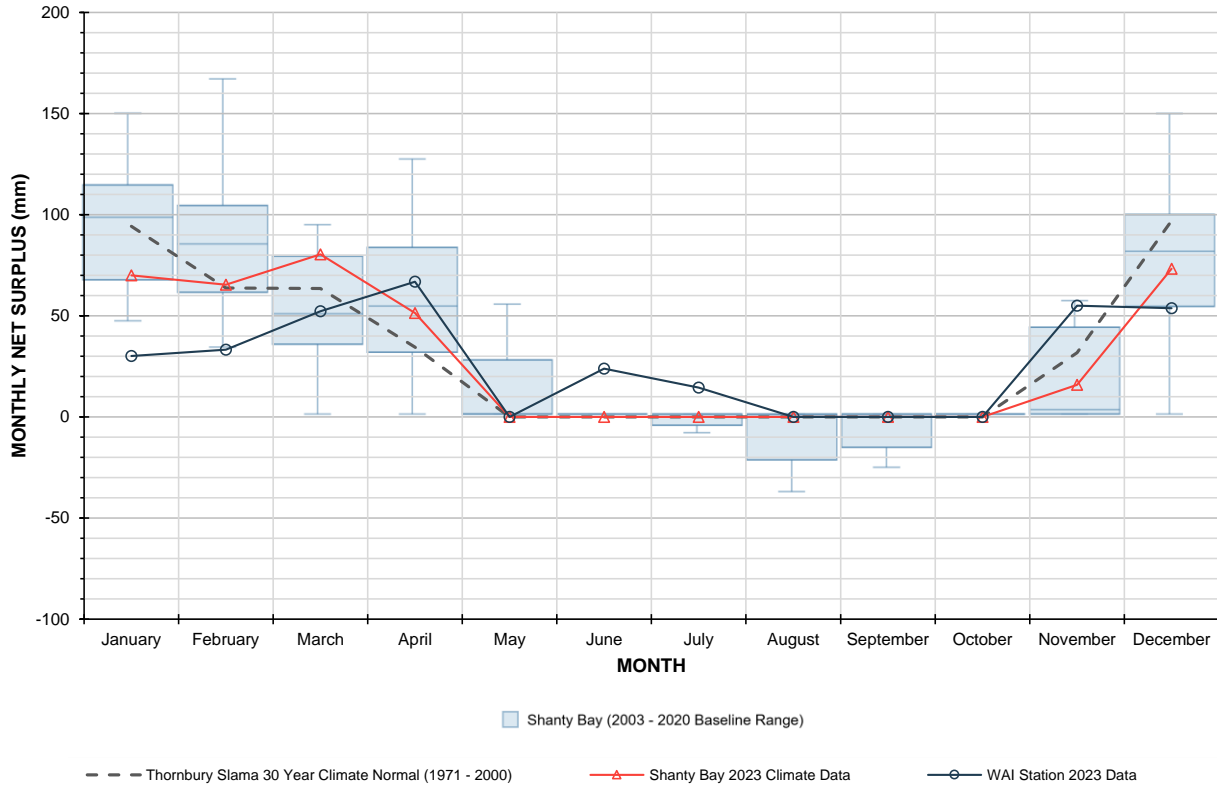


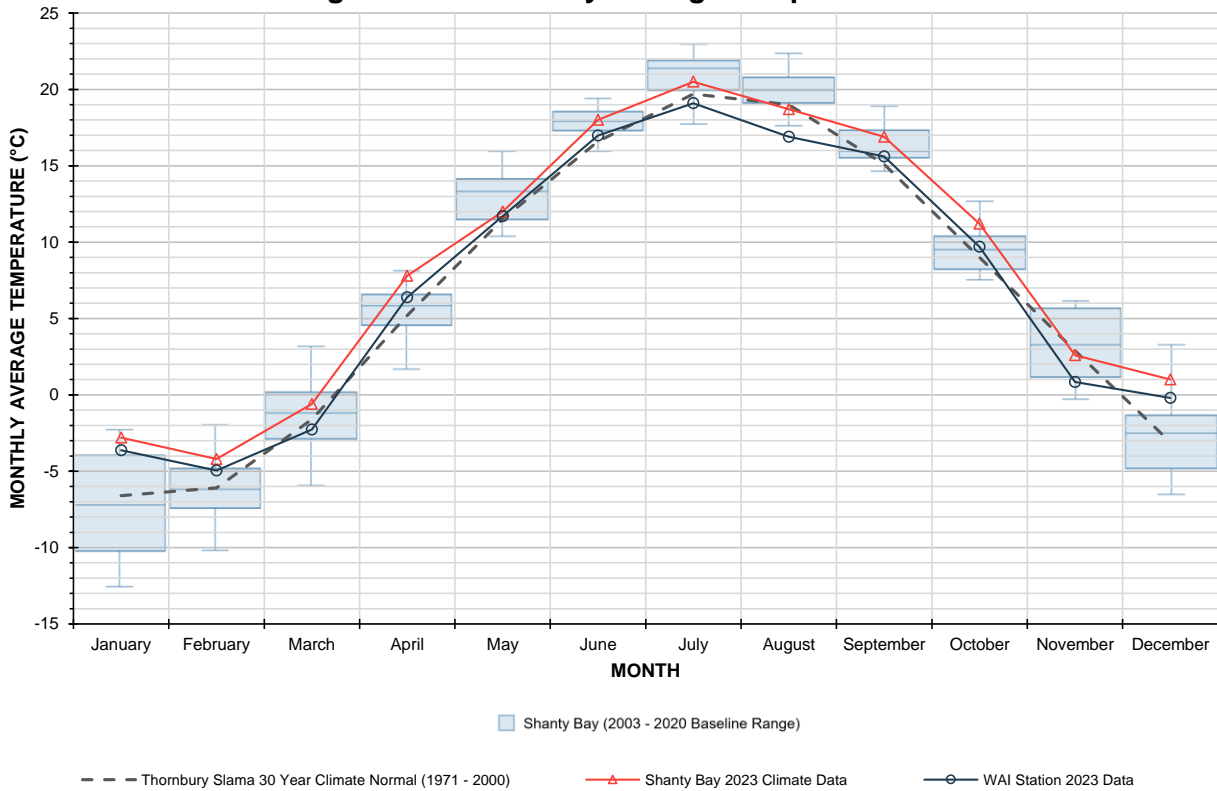
**APPENDIX D**

**Climate Data**

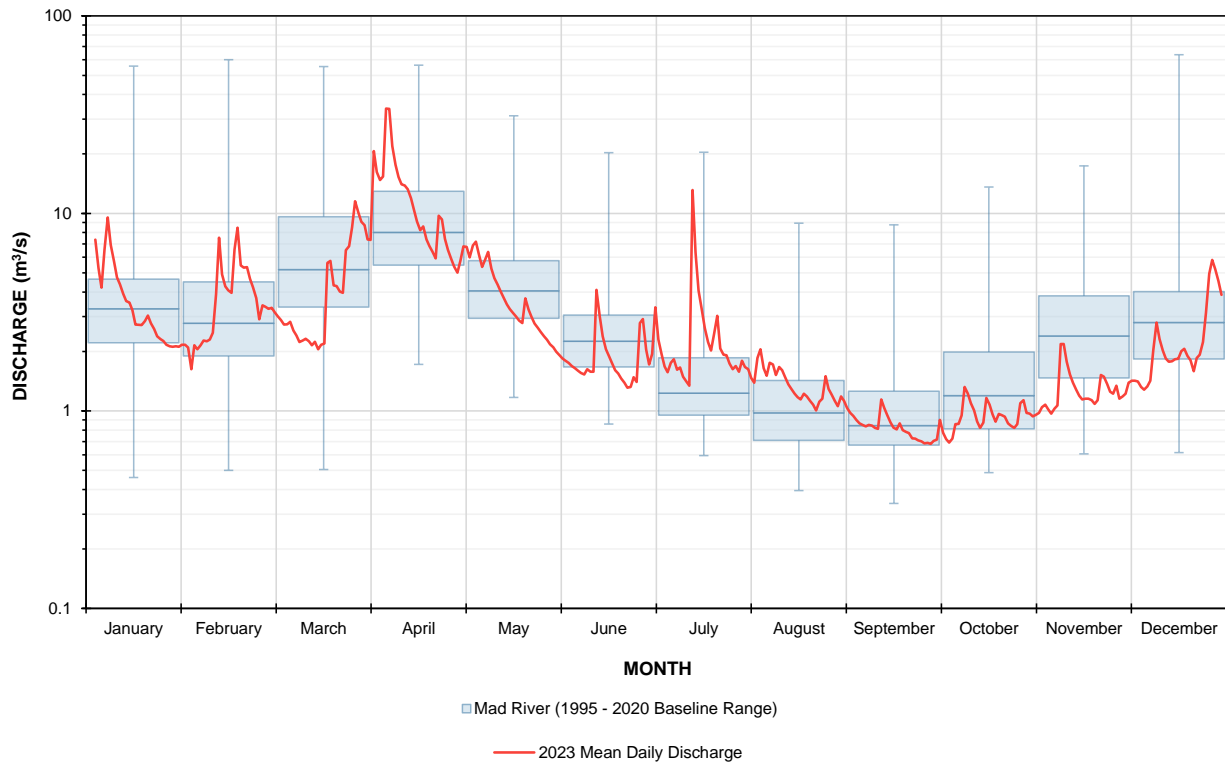
**Figure D-1 Monthly Net Surplus**



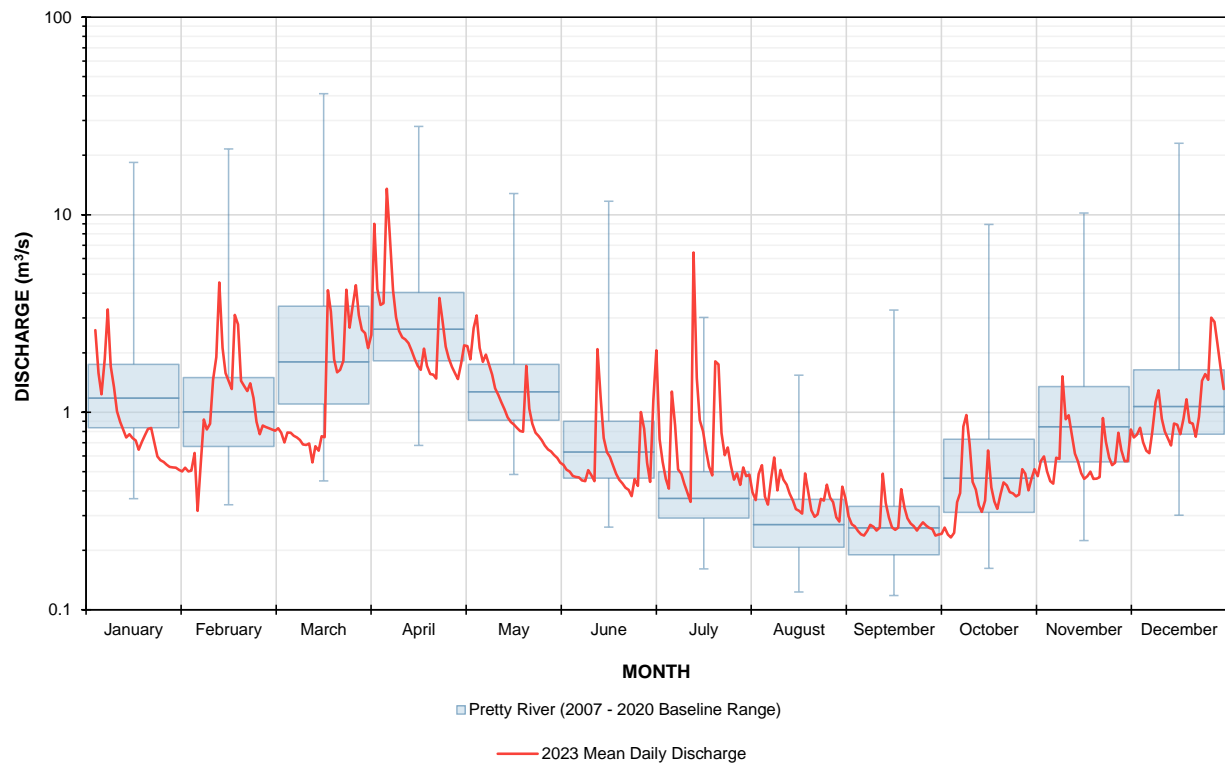
**Figure D-2 Monthly Average Temperature**



**Figure D-3 Mad River Discharge (02ED015)**



**Figure D-4 Pretty River Discharge (02ED031)**



**Table D-1: 30 Year Climate Normal (1971 - 2000)**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-6.6	0.0	0.0	0.8	0.0	94.2	150.0	94.2	0.0	
February	-6.1	0.0	0.0	0.8	0.0	63.8	150.0	63.8	0.0	
March	-1.6	0.0	0.0	1.0	0.0	63.5	150.0	63.5	0.0	
April	5.2	1.1	24.9	1.1	27.9	62.4	150.0	34.5	0.0	
May	11.5	3.5	56.8	1.3	72.1	70.6	148.5	0.0	0.0	
June	16.6	6.1	83.1	1.3	106.4	75.7	117.8	0.0	0.0	
July	19.7	7.9	99.3	1.3	129.0	80.9	69.7	0.0	0.0	
August	19.0	7.5	95.6	1.2	114.7	85.8	40.7	0.0	0.0	
September	15.1	5.3	75.3	1.0	78.3	94.0	56.4	0.0	0.0	
October	9.0	2.4	44.0	1.0	41.8	81.0	95.5	0.0	0.0	
November	2.9	0.4	13.6	0.8	11.0	97.2	150.0	31.7	0.0	
December	-3.1	0.0	0.0	0.8	0.0	97.0	150.0	97.0	0.0	
<b>Total</b>	<b>6.8</b>	<b>34.3</b>			<b>581.4</b>	<b>966.1</b>		<b>384.7</b>	<b>0.0</b>	
						<b>Net Water Surplus</b>	<b>384.7</b>	<b>mm</b>		

