

Aviation Wx Research Program (AWRP)

Presented to: NTSB General Aviation Safety Forum
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Weather Research Team
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Aviation Weather Research Program Mission Statement

Purpose: Applied research to minimize the impact of weather on the NAS

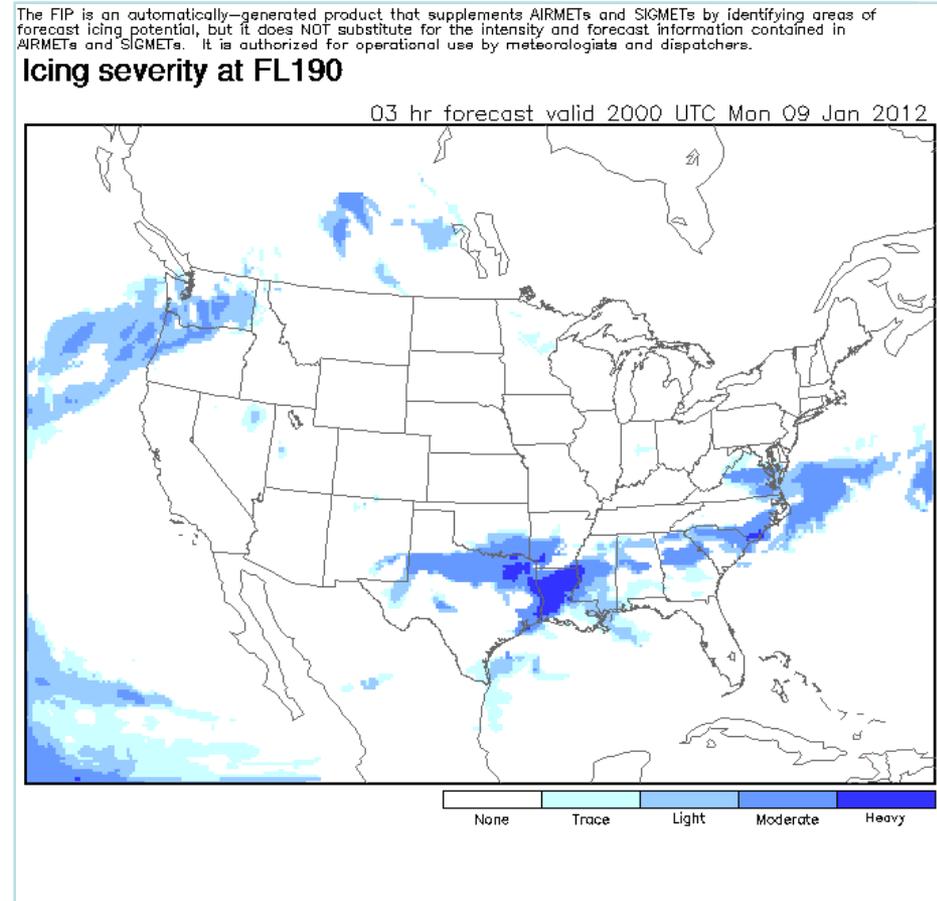
Motivation:

- NextGen weather operational improvements
- FAA goals of greater capacity and increased safety
- Support for NWS population of 4-D Weather Cube
- Short and mid term improvements on the path to NextGen



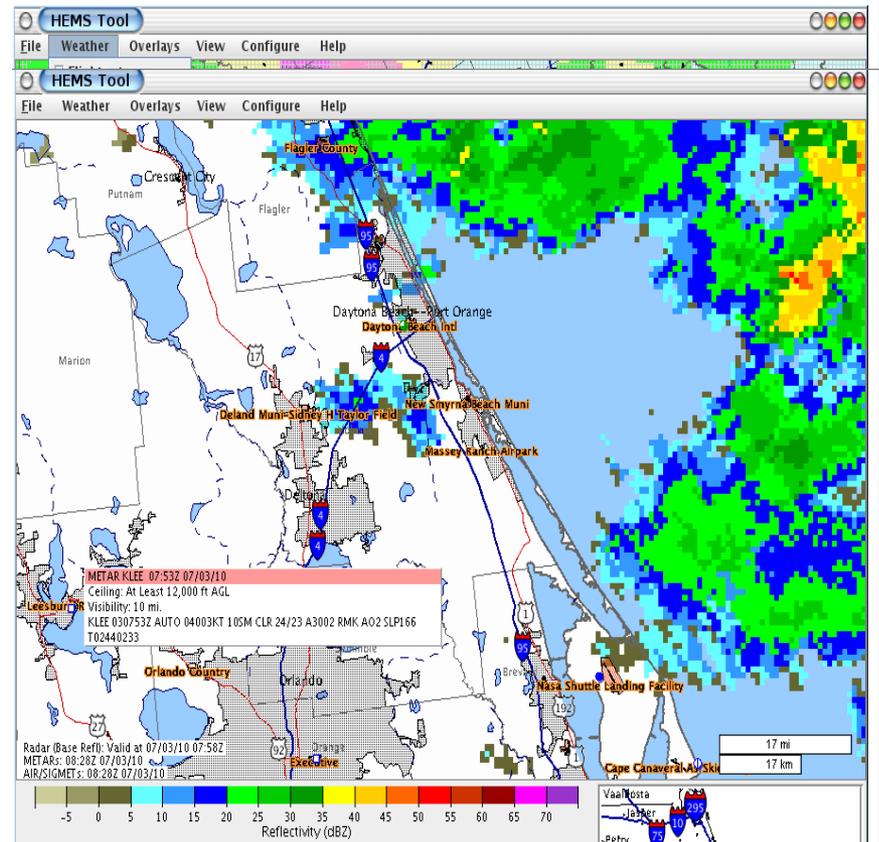
Aviation Digital Display Service (ADDS)

