Quantifying Aviation Weather Forecast Benefits in a Common Model

INTRODUCTION

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October 12, 2011
Quantifying Aviation Weather Forecast Benefits in a Common Model

- **Introduction**
  - Bryce Ford, SpectraSensors, Inc. (5 min)

- **U.S. Government Perspectives**
  - Daniel Citrenbaum, FAA Operations Research Group (10 min)
  - Cynthia Abelman; Branch Chief, NWS Aviation Services Branch (10 min)
  - Yuri Gawdiak; Director, JPDO Interagency Portfolio & Systems Analysis Division (10 min)

- **Airline Perspectives**
  - Rick Curtis; Chief Meteorologist, Southwest Airlines (10 min)
  - Bill Watts; Flight Operations Consultant, Delta Air Lines (10 min)
  - Randy Baker; Senior Meteorologist, UPS Airlines (10 min)

- **Identification of Issues and Champions**
  - Bill Leber; Sr. Manager Business Development, Lockheed Martin (25 min)
Common Themes We’ve All Heard Over and Over

- “Better weather forecasts will lead to improved accuracy of flight planning, reduced fuel consumption and reduced emissions, all of which can produce significant cost savings.”
- “We benefit tremendously from the weather information we get. I don’t know how we could operate if we didn’t have the quality of forecasts we have now.”
- “The weather forecast saved us a ton of money for that snow storm.”
- “We sure would have done things differently if the forecast had seen this coming.”
- “It’s good to see the CDM process working. It isn’t perfect, but it sure is an improvement over everyone working independently.”
We Can All Agree On Several Things

- The Top Priority for Aviation Wx Support is Safety, and always will be!
- Improvements in Aviation Wx Support have contributed to this being the Safest Period in Aviation History
- Those improvements come from many sources
  - Better Scientific Knowledge Base
  - Better Observations
  - Better Forecasts
  - Better Information Systems
  - Better Collaboration and Partnership
  - Better Decision Making and Response
- Improvements in Aviation Wx Support are beneficial to almost all operations related to Aviation
- Continuous Measures and Metrics are a critical part of any Quality Improvement program
How Much?

But How Much Benefit Is That Really?

- There are relatively few cases of well documented and quantified benefits from improvements in Aviation Wx Forecasting.
- Most data comes from Government funded research that involves:
  - Post Event Interviews
  - Lots of data collection
  - Extensive Analysis
  - Estimation of Benefits by 3rd party teams
- Most studies provide a static metric at a given time, and do not dynamically address changes in the Wx support infrastructure.
- We do not routinely collect data on operational benefits in any Common way to support industry-wide metrics on the benefits.
- As a Result we have:
  - Relatively little compelling data that can be used Externally to justify Government expenditures in Federal/State/Local Wx infrastructure.
  - Relatively little compelling data that can be used Internally to justify the expenditures on Corporate Wx infrastructures.
Panel Objectives

Objectives of this Panel

- Provide a summary of some of the existing work in Quantifying Benefits
  - Government Perspectives
  - Aviation Industry Perspectives

- Initiate Industry Dialogue On
  - What data can be Regularly collected to Quantify the operational benefits
  - How often do we think we can collect metrics
  - What kind of Methodology should we use for regularly collecting data
  - How do we resolve the really contentious Issues
    - How do we minimize the cost involved in routinely collecting metrics
    - What info can we Share and what needs to be kept Private
    - How do we support data being Aggregated at higher levels
    - Can a single set of Common metrics really support Technical, Operational, Financial, and Political decision making