

ANNEX X: APPENDIX B

DERIVED CLIMATE DATA

Tables

Table B-1	Derived Monthly and Annual Mean Air Temperature.....	1
Table B-2	Derived Monthly and Annual Total Rainfall.....	3
Table B-3	Derived Monthly and Annual Total Snowfall	5
Table B-4	Derived Monthly and Annual Total Precipitation.....	7
Table B-5	Derived Monthly and Annual Total Lake Evaporation.....	9

Abbreviations

Abbreviations	Definition
Max	maximum
Mean	average
Min	minimum
SD	standard deviation

Units of Measure

Unit	Definition
°C	degrees Celsius
cm	centimetre
mm	millimetre

This appendix presents the project-specific derived monthly and annual values for mean air temperature, total rainfall, total snowfall, total precipitation, and total lake evaporation, for the period 1959 to 2013.

The derived climate data includes the following:

- Table B-1 presents derived monthly and annual mean air temperature.
- Table B-2 presents derived monthly and annual total rainfall.
- Table B-3 presents derived monthly and annual total snowfall.
- Table B-4 presents derived monthly and annual total precipitation.
- Table B-5 presents derived monthly and annual total lake evaporation.

These values were calculated based on the derived daily time series described in Sections 3.4 and 4.0 of this baseline report, with the daily time series used as input into the water balance model described in Section 3.5 of this baseline report. Daily values are not presented in this report due to space required, but can be provided in digital format if required.

Table B-1 Derived Monthly and Annual Mean Air Temperature

Year	Mean Air Temperature (°C)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1959	-30.67	-27.10	-25.34	-16.93	-10.37	1.76	8.40	6.40	3.78	-9.89	-20.50	-21.00	-11.55
1960	-30.38	-28.59	-28.67	-14.86	-2.41	9.66	9.85	10.81	3.15	-7.91	-23.41	-25.03	-10.60
1961	-31.59	-28.93	-30.58	-20.61	-6.37	8.57	14.41	10.23	0.65	-10.32	-18.81	-31.28	-11.96
1962	-29.82	-34.87	-26.88	-18.37	-9.00	7.78	11.42	11.20	4.53	-4.31	-21.13	-24.85	-11.05
1963	-31.00	-28.52	-30.61	-12.36	-5.19	6.76	11.02	11.14	3.21	-2.71	-17.85	-22.84	-9.81
1964	-32.49	-29.05	-31.12	-18.86	-2.43	4.73	12.61	12.20	3.72	-4.93	-16.52	-27.71	-10.77
1965	-30.34	-37.35	-22.46	-13.91	-4.29	4.34	11.22	10.42	0.27	-6.75	-18.79	-26.15	-10.98
1966	-37.35	-29.54	-24.86	-20.17	-1.79	9.66	13.32	12.66	6.20	-9.91	-24.02	-23.67	-10.68
1967	-30.08	-32.83	-27.39	-17.51	-6.56	3.13	10.30	9.97	4.43	-3.14	-17.32	-23.12	-10.71
1968	-32.33	-26.65	-20.13	-18.20	-4.86	6.47	9.35	9.28	4.65	-3.34	-15.93	-26.46	-9.80
1969	-32.51	-24.09	-24.28	-12.66	-6.89	2.26	11.15	11.18	3.55	-3.10	-19.08	-19.09	-9.38
1970	-28.96	-30.57	-24.77	-13.67	-6.74	7.66	12.58	10.86	3.44	-4.91	-20.78	-32.75	-10.61
1971	-31.07	-27.65	-24.26	-14.13	-1.31	7.94	11.44	10.97	4.96	-3.40	-20.69	-27.75	-9.48
1972	-33.28	-33.92	-23.48	-19.99	-5.13	5.93	10.72	11.16	-0.53	-10.13	-19.52	-27.83	-12.09
1973	-27.64	-29.38	-25.67	-14.97	2.14	10.58	14.76	12.56	7.43	-1.25	-18.13	-25.13	-7.76
1974	-30.03	-29.99	-28.49	-18.02	-2.35	8.56	12.96	9.65	1.37	-12.58	-16.89	-24.57	-10.76
1975	-35.93	-28.47	-26.57	-10.48	-0.19	9.17	12.63	12.66	5.75	-5.97	-19.26	-27.26	-9.40
1976	-30.10	-30.03	-27.46	-7.70	0.29	6.76	13.88	10.89	5.53	-4.67	-17.08	-29.23	-9.03
1977	-26.49	-23.78	-24.37	-14.08	-1.59	7.93	11.81	9.09	6.34	-4.29	-18.97	-28.66	-8.85
1978	-28.37	-23.23	-26.52	-17.10	-6.71	2.91	7.30	8.23	3.85	-12.59	-20.78	-26.14	-11.54
1979	-26.27	-37.98	-30.51	-18.13	-5.65	3.34	11.71	8.09	2.83	-6.95	-14.74	-24.07	-11.36
1980	-30.65	-23.19	-25.18	-12.93	0.31	6.52	11.16	12.31	2.25	-5.15	-21.31	-30.17	-9.63
1981	-20.07	-26.45	-20.36	-18.33	-1.83	6.77	11.32	12.95	3.34	-4.63	-16.66	-22.91	-7.94
1982	-34.56	-27.17	-26.16	-18.29	-3.98	6.68	13.37	9.06	2.60	-5.54	-24.68	-28.55	-11.34
1983	-29.58	-32.15	-27.53	-15.76	-12.54	7.00	12.17	11.14	4.17	-7.84	-12.42	-25.78	-10.66
1984	-30.93	-24.38	-23.83	-10.41	-2.24	9.90	14.63	11.52	1.64	-7.63	-20.37	-31.11	-9.40
1985	-26.39	-33.46	-25.12	-18.10	0.10	8.29	9.62	8.09	2.50	-8.41	-22.09	-23.65	-10.57
1986	-30.50	-25.53	-26.31	-17.52	-4.13	4.77	12.32	8.79	3.29	-8.00	-22.72	-23.58	-10.67
1987	-23.35	-23.71	-24.64	-13.69	-5.27	7.18	11.90	7.17	5.86	-6.49	-19.76	-18.16	-8.49
1988	-30.37	-30.35	-21.27	-13.87	-8.54	8.95	13.33	12.32	5.39	-6.70	-24.15	-26.05	-10.04
1989	-32.19	-21.08	-28.46	-13.76	-6.59	9.67	14.20	14.60	3.37	-6.27	-24.68	-27.83	-9.86
1990	-31.54	-33.36	-19.89	-13.12	-5.81	6.09	12.78	7.87	2.71	-7.71	-23.52	-29.95	-11.15
1991	-30.25	-29.29	-26.78	-12.37	-0.11	9.27	13.25	11.99	1.74	-9.09	-21.31	-26.42	-9.84
1992	-27.92	-27.65	-21.55	-16.03	-4.18	6.05	12.84	10.02	0.51	-6.76	-17.09	-24.59	-9.63
1993	-24.28	-26.97	-20.01	-15.60	-4.06	6.55	12.26	11.07	2.21	-7.35	-20.44	-27.72	-9.41
1994	-33.19	-32.37	-20.28	-16.01	-0.71	9.88	15.79	12.43	3.94	-3.32	-17.04	-22.12	-8.43
1995	-23.60	-26.97	-24.25	-13.74	-5.50	9.46	10.76	10.78	2.49	-7.72	-19.21	-28.60	-9.58
1996	-30.41	-25.31	-24.54	-14.80	-4.13	11.56	16.23	9.38	6.89	-7.92	-18.97	-25.54	-8.93
1997	-28.99	-26.18	-26.25	-14.45	-4.85	7.80	15.30	11.53	6.47	-9.23	-14.15	-21.33	-8.61