- Notes:
- calculations based on Thornthwaite Mather Method
  - °C calculated mean of daily temperatures for the month, in degrees Celcius
  - I denotes Heat Index
  - E denotes Evapotranspiration
  - WHC denotes Water Holding Capacity
  - A value of 150 mm was used for the water holding capacity of the soils
  - Climate normal data from Thornbury Slama Climatological Station located at 44°34'N 80°29'W/O, 213 masl

**Table D-2a: 2003 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-11.2	0.0	0.0	0.8	0.0	128.2	150.0	128.2	0.0	
February	-10.5	0.0	0.0	0.8	0.0	111.6	150.0	111.6	0.0	
March	-2.9	0.0	0.0	1.0	0.0	76.6	150.0	76.6	0.0	
April	3.5	0.6	16.1	1.1	18.0	51.2	150.0	33.2	0.0	
May	11.4	3.5	55.6	1.3	70.7	73.0	150.0	2.3	0.0	
June	17.3	6.5	86.2	1.3	110.4	45.4	85.0	0.0	0.0	
July	19.8	8.0	99.4	1.3	129.2	61.0	16.8	0.0	0.0	
August	20.6	8.5	103.6	1.2	124.3	68.8	0.0	0.0	38.7	
September	15.8	5.7	78.4	1.0	81.5	65.2	0.0	0.0	16.3	
October	7.8	2.0	37.3	1.0	35.5	111.0	75.5	0.0	0.0	
November	3.4	0.6	15.6	0.8	12.6	131.0	150.0	43.9	0.0	
December	-2.6	0.0	0.0	0.8	0.0	97.4	150.0	97.4	0.0	
<b>Total</b>	<b>6.0</b>	<b>35.2</b>			<b>582.2</b>	<b>1020.4</b>		<b>493.2</b>	<b>55.0</b>	
<b>Net Water Surplus</b>						<b>438.2</b>	<b>mm</b>			

**Table D-3a: 2004 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-12.9	0.0	0.0	0.8	0.0	149.6	150.0	149.6	0.0	
February	-6.4	0.0	0.0	0.8	0.0	56.6	150.0	56.6	0.0	
March	-0.2	0.0	0.0	1.0	0.0	94.2	150.0	94.2	0.0	
April	5.5	1.2	26.6	1.1	29.8	43.0	150.0	13.2	0.0	
May	11.5	3.5	57.0	1.3	72.4	148.6	150.0	76.2	0.0	
June	16.0	5.8	80.2	1.3	102.6	44.0	91.4	0.0	0.0	
July	19.2	7.6	96.8	1.3	125.8	124.8	90.3	0.0	0.0	
August	17.6	6.7	88.5	1.2	106.2	48.0	32.2	0.0	0.0	
September	16.7	6.2	83.8	1.0	87.2	37.4	0.0	0.0	17.6	
October	9.3	2.6	45.8	1.0	43.5	61.6	18.1	0.0	0.0	
November	3.1	0.5	14.7	0.8	11.9	81.8	88.0	0.0	0.0	
December	-5.7	0.0	0.0	0.8	0.0	115.6	150.0	53.6	0.0	
<b>Total</b>	<b>6.1</b>	<b>34.0</b>			<b>579.5</b>	<b>1005.2</b>		<b>443.3</b>	<b>17.6</b>	
<b>Net Water Surplus</b>						<b>425.7</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-4a: 2005 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-9.6	0.0	0.0	0.8	0.0	59.2	150.0	59.2	0.0	
February	-6.6	0.0	0.0	0.8	0.0	61.8	150.0	61.8	0.0	
March	-4.1	0.0	0.0	1.0	0.0	39.4	150.0	39.4	0.0	
April	6.3	1.4	26.3	1.1	29.4	121.0	150.0	91.6	0.0	
May	10.5	3.1	47.0	1.3	59.7	26.8	117.1	0.0	0.0	
June	20.5	8.4	100.8	1.3	129.0	142.4	130.5	0.0	0.0	
July	21.6	9.1	107.0	1.3	139.0	50.4	41.8	0.0	0.0	
August	20.7	8.5	101.9	1.2	122.3	65.2	0.0	0.0	15.2	
September	17.9	6.9	86.3	1.0	89.8	78.6	0.0	0.0	11.2	
October	10.6	3.1	47.5	1.0	45.2	44.0	0.0	0.0	1.2	
November	3.8	0.7	14.8	0.8	12.0	118.2	106.2	0.0	0.0	
December	-4.7	0.0	0.0	0.8	0.0	114.6	150.0	70.8	0.0	
<b>Total</b>	<b>7.2</b>	<b>41.2</b>			<b>626.4</b>	<b>921.6</b>		<b>322.8</b>	<b>27.6</b>	
<b>Net Water Surplus</b>						<b>295.2</b>	<b>mm</b>			

**Table D-5a: 2006 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-2.5	0.0	0.0	0.8	0.0	78.2	150.0	78.2	0.0	
February	-7.0	0.0	0.0	0.8	0.0	166.6	150.0	166.6	0.0	
March	-1.5	0.0	0.0	1.0	0.0	61.0	150.0	61.0	0.0	
April	7.0	1.7	31.4	1.1	35.1	85.0	150.0	49.9	0.0	
May	13.3	4.4	63.4	1.3	80.5	52.2	121.7	0.0	0.0	
June	18.3	7.1	89.9	1.3	115.1	85.8	92.4	0.0	0.0	
July	21.9	9.3	109.5	1.3	142.4	143.8	93.8	0.0	0.0	
August	19.6	7.9	97.0	1.2	116.4	22.2	0.0	0.0	0.4	
September	14.6	5.0	70.2	1.0	73.0	100.2	27.2	0.0	0.0	
October	8.1	2.1	36.8	1.0	35.0	132.4	124.6	0.0	0.0	
November	4.6	0.9	19.8	0.8	16.0	97.8	150.0	56.4	0.0	
December	0.5	0.0	1.7	0.8	1.4	88.8	150.0	87.4	0.0	
<b>Total</b>	<b>8.1</b>	<b>38.3</b>			<b>614.9</b>	<b>1114.0</b>		<b>499.5</b>	<b>0.4</b>	
<b>Net Water Surplus</b>						<b>499.1</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-6a: 2007 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-5.8	0.0	0.0	0.8	0.0	75.7	150.0	75.7	0.0	
February	-9.5	0.0	0.0	0.8	0.0	103.3	150.0	103.3	0.0	
March	-1.3	0.0	0.0	1.0	0.0	35.2	150.0	35.2	0.0	
April	6.5	1.5	27.5	1.1	30.8	91.4	150.0	60.6	0.0	
May	13.4	4.4	62.4	1.3	79.3	48.1	118.8	0.0	0.0	
June	18.7	7.3	91.0	1.3	116.5	13.9	16.3	0.0	0.0	
July	20.0	8.1	98.2	1.3	127.6	79.7	0.0	0.0	31.7	
August	21.1	8.8	104.3	1.2	125.2	48.5	0.0	0.0	76.7	
September	17.0	6.3	81.7	1.0	85.0	58.4	0.0	0.0	26.6	
October	12.6	4.0	58.2	1.0	55.3	101.9	46.6	0.0	0.0	
November	1.4	0.1	4.8	0.8	3.9	89.9	132.6	0.0	0.0	
December	-4.1	0.0	0.0	0.8	0.0	166.9	150.0	149.5	0.0	
<b>Total</b>	<b>7.5</b>	<b>40.7</b>			<b>623.6</b>	<b>912.9</b>		<b>424.2</b>	<b>134.9</b>	
<b>Net Water Surplus</b>						<b>289.3</b>	<b>mm</b>			

