

The Weather Company's New Convective Forecast Products to Inform Airline Decision-Making

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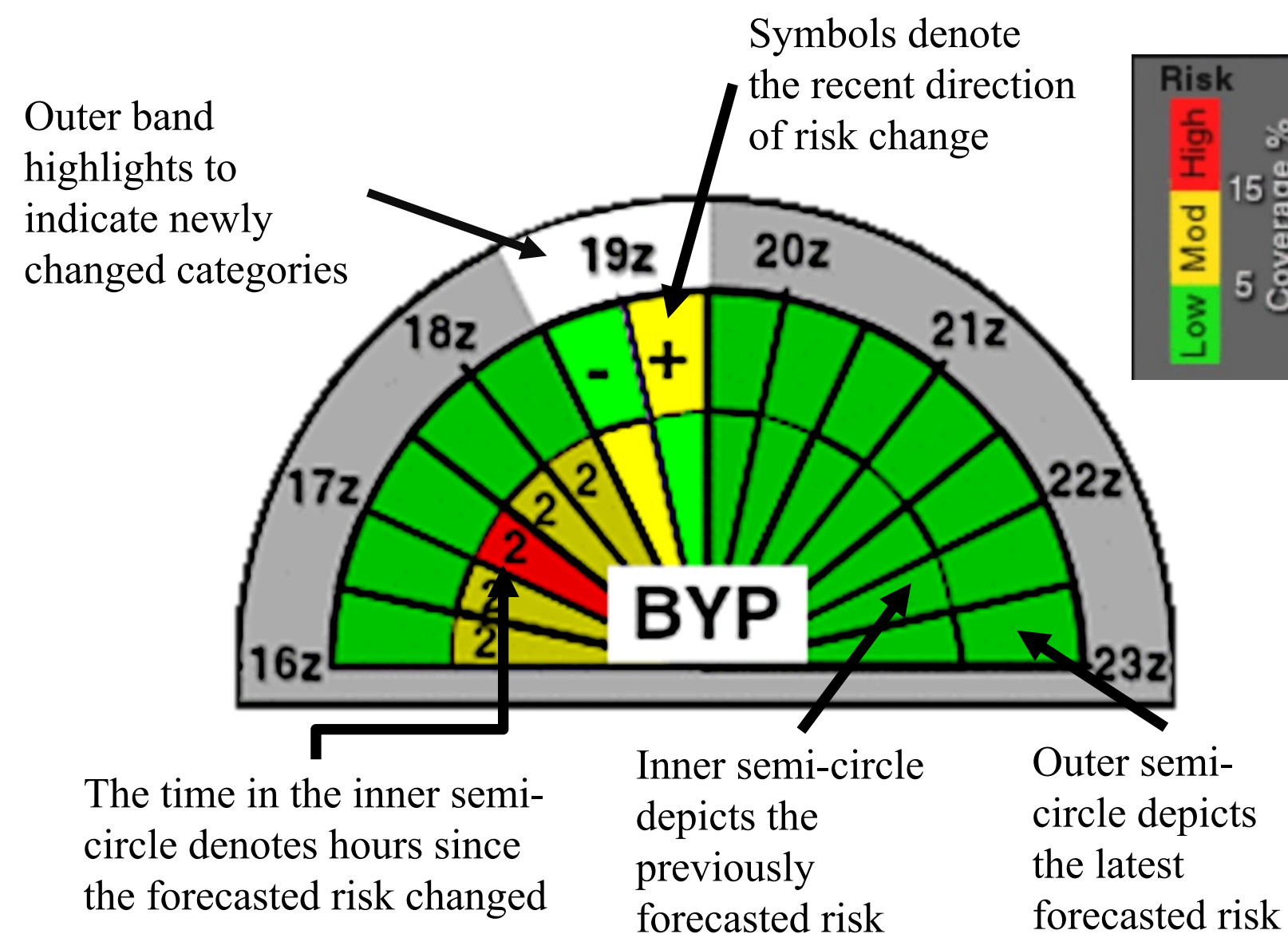
Introduction

The Weather Company (TWC), an IBM Business, in collaboration with American Airlines (AA), has developed and implemented two new forecast products intended to assist AA in making well-informed operational decisions to predict and mitigate Air Traffic Control (ATC) Traffic Management Initiatives.

