Quantifying Aviation Weather Forecast Benefits in a Common Model – an NWS Perspective

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Why Now?

- More and more questions from those making funding decisions
  - OMB
  - DOC/NOAA/NWS Finance Offices
- If we fund this, how much improvement in your forecasts?
- What’s the economic impact of these improvements?
- Historically, we haven’t done a good job of measuring performance in a way to see economic benefits of services
NWS Near-term Initiatives

- NWS Initiatives to align performance measures with economic benefits
- Aligning measures to air traffic decisions
  - *CWSU Forecast Accuracy*
    - Measure the impact of CWSU decision support on air traffic decisions
    - Result of GAO recommendation
    - Tracks CWSU Support
      - Lead-time notification of TMU of event impacting NAS
      - Accuracy is also measured
      - Operationally significant wind shift at core airport
      - Provides a basis for assessing impact on flow programs
- Challenge is to translate this support to the decision and the impact of the decision
FAA/NWS Near-term Initiatives

• NWS Initiatives to align performance measures with economic benefits

• Traffic Flow Management Weather Requirements Working Group
  – *Baseline of services would be in a phased approach*
    • Phase 1: assessment of quality of current NWS products and services using current verification tools
    • Phase 2: comparison of current suite of NWS products and services against the Traffic Flow Management (TFM) weather requirements
    • Phase 3: assessment of performance measures for TFM decision making
    • Phase 4: analysis of end-to-end TFM decision-making, from the provision of weather information through the decision-making process and the impact on the National Airspace System (NAS)

• End result will be end-to-end measure of TFM decision-making based upon weather information
FAA/NWS Near-term Initiatives

- Assess the performance based upon TFM requirements
  - New TFM requirements provided to NWS this spring
    - Airport, Terminal Area, Enroute
    - Focusing on thunderstorms and ceiling and visibility
  - Initial set of requirements more meaningful to TFM
    - Lead-time to onset and cessation
    - Location error
    - Timing error
    - Accuracy

- Other performance measures will follow
Next Steps

• We’re in the process of developing the performance measures but the next step is more difficult

• We still need to

  • Develop performance measures for other weather elements based on air traffic impacts

  • Look at the decision-making process based upon weather

  • Relate that decision to economic impact

• We are still a long way from completing this but we need the answers now…
Questions?