Weather Information: A Paradigm Shift

Paul Fontaine, Director
Advanced Concepts & Technology Development Office
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Paradigm Shift

• “Build it [weather information] and they will come.”
• “Understand the impact of weather on NAS Operations and operational decisions, then build supporting weather information.
• The shift to the latter requires:
  – Researching operational decision making
  – Assessing the operational impact of weather phenomena
  – Developing the required weather information
  – Integrating weather information into decision support processes, both manual and automated
Which Operational Decisions?

• How do we prioritize operational decisions?
  – Reliable, near-term and measurable operational improvements
  – Support for and keyed to other NextGen improvements

• Example: Improved Airport Arrival Rate (AAR) decision support in wind compression events
  – Data shows major potential benefits in New York Metro
  – Requires a couple of things to happen at once
    • Maturation of metering and spacing tools
    • Improved (if needed) wind profiles in terminal airspace
Tools and Discipline to Pick Winning Ideas

• Data-driven service analyses to determine magnitude of impacts
• Validated Concept of Operations
• Development/utilization of modeling, simulation, and demonstrations
• Aviation stakeholder support
Where do winning ideas come from?

- **Operational decision makers**
  - Controllers
  - Dispatchers
  - Pilots

- **Operations Research**
  - Weather and operations
  - Modeling
  - Simulations
  - Demonstrations
How can you have input?

• Data driven problem analysis
  – Provide ideas at the front end with solid data on operational incidence and impact.

• Participating in demonstrations to:
  – Validate Concept of Operations
  – Validate requirements
  – Assess workability and utility of integrated solutions