

Title: Generation Of A Typical Meteorological Year For North–East, Nigeria.

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Abstract: The Finkelstein–Schafer statistical method was applied to analyze a 34-year period (1975–2008) hourly measured weather data which includes global solar radiation, dry bulb temperatures, precipitation, relative humidity and wind speed in order to generate typical meteorological year (TMY) for five locations spreading across north–east zone, Nigeria. The selection criteria are based on solar radiation together with the dry bulb temperature values and representative typical meteorological months (TMMs) were selected by choosing the one with the smallest deviation from the long-term cumulative distribution function. A close-fit agreement is observed between the generated TMY and long-term averages. The TMY generated will be very useful for optimal design and performance evaluation of solar energy conversion systems, heating, ventilation, and air conditioning (HVAC) and other solar energy dependent systems to be located in this part of Nigeria.