Predicting the frequency of dangerously warm epilimnion temperatures of Stoney Creek's Off-Channel Pond.

An ecological restoration post project appraisal of the Stoney Creek off-channel habitat improvement project.

Melvin Pan
Environmental Science 205 – Methods in Environmental Science
Professor Thomas Rodengen
Teaching Assistant Catherine Parsons

Abstract

Among the many water quality indices which influence fish distribution, water temperature is one of the most important parameter (Richter and Kolmes, 2005). In lake and coastal ecosystems, diurnal temperature cycles are regularly disturbed by seasonal and anthropogenic changes in the environment (Konecki et. al, 1995). Seasonal changes such as strong summer solar radiation can cause lakes, streams, and ponds to heat up; anthropogenic changes such as deforestation of streamside vegetation can as well increase radiation incident on surface waters (Konecki et. al, 1995). One of the many concerns associated with hotter summer weather is thermal stratification, a phenomenon which is known to negatively affect species assemblages at the population level (Carter, 2005).

In order to protect native fish species from thermal stratification in Stoney Creek's pond, this appraisal's purpose is to predict summer epilimnion temperatures so that mitigative actions may be taken beforehand. From 6 hours of semi-continuous air-water temperature monitoring in the off-channel pond, three linear equations representing the air-water interface were derived from simple regression. The three models were based off of three individual sites along the pond, each varying in shade and depth. Results indicated that shade and depth are negligible variables when considering surface water temperatures, thus two of the three models were disregarded. Model 1 found that air temperatures of 27.3^{o}C or higher above the off-channel pond correlate with dangerously warm pond temperatures (in respect to salmonids). 7 years of climate records were then sifted through to find the proportion of summer days exceeding the predicted critical air temperatures. Climate records expect 2.6 days in June, 6.1 days in July, and 6.3 days in August to have dangerously warm water temperatures (Glenayre Climate Station 2004-2010).

Introduction

During the hotter months of the year – when solar irradiance is strongest – lakes and ponds are prone to thermal stratification (Konecki et. al, 1995). At peak daytime temperatures, the occurrence of this phenomenon can cause a collection of adverse effects to fish, including weight loss, disease, and competitive displacement by other species (Richter and Kolmes, 1995; Carter 2005). Water temperature as well serves to affect species assemblages at the population level: severely limited fish distribution and mass mortality are common symptoms of seasonal and anthropogenic changes in water temperature (Richter and Kolmes 2005; Mathews and Berg 1992). In extreme cases, pond night-time temperatures can fail to drop below the temperature threshold, and thermal stratification can occur throughout the night (Nickelson et. a, 1992).

The lentic ecosystem of this appraisal's concern is an off-channel pond located in Stoney Creek, Burnaby, British Columbia. From field inspections, two sites along Stoney Creek's pond were observed to be abundantly populated with fries. Because it has been shown that Coho fry have a strong affinity for off-channel habitats during the spring, it was presumed that the observed fish were mainly Coho (Lestelle, 2007). There have as well been many other studies documenting the significant benefits which Coho salmons gain from inhabiting off-channel habitats. Swales and Levings (1989) compared population densities and growth rates between Coho salmons living in ponds and in rivers**;** they discovered a considerably larger population of Cohos with higher growth rates in ponds relative to the river-Cohos. Research in Coho body morphology as well presents evidence of adaptations to slow water velocity habitats (Lestelle 2007). The off-channel pond located in Stoney Creek holds an ecological importance to the native salmonids; predicting and maintaining temperature levels will be a crucial task.

Methods

With the presumption that "surface water temperature may be dependent on shade and depth", the heterogeneous spatial distribution of these two variables along the pond presented an issue. The original plan was to create only one equation, derived from only one set of air-water temperature values, collected at an arbitrary site along the pond. But because the water temperature may be affected by the site's shade and depth, the full applicability of the model came into question. For example (as seen in figure 1), if data was collected at a site with deep waters and plentiful shade, would it be applicable to regions of the pond which are shallow and void of shade? To counter this problem, three equations based off of data from three different sites (each varying in depth and shade) were created.

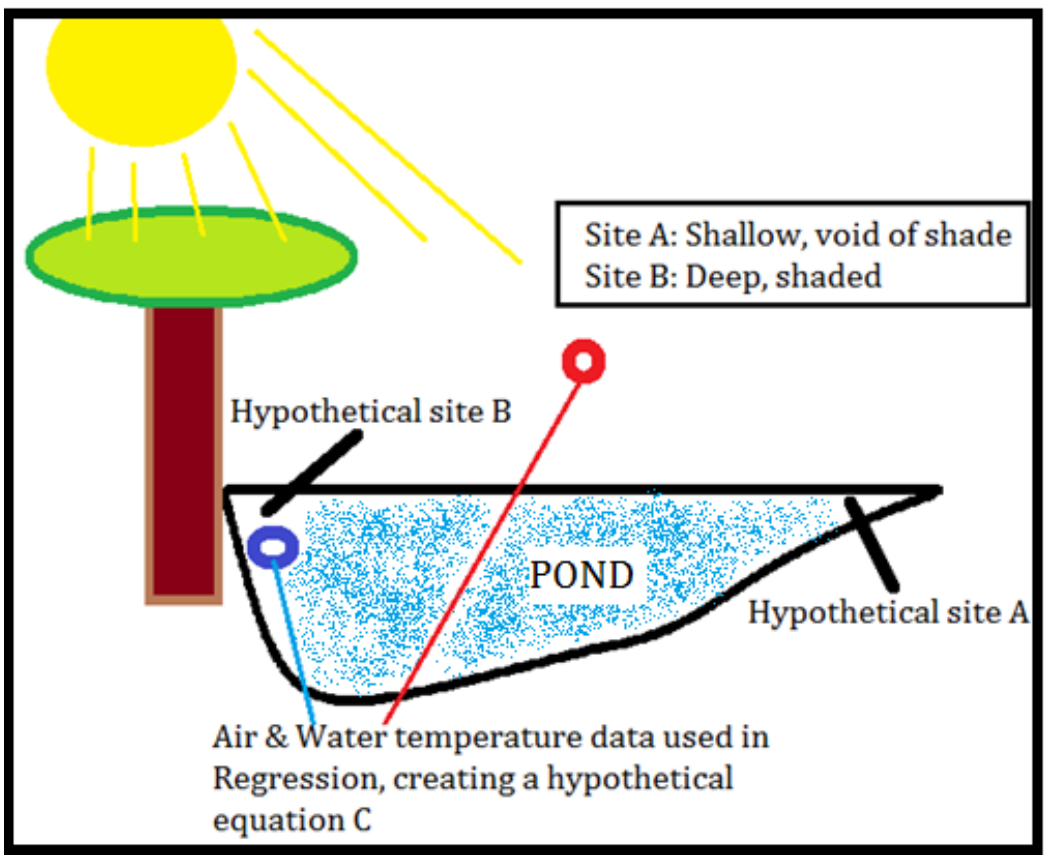

Figure 1: Rhetorical question: If the water temperature collected at site B was used in a simple regression, creating equation C, would this equation be able to predict the air-water interface over site A?
Note that both site A and B differs in shade and depth, two variables which may possible affect the water temperature data.

On March 31st, 42 water temperature readings were collected at sites A, B, and C, with 15 near-simultaneous air temperatures taken at Site A. The approximate locations of the three sites can be seen in figure 1. The peak air temperature was 22°C at 4pm, the sky had no cloud cover, and the wind was calm. Temperature was taken with a Fisherbrand Red-Spirit No-Roll Laboratory thermometer: every reading was purposely shaded from solar radiation. Any abrupt changes in temperature were double and triple checked for possible mistakes. After data compilation, temperature change over time graphs and scatter plots with trend lines were created for each site. Because water temperature rises and falls in a cyclic fashion, "falling" data points were not used in the scatter plots. A regression was then performed on Microsoft Excel on the data collected from each of the three sites. This led to the creation of three individual linear equation models. All work done can be seen on Appendix A.

Site A is shallow and largely void of shade (10am-4pm), site B is deep and moderately shaded (12:30-1:45pm), and site C is shallow, but enjoys a lot of shade (from 12:30-3:00pm). Each of the three sites varies in depth and shade. Here, another assumption was taken: "if equation 1 is based off of data collected from site A with features X, Y, Z, then the same equation can be applied to all regions of the pond with similar X, Y, Z characteristics, thus improving the model's applicability." By this assumption, Model 1 represents shallow regions of the pond with no shade, model 2 represents deeper regions of the pond with moderate shade, and model 3 represents shallow regions of the pond with plentiful shade. But as we will see in the conclusion, model 2 and 3 will be disregarded. The photos for the three sites are in Appendix A; it will be helpful to look at sites B and C.

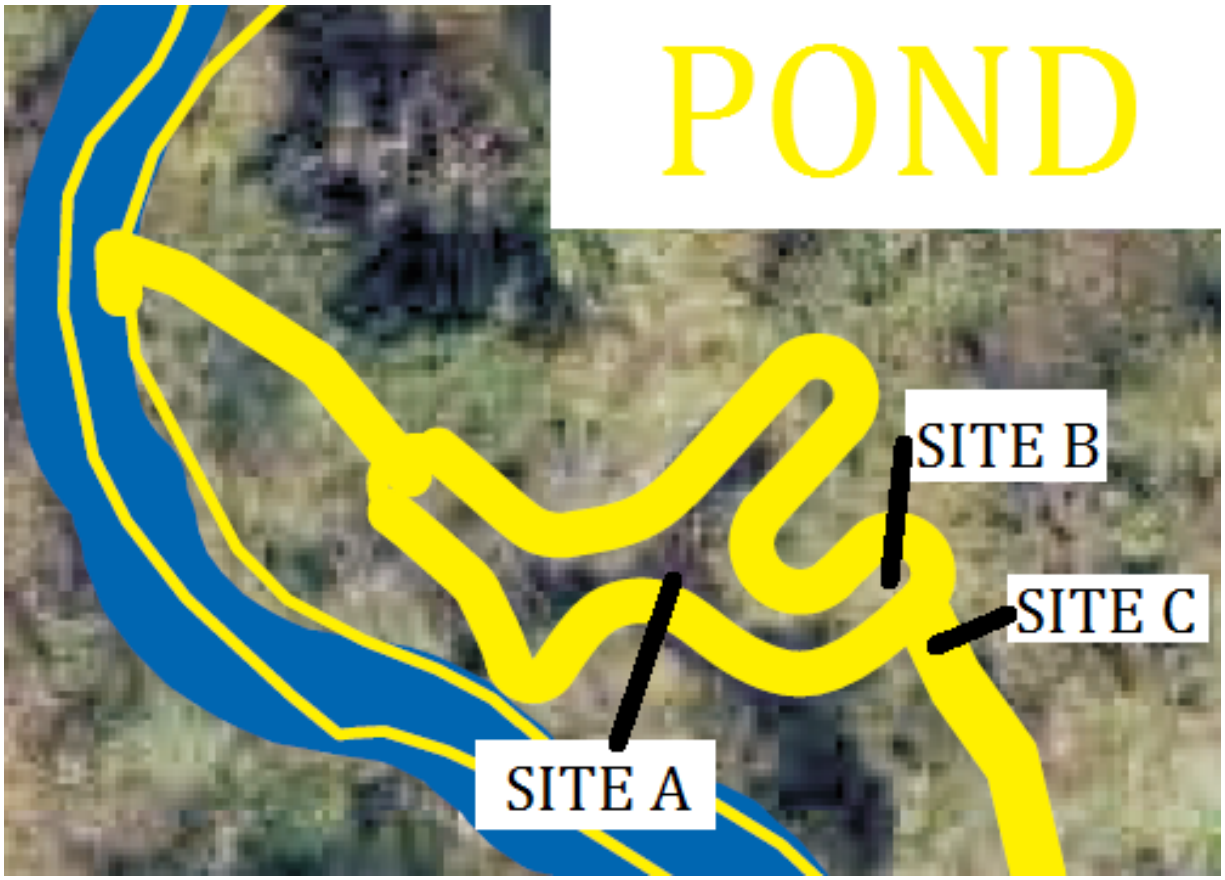

Figure 2: rough locations of the three sites. The yellow lines are the outline of the off-channel pond; the blue line is the outline of the stream's location.

