



Marine Wind Forecasting with the Canadian Updateable MOS System

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The Canadian Updateable Model Output Statistics system (UMOS) is an integrated group of statistical tools to be used for statistical interpretation of the output of the Canadian operational NWP model GEM. Including both regression and discriminant analysis components, it has been used mainly to produce forecasts of surface weather elements at land stations. More recently, experiments have been carried out to produce forecasts for the marine wind for the Great lakes, using buoy observations as predictand data. An early version of these forecast now runs experimentally in real time. For application to surface wind, a MOS regression formulation is used to simultaneously predict three predictands, the west and south components U and V and the scalar speed S. The former are used to compute the wind direction, while the separate equation for the speed ensures a least squares estimate of the wind speed. In UMOS, equations are updated automatically each week using the latest model forecasts.

During the last year, further work has been done to further test and extend the marine wind forecasts to other large lakes and to east and west coastal areas of Canada. The buoy data archive was extended for this purpose.

In the presentation, we will show the results of the buoy wind comparison, along with the results of UMOS tests carried out to date, in comparison with the direct model forecasts. It is hoped the wind forecasts will improve on the direct model forecasts and lead to improved input winds for the operational wave model, as well as for use in forecast operations.