Meeting GA & HEMS Needs:
Product developer’s view.

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FPAW
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Icing Information Needed to Support GA and HEMS

- Low-altitude
- High resolution in time and space
- Provide needed information content
  - Probability
  - Severity (or information to estimate severity!)
  - Safe havens/escape routes

**Good news:** these are right up our alley

**Bad news:** Not currently available and need additional development
Icing in Precipitation: Freezing Rain and Drizzle

- Anticipate rulemaking in 2012 to certify aircraft for flight in SLD conditions
  - Implies a detection/forecast capability
  - Takeoffs and landings in the terminal area are especially vulnerable
  - Need areal coverage, generally only have point measurements
  - Point measurement could be extrapolated using radar

A Request For a Research Requirement for freezing precipitation detection in the terminal area has been submitted to the FAA Wx Requirements Office
“Regular” (not large drop) Icing

- Remote detection
  - FAA NexRad Program Office is funding a project using dual-polarization upgrade to identify icing conditions
  - NASA Icing Remote Sensing System combines instruments to provide time-height profile of icing
  - And others..

These and other scattered projects need coordination and a Route To Operations.
In-Flight Icing Recap

Toward the higher-res products needed:
- Substantial development required.
- IFIPDT will have needed model data infrastructure
- **Hoping for development start in FY11.**

Toward freezing precipitation in the terminal environment:
- **Need FAA Research Requirements** for freezing precipitation detection in the terminal area.

Getting the multi-agency ducks in line:
- **Need a multi-agency RTO plan** dealing with the terminal environment.
NCVA – C&V Analysis Product

NCVA Today

Supplementing these:

Status
- QA study near done
- Tech Rev Panel near
- SMS process 2010
- Risks & mitigations
- 2010 Op’l decision?

via Exp’l ADDS

via HEMS Tool

Station Plot

Wx Depiction Chart
NCVF – Forecast Concept

**Forecast Inputs**
- NCV Observations-based Statistical Forecast
- NCV Time-lagged RR Ensemble Forecast
- CoSPA Storm Forecast
- Multi-member RR, NAM, SREF Ensemble Forecasts

**Blended 1-12 hr Probabilistic Forecast**

**FY09 Enabling Results**
- 1-3 hr skill meets or beats operational guidance with reduced latency. 4-12 hr forecasts in development.
- On track for a 1-3hr forecast test at the OEP 35 airports in FY11.
NCVF Demonstration Goals

FY11 Core 1-3 hr Demo
- OEP 35 Airports
- NCV Obs-based Statistical Forecast Plus RUC/RR inputs.

FY11 “Stretch” Addition
- GA & HEMS focus.
- Limited domain.
- Site-based.
- All sites within.
- 25, 100, more?
- Pending FY10 automation rate.

FY12 1-6 hr (?)
- Continue demo? Extend to 1-6hr? Expand domain? TBD.

FY13 1-12 hr
- Full CONUS
- Full CONUS
- 1-12 hr
- Gridded

Continue forecast development all years.
C&V Recap – Coming Year

OEP 35 Airports

Prepare for OEP 35 1-3 hr Demo in FY11.

All Airports In Region

Prepare for Regional 1-3 hr Demo - FY11. Domain uncertain.

Subset of OEP 35

Mid-course performance assessment: 1-12 hr forecast prototype.