Enhancing Digital Services for Aviation

Cammye Sims

AMS – ARAM, Los Angeles, CA

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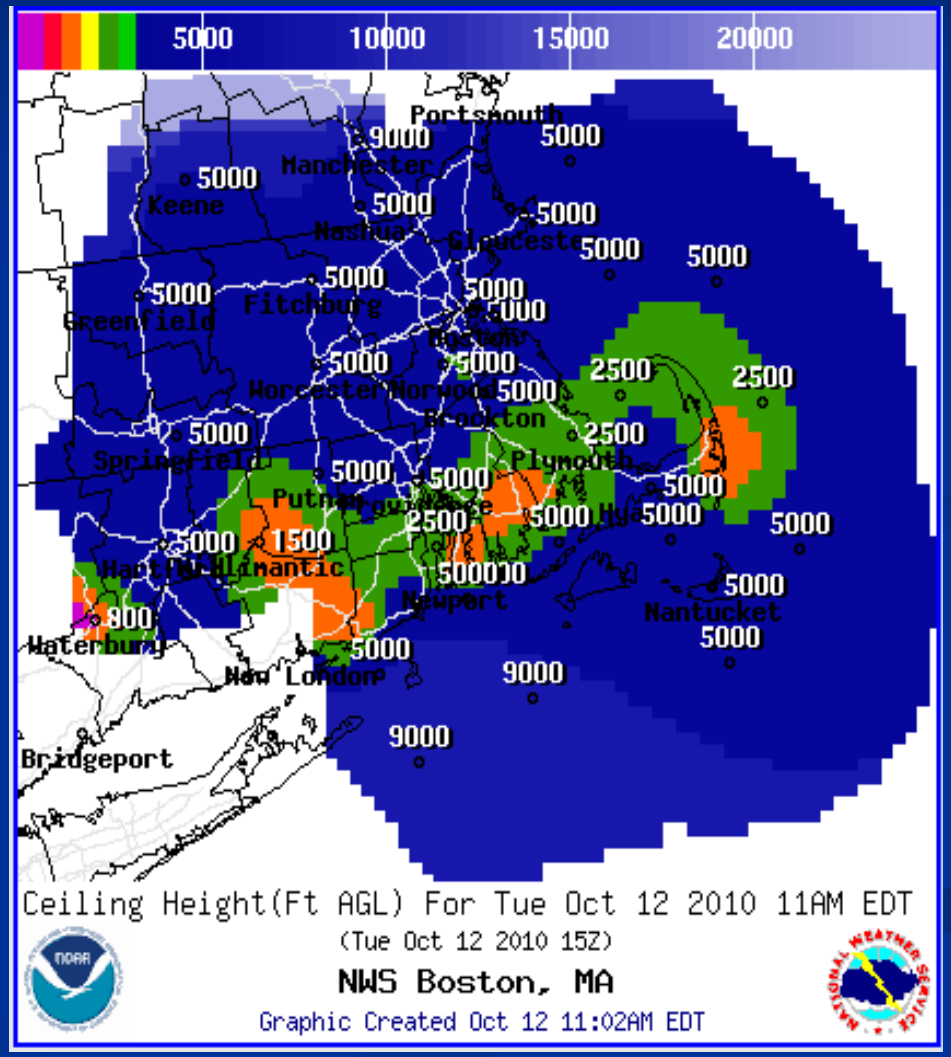
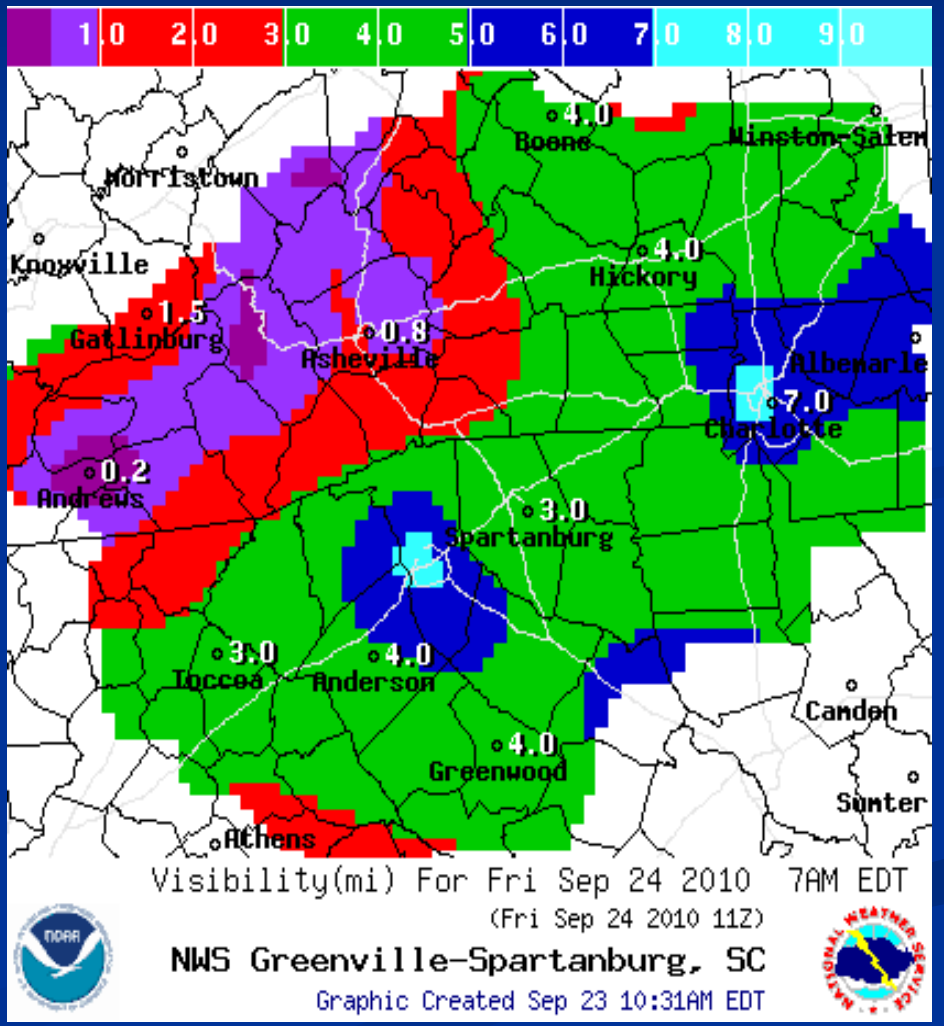
What are Digital Aviation Services