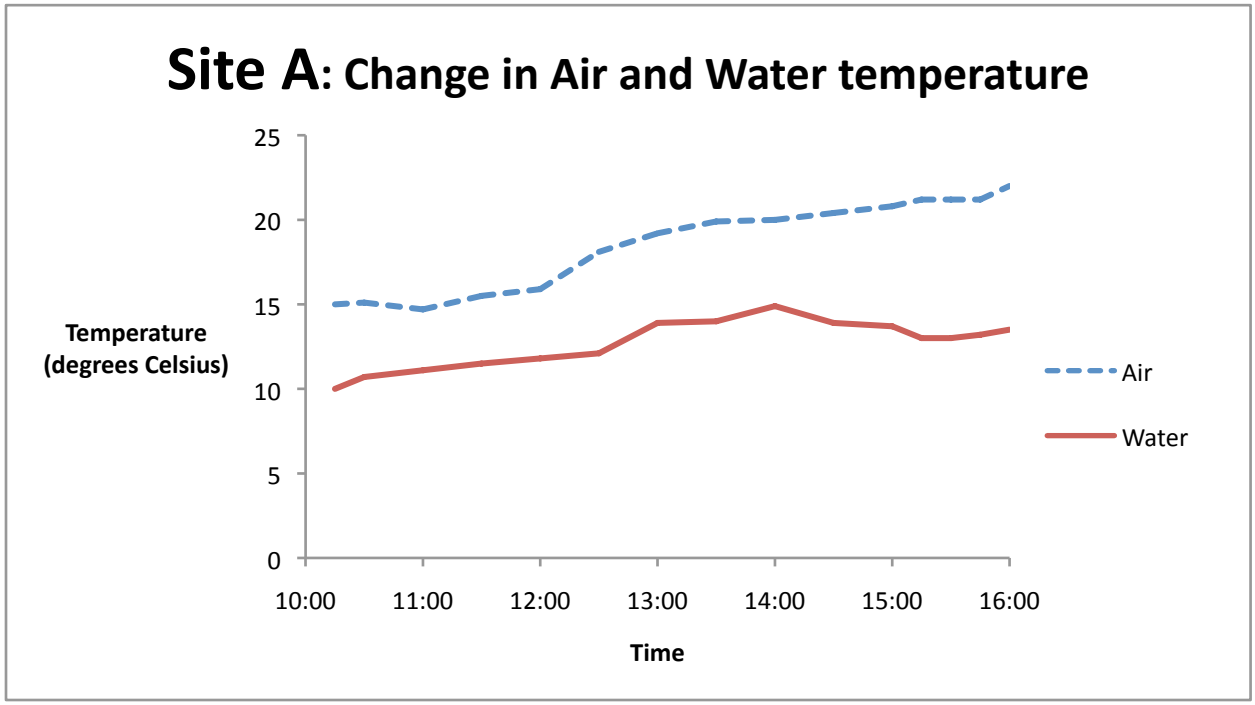

Figure 3: Change in air and water temperature in the pond from 10am to 4pm in Site A. Note the strange anomaly at 2:30pm and onwards, where water temperature decreases despite rising air temperatures. The data points behind this anomaly will be eliminated due to being "falling" points.

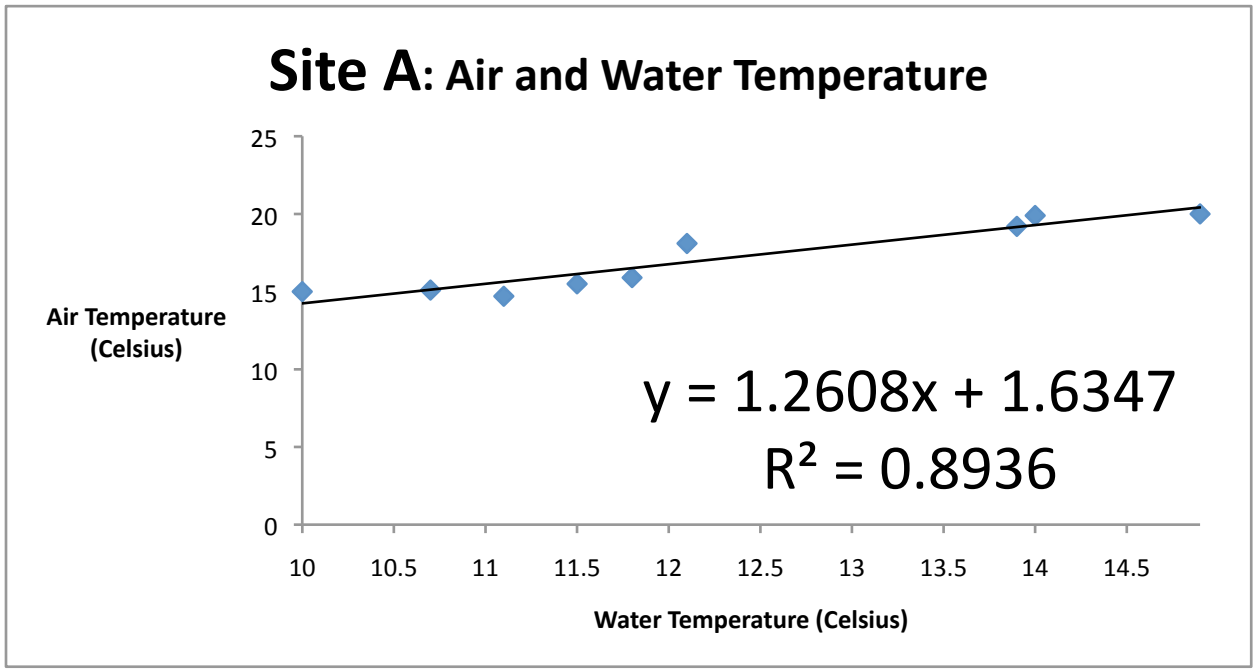

Figure 4: Scatter plot between water temperature and air temperature for site A. 9 data sets were used.

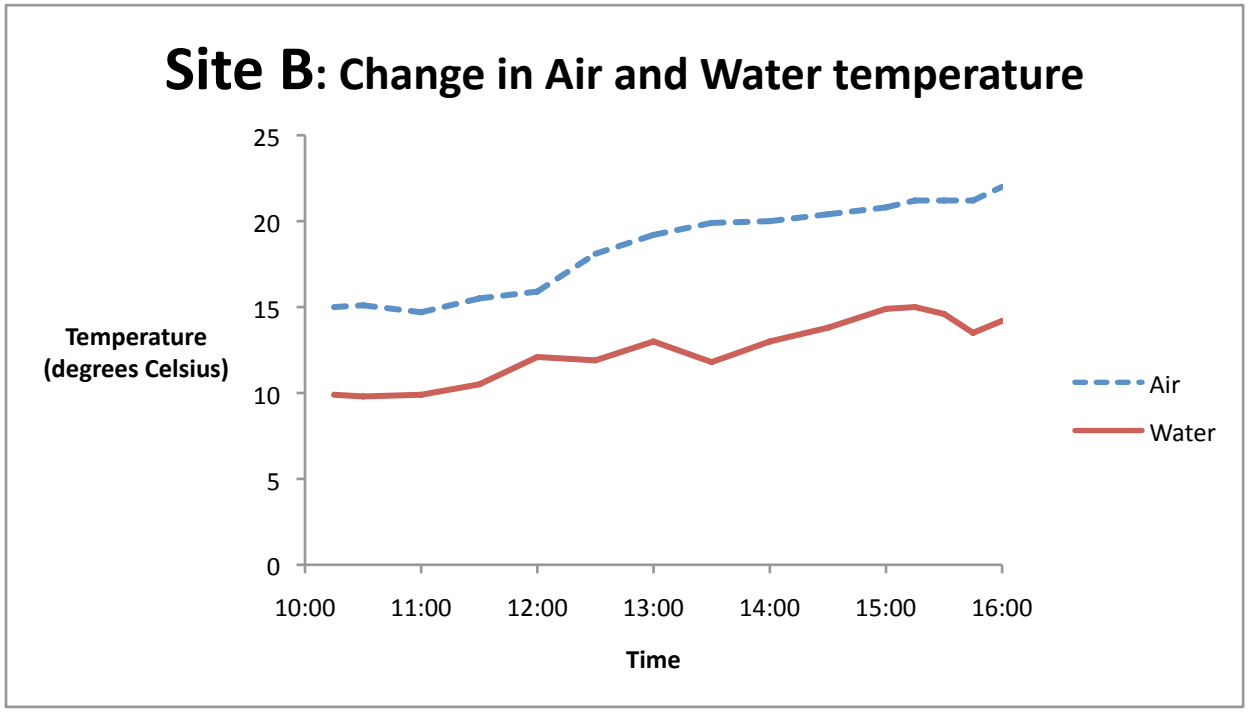

Figure 5: Change in air and water temperature in the pond from 10am to 4pm in Site B. Note the "fall points" after 3:15pm. These 3 data points will be eliminated.

