225	319	10.8	87	143	15	13	100	80	75	95
Williams Lake	2017	8413	19.9	3	7	14	159	270	946	350	19.9	200	294	48	45	100	100	100	84

*Percentile of 24h average concentrations based on approach outlined in "Guidance Document on Achievement Determination. Canadian Ambient Air Quality Objectives for Fine Particulate Matter and Ozone" at: https://www.ccme.ca/files/Resources/air/aqms/pn_1483_gdad_eng.pdf

**Kitimat-Haisla and Whitesail data are currently under review for monitoring issues

Summary of 2017 SO₂ Data

Site	Year	No. Valid Hrs	Percentile (1h)					Max	No. Valid Days	Percentile (D1HM)*			No. of Days		Percentage of Valid Days Per Quarter				
			Annual Avg.	25th	50th	75th	98th			99th	97.5th	98th	99th	>75 ppb	>70 ppb	Q1	Q2	Q3	Q4
Abbotsford-Airport	2017	8401	0.1	0	0	0	1	1	4	356	2	2	3	0	0	100	97	100	93
Abbotsford-Mill Lake	2017	8469	0.2	0	0	0	1	1	6	359	3	3	4	0	0	99	99	96	100
Bessborough	2017	8286	0.4	0	0	0	2	2	15	358	6	6	9	0	0	98	99	99	97
Blueberry River	2017	6278	.	.	.	.	.	.	18	269	.	.	.	0	0	37	98	100	60
Burnaby North	2017	8626	1.1	0	1	1	7	9	28	363	16	17	19	0	0	99	99	100	100
Burnaby South	2017	8543	0.3	0	0	0	2	2	9	362	4	4	6	0	0	97	100	100	100
Burnaby-Capitol Hill	2017	8606	0.9	0	0	1	7	15	123	362	41	43	74	3	4	100	97	100	100
Burnaby-Kensington	2017	8605	0.3	0	0	0	2	3	13	362	5	5	7	0	0	97	100	100	100
Castlegar	2017	8191	2.6	0	0	1	26	32	76	354	44	46	56	1	1	100	98	99	91
Chilliwack	2017	8520	0.1	0	0	0	1	1	4	360	3	3	4	0	0	100	99	100	96
Colwood	2017	419	.	.	.	.	.	.	2	18	.	.	.	0	0	20	0	0	0
Crofton-Georgia Hts	2017	8038	2.2	0	1	1	18	28	133	350	65	70	78	6	6	99	100	100	85
Farmington	2017	585	.	.	.	.	.	.	3	25	.	.	.	0	0	0	0	0	27
Fort St John-Key Learning Centre	2017	7867	0.3	0	0	0	2	2	13	340	3	4	5	0	0	98	100	75	100
Kamloops-Fed. Bldg.	2017	8393	0.5	0	0	1	2	3	14	365	7	8	10	0	0	100	100	100	100
Kelowna	2017	7870	0.3	0	0	0	1	1	7	335	2	2	2	0	0	100	91	80	96
Kitimat Riverlodge	2017	8366	0.4	0	0	0	3	6	45	365	17	17	28	0	0	100	100	100	100
Kitimat-Haisla	2017	8119	0.3	0	0	0	2	4	14	351	6	7	12	0	0	100	100	97	88
Kitimat-Haul Rd	2017	8377	3.8	0	1	3	30	39	95	365	56	58	66	1	1	100	100	100	100
Kitimat-Whitesail	2017	8347	0.4	0	0	0	3	5	41	364	13	15	21	0	0	100	100	100	99
Langdale	2017	8342	0.7	0	1	1	4	5	29	362	8	8	10	0	0	100	100	100	97
Langley	2017	8553	0.2	0	0	0	1	1	4	360	2	3	4	0	0	100	97	100	98
N. Vancouver-2nd Narrows	2017	8376	0.5	0	0	1	2	3	12	353	7	7	8	0	0	97	90	100	100
N. Vancouver-Mahon Park	2017	8207	0.4	0	0	0	2	2	5	346	4	4	4	0	0	99	100	83	98
Pitt Meadows	2017	8350	0.4	0	0	1	2	3	11	352	4	4	4	0	0	99	97	100	90
Port Alberni	2017	1620	.	.	.	.	.	.	3	70	.	.	.	0	0	78	0	0	0
Port Moody	2017	8540	0.4	0	0	0	3	4	11	363	5	5	5	0	0	100	100	100	98
Prince George-18th Ave MAML	2017	1906	.	.	.	.	.	.	34	79	.	.	.	0	0	0	0	0	86

