

# Climate change and biofuel wheat production in southern Saskatchewan: Long-term climate trends versus climate modeling predictions

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## Abstract

Climate modeling work has suggested biofuel wheat production in southern Saskatchewan, Canada, during the mid-21<sup>st</sup> century will be influenced by increasing annual precipitation, including precipitation increases in every month except July and August, increasing daily mean, minimum, and maximum air temperatures throughout the year, and substantial increases in the risk of wheat heat shock (temperatures >32.0°C). In the current study, we compare prior modeling predictions to historical trends in the number of days with maximum temperatures >32.0°C during July and August, the number of hours with maximum temperatures >32.0°C during July, as well as monthly and annual total precipitation, mean daily temperatures, and mean maximum daily temperatures for climate stations throughout southern Saskatchewan. We find no evidence of increasing trends for wheat heat shock days or hours during the mid-summer period in this region. In contrast, the majority of stations exhibit significantly declining temporal trends in wheat heat shock days and hours. Historical precipitation and temperature trends for the climate stations under consideration in southern Saskatchewan display significant inter- and intra-station heterogeneity throughout the year in terms of whether or not trends are evident, as well as their magnitude and direction. Consequently, caution must be exercised when extrapolating any case study analyses at a particular location to larger geographic areas of the province. Based on our analyses of historical climate data for southern Saskatchewan, it is unclear whether climate models are accurately predicting future climate change impacts on biofuel wheat production for this region in the mid-21<sup>st</sup> century.

## Keywords:

Climate change, Biofuels, Wheat, Southern Saskatchewan

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Approximately 15% of fermentation derived ethanol in Canada is from wheat, with various proposals currently under consideration to substantially increase production rates - particularly in the two western prairie provinces of Saskatchewan and Manitoba [1]. In a recent study, Wang et al. [2] assessed the potential impacts of climate change on biofuel wheat production in southern Saskatchewan. Using Swift Current in the southwestern region of the province as a case study site, the climate modeling efforts of these authors concluded that, by the 2050s and relative to a 1961-1990 baseline period, annual precipitation is expected to increase, precipitation increases are expected in every month except July and August (two of the three climate scenarios predicted increasing precipitation in June, with the other scenario predicting a decrease in this month by the 2050s), daily mean, minimum, and maximum air temperatures are expected to also increase throughout the year (with the greatest increases by season in the following order: winter>summer>spring>fall), and wheat heat shock (temperatures >32.0°C; mostly occur-

ring in July) was expected to increase substantially under all three climate scenarios.

In the current study, we compare these climate modeling predictions by Wang et al. [2] to trends observed over the available climate records throughout southern Saskatchewan (defined as south of approximately Prince Albert [latitude 53.2-53.3°N] [3]; see Table 1 and Figure 1 for details and locations of the climate monitoring stations under consideration), which in some cases date back to the 1880s. Monthly and annual means of daily mean temperature and daily maximum temperature, as well as monthly and annual total precipitation, were taken from the second generation homogenized temperature and the second generation adjusted precipitation datasets of the Adjusted and Homogenized Canadian Climate Data archive [4, 5]. Trends were investigated using parametric linear regression, non-parametric Mann-Kendall time trend analysis with Sen's slope estimation for the slope [6-8], non-parametric Spearman rank correlation [9], and non-parametric Kendall rank correlation [7] with KyPlot (v.2.0.b.15) and the R statistical [10] software packages. Hourly and daily climate information was obtained from the online National Climate Data and Information Archive

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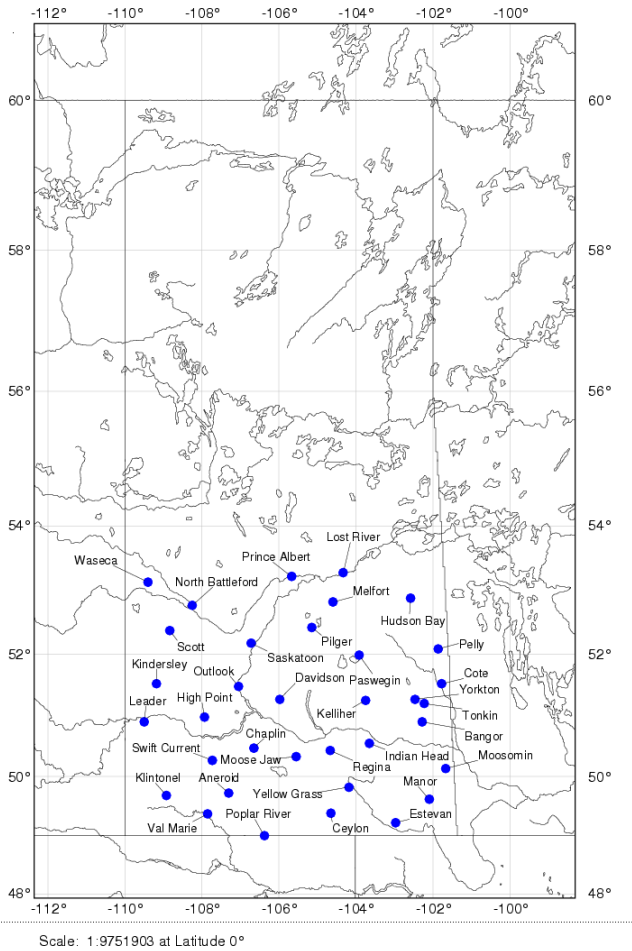


Figure 1: Locations of the climate monitoring stations in southern Saskatchewan.

of Environment Canada ([climate.weatheroffice.gc.ca](http://climate.weatheroffice.gc.ca)).

Time trends were examined for the number of days with maximum temperatures  $>32.0^{\circ}\text{C}$  during July and August at various climate stations (Table 2) in southern Saskatchewan over their available climate records, divided into three periods ranging from the earliest year on record up to 2012, from 1950 to 2012, and from 1980 to 2012 (Table 3). We find no significant ( $p \leq 0.1$ ) increasing temporal trends in the number of days with maximum temperatures  $>32.0^{\circ}\text{C}$  during either month at any station/period/statistical test combination. In contrast, there is evidence of a declining trend in the number of days with maximum temperatures  $>32.0^{\circ}\text{C}$  during July at a majority of stations (Kindersley [1913-2012], Lloydminster [1904-2012 and 1950-2012], Moose Jaw [1894-2012 and 1950-2012], North Battleford [1942-2012], Regina [1932-2012], Rosetown [1937-2012], Saskatoon [1915-2012 and 1950-2012], Swift Current [1886-2012], and Yorkton [1909-2012]). In August, there is evidence of a declining trend in number of wheat heat shock days at Rosetown (1937-2012) and Yorkton (1950-2012). The remainder of the station/period combinations exhibited no significant