- Adding aviation elements to the National Digital Forecast Database (NDFD)
  - Provide hourly graphical forecasts of ceiling and visibility out to 30 hours
- Allows TAFs to fall out of the database with little or no post-editing



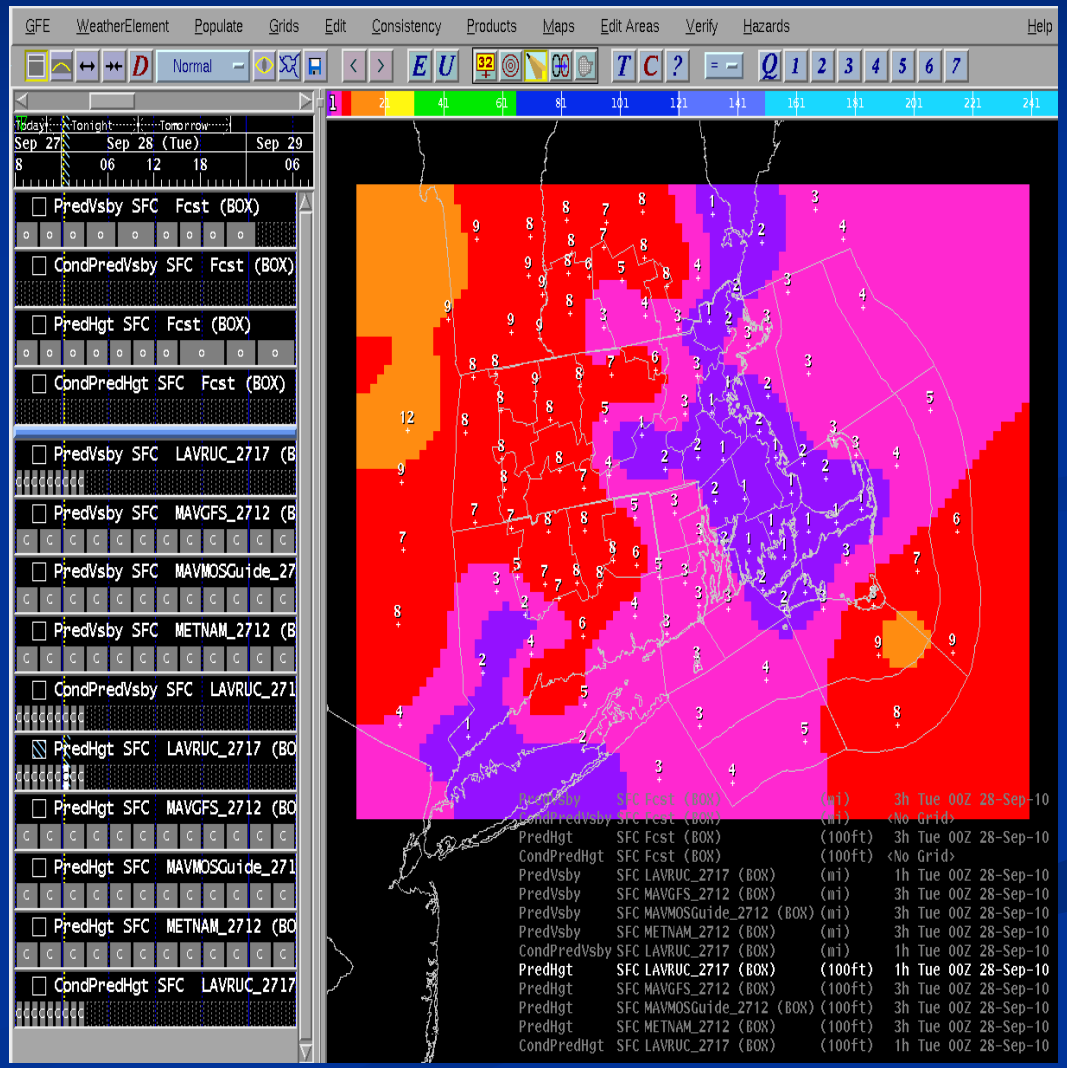
Why Digital Aviation Services

- Moves toward the NextGen requirements:
  - National - Digital ceiling and visibility
  - Consistent aviation forecasts, the Single Authoritative Source (SAS) for C&V
- Important guidance tool for medical services, search and rescue, and GA
- Improves NWS forecast consistency with aviation forecasts and beyond



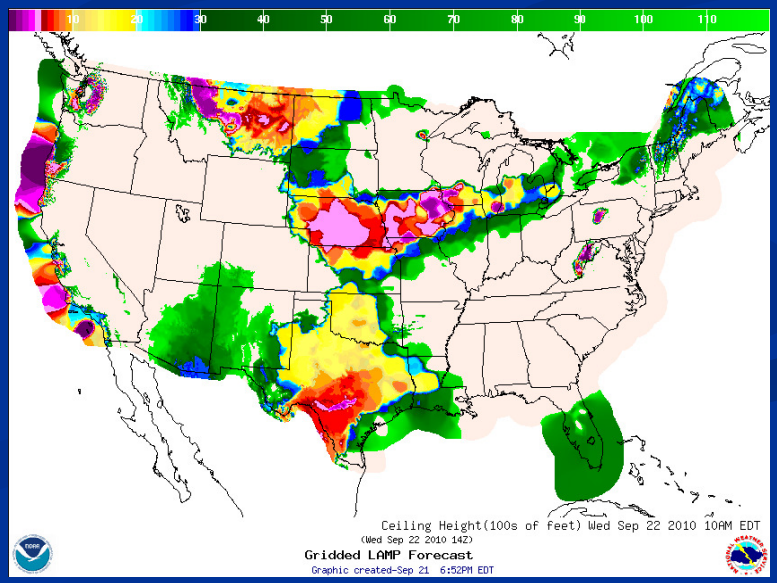
Who is Producing Aviation Grids

- Participating NWS Forecast Offices are producing experimental digital forecasts of ceiling and visibility
  - Boston, MA
  - Jackson, KY
  - Caribou, ME
  - Charleston, WV
  - Greenville-Spartanburg, SC
- TAFs fall directly out of these grids