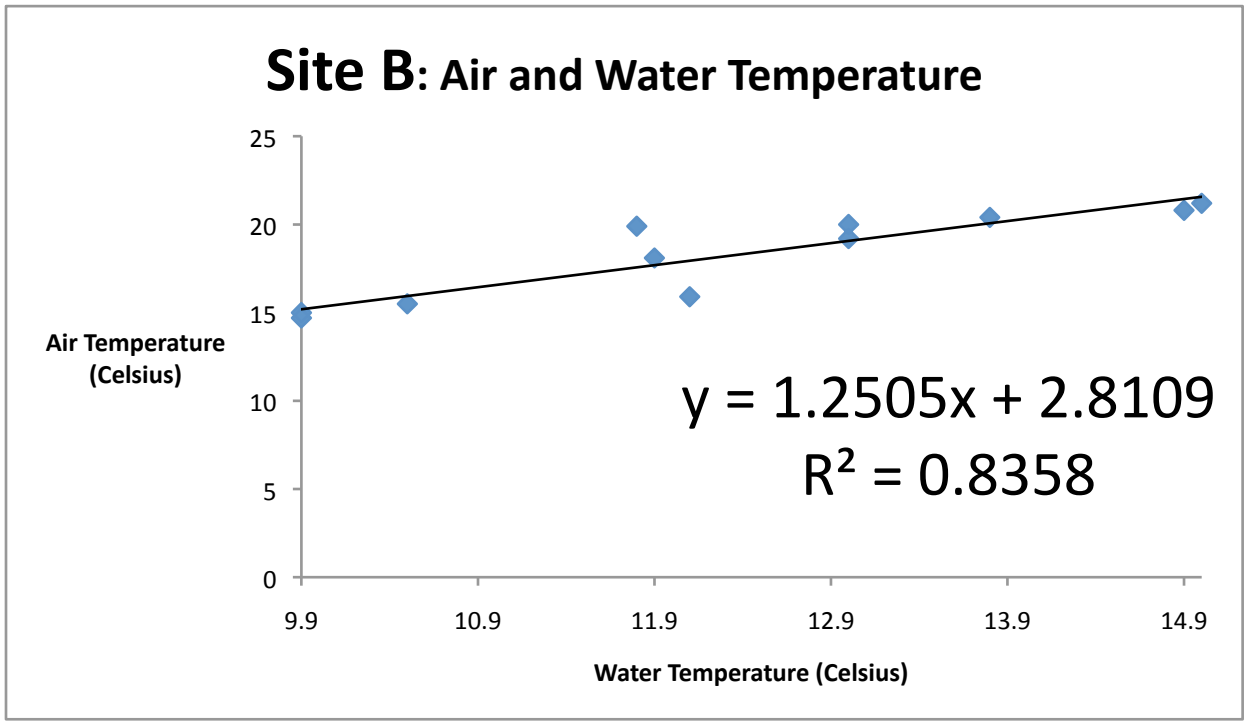

Figure 6: Scatter plot between water temperature and air temperature for site B. 9 data sets were used.

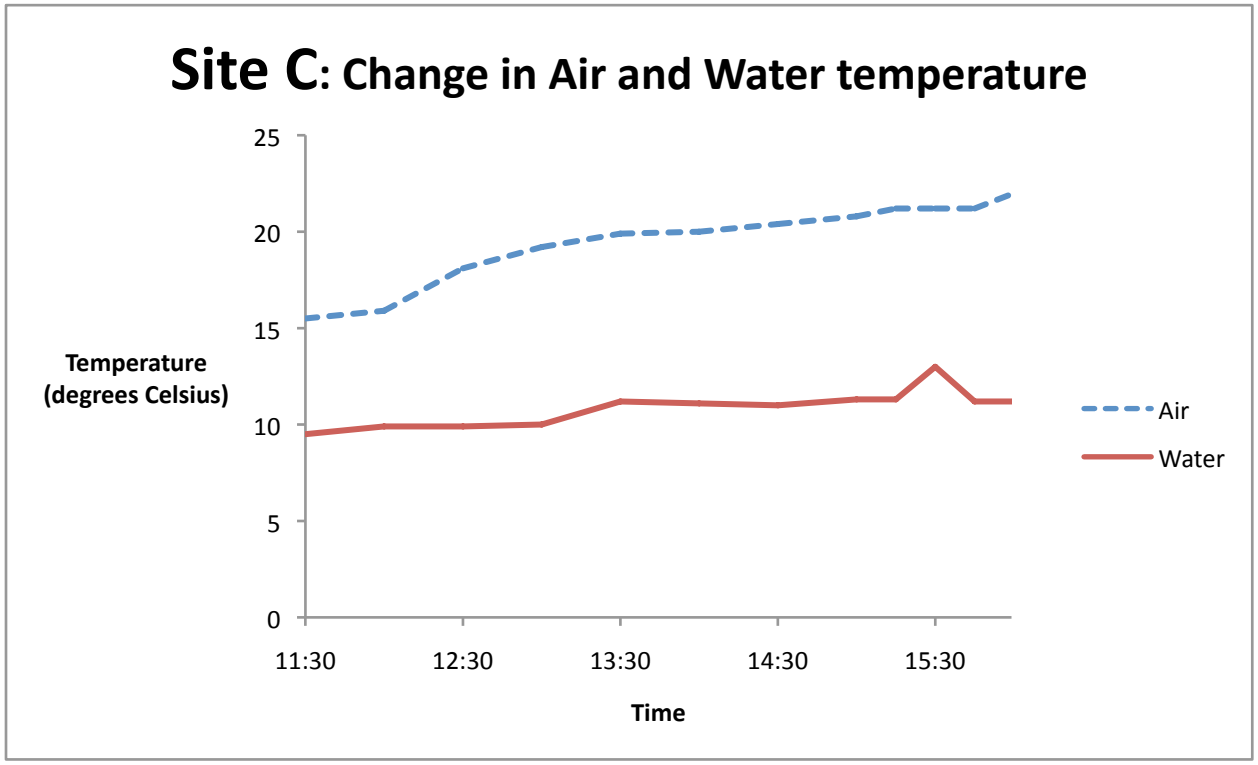

Figure 7: Change in air and water temperature in the pond from 11:30am to 4pm in Site C. A total of 12 water temperature observations, and all will be used (including the spike seen at 3:30pm).

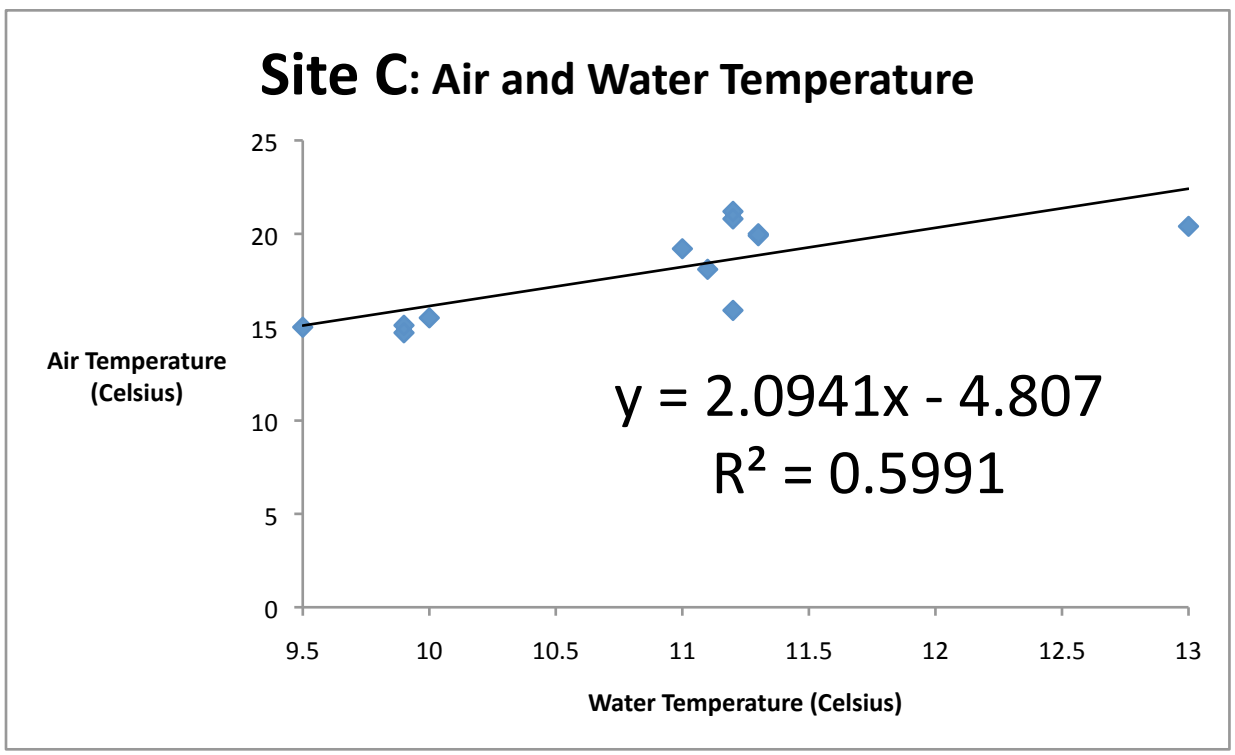

Figure 8: Scatter plot between water temperature and air temperature for site C. 12 observations were used.

Results and Discussion

Three regression models have each been derived from the three sites:

Site A: $\mathbf{T_{air} = 1.26 * T_{water} + 1.63}$ (standard error .78 ^{o}C) (1)

Site B: $\mathbf{T_{air} = 1.25 * T_{water} + 2.81}$ (standard error 1.1 ^{o}C) (2)

Site C: $\mathbf{T_{air} = 1.76 * T_{water} + 0.51}$ (standard error 1.4 ^{o}C) (3)

On Microsoft excel, these three models were derived from performing a regression on the collected air-water temperature data. The work done can be seen in appendix A; each site's linear equation as well coincides with their respective scatter plot's trendline. Each of the equations work by inputting an arbitrary water temperature (T_{water}), and the output would be the corresponding pond's air temperature (T_{air}). For example, if the temperature of water is 10 ^{o}C at any time of the day, the air temperature over site A would be 1.26*10.0+1.63=14.2 ^{o}C.Although problems such as thermal stratification cannot be neglected, this appraisal's ultimate concern is the native salmonids which inhabit the pond. From exhaustive studies in both laboratory and field conditions, the Washington Department of Ecology (2002) concluded that temperatures of 21.0-26.0^{o}C present detrimental harm to Coho growth (as cited in Carter, 2005). Inserting T_{water} as 21.0^{o}C in the equations yields three predicted daily critical maximum air temperatures (table 1). To account for standard error, each critical air temperature will then be adjusted to the lower value. It should also be noted that the U.S. Environmental Protection Agency cited in 1999 that temperatures from 22.0-24.0^{o}C completely eliminates salmonids from a location (as cited in Carter 2005). Hence, T_{water} as 21.0^{o}C is a reasonable input for both Coho and other salmonids.

	Site A (^{o}C)	**Site B (^{o}C)**	**Site C (^{o}C)**
T_{water} = 21.0 ^{o}C	28.1	29.1	37.5

Adjustment for Std. Error	27.3	28.0	36.1

Table 1. Predicted *daily* maximum air temperatures which are expected to cause acute effects to Coho salmons.