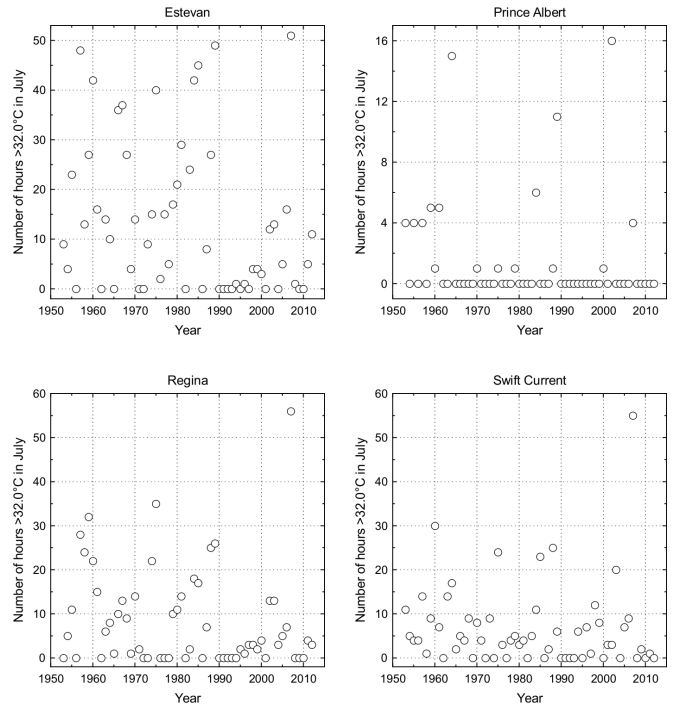


Figure 2: Historical trends in the number of hours at a temperature  $>32.0^{\circ}\text{C}$  during July for four representative climate stations in southern Saskatchewan between 1953 and 2012.

trends in the number of wheat heat shock days over time.

The number of wheat heat shock hours (i.e., number of hours at a temperature  $>32.0^{\circ}\text{C}$ ) during July was also investigated at four representative stations (Estevan, Prince Albert, Regina, and Swift Current; see Table 4 for site details) between 1953 and 2012 within southern Saskatchewan (Figure 2). Significant negative temporal trends were found at three of the four sites (Estevan  $[\text{+}(-0.22)]/\text{+}/\text{+}/\text{+}(-0.11)$ ], Prince Albert  $[\text{NS}(-0.020)]/\text{+}/\text{+}/\text{+}$  (the Sen's slope estimator returned a value of 0.00)], and Swift Current  $[\text{NS}(-0.022)]/\text{+}/\text{+}/\text{+}(-0.043)$ ]; results presented as parametric linear regression/non-parametric Spearman rank correlation/non-parametric Kendall rank correlation/non-parametric Mann-Kendall time trend analysis for significance  $[\text{NS}=p>0.1; \text{+}=0.05<p\leq 0.1; \text{*}=0.01<p\leq 0.05; \text{**}=0.001<p\leq 0.01; \text{***}=p\leq 0.001]$  with corresponding parametric linear regression and non-parametric Mann-Kendall time trend analysis with Sen's slope estimates for the slope (number of hours/year) in parentheses), and no significant trend at Regina using the four statistical tests.

In addition, trends in monthly and annual total precipitation (Table S1), mean daily temperatures (Table S2), and mean maximum daily temperatures (Table S3) were considered for the climate stations listed in Table 1. At the Swift Current site, there are no significant positive trends for monthly precipitation over any of the three intervals examined (1886-2007, 1950-2007, and 1980-2007). Decreasing precipitation trends are evident at this location dur-

Table 1: Details of the Adjusted and Homogenized Canadian Climate Data climate monitoring stations in southern Saskatchewan.

Station	Station ID	Record Length	Latitude ( $^{\circ}$ N)	Longitude ( $^{\circ}$ W)	Elevation (m)
Aneroid	4020160	1922-2005	49.72	107.30	754
Bangor	4010400	1951-2005	50.90	102.28	526
Ceylon	4011441	1922-2002	49.38	104.65	753
Chaplin	4021520	1904-1995	50.47	106.65	672
Cote	4011846	1907-2006	51.52	101.78	450
Davidson	4012130 <sup>a</sup> /4012120 <sup>b</sup>	1922-2007	51.27	105.98	619
Estevan	4012400	1900-2011	49.22	102.97	581
High Point	4023240	1929-2011	50.98	107.93	645
Hudson Bay	4083324 <sup>a</sup> /4083323 <sup>b</sup>	1943-2011	52.82 <sup>a</sup> /52.88 <sup>b</sup>	102.32 <sup>a</sup> /102.58 <sup>b</sup>	358 <sup>a</sup> /422 <sup>b</sup>
Indian Head	4013480	1889-2011	50.55	103.65	579
Kelliher	4013660	1908-2011	51.25	103.75	676
Kindersley	4043900	1912-2011	51.52	109.18	694
Klintonel	4024080	1911-1994	49.68	108.92	1074
Leader	402DAF0	1924-2011	50.88	109.53	676
Lost River	4075518	1911-2005	53.28	104.33	372
Manor	4014913	1922-2004	49.62	102.10	633
Melfort	4055079	1910-2011	52.82	104.60	490
Moose Jaw	4015322	1894-2011	50.33	105.55	577
Moosomin	4015360	1941-2000	50.13	101.67	576
North Battleford	4045605	1891-2011	52.77	108.25	548
Outlook	4055736	1915-2011	51.48	107.05	541
Paswegin	4015960	1963-2003	51.98	103.92	533
Pelly	4086000	1951-2011	52.08	101.87	509
Pilger	4056120	1911-2011	52.42	105.15	552
Poplar River	4038740	1956-2002	49.00	106.38	876
Prince Albert	4056240	1884-2011	53.22	105.67	428
Regina	4016560	1898-2011	50.43	104.67	577
Saskatoon	4057120	1900-2011	52.17	106.72	504
Scott	4047241	1911-2007	52.37	108.83	660
Swift Current	4028040 <sup>a</sup> /4028060 <sup>b</sup>	1885-2011	50.27	107.73	817 <sup>a</sup> /825 <sup>b</sup>
Tonkin	4019082	1941-2011	51.20	102.23	527
Val Marie	4038400	1937-2010	49.37	107.85	808
Waseca	4048520	1907-2011	53.13	109.40	638
Yellow Grass	4019040	1911-2011	49.82	104.18	580
Yorkton	4019082	1941-2011	51.27	102.47	498

<sup>a</sup> Temperature monitoring station. <sup>b</sup> Precipitation monitoring station.

