



A diagramme for orographic winds and high-resolution atmospheric simulations in real-time

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A mountain wind forecast diagramme is presented. The diagramme summarizes orographically generated winds and places these winds in parameter space where the non-dimensional mountain height (inverse Froude no.) and the Rossby number are governing parameters. A collection of real-time simulations at 9 km and 3 km horizontal resolutions of flow over Iceland is presented and the simulated wind patterns are discussed with reference to the diagramme. The simulations which started in 2004 bring substantial improvements for forecasting which was previously based on simulations with a horizontal resolution of 30-50 km. The diagramme is however useful for evaluating subgrid effects, particularly in medium-range forecasts which are still based on relatively coarse horizontal resolution.