

WIND ENSEMBLE FORECASTING USING AN ADAPTIVE MASS-CONSISTENT MODEL

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Key words: *Adaptive finite element method, Ensemble forecasting, Mass-consistent model*

Ensemble forecasting [1] is a methodology to deal with uncertainties in the numerical wind prediction. In this work we propose to apply ensemble methods to the adaptive wind forecasting model presented in [2].

The wind field forecasting is based on a mass-consistent model and a log-linear wind profile using as input data the resulting forecast wind from Harmonie [3], a Non-Hydrostatic Dynamic model. The mass-consistent model parameters are estimated by using genetic algorithms [4]. The mesh is generated using the meccano method [5] and adapted to the geometry.

The main source of uncertainties in this model is the parameter estimation and the intrinsic uncertainties of the Harmonie Model. For this reason the model parameters and the Harmonie forecast wind are perturbed, to achieve a more reliable wind forecast.

This work presents the results of the model applied in Gran Canaria island using Harmonie data for days from 20 to 23 of February 2010.

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