

HRRR / RAP – Mitigating Aviation Hazards for Safety and Efficiency

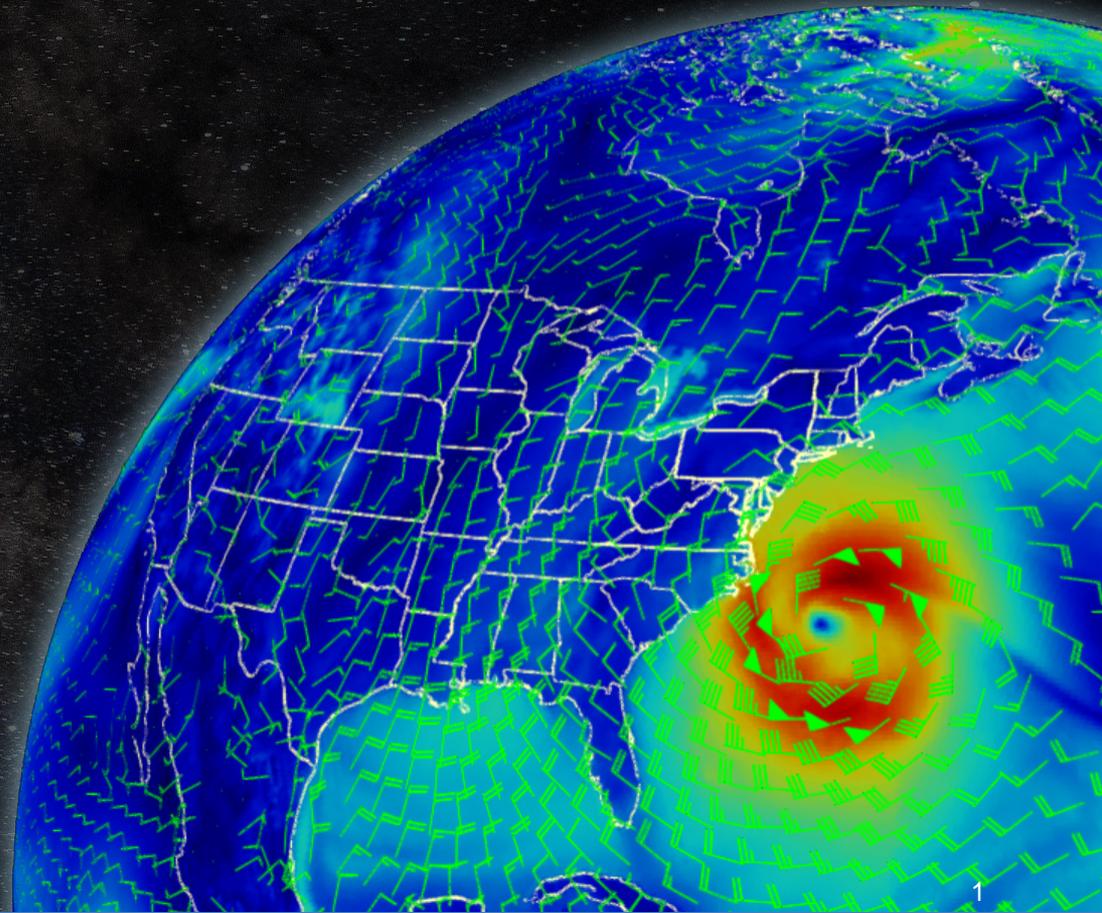
Jaymes Kenyon

CIRES

Performing Work for NOAA/ESRL/GSD



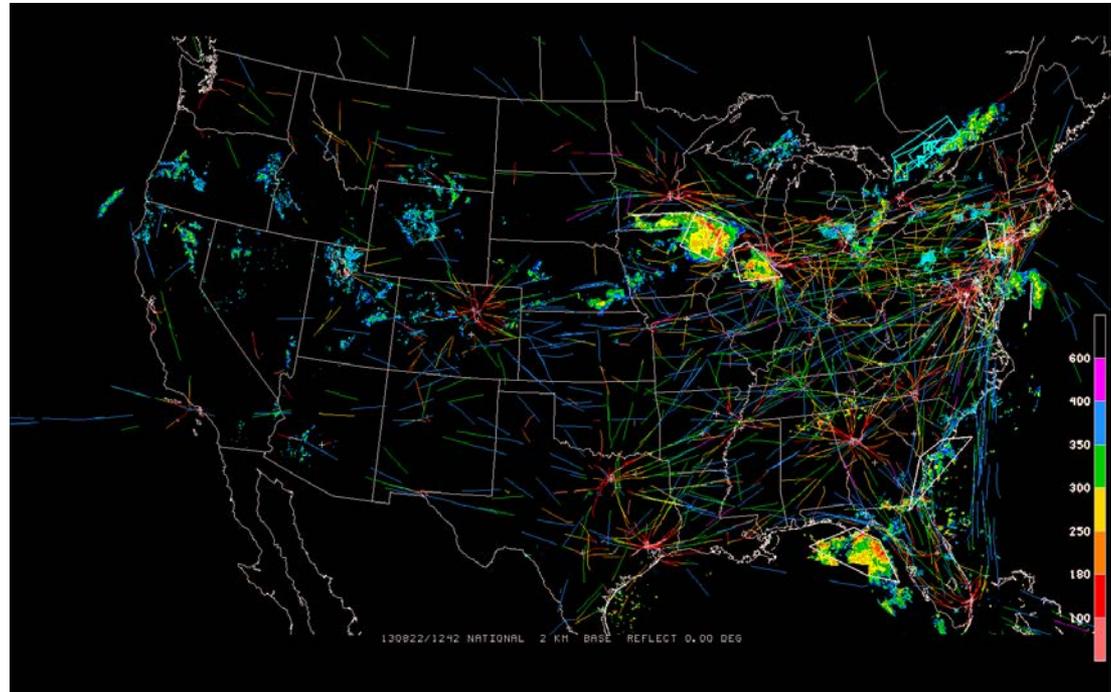
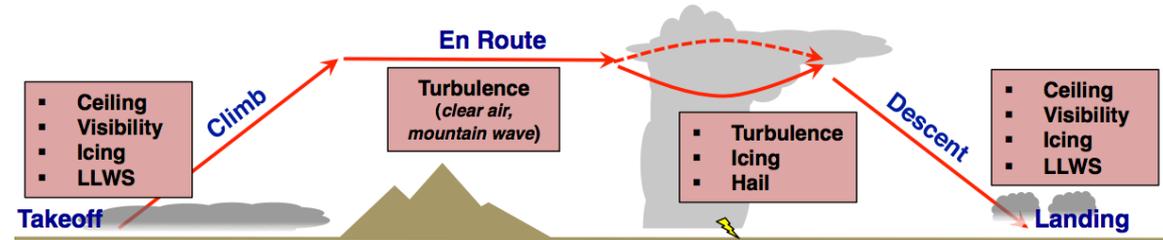
GSD Science Review
3-5 Nov 2015