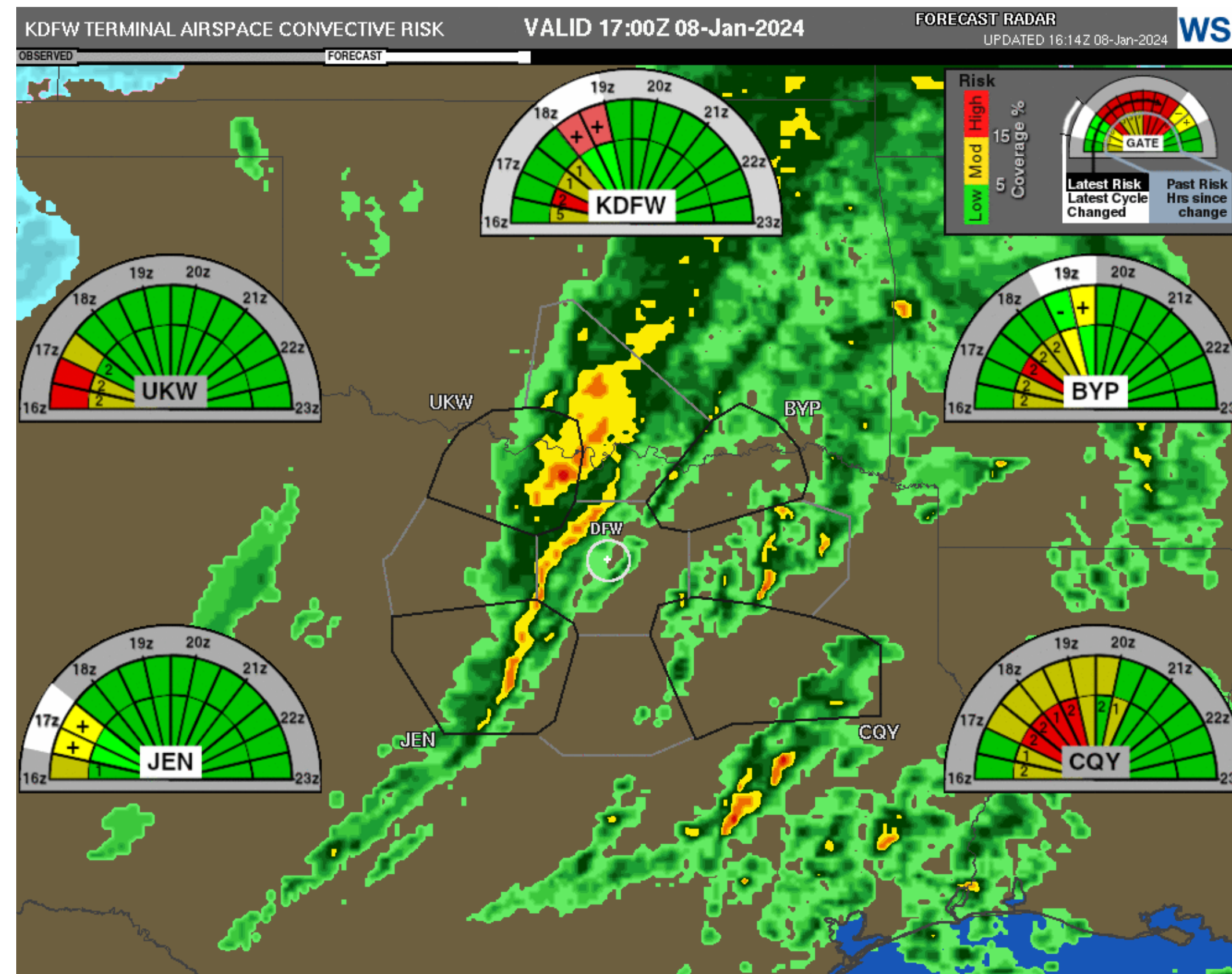
A Gate Convective Forecast report is produced by TWC Aviation Forecasters, embedded at the American Airlines Integrated Operations Center (IOC), twice daily, forecasting the impact of thunderstorms on a terminal's arrival or departure gates 16 hours ahead.

