

The contribution of a wind data assimilation scheme to improve offshore atmospheric mesoscale model results - the case study of Berlengas

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In this work a Newtonian relaxation assimilation scheme was used into a sophisticated atmospheric mesoscale model (WRF) to evaluate the wind behavior around the small rocky island of berlengas, whose localization is distanced about 10km away from the western coastal part of Continental Portugal. The scheme was ingested with surface wind data provided from satellite and a quasi-offshore anemometric mast and updated into the model. The vertical wind flow estimates up to 200m height were validated against observational wind data collected by a ZephIR/LIDAR system instrument. Preliminary results from this work confirm that the assimilation scheme used, in particularly, for ingesting asynoptic offshore wind data, can reduce wind deviation errors from mesoscale simulations. Obtained results suggests how reliable could be the use of this scheme into the mesoscale models into the NORSEWInD project - financed by the EC under the 7th Framework Programme - for wind atlas generation both offshore and onshore.