Land Suitability Ratings for Spring Seeded Small Grains
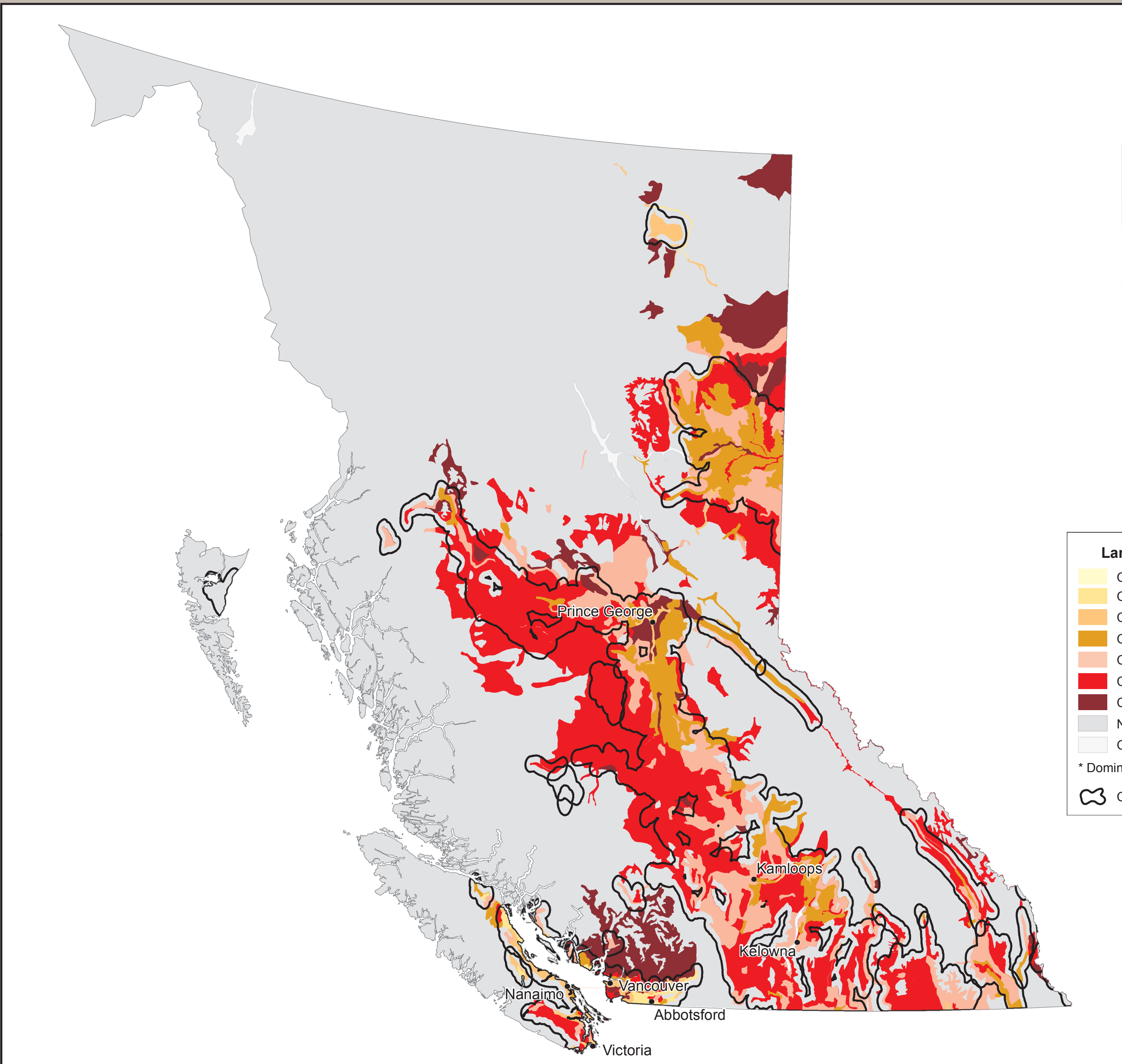
British Columbia

Land Suitability Rating System (LSRS):

- The system recognizes three major components that determine the suitability of land for crops: climate (EGDD and P-PE), soils and landscape.