Table B-1 Derived Monthly and Annual Mean Air Temperature

Year	Mean Air Temperature (°C)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1998	-31.72	-23.12	-21.16	-9.15	1.39	10.02	15.44	12.73	5.25	-2.41	-11.28	-21.65	-6.22
1999	-27.62	-21.53	-17.67	-11.92	-3.32	8.47	9.92	9.84	4.24	-6.66	-15.96	-23.74	-7.93
2000	-27.07	-23.97	-20.38	-14.73	-3.20	7.91	15.75	10.04	2.45	-6.01	-17.08	-30.36	-8.84
2001	-23.97	-27.12	-21.82	-14.52	-2.93	6.72	14.06	9.92	6.93	-7.46	-18.73	-23.30	-8.40
2002	-27.26	-29.78	-25.29	-18.92	-7.10	8.87	12.80	9.54	3.81	-7.60	-16.36	-19.09	-9.58
2003	-26.66	-32.39	-25.17	-12.25	-3.32	6.61	14.61	11.49	4.92	-2.40	-16.76	-23.16	-8.56
2004	-32.94	-27.18	-27.32	-18.03	-10.10	6.04	12.82	8.62	3.00	-8.19	-19.79	-29.79	-11.87
2005	-30.20	-28.36	-22.73	-9.58	-6.51	6.52	10.96	10.20	2.12	-4.58	-14.84	-18.67	-8.70
2006	-24.73	-22.51	-16.62	-10.95	1.60	11.16	12.53	12.16	5.66	-3.69	-19.80	-17.77	-5.97
2007	-24.49	-27.79	-26.88	-11.82	-3.41	6.77	14.37	8.14	0.46	-4.96	-20.16	-26.00	-9.53
2008	-28.54	-31.49	-28.34	-15.40	-2.26	7.42	13.04	10.77	1.57	-3.78	-16.52	-28.50	-10.10
2009	-26.80	-26.82	-27.76	-12.58	-8.40	6.34	11.08	10.13	6.32	-7.51	-15.69	-24.27	-9.59
2010	-26.64	-21.27	-16.24	-6.71	-6.55	7.60	14.28	11.36	4.07	-3.46	-15.42	-23.28	-6.78
2011	-28.78	-26.95	-23.59	-18.27	-0.87	7.44	15.19	11.73	5.35	-3.61	-18.97	-23.25	-8.59
2012	-27.18	-21.56	-22.46	-13.51	1.61	9.96	15.24	12.45	7.25	-5.02	-19.90	-28.23	-7.57
2013	-31.57	-25.82	-24.60	-17.58	-2.95	12.00	11.03	12.83	5.51	-2.08	-18.40		-7.15
Mean	-29.30	-27.92	-24.63	-14.86	-3.96	7.42	12.53	10.63	3.81	-6.15	-18.84	-25.36	-9.60
SD	3.28	3.95	3.45	3.20	3.24	2.27	1.96	1.67	1.93	2.61	2.96	3.52	1.42
Max	-20.07	-21.08	-16.24	-6.71	2.14	12.00	16.23	14.60	7.43	-1.25	-11.28	-17.77	-5.97
Min	-37.35	-37.98	-31.12	-20.61	-12.54	1.76	7.30	6.40	-0.53	-12.59	-24.68	-32.75	-12.09

°C = degrees Celsius; SD = standard deviation; Max = maximum; Min = minimum.

