Additional file 1

Additional Graphs

**A**

- Site I monthly maximum temperature for one year

\[ y = 1.7551x + 24.987 \]

\[ R^2 = 0.8167 \]

**B**

- Site II monthly maximum temperature for one year

\[ y = 1.575x + 19.233 \]

\[ R^2 = 0.8781 \]
Figures A-D  Linear relationships between climate data at the two study sites and climate data from Helena, MT, used to fill gaps and repair errors in local temperature data

\[ y = 1.4321x + 20.434 \]
\[ R^2 = 0.9374 \]

- Site I monthly minimum temperature for one year
- Linear (Site I monthly minimum temperature for one year)

\[ y = 1.3297x + 17.575 \]
\[ R^2 = 0.8617 \]

- Site II monthly minimum temperature for one year
- Linear (Site II monthly minimum temperature for one year)
Figures E and F Linear relationships between climate data at the two study sites and climate data from Lewistown, MT, used to fill gaps and repair errors in local precipitation data.
Figures G and H  Graphs of calculated solar radiation versus measured solar radiation from Helena Montana for (G) site I and (H) site II

**G**

Calculated solar rad (MJ m$^{-2}$ mo$^{-1}$) vs. Helena measured solar rad (MJ m$^{-2}$ mo$^{-1}$)

- $y = 1.2227x - 82.951$
- $R^2 = 0.9881$
- Linear (calculated MJ m$^{-2}$ mo$^{-1}$)
- Calculated MJ m$^{-2}$ mo$^{-1}$

**H**

Calculated solar rad (MJ m$^{-2}$ mo$^{-1}$) vs. Helena measured solar rad (MJ m$^{-2}$ mo$^{-1}$)

- $y = 1.0195x - 22.598$
- $R^2 = 0.9996$
- Linear (calculated MJ m$^{-2}$ mo$^{-1}$)
- Calculated MJ m$^{-2}$ mo$^{-1}$

Figures G and H  Graphs of calculated solar radiation versus measured solar radiation from Helena Montana for (G) site I and (H) site II
Figures I and J Graphs of sensitivity analysis of GPP to soil fertility (FR) for (I) site I and (J) site II.
Figures K and L: Graphs of sensitivity analysis of GPP to ASW for (K) site I and (L) site II.
Figure M  Graph of sensitivity analysis of GPP to soil texture on site II