Summary of 2017 SO₂ Data (continued)

Site	Year	No. Valid Hrs	Annual Avg.	Percentile (1h)					Max	No. Valid Days	Percentile (D1HM)*			No. of Days		Percentage of Valid Days Per Quarter			
				25th	50th	75th	98th	99th			97.5th	98th	99th	>75 ppb	>70 ppb	Q1	Q2	Q3	Q4
Prince George-CBC Transmitter	2017	8184	3.6	0	0	2	31	42	221	352	104	105	116	18	20	93	96	97	100
Prince George-Jail	2017	8316	3.3	0	0	2	30	36	135	361	55	57	76	4	4	100	99	97	100
Prince George-Plaza 400	2017	5275	.	.	.	.	.	.	90	227	.	.	.	1	2	98	97	55	0
Prince George-Plaza + 18th Ave	2017	7181	.	.	.	.	.	.	90	306	.	.	.	1	2	98	97	55	86
Prince Rupert-Fairview Container	2017	3644	.	.	.	.	.	.	1	158	.	.	.	0	0	0	0	72	100
Prince Rupert-Pineridge Elem.	2017	4684	.	.	.	.	.	.	1	202	.	.	.	0	0	98	99	26	0
Prince Rupert-Pineridge+Fairview	2017	8328	0.1	0	0	0	0	0	1	360	1	1	1	0	0	98	99	98	100
Quesnel	2017	8323	0.2	0	0	0	1	2	10	361	5	6	7	0	0	100	96	100	100
Richmond South	2017	8242	0.3	0	0	0	2	2	9	348	5	5	5	0	0	84	97	100	100
Richmond-Airport	2017	8589	0.4	0	0	1	2	2	8	364	4	4	5	0	0	100	100	100	99
Rolla	2017	6253	.	.	.	.	.	.	41	271	.	.	.	0	0	93	99	55	50
Squamish	2017	8485	0.6	0	0	1	2	3	18	360	6	7	11	0	0	100	98	100	97
Taylor-Golf Course	2017	8253	0.5	0	0	0	3	6	82	354	15	17	28	1	1	96	99	93	100
Taylor-S. Hill	2017	8223	0.3	0	0	0	2	4	40	357	14	15	18	0	0	92	100	100	99
Taylor-Townsite	2017	8261	0.7	0	0	0	7	12	56	360	26	27	39	0	0	99	98	99	99
Terrace	2017	8258	0.5	0	0	1	3	3	8	359	5	5	6	0	0	100	98	96	100
Trail-Birchbank	2017	8162	8.9	0	1	9	62	79	354	348	137	154	194	50	56	100	89	95	98
Trail-Butler Park	2017	8198	11.4	1	3	9	95	130	395	357	243	261	303	117	124	100	92	95	98
Trail-Columbia Gdns	2017	8207	5.4	0	1	6	37	48	124	356	75	75	90	7	11	91	99	100	100
Trail-Warfield	2017	8189	10.1	0	1	6	96	136	386	354	249	255	332	106	117	100	92	95	98
Tsawwassen	2017	8524	0.4	0	0	1	1	2	15	365	3	4	7	0	0	100	100	100	100
Vancouver-Dwtn	2017	8060	0.5	0	0	1	2	3	9	339	6	7	7	0	0	89	91	100	91
Victoria-James Bay	2017	8695	0.1	0	0	0	1	1	5	362	2	2	3	0	0	100	98	100	99
Victoria-Topaz	2017	8356	0.4	0	0	1	2	3	10	364	4	5	6	0	0	99	100	100	100
Williams Lake	2017	7854	0.3	0	0	0	1	1	3	341	2	2	2	0	0	99	100	100	75

*Percentiles of daily 1-hour maximum (D1HM) based on "Guidance on Application of Provincial Air Quality Objectives for SO₂" at:

https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/reports-pub/so2_ago-implementation_guide.pdf