NOAA Earth System Research Laboratory

Global Systems Division

FIQAS: Forecast Impact and Quality Assessment Section

GSD's Forecast Impact and Quality Assessment Section (FIQAS) develops quality assessment tools that use innovative verification techniques and technologies to identify strengths and weaknesses in the forecasts. Developers use this information to improve forecast quality, so users can incorporate this information into their decision-making processes.

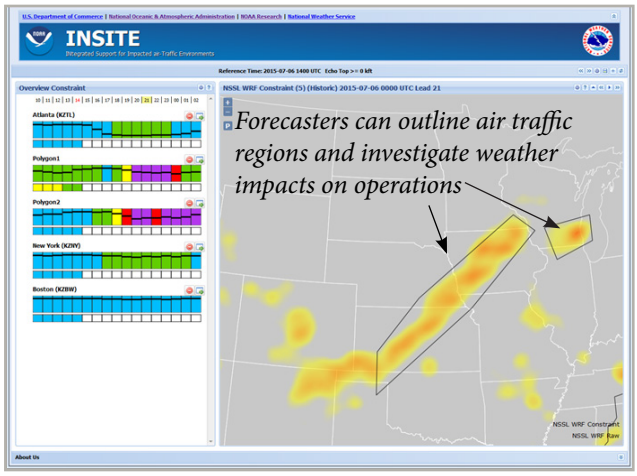
Do you fly?

If so, then chances are you've been on a flight delayed due to bad weather. Because weather is the most common reason for air traffic delays and re-routings, decision-makers rely on accurate and meaningful weather information to pinpoint conditions that may impact air traffic flow.

FIQAS Current Projects

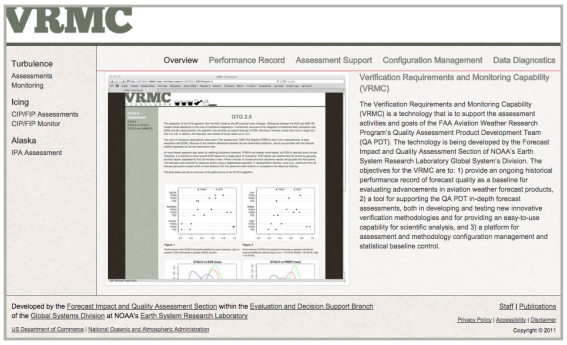
INSITE:
Integrated Support for Impacted Air-Traffic Environments

INSITE is an experimental automated tool that combines weather and traffic data to identify potential weather impacts to aviation operations. Forecasters can use INSITE information to help identify and communicate potential weather impacts to FAA Air Traffic Managers. INSITE will transition to Initial Operating Capability at the NOAA National Weather Service (NWS) in 2017.



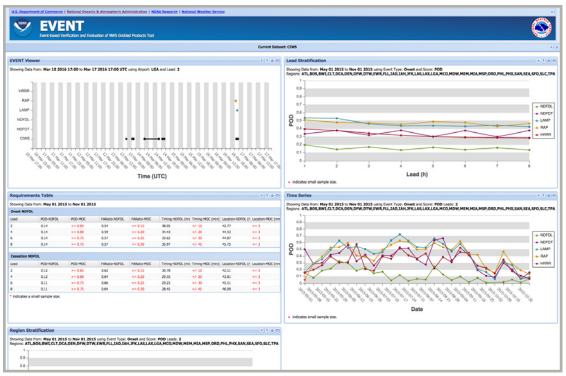
TRACON Gate Forecast and TRACON Forecast Verification Tool

Air traffic controllers direct aircraft during flight departure and arrival phases at FAA Terminal Radar Approach Control Facilities (TRACON). The Experimental TRACON Approach and Departure Gate Forecast is a graphical product that helps air traffic controllers to direct air traffic flow safely and efficiently around significant storms. FIQAS created a prototype TRACON Forecast Verification Tool to assess the skill of these forecasts. FIQAS will expand this tool to include forecaster-modified output and prepare it for transition to NWS operations in 2018.



VRMC: Verification Requirements and Monitoring Capability

VRMC supports assessments by incorporating evaluation techniques and providing evaluation results. It also supports ongoing product monitoring of the quality of aviation weather products.



EVENT: Event-Based Verification and Evaluation of NWS-Gridded Product Tool

EVENT provides ongoing performance measures of operational NWS forecast products. This tool uses innovative verification techniques that focus on impactful convective events relevant to both terminal and en-route aviation operations.

Our customers

FIQAS tools measure forecast performance and impacts on air traffic management decisions to support the Federal Aviation Administration (FAA) and the National Weather Service (NWS). FIQAS assessment results help these clients evaluate and improve the quality of their operational products and provide performance baselines.

Anchorage Air Route Traffic Control Center

The FAA has designated FIQAS as the independent assessor of its Aviation Weather Research Program-developed forecast and analysis products. Current projects include:

- Formal quality assessments of new versions of operational turbulence and icing guidance products
- Develop techniques to incorporate additional datasets of observations and enhance existing impact-based verification techniques
- Develop technology to support assessment activities and product monitoring

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