

A comparative empirical method of estimating net radiation over a tropical station in Lagos

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This study focused on the estimation of net radiation over a tropical station, (Ikeja, Lagos state located on lat.  $6.5^{\circ}\text{N}$ , long.  $3.2^{\circ}\text{E}$ , Nigeria) using two empirical methods. The data used for the study were extracted from records of daily meteorological observation, Ikeja station. The data collected were mainly on meteorological and weather parameters, which include temperature, rate of sunshine, global radiation and vapour pressure. All the readings were on diurnal basis except the vapour pressure and sunshine rate, which were taken hourly. The level of reliability and precision of the two methods were determined by investigating the correlation coefficient and computing the Standard Error of Estimate (SEE), the results indicate that either of the two methods can be used as an alternative procedure for estimating net radiation over any station, particularly in a tropical region like Nigeria, where instruments for this type of measurement are scarce. The level of accuracy for both methods was well above 90%. In addition, the results from both methods were found to be stable and dependable. Furthermore, the results of the two empirical methods were found to be highly correlated.