



Aviation & National Weather Service

Our Future in The Digital Age

**NBAA 8th Annual Meeting for the
Friends/Partners of Aviation Weather**
November 11, 2005

John E. Jones, Jr.

National Oceanic and Atmospheric Administration
Deputy Assistant Administrator for Weather Services

"Saving Lives and Livelihoods!"



The Nation's Risks

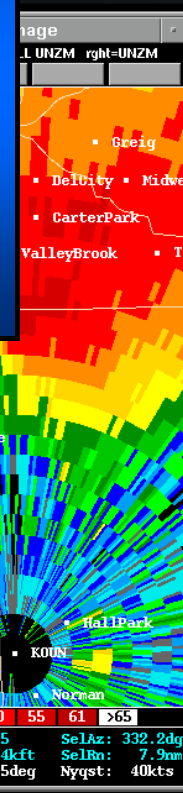
Extreme Climate, Weather, and Water

- Provide climate, water, weather forecasts and warnings to protect **life** and **property** and enhance the economy

- 76 billion observations
- 4 million aviation forecasts
- 68,127 aviation warnings

A Typical Year Brings:

- 6 Hurricanes
- 1,000 Tornadoes
- 5,000 Floods
- 10,000 Violent Thunderstorms
- Drought Conditions
- 500 Deaths; 5,000 Injuries; \$14 Billion in Losses





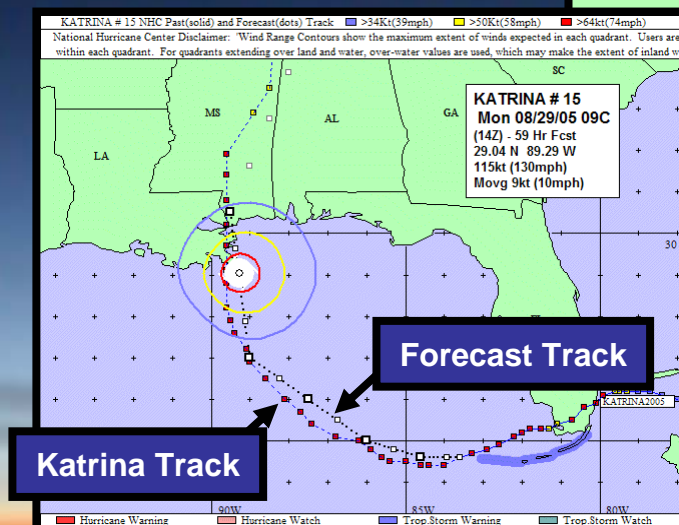
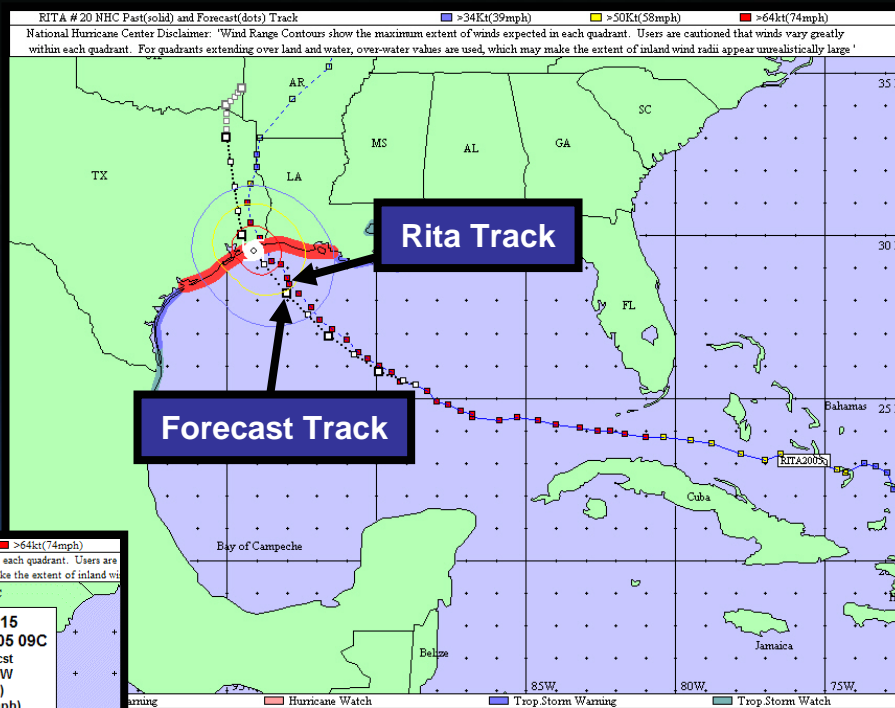
The Nation's Risks

