Scientific Report

Data from:

Influences of summer warming and nutrient availability on *Salix glauca* L. growth in Greenland along an ice to sea gradient

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Data description:

Final\_Data\_SR\_site\_chronos.xlsx includes the data used to analyse: i) time series of mean ring width of *Salix glauca* L. and climate from the nine archaeological sites (PANE) and in their natural surroundings (CONT) in Nuuk Fjord (West Greenland); ii) climate-growth relationship and the effect of nutrient availability; iii) climate and nutrient sensitivity accounting for the effect of insect outbreaks and their carry-over effects (Supplementary Information). In particular, time series of raw and standardized ring width (RW and Z-score), mean temperature of June-August and the average sum of thawing (TDD) and growing degree days (GDD) for all the PANE and CONT sites. Variables are organized in columns and named with the acronyms described in Table 1, Table 2. and Figure 2-5. Specifically:

**Site**: site number (ranked following the ice to sea gradient);

**Site name**: names of the sites as presented in Table 1.

**Soil**: Indicates if samples have been collected in soils with past anthropogenic nutrient enrichment (PANE) or without (controls, CONT).

**Year**: Reference year for each data;

**RW**: ring width measurements (RW) of *Salix glauca* L. Data are means per site and soil type.

**RW\_SE**: standard error of ring width measurements showed in Figure 3 and Figure S6.

**Z-score**: standardize ring width measurements. RW chronologies were transformed into Z-scores (standardised to a mean value of 0 and standard deviation of 1).

**Disturbance**: Insect outbreak disturbance factor (none=no disturbance; out= outbreak year; rec1= 1 year after the outbreak; rec2= 2 years after the outbreak).

**TDD**: thawing degree days computed as accumulated daily temperature above 0 °C.

**GDD**: Growing degree days computed as accumulated daily temperature above 5 °C.

**T January, T February, T March, T April, T May, T June, T July, T August, T September, T October, T November and T December**: Monthly air temperatures derived from the regional climate model MAR 3.7.

**T\_JJA**: Average of summer temperature (June-August).