Gap-Filled & Interpolated Monthly Precipitation and Temperature Data for San Lorenzo/ Fort Sherman

Created by Tori Meakem

Source Data & Gap-Filling Methods

Total monthly precipitation (mm) and average monthly temperature (°C) data for San Lorenzo/Fort Sherman (FTS) were collected at a crane adjacent to the plot established in 1997. A description of the crane and instruments can be found at: http://biogeodb.stri.si.edu/physical_monitoring/research/sherman

Data gaps and values prior to 1997 were filled using the measurements taken at the ACP (Autoridad del Canal de Panamá) weather stations Gatún (GAT) and Gatún West (GTW), located approximately 5-6 km southeast of San Lorenzo (http://biogeodb.stri.si.edu/physical_monitoring/research/panamacanalauthority). Gatún West was not established until 1997, so measurements from Gatún were used to fill gaps in prior years. Precipitation was estimated using the following equations based on a regression:

FTS = GAT*1.1031 and FTS=GTW*1.1266.

More details regarding this equation can be found in the "Monthly summaries_FTS.xlsx" file on the STRI physical monitoring website.

Data File Description

The file "**SanLorenzo_gap-filled&interpolated.csv**" contains the following data columns: *Year*, *Month*, *Precipitation* (mm), *Precipitation Source*, *Temperature* (°C), and *Temperature Source*. The Source columns indicate whether the data for each month came from the FTS crane or from the Gatún/Gatún West ACP stations.

Citation

Studies using these data should cite the following publication, for which this record was created:

Meakem, V, Tepley, AJ, Gonzalez-Akre, EB, Herrmann V, Muller-Landau, HC, Wright, SJ, Hubbell, SP, Condit, R, Anderson-Teixeira, KJ. (2017) Role of tree size in moist tropical forest carbon cycling and water deficit responses. *New Phytologist* (in press).

Contact

Tori Meakem (vmmeakem@gmail.com)

Kristina Anderson-Teixeira