FPAW – A Part 121 Line Pilot Perspective

Weather Gaps & Information Needs for Pilots

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Gaps and Information Needs

- Lack of Certain Weather Information for Proper Decision Making
- Lack of Consistent High-Speed Internet to Receive Current and Updated Weather Information via EFBs
- Proper Initial and Recurrent Training on, and Interpretation of Inflight Weather Information
  - Develop Mandatory Space Weather Standards and Train it

Weather Information Impacting Operational Decisions

- Convection, and associated hazards like turbulence, icing, lightning
- Other types of turbulence, such as windshear, clear-air, convective-induced, wake, mountain wave
- Inflight icing
  - Terminal area
  - Enroute during Extended-range Twin-engine Operational Performance Standards (ETOPs) operations
- Volcanic ash
- "The inability to "see" changing weather beyond 80 nm ahead has led to unnecessary diversions, late diversions with fuel emergencies, and extended reroutes without adequate fuel."

History (Part 121 Turbulence Experience)

- Turbulence prediction and avoidance
  - Difficult to identify areas
    - Accurately
    - Timely
  - Avoidance can be difficult due to
    - Route restrictions (traffic management)
  - Other Traffic
  - Dynamic aspect of turbulence
- Communication with other crews
  - PIREPs
  - Briefing from inbound crew

Present Day (Technology)

- Pilots like pictures… then text
- HIERARCHY of notification/identification
  - WiFi (EFBs with Company Apps, near real-time)
  - Downloaded (EFBs with old forecasts)
  - ACARS (Dispatch notifications, PIREPs)
  - ATC (e.g. CWAs, PIREPs, etc.)
  - Pilot Training / Experience (e.g. North of Jetstream…)
  - Pilots from inbound flights

Present Day (Predictive)

- Predictive Information
  - Using PIREPs, Weather Forecasting, Reporting (manual and automated)
  - Using datapoints and previous research to create a model
- Using sensed data to manipulate models
- Various levels / models
  - In-house versus commercial
    - Both have positives / negatives

Future (Predictive)

- New Tools Needed
  - For operational decision making for efficiency and for turbulence
  - Accuracy increases
  - Better Tools
    - Apps
    - Models
    - Airspace utilization planning
- New Models
  - Dynamic

Summary

- Lack of real-time TURBULENCE information to pilots
- Lack of Consistent High-Speed Internet to Receive Current and Updated Weather Information via EFBs
- Proper Training for Flight Crew Product Interpretation

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Thank you

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