Gap-Filled 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 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 "**sherman_gap-filled.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