- Available through NWS website aviationweather.gov
- Collaboration between FAA, NCAR, and NWS
- Very popular in GA community
- Allows FAA to showcase sponsored research on certified website
- All sponsored research approved for “supplemental” use via quality and safety assessments



Helicopter Emergency Medical Services (HEMS)

- Designed to meet the needs of low-altitude VFR emergency first responders
- Overlay multiple fields of interest: ceiling, visibility, flight category, winds, relative humidity, temperature, radar, AIRMETs and SIGMETs, METARs, TAFs, and PIREPs
- High-resolution basemaps, including streets, hospitals, and heliports for the entire United States
- Available at <http://weather.aero/tools/desktopapps/hemstool>



What's on the Plate:

- Convective Weather Research
 - Oceanic
 - Convective Initiation
 - Lightning Impacts for Terminal Operations
 - Understanding the definitions and applications of uncertainty information
- C&V Initiative
 - Collaboration with NWS to combine AWRP sponsored gridded C&V analysis and forecast work with similar NWS
 - Goal is one gridded forecast for 4-D Cube



What's on the Plate

- Turbulence
 - GTG improvements and enhancements include mountain wave, low level turbulence, convectively induced turbulence and maybe more
 - EDR data for evaluation and application by ATM, flight crews
- Icing
 - CIP/FIP enhancements and improvements
 - Applications specific to Alaska
 - Collaboration with FAA flight safety and standards to think about “indexing”



NTSB Safety Rec. #A-10-105

Background

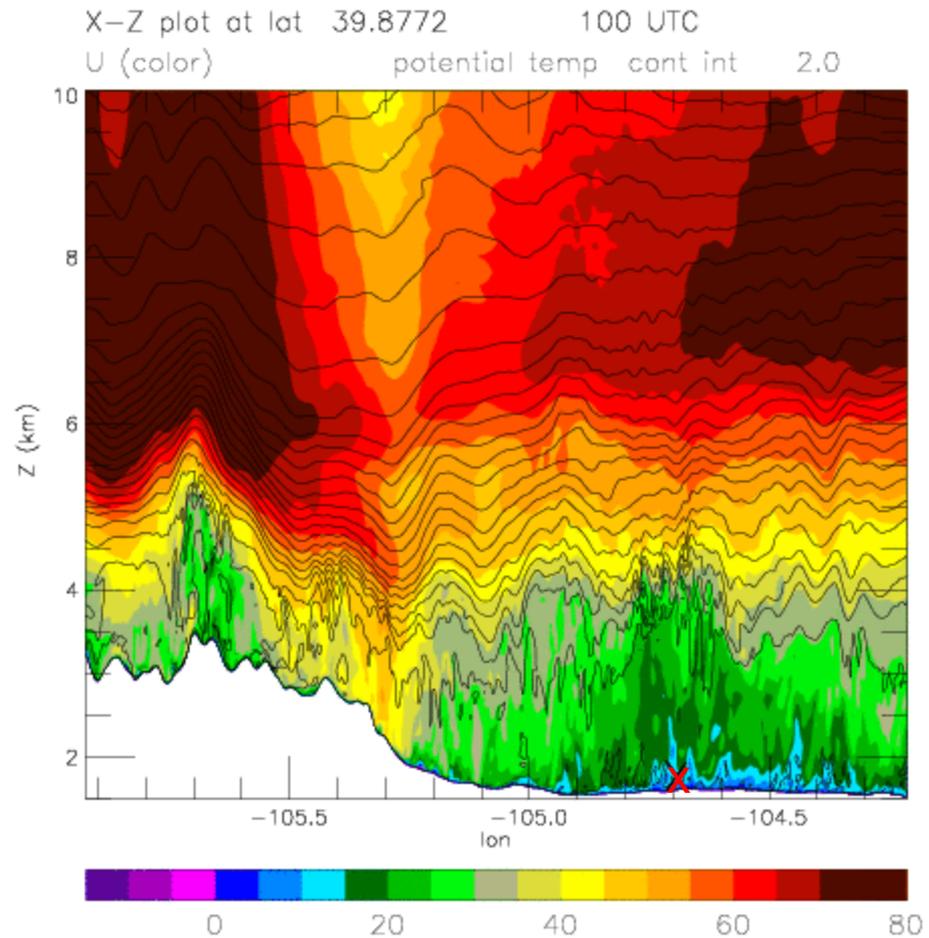
NTSB accident investigation for DIA CO1404 resulted in recommendation to FAA: “Conduct research into and document the effects of mountain wave and downslope conditions at airports, ..., that are located downwind of mountainous terrain.”

FAA Activity

- Assess feasibility of high-resolution nested forecast models to provide enhanced turbulence/wind info for airport terminals as an indicator of a gust event
- Perform sensitivity studies to obtain optimal model configuration - report due 2nd quarter FY13
- Initial simulations & analysis appear to show relationship between surface gusts and waves aloft



NTSB recommendation response



High-resolution simulation of winds in east-west cross-section through DIA



AWRP Team

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