Four different versions of the WTMG model were built and tested based on the two different modes and forecast products: LAMP – Static, LAMP – Dynamic, TAF – Static, and TAF – Dynamic. The primary metric used to evaluate the prediction model within WTMG is the root mean squared error (RMSE) between the predicted AAR and the actual AAR. The normalized RMSE (nRMSE) represents the RMSE as a percentage of the average AAR at the airport.

For a perfect error distribution, the capture rate must match the percentile; e.g., the 50th percentile capture rate would be 0.5.

Conclusions

• Calculated weather impact scores provided a satisfactory translation of raw forecast fields for the purposes of WTMG.
• No significant difference was observed between the results of the deterministic prediction models that used raw forecast inputs and the prediction models that used impact score inputs.
• However, for the sampling models, there was a noted improvement in the impact score input models when compared to raw forecast input models.
• While additional work is needed to further enhance the uncertainty models, WTMG performed well and showed significant improvements over baseline weather-naïve models at all of the airports studied.

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