Prior to performing fieldwork, it was presumed that surface water temperature was dependent on shade and depth. And because of this, 3 different models - each based off of data retrieved from sites varying in these 2 attributes - were created. But despite the initial presumption, equations 1 and 2 calculated very similar outputs (27.3-28.0 = -0.7^{o}C difference). Because the equations were each based off of sites vastly differing in depth and shade but still gave similar outputs, these two variables are negligible. Upon this finding, the peculiar 8.8^{o}C difference in predicted critical air temperatures between equation 1 and 3 may not be due to depth or shade. Because site C requires a much higher critical air temperature, this implies that it can remain colder than sites A and B. **Site C's strong resilience to increases in temperature may be due to pond structure and not shade/depth**. Referring to figure 8, the onset of shade starts at 12:30pm in site C, however, prior to the onset, site C *already* shows much colder temperatures than sites A and B. Furthermore, because site C is connected to a miniature tributary (which acts to transport water from the pond to the stream), water that flows through site C has to first flow through the beaver box. As seen from figure 8, a cross-sectional view of sites B, C, and the beaver box, there is a tube which may act as a cooling mechanism. Since solar radiation cannot penetrate the tube, the tube's water is most likely much cooler than sites B and C's water. And because the miniature stream transports very little water, site C *should* have a relatively long residence time; this implies that water flowing through the cooling tube may also have a long residence time. This extended length of time spent inside the tube may mean a longer

cooling period for the water inside the tube, and a stronger cooling effect. **(Note that this is just speculation, and there is no direct evidence of this process). Upon this finding, it can be said that equation 1 represents most of the pond's surface waters, regardless of depth and shade; and equation 3 represents *only* site C.**

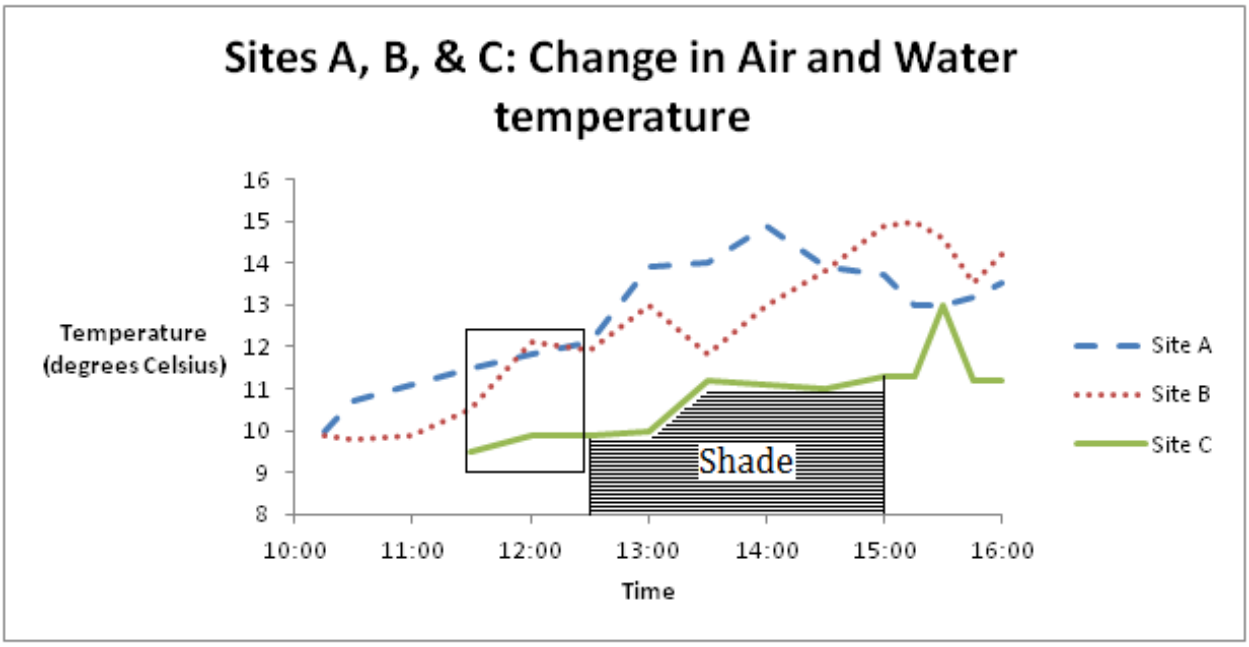

Figure 9: contrasting the different temperatures between site C to sites A and B. As seen from the square box above 12:00pm, site C is already much cooler than site B and C prior to the onset of shade. Note that the Y axis does not start from 0, and has been altered to underline the difference between the three data sets.

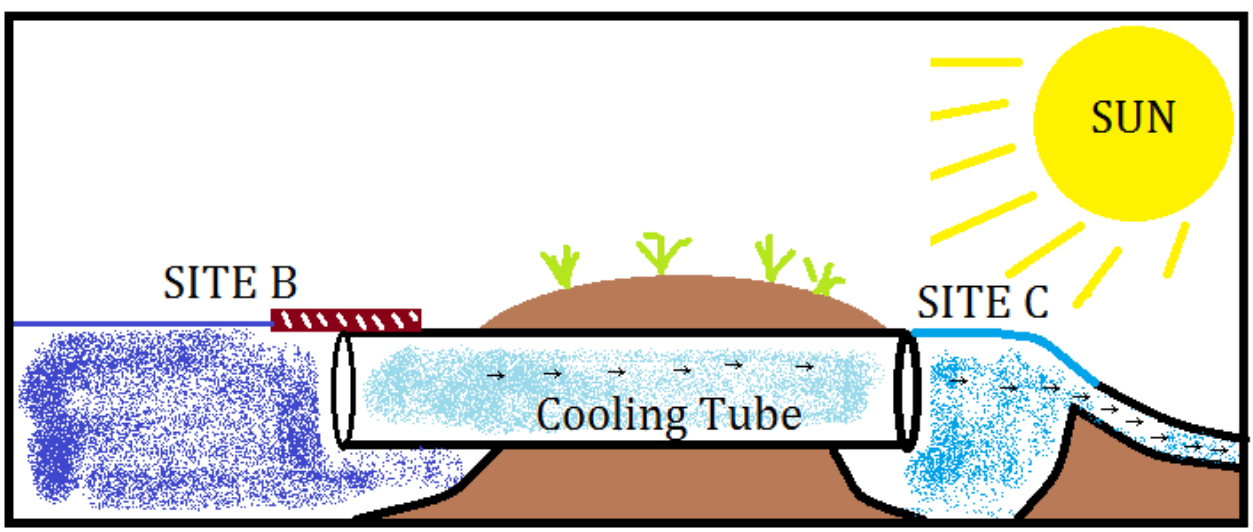

Figure 10: cross sectional view of sites B, C, and the beaver box. The arrow indicates the direction of water. The water in the cooling tube is protected from solar radiation, and stays cold. When this cold water moves from the tube to site C, it acts to cool down site C's water as well.

Using equation 1 as the official model of the off-channel pond, 7 years of climate records (2004-2010) were then sifted through to find the average proportion of days exceeding its predicted critical air temperature.

	June	July	August
Site A and B: Days with $T_{air} \geqslant 27.0\ ^{o}C$	2.6 days/month	6.1 days/month	6.3 days/month

Table 2: (Adapted from Glenayre Climate station 2004-2010). The proportion of days in which maximum daily $T_{air} \geqslant 27.0$. Note that 27.0 was used instead of 27.3 for simplicity. Lowering Sites A and B's temperature threshold also accounts for days with maximum temperatures *near* the critical value. Work shown in Appendix C, and climate records in appendix D.

Therefore, the critical air temperature of Stoney Creek's off-channel pond is 27.3^{o}C, and 2.6 days in June, 6.1 days in July, and 6.3 days in August are expected to have water temperatures near or exceeding sub-lethal (21.0 ^{o}C) levels in respect to salmonids.

Conclusion

Due to Site C's relative location to the beaver box and cooling tube, equation 3 may only represent site C, and not any other region of the pond. Despite the narrow applicability of this model, it is still extremely useful. In figure 8, it can be shown that the beaver box's tube is the reason for site C's resilience to temperature increases. Since results have established that depth and shade are negligible factors when considering surface water temperatures, mitigative actions should not focus on increasing depth or pond-side vegetation/canopy cover. Instead, equation 3 proves the usefulness of tubes as cooling mechanisms; and placing more tubes in the pond to act as thermal refuges may work very well. In fact, fish species are known to regulate their body temperature via behavioural means (Richter and Kolmes, 2005).

Although this appraisal has found issues with the pond's summer temperature levels,

some assumptions and counter arguments should be taken into consideration before carrying out any mitigative actions:

Model Assumption / Counter Arguments	Justification
This regression model assumes that the ratio and difference between the air-water interface remains constant between spring and summer.	Although it may be hard to justify this assumption, factors which influence the air-water interface were taken into consideration. Temperature relies primarily on solar radiation, cloud cover, and wind speed (Ahrens, 2012). Environments which encourage solar radiation are clear skies and calm winds (Ahrens, 2012). To assume this constant ratio of the air-water interface, data was collected on a day resembling a hot summer day. On March 31st, the day of data collection: the maximum temperature reached was a hot 22.0°C, the sky was completely clear of any clouds, and the wind was calm (throughout the day). The only possible difference is the increased solar elevation of the sun (Ahrens, 2012). Because data collection was carried out on a day with an environment resembling a hot summer day, this assumption is reasonable.
As mentioned in the results, equation 1 can be used to represent the entire pond, but only 9 data sets were used. Furthermore, data collection only reached up to a maximum air temperature of 22.0°C, yet the predicted critical air temperature value is 27.0 °C. This 5°C difference may be crucial.	Although the data size is small, figure 2 (a scatter plot for equation 1) shows a high R^2 value of .89, and low spread across the trendline. The small data size is partially offset by the low variance and high R^2 value. For the 5.0°C difference, there will always be confounding factors. It would have been better to have more data sets, but cold weather did not permit. The goal in mind when collecting data was to have a day as similar as possible to a hot summer day where thermal stratification may occur; data coming from cold cloudy days may taint data from hot warm days.

Although the abstract and introduction talks about thermal stratification, this model cannot quantitatively measure the thermal vertical profile of the pond's water column. The hypolimnion may still be capable of acting as a cool thermal refuge from the hot epilimnion temperatures. Furthermore, intraspecific competition for these refuges may not be a big deal, since salmonids are able to group up in schools (Observations from fieldwork).	From observations, the pond's depth ranges at a mean of 1-2.5 metres. This shallow depth may not be enough to allow a cool hypolimnion. The best solution to this counter argument would be to test for hypolimnion temperatures in a deep region of the pond (easily done so with competent equipment, and the beaver box allows one to not disrupt the vertical profile)
Regarding this method of predicting temperatures (simple linear regression method), has it been done before?	Past investigations concerning the air-water interface in inland streams have already been pioneered (Mohensi et al. 1998, 1999, 2002)[3]. In fact, as a response to climate change, researchers such as Pilgrim et al (1995) and Stefan and Preud'homme (1993) have already delved into the world of air-water temperature relationships using the linear equation : $$\mathbf{T_{water}(t) = A*T_{air}(t) + B}$$ This equation was originally proposed by Smith in 1981 (as cited in Pilgrim et. al, 1995). There are still many contrasts between this paper and Pilgrim's et. al's (1995). Data input size, variables, and methods are exceptionally different. But the idea of using linear regression with air and water temperatures is not new.