Additionally, an automated rapidly-updating Terminal Airspace Convection Risk (TrACR) product focuses on the risk convection presents to a terminal or its arrival or departure gates in the short term (0-7 hour) range. TrACR is produced using forecasts from The Weather Company's short-term Forecast On Demand (FOD) platform, which combines updates from the TWC NOWRAD radar reflectivity product, TWC's Global High-Resolution Atmospheric Forecast System (IBM GRAF) and TWC human forecasters. The TrACR product is refreshed with a new forecast every 30 minutes.

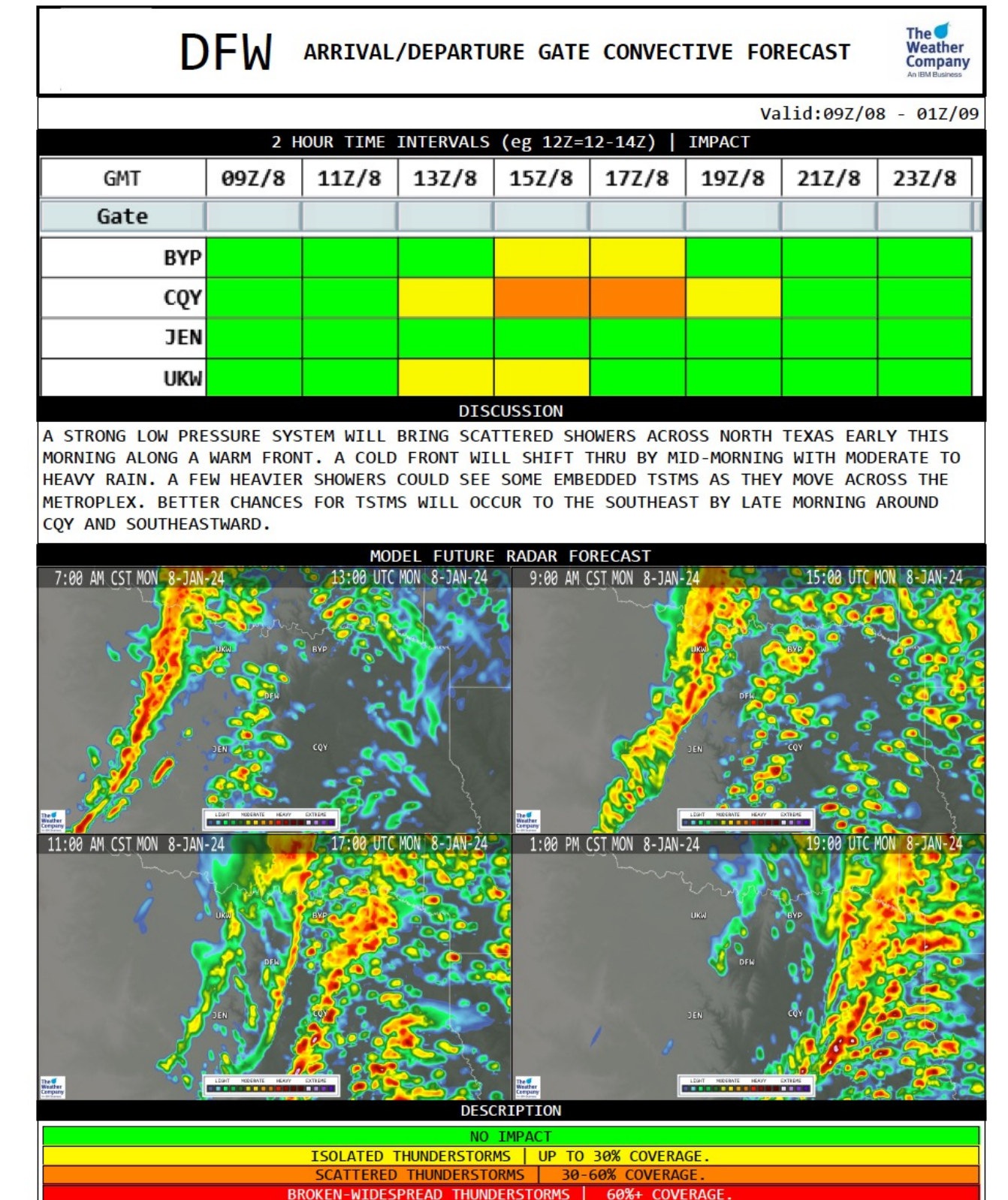
Forecast Risk "Half-Pie"



