Measuring Actual and Forecast Weather Impact on the NAS

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Weather Impacted Traffic Index (WITI)  
*Quantifies “the hand the NAS was dealt today”*

WITI is a weighted sum of three components:

- **En-route Component**  
  reflecting impact of convective weather on routes to/from major airports

- **Terminal Component** for major airports: local weather impact

- **Queuing Delay Component** for same airports reflecting excess traffic demand vs. capacity

Used by the FAA on a regular basis:
- Measure system performance in an objective manner
- Compare different seasons’ Wx/traffic impact with outcomes (e.g. delays)
From WITI to WITI-FA

Impact of actual Wx vs. Perceived impact of forecast Wx

- Scheduled Traffic
- Actual Wx NCWD
- Forecast Wx (e.g. CCFP)

WITI

Δ - Difference Between WITI and WITI-FA

Correlates

NAS Performance Delays

WITI-FA

Traffic = known constant
Small Δ = “good” forecast
Large Δ = “bad” forecast

Can be used for verification or evaluation of forecasting products that have largest impact on the NAS

Innovative algorithm for converting CCFP polygons into gridded (NCWD) format
WITI vs. WITI-FA Analysis

Example: July 2007

Website charts by AvMet, LLC