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Appendix A:

Site A

Site B

Site C

Appendix B:

Site A

SUMMARY OUTPUT								
							Site A	
							x	y
Regression Statistics							Water Temperature	Air Temperature
Multiple R	0.945321679						10	15
R Square	0.893633078						10.7	15.1
Adjusted R Square	0.878437803						11.1	14.7
Standard Error	0.777692547						11.5	15.5
Observations	9						11.8	15.9
							12.1	18.1
ANOVA							13.9	19.2
	df	SS	MS	F	Significance F		14	19.9
Regression	1	35.56858234	35.56858	58.80993262	0.000119282		14.9	20
Residual	7	4.233639885	0.604806					
Total	8	39.80222222						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 50.0%	Upper 50.0%
Intercept	1.63466084	2.026074596	0.806812	0.446317011	-3.156244286	6.425565966	-3.156244286	6.425565966
Water Temperature	1.260800477	0.164407272	7.668763	0.000119282	0.872039054	1.649561899	0.872039054	1.649561899

Site B

SUMMARY OUTPUT								
							Site B	
							x	y
Regression Statistics							Water Temperature	Air Temperature
Multiple R	0.914209234						9.9	15
R Square	0.835778523						9.8	15.1
Adjusted R Square	0.819356376						9.9	14.7
Standard Error	1.086296825						10.5	15.5
Observations	12						12.1	15.9
							11.9	18.1
ANOVA							13	19.2
	df	SS	MS	F	Significance F		11.8	19.9
Regression	1	60.05625875	60.05626	50.8933752	3.16462E-05		13	20
Residual	10	11.80040792	1.180041				13.8	20.4
Total	11	71.85666667					14.9	20.8
							15	21.2
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 65.0%	Upper 65.0%
Intercept	2.810874848	2.149787771	1.307513	0.220300227	-1.979150809	7.600900505	-1.979150809	7.600900505
Water Temperature	1.250477348	0.175285181	7.133959	3.16462E-05	0.859917625	1.64103707	0.859917625	1.64103707

Site C

(EXPLANATION BELOW)

SUMMARY OUTPUT								
							Site C	
							x	y
Regression Statistics							Water Temperature	Air Temperature
Multiple R	0.788364121						9.5	15.5
R Square	0.621517987						9.9	15.9
Adjusted R Square	0.583669786						9.9	18.1
Standard Error	1.357322467						10	19.2
Observations	12						11.2	19.9
							11.1	20
ANOVA							11	20.4
	df	SS	MS	F	Significance F		11.3	20.8
Regression	1	30.25342388	30.25342	16.42133485	0.002314916		11.3	21.2
Residual	10	18.42324278	1.842324				13	21.2
Total	11	48.67666667					11.2	21.2
							11.2	22
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 96.5%	Upper 96.5%
Intercept	0.510780985	4.731049824	0.107964	0.916160085	-10.03065494	11.05221691	-10.03065494	11.05221691
Water Temperature	1.755517827	0.433212536	4.052325	0.002314916	0.790260144	2.72077551	0.790260144	2.72077551

For each data set, the x values were water temperature, and y values air temperature. The resulting equation from each of the three sites resulted in:

Air temperature = Water temperature*Coefficient_watertempreature+Intercept

Conversely, this equation can be seen as the trendlines in each of the scatterplots presented in the Methods section.

Appendix C:

	June	July	August
2004	(6/30)	(10/31)	(11/31)
2005	(0/30)	(2/31)	(8/31)
2006	(3/30)	(8/31)	(4/31)
2007	(2/22)	(4/28)	(3/28)
2008	(3/30)	(1/31)	(7/31)
2009	(3/28)	(11/31)	(3/29)
2010	(0/30)	(6/29)	(7/31)
Total	(17/200)	(42/212)	(43/212)
Mean #days/month	2.6	6.1	6.3

Site A & B: total number of days which equate or exceed 27.0^{o}C were summed, divided by total daily temperature readings. The bottom row represents the mean amount of days per month which exceed 27.0^{o}C.

For Site C, no days were found with temperatures exceeding 36.0 ^{o}C in records from 2004-2010 and 1961-2000.

Appendix D:

2004-2010 climate records from Glenayre weather station, Burnaby, BC.

Daily Data Report for June 2004

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	17.0	8.5	12.8	5.2	0.0	0.0	0.0	0.0	0		
02	19.5	8.5	14.0	4.0	0.0	0.0	0.0	0.0	0		
03	24.5	8.0	16.3	1.7	0.0	0.0	0.0	0.0	0		
04	25.0	8.5	16.8	1.2	0.0	1.0	0.0	1.0	0		
05	15.0	8.0	11.5	6.5	0.0	3.0	0.0	3.0	0		
06	17.0	8.0	12.5	5.5	0.0	T	0.0	T	0		
07	17.0	10.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
08	24.0	9.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
09	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
10	14.0	11.5	12.8	5.2	0.0	4.2	0.0	4.2	0		
11	13.5	9.0	11.3	6.7	0.0	3.2	0.0	3.2	0		
12	15.0	8.5	11.8	6.2	0.0	18.2	0.0	18.2	0		
13	15.0	9.0	12.0	6.0	0.0	T	0.0	T	0		
14	14.0	8.0	11.0	7.0	0.0	2.5	0.0	2.5	0		
15	20.0	8.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
16	24.5	7.5	16.0	2.0	0.0	0.0	0.0	0.0	0		
17	28.0	14.5	21.3	0.0	3.3	0.0	0.0	0.0	0		
18	28.5	17.0	22.8	0.0	4.8	0.0	0.0	0.0	0		
19	32.5	16.0	24.3	0.0	6.3	0.0	0.0	0.0	0		
20	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
21	31.0	16.0	23.5	0.0	5.5	0.0	0.0	0.0	0		
22	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
23	20.5	14.5	17.5	0.5	0.0	0.0	0.0	0.0	0		
24	19.5	14.5	17.0	1.0	0.0	0.0	0.0	0.0	0		
25	19.0	14.5	16.8	1.2	0.0	0.0	0.0	0.0	0		
26	20.0	14.5	17.3	0.7	0.0	0.0	0.0	0.0	0		
27	23.0	14.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
28	25.0	13.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
29	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
30	25.0	13.5	19.3	0.0	1.3	0.0	0.0	0.0	0		
Sum				**71.6**	**33.2**	**32.1**	**0.0**	**32.1**			
Avg	**21.7**	**11.7**	**16.7**								
Xtrm	**32.5**	**7.5**									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2004

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	24.5	13.0	18.8	0.0	0.8	0.0	0.0	0.0	0		
02	18.5	13.0	15.8	2.2	0.0	0.4	0.0	0.4	0		
03	22.0E	13.0	17.5E	0.5E		0.0	0.0	0.0	0		
04	24.0	13.0	18.5	0.0	0.5	C	0.0	C	0		
05	24.0E	14.0	19.0E		1.0E	12.0A	0.0	12.0A	0		
06	20.0	15.0E	17.5E	0.5E		0.0	0.0	0.0	0		
07	19.5	12.0	15.8	2.2	0.0	0.0	0.0	0.0	0		
08	19.0	12.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
09	19.0	12.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
10	19.0	11.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
11	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
12	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
13	29.0	16.0	22.5	0.0	4.5	0.0	0.0	0.0	0		
14	27.5	16.0	21.8	0.0	3.8	0.0	0.0	0.0	0		
15	25.0	15.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
16	27.0	15.5	21.3	0.0	3.3	0.0	0.0	0.0	0		
17	29.5	15.0	22.3	0.0	4.3	0.0	0.0	0.0	0		
18	28.0	19.0E	23.5E		5.5E	0.0	0.0	0.0	0		
19	25.0					0.0	0.0	0.0	0		
20	22.0	16.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
21	25.0	15.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
22	30.5	15.5	23.0	0.0	5.0	0.0	0.0	0.0	0		
23	33.5					0.0	0.0	0.0	0		
24	32.0	20.0E	26.0E		8.0E	0.0	0.0	0.0	0		
25	25.0	18.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
26	25.0	16.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
27	26.0	16.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
28	25.5	15.5	20.5	0.0	2.5	0.0	0.0	0.0	0		
29	27.5	15.5	21.5	0.0	3.5	0.0	0.0	0.0	0		
30	25.0	15.5	20.3	0.0	2.3	0.0	0.0	0.0	0		
31	27.0	15.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
Sum				**14.1***	**63.0***	**12.4**	**0.0**	**12.4**			
Avg	**24.9**	**14.8***	**19.7***								
Xtrm	**33.5**	**11.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2004

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
02	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
03	21.0	16.0	18.5	0.0	0.5	9.0	0.0	9.0	0		
04	21.0	16.0	18.5	0.0	0.5	2.0	0.0	2.0	0		
05	20.5	13.5	17.0	1.0	0.0	0.0	0.0	0.0	0		
06	16.0	13.5	14.8	3.2	0.0	18.2	0.0	18.2	0		
07	22.0	13.5	17.8	0.2	0.0	0.2	0.0	0.2	0		
08	27.0	13.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
09	29.5	15.0	22.3	0.0	4.3	0.0	0.0	0.0	0		
10	30.0	18.0	24.0	0.0	6.0	0.0	0.0	0.0	0		
11	28.5	13.0	20.8	0.0	2.8	0.0	0.0	0.0	0		
12	28.0	15.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
13	27.5	13.0	20.3	0.0	2.3	0.0	0.0	0.0	0		
14	32.0	18.0	25.0	0.0	7.0	0.0	0.0	0.0	0		
15	29.0	20.0	24.5	0.0	6.5	0.0	0.0	0.0	0		
16	26.5	15.5	21.0	0.0	3.0	0.0	0.0	0.0	0		
17	26.0	17.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
18	27.0	16.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
19	27.5	16.0	21.8	0.0	3.8	0.0	0.0	0.0	0		
20	25.0	15.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
21	25.5	15.0	20.3	0.0	2.3	26.0	0.0	26.0	0		
22	19.0	15.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
23	20.0	15.0	17.5	0.5	0.0	T	0.0	T	0		
24	15.0	15.0	15.0	3.0	0.0	35.8	0.0	35.8	0		
25	16.0	14.0	15.0	3.0	0.0	34.0	0.0	34.0	0		
26	17.0	14.0	15.5	2.5	0.0	3.8	0.0	3.8	0		
27	14.0	13.0	13.5	4.5	0.0	6.0	0.0	6.0	0		
28	15.0	13.0	14.0	4.0	0.0	T	0.0	T	0		
29	20.0	14.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
30	24.0	14.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
31	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
Sum				**23.9**	**61.0**	**135.0**	**0.0**	**135.0**			
Avg	**23.5**	**14.9**	**19.2**								
Xtrm	**32.0**	**13.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2005

