

Title: A Typical Meteorological Year Generation Based On NASA Satellite Imagery (GEOS-I) For Sokoto, Nigeria.

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Abstract: Computer simulation of buildings and solar energy systems are being used increasingly in energy assessments and design. This paper evaluates the typical meteorological year (TMY) for Sokoto, northwest region, Nigeria, using 23-year hourly weather data including global solar radiation, dew point temperature, mean temperature, maximum temperature, minimum temperature, relative humidity, and wind speed. Filkenstein-Schafer statistical method was utilized for the creation of a TMY for the site. The persistence of mean dry bulb temperature and daily global horizontal radiation on the five candidate months were evaluated. TMY predictions were compared with the 23-year long-term average values and are found to have close agreement and can be used in building energy simulation for comparative energy efficiency study.