CURRENT ICING PRODUCT - SEVERITY

OPERATIONAL SUITABILITY EVALUATION

Presented to: FPAW – Icing Panel
By: Dave Metzbower, AFS-410
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Introduction

- Objectives
  - Product Development Concepts – overview for understanding
  - General Operational Approach – weather products
  - Current Icing Product (CIP) Evaluation
- CIP Evaluation Results for Supplementary Use
- Continuing CIP Evaluation Efforts
Concepts

Product Development
  • Technical Acceptance
  • Operational Suitability

Technical Acceptance
  • NCAR, AWC – science (algorithms) and verification
  • NWS Operational – supported 24/7 on website

Operational Suitability (mature product, science good)
  • Safety Management System (e.g., hazard ID)
  • Opns Suitability Testing vs. Subject Matter Expertise (SME)
    – SME = individual opinion, not formal
    – Opns Suitability Test = formal, structured, many individuals
  • AFS Operational – approval for pilot use
Concepts

➔ FAA POLICY (HBAT 05-01 & AIM)
  • Primary Weather Products
  • Supplementary Weather Products

➔ Primary Weather Product
  • Meets all regulatory requirements and safety needs for flight-related aviation weather decisions

➔ Supplementary Weather Product
  • Used for situational awareness
  • Must be used in conjunction with one or more primary weather products
  • May be restricted
Objectives: OPNS Suitability Eval

- General: new weather products for pilot use -
  - Verify Hazard Log issues
  - Identify any new hazards
  - Roadmap for supplementary use by pilots
  - Preliminary roadmap for primary use by pilots

- Current Icing Product (CIP) Evaluation
  - CIP operational suitable as a Supplementary Product with *no restrictions* for pilot use
  - Identify CIP operational issues for pilot use as Primary Product – develop roadmap
CIP Evaluation

Evaluate CIP products for supplementary and primary use

- Severity
- Probability
- Severity with probability overlay (25% and 50%)

Utilize for operational pilot use

- Preflight
- In-flight*

* Note: While “In-Flight” use is being examined, the evaluation will not yield data appropriate for approving cockpit use.
CIP Evaluation Results: Supplementary

Product Usability

- 94% of pilots agreed that CIP Probability is easy to interpret
- 94% of pilots agreed that CIP Probability will enhance safety
- 100% of pilots agreed that CIP Severity is easy to interpret
- 87% of pilots agreed that CIP Severity with probability masking will enhance safety
- 100% of pilots agreed that CIP Severity categories are optimal for planning
- 100% of pilots agreed they would use CIP as a supplementary source for preflight planning
- 100% of pilots agreed they would use CIP to supplement in-flight strategic and tactical decisions/planning
CIP Evaluation Results: Supplementary

Issues

• In some instances, CIP information was used as forecast information, not solely nowcast
• Integrated nowcast and forecast information would be useful for flight planning
• More frequent update rates would be beneficial (e.g., 15 minutes as opposed to hourly)
• Probability overlays on severity were considered more acceptable when used in conjunction with independent presentations of severity and probability information
• With practice, pilots would feel more comfortable using the probability overlays on the severity products
Continuing CIP Efforts

- CIP Evaluation for primary use - complete 11/06
- CIP Final Report for (Supplementary & Preliminary Roadmap for Primary) - 12/06
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Contact Information:
David Metzbower
AFS-410
202-385-4570
David.Metzbower@faa.gov