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	17.0	10.0	13.5	4.5	0.0	T	0.0	T	0		
02	18.0	12.0	15.0	3.0	0.0	2.1	0.0	2.1	0		
03	15.0	11.0	13.0	5.0	0.0	3.0	0.0	3.0	0		
04	18.0	10.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
05	12.0	9.0	10.5	7.5	0.0	10.0	0.0	10.0	0		
06	17.0	9.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
07	14.0	8.5	11.3	6.7	0.0	9.0	0.0	9.0	0		
08	12.0	10.0	11.0	7.0	0.0	6.1	0.0	6.1	0		
09	17.5	10.0	13.8	4.2	0.0	0.0	0.0	0.0	0		
10	18.5	10.5	14.5	3.5	0.0	3.0	0.0	3.0	0		
11	15.5	11.0	13.3	4.7	0.0	5.6	0.0	5.6	0		
12	16.0	9.0	12.5	5.5	0.0	4.0	0.0	4.0	0		
13	17.0	10.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
14	16.0	8.0	12.0	6.0	0.0	12.0	0.0	12.0	0		
15	19.0	8.5	13.8	4.2	0.0	0.0	0.0	0.0	0		
16	21.0	12.5	16.8	1.2	0.0	16.5	0.0	16.5	0		
17	15.5	11.5	13.5	4.5	0.0	6.3	0.0	6.3	0		
18	17.0	12.0	14.5	3.5	0.0	1.0	0.0	1.0	0		
19	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
20	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
21	24.0	14.0	19.0	0.0	1.0	9.0	0.0	9.0	0		
22	18.0	13.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
23	20.0	11.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
24	22.0	12.5	17.3	0.7	0.0	0.3	0.0	0.3	0		
25	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
26	17.0	13.0	15.0	3.0	0.0	3.0	0.0	3.0	0		
27	17.0	14.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
28	19.0	14.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
29	21.0	14.0	17.5	0.5	0.0	1.1	0.0	1.1	0		
30	22.0	15.0	18.5	0.0	0.5	4.0	0.0	4.0	0		
Sum				**98.1**	**2.5**	**96.0**	**0.0**	**96.0**			
Avg	**18.2**	**11.4**	**14.8**								
Xtrm	**26.0**	**8.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2005

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	16.0	11.0	13.5	4.5	0.0	1.0	0.0	1.0	0		
02	20.0	12.0	16.0	2.0	0.0	T	0.0	T	0		
03	21.0	11.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
04	22.0	14.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
05	19.0	14.0	16.5	1.5	0.0	28.1	0.0	28.1	0		
06	17.5	12.0	14.8	3.2	0.0	23.1	0.0	23.1	0		
07	20.0	11.5	15.8	2.2	0.0	9.3	0.0	9.3	0		
08	16.0	12.5	14.3	3.7	0.0	11.1	0.0	11.1	0		
09	18.0	12.0	15.0	3.0	0.0	5.0	0.0	5.0	0		
10	21.0	9.0	15.0	3.0	0.0	T	0.0	T	0		
11	19.0	14.0	16.5	1.5	0.0	8.5	0.0	8.5	0		
12	21.0	14.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
13	22.0	14.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
14	23.5	12.0	17.8	0.2	0.0	0.0	0.0	0.0	0		
15	19.0	15.0	17.0	1.0	0.0	4.3	0.0	4.3	0		
16	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
17	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
18	24.0	15.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
19	23.0	14.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
20	24.0	12.5	18.3	0.0	0.3	0.0	0.0	0.0	0		
21	26.0	12.5	19.3	0.0	1.3	0.0	0.0	0.0	0		
22	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
23	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
24	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
25	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
26	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
27	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
28	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
29	26.0	13.5	19.8	0.0	1.8	0.0	0.0	0.0	0		
30	27.0	13.5	20.3	0.0	2.3	0.0	0.0	0.0	0		
31	28.0	16.0	22.0	0.0	4.0	5.0	0.0	5.0	0		
Sum				**29.8**	**20.7**	**95.4**	**0.0**	**95.4**			
Avg	**22.3**	**13.1**	**17.7**								
Xtrm	**28.0**	**9.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2005

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	23.0	16.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
02	23.0	11.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
03	27.0	11.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
04	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
05	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
06	27.0	15.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
07	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
08	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
09	25.0	15.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
10	19.5	14.0	16.8	1.2	0.0	0.0	0.0	0.0	0		
11	22.5	15.0	18.8	0.0	0.8	0.0	0.0	0.0	0		
12	26.5	13.5	20.0	0.0	2.0	0.0	0.0	0.0	0		
13	28.0	15.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
14	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
15	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
16	26.0	15.0	20.5	0.0	2.5	16.0	0.0	16.0	0		
17	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
18	23.0	14.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
19	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
20	26.5	15.0	20.8	0.0	2.8	0.0	0.0	0.0	0		
21	24.0	14.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
22	21.0	15.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
23	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
24	24.0	11.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
25	26.5	12.5	19.5	0.0	1.5	0.0	0.0	0.0	0		
26	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
27	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
28	19.0	15.0	17.0	1.0	0.0	2.0	0.0	2.0	0		
29	18.0	12.0	15.0	3.0	0.0	3.0	0.0	3.0	0		
30	15.0	13.0	14.0	4.0	0.0	7.5	0.0	7.5	0		
31	20.0	14.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
Sum				**14.7**	**45.6**	**28.5**	**0.0**	**28.5**			
Avg	**24.1**	**13.9**	**19.0**								
Xtrm	**29.0**	**11.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2006

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	20.0	14.0	17.0	1.0	0.0	23.5	0.0	23.5	0		
02	19.0	13.0	16.0	2.0	0.0	2.0	0.0	2.0	0		
03	19.0	11.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
04	14.0	10.0	12.0	6.0	0.0	5.0	0.0	5.0	0		
05	20.0	11.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
06	22.0	10.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
07	20.0	10.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
08	13.0	10.5	11.8	6.2	0.0	30.2	0.0	30.2	0		
09	17.0	10.0	13.5	4.5	0.0	1.0	0.0	1.0	0		
10	19.5	10.5	15.0	3.0	0.0	0.0	0.0	0.0	0		
11	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
12	25.0	12.0	18.5	0.0	0.5	C	0.0	C	0		
13	20.0	15.0	17.5	0.5	0.0	5.0A	0.0	5.0A	0		
14	17.0	13.5	15.3	2.7	0.0	1.5	0.0	1.5	0		
15	17.0	12.0	14.5	3.5	0.0	0.5	0.0	0.5	0		
16	19.0	12.0	15.5	2.5	0.0	1.7	0.0	1.7	0		
17	15.0	11.0	13.0	5.0	0.0	1.5	0.0	1.5	0		
18	18.0	10.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
19	19.0	10.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
20	19.0	10.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
21	19.5	9.5	14.5	3.5	0.0	0.0	0.0	0.0	0		
22	21.0	9.0	15.0	3.0	0.0	2.0	0.0	2.0	0		
23	21.5	9.5	15.5	2.5	0.0	0.0	0.0	0.0	0		
24	25.0	12.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
25	30.0	15.0	22.5	0.0	4.5	0.0	0.0	0.0	0		
26	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
27	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
28	21.5	11.5	16.5	1.5	0.0	0.0	0.0	0.0	0		
29	25.0	11.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
30	28.0	14.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
Sum				**70.4**	**15.0**	**73.9**	**0.0**	**73.9**			
Avg	**20.6**	**11.7**	**16.2**								
Xtrm	**30.0**	**9.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2006

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	27.0	14.5	20.8	0.0	2.8	0.0	0.0	0.0	0		
02	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
03	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
04	25.0	13.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
05	20.0	14.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
06	17.0	13.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
07	23.0	11.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
08	26.0	13.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
09	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
10	20.0	15.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
11	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
12	15.0	12.5	13.8	4.2	0.0	12.2	0.0	12.2	0		
13	20.0	13.0	16.5	1.5	0.0	T	0.0	T	0		
14	19.5	14.0	16.8	1.2	0.0	2.0	0.0	2.0	0		
15	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
16	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
17	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
18	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
19	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
20	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
21	33.0	18.0	25.5	0.0	7.5	0.0	0.0	0.0	0		
22	33.0	20.5	26.8	0.0	8.8	0.0	0.0	0.0	0		
23	31.0	20.0	25.5	0.0	7.5	0.0	0.0	0.0	0		
24	30.0	20.0	25.0	0.0	7.0	0.0	0.0	0.0	0		
25	26.0	16.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
26	27.0	14.5	20.8	0.0	2.8	0.0	0.0	0.0	0		
27	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
28	21.5	14.0	17.8	0.2	0.0	0.0	0.0	0.0	0		
29	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
30	17.5	12.0	14.8	3.2	0.0	7.0	0.0	7.0	0		
31	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
Sum				**21.3**	**55.4**	**21.2**	**0.0**	**21.2**			
Avg	**24.0**	**14.2**	**19.1**								
Xtrm	**33.0**	**11.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2006

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
02	22.5	12.0	17.3	0.7	0.0	0.0	0.0	0.0	0		
03	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
04	21.5	12.5	17.0	1.0	0.0	0.0	0.0	0.0	0		
05	25.5	12.5	19.0	0.0	1.0	0.0	0.0	0.0	0		
06	30.0	14.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
07	28.0	14.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
08	18.0	14.0	16.0	2.0	0.0	5.2	0.0	5.2	0		
09	21.5	15.0	18.3	0.0	0.3	0.7	0.0	0.7	0		
10	18.5	14.5	16.5	1.5	0.0	4.2	0.0	4.2	0		
11	18.0	13.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
12	21.0	12.5	16.8	1.2	0.0	0.0	0.0	0.0	0		
13	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
14	25.5	14.0	19.8	0.0	1.8	0.0	0.0	0.0	0		
15	21.0	13.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
16	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
17	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
18	23.5	12.0	17.8	0.2	0.0	0.0	0.0	0.0	0		
19	24.5	13.0	18.8	0.0	0.8	0.0	0.0	0.0	0		
20	26.0	13.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
21	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
22	21.0	14.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
23	19.0	12.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
24	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
25	25.0	12.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
26	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
27	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
28	28.0	14.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
29	18.0	12.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
30	19.0	11.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
31	19.5	10.0	14.8	3.2	0.0	0.0	0.0	0.0	0		
Sum				**26.5**	**20.4**	**10.1**	**0.0**	**10.1**			
Avg	**22.7**	**12.9**	**17.8**								
Xtrm	**30.0**	**10.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2007

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01											
02											
03†	29.0	14.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
04†	17.0	16.0	16.5	1.5	0.0	8.0	0.0	8.0	0		
05											
06											
07†	13.0	9.0	11.0	7.0	0.0	6.5	0.0	6.5	0		
08†	18.0	9.0	13.5	4.5	0.0	T	0.0	T	0		
09†	14.0	11.0	12.5	5.5	0.0	10.8	0.0	10.8	0		
10											
11											
12†	17.5	6.0	11.8	6.2	0.0	1.0	0.0	1.0	0		
13†	16.0	10.0	13.0	5.0	0.0	T	0.0	T	0		
14†	17.0	9.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
15†	17.0	9.5	13.3	4.7	0.0	1.8	0.0	1.8	0		
16†	14.5	10.0	12.3	5.7	0.0	4.0	0.0	4.0	0		
17											
18											
19											
20†	24.0	11.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
21†	20.5	12.0	16.3	1.7	0.0	8.0	0.0	8.0	0		
22†	17.0	11.5	14.3	3.7	0.0	2.0	0.0	2.0	0		
23†	17.0	9.0	13.0	5.0	0.0	6.0	0.0	6.0	0		
24†	15.0	9.0	12.0	6.0	0.0	13.0	0.0	13.0	0		
25†	15.0	6.0	10.5	7.5	0.0	0.0	0.0	0.0	0		
26†	21.5	9.0	15.3	2.7	0.0	0.0	0.0	0.0	0		
27†	21.5	11.5	16.5	1.5	0.0	T	0.0	T	0		
28†	21.0	13.0	17.0	1.0	0.0	15.8	0.0	15.8	0		
29†	19.0	13.0	16.0	2.0	0.0	2.7	0.0	2.7	0		
30†	20.0	9.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
Sum				**80.2***	**3.5***	**79.6***	**0.0***	**79.6***			
Avg	**18.3***	**10.4***	**14.4***								
Xtrm	**29.0***	**6.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2007