Table 2: Details of the climate monitoring stations in southern Saskatchewan employed to calculate the number of days with maximum temperatures  $>32.0^{\circ}$ C during July and August.

Site	Station	Station ID	Record Length	Latitude ( $^{\circ}$ N)	Longitude ( $^{\circ}$ W)	Elevation (m)
Estevan	Estevan	4012390	1903-1945	49 $^{\circ}$ 12'00"	103 $^{\circ}$ 04'00"	566.3
	Estevan A	4012400	1945-2012	49 $^{\circ}$ 13'00"	102 $^{\circ}$ 58'00"	580.6
Kindersley	Kindersley	4043888	1913-1957	51 $^{\circ}$ 28'00"	109 $^{\circ}$ 09'00"	680.6
	Kindersley KY	4043920	1958-1984	51 $^{\circ}$ 28'00"	109 $^{\circ}$ 10'00"	683.4
	Kindersley A	4043900	1985-2012	51 $^{\circ}$ 31'00"	109 $^{\circ}$ 11'00"	693.7
Lloydminster	Lloydminster	4044558	1904-1912	53 $^{\circ}$ 18'00"	110 $^{\circ}$ 00'00"	646.2
	Lloydminster	3013960	1913-1970	53 $^{\circ}$ 17'00"	110 $^{\circ}$ 00'00"	646.2
	Lloydminster North	3013963	1971-1975	53 $^{\circ}$ 17'00"	110 $^{\circ}$ 00'00"	649.2
	Lloydminster 12E	4044562	1976-1981	53 $^{\circ}$ 17'00"	109 $^{\circ}$ 40'00"	647.7
	Lloydminster A (Alberta)	3013961	1982-2012	53 $^{\circ}$ 18'33"	110 $^{\circ}$ 04'21"	668.4
Moose Jaw	Moose Jaw CHAB	4015325	1894-1952	50 $^{\circ}$ 23'00"	105 $^{\circ}$ 42'00"	598.9
	Moose Jaw A	4015320	1953-1997	50 $^{\circ}$ 20'00"	105 $^{\circ}$ 34'00"	576.7
	Moose Jaw CS	4015322	1998-2012	50 $^{\circ}$ 19'54.050"	105 $^{\circ}$ 32'15.030"	577.0
North Battleford	North Battleford A	4045600	1942-2005	52 $^{\circ}$ 46'19.004"	108 $^{\circ}$ 15'20.007"	548.3
	North Battleford RCS	4045607	2006-2012	52 $^{\circ}$ 46'19.004"	108 $^{\circ}$ 15'20.007"	548.0
Prince Albert	Prince Albert	4056230	1885-1942	53 $^{\circ}$ 10'00"	105 $^{\circ}$ 45'00"	436.5
	Prince Albert A	4056240	1943-2012	53 $^{\circ}$ 13'00"	105 $^{\circ}$ 40'00"	428.2
Regina	Regina CDA	4016640	1932-1993	50 $^{\circ}$ 24'00"	104 $^{\circ}$ 34'00"	573.0
	Regina Int'l A	4016560	1994-2012	50 $^{\circ}$ 26'00"	104 $^{\circ}$ 40'00"	577.6
Rosetown	Rosetown CDA EPF	4046880	1937-1980	51 $^{\circ}$ 31'00"	107 $^{\circ}$ 53'00"	591.3
	Rosetown	4046879	1981-2000	51 $^{\circ}$ 37'00"	108 $^{\circ}$ 01'00"	586.1
	Rosetown East	4046884	2000-2012	51 $^{\circ}$ 34'00"	107 $^{\circ}$ 55'00"	586.0
Saskatoon	Saskatoon U of S	4057200	1915-1964	52 $^{\circ}$ 08'00"	106 $^{\circ}$ 38'00"	515.1
	Saskatoon Diefenbaker Int'l A	4057120	1965-2011	52 $^{\circ}$ 10'00"	106 $^{\circ}$ 43'00"	504.1
	Saskatoon RCS	4057165	2012	52 $^{\circ}$ 10'25.000"	106 $^{\circ}$ 43'08.001"	504.1
Swift Current	Swift Current	4028035	1886-1938	50 $^{\circ}$ 20'00"	107 $^{\circ}$ 45'00"	743.7
	Swift Current A	4028040	1939-2010	50 $^{\circ}$ 18'00"	107 $^{\circ}$ 41'00"	816.9
	Swift Current CDA	4028060	2011-2012	50 $^{\circ}$ 16'00"	107 $^{\circ}$ 44'00"	825.0
Yorkton	Yorkton	4019070	1909-1945	51 $^{\circ}$ 11'00"	102 $^{\circ}$ 31'00"	497.7
	Yorkton A	4019080	1943-2005	51 $^{\circ}$ 16'00"	102 $^{\circ}$ 28'00"	498.3
	Yorkton	4019085	2006-2011	51 $^{\circ}$ 15'53"	102 $^{\circ}$ 27'42"	498.3
	Yorkton	4019075	2012	51 $^{\circ}$ 15'53"	102 $^{\circ}$ 27'42"	498.3

Table 3: Trends in number of days with maximum temperatures  $>32.0^{\circ}\text{C}$  during July and August at various climate stations in southern Saskatchewan over their available climate records. Values are presented as parametric linear regression/non-parametric Spearman rank correlation/non-parametric Kendall rank correlation/non-parametric Mann-Kendall time trend analysis for significance and parametric linear regression/non-parametric Mann-Kendall time trend analysis with Sen's slope estimation for the slope (number of days/year).