Table B-2 Derived Monthly and Annual Total Rainfall

Year	Total Rainfall (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1959	0.0	0.0	0.0	0.0	0.4	101.9	34.5	25.3	13.3	0.0	0.0	0.0	175.3
1960	0.0	0.0	0.0	0.0	0.9	9.1	56.3	74.8	18.8	0.6	0.0	0.0	160.5
1961	0.0	0.0	0.0	0.0	24.3	44.9	73.7	74.3	5.7	0.0	0.0	0.0	222.9
1962	0.0	0.0	0.0	0.0	1.5	15.0	32.0	23.1	19.3	1.2	0.0	0.0	92.0
1963	0.0	0.0	0.0	0.0	2.1	43.2	33.2	47.8	1.5	3.1	0.0	0.0	130.9
1964	0.0	0.0	0.0	0.0	0.7	15.5	81.4	26.9	29.9	1.8	0.0	0.0	156.2
1965	0.0	0.0	0.0	0.0	4.4	17.5	41.3	35.2	0.6	0.0	0.0	0.0	99.0
1966	0.0	0.0	0.0	0.0	8.8	19.0	49.5	49.7	48.5	2.7	0.0	0.0	178.1
1967	0.0	0.0	0.0	0.0	1.2	61.5	62.4	41.2	27.9	9.9	0.0	0.0	204.0
1968	0.0	0.0	0.0	0.0	9.5	6.2	15.3	26.1	33.2	0.9	0.0	0.0	91.2
1969	0.0	0.0	0.0	0.0	0.0	32.6	82.0	52.0	4.2	3.5	0.0	0.0	174.3
1970	0.0	0.0	0.0	0.0	3.2	35.3	16.4	82.5	36.7	0.0	0.0	0.0	174.1
1971	0.0	0.0	0.0	0.6	3.2	1.2	41.4	41.1	75.5	2.9	0.0	0.0	165.8
1972	0.0	0.0	0.0	0.0	5.9	7.6	51.3	48.8	4.4	0.9	0.0	0.0	119.0
1973	0.0	0.0	0.0	0.0	6.5	32.0	21.0	97.7	32.1	0.4	0.0	0.0	189.6
1974	0.0	0.0	0.0	0.0	15.0	39.0	49.7	22.9	16.8	0.0	0.0	0.0	143.4
1975	0.0	0.0	0.0	5.5	1.9	4.2	26.1	68.8	8.8	0.0	0.0	0.0	115.2
1976	0.0	0.0	0.0	0.0	25.7	55.9	39.8	26.6	57.1	0.0	0.0	0.0	205.1
1977	0.0	0.0	0.0	0.0	13.6	16.6	18.9	43.8	15.9	5.5	0.0	0.0	114.4
1978	0.0	0.0	0.0	6.0	3.9	43.2	21.3	43.2	8.7	0.0	0.0	0.0	126.2
1979	0.0	0.0	0.0	0.0	18.5	11.1	48.4	44.2	22.3	0.0	0.0	0.0	144.4
1980	0.0	0.0	0.0	0.0	0.0	2.3	27.1	39.6	19.9	4.9	0.0	0.0	93.7
1981	0.0	0.0	0.0	0.0	0.2	34.1	43.7	35.5	51.2	10.4	0.0	0.0	175.2
1982	0.0	0.0	0.0	0.0	10.9	31.6	40.1	70.1	6.5	0.2	0.0	0.0	159.4
1983	0.0	0.0	0.0	0.0	0.0	10.6	89.6	86.5	42.6	0.0	0.0	0.0	229.3
1984	0.0	0.0	0.0	0.0	19.4	67.4	80.3	59.0	9.9	15.5	0.0	0.0	251.4
1985	0.0	0.0	0.0	0.0	3.7	18.4	98.3	29.1	41.3	0.0	0.0	0.0	190.8
1986	0.0	0.0	0.0	0.0	19.6	16.3	20.8	112.8	13.4	0.0	0.0	0.0	182.9
1987	0.0	0.0	0.0	0.0	4.8	76.1	48.2	48.8	33.5	0.0	0.2	0.0	211.7
1988	0.0	0.0	0.0	0.0	4.4	56.2	37.4	21.6	43.1	12.5	0.0	0.0	175.1
1989	0.0	0.0	0.0	0.0	0.7	7.3	40.4	31.7	25.8	0.5	0.0	0.0	106.4
1990	0.0	0.0	0.0	0.0	0.7	25.6	26.9	59.3	46.4	0.0	0.0	0.0	158.8
1991	0.0	0.0	0.0	0.0	1.4	14.3	47.8	87.5	18.1	0.0	0.0	0.0	169.0
1992	0.0	0.0	0.0	0.0	14.8	8.1	17.1	48.0	10.2	0.7	0.0	0.0	98.8
1993	0.0	0.0	0.0	0.0	10.6	23.3	100.4	29.8	18.5	0.0	0.0	0.0	182.5
1994	0.0	0.0	0.0	0.0	8.3	44.5	15.9	54.4	27.7	5.5	0.0	0.0	156.4
1995	0.0	0.0	0.0	0.0	1.4	24.0	46.4	89.5	24.5	1.2	0.0	0.0	186.9
1996	0.0	0.0	0.0	0.0	9.5	44.3	66.6	172.1	72.2	0.0	0.0	0.0	364.7
1997	0.0	0.0	0.0	0.0	7.2	21.2	21.0	64.6	23.8	0.9	0.0	0.0	138.7

