Hourly Wind Gust Forecast Verification over Canada

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The purpose of this project is to verify hourly wind gust forecasts for a number of the wind gust algorithms, including one model from Environment and Climate Change Canada (ECCC), four European models (ECMWF, KNMI, Meteo France, and COSMO), and Cheng's wind gust factor algorithm. The wind gust forecasts were generated by data from the ECCC numerical weather forecast model (High Resolution Deterministic Prediction System or HRDPS 2.5km model) as well as Updatable Model Output Statistics (UMOS) wind speed data. This project has great potential to improve wind gust forecasting and is of great interest to a number of possible applications. This talk will introduce the hourly wind gust forecast models, wind gust verification methods, and verification exercise. The verification findings and recommendations will be summarized in the presentation as well.