Current Status of Processing and Evaluation of Air Quality Data at the Canadian Meteorological Center

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The Regional Deterministic Air Quality Analysis System (RDAQA) is a fundamental first step towards full-scale chemical data assimilation. The high value of the objective analysis products has become well known over the past several years and regional forecasters have expressed a strong interest in having full support for these products.

The RDAQA Operational System is connected to two slightly different configuration of the same model (operational GEM-MACH and FireWork-GEM-MACH respectively). The two RDAQA analyses are produced hourly using the two model configuration (trial fields), surface observations (from Canadian regional data providers and the US EPA/AIRNow Program).

This poster will focus on the current situation on the RDAQA which uses an improved version of model and upgraded error statistics. The evaluation of analysis by cross-validation tests will be presented together with information about using verification metrics such as the modified normalized mean bias, the fraction of correct within a factor of 2, the variance and the correlation coefficient. It will be shown that by leaving observations out of the analysis we can evaluate the true analysis error variance.