Table B-2 Derived Monthly and Annual Total Rainfall

Year	Total Rainfall (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1998	0.0	0.0	0.0	0.0	0.0	1.5	12.5	59.9	52.0	17.8	0.0	0.0	143.7
1999	0.0	0.0	1.5	5.6	14.7	52.2	22.4	83.9	38.9	0.1	0.0	0.0	219.2
2000	0.0	0.0	3.8	9.6	1.7	3.6	41.6	46.8	38.1	5.6	0.0	0.0	150.7
2001	0.0	0.0	0.0	1.2	34.1	9.0	55.6	36.9	6.8	4.9	0.0	0.0	148.5
2002	0.0	0.0	0.0	0.1	27.2	7.9	85.2	87.5	30.0	2.4	0.0	0.0	240.3
2003	0.6	0.0	0.1	1.8	7.9	11.4	22.1	34.5	30.6	3.7	0.1	0.0	112.8
2004	0.0	0.0	0.0	0.1	0.9	5.8	0.6	33.2	40.3	4.6	0.0	0.0	85.5
2005	0.0	0.0	0.0	18.9	0.3	17.9	37.3	50.4	18.1	5.4	0.0	0.0	148.4
2006	0.0	0.0	0.0	0.7	25.2	59.9	27.7	64.8	9.7	8.4	0.1	0.0	196.6
2007	0.0	0.0	0.1	2.4	15.7	5.4	25.5	62.1	7.5	7.8	0.0	0.0	126.5
2008	0.0	0.0	0.0	0.7	5.5	29.2	25.0	118.3	46.6	2.6	0.0	0.0	227.8
2009	2.3	0.0	0.0	0.0	0.0	19.3	46.9	22.5	43.5	3.7	1.1	0.0	139.3
2010	0.0	0.0	0.0	0.0	9.0	36.3	64.9	8.1	29.3	1.3	0.0	0.0	148.9
2011	0.0	0.0	0.3	0.0	0.0	6.0	53.5	102.7	110.4	19.9	0.0	0.0	292.7
2012	0.0	0.0	0.0	2.3	10.0	0.8	24.7	56.0	50.9	14.5	0.0	0.0	159.3
2013	0.0	0.0	0.0	0.0	5.7	35.8	84.8	37.0	31.6	15.9	0.0	0.0	210.8
Mean	0.1	0.0	0.1	1.0	7.8	26.2	43.5	55.3	29.0	3.7	0.0	0.0	166.6
SD	0.3	0.0	0.5	3.1	8.4	21.8	23.9	29.7	20.8	5.1	0.2	0.0	52.2
Max	2.3	0.0	3.8	18.9	34.1	101.9	100.4	172.1	110.4	19.9	1.1	0.0	364.7
Min	0.0	0.0	0.0	0.0	0.0	0.8	0.6	8.1	0.6	0.0	0.0	0.0	85.5

mm = millimetre; SD = standard deviation; Max = maximum; Min = minimum.

Table B-3 Derived Monthly and Annual Total Snowfall

Year	Total Snowfall (cm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1959	12.8	36.1	24.3	10.4	25.5	39.6	1.4	6.7	10.0	36.2	20.7	19.8	243.4
1960	8.2	22.7	18.6	16.7	9.8	0.0	0.4	0.4	54.3	65.2	16.8	16.5	229.6
1961	12.3	16.1	19.1	13.3	8.4	0.8	0.0	0.4	24.8	27.6	28.2	12.8	163.9
1962	8.2	5.7	20.4	12.1	20.0	0.0	0.0	0.0	0.0	36.7	44.8	16.7	164.5
1963	8.6	3.6	14.4	18.9	20.8	31.1	0.0	0.0	5.7	30.2	38.8	19.8	191.9
1964	13.7	19.5	6.5	20.4	12.1	8.5	0.0	0.0	1.5	38.1	7.1	29.0	156.4
1965	10.4	0.4	17.8	8.2	3.3	7.9	0.0	0.0	23.1	16.8	17.8	3.6	109.3
1966	0.0	6.0	12.4	6.7	1.8	0.0	0.0	0.0	0.4	6.7	6.8	12.8	53.4
1967	9.7	10.1	3.9	6.7	11.1	7.1	0.0	2.2	71.1	27.5	16.8	16.2	182.4
1968	16.8	12.6	7.1	24.7	63.9	2.2	1.1	0.0	36.5	49.3	23.0	7.8	245.0
1969	4.4	9.4	7.6	17.1	12.5	4.4	0.0	0.0	5.6	3.1	40.2	10.3	114.5
1970	3.9	5.3	9.1	17.5	7.2	1.1	0.0	0.0	28.8	64.6	8.6	7.9	154.0
1971	8.2	46.4	32.4	23.8	34.1	0.0	0.0	0.0	15.8	43.9	14.3	11.8	230.8
1972	15.5	8.9	12.2	26.2	28.4	0.4	0.0	0.4	35.9	30.1	16.2	5.4	179.6
1973	16.2	2.0	33.1	9.9	5.7	0.0	0.0	4.6	3.9	42.5	7.2	2.0	127.0
1974	4.4	10.6	6.4	16.1	18.9	5.3	0.0	13.0	25.7	86.8	11.4	16.7	215.1
1975	4.0	4.2	2.8	8.6	27.4	0.7	0.0	5.3	7.5	36.5	14.3	15.1	126.3
1976	16.2	10.0	8.1	4.7	24.5	6.9	0.0	0.0	1.8	51.5	29.1	8.6	161.4
1977	15.3	24.3	21.8	37.2	5.6	0.0	0.0	0.0	0.0	20.0	20.0	53.2	197.1
1978	12.1	7.9	12.3	6.7	17.3	1.4	0.0	0.0	0.0	123.1	22.9	24.8	228.4
1979	13.2	0.0	8.2	27.6	9.7	6.4	0.0	0.0	3.3	38.8	24.8	17.2	149.1
1980	2.2	1.5	4.9	1.0	11.7	0.0	0.0	0.0	8.0	43.0	34.5	12.9	119.6
1981	5.8	22.9	36.5	4.7	6.8	0.6	0.0	5.0	14.0	15.8	31.9	4.6	148.4
1982	1.1	4.2	0.0	18.3	4.7	24.3	1.7	2.2	43.0	29.2	19.6	20.8	169.0
1983	34.1	7.6	23.3	22.9	25.0	1.7	0.0	0.3	55.6	57.9	15.0	8.3	251.6
1984	9.4	26.9	22.4	26.8	1.4	2.2	0.0	3.6	15.5	16.6	18.3	12.8	155.9
1985	12.7	16.1	14.4	35.8	9.7	4.7	5.3	29.7	12.3	33.3	13.0	9.2	196.1
1986	27.7	12.8	7.2	27.3	16.9	4.7	0.0	4.2	25.5	38.8	18.8	17.7	201.6
1987	16.1	9.2	7.8	9.2	6.1	2.5	0.0	6.7	8.3	47.2	62.1	35.2	210.3
1988	2.5	5.0	5.8	8.3	9.7	2.2	0.0	0.0	8.3	29.7	30.8	11.3	113.6
1989	27.7	5.6	14.1	4.3	49.2	0.0	0.0	0.0	15.7	15.7	20.0	22.9	175.1
1990	16.4	8.3	16.6	11.5	2.5	1.7	0.0	3.6	11.5	27.9	12.8	20.4	133.1
1991	11.0	18.3	17.2	36.2	17.7	0.0	1.9	0.6	42.7	36.6	24.4	26.9	233.4
1992	24.4	11.9	13.6	28.3	11.9	19.7	0.0	7.5	31.1	59.9	21.4	5.8	235.3
1993	8.5	26.6	18.3	8.6	26.6	5.3	0.0	4.2	19.3	26.9	20.5	16.6	181.3
1994	4.7	3.1	30.5	11.4	11.4	0.8	0.0	0.0	26.9	33.8	15.2	20.5	158.3
1995	7.2	4.7	53.8	9.2	13.9	0.0	0.0	1.9	39.1	49.9	10.3	33.0	222.9
1996	7.8	25.5	6.1	11.1	23.0	20.5	0.0	9.4	8.6	17.2	18.8	9.1	157.1
1997	9.2	9.2	9.4	17.8	29.1	3.9	0.0	3.6	6.7	62.9	17.5	24.7	193.8