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	22.0	9.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
02											
03†	23.0	15.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
04†	26.0	13.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
05†	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
06†	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
07†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
08†	22.0	14.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
09†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
10†	30.0	14.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
11†	35.0	18.5	26.8	0.0	8.8	0.0	0.0	0.0	0		
12†	27.5	18.0	22.8	0.0	4.8	0.0	0.0	0.0	0		
13†	24.0	16.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
14†	27.5	14.5	21.0	0.0	3.0	0.0	0.0	0.0	0		
15†	24.0	15.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
16†	26.0	15.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
17											
18†	17.0	15.0	16.0	2.0	0.0	17.0	0.0	17.0	0		
19†	20.0	14.0	17.0	1.0	0.0	6.0	0.0	6.0	0		
20†	19.0	14.0	16.5	1.5	0.0	12.2	0.0	12.2	0		
21†	20.0	14.0	17.0	1.0	0.0	26.3	0.0	26.3	0		
22†	19.0	15.0	17.0	1.0	0.0	14.0	0.0	14.0	0		
23†	18.0	15.0	16.5	1.5	0.0	3.5	0.0	3.5	0		
24†	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
25†	24.0	11.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
26†	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	M		
27†	24.0	14.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
28†	24.0	14.5	19.3	0.0	1.3	0.0	0.0	0.0	0		
29†	21.0	10.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
30†	21.0	10.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
31											
Sum				**17.0***	**33.9***	**79.0***	**0.0***	**79.0***			
Avg	**23.4***	**13.8***	**18.6***								
Xtrm	**35.0***	**9.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2007

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01											
02†	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
03†	22.0	14.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
04†	24.0	14.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
05											
06											
07†	15.0	14.0	14.5	3.5	0.0	3.0	0.0	3.0	0		
08†	21.5	13.0	17.3	0.7	0.0	0.0	0.0	0.0	0		
09†	19.0	11.5	15.3	2.7	0.0	0.0	0.0	0.0	0		
10†	20.0	11.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
11†	20.0	10.0	15.0	3.0	0.0	3.0	0.0	3.0	0		
12†	19.0	12.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
13†	22.0	10.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
14†	25.0	11.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
15†	26.0	10.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
16†	23.0	15.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
17†	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
18†	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
19†	19.0	12.0	15.5	2.5	0.0	8.0	0.0	8.0	0		
20†	18.0	12.0	15.0	3.0	0.0	4.0	0.0	4.0	0		
21†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
22†	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
23†	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
24†	25.0	12.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
25†	16.0	12.0	14.0	4.0	0.0	6.7	0.0	6.7	0		
26†	19.0	12.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
27†	20.0	10.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
28†	22.0	10.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
29†	27.5	12.0	19.8	0.0	1.8	0.0	0.0	0.0	0		
30†	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
31†	27.0	10.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
Sum				**36.9***	**8.3***	**24.7***	**0.0***	**24.7***			
Avg	**21.9***	**12.0***	**17.0***								
Xtrm	**27.5***	**10.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2008

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	14.0	11.0	12.5	5.5	0.0	0.0	0.0	0.0	0		
02†	13.0	8.0	10.5	7.5	0.0	3.0	0.0	3.0	0		
03†	12.0	7.0	9.5	8.5	0.0	14.5	0.0	14.5	0		
04†	13.0	7.0	10.0	8.0	0.0	1.0	0.0	1.0	0		
05†	10.0	6.0	8.0	10.0	0.0	18.0	0.0	18.0	0		
06†	13.0	5.0	9.0	9.0	0.0	4.5	0.0	4.5	0		
07†	14.0	7.0	10.5	7.5	0.0	T	0.0	T	0		
08†	13.0	7.0	10.0	8.0	0.0	2.0	0.0	2.0	0		
09†	13.0	5.0	9.0	9.0	0.0	19.0	0.0	19.0	0		
10†	13.0	5.0	9.0	9.0	0.0	1.5	0.0	1.5	0		
11†	12.0	6.0	9.0	9.0	0.0	1.5	0.0	1.5	0		
12†	16.0	8.0	12.0	6.0	0.0	0.0	0.0	0.0	0		
13†	17.0	8.0	12.5	5.5	0.0	0.0	0.0	0.0	0		
14†	17.0	7.0	12.0	6.0	0.0	0.0	0.0	0.0	0		
15†	20.0	8.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
16†	21.0	8.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
17†	19.0	8.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
18†	16.0	8.5	12.3	5.7	0.0	0.0	0.0	0.0	0		
19†	18.0	5.0	11.5	6.5	0.0	T	0.0	T	0		
20†	23.0	9.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
21†	21.0	10.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
22†	20.0	10.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
23†	19.0	7.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
24†	19.0	10.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
25†	21.0	7.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
26†	15.0	9.0	12.0	6.0	0.0	T	0.0	T	0		
27†	21.0	8.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
28†	29.0	12.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
29†	30.5	17.0	23.8	0.0	5.8	0.0	0.0	0.0	0		
30†	30.0	18.0	24.0	0.0	6.0	0.0	0.0	0.0	0		
Sum				**162.2**	**14.3**	**65.0**	**0.0**	**65.0**			
Avg	**17.8**	**8.4**	**13.1**								
Xtrm	**30.5**	**5.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2008

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	24.0	14.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
02†	26.0	13.0	19.5	0.0	1.5	T	0.0	T	0		
03†	23.0	15.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
04†	23.0	13.0	18.0	0.0	0.0	T	0.0	T	0		
05†	18.0	10.0	14.0	4.0	0.0	6.0	0.0	6.0	0		
06†	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
07†	22.0	10.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
08†	25.0	11.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
09†	26.0	11.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
10†	21.0	10.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
11†	23.0	8.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
12†	26.0	11.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
13†	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
14†	22.0	11.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
15†	25.0	10.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
16†	24.0	11.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
17†	22.0	10.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
18†	21.0	9.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
19†	23.0	10.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
20†	26.0	10.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
21†	27.0	10.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
22†	19.0	10.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
23†	20.0	12.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
24†	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
25†	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
26†	20.0	14.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
27†	18.0	14.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
28†	21.0	9.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
29†	14.0	12.0	13.0	5.0	0.0	14.0	0.0	14.0	0		
30†	17.0	9.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
31†	14.0	9.0	11.5	6.5	0.0	16.0	0.0	16.0	0		
Sum				**50.5**	**6.0**	**36.0**	**0.0**	**36.0**			
Avg	**22.0**	**11.1**	**16.6**								
Xtrm	**27.0**	**8.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2008

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	17.0	9.0	13.0	5.0	0.0	3.0	0.0	3.0	0		
02†	17.0	11.0	14.0	4.0	0.0	1.5	0.0	1.5	0		
03†	21.0	9.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
04†	24.0	11.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
05†	26.0	12.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
06†	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
07†	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
08†	28.0	13.0	20.5	0.0	2.5	1.5	0.0	1.5	0		
09†	16.0	9.0	12.5	5.5	0.0	6.5	0.0	6.5	0		
10†	17.0	11.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
11†	21.0	10.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
12†	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
13†	23.0	14.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
14†	27.0	15.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
15†	28.0	18.0	23.0	0.0	5.0	0.0	0.0	0.0	0		
16†	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
17†	28.0	19.0	23.5	0.0	5.5	0.0	0.0	0.0	0		
18†	19.0	17.0	18.0	0.0	0.0	9.0	0.0	9.0	0		
19†	17.0	13.0	15.0	3.0	0.0	24.0	0.0	24.0	0		
20†	16.0	14.0	15.0	3.0	0.0	15.0	0.0	15.0	0		
21†	16.0	12.0	14.0	4.0	0.0	3.0	0.0	3.0	0		
22†	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
23†	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
24†	17.0	15.0	16.0	2.0	0.0	24.0	0.0	24.0	0		
25†	18.0	10.0	14.0	4.0	0.0	4.0	0.0	4.0	0		
26†	15.0	9.0	12.0	6.0	0.0	28.0	0.0	28.0	0		
27†	16.0	8.0	12.0	6.0	0.0	7.0	0.0	7.0	0		
28†	14.0	11.0	12.5	5.5	0.0	30.0	0.0	30.0	0		
29†	20.0	13.0	16.5	1.5	0.0	2.0	0.0	2.0	0		
30†	17.0	8.0	12.5	5.5	0.0	0.0	0.0	0.0	0		
31†	16.0	8.0	12.0	6.0	0.0	0.0	0.0	0.0	0		
Sum				**75.0**	**29.5**	**158.5**	**0.0**	**158.5**			
Avg	**20.7**	**12.3**	**16.5**								
Xtrm	**29.0**	**8.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2009

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
02†	28.0	15.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
03†	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
04†	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
05†	21.0	17.5	19.3	0.0	1.3	0.0	0.0	0.0	0		
06†	17.5	14.0	15.8	2.2	0.0	0.0	0.0	0.0	0		
07†	19.0	14.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
08†	19.5	13.0	16.3	1.7	0.0	0.0	0.0	0.0	0		
09†	24.0	12.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
10											
11†	22.0	12.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
12†	23.5	14.0	18.8	0.0	0.8	0.0	0.0	0.0	0		
13†	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
14†	18.0	13.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
15†	20.0	11.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
16†	20.0	12.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
17†	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
18†	21.0	13.5	17.3	0.7	0.0	T	0.0	T	0		
19†	18.0	13.0	15.5	2.5	0.0	T	0.0	T	0		
20†	17.0	10.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
21†	15.0	11.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
22†	16.0	10.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
23†	16.0	10.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
24†	15.0	13.0	14.0	4.0	0.0	15.5	0.0	15.5	0		
25†	17.0	11.0	14.0	4.0	0.0	2.0	0.0	2.0	0		
26†	18.0	11.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
27†	20.0	9.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
28†	18.0	11.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
29†	19.0	9.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
30											
Sum				**60.6***	**15.6***	**17.5***	**0.0***	**17.5***			
Avg	**20.3***	**12.4***	**16.4***								
Xtrm	**29.0***	**9.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2009