Location/timeframe	July		August	
	Significance	Slope	Significance	Slope
Estevan				
1903-2012	NS/NS/NS/(n/a)	NS/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Kindersley				
1913-2012	***/***/***/***	-0.037/-0.030	NS/NS/NS/NS	NS/NS
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Lloydminster				
1904-2012	**/***/***/(n/a)	-0.012/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1950-2012	NS/***/***/(n/a)	-0.010/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Moose Jaw				
1894-2012	*/NS/+(n/a)	-0.019/(n/a)	NS/NS/NS/NS	NS/NS
1950-2012	+ /+ /+ /+ (n/a)	-0.036/(n/a)	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
North Battleford				
1942-2012	*/**/**/**	-0.026/ <sup>a</sup>	NS/NS/NS/NS	NS/NS
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Prince Albert				
1885-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Regina				
1932-2012	**/***/***/(n/a)	-0.042/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1950-2012	NS/NS/NS/(n/a)	NS/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Rosetown				
1937-2012	***/***/***/***/	-0.061/-0.043	*/**/**	-0.038/-0.028
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Saskatoon				
1915-2012	**/***/***/***/	-0.026/-0.016	NS/NS/NS/NS	NS/NS
1950-2012	*/**/**	-0.035/ <sup>a</sup>	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Swift Current				
1886-2012	**/***/***/***/	-0.033/-0.023	NS/NS/NS/NS	NS/NS
1950-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS
Yorkton				
1909-2012	+ /NS /+ /+ (n/a)	-0.011/(n/a)	NS/NS/NS/(n/a)	NS/(n/a)
1950-2012	NS/NS/NS/NS	NS/NS	+ /NS /NS /NS	-0.018/NS
1980-2012	NS/NS/NS/NS	NS/NS	NS/NS/NS/NS	NS/NS

n/a=not available; NS= $p>0.1$ ; += $0.05<p\leq 0.1$ ; \*= $0.01<p\leq 0.05$ ; \*\*= $0.001<p\leq 0.01$ ; and \*\*\*= $p\leq 0.001$ .

<sup>a</sup> The Sen's slope estimator returned a value of 0.00.

Table 4: Details of the climate monitoring stations in southern Saskatchewan employed to calculate the number of hours with maximum temperatures  $>32.0^{\circ}\text{C}$  during July and August.

Site	Station	Station ID	Record Length	Latitude ( $^{\circ}\text{N}$ )	Longitude ( $^{\circ}\text{W}$ )	Elevation (m)
Estevan	Estevan A	4012400	1953-2012	49 $^{\circ}$ 13'00"	102 $^{\circ}$ 58'00"	580.6
Prince Albert	Prince Albert A	4056240	1953-2012	53 $^{\circ}$ 13'00"	105 $^{\circ}$ 40'00"	428.2
Regina	Regina Int'l A	4016560	1953-2012	50 $^{\circ}$ 26'00"	104 $^{\circ}$ 40'00"	577.6
Swift Current	Swift Current A	4028040	1953-2010	50 $^{\circ}$ 18'00"	107 $^{\circ}$ 41'00"	816.9
	Swift Current CDA	4028060	2011-2012	50 $^{\circ}$ 16'00"	107 $^{\circ}$ 44'00"	825.0

ing January (1950-2007), February (1886-2007 and 1950-2007), and on an annual basis (1886-2007). Mean monthly temperatures are not increasing throughout the year at Swift Current. Increasing trends are evident during January (1886-2011 and 1950-2011), February (1886-2011), March (1886-2011 and 1950-2011), April (1950-2011), August (1886-2011), September (1886-2011 and 1980-2011), and on an annual basis (1886-2011 and 1950-2011), but no significant trends are present over any of the three time periods for May, June, July, October, November, and December. Furthermore, with the exception of September, there are no significant trends in mean monthly temperature or the annual mean temperature between 1980 and 2011. Similarly, although there are increasing trends in mean maximum temperatures at Swift Current during January (1885-2011 and 1950-2011), February (1885-2011), March (1885-2011 and 1950-2011), April (1950-2011), and on an annual basis (1885-2011 and 1950-2011), there are no significant trends over any of the three time periods for May, July, August, September, October, November, and December, and a decreasing trend during June (1980-2011).

These findings are in agreement with our previous work [11] and appear to contrast sharply with the forward looking modeling predictions of Wang et al. [2]. The historical precipitation and temperature trends for the other stations in southern Saskatchewan display significant inter- and intra-station heterogeneity throughout the year in terms of whether or not trends are evident, as well as their magnitude and direction. Consequently, caution must be exercised when extrapolating any case study analyses at a particular location to larger geographic areas of the province. Based on our analyses of historical climate data for southern Saskatchewan, it is unclear whether climate models are accurately predicting future climate change impacts on biofuel wheat production in this region for the mid-21<sup>st</sup> century.

## References

- [1] C. Drapcho, N. Nghim, T. Walker, *Biofuels Engineering Process Technology*, McGraw-Hill: Toronto, ON, Canada, 2008.
- [2] H. Wang, Y. He, B. Qian, B. McConkey, H. Cutforth, T. McCaig, G. McLeod, R. Zentner, R. DePauw, R. Lemke, K. Brandt, T. Liu, X. Qin, J. White, T. Hunt, G. Hoogenboom, *Climate change and biofuel wheat: A case study of southern Saskatchewan*, *Canadian Journal of Plant Science* 92 (2012) 421–425.
- [3] *Soil Zones in Southern Saskatchewan*, Ministry of Agriculture, Government of Saskatchewan: Regina, SK, Canada, 2009.
- [4] L. Vincent, X. Wang, E. Milewska, H. Wan, F. Yang, V. Swail, *A second generation of homogenized Canadian monthly surface air temperature for climate trend analysis*, *Journal of Geophysical Research: Atmospheres* 117 (2012) D18110.
- [5] E. Mekis, L. Vincent, *An overview of the second generation adjusted daily precipitation dataset for trend analysis in Canada*, *Atmosphere-Ocean* 49 (2011) 163–177.
- [6] H. Mann, *Non-parametric tests against trend*, *Econometrica* 13 (1945) 245–259.
- [7] M. Kendall, *Rank Correlation Methods*, Charles Griffin: London, UK, 1975.
- [8] P. Sen, *Estimates of the regression coefficient based on Kendall's tau*, *Journal of the American Statistical Association* 63 (1968) 1379–1389.
- [9] C. Spearman, *The proof and measurement of association between two things*, *American Journal of Psychology* 15 (1904) 72–101.
- [10] R Core Team, *R: A Language and Environment for Statistical Computing*, R Foundation for Statistical Computing: Vienna, Austria, 2012.
- [11] S. Rayne, K. Forest, *Temperature and precipitation trends in southwestern Saskatchewan tell a complex long-term climate change story*, *viXra* (2013) 1301.0151.

## Supporting Information

Table S1. Trends in monthly and annual total precipitation at various climate stations in southern Saskatchewan over their available climate records. Values are presented as parametric linear regression/non-parametric Spearman rank correlation/non-parametric Kendall rank correlation for significance and parametric linear regression for the slope (mm/yr) in brackets. NS= $p > 0.1$ ; += $0.05 < p \leq 0.1$ ; \*= $0.01 < p \leq 0.05$ ; \*\*= $0.001 < p \leq 0.01$ ; and \*\*\*= $p \leq 0.001$ .