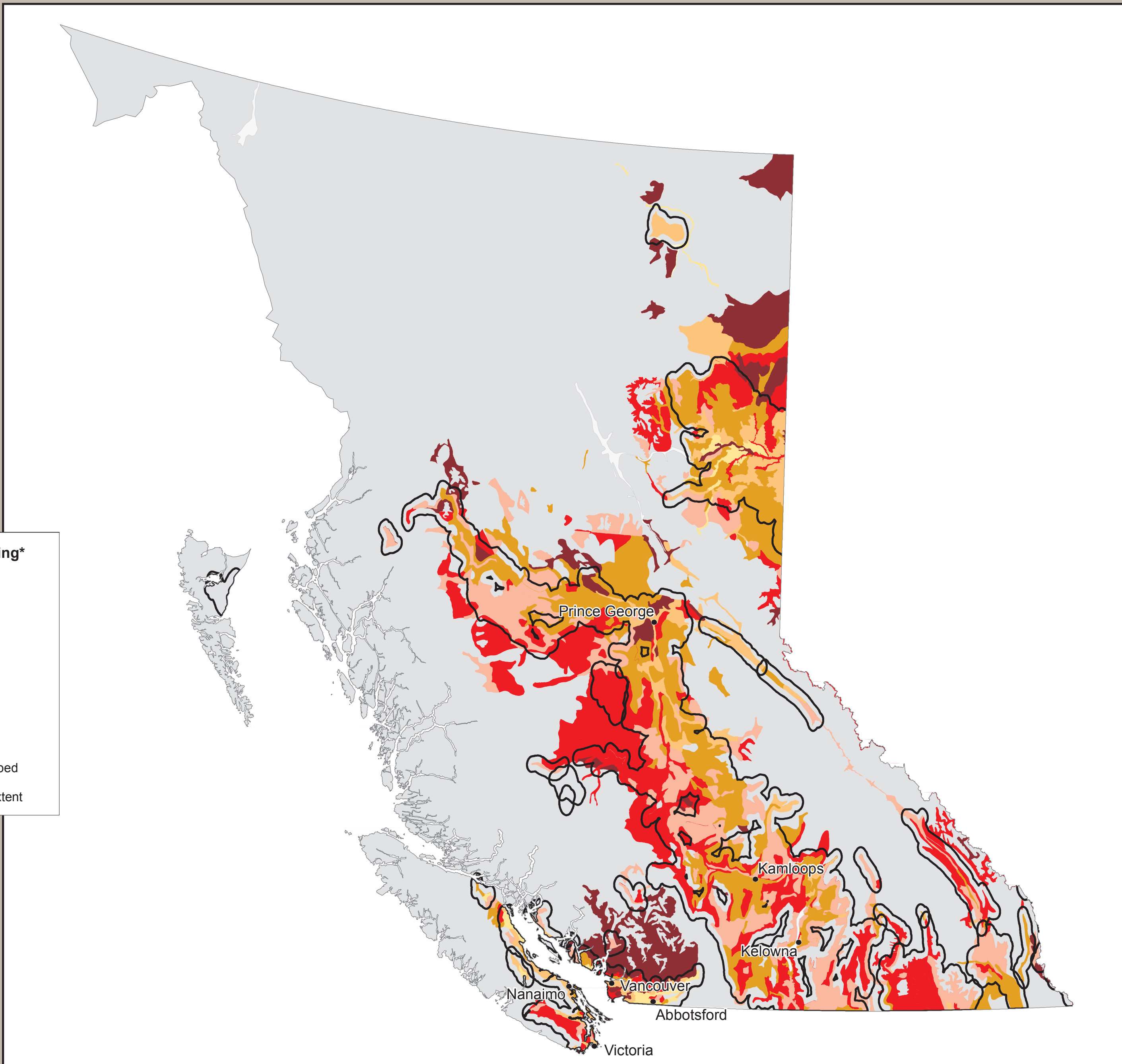### Baseline: 1971-2000

Climate Change Scenario: 2010-2039

Land Suitability Rating*
- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Not Rated
- Open Water

* Dominant SLC ratings mapped

Current Agricultural Extent

Table 1: Land Suitability Ratings and Class Descriptions

Suitability Class	Description
Class 1	none to slight limitations
Class 2	slight limitations
Class 3	moderate limitations
Class 4	severe limitations
Class 5	very severe limitations
Class 6	extremely severe limitations
Class 7	unsuitable

Note: Class 1 to Class 3 are considered suitable for continual crop growth.

For more information on suitability ratings for spring seeded small grains:
http://sis.agr.gc.ca/cansis/publications/manuals/lsrs.pdf

Table 2: Summary of land suitability ratings for spring seeded small grains comparing 1971-2000 to 2010-2039

Suitability Class	1971 - 2000 Baseline	2010 - 2039 CGCM 3.1
	Percent of total area	
Class 1	0.1	0.1
Class 2	0.7	1.4
Class 3	2.5	6.0
Class 4	10.2	20.7
Class 5	15.2	15.5
Class 6	53.8	39.7
Class 7	17.5	16.6

LSRS and Climate Data:
- Produced using the Land Suitability Rating System version 3.0, using data from a baseline period of 1971-2000 and climate change data from the Canadian Coupled Global Climate Model (CGCM) version 3.1, and IPCC's emission scenario A2.
- EGDD and P-PE values for each temporal period are spatially averaged to the Soil and Landscapes of Canada (SLC) polygons.
- The average EGDD and P-PE are then used by the LSRS along with the SLC soils attribute tables (e.g. surface texture, etc.) to generate the agricultural land suitability rating for spring seeded small grains.

Limitations:
- Represents only a single climate change model result, using the A2 climate change scenario from the Intergovernmental Panel on Climate Change (IPCC).
- Seasonal and inter-seasonal variability in the 30 year average monthly climate data was not considered (e.g. extreme events such as drought and excess spring moisture).
- Findings do not identify trends in crop production (quantity or quality).
- Assumptions and limitations of the LSRS (e.g. based on current agricultural technology and crop varieties).
- Method used to interpolate climate data (e.g. precipitation) is not as accurate in highly variable terrain, as in British Columbia.

Canada