



## **Bias correction of wind speed forecast in the ALARO model**

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The importance of an accurate forecast of wind speed is highlighted nowadays, in the context of wind farm expansion. One of the key elements for correct wind energy estimation is an accurate wind forecast, because the wind data are used as input data for wind power models. Therefore, the aim of our work is to provide from ALARO (Aire Limitée Adaptation/Application de la Recherche à l'Opérationnel) numerical weather prediction model (operationally integrated at the National Meteorological Administration in Bucharest, Romania) accurate wind speed data. A method to obtain a better wind forecast is to perform a correction of the systematic forecast error observed in a numerical model. Through a bias correction technique, a new forecast is obtained. The first step of this method is to evaluate the forecast error, defined as the difference between the forecast and the observation wind speed values, using a statistical sample of 15 days in advance of the day of interest, for a selected site. In the following step we will obtain a new forecast which takes into consideration the statistical error, by subtracting the previously computed error from the initial simulated value of the wind speed. The bias correction is implemented using the forecast obtained from the high resolution model ALARO and observational data from several meteorological stations in Romania. The evaluation of the method is performed for the year 2016, for selected sites in areas with increased wind potential in Romania. The results show that this method is beneficial for the wind speed forecast of ALARO model for wind farm applications.