Operations Assessment

- Prefer "keeping it simple" – all WFO products produced from one database
- Much easier to compose TAFs
- Operations far more efficient
- Improved Product Consistency
- Learning model biases to improve forecasts

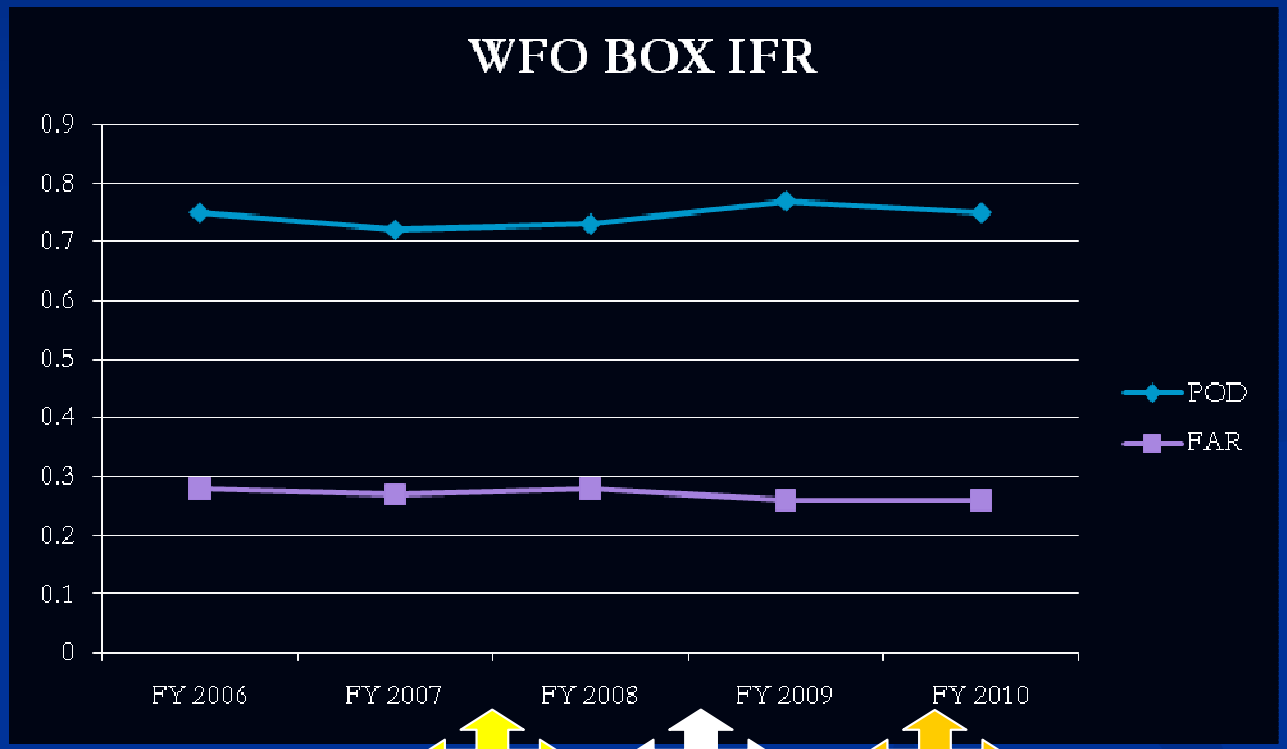


Operations Assessment

- **Customers noticing a difference**
  - Increased consistency between TAFs and other products
  - More frequent and proactive updates
  - Forecast information available for any point in forecast domain
  - Users can take the gridded database and create their own forecast products and displays
  - ***"We have clearly noticed improved TAF performance and improved consistency in all public forecast products in the Boston area since NWS has been producing TAFs from the ceiling and visibility grids."*** - Rick Curtis, Chief Meteorologist, Southwest Airlines

NWS Boston TAF Verification

- No notable decrease in scores since beginning digital aviation services...some have improved



