



## GROWING SEASON

### *What does this measure & why is it important?*

This indicator measures trends in the length of the growing season at Basin Boundary weather stations. Only stations with at least 100 years of climate data are referenced. The growing season is defined as the annual number of days between the first annual span of at least six days with a daily mean temperature of greater than 5 degrees Celsius, and the first span after July 1<sup>st</sup> of 6 days with a daily mean temperature of less than 5 degrees Celsius. Index values were acquired from the CLIMDEX [data portal](#). Trend analysis was completed by the RDI research team using [ProUCL software](#), a statistical package developed by the US Environmental Protection Agency.

Data from wider geographic scales suggest that the length of the growing season is generally increasing in North America (Qian et al, 2012; USEPA, 2012). It is important for decision-makers to understand the extent to which this finding rings true for Basin Boundary communities. A longer growing season brings important consequences for our environmental and economic systems—some positive and some negative. For example while farmers may be able diversify their crops or improve yields, a longer growing season may also increase irrigation-induced stress on our water resources, or contribute to the spread of invasive species.

### *What are the trends & current conditions?*

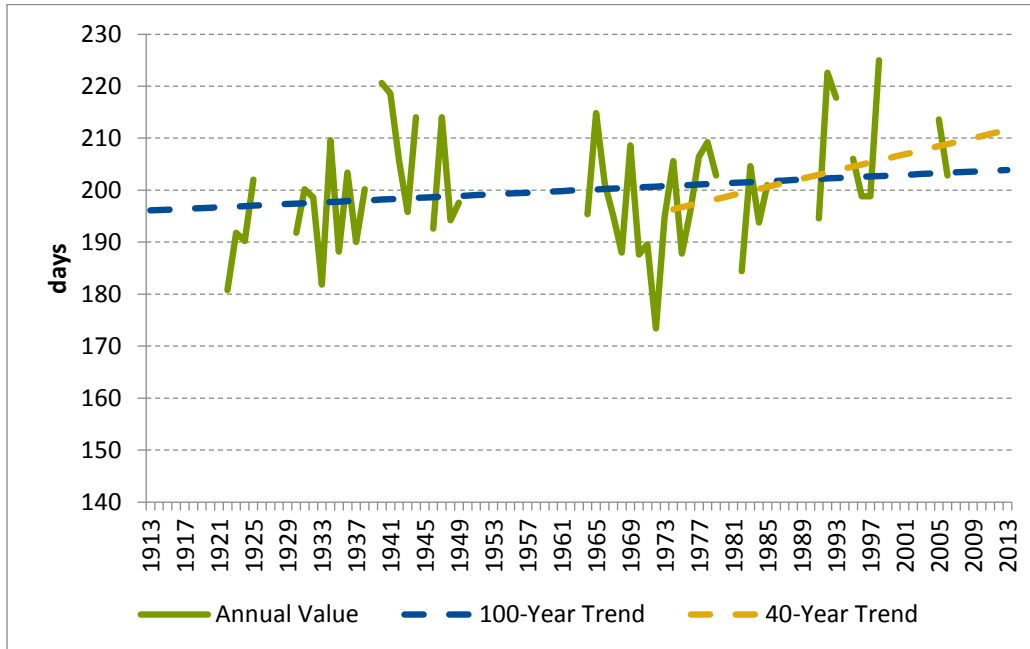
Data from all five stations suggest that the length of the growing season is increasing, though the magnitude of that change varies based on location and the period of data that informs the analysis (Table 1). When 100 years of data are considered, the biggest change has been witnessed in Creston, where the growing season is now 25 days longer than it was a century ago. Golden has seen the smallest change, at 7.7 days. When only the past 40 years of data are considered, the magnitude of most trends increases. Over this time period, the length of Golden’s growing season has increased at a rate of 33.3 days per century.

Station	100-Year Trend	40-Year Trend
	(days per century)	
<b>Creston</b>	25*	28.6
<b>Fauquier</b>	15*	22.2
<b>Fernie</b>	9.1	24.1
<b>Golden</b>	7.7	33.3*
<b>Kaslo</b>	10.3	7.1
<b>Region</b>	7.8	39.2

\*Statistically significant trend (at 95% confidence level)

**Table 1: Trends in length of growing season at five Basin Boundary weather stations**  
**Source of index values: CLIMDEX, 2014**

Annual index values vary significantly as demonstrated in Figure 1, which shows a regional average from all five stations. However, the overall trend is toward a longer growing season. It is important to note that trends at the regional scale are not statistically significant, meaning that confidence in the trends is lower than necessary for researchers to say with 95% certainty that the trends are attributable to changes in the climate, rather than just chance.



**Figure 1: Trend in length of growing season (average of five Basin Boundary stations)**  
 Source of index values: CLIMDEX, 2014



The Columbia Basin Rural Development Institute, at Selkirk College, is a regional centre of excellence in applied research and information provision focused on strengthening rural communities in the Columbia Basin-Boundary Region. Visit [www.cbrdi.ca](http://www.cbrdi.ca) for more information.