# Climate Impacts of Highest Importance to the Spokane Community

## (Handout 4)

**About this Handout**

The table on page 2 and 3 of this handout lists the climate variables identified as being of the highest importance for the Spokane region during the May 25th, 2018 meeting of the Spokane Community Adaptation Project (SCAP). The information from this handout will be used by SCAP participants to focus on which climate data story themes to work on first.

**About the Table**

The table connects the Spokane community-identified variables (*SCAP variables*) to variables used by the Northwest Toolbox (*Toolbox variables*).

The CIRC team sorted the SCAP variables into impact categories and has provided a general definition for each variable. Note: Some variable definitions will require SCAP participants to add local context (e.g., local timing).

**Direct and Derivable Variables**

The CIRC team identified two types of SCAP variables: ones that can be directly translated into Toolbox variable outputs (*Direct*) and ones that can be derived using Toolbox variable outputs combined with further analysis and information found outside of the Toolbox (*Derivable*).

- ***Direct***—A SCAP variable that translates directly into a Toolbox variable output.
- ***Derivable***—A SCAP variable that can be derived from a Toolbox variable output and will require additional information.

**Instructions**

1. Refresh your memory of the SCAP variables.
2. In the table below, use the *Vote* column to indicate the five SCAP variables that are most important to you.
3. We will vote on which SCAP variables we will work on.
4. The chosen SCAP variables will become your climate data story topics and will determine how you will sort into climate data story teams—see *Climate Data Story Team Assignment (Worksheet 2)*.

| Impact | Vote | SCAP Variable | Definition | Toolbox Variable(s) |
|---|---|---|---|---|
| Agriculture | | *Chilling Hours* | A unit of chill accumulation defined as the number of hours between 32° Fahrenheit and 45° F accumulated between October 1st and April 30th. | —Direct—<br><br>*Chill Hours* |
| | | *Growing Degree Days* | Accumulated growing degree days is a proxy for the heat accumulation needed to assess the thermal suitability of various crops in order to achieve maturity. Four growing degree thresholds are used to span the requirements for a variety of crops: 32° F, 37.4° F, 41° F, and 50° F. | —Direct—<br><br>*Growing Degree Days* |
| | | *Length of Growing Season* | Number of days between the last spring freeze and the first fall freeze. | —Direct—<br><br>*Growing Season Length* |
| | | *Mean Evapotranspiration* | Mean evapotranspiration during specified months. | —Direct—<br><br>*Potential Evapotranspiration* |
| | | *Summer Soil Moisture* | Mean soil moisture during the months of June, July, and August. | —Direct—<br><br>*Soil Moisture* |
| Drought & Flooding | | *Precipitation Timing* | Length of rain-free days. The duration and magnitude of drought. | —Derivable— |
| | | *River Flow Rate* | Mean/min/max streamflow during the months of ___ to ___. | —Derivable— |
| | | *Storm Frequency/Severity* | Rare storm defined as a one in ___ year precipitation event or precipitation amount exceeding ____ inches. | —Derivable— |
| Fish & Wildlife | | *River Flow Rate* | Mean/min/max streamflow during the months of ___ to ___. | —Derivable— |
| | | *Water Temperature (Streams/Lakes)* | Mean stream temperature during the months of ___ to ___. | —Derivable— |

| Impact | Vote | SCAP Variable | Definition | Toolbox Variable(s) |
|---|---|---|---|---|
| Human & Animal Health | | *Heat Extremes/Waves* | Max daily temperature over a specified time period. | —Derivable— |
| | | *Summer Temperature* | Average daily temperature during the months of June, July, and August. | —Direct—<br><br>*Mean Temperature* |
| | | *Cool Season Temperature* | Average daily temperature during the months of October through March. | —Direct—<br><br>*Mean Temperature* |
| Water | | *Summer Precipitation* | The amount of precipitation received over the months of June, July, and August. | —Direct—<br><br>*Precipitation* |
| | | *Winter Precipitation* | Mean precipitation during the months of December, January, and February. | —Direct—<br><br>*Precipitation* |
| | | *Snowpack* | The amount of snowpack defined by *snow water equivalent*—the water contained in the snowpack. | —Direct—<br><br>*Snow Water Equivalent* |
| Wildfire | | *Fire Frequency* | The number of fires in a fire season. | —Derivable— |
| | | *Fire Intensity* | The number of days each year in which the 100-hour fuel moisture is less than the __$^{th}$ percentile.<br><br>*100-hour fuel moisture*—the amount of moisture in dead vegetation which is 1–3 inches in diameter and is available to burn in a fire. | —Direct—<br><br>*100 Hour Fuel Moisture* |
| | | *Fire Season Length* | The number of consecutive days where the Energy Release Component is greater than ___.<br><br>*Energy Release Component* is a calculation of how hot a fire could burn (the energy release) given recent climate and weather conditions, specifically the moisture content of the various fuels (vegetation) present, both live and dead. | —Derivable— |