Began 3-h TAF Updates

Began Enhanced Short Term

Began Digital Aviation Services

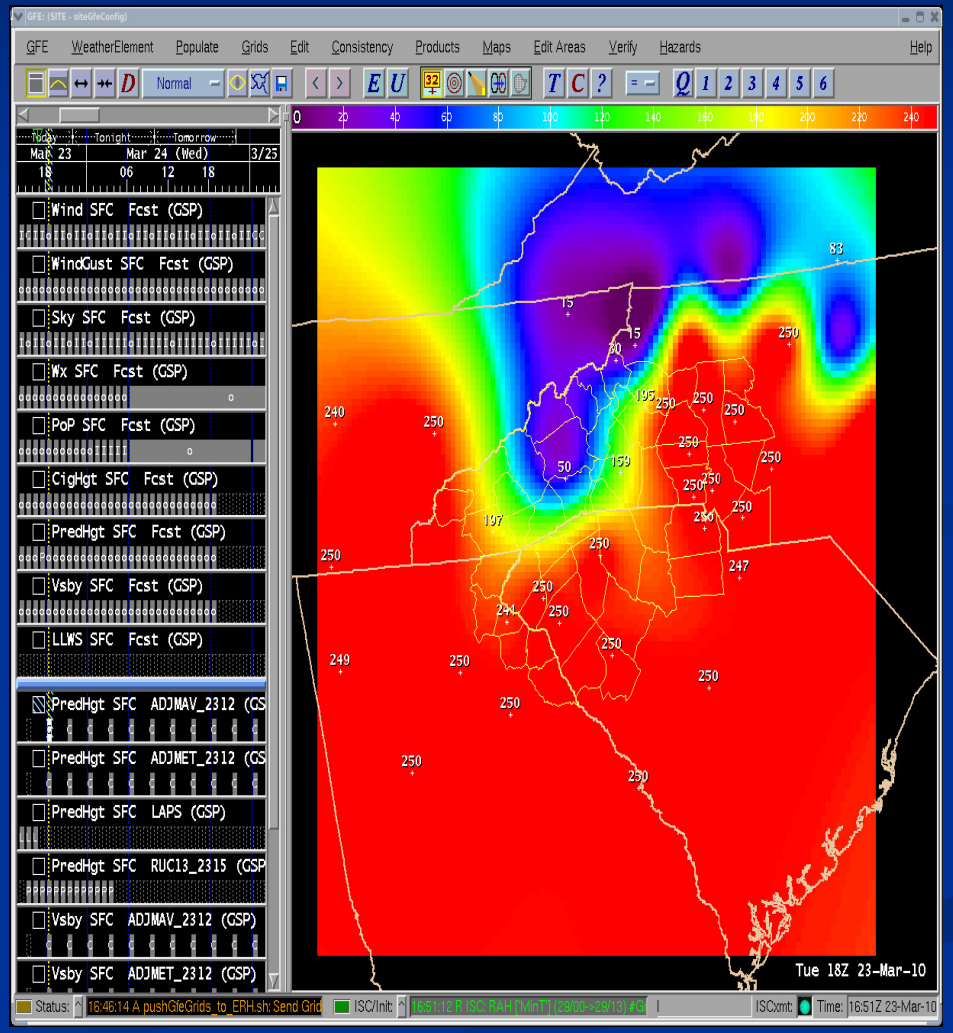
NWS Charleston TAF Verification

	FY06	FY07	FY08	FY09	FY10
Probability of Detection (POD)	.578	.534	.573	.592	.611
False Alarm Ratio (FAR)	.385	.398	.408	.406	.407
CSI (Critical Skill Index)	.424	.395	.411	.421	.430
% CSI improvement over MAV	26.4%	34.5%	29.9%	25.5%	32.0%

- Aviation grids began at NWS Charleston in 2006
- Overall - fairly steady and in the right direction
- No significant decrease in quality
- Best scores in last 5 years were in 2010

Current and Future Initiatives

- Coordinate the national requirements
- C&V transition between forecast offices
- Verification of forecasts at non-TAF sites
- Enhance verification for the future
- Assess new guidance tools e.g. - Gridded LAMP, and high resolution numerical model output
- A national C&V grid used by AWC to produce the Area Forecast



Current and Future Initiatives

- Interagency Collaboration
  - NWS working with FAA and Private Industry on FAA led C&V Research Transition Team. Team is tasked to:
    - Assess multiple C&V products
    - Build a coherent roadmap toward NextGen requirements
    - Help facilitate process to transition into operations
  - Team is now well aware of NWS goal to build gridded national ceiling and visibility products - and the critical role this product will have in the SAS

Thanks for Your Time!