



CENTER FOR ADVANCED AVIATION SYSTEM DEVELOPMENT (CAASD)

# ATM-Weather Integration Training

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# Shortfalls and Lessons Learned

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- **11 years of EOSR data: Training & Education consistently cited as a shortfall in attaining NAS efficiency**
- **Training Lessons Learned:**
  - Non-standard and subjective content delivery and performance assessments = inconsistent quality
  - Human resource intensive methods = costly and less efficient training
  - Limited time and funding = “buttonology” training versus instruction on operational concepts of use and expected benefits



# What about Weather Training?

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- Weather Basics: still required
  - Don't turn ATM decision-makers into meteorologists
  - Decision support tools are likely to be human-over-the-loop
- **Integration, Integration, Integration**
- Scenario-based training
  - Focus on weather impacts on ATM
  - Understanding of probabilistic forecasts and risk management
  - Learning new role as Human-over-the-loop with new DSTs
- Consider holistic approach
  - Include human factors & change management



# Integrate Weather Impact Scenarios with Advanced Methods in ATM Training

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Key findings indicated that **advanced training technologies (PC based-games, simulations)** are critical for realizing improvements, and are characterized by the following:

- Increased efficiency, availability, and decreased cost
- Self-paced, stand-alone training
- Skill Development Training
- More efficient use of resources
- Standardized delivery of training content
- Objective assessment of student performance
- Flexibility to support continuous workforce training for new automation capabilities & procedures – **the evolution to NextGen**



# Research Opportunities

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- **Increased training demands + Support the transition to NextGen**
- Approach opportunities and technology applications earlier - in primary education, for example - Air Traffic Collegiate Training
- Apply new learning methods to TFM
  - Weather Impact scenarios
  - Weather decision-making processes and mitigation strategies
- Match work force skills to NextGen capabilities



# Thank You

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