Table B-3 Derived Monthly and Annual Total Snowfall

Year	Total Snowfall (cm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1998	7.2	10.0	7.8	24.7	12.2	0.0	0.0	0.0	44.1	65.7	23.6	29.9	225.1
1999	13.3	9.1	20.0	31.6	27.2	0.6	3.1	4.4	24.7	33.0	18.6	42.7	228.2
2000	5.3	7.5	9.7	16.9	25.8	0.3	0.0	4.2	36.0	60.2	19.4	10.8	196.0
2001	8.9	9.7	34.1	41.9	49.1	8.3	0.0	0.3	3.1	26.1	38.3	16.6	236.2
2002	11.3	8.8	14.5	10.2	22.3	0.0	0.0	0.0	5.5	18.0	25.8	18.5	134.9
2003	8.7	12.2	14.0	14.3	40.8	14.8	0.0	0.0	20.8	14.9	48.8	19.2	208.5
2004	11.0	11.0	18.2	29.4	6.4	0.0	0.0	0.0	44.7	23.4	22.2	9.8	176.1
2005	11.0	9.6	14.9	33.5	11.9	5.6	0.0	0.0	9.2	42.8	55.4	9.0	202.9
2006	20.3	17.0	24.3	24.4	12.4	0.0	0.0	0.0	0.0	25.9	86.8	13.5	224.6
2007	29.2	12.0	11.1	4.9	26.8	3.8	0.0	0.0	9.9	38.6	54.2	13.0	203.5
2008	33.8	6.3	6.6	10.3	4.0	3.0	0.0	0.0	39.2	7.7	19.1	5.1	135.1
2009	11.5	14.3	7.2	9.3	13.4	10.5	0.0	0.0	0.0	24.2	58.1	12.0	160.5
2010	13.5	7.6	7.3	22.0	8.4	0.0	0.0	0.0	15.9	18.0	26.5	17.5	136.7
2011	9.8	17.0	2.4	6.8	3.1	0.6	0.0	0.0	0.0	29.3	38.9	28.3	136.2
2012	40.8	7.6	51.4	5.3	2.2	0.0	0.0	0.0	0.0	30.3	27.3	12.0	176.8
2013	10.7	27.9	22.5	14.7	14.8	0.0	0.0	0.0	0.0	16.8	18.6	0.1	126.1
Mean	12.5	12.2	15.7	16.8	16.8	4.8	0.3	2.3	18.2	36.2	25.7	16.3	177.9
SD	8.5	9.1	11.2	10.0	13.0	8.1	0.9	4.7	17.3	20.8	15.6	10.0	43.4
Max	40.8	46.4	53.8	41.9	63.9	39.6	5.3	29.7	71.1	123.1	86.8	53.2	251.6
Min	0.0	0.0	0.0	1.0	1.4	0.0	0.0	0.0	0.0	3.1	6.8	0.1	53.4

cm = centimetre; SD = standard deviation; Max = maximum; Min = minimum.