**Table D-7a: 2008 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-4.3	0.0	0.0	0.8	0.0	98.6	150.0	98.6	0.0	
February	-7.1	0.0	0.0	0.8	0.0	135.3	150.0	135.3	0.0	
March	-4.3	0.0	0.0	1.0	0.0	87.5	150.0	87.5	0.0	
April	-8.6	0.0	0.0	1.1	0.0	33.3	150.0	33.3	0.0	
May	10.3	3.0	51.2	1.3	65.0	99.3	150.0	34.3	0.0	
June	18.6	7.3	93.9	1.3	120.2	73.0	102.8	0.0	0.0	
July	20.5	8.4	103.7	1.3	134.8	95.3	63.3	0.0	0.0	
August	18.4	7.2	92.8	1.2	111.4	67.5	19.4	0.0	0.0	
September	15.7	5.6	78.9	1.0	82.0	105.0	42.4	0.0	0.0	
October	8.1	2.1	40.0	1.0	38.0	39.5	43.9	0.0	0.0	
November	0.9	0.1	4.2	0.8	3.4	146.0	150.0	36.5	0.0	
December	-4.9	0.0	0.0	0.8	0.0	112.1	150.0	112.1	0.0	
<b>Total</b>	<b>5.3</b>	<b>33.6</b>			<b>554.8</b>	<b>1092.4</b>		<b>537.6</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>537.6</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-8a: 2009 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-10.7	0.0	0.0	0.8	0.0	113.2	150.0	113.2	0.0	
February	-5.9	0.0	0.0	0.8	0.0	105.0	150.0	105.0	0.0	
March	-0.7	0.0	0.0	1.0	0.0	50.7	150.0	50.7	0.0	
April	6.4	1.5	31.1	1.1	34.8	146.1	150.0	111.3	0.0	
May	12.3	3.9	61.1	1.3	77.6	78.7	150.0	1.1	0.0	
June	15.9	5.7	79.6	1.3	101.9	81.6	129.7	0.0	0.0	
July	17.7	6.7	89.0	1.3	115.7	104.9	118.9	0.0	0.0	
August	19.4	7.7	97.8	1.2	117.4	58.7	60.3	0.0	0.0	
September	15.5	5.5	77.6	1.0	80.7	42.1	21.7	0.0	0.0	
October	7.4	1.8	36.1	1.0	34.3	80.1	67.5	0.0	0.0	
November	5.5	1.2	26.6	0.8	21.5	30.0	75.9	0.0	0.0	
December	-4.0	0.0	0.0	0.8	0.0	72.9	148.8	0.0	0.0	
<b>Total</b>	<b>6.6</b>	<b>34.1</b>			<b>583.8</b>	<b>964.0</b>		<b>381.3</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>381.3</b>	<b>mm</b>			

**Table D-9a: 2010 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-7.2	0.0	0.0	0.8	0.0	46.3	150.0	46.3	0.0	
February	-5.9	0.0	0.0	0.8	0.0	41.1	150.0	41.1	0.0	
March	3.0	0.5	11.1	1.0	11.4	30.5	150.0	19.1	0.0	
April	9.6	2.7	42.1	1.1	47.2	27.3	130.1	0.0	0.0	
May	14.9	5.2	69.7	1.3	88.6	102.4	143.9	0.0	0.0	
June	17.6	6.7	84.4	1.3	108.1	169.9	150.0	55.8	0.0	
July	21.8	9.2	107.9	1.3	140.3	97.8	107.5	0.0	0.0	
August	21.1	8.8	103.9	1.2	124.7	63.2	46.0	0.0	0.0	
September	15.7	5.6	74.1	1.0	77.0	118.9	87.9	0.0	0.0	
October	9.3	2.6	40.6	1.0	38.6	64.1	113.4	0.0	0.0	
November	3.1	0.5	11.5	0.8	9.3	48.1	150.0	2.1	0.0	
December	-5.6	0.0	0.0	0.8	0.0	103.4	150.0	103.4	0.0	
<b>Total</b>	<b>8.1</b>	<b>41.7</b>			<b>645.2</b>	<b>913.0</b>		<b>267.8</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>267.8</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl



**Table D-10a: 2011 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-9.0	0.0	0.0	0.8	0.0	107.6	150.0	107.6	0.0	
February	-6.5	0.0	0.0	0.8	0.0	61.8	150.0	61.8	0.0	
March	-2.5	0.0	0.0	1.0	0.0	84.5	150.0	84.5	0.0	
April	5.9	1.3	24.6	1.1	27.6	90.2	150.0	62.6	0.0	
May	13.6	4.5	63.4	1.3	80.5	70.7	140.2	0.0	0.0	
June	17.7	6.7	85.5	1.3	109.4	57.8	88.6	0.0	0.0	
July	22.5	9.7	112.2	1.3	145.8	92.7	35.4	0.0	0.0	
August	20.3	8.3	99.8	1.2	119.8	71.9	0.0	0.0	12.5	
September	16.5	6.1	78.9	1.0	82.1	74.5	0.0	0.0	7.6	
October	10.1	2.9	45.3	1.0	43.0	118.5	75.5	0.0	0.0	
November	5.8	1.3	24.2	0.8	19.6	96.3	150.0	2.2	0.0	
December	-0.7	0.0	0.0	0.8	0.0	62.9	150.0	62.9	0.0	
<b>Total</b>	<b>7.8</b>	<b>40.8</b>			<b>627.8</b>	<b>989.4</b>		<b>381.6</b>	<b>20.1</b>	
<b>Net Water Surplus</b>						<b>361.6</b>	<b>mm</b>			