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Aneroid</b>													
1922-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [0.12]	NS/NS/NS [NS]	NS/+NS [0.21]	NS/NS/NS [NS]	*/+/* [0.31]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.13]	NS/NS/NS [NS]
1950-2005	NS/NS/NS [NS]	*/NS/NS [-0.24]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/* [0.48]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [2.2]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [0.80]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Bangor</b>													
1951-2005	NS/NS/NS [NS]	*/+/* [-0.30]	*/+/* [-0.43]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [-3.2]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Ceylon</b>													
1922-2002	*/+/* [-0.23]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/NS/+ [-0.24]	+NS/NS [-0.15]	*/NS/NS [-1.7]
1950-2002	*/+/* [-0.15]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.59]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2002	NS/NS/NS [-0.36]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [3.0]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [-1.4]	NS/NS/NS [NS]	NS/NS/+ [-0.31]	*/+/* [-1.0]	NS/NS/NS [NS]
<b>Chaplin</b>													
1904-1995	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [-0.20]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-0.11]	NS/NS/NS [NS]	*/+/* [0.14]	NS/NS/NS [NS]
1950-1995	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-1995	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [4.7]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Core</b>													
1913-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/NS/+ [0.19]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.29]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.18]	NS/NS/NS [0.52]
1950-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.34]	NS/NS/NS [1.6]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-2.2]	NS/NS/NS [NS]	+NS/NS [-1.1]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.93]	NS/NS/NS [NS]
<b>Davidson</b>													
1922-2005	NS/+/* [-0.11]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.16]	NS/NS/NS [NS]
1950-2005	NS/NS/NS [NS]	NS/+/* [-0.23]	NS/NS/NS [NS]	*/+/* [-0.32]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [2.3]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [4.9]
<b>Estevan</b>													
1902-2011	*/+/* [0.15]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.19]	NS/NS/NS [NS]	NS/NS/NS [0.062]	NS/NS/NS [NS]
1950-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.24]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [1.4]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.59]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [3.6]
<b>High Point</b>													
1929-2006	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.33]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+NS [-0.15]	NS/+NS [-0.097]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2006	NS/+/* [-0.13]	NS/NS/NS [NS]	*/+/* [-0.26]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2006	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/* [-0.47]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/* [-1.7]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Hudson Bay</b>													
1943-2007	NS/NS/NS [NS]	*/+/* [0.17]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [-0.69]	*/+/* [0.21]	*/+/* [1.5]
1950-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [-0.14]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [1.1]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Indian Head</b>													
1895-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [-0.27]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [0.12]	NS/NS/NS [NS]
1950-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*/+/* [-3.1]	NS/NS/NS [NS]	*/+/* [-1.3]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-4.7]





Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Pasvegin</b>													
1951-2003	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2003	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Pelly</b>													
1952-2011	NS/NS/NS [NS]	NS/+/ [0.11]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.61]	NS/NS/+ [0.53]	NS/NS/NS [NS]	**/+/ [0.76]	NS/NS/NS [NS]	+/ [0.25]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [3.0]
1980-2011	NS/NS/NS [NS]	NS/+/ [0.37]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.90]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [4.6]
<b>Pilger</b>													
1913-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.13]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.21]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.13]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.76]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	+/ [0.42]	+/ [0.38]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Prince Albert</b>													
1899-2011	**/+/ [0.66]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.096]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.18]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.092]	NS/NS/NS [NS]	+/ [0.061]	**/+/ [0.62]
1950-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	**/+/ [0.37]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Regina</b>													
1898-2007	***/+/ [0.14]	**/+/ [0.093]	+/ [0.084]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	NS/NS/NS [NS]	**/+/ [0.23]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.93]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [1.7]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Saskatoon</b>													
1900-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	NS/NS/NS [NS]	**/+/ [0.24]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Scott</b>													
1911-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Swift Current</b>													
1886-2007	NS/NS/NS [NS]	**/+/ [0.062]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.16]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	+/ [0.15]	**/+/ [0.15]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Tomkin</b>													
1941-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [0.29]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.21]	NS/+/ [0.50]	**/+/ [0.15]	NS/NS/NS [NS]
1950-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	+/ [0.36]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Val Marie</b>													
1953-2010	NS/NS/NS [NS]	**/+/ [0.19]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.77]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.24]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.16]	NS/NS/NS [NS]
1980-2010	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.56]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>West Poplar River</b>													
1957-2002	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.25]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [1.0]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.41]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2002	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [1.5]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Yellow Grass</b>													
1912-2011	**/+/ [0.16]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.25]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1912-2011	+/ [0.26]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1912-2011	**/+/ [0.98]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/ [1.4]	NS/NS/NS [NS]	+/ [1.3]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [6.5]

Table S2. Trends in monthly and annual mean temperatures at various climate stations in southern Saskatchewan over their available climate records. Values are presented as parametric linear regression/non-parametric Spearman rank correlation/non-parametric Kendall rank correlation for significance and parametric linear regression for the slope ( $^{\circ}\text{C}/\text{yr}$ ) in brackets. NS= $p>0.1$ ;  $\pm=0.05<p\leq 0.1$ ;  $*=0.01<p\leq 0.05$ ;  $**=-0.001<p\leq 0.01$ ; and  $***=p\leq 0.001$ .