Table B-4 Derived Monthly and Annual Total Precipitation

Year	Total Precipitation (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1959	12.8	36.1	24.3	10.4	25.9	141.5	35.9	31.9	23.3	36.2	20.7	19.8	418.7
1960	8.2	22.7	18.6	16.7	10.8	9.1	56.7	75.2	73.2	65.7	16.8	16.5	390.1
1961	12.3	16.1	19.1	13.3	32.8	45.7	73.7	74.7	30.5	27.6	28.2	12.8	386.8
1962	8.2	5.7	20.4	12.1	21.5	15.0	32.0	23.1	19.3	37.9	44.8	16.7	256.4
1963	8.6	3.6	14.4	18.9	22.9	74.2	33.2	47.8	7.2	33.4	38.8	19.8	322.8
1964	13.7	19.5	6.5	20.4	12.8	23.9	81.4	26.9	31.4	40.0	7.1	29.0	312.6
1965	10.4	0.4	17.8	8.2	7.7	25.4	41.3	35.2	23.7	16.8	17.8	3.6	208.2
1966	0.0	6.0	12.4	6.7	10.6	19.0	49.5	49.7	48.9	9.3	6.8	12.8	231.5
1967	9.7	10.1	3.9	6.7	12.2	68.6	62.4	43.4	99.0	37.4	16.8	16.2	386.4
1968	16.8	12.6	7.1	24.7	73.4	8.5	16.4	26.1	69.7	50.3	23.0	7.8	336.2
1969	4.4	9.4	7.6	17.1	12.5	37.1	82.0	52.0	9.7	6.5	40.2	10.3	288.8
1970	3.9	5.3	9.1	17.5	10.4	36.4	16.4	82.5	65.5	64.6	8.6	7.9	328.1
1971	8.2	46.4	32.4	24.4	37.3	1.2	41.4	41.1	91.3	46.8	14.3	11.8	396.6
1972	15.5	8.9	12.2	26.2	34.3	8.0	51.3	49.2	40.3	31.0	16.2	5.4	298.6
1973	16.2	2.0	33.1	9.9	12.2	32.0	21.0	102.3	36.0	42.9	7.2	2.0	316.6
1974	4.4	10.6	6.4	16.1	33.9	44.3	49.7	35.9	42.5	86.8	11.4	16.7	358.5
1975	4.0	4.2	2.8	14.1	29.3	4.9	26.1	74.1	16.3	36.5	14.3	15.1	241.6
1976	16.2	10.0	8.1	4.7	50.3	62.9	39.8	26.6	58.9	51.5	29.1	8.6	366.6
1977	15.3	24.3	21.8	37.2	19.2	16.6	18.9	43.8	15.9	25.5	20.0	53.2	311.5
1978	12.1	7.9	12.3	12.7	21.2	44.5	21.3	43.2	8.7	123.1	22.9	24.8	354.6
1979	13.2	0.0	8.2	27.6	28.2	17.4	48.4	44.2	25.6	38.8	24.8	17.2	293.6
1980	2.2	1.5	4.9	1.0	11.7	2.3	27.1	39.6	27.9	47.8	34.5	12.9	213.3
1981	5.8	22.9	36.5	4.7	7.0	34.7	43.7	40.5	65.2	26.2	31.9	4.6	323.6
1982	1.1	4.2	0.0	18.3	15.6	55.9	41.8	72.4	49.4	29.5	19.6	20.8	328.4
1983	34.1	7.6	23.3	22.9	25.0	12.3	89.6	86.8	98.1	57.9	15.0	8.3	480.9
1984	9.4	26.9	22.4	26.8	20.8	69.6	80.3	62.6	25.5	32.1	18.3	12.8	407.3
1985	12.7	16.1	14.4	35.8	13.4	23.2	103.6	58.7	53.6	33.3	13.0	9.2	386.9
1986	27.7	12.8	7.2	27.3	36.5	21.0	20.8	117.0	38.9	38.8	18.8	17.7	384.5
1987	16.1	9.2	7.8	9.2	11.0	78.6	48.2	55.5	41.8	47.2	62.3	35.2	421.9
1988	2.5	5.0	5.8	8.3	14.1	58.4	37.4	21.6	51.4	42.1	30.8	11.3	288.7
1989	27.7	5.6	14.1	4.3	49.9	7.3	40.4	31.7	41.5	16.2	20.0	22.9	281.4
1990	16.4	8.3	16.6	11.5	3.2	27.3	26.9	62.9	57.9	27.9	12.8	20.4	291.9
1991	11.0	18.3	17.2	36.2	19.1	14.3	49.7	88.0	60.8	36.6	24.4	26.9	402.4
1992	24.4	11.9	13.6	28.3	26.7	27.8	17.1	55.5	41.2	60.6	21.4	5.8	334.1
1993	8.5	26.6	18.3	8.6	37.2	28.6	100.4	33.9	37.7	26.9	20.5	16.6	363.8
1994	4.7	3.1	30.5	11.4	19.7	45.4	15.9	54.4	54.6	39.4	15.2	20.5	314.7
1995	7.2	4.7	53.8	9.2	15.2	24.0	46.4	91.4	63.5	51.0	10.3	33.0	409.7
1996	7.8	25.5	6.1	11.1	32.5	64.8	66.6	181.5	80.8	17.2	18.8	9.1	521.8
1997	9.2	9.2	9.4	17.8	36.3	25.1	21.0	68.2	30.4	63.9	17.5	24.7	332.4