**Table D-11a: 2012 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-3.9	0.0	0.0	0.8	0.0	66.9	150.0	66.9	0.0	
February	-2.4	0.0	0.0	0.8	0.0	81.1	150.0	81.1	0.0	
March	6.4	1.5	26.2	1.0	26.9	24.9	148.0	0.0	0.0	
April	5.9	1.3	23.9	1.1	26.7	46.8	150.0	18.1	0.0	
May	15.2	5.4	71.1	1.3	90.3	39.6	99.3	0.0	0.0	
June	19.4	7.7	94.2	1.3	120.6	78.4	57.1	0.0	0.0	
July	22.5	9.7	111.8	1.3	145.3	83.7	0.0	0.0	4.5	
August	20.3	8.3	99.3	1.2	119.1	95.0	0.0	0.0	24.1	
September	15.3	5.4	71.6	1.0	74.5	138.0	63.5	0.0	0.0	
October	9.5	2.6	41.3	1.0	39.3	127.5	150.0	1.7	0.0	
November	2.3	0.3	8.0	0.8	6.5	49.5	150.0	43.0	0.0	
December	-0.8	0.0	0.0	0.8	0.0	73.6	150.0	73.6	0.0	
<b>Total</b>	<b>9.1</b>	<b>42.2</b>			<b>649.1</b>	<b>905.0</b>		<b>284.4</b>	<b>28.6</b>	
<b>Net Water Surplus</b>						<b>255.9</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-12a: 2013 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-4.9	0.0	0.0	0.8	0.0	107.0	150.0	107.0	0.0	
February	-6.6	0.0	0.0	0.8	0.0	101.8	150.0	101.8	0.0	
March	-1.3	0.0	0.0	1.0	0.0	33.1	150.0	33.1	0.0	
April	5.1	1.0	22.8	1.1	25.5	113.1	150.0	87.6	0.0	
May	13.8	4.6	66.7	1.3	84.7	109.2	150.0	24.5	0.0	
June	17.8	6.8	87.8	1.3	112.4	29.8	67.4	0.0	0.0	
July	21.2	8.9	106.1	1.3	137.9	110.9	40.3	0.0	0.0	
August	19.2	7.6	95.3	1.2	114.4	103.3	29.3	0.0	0.0	
September	15.0	5.3	73.0	1.0	75.9	79.1	32.4	0.0	0.0	
October	10.2	2.9	48.1	1.0	45.7	120.3	107.0	0.0	0.0	
November	0.8	0.1	3.1	0.8	2.5	63.1	150.0	17.6	0.0	
December	-6.4	0.0	0.0	0.8	0.0	93.2	150.0	93.2	0.0	
<b>Total</b>	<b>7.0</b>	<b>37.2</b>			<b>599.2</b>	<b>1063.9</b>		<b>464.7</b>	<b>0.0</b>	
						<b>Net Water Surplus</b>	<b>464.7</b>	<b>mm</b>		

**Table D-13a: 2014 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-10.5	0.0	0.0	0.8	0.0	97.1	150.0	97.1	0.0	
February	-9.5	0.0	0.0	0.8	0.0	72.1	150.0	72.1	0.0	
March	-6.2	0.0	0.0	1.0	0.0	49.0	150.0	49.0	0.0	
April	4.6	0.9	21.2	1.1	23.7	81.1	150.0	57.4	0.0	
May	13.2	4.3	64.6	1.3	82.1	42.3	110.2	0.0	0.0	
June	18.3	7.1	91.3	1.3	116.8	134.8	128.2	0.0	0.0	
July	18.9	7.4	94.4	1.3	122.8	73.6	79.1	0.0	0.0	
August	18.8	7.4	93.9	1.2	112.7	104.3	70.7	0.0	0.0	
September	15.8	5.7	78.1	1.0	81.3	99.9	89.3	0.0	0.0	
October	9.8	2.8	47.2	1.0	44.8	75.2	119.7	0.0	0.0	
November	1.0	0.1	4.2	0.8	3.4	77.6	150.0	43.9	0.0	
December	-1.8	0.0	0.0	0.8	0.0	74.5	150.0	74.5	0.0	
<b>Total</b>	<b>6.0</b>	<b>35.7</b>			<b>587.6</b>	<b>981.5</b>		<b>393.9</b>	<b>0.0</b>	
						<b>Net Water Surplus</b>	<b>393.9</b>	<b>mm</b>		

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-14a: 2015 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm
January	-10.7	0.0	0.0	0.8	0.0	61.5	150.0	61.5	0.0
February	-14.9	0.0	0.0	0.8	0.0	52.9	150.0	52.9	0.0
March	-3.5	0.0	0.0	1.0	0.0	23.9	150.0	23.9	0.0
April	6.2	1.4	25.9	1.1	29.0	61.1	150.0	32.1	0.0
May	15.3	5.4	72.3	1.3	91.9	38.3	96.4	0.0	0.0
June	17.2	6.5	82.6	1.3	105.8	153.5	144.2	0.0	0.0
July	20.2	8.2	99.2	1.3	128.9	37.0	52.2	0.0	0.0
August	19.5	7.8	95.3	1.2	114.3	106.4	44.3	0.0	0.0
September	18.9	7.4	92.0	1.0	95.6	67.2	15.8	0.0	0.0
October	9.0	2.4	39.6	1.0	37.6	84.0	62.2	0.0	0.0
November	6.0	1.3	25.0	0.8	20.2	60.8	102.8	0.0	0.0
December	3.1	0.5	11.8	0.8	9.2	39.7	133.3	0.0	0.0
<b>Total</b>	<b>7.2</b>	<b>41.0</b>			<b>632.6</b>	<b>786.3</b>		<b>170.4</b>	<b>0.0</b>
<b>Net Water Surplus</b>						<b>170.4</b>	<b>mm</b>		

**Table D-15a: 2016 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm
January	-5.7	0.0	0.0	0.8	0.0	116.0	150.0	116.0	0.0
February	-5.0	0.0	0.0	0.8	0.0	50.0	150.0	50.0	0.0
March	0.5	0.0	1.4	1.0	1.4	156.0	150.0	154.6	0.0
April	3.8	0.7	14.4	1.1	16.1	65.0	150.0	48.9	0.0
May	13.5	4.5	62.1	1.3	78.8	51.0	122.2	0.0	0.0
June	18.0	6.9	86.4	1.3	110.7	39.0	50.5	0.0	0.0
July	21.9	9.3	108.4	1.3	140.9	54.0	0.0	0.0	36.3
August	22.4	9.6	111.2	1.2	133.5	118.0	0.0	0.0	15.5
September	17.6	6.7	84.2	1.0	87.6	38.0	0.0	0.0	49.6
October	10.8	3.2	48.0	1.0	45.6	79.0	33.4	0.0	0.0
November	5.6	1.2	22.5	0.8	18.2	52.0	67.2	0.0	0.0
December	-2.7	0.0	0.0	0.8	0.0	124.0	150.0	41.2	0.0
<b>Total</b>	<b>8.4</b>	<b>42.1</b>			<b>632.8</b>	<b>942.0</b>		<b>410.6</b>	<b>101.4</b>
<b>Net Water Surplus</b>						<b>309.2</b>	<b>mm</b>		

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-16a: 2017 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-3.7	0.0	0.0	0.8	0.0	131.0	133.3	131.0	0.0	
February	-2.2	0.0	0.0	0.8	0.0	101.0	150.0	84.3	0.0	
March	-0.3	0.0	0.0	1.0	0.0	75.0	150.0	75.0	0.0	
April	8.0	2.0	36.4	1.1	40.7	122.0	150.0	81.3	0.0	
May	11.6	3.6	54.6	1.3	69.4	124.0	150.0	54.6	0.0	
June	17.4	6.6	85.2	1.3	109.0	120.0	150.0	11.0	0.0	
July	20.0	8.1	99.2	1.3	129.0	65.0	86.0	0.0	0.0	
August	18.8	7.4	92.7	1.2	111.2	74.0	48.8	0.0	0.0	
September	17.2	6.5	84.1	1.0	87.5	57.0	18.3	0.0	0.0	
October	12.2	3.8	57.7	1.0	54.8	77.0	40.5	0.0	0.0	
November	2.0	0.3	8.0	0.8	6.5	81.0	115.0	0.0	0.0	
December	-6.8	0.0	0.0	0.8	0.0	88.0	150.0	53.0	0.0	
<b>Total</b>	<b>7.9</b>	<b>38.2</b>			<b>608.1</b>	<b>1115.0</b>		<b>490.2</b>	<b>0.0</b>	
						<b>Net Water Surplus</b>	<b>490.2</b>	<b>mm</b>		

