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Evaluation of Projected Decadal Wind Energy Potential in Chiang Mai

One of alternative energy sources which has globally pay more attention is wind power. In this research, the Weibull wind speed distribution was applied to evaluate wind energy potential during the period of 2081-2090. The projected wind datasets were simulated by the Non-hydrostatic Regional Climate Model (NHRCM) forced by the 20 km resolution MRI Atmospheric General Circulation Model (AGCM20) under the RCP8.5 scenario. The surface wind datasets in Chiang Mai were analyzed to 3 time intervals, i.e., May-August, September-December and January-April. The two averaged Weibull distribution parameters, i.e., k, shape parameter and c, scale parameter were investigated. The shape and scale parameters fluctuated 1.15 to 1.34 and 0.38 m/s to 0.74 m/s, respectively. It was found that the surface mean wind speed during May to August was stronger than its during September to December. Furthermore, the wind speed shows upward trend during this period.

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