Extreme Climate, Weather, and Water

Success in Some Areas

Hurricanes Katrina & Rita

- Track
- Size
- Intensity
- Storm surge
- Warning lead time





Aviation & National Weather Service

Our Future in The Digital Age

Overview

- Current State/Case for Change
Aviation Weather Services
- NWS's Aviation Weather Initiative
Future in the Digital Age
- Your Role
NWS's Future Aviation Services





Current State/Case for Change

Aviation Weather Services

1995 REPORT:

A Call for Federal Leadership and Action
National Research Council

--General Al Kaehn, Jr.

- **Recommendations for FAA and NWS**



Current State/Case for Change *Aviation Weather Services*

Report's Recommendations for NWS & FAA

- Improve CWSU effectiveness
- Focus on the urgent, unmet needs of aviation weather users
- Implement improved information processing systems & new data analysis tools

Aviation Gridded Forecast System



Current State/Case for Change Aviation Weather Services

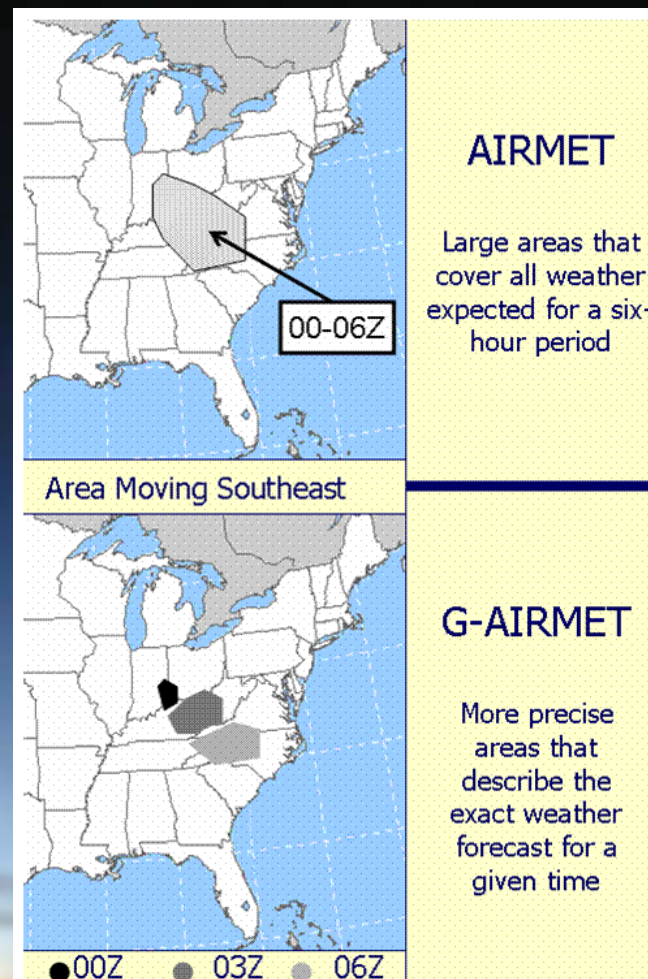
Report's Recommendations for NWS & FAA

- Develop process to allow users to provide timely feedback

Pilot to Forecaster feedback loop

- Increase accuracy, timeliness, and geographic resolution of forecasts

Icing and turbulence



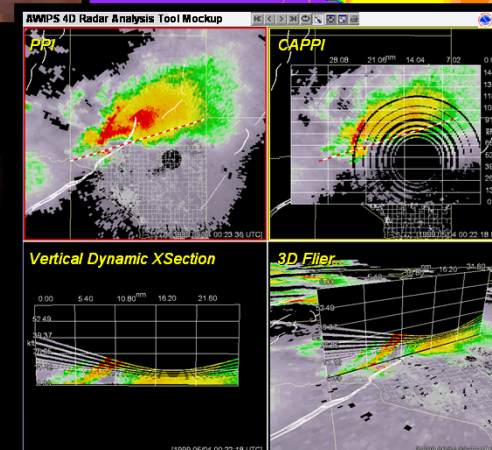
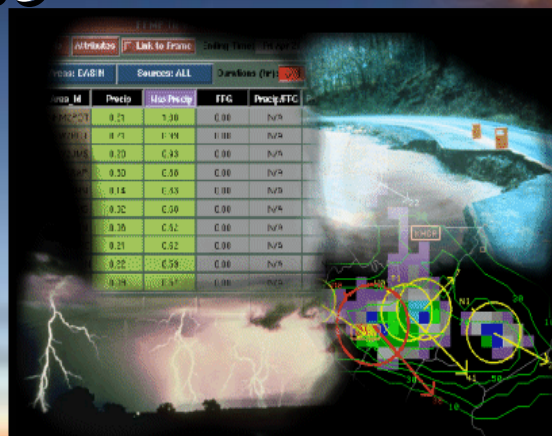
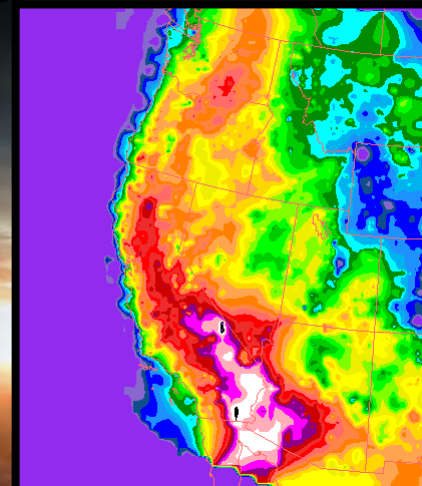


Current State/Case for Change Aviation Weather Services

Have we made progress since 1995?

Yes...but, much needs to be accomplished

- Individual excellence in CWSUs
But uniform excellence required
- Aviation Gridded Forecast System:
Some automated, but disclaimers on operational use





Current State/Case for Change

Aviation Weather Services

Have we made progress since 1995?