Table B-4 Derived Monthly and Annual Total Precipitation

Year	Total Precipitation (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1998	7.2	10.0	7.8	24.7	12.2	1.5	12.5	59.9	96.0	83.5	23.6	29.9	368.7
1999	13.3	9.1	21.4	37.2	41.9	52.8	25.4	88.3	63.5	33.1	18.6	42.7	447.3
2000	5.3	7.5	13.5	26.6	27.5	3.9	41.6	51.0	74.1	65.8	19.4	10.8	346.7
2001	8.9	9.7	34.1	43.1	83.2	17.3	55.6	37.1	9.9	31.0	38.3	16.6	384.7
2002	11.3	8.8	14.5	10.3	49.5	7.9	85.2	87.5	35.5	20.4	25.8	18.5	375.2
2003	9.3	12.2	14.1	16.1	48.7	26.2	22.1	34.5	51.4	18.6	48.9	19.2	321.3
2004	11.0	11.0	18.2	29.5	7.3	5.8	0.6	33.2	85.0	28.0	22.2	9.8	261.6
2005	11.0	9.6	14.9	52.4	12.2	23.5	37.3	50.4	27.3	48.2	55.4	9.0	351.3
2006	20.3	17.0	24.3	25.1	37.6	59.9	27.7	64.8	9.7	34.3	86.9	13.5	421.2
2007	29.2	12.0	11.2	7.3	42.5	9.2	25.5	62.1	17.4	46.4	54.2	13.0	330.0
2008	33.8	6.3	6.6	11.0	9.4	32.2	25.0	118.3	85.8	10.3	19.1	5.1	362.8
2009	13.8	14.3	7.2	9.3	13.4	29.8	46.9	22.5	43.5	27.9	59.2	12.0	299.9
2010	13.5	7.6	7.3	22.0	17.4	36.3	64.9	8.1	45.3	19.4	26.5	17.5	285.7
2011	9.8	17.0	2.7	6.8	3.1	6.6	53.5	102.7	110.4	49.2	38.9	28.3	428.9
2012	40.8	7.6	51.4	7.5	12.2	0.8	24.7	56.0	50.9	44.8	27.3	12.0	336.1
2013	10.7	27.9	22.5	14.7	20.5	35.8	84.8	37.0	31.6	32.7	18.6	0.1	336.9
Mean	12.6	12.2	15.9	17.8	24.6	31.0	43.8	57.5	47.2	39.9	25.8	16.3	344.6
SD	8.5	9.1	11.2	11.0	16.6	25.9	24.1	30.2	26.1	20.5	15.6	10.0	63.3
Max	40.8	46.4	53.8	52.4	83.2	141.5	103.6	181.5	110.4	123.1	86.9	53.2	521.8
Min	0.0	0.0	0.0	1.0	3.1	0.8	0.6	8.1	7.2	6.5	6.8	0.1	208.2

mm = millimetre; SD = standard deviation; Max = maximum; Min = minimum.

Table B-5 Derived Monthly and Annual Total Lake Evaporation

Year	Total Lake Evaporation (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1959	0.0	0.0	0.0	0.0	0.0	64.0	105.6	68.6	33.0	0.0	0.0	0.0	271.2
1960	0.0	0.0	0.0	0.0	0.0	64.0	105.6	68.6	33.0	0.0	0.0	0.0	271.2
1961	0.0	0.0	0.0	0.0	0.0	64.0	105.6	68.6	33.0	0.0	0.0	0.0	271.2
1962	0.0	0.0	0.0	0.0	0.0	64.0	105.6	68.6	33.0	0.0	0.0	0.0	271.2
1963	0.0	0.0	0.0	0.0	0.0	64.0	105.6	68.6	33.0	0.0	0.0	0.0	271.2
1964	0.0	0.0	0.0	0.0	0.0	46.2	78.3	49.9	27.3	0.0	0.0	0.0	201.7
1965	0.0	0.0	0.0	0.0	0.0	57.1	78.1	44.2	29.2	0.0	0.0	0.0	208.6
1966	0.0	0.0	0.0	0.0	0.0	44.6	101.2	67.7	30.5	0.0	0.0	0.0	244.0
1967	0.0	0.0	0.0	0.0	0.0	50.2	86.2	62.6	30.8	0.0	0.0	0.0	229.8
1968	0.0	0.0	0.0	0.0	0.0	53.8	111.0	79.0	30.5	0.0	0.0	0.0	274.2
1969	0.0	0.0	0.0	0.0	0.0	57.2	83.6	46.2	36.8	0.0	0.0	0.0	223.8
1970	0.0	0.0	0.0	0.0	0.0	51.9	121.0	70.2	36.5	0.0	0.0	0.0	279.6
1971	0.0	0.0	0.0	0.0	0.0	63.0	100.2	58.0	25.2	0.0	0.0	0.0	246.3
1972	0.0	0.0	0.0	0.0	0.0	57.6	86.5	67.1	33.2	0.0	0.0	0.0	244.4
1973	0.0	0.0	0.0	0.0	0.0	59.5	99.0	59.5	35.8	0.0	0.0	0.0	253.8
1974	0.0	0.0	0.0	0.0	0.0	57.6	97.0	51.4	32.6	0.0	0.0	0.0	238.6
1975	0.0	0.0	0.0	0.0	0.0	69.1	112.0	71.4	39.7	0.0	0.0	0.0	292.3
1976	0.0	0.0	0.0	0.0	0.0	54.6	103.5	70.1	35.0	0.0	0.0	0.0	263.2
1977	0.0	0.0	0.0	0.0	0.0	53.4	105.4	93.8	38.5	0.0	0.0	0.0	291.2
1978	0.0	0.0	0.0	0.0	0.0	57.1	105.8	87.3	58.2	0.0	0.0	0.0	308.4
1979	0.0	0.0	0.0	0.0	0.0	57.1	84.7	70.3	34.0	0.0	0.0	0.0	246.2
1980	0.0	0.0	0.0	0.0	0.0	51.2	105.2	64.2	33.6	0.0	0.0	0.0	254.2
1981	0.0	0.0	0.0	0.0	0.0	45.8	92.4	71.3	31.5	0.0	0.0	0.0	241.0
1982	0.0	0.0	0.0	0.0	0.0	52.6	112.1	62.9	37.2	0.0	0.0	0.0	264.8
1983	0.0	0.0	0.0	0.0	0.0	58.1	107.8	62.8	35.4	0.0	0.0	0.0	264.1
1984	0.0	0.0	0.0	0.0	0.0	53.2	90.7	67.6	29.8	0.0	0.0	0.0	241.3
1985	0.0	0.0	0.0	0.0	0.0	59.0	107.8	78.7	28.2	0.0	0.0	0.0	273.8
1986	0.0	0.0	0.0	0.0	0.0	60.8	119.9	66.0	38.0	0.0	0.0	0.0	284.7
1987	0.0	0.0	0.0	0.0	0.0	64.8	124.1	67.2	39.6	0.0	0.0	0.0	295.7
1988	0.0	0.0	0.0	0.0	0.0	58.0	96.9	84.2	38.0	0.0	0.0	0.0	277.2
1989	0.0	0.0	0.0	0.0	0.0	55.6	129.9	87.2	40.6	0.0	0.0	0.0	313.3
1990	0.0	0.0	0.0	0.0	0.0	59.1	119.7	67.3	35.4	0.0	0.0	0.0	281.5
1991	0.0	0.0	0.0	0.0	0.0	61.4	98.5	84.8	38.6	0.0	0.0	0.0	283.2
1992	0.0	0.0	0.0	0.0	0.0	56.7	127.8	98.6	42.0	0.0	0.0	0.0	325.1
1993	0.0	0.0	0.0	0.0	0.0	62.8	114.2	70.2	38.3	0.0	0.0	0.0	285.5
1994	0.0	0.0	0.0	0.0	0.0	80.1	130.6	84.7	40.6	0.0	0.0	0.0	336.0
1995	0.0	0.0	0.0	0.0	0.0	62.2	101.4	65.8	31.6	0.0	0.0	0.0	261.0
1996	0.0	0.0	0.0	0.0	0.0	67.4	110.0	71.3	34.2	0.0	0.0	0.0	283.0
1997	0.0	0.0	0.0	0.0	0.0	57.9	94.4	61.3	29.4	0.0	0.0	0.0	243.0