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
Aneroid	1922-2005	NS/NS/NS	*/+/* [0.053]	*/+/* [0.037]	NS/+/* [0.016]	NS/NS/NS	+/+/* [0.014]	NS/NS/NS	*/+/* [0.020]	NS/NS/NS	NS/NS/NS	NS/NS/NS	*/+/* [0.013]	
	1950-2005	*/+/* [0.112]	*/+/* [0.078]	*/+/* [0.11]	*/+/* [0.063]	NS/NS/NS	NS/NS/NS	+/+/* [0.026]	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	*/+/* [0.043]	
	1980-2005	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Cote	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1980-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1980-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Davidson	1922-2007	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2007	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1980-2007	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Bastevan	1900-2011	*/+/* [0.046]	*/+/* [0.069]	*/+/* [0.038]	*/+/* [0.015]	*/+/* [0.015]	*/+/* [0.015]	*/+/* [0.015]	*/+/* [0.014]	*/+/* [0.021]	*/+/* [0.011]	*/+/* [0.026]	*/+/* [0.026]	
	1950-2011	*/+/* [0.092]	*/+/* [0.043]	*/+/* [0.078]	*/+/* [0.047]	*/+/* [0.015]	*/+/* [0.001]	*/+/* [0.015]	*/+/* [0.030]	*/+/* [0.030]	*/+/* [0.030]	*/+/* [0.030]	*/+/* [0.031]	
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Hudson Bay	1943-2011	*/+/* [0.063]	*/+/* [0.057]	*/+/* [0.051]	*/+/* [0.028]	*/+/* [0.015]	*/+/* [0.016]	*/+/* [0.016]	*/+/* [0.021]	*/+/* [0.021]	*/+/* [0.011]	*/+/* [0.026]	*/+/* [0.026]	
	1950-2011	*/+/* [0.11]	*/+/* [0.089]	*/+/* [0.068]	*/+/* [0.036]	*/+/* [0.015]	*/+/* [0.015]	*/+/* [0.015]	*/+/* [0.020]	*/+/* [0.020]	*/+/* [0.020]	*/+/* [0.020]	*/+/* [0.030]	
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Indian Head	1889-2011	*/+/* [0.035]	*/+/* [0.049]	*/+/* [0.046]	*/+/* [0.018]	*/+/* [0.013]	*/+/* [0.015]	*/+/* [0.010]	*/+/* [0.019]	*/+/* [0.014]	*/+/* [0.025]	*/+/* [0.020]	*/+/* [0.024]	
	1950-2011	*/+/* [0.11]	*/+/* [0.047]	*/+/* [0.089]	*/+/* [0.058]	*/+/* [0.013]	*/+/* [0.030]	*/+/* [0.017]	*/+/* [0.042]	*/+/* [0.042]	*/+/* [0.043]	*/+/* [0.043]	*/+/* [0.046]	
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Kellher	1908-2011	*/+/* [0.038]	*/+/* [0.049]	*/+/* [0.042]	*/+/* [0.033]	*/+/* [0.020]	*/+/* [0.021]	*/+/* [0.018]	*/+/* [0.023]	*/+/* [0.023]	*/+/* [0.019]	*/+/* [0.023]	*/+/* [0.022]	
	1950-2011	*/+/* [0.097]	*/+/* [0.045]	*/+/* [0.067]	*/+/* [0.057]	*/+/* [0.013]	*/+/* [0.021]	*/+/* [0.018]	*/+/* [0.037]	*/+/* [0.037]	*/+/* [0.037]	*/+/* [0.037]	*/+/* [0.030]	
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Kindersley	1912-2011	*/+/* [0.063]	*/+/* [0.041]	*/+/* [0.065]	*/+/* [0.016]	*/+/* [0.013]	*/+/* [0.013]	*/+/* [0.017]	*/+/* [0.019]	*/+/* [0.019]	*/+/* [0.011]	*/+/* [0.021]	*/+/* [0.021]	
	1950-2011	*/+/* [0.10]	*/+/* [0.010]	*/+/* [0.079]	*/+/* [0.044]	*/+/* [0.013]	*/+/* [0.021]	*/+/* [0.013]	*/+/* [0.025]	*/+/* [0.025]	*/+/* [0.025]	*/+/* [0.025]	*/+/* [0.028]	
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Leader	1924-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Lost River	1911-2005	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2005	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1980-2005	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1907-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	1950-2006	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
Moose Jaw														
1894-2011	**/**/* [0.035]	***/**/* [0.050]	***/**/* [0.052]	**/**/* [0.022]	**/**/* [0.018]	***/**/* [0.021]	***/**/* [0.019]	***/**/* [0.028]	***/**/* [0.027]	**/**/* [0.018]	**/**/* [0.028]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.027]
1950-2011	*/+/* [0.081]	NS/NS/NS [NS]	+/+/ [0.055]	+/+/ [0.032]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [-0.069]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/+/ [0.065]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Moosemin														
1941-2000	NS/NS/NS [NS]	*/+/* [0.078]	**/**/* [0.091]	NS/NS/NS [NS]	**/**/* [0.032]	**/**/* [0.031]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [-0.036]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/*/ [0.019]
1950-2000	+/+/ [0.091]	NS/+/* [0.065]	**/**/* [0.11]	+/*/ [0.050]	**/**/* [0.037]	+/*/ [0.032]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [-0.032]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.031]
1980-2000	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.18]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
North Battleford														
1891-2011	**/**/* [0.030]	***/**/* [0.041]	**/**/* [0.032]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.011]	+/+/ [0.060]	**/**/* [0.0097]	**/**/* [0.010]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.014]
1950-2011	**/**/* [0.11]	NS/NS/NS [NS]	**/**/* [0.062]	+/*/ [0.037]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.021]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [-0.075]	NS/+/ [-0.035]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/+/ [0.055]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Outlook														
1915-2011	+/+/ [0.035]	**/**/* [0.041]	**/**/* [0.040]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.015]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.016]
1950-2011	***/**/* [0.12]	NS/+NS [0.044]	**/**/* [0.086]	**/**/* [0.048]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/+/ [0.026]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.032]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.078]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Pasewegon														
1963-2003	**/**/* [0.14]	NS/NS/NS [NS]	+/*/ [0.11]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [-0.070]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.041]
1980-2003	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+NS [0.078]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Pelly														