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01											
02†	25.0	11.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
03†	27.0	13.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
04†	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
05†	26.0	16.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
06†	14.0	13.5	13.8	4.2	0.0	4.0	0.0	4.0	0		
07†	12.0	11.5	11.8	6.2	0.0	14.5	0.0	14.5	0		
08†	14.5	11.0	12.8	5.2	0.0	3.2	0.0	3.2	0		
09†	20.0	10.5	15.3	2.7	0.0	0.0	0.0	0.0	0		
10†	24.0	11.5	17.8	0.2	0.0	0.0	0.0	0.0	0		
11†	27.5	15.0	21.3	0.0	3.3	0.0	0.0	0.0	0		
12†	18.0	16.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
13†	15.0	12.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
14†	19.0	12.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
15†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
16†	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
17†	30.5	16.0	23.3	0.0	5.3	0.0	0.0	0.0	0		
18†	25.0	15.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
19†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
20†	26.0	13.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
21†	27.5	16.0	21.8	0.0	3.8	0.0	0.0	0.0	0		
22†	24.0	15.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
23†	18.0	14.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
24†	23.0	15.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
25†	25.5	16.0	20.8	0.0	2.8	13.0	0.0	13.0	0		
26†	28.0	17.0	22.5	0.0	4.5	0.0	0.0	0.0	0		
27†	30.0	19.0	24.5	0.0	6.5	0.0	0.0	0.0	0		
28†	32.0	20.0	26.0	0.0	8.0	0.0	0.0	0.0	0		
29†	35.0	22.0	28.5	0.0	10.5	0.0	0.0	0.0	0		
30†	35.0	23.0	29.0	0.0	11.0	0.0	0.0	0.0	0		
31†	30.0	19.0	24.5	0.0	6.5	0.0	0.0	0.0	0		
Sum				**28.2***	**77.2***	**34.7***	**0.0***	**34.7***			
Avg	**24.3***	**14.9***	**19.6***								
Xtrm	**35.0***	**10.5***									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2009

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
02†	30.0	18.0	24.0	0.0	6.0	0.0	0.0	0.0	0		
03											
04											
05†	19.0	14.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
06†	21.0	12.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
07†	18.0	15.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
08†	18.0	14.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
09†	20.0	15.0	17.5	0.5	0.0	12.0	0.0	12.0	0		
10†	14.0	13.0	13.5	4.5	0.0	26.0	0.0	26.0	0		
11†	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
12†	21.0	11.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
13†	13.0	12.0	12.5	5.5	0.0	13.2	0.0	13.2	0		
14†	15.0	12.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
15†	17.0	13.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
16†	21.0	11.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
17†	22.0	11.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
18†	25.0	14.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
19†	29.0	16.0	22.5	0.0	4.5	0.0	0.0	0.0	0		
20†	26.0	17.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
21†	18.0	14.0	16.0	2.0	0.0	T	0.0	T	0		
22†	21.0	8.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
23†	21.0	10.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
24†	23.0	10.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
25†	19.0	12.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
26†	20.0	10.5	15.3	2.7	0.0	0.0	0.0	0.0	0		
27†	30.0	12.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
28†	22.5	14.5	18.5	0.0	0.5	0.0	0.0	0.0	0		
29†	24.0	15.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
30†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
31†	23.0	13.5	18.3	0.0	0.3	0.0	0.0	0.0	0		
Sum				**45.9***	**24.8***	**51.2***	**0.0***	**51.2***			
Avg	**21.4***	**13.1***	**17.3***								
Xtrm	**30.0***	**8.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for June 2010

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	15.0	9.0	12.0	6.0	0.0	17.0	0.0	17.0	0		
02†	16.0	11.0	13.5	4.5	0.0	20.0	0.0	20.0	0		
03†	16.0	7.0	11.5	6.5	0.0	1.0	0.0	1.0	0		
04†	15.5	9.5	12.5	5.5	0.0	2.0	0.0	2.0	0		
05†	18.5	10.0	14.3	3.7	0.0	0.0	0.0	0.0	0		
06†	13.0	10.5	11.8	6.2	0.0	6.6	0.0	6.6	0		
07†	18.0	12.5	15.3	2.7	0.0	1.2	0.0	1.2	0		
08†	21.0	9.5	15.3	2.7	0.0	11.5	0.0	11.5	0		
09†	16.0	10.5	13.3	4.7	0.0	6.2	0.0	6.2	0		
10†	13.0	10.0	11.5	6.5	0.0	11.0	0.0	11.0	0		
11†	16.0	10.0	13.0	5.0	0.0	3.0	0.0	3.0	0		
12†	21.0	11.0	16.0	2.0	0.0	0.0	0.0	0.0	0		
13†	17.0	11.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
14†	17.0	8.0	12.5	5.5	0.0	0.0	0.0	0.0	0		
15†	14.0	8.0	11.0	7.0	0.0	2.0	0.0	2.0	0		
16†	17.0	10.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
17†	12.0	11.0	11.5	6.5	0.0	T	0.0	T	0		
18†	18.5	11.0	14.8	3.2	0.0	0.0	0.0	0.0	0		
19†	20.0	11.5	15.8	2.2	0.0	0.0	0.0	0.0	0		
20†	15.5	12.0	13.8	4.2	0.0	0.0	0.0	0.0	0		
21†	15.0	12.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
22†	21.5	12.5	17.0	1.0	0.0	0.0	0.0	0.0	0		
23†	25.0	13.5	19.3	0.0	1.3	0.0	0.0	0.0	0		
24†	22.0	14.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
25†	20.5	13.0	16.8	1.2	0.0	0.0	0.0	0.0	0		
26†	18.5	12.0	15.3	2.7	0.0	0.0	0.0	0.0	0		
27†	14.0	12.0	13.0	5.0	0.0	0.0	0.0	0.0	0		
28†	17.0	13.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
29†	16.0	8.0	12.0	6.0	0.0	0.0	0.0	0.0	0		
30†	17.5	9.0	13.3	4.7	0.0	0.0	0.0	0.0	0		
Sum				**121.2**	**1.3**	**81.5**	**0.0**	**81.5**			
Avg	**17.2**	**10.7**	**14.0**								
Xtrm	**25.0**	**7.0**									

Summary, average and extreme values are based on the data above.

Daily Data Report for July 2010

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	13.5	10.0	11.8	6.2	0.0	1.5	0.0	1.5	0		
02†	19.0	9.0	14.0	4.0	0.0	0.0	0.0	0.0	0		
03†	16.0	11.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
04†	15.0	12.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
05†	18.0	11.0	14.5	3.5	0.0	0.0	0.0	0.0	0		
06†	25.0	10.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
07†	30.5	14.0	22.3	0.0	4.3	0.0	0.0	0.0	0		
08†	32.5	16.0	24.3	0.0	6.3	0.0	0.0	0.0	0		
09†	29.5	18.0	23.8	0.0	5.8	0.0	0.0	0.0	0		
10†	27.0	18.5	22.8	0.0	4.8	0.0	0.0	0.0	0		
11†	24.0	15.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
12†	18.0	13.0	15.5	2.5	0.0	0.0	0.0	0.0	0		
13†	19.0	10.5	14.8	3.2	0.0	0.0	0.0	0.0	0		
14†	23.0	11.0	17.0	1.0	0.0	0.0	0.0	0.0	0		
15†	25.0	13.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
16†	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
17†	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
18†	23.0	13.0	18.0	0.0	0.0	0.0	0.0	0.0	0		
19†	23.0	12.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
20†	24.0	13.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
21†	27.0	14.0	20.5	0.0	2.5	0.0	0.0	0.0	0		
22†	20.0	15.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
23†	23.5	13.0	18.3	0.0	0.3	0.0	0.0	0.0	0		
24†	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
25											
26											
27†	27.0	15.0	21.0	0.0	3.0	0.0	0.0	0.0	0		
28†	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
29†	24.0	9.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
30†	24.5	13.5	19.0	0.0	1.0	0.0	0.0	0.0	0		
31†	23.0	13.5	18.3	0.0	0.3	0.0	0.0	0.0	0		
Sum				**33.4***	**35.3***	**1.5***	**0.0***	**1.5***			
Avg	**23.1***	**13.0***	**18.1***								
Xtrm	**32.5***	**9.0***									

Summary, average and extreme values are based on the data above.

Daily Data Report for August 2010

Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days	Cool Deg Days	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10s deg	Spd of Max Gust km/h
01†	21.5	16.0	18.8	0.0	0.8	0.0	0.0	0.0	0		
02†	23.5	16.0	19.8	0.0	1.8	0.0	0.0	0.0	0		
03†	26.0	14.0	20.0	0.0	2.0	0.0	0.0	0.0	0		
04†	28.0	16.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
05†	28.0	19.0	23.5	0.0	5.5	0.0	0.0	0.0	0		
06†	22.0	15.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
07†	16.0	14.0	15.0	3.0	0.0	17.0	0.0	17.0	0		
08†	17.0	15.0	16.0	2.0	0.0	4.0	0.0	4.0	0		
09†	17.0	14.0	15.5	2.5	0.0	2.0	0.0	2.0	0		
10†	20.0	13.0	16.5	1.5	0.0	0.0	0.0	0.0	0		
11†	23.0	14.0	18.5	0.0	0.5	0.0	0.0	0.0	0		
12†	26.0	13.0	19.5	0.0	1.5	0.0	0.0	0.0	0		
13†	29.0	14.0	21.5	0.0	3.5	0.0	0.0	0.0	0		
14†	30.5	19.0	24.8	0.0	6.8	0.0	0.0	0.0	0		
15†	32.0	19.0	25.5	0.0	7.5	0.0	0.0	0.0	0		
16†	33.0	19.0	26.0	0.0	8.0	0.0	0.0	0.0	0		
17†	30.0	17.0	23.5	0.0	5.5	0.0	0.0	0.0	0		
18†	20.0	13.5	16.8	1.2	0.0	0.0	0.0	0.0	0		
19†	17.0	13.0	15.0	3.0	0.0	2.0	0.0	2.0	0		
20†	19.5	10.5	15.0	3.0	0.0	0.0	0.0	0.0	0		
21†	20.5	10.5	15.5	2.5	0.0	0.0	0.0	0.0	0		
22†	17.0	13.0	15.0	3.0	0.0	4.0	0.0	4.0	0		
23†	22.0	13.0	17.5	0.5	0.0	0.0	0.0	0.0	0		
24†	25.0	13.0	19.0	0.0	1.0	0.0	0.0	0.0	0		
25†	29.0	15.0	22.0	0.0	4.0	0.0	0.0	0.0	0		
26†	18.5	13.5	16.0	2.0	0.0	0.1	0.0	0.1	0		
27†	18.0	10.5	14.3	3.7	0.0	5.0	0.0	5.0	0		
28†	20.0	8.5	14.3	3.7	0.0	0.0	0.0	0.0	0		
29†	16.0	11.0	13.5	4.5	0.0	0.0	0.0	0.0	0		
30†	20.0	10.0	15.0	3.0	0.0	0.0	0.0	0.0	0		
31†	14.0	12.0	13.0	5.0	0.0	42.5	0.0	42.5	0		
Sum				**44.1**	**52.9**	**76.6**	**0.0**	**76.6**			
Avg	**22.6**	**14.0**	**18.3**								
Xtrm	**33.0**	**8.5**									

Summary, average and extreme values are based on the data above.