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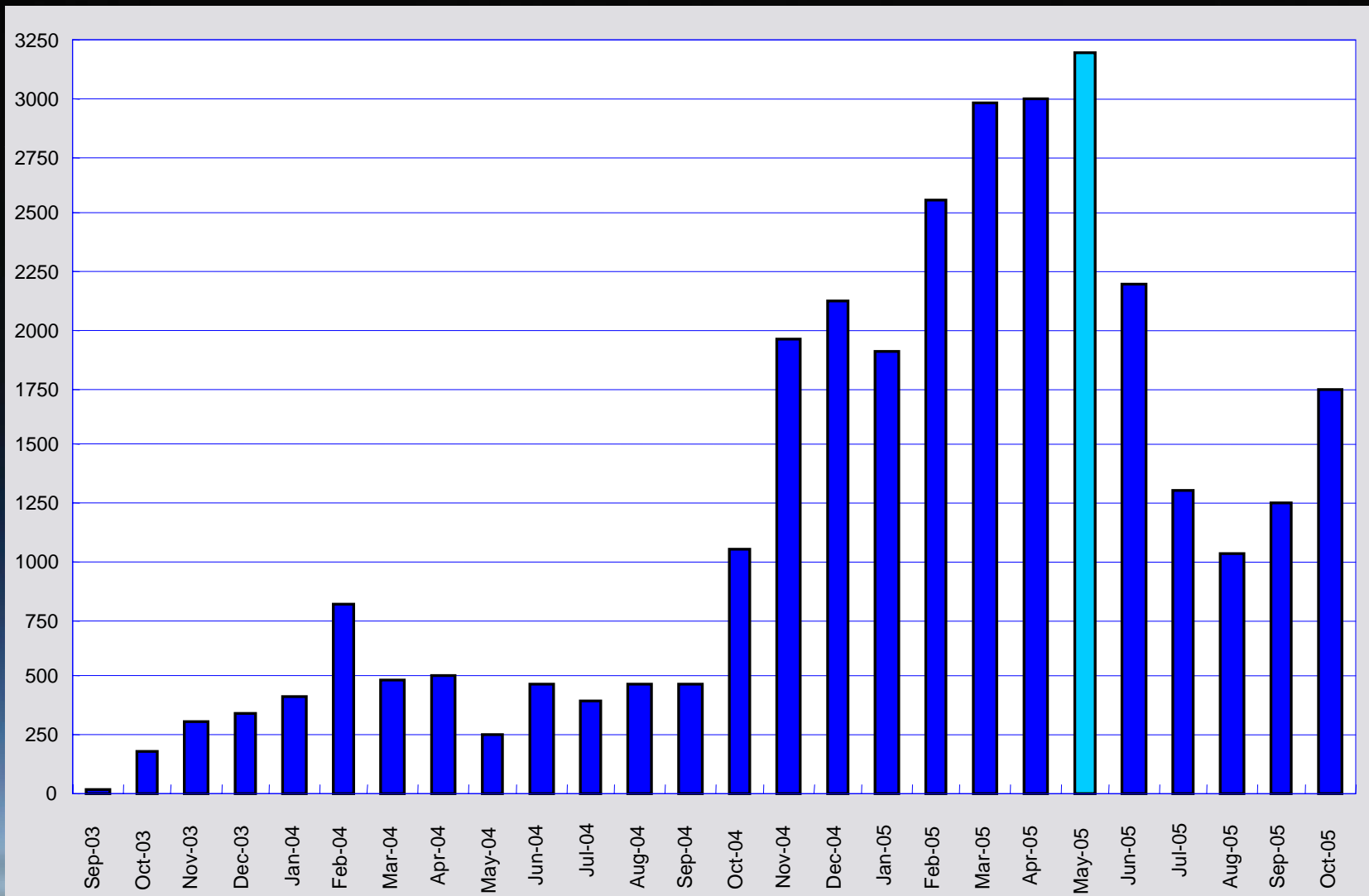
- Improvement is needed in the working relationship *with the research community and NWS*
- Joint Program Development Office vision
2012—4D digital database of aviation elements





Current State/Case for Change Aviation Weather Services

Number of PIREPs



Month



NWS's Aviation Weather Initiative

Future in the Digital Age

Have we made progress since 1995?

Yes...but, much needs to be accomplished

Sensors

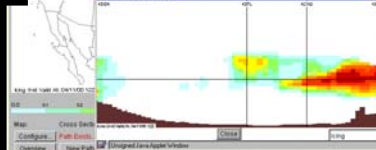
- More aircraft observations: **UPS 25 WV sensors**

Graphics

- Improved accuracy
& moving experimental products to operations

Training

- Course 1—Low cloud & fog forecasting
& Impact of weather on air traffic
management module