**Table D-17a: 2018 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-7.8	0.0	0.0	0.8	0.0	79.4	150.0	79.4	0.0	
February	-3.6	0.0	0.0	0.8	0.0	97.0	150.0	97.0	0.0	
March	-1.9	0.0	0.0	1.0	0.0	46.8	150.0	46.8	0.0	
April	1.5	0.2	5.4	1.1	6.0	132.8	150.0	126.8	0.0	
May	15.9	5.7	76.1	1.3	96.6	68.2	121.6	0.0	0.0	
June	18.1	7.0	88.0	1.3	112.6	43.8	52.7	0.0	0.0	
July	21.9	9.3	109.0	1.3	141.7	64.2	0.0	0.0	24.8	
August	21.7	9.2	107.9	1.2	129.4	107.0	0.0	0.0	22.4	
September	17.6	6.7	85.3	1.0	88.7	20.8	0.0	0.0	67.9	
October	8.0	2.0	35.2	1.0	33.4	130.1	96.7	0.0	0.0	
November	0.1	0.0	0.3	0.8	0.2	102.8	150.0	49.3	0.0	
December	-2.3	0.0	0.0	0.8	0.0	97.8	150.0	97.8	0.0	
<b>Total</b>	<b>7.4</b>	<b>40.1</b>			<b>608.8</b>	<b>990.7</b>		<b>497.0</b>	<b>115.1</b>	
						<b>Net Water Surplus</b>	<b>381.9</b>	<b>mm</b>		

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-18a: 2019 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-9.0	0.0	0.0	0.8	0.0	66.2	150.0	66.2	0.0	
February	-6.1	0.0	0.0	0.8	0.0	88.2	150.0	88.2	0.0	
March	-3.0	0.0	0.0	1.0	0.0	63.2	150.0	63.2	0.0	
April	4.8	0.9	22.1	1.1	24.8	100.0	150.0	75.2	0.0	
May	10.9	3.2	52.7	1.3	66.9	86.6	150.0	19.7	0.0	
June	16.5	6.1	81.7	1.3	104.6	75.0	120.4	0.0	0.0	
July	22.0	9.4	110.9	1.3	144.1	49.6	25.9	0.0	0.0	
August	19.3	7.7	96.5	1.2	115.8	54.0	0.0	0.0	36.0	
September	16.0	5.8	79.1	1.0	82.3	75.4	0.0	0.0	6.9	
October	9.6	2.7	46.1	1.0	43.8	137.0	93.2	0.0	0.0	
November	-0.5	0.0	0.0	0.8	0.0	46.0	139.2	0.0	0.0	
December	-2.8	0.0	0.0	0.8	0.0	107.6	150.0	96.8	0.0	
<b>Total</b>	<b>6.5</b>	<b>35.8</b>			<b>582.3</b>	<b>948.8</b>		<b>409.3</b>	<b>42.8</b>	
<b>Net Water Surplus</b>						<b>366.5</b>	<b>mm</b>			

**Table D-19a: 2020 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-3.8	0.0	0.0	0.8	0.0	108.4	150.0	108.4	0.0	
February	-5.1	0.0	0.0	0.8	0.0	80.2	150.0	80.2	0.0	
March	1.5	0.2	5.6	1.0	5.8	48.0	150.0	42.2	0.0	
April	4.7	0.9	19.9	1.1	22.3	48.8	150.0	26.5	0.0	
May	11.4	3.5	53.1	1.3	67.4	109.4	150.0	42.0	0.0	
June	18.5	7.2	90.7	1.3	116.1	56.0	89.9	0.0	0.0	
July	23.0	10.0	115.4	1.3	150.0	50.8	0.0	0.0	9.3	
August	20.4	8.4	101.1	1.2	121.3	219.6	98.3	0.0	0.0	
September	15.4	5.5	74.0	1.0	77.0	66.4	87.7	0.0	0.0	
October	8.3	2.1	37.3	1.0	35.5	61.6	113.9	0.0	0.0	
November	5.9	1.3	25.6	0.8	20.7	69.0	150.0	12.1	0.0	
December	-2.0	0.0	0.0	0.8	0.0	106.6	150.0	106.6	0.0	
<b>Total</b>	<b>8.2</b>	<b>39.0</b>			<b>616.0</b>	<b>1024.8</b>		<b>418.1</b>	<b>9.3</b>	
<b>Net Water Surplus</b>						<b>408.8</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-20a: 2021 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-4.8	0.0	0.0	0.8	0.0	49.8	150.0	49.8	0.0	
February	-7.0	0.0	0.0	0.8	0.0	40.6	150.0	40.6	0.0	
March	1.5	0.2	4.9	1.0	5.0	35.2	150.0	30.2	0.0	
April	7.1	1.7	30.0	1.1	33.6	62.8	150.0	29.2	0.0	
May	12.4	3.9	56.6	1.3	71.9	27.8	105.9	0.0	0.0	
June	20.1	8.2	98.5	1.3	126.0	108.6	88.5	0.0	0.0	
July	19.6	7.9	95.4	1.3	124.0	204.0	150.0	18.4	0.0	
August	21.9	9.3	108.3	1.2	129.9	21.2	41.3	0.0	0.0	
September	16.2	5.9	76.7	1.0	79.8	152.6	114.1	0.0	0.0	
October	13.1	4.3	60.0	1.0	57.0	66.0	123.1	0.0	0.0	
November	2.7	0.4	9.7	0.8	7.8	74.6	150.0	39.9	0.0	
December	-0.2	0.0	0.0	0.8	0.0	83.8	150.0	83.8	0.0	
<b>Total</b>	<b>8.5</b>	<b>41.7</b>			<b>635.1</b>	<b>927.0</b>		<b>291.9</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>291.9</b>	<b>mm</b>			