Terminal Airspace Convective Risk (TrACR)



Gate Convective Forecast

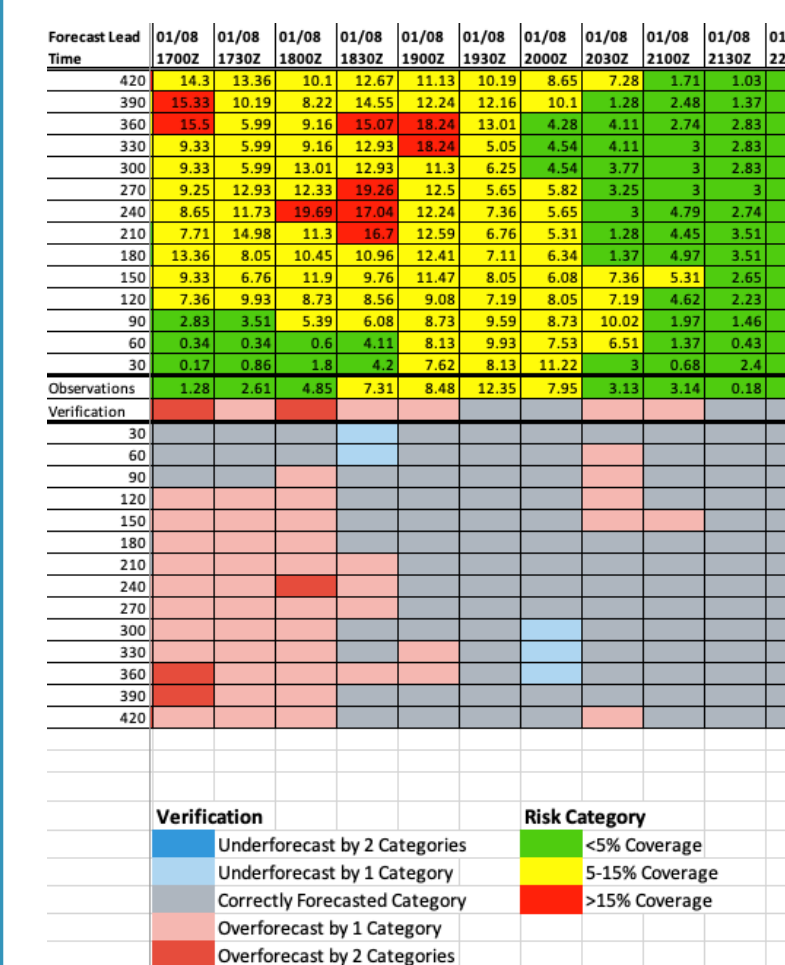


- A Gate Convective Forecast is issued 2x/day for any airport hub anticipated to experience convective weather.
- Forecaster specific discussion and model choice.

Objectives

- Create additional products to supplement the traditional Terminal Aerodrome Forecast (TAF).
- Provide users a graphical product for planning air traffic flow safely and efficiently around convection into and out of the Terminal Radar Approach Control (TRACON) area.
- Display risk associated with potential convection which will impact arrival or departure TRACON gates.
- Portray the change in the risk as new forecast data is available in a manner which depicts increasing or decreasing risk.

Verification / Future Enhancements



- Each TrACR forecast is scored and aggregated by forecast lead time to provide insight into decision-making timelines.
- Observations for TrACR verification are obtained from the TWC NOWRAD product.
- TrACR risk calculations to include enhanced parameters for determining convective risk.
- Additional global airports to be added.