ABSTRACT

The main aim of this research is to build a appropriate model for the estimation of wind speed and direction based on the maximum wind speed and direction data. For the fulfillment of the objectives, secondary data of wind speed taken from Pakistan Metrological Department, Punjab. A sample of 324 was used for estimating the parameters of the distribution for the three cities Lahore, Jhelum and Multan. Data has been evaluated descriptively, graphically and at the end model building is carried out. In descriptive analysis, average maximum speed has been computed for each year and season. In model building, different distributions (Weibull, Gumbel, Normal, Gamma, etc.) have been fitted on the wind speed and wind direction data and their parameters were computed. In bivariate analysis, (wind speed-wind direction) different copula models were fitted (i.e. FGM & AMH copula) and it was found that FGM copula was the best fitted model.