Table B-5 Derived Monthly and Annual Total Lake Evaporation

Year	Total Lake Evaporation (mm)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1998	0.0	0.0	0.0	0.0	0.0	97.5	125.3	79.5	24.8	0.0	0.0	0.0	327.0
1999	0.0	0.0	0.0	0.0	0.0	107.5	107.5	75.5	20.5	0.0	0.0	0.0	311.0
2000	0.0	0.0	0.0	0.0	0.0	107.9	151.7	73.2	45.3	0.0	0.0	0.0	378.0
2001	0.0	0.0	0.0	0.0	0.0	66.6	111.3	69.0	34.2	0.0	0.0	0.0	281.1
2002	0.0	0.0	0.0	0.0	0.0	53.5	104.4	64.9	32.0	0.0	0.0	0.0	254.8
2003	0.0	0.0	0.0	0.0	0.0	87.4	128.2	72.2	26.7	0.0	0.0	0.0	314.5
2004	0.0	0.0	0.0	0.0	0.0	81.4	82.4	44.7	17.2	0.0	0.0	0.0	225.7
2005	0.0	0.0	0.0	0.0	0.0	113.7	105.2	56.6	24.3	0.0	0.0	0.0	299.8
2006	0.0	0.0	0.0	0.0	0.0	100.0	80.1	65.2	28.1	0.0	0.0	0.0	273.4
2007	0.0	0.0	0.0	0.0	0.0	147.0	104.0	56.0	12.0	0.0	0.0	0.0	319.0
2008	0.0	0.0	0.0	0.0	0.0	98.0	94.0	55.0	32.0	0.0	0.0	0.0	279.0
2009	0.0	0.0	0.0	0.0	0.0	44.0	96.0	70.0	32.0	0.0	0.0	0.0	242.0
2010	0.0	0.0	0.0	0.0	0.0	45.0	103.0	65.0	25.0	0.0	0.0	0.0	238.0
2011	0.0	0.0	0.0	0.0	0.0	61.0	128.0	68.0	32.0	0.0	0.0	0.0	289.0
2012	0.0	0.0	0.0	0.0	0.0	66.0	107.0	71.0	26.0	0.0	0.0	0.0	270.0
2013	0.0	0.0	0.0	0.0	0.0	66.0	81.7	80.2	21.0	0.0	0.0	0.0	248.9
Mean	0.0	0.0	0.0	0.0	0.0	65.8	105.0	68.6	32.6	0.0	0.0	0.0	272.0
SD	0.0	0.0	0.0	0.0	0.0	19.9	15.2	11.2	7.2	0.0	0.0	0.0	33.0
Max	0.0	0.0	0.0	0.0	0.0	147.0	151.7	98.6	58.2	0.0	0.0	0.0	378.0
Min	0.0	0.0	0.0	0.0	0.0	44.0	78.1	44.2	12.0	0.0	0.0	0.0	201.7

mm = millimetre; SD = standard deviation; Max = maximum; Min = minimum.