Drivers Influencing Weather-related NAS Metrics

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The Weather Support “Process”

- Weather Data Collection and Analysis
- Operational Decision
- Weather Forecast
- Forecast Reception
- Forecast Translation
- Forecast Communication
- Feedback
Some Considerations

Operational Decision
- Human factors
- Training
- Experience
- Ops tempo

Weather Data Collection and Analysis
- Lack of observations
- Interpretation
- Detection
- Timeliness
- Accuracy
- Latency

Weather Forecast
- Uncertainty
- Different models
- Temporal scales
- Single Authoritative Source
- Different products
- Spatial scales

Forecast Reception
- Human factors
- Timeliness of data
- Latency of information

Forecast Communication
- Machine 2 human
- Machine 2 machine
- Human 2 machine
- Human 2 human

Forecast Translation
- Human factors
- Tactical versus strategic
Weather Metrics

Critical Success Index (CSI)  
Brier Skill Score

Probability of Detection (POD)

False Alarm Rate (FAR)

Bias

Relative Operating Characteristic (ROC) curves

Root Mean Square Error (RMSE)

Equitable Threat Score

Weather metrics rarely translate to operational effectiveness and measurements
Other Factors to Consider

The actors:

- CWSUs
- Weather Centers
- WFOs
- NAMs
- Controllers
- Planners
- Airlines
- Pilots
- Flight Services
- Commercial Weather Providers
- Aviation Associations

Non-weather factors:

- Flight operations
- Airline consolidations and mergers
- New/improved/legacy FAA systems
- Regulations and guidance