METHODS in ANALYTICAL METEOROLOGY and OCEANOGRAPHY

LEARNING ACTIVITY SHEET

Exercise # 3b **Date:** 15 October 2021

Activity Title : Climate characterization

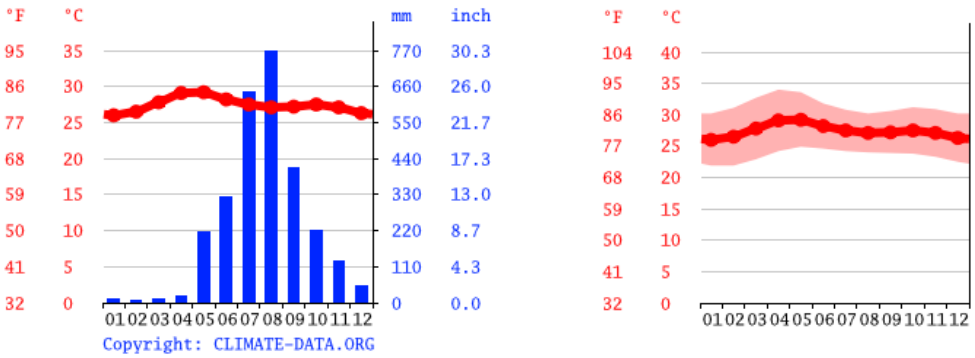
Learning Target(s): Reduce the properties of an otherwise large amount of data to a comprehensible form

Understanding weather and climate relies on analysis, visualization, and synopses of large volumes of data. This involves use of descriptive statistics and generation of comparative plots that would help in making inference about the weather or climate of an area.

Exercise:

Given a dataset of PAGASA's synoptic observations,

A. It is good practice to take note of the following, anytime you encounter a new dataset:
   1. Total number of observations (n)
   2. Time interval between observations (dt)
   3. Time of 1st and last observation (length of dataset)
   4. Units of measurement. If not included, can you make an intelligent guess based on the known ranges in literature?
   5. Are there missing data?
B. Make visual displays of the dataset using
   1. Histograms (is the dataset normally distributed? Skewed?)
   2. Time series plots (is there an observable trend? Are there noticeable long blanks in the data?)
   3. Box plots (especially useful for comparing different sites)
C. Describe the climate of 1 selected Philippine sites using some useful statistics and plots. Below are sample plots[1] typically used in reports.



Bonus: Look at your own dataset and reduce to meaningful statistics & plots for your own use

Reference: WMO No. 100. Guide to climatological practices, 2018 Edition. (Ch 4)

[1] From https://en.climate-data.org/asia/philippines/bataan-1846/

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