Hourly-Updated Aviation Guidance

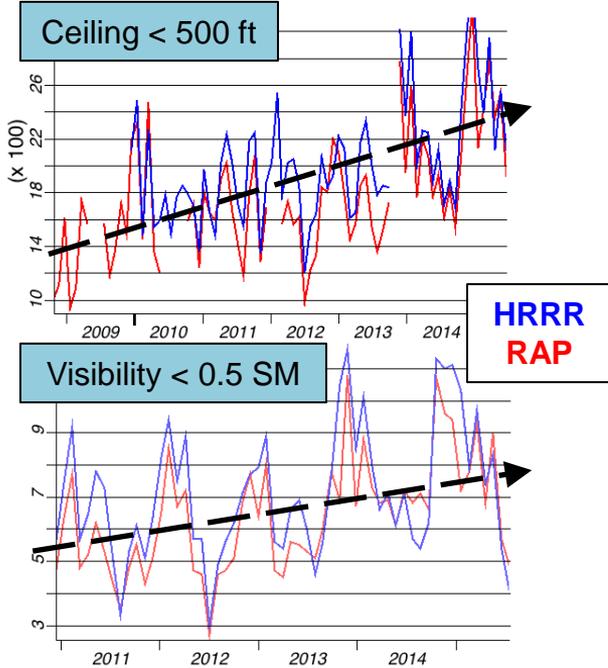
RAP / HRRR: Hourly-Updated Forecasts of *All Hazards*

- Identification of hazardous weather for general aviation: among **NTSB's top-ten "Most Wanted"** improvements (2014)



Aviation Benefits from Model Improvements

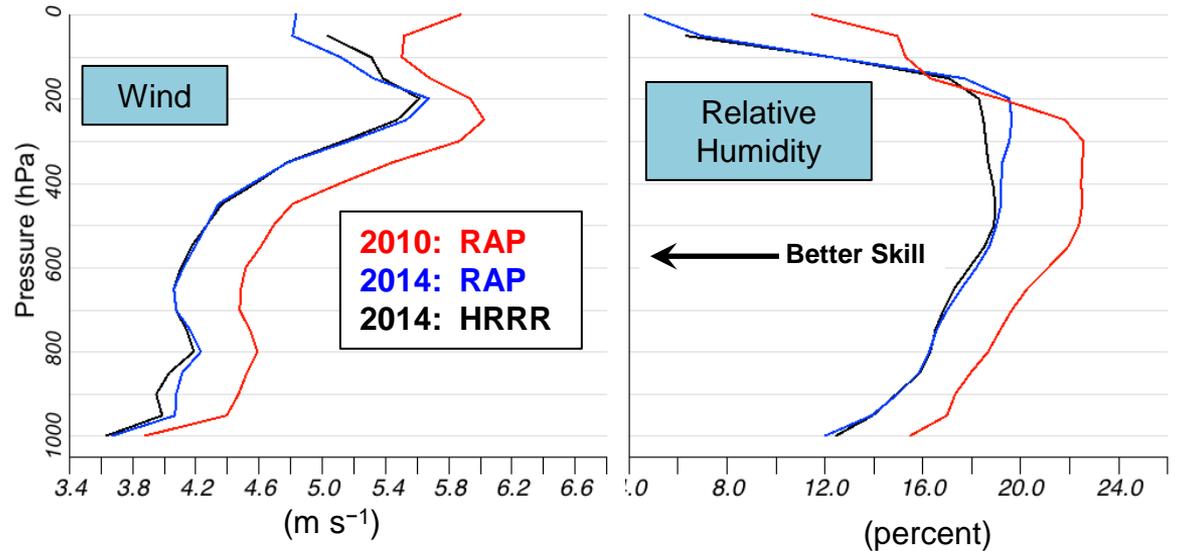
12-h Critical Success Index



Benefits

- Proactive traffic management
- Better situational awareness for general aviation

12-h RMSE



Benefits

- Turbulence forecasting
- Anticipation of low-level wind shear
- Route optimization, fueling requirements

Benefits

- Accurate cloud forecasts (horizontal, vertical coverage)
- Icing avoidance

- See poster...
 - Aviation-specific applications of RAP & HRRR
 - Advancements in data assimilation and physical parameterizations with aviation benefits
 - Improved post-processing algorithms
- See also Session 5 (Theme 2):
“Impact-Based Decision Support Tools for Aviation” (talk & poster)