**Table D-21a: 2022 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-11.0	0.0	0.0	0.8	0.0	59.6	150.0	59.6	0.0	
February	-7.3	0.0	0.0	0.8	0.0	72.2	150.0	72.2	0.0	
March	-0.8	0.0	0.0	1.0	0.0	59.8	150.0	59.8	0.0	
April	5.4	1.1	23.4	1.1	26.3	58.4	150.0	32.1	0.0	
May	14.4	4.9	69.0	1.3	87.6	42.8	105.2	0.0	0.0	
June	17.7	6.7	86.6	1.3	110.8	94.8	89.1	0.0	0.0	
July	19.9	8.1	98.5	1.3	128.0	57.8	18.9	0.0	0.0	
August	20.5	8.4	101.8	1.2	122.1	118.8	15.6	0.0	0.0	
September	16.2	5.9	78.5	1.0	81.7	64.4	0.0	0.0	1.7	
October	9.4	2.6	43.1	1.0	41.0	50.8	9.8	0.0	0.0	
November	4.4	0.8	18.7	0.8	15.2	86.6	81.3	0.0	0.0	
December	-1.5	0.0	0.0	0.8	0.0	81.2	150.0	12.5	0.0	
<b>Total</b>	<b>7.3</b>	<b>38.6</b>			<b>612.7</b>	<b>847.2</b>		<b>236.2</b>	<b>1.7</b>	
<b>Net Water Surplus</b>						<b>234.5</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-22a: 2023 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-2.8	0.0	0.0	0.8	0.0	70.0	150.0	70.0	0.0	
February	-4.2	0.0	0.0	0.8	0.0	65.4	150.0	65.4	0.0	
March	-0.6	0.0	0.0	1.0	0.0	80.4	150.0	80.4	0.0	
April	7.8	2.0	35.2	1.1	39.4	90.8	150.0	51.4	0.0	
May	12.0	3.8	56.5	1.3	71.8	48.6	126.8	0.0	0.0	
June	18.0	6.9	88.2	1.3	113.0	123.4	137.3	0.0	0.0	
July	20.5	8.4	101.8	1.3	132.4	137.4	142.3	0.0	0.0	
August	18.7	7.3	92.0	1.2	110.4	76.2	108.1	0.0	0.0	
September	16.9	6.3	82.3	1.0	85.6	15.6	38.1	0.0	0.0	
October	11.2	3.4	52.4	1.0	49.8	122.5	110.8	0.0	0.0	
November	2.6	0.4	10.5	0.8	8.5	63.6	150.0	15.9	0.0	
December	1.0	0.1	3.7	0.8	2.9	76.1	150.0	73.2	0.0	
<b>Total</b>	<b>8.4</b>	<b>38.5</b>			<b>613.7</b>	<b>970.0</b>		<b>356.3</b>	<b>0.0</b>	
						<b>Net Water Surplus</b>	<b>356.3</b>	<b>mm</b>		

- Notes:
- calculations based on Thornthwaite Mather Method
  - °C calculated mean of daily temperatures for the month, in degrees Celcius
  - I denotes Heat Index
  - E denotes Evapotranspiration
  - WHC denotes Water Holding Capacity
  - A value of 150 mm was used for the water holding capacity of the soils
  - Temperature and precipitation data from the Shanty Bay Climatological Station located at 44°24'N 79°37.8'W/O, 250 masl

**Table D-15b: 2016 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-5.7	0.0	0.0	0.8	0.0	62.0	150.0	62.0	0.0	
February	-6.2	0.0	0.0	0.8	0.0	67.0	150.0	67.0	0.0	
March	-0.6	0.0	0.0	1.0	0.0	170.0	150.0	170.0	0.0	
April	4.5	0.9	20.3	1.1	22.7	24.0	150.0	1.3	0.0	
May	12.2	3.8	58.9	1.3	74.8	40.0	115.2	0.0	0.0	
June	16.5	6.1	81.4	1.3	104.1	42.0	53.0	0.0	0.0	
July	19.9	8.1	99.4	1.3	129.2	28.0	0.0	0.0	48.2	
August	20.7	8.5	103.7	1.2	124.4	28.0	0.0	0.0	96.4	
September	16.1	5.8	79.2	1.0	82.4	8.0	0.0	0.0	74.4	
October	9.0	2.4	42.6	1.0	40.4	7.0	0.0	0.0	33.4	
November	4.4	0.8	19.8	0.8	16.0	54.0	38.0	0.0	0.0	
December	-4.9	0.0	0.0	0.8	0.0	25.0	63.0	0.0	0.0	
<b>Total</b>	<b>7.2</b>	<b>36.5</b>			<b>594.2</b>	<b>555.0</b>		<b>300.3</b>	<b>252.4</b>	
<b>Net Water Surplus</b>						<b>47.9</b>	<b>mm</b>			

**Table D-16b: 2017 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-5.0	0.0	0.0	0.8	0.0	86.0	63.0	86.0	0.0	
February	-3.3	0.0	0.0	0.8	0.0	44.0	107.0	0.0	0.0	
March	-3.4	0.0	0.0	1.0	0.0	55.0	150.0	12.0	0.0	
April	6.1	1.4	31.0	1.1	34.7	134.0	150.0	99.3	0.0	
May	9.9	2.8	50.4	1.3	64.0	132.0	150.0	68.0	0.0	
June	16.0	5.8	81.4	1.3	104.2	131.0	150.0	26.8	0.0	
July	18.2	7.0	92.7	1.3	120.5	58.0	87.5	0.0	0.0	
August	16.7	6.2	85.0	1.2	102.0	66.0	51.5	0.0	0.0	
September	15.8	5.7	80.4	1.0	83.6	88.0	55.9	0.0	0.0	
October	10.5	3.1	53.4	1.0	50.7	90.0	95.1	0.0	0.0	
November	0.0	0.0	0.1	0.8	0.0	89.0	150.0	34.1	0.0	
December	-7.9	0.0	0.0	0.8	0.0	46.0	150.0	46.0	0.0	
<b>Total</b>	<b>6.1</b>	<b>31.9</b>			<b>559.8</b>	<b>1019.0</b>		<b>372.2</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>372.2</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the WAI station located at the main quarry, elevation approx. 520 masl



**Table D-17b: 2018 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-8.4	0.0	0.0	0.8	0.0	59.5	150.0	59.5	0.0	
February	-5.1	0.0	0.0	0.8	0.0	62.8	150.0	62.8	0.0	
March	-4.3	0.0	0.0	1.0	0.0	22.5	150.0	22.5	0.0	
April	-0.5	0.0	0.0	1.1	0.0	103.7	150.0	103.7	0.0	
May	14.9	5.2	74.2	1.3	94.2	76.2	132.0	0.0	0.0	
June	16.7	6.2	83.5	1.3	106.9	43.6	68.7	0.0	0.0	
July	20.3	8.3	102.3	1.3	133.0	44.9	0.0	0.0	19.4	
August	19.9	8.1	100.2	1.2	120.3	84.2	0.0	0.0	36.1	
September	15.5	5.5	77.3	1.0	80.4	22.4	0.0	0.0	58.0	
October	5.9	1.3	28.3	1.0	26.9	104.6	77.7	0.0	0.0	
November	-2.0	0.0	0.0	0.8	0.0	66.4	144.1	0.0	0.0	
December	-3.5	0.0	0.0	0.8	0.0	65.4	150.0	59.5	0.0	
<b>Total</b>	<b>5.8</b>	<b>34.5</b>			<b>561.6</b>	<b>756.2</b>		<b>308.0</b>	<b>113.4</b>	
<b>Net Water Surplus</b>						<b>194.6</b>	<b>mm</b>			

