Extending Canadian Operational Air Quality Forecasts from 48 hours to 72 hours Using the Regional Air Quality Deterministic Prediction System (RAQDPS)

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Since November 2009, the Regional Air Quality Deterministic Prediction System (RAQDPS) has been used by Environment and Climate Change Canada to deliver 48-hours Air Quality (AQ) forecasts to Canadians. The current system is run twice a day at 00 and 12 UTC for 48 hours over a continental-scale domain with 10-km horizontal grid spacing. In recent years, there has been growing interest in extending the regional AQ forecasts beyond 48 hours, spurred by the desire of decision makers to inform at-risk populations as soon as possible, particularly when air pollution events are expected, thus enabling them to take appropriate measures to protect their health.

In this presentation, a performance evaluation of extended RAQDPS forecasts out to 72 hours will be shown. Model forecasts of O_3, $PM_{2.5}$ and NO_2 will be compared against hourly observations available from the U.S. and Canadian real-time monitoring networks. Potential impacts of 72-hour forecasts on current ECCC operational AQ products and services will also be discussed.

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