1951-2011	***/**/* [0.11]	+/*/ [0.055]	**/**/* [0.087]	**/**/* [0.044]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.021]	NS/NS/NS [NS]	***/**/* [0.045]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.043]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.093]	NS/+/ [0.052]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/*/ [0.045]
Pilger														
1911-2011	+/+/ [0.030]	**/**/* [0.034]	**/**/* [0.030]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/*/ [0.010]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.011]
1950-2011	***/**/* [0.11]	NS/NS/NS [NS]	**/**/* [0.061]	**/**/* [0.041]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.026]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/+NS [0.067]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.045]
Poplar River														
1956-2002	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/+/ [0.023]
1980-2002	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Prince Albert														
1884-2011	***/**/* [0.046]	***/**/* [0.052]	***/**/* [0.039]	+/+/ [0.015]	**/**/* [0.015]	***/**/* [0.017]	***/**/* [0.018]	***/**/* [0.024]	***/**/* [0.021]	**/+/ [0.010]	**/**/* [0.021]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.024]
1950-2011	***/**/* [0.11]	**/**/* [0.053]	**/**/* [0.083]	**/**/* [0.046]	NS/NS/NS [NS]	+/*/ [0.020]	+/*/ [0.015]	NS/NS/NS [NS]	**/**/* [0.015]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.037]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.073]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
Regina														
1898-2011	**/**/* [0.031]	***/**/* [0.049]	***/**/* [0.041]	**/**/* [0.020]	+NS/NS [0.0097]	**/**/* [0.012]	**/**/* [0.010]	***/**/* [0.016]	***/**/* [0.017]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/**/* [0.018]
1950-2011	**/**/* [0.087]	NS/NS/NS [NS]	**/**/* [0.072]	**/**/* [0.044]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/+/ [0.025]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [0.024]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/* [-0.094]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/+/ [0.070]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Saskatoon													
1900-2011	**/*/*	****/****	**/*/*/*	**/*/*	+ /NS/NS	**/+/*	NS/NS/NS	**/*/*	****/****	NS/NS/NS	NS/NS/NS	NS/NS/NS	****/****
	[0.037]	[0.046]	[0.038]	[0.021]	[0.010]	[0.011]	[NS]	[0.014]	[0.019]	[NS]	[NS]	[NS]	[0.019]
1950-2011	**/*/*/*	NS/NS/NS	**/*/*	**/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.095]	[NS]	[0.073]	[0.040]	[NS]	[NS]	[NS]	[NS]	[0.022]	[NS]	[NS]	[NS]	[0.027]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[-0.058]	[NS]	[NS]	[NS]	[0.060]	[NS]	[NS]	[NS]	[NS]
Scott													
1911-2007	+/*/*	**/*/*/*	**/*/*/*	NS/NS/NS	NS/NS/NS	+ /NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.035]	[0.050]	[0.043]	[NS]	[NS]	[0.0095]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.014]
1950-2007	**/*/*/*	+/*/*	**/*/*/*	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.12]	[0.059]	[0.094]	[0.051]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.036]
1980-2007	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[-0.073]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.21]	[NS]
Swift Current													
1886-2011	**/*/*	****/****	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	****/****
	[0.026]	[0.043]	[0.020]	[NS]	[NS]	[NS]	[NS]	[0.0091]	[0.010]	[NS]	[NS]	[NS]	[0.011]
1950-2011	**/*/*/*	NS/NS/NS	**/*/*/*	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	****/****
	[0.11]	[NS]	[0.085]	[0.050]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.031]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.095]	[NS]	[NS]	[NS]	[NS]
Val Marie													
1937-2010	NS/NS/NS	* /NS/+	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	* /NS/+
	[0.046]	[0.062]	[0.070]	[NS]	[NS]	[0.020]	[NS]	[NS]	[NS]	[NS]	[0.080]	[NS]	[0.017]
1950-2010	NS/NS/NS	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[0.082]	[NS]	[0.075]	[0.044]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1980-2010	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[-0.001]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.084]	[NS]	[NS]
Wasca													
1907-2011	**/*/*/*	**/*/*/*	**/*/*/*	+ /NS/NS	+ /NS/NS	**/*/*/*	* /NS/+	**/*/*/*	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.043]	[0.045]	[0.032]	[0.010]	[0.0085]	[0.013]	[0.0084]	[0.019]	[0.020]	[NS]	[NS]	[NS]	[0.018]
1950-2011	**/*/*/*	NS/NS/NS	**/*/*/*	**/*/*	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.13]	[NS]	[0.069]	[0.041]	[NS]	[0.023]	[NS]	[NS]	[0.031]	[NS]	[NS]	[NS]	[0.036]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	* /NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.072]	[NS]	[NS]	[NS]	[NS]
Yellow Grass													
1911-2011	NS/NS/NS	* /NS/+	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	+ /NS/+
	[NS]	[0.043]	[0.031]	[NS]	[NS]	[0.0091]	[NS]	[0.015]	[0.018]	[NS]	[NS]	[NS]	[0.090]
1950-2011	**/*/*/*	NS/NS/NS	**/*/*/*	**/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.10]	[NS]	[0.073]	[0.043]	[NS]	[NS]	[NS]	[0.018]	[0.035]	[NS]	[NS]	[NS]	[0.029]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[-0.068]	[NS]	[NS]	[NS]	[0.11]	[NS]	[NS]	[NS]	[NS]
Yorkton													
1942-2011	+ /NS/NS	+ /NS/+	**/*/*	+ /NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*	+ /NS/+	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.045]	[0.043]	[0.054]	[0.032]	[NS]	[0.013]	[NS]	[NS]	[0.023]	[-0.019]	[NS]	[NS]	[0.022]
1950-2011	**/*/*/*	NS/NS/NS	**/*/*/*	**/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*/*
	[0.097]	[NS]	[0.068]	[0.068]	[NS]	[NS]	[NS]	[NS]	[0.030]	[NS]	[NS]	[NS]	[0.029]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/*/*	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
	[NS]	[NS]	[NS]	[NS]	[-0.068]	[NS]	[NS]	[NS]	[0.094]	[NS]	[NS]	[NS]	[NS]

