

Gap-Filled Monthly Precipitation and Temperature Data for Parque Metropolitano (PNM)

Created by Tori Meakem

Source Data & Gap-Filling Methods

Total monthly precipitation (mm) and average monthly temperature (°C) data for Cocoli were collected at the Parque Metropolitano (PNM) crane in Panama City, which was established in 1995 and is located approximately 8 km away from the plot. A description of the crane and instruments can be found at: http://biogeodb.stri.si.edu/physical_monitoring/research/metpark

Data gaps were filled using the average values from two local ACP (Autoridad del Canal de Panamá) weather stations: Albrook Airbase (FAA) and Balboa Heights (HTS), located 6.9 and 6.1km NW of PNM, respectively (http://biogeodb.stri.si.edu/physical_monitoring/research/panamacanalauthority). Precipitation was estimated using the following equation derived from a regression:

$$\text{PNM} = (\text{FAA and HTS mean}) * 0.9911.$$

More details regarding this equation can be found in the “Monthly summaries_PNM.xlsx” file on the STRI physical monitoring website.

Data File Description

The file ``cocoli_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 PNM crane or from the 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).

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