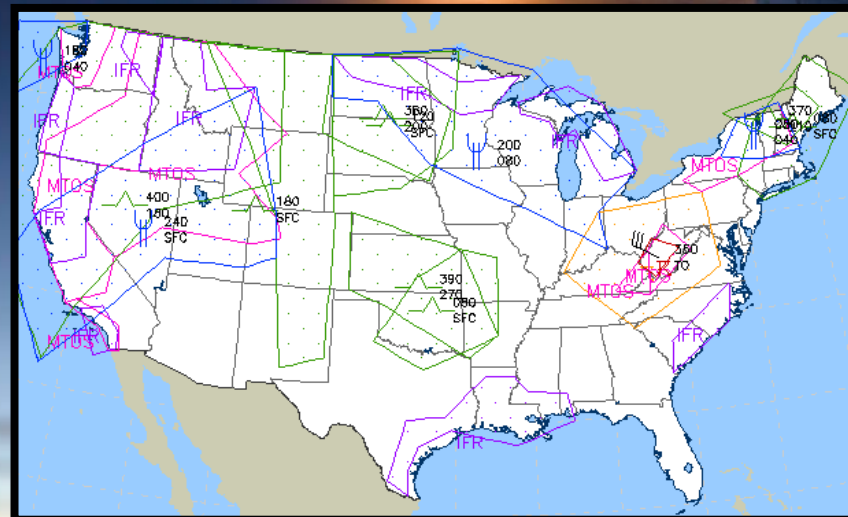


NWS's Aviation Weather Initiative

Future in the Digital Age

Three Strategic Initiatives

- Develop an organization-wide concept of operations
- Consolidate data-level IT management
- Provide Aviation Products and Services





NWS's Aviation Weather Initiative

Future in the Digital Age

Aviation Team

- NWS Recognizes Shortfalls
 - Team charged to produce a plan by 16 Dec 2005
- Our Process
 - Obtain FAA-wide requirements
 - Design products and services to meet requirements
 - Design system to provide products and services
 - Design prototype
 - Design transition strategy
- Goal
 - Define the weather information, product, and service delivery environment to meet FAA's weather needs



NWS's Aviation Weather Initiative

Future in the Digital Age

Aviation Team

Strategic Outcomes: Living the Future

- User trust and confidence in the information we provide—a consistent, accurate forecast that is relevant and totally integrated into user decision making processes.
- A more efficient workforce





NWS's Aviation Weather Initiative

Future in the Digital Age

Aviation Team

Three Strategic Goals

- Improve end-to-end forecast process
 - Right concentration of people and technology
 - Develop relevant products
 - Improve dissemination
- Integrate research/development and training
 - Accelerate science improvements to operations
- Improve Aviation Weather Program management
 - At all levels.....



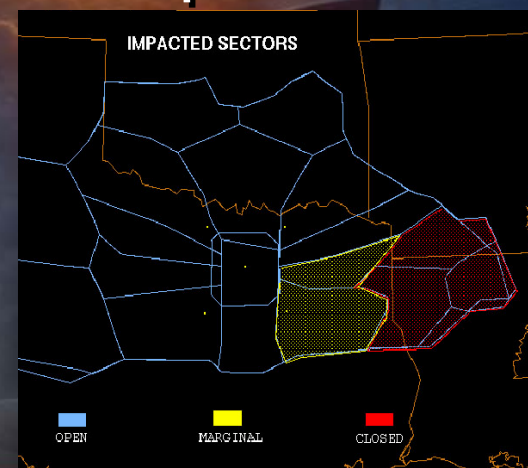
NWS's Aviation Weather Initiative

Future in the Digital Age

Aviation Team

Pilot Projects Over Next 15 Months

- Decision Aid Products—What's the impact of weather on operations?
- End-to-end forecast process
- Remote briefings support on-demand info. needs
- Human interaction with automated techniques being developed in R&D
 - Convection
 - Icing





Your Role

NWS's Future Aviation Services

Themes you will hear:

Much has been done over past year in observations, new products and capabilities...

Much is planned for next year



Your Role

NWS's Future Aviation Services

Your Ideas, Your Voice

- Voice your concerns today
- Voice your concerns in the Spring '06 NOAA Stakeholder's Forum



Your Input
+ NWS Situational Awareness
= Safe Flight Plan