Table S3. Trends in monthly and annual mean maximum temperatures at various climate stations in southern Saskatchewan over their available climate records. Values are presented as parametric linear regression/non-parametric Spearman rank correlation/non-parametric Kendall rank correlation for the slope ( $^{\circ}\text{C}/\text{yr}$ ) in brackets. NS= $p>0.1$ ;  $+ = 0.05 < p \leq 0.1$ ;  $* = 0.01 < p \leq 0.05$ ;  $** = 0.001 < p \leq 0.01$ ; and  $*** = p \leq 0.001$ .

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Aeroid</b>													
1922-2005	NS/NS/NS [NS]	**/** [0.044]	**/** [0.039]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2005	**/** [0.11]	+/** [0.072]	***/** [0.11]	***/** [0.089]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.040]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Cote</b>													
1907-2006	NS/NS/NS [NS]	***/** [0.049]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2006	***/** [0.10]	NS/+ [0.040]	**/** [0.061]	+/** [0.053]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/** [0.036]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.028]
1980-2006	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-0.10]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Davidson</b>													
1922-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	**/** [0.13]	NS/NS/NS [NS]	**/** [0.066]	+/** [0.053]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-0.063]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Estevan</b>													
1900-2011	***/** [0.048]	***/** [0.071]	***/** [0.044]	**/** [0.026]	***/** [0.025]	***/** [0.021]	**/+ [0.020]	***/** [0.026]	***/** [0.022]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.034]	***/** [0.032]
1950-2011	**/** [0.091]	NS/NS/NS [NS]	**/** [0.076]	**/** [0.060]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.029]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/** [-0.073]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Hudson Bay</b>													
1943-2011	**/** [0.060]	**/** [0.047]	**/** [0.044]	+/** [0.036]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.022]
1950-2011	***/** [0.11]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.030]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Indian Head</b>													
1889-2011	**/** [0.027]	***/** [0.042]	***/** [0.036]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.015]
1950-2011	***/** [0.11]	NS/NS/NS [NS]	**/** [0.084]	**/** [0.071]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.041]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Kellher</b>													
1908-2011	**/** [0.033]	***/** [0.045]	***/** [0.035]	***/** [0.038]	+/** [0.015]	**/** [0.016]	NS/NS/NS [NS]	**/** [0.019]	**/** [0.017]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	***/** [0.017]
1950-2011	**/** [0.083]	NS/NS/NS [NS]	**/** [0.059]	**/** [0.070]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.026]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Kindersley</b>													
1918-2011	+NS/NS [0.052]	NS/NS/NS [NS]	**/** [0.053]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2011	**/** [0.091]	NS/NS/NS [NS]	**/** [0.066]	**/** [0.050]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.017]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [-0.062]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Leader</b>													
1924-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	+/** [0.032]	NS/NS/NS [NS]	+NS/NS [-0.016]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2011	**/** [0.10]	NS/NS/NS [NS]	***/** [0.079]	+NS/NS [0.048]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [-0.082]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Lost River</b>													
1911-2005	NS/NS/NS [NS]	+NS/NS [0.027]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2005	**/** [0.079]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+NS/NS [0.017]
1980-2005	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Moore Jaw	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**
1894-2011	[0.042]	[0.053]	[0.054]	[0.024]	[0.013]	[0.016]	[0.011]	[0.021]	[0.024]	[0.015]	[0.030]	[0.021]	[0.027]
1950-2011	**/**/**	NS/NS/NS	+/**/+	+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+/**/+
1980-2011	[0.078]	[NS]	[0.053]	[0.050]	[NS]	+/**/+	[NS]	[NS]	*+/**/+	[NS]	[NS]	[NS]	[0.016]
Microsmin	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1941-2000	[NS]	[0.051]	[0.070]	[NS]	+/**/+	*+/**/+	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1950-2000	NS/NS/NS	NS/NS/NS	**/**/**	+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1980-2000	NS/NS/NS	NS/NS/NS	[0.083]	[0.061]	[0.042]	[0.029]	[NS]	[NS]	*+/**/+	[NS]	[NS]	[NS]	[NS]
North Battleford	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1891-2011	+/**/+	**/**/**	**/**/**	NS/NS/NS	*+/**/+	**/**/**	NS/NS/NS	+/**/+	+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/**/**
1950-2011	[0.024]	[0.031]	[0.021]	[NS]	[0.011]	[0.015]	[NS]	[0.011]	[0.012]	[NS]	[NS]	[NS]	[0.012]
1980-2011	**/**/**	NS/NS/NS	**/**/**	**/**/**	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	*+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/**/**
Outlook	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1915-2011	[NS]	[NS]	[0.029]	[NS]	[0.032]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1950-2011	**/**/**	NS/NS/NS	**/**/**	*+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1980-2011	[0.11]	[NS]	[0.074]	[0.048]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
Passvegin	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1963-2003	*/+/**	NS/NS/NS	**/**/**	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	[0.094]	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/**/**
1980-2003	[0.13]	[NS]	[0.11]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[-0.050]	[NS]	[NS]	[0.044]
Pelly	**/**/**	NS/NS/NS	**/**/**	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1951-2011	[0.097]	[NS]	[0.060]	[NS]	[0.060]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.016]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	*+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Pilger	NS/NS/NS	NS/NS/+	NS/NS/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1911-2011	[NS]	[0.022]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1950-2011	**/**/**	NS/NS/NS	**/**/**	*+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1980-2011	[0.11]	[NS]	[0.052]	[0.050]	[NS]	[NS]	[-0.025]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.025]
Poplar River	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1956-2002	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1980-2002	NS/NS/NS	NS/NS/NS	NS/NS/NS	+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
Prince Albert	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**
1884-2011	[0.031]	[0.034]	[0.017]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.0078]
1950-2011	**/**/**	NS/NS/NS	**/**/**	*+/**/+	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	**/**/**
1980-2011	[0.12]	[NS]	[0.063]	[0.054]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.020]
Regina	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS
1898-2011	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]
1950-2011	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**	**/**/**
1980-2011	[0.085]	[NS]	[0.066]	[0.050]	*+/**/+	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[NS]	[0.023]
1980-2011	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS	NS/NS/NS

Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
<b>Saskatoon</b>													
1900-2011	+/**/** [0.025]	**/**/** [0.036]	**/** [0.027]	+/**/+ [0.020]	NS/NS/NS [0.0099]	NS/NS/NS [0.0099]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/**/+ [0.015]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/** [0.013]
1950-2011	**/NS/NS [0.036]	NS/NS/NS [NS]	**/** [0.067]	**/**/** [0.061]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/**/+ [0.036]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/** [0.028]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*+/**/ [0.098]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Scott</b>													
1911-2007	+/**/+ [0.032]	**/** [0.038]	**/** [0.031]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [-0.017]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2007	**/** [0.12]	NS/NS/NS [NS]	**/** [0.073]	*+/**/ [0.050]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/**/+ [0.019]
1980-2007	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*+/**/ [-0.090]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Swift Current</b>													
1885-2011	+/**/+ [0.022]	**/**/** [0.038]	**/**/** [0.029]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2011	**/** [0.10]	NS/NS/NS [NS]	**/** [0.089]	**/**/** [0.068]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.032]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Val Marie</b>													
1937-2010	NS/NS/NS [NS]	**/**/+ [0.062]	**/**/** [0.069]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [-0.024]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/**/** [-0.047]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2010	**/** [0.083]	NS/NS/NS [NS]	**/** [0.077]	*+/**/ [0.041]	NS/NS/NS [NS]	+/**/+ [0.028]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1980-2010	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Waseca</b>													
1907-2011	*+/**/ [0.033]	**/** [0.036]	+/**/+ [0.020]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*+/**/ [0.0090]
1950-2011	**/**/** [0.12]	NS/NS/NS [NS]	**/** [0.051]	*+/**/ [0.044]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/**/+ [0.035]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.029]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Yellow Grass</b>													
1911-2011	NS/NS/NS [NS]	**/** [0.036]	*+/**/ [0.029]	+/**/+ [0.022]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
1950-2011	**/** [0.10]	NS/NS/NS [NS]	**/** [0.070]	*+/**/+ [0.063]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*+/**/+ [0.047]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.027]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	+/**/+ [-0.070]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]
<b>Yorkton</b>													
1941-2011	+/**/+ [0.045]	**/** [0.037]	**/** [0.049]	*+/**/+ [0.046]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	*+/**/+ [0.034]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.023]
1950-2011	**/** [0.099]	NS/NS/NS [NS]	**/** [0.063]	**/** [0.067]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.047]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	**/** [0.033]
1980-2011	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]	NS/NS/NS [NS]