Turbulence Avoidance

What now?
Turbulence Basics

• Drivers – Safety, Efficiency/Emissions, Capacity, & Customer Experience
• Primary users- Meteorologists, Dispatchers, Crews, & Controllers
• How does it work today?
• Solution Components
  – Forecast
  – Tactical/Now cast
  – Reporting
History

• 1991 - NCAR began development of EDR
• 1999 - UAL installed EDR with major airlines to follow
• 2005 - NASA \textit{rms-g algorithm} tested on 80 DAL B737
• 2007 – Delta installs EDR on B737
• 2008 – Delta – Ops Control feasibility test of EDR
  – Information well received by dispatchers
  – Limitations – Hard to provide tactical info to 15-20 flights
• 2013 – Delta - GTG/EDR in the cockpit using WIFI
  – Very positive results
  – Now what
Next Steps

• How to correlate different reporting metrics?
• How to increase the report pool?
• Who hosts the turbulence reports data?
• Who has access to the data?
• How to harmonize international community?
• How to move forward with different viewers?
• How to maintain the system as SA tool?
Positive Outcomes

• FAA solution for EDR standards
• FAA solution for standardized installation
• A4A solution for data
  – Government
  – Commercial
• FAA international work & airline partnering
• New tools compared to PIREPS
You tell me if this helps