**Table D-18b: 2019 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-10.4	0.0	0.0	0.8	0.0	38.4	150.0	38.4	0.0	
February	-8.3	0.0	0.0	0.8	0.0	16.0	150.0	16.0	0.0	
March	-5.6	0.0	0.0	1.0	0.0	33.0	150.0	33.0	0.0	
April	2.7	0.4	14.3	1.1	16.0	127.9	150.0	111.9	0.0	
May	9.4	2.6	48.7	1.3	61.9	96.1	150.0	34.2	0.0	
June	15.5	5.5	79.7	1.3	102.0	53.9	101.9	0.0	0.0	
July	20.4	8.4	104.4	1.3	135.7	24.0	0.0	0.0	9.8	
August	17.8	6.8	91.3	1.2	109.5	17.2	0.0	0.0	92.3	
September	14.6	5.0	75.1	1.0	78.1	73.7	0.0	0.0	4.4	
October	7.8	2.0	40.6	1.0	38.5	89.1	50.6	0.0	0.0	
November	-2.4	0.0	0.0	0.8	0.0	62.8	113.4	0.0	0.0	
December	-3.9	0.0	0.0	0.8	0.0	28.1	141.5	0.0	0.0	
<b>Total</b>	<b>4.8</b>	<b>30.7</b>			<b>541.8</b>	<b>660.2</b>		<b>233.5</b>	<b>106.6</b>	
<b>Net Water Surplus</b>						<b>127.0</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the WAI station located at the main quarry, elevation approx. 520 masl

**Table D-19b: 2020 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-4.8	0.0	0.0	0.8	0.0	50.7	150.0	50.7	0.0	
February	-6.6	0.0	0.0	0.8	0.0	34.1	150.0	34.1	0.0	
March	-0.4	0.0	0.0	1.0	0.0	82.2	150.0	82.2	0.0	
April	2.6	0.4	15.5	1.1	17.3	36.1	150.0	18.8	0.0	
May	9.7	2.7	53.0	1.3	67.3	78.5	150.0	11.2	0.0	
June	17.7	6.7	92.7	1.3	118.7	84.9	116.2	0.0	0.0	
July	21.1	8.8	109.0	1.3	141.8	99.9	74.4	0.0	0.0	
August *	18.7	7.3	97.5	1.2	117.0	47.7	5.1	0.0	0.0	
September *	0.0	0.0	0.1	1.0	0.1	0.0	5.0	0.0	0.0	
October *	5.4	1.1	30.6	1.0	29.1	61.3	37.2	0.0	0.0	
November *	1.3	0.1	8.3	0.8	6.7	7.2	37.7	0.0	0.0	
December *	-3.5	0.0	0.0	0.8	0.0	6.7	44.4	0.0	0.0	
<b>Total</b>	<b>5.1</b>	<b>27.2</b>			<b>498.0</b>	<b>589.3</b>		<b>197.0</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>197.0</b>	<b>mm</b>			

**Table D-20b: 2021 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-5.7	0.0	0.0	0.8	0.0	2.0	150.0	2.0	0.0	
February	-8.4	0.0	0.0	0.8	0.0	20.7	150.0	20.7	0.0	
March	0.1	0.0	0.7	1.0	0.8	41.1	150.0	40.3	0.0	
April	5.4	1.1	27.5	1.1	30.7	51.7	150.0	21.0	0.0	
May	11.3	3.4	57.6	1.3	73.2	30.8	107.6	0.0	0.0	
June	19.4	7.7	98.7	1.3	126.4	78.3	59.5	0.0	0.0	
July	14.2	4.9	72.4	1.3	94.1	134.9	100.3	0.0	0.0	
August	18.2	7.0	92.4	1.2	110.9	60.5	49.9	0.0	0.0	
September	14.2	4.8	72.1	1.0	75.0	192.4	150.0	17.3	0.0	
October	10.3	3.0	52.3	1.0	49.7	82.1	150.0	32.4	0.0	
November	-1.8	0.0	0.0	0.8	0.0	47.9	150.0	47.9	0.0	
December	-1.8	0.0	0.0	0.8	0.0	65.9	150.0	65.9	0.0	
<b>Total</b>	<b>6.3</b>	<b>32.0</b>			<b>560.8</b>	<b>808.3</b>		<b>247.5</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>247.5</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the WAI station located at the main quarry, elevation approx. 520 masl
- \* 2020 data not available from Aug 21 to Oct 8 and Nov 4 to Dec 17

**Table D-21b: 2022 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-10.8	0.0	0.0	0.8	0.0	1.5	150.0	1.5	0.0	
February	-7.6	0.0	0.0	0.8	0.0	38.9	150.0	38.9	0.0	
March	-2.0	0.0	0.0	1.0	0.0	50.2	150.0	50.2	0.0	
April	3.7	0.6	17.5	1.1	19.6	46.8	150.0	27.2	0.0	
May	14.2	4.8	70.3	1.3	89.3	38.0	98.7	0.0	0.0	
June	16.7	6.2	83.6	1.3	107.0	83.2	75.0	0.0	0.0	
July	19.0	7.5	95.3	1.3	123.9	40.3	0.0	0.0	8.7	
August	19.2	7.6	96.3	1.2	115.6	79.2	0.0	0.0	36.4	
September	14.8	5.2	73.6	1.0	76.5	77.9	1.4	0.0	0.0	
October	8.8	2.3	42.5	1.0	40.4	37.5	0.0	0.0	1.5	
November	3.2	0.5	14.9	0.8	12.1	47.4	35.3	0.0	0.0	
December	-3.2	0.0	0.0	0.8	0.0	36.5	71.8	0.0	0.0	
<b>Total</b>	<b>6.3</b>	<b>34.8</b>			<b>584.3</b>	<b>577.4</b>		<b>117.8</b>	<b>46.6</b>	
<b>Net Water Surplus</b>						<b>71.3</b>	<b>mm</b>			

**Table D-22b: 2023 Water Budget**

Month	Mean Temperature °C	I	E mm	Daylight Factor	E Adj. mm	Total Precipitation mm	WHC mm	Surplus mm	Deficit mm	
January	-3.6	0.0	0.0	0.8	0.0	30.1	150.0	30.1	0.0	
February	-5.0	0.0	0.0	0.8	0.0	33.3	150.0	33.3	0.0	
March	-2.3	0.0	0.0	1.0	0.0	52.2	150.0	52.2	0.0	
April	6.4	1.4	31.3	1.1	35.0	101.9	150.0	66.9	0.0	
May	11.7	3.6	58.3	1.3	74.1	50.3	126.2	0.0	0.0	
June	17.0	6.3	85.5	1.3	109.4	157.1	150.0	23.9	0.0	
July	19.1	7.6	96.4	1.3	125.3	139.9	150.0	14.6	0.0	
August	16.9	6.3	85.0	1.2	102.0	99.0	147.0	0.0	0.0	
September	15.6	5.6	78.4	1.0	81.5	34.0	99.5	0.0	0.0	
October	9.7	2.7	48.1	1.0	45.7	76.0	129.8	0.0	0.0	
November	0.8	0.1	3.9	0.8	3.1	78.4	150.0	55.0	0.0	
December	-0.2	0.0	0.0	0.8	0.0	53.7	150.0	53.7	0.0	
<b>Total</b>	<b>7.2</b>	<b>33.6</b>			<b>576.3</b>	<b>905.9</b>		<b>329.6</b>	<b>0.0</b>	
<b>Net Water Surplus</b>						<b>329.6</b>	<b>mm</b>			

Notes: • calculations based on Thornthwaite Mather Method

- °C calculated mean of daily temperatures for the month, in degrees Celcius
- I denotes Heat Index
- E denotes Evapotranspiration
- WHC denotes Water Holding Capacity
- A value of 150 mm was used for the water holding capacity of the soils
- Temperature and precipitation data from the WAI station located at the main quarry, elevation approx. 520 masl