RTMA Assessment

In Lieu of Surface Observations

Presented to: FPAW

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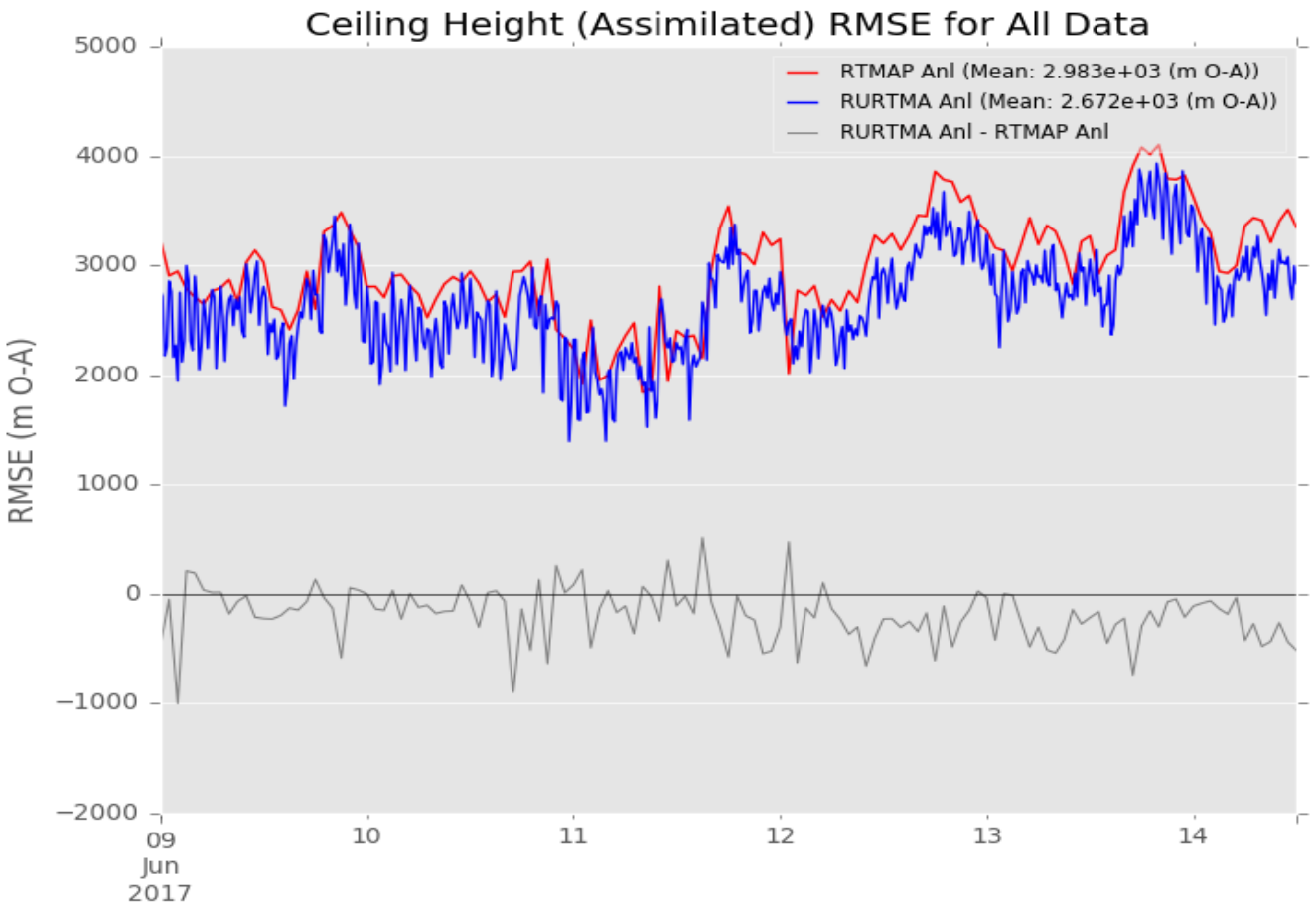
Outline

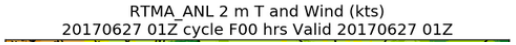
- **Impact of Missing Observations**
- **Real Time Mesoscale Analysis (RTMA) Description**
  - How good is RTMA
    - Bulk statistics versus location specific
- **Description of Assessment**
  - Aviation weather parameters
  - Expected outcome
- **Other RTMA work**
  - Overall concept
  - Integration into Helicopter Emergency Medical Service (HEMS)
  - Improvements to RTMA Ceiling and Visibility (C&V)

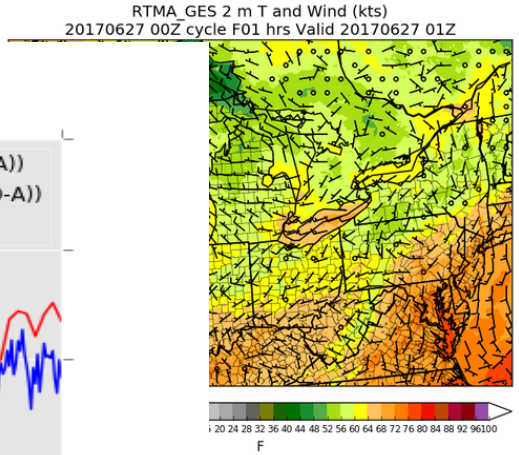
Impact of Missing Observations

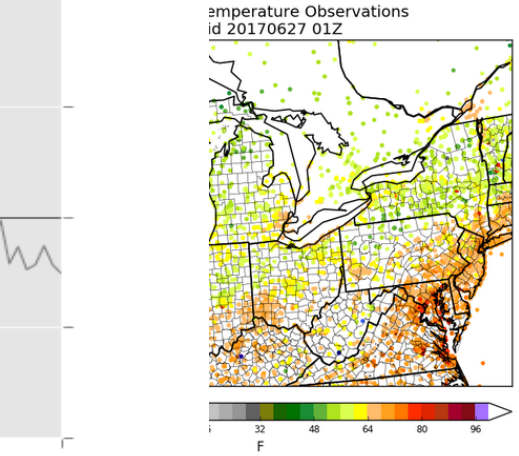
- **Recent example of continued impact on operations**
  - Airlines forced to cancel route trips from DTW (Detroit) to ITH (Ithaca New York). Reason: METARS not available for ITH.
- **Delta Airlines has identified 160+ cases of missing METARs seen in last year.**
- **What can be done to assist the airlines to continue to operate safely, while providing the flying public with reliable air service?**

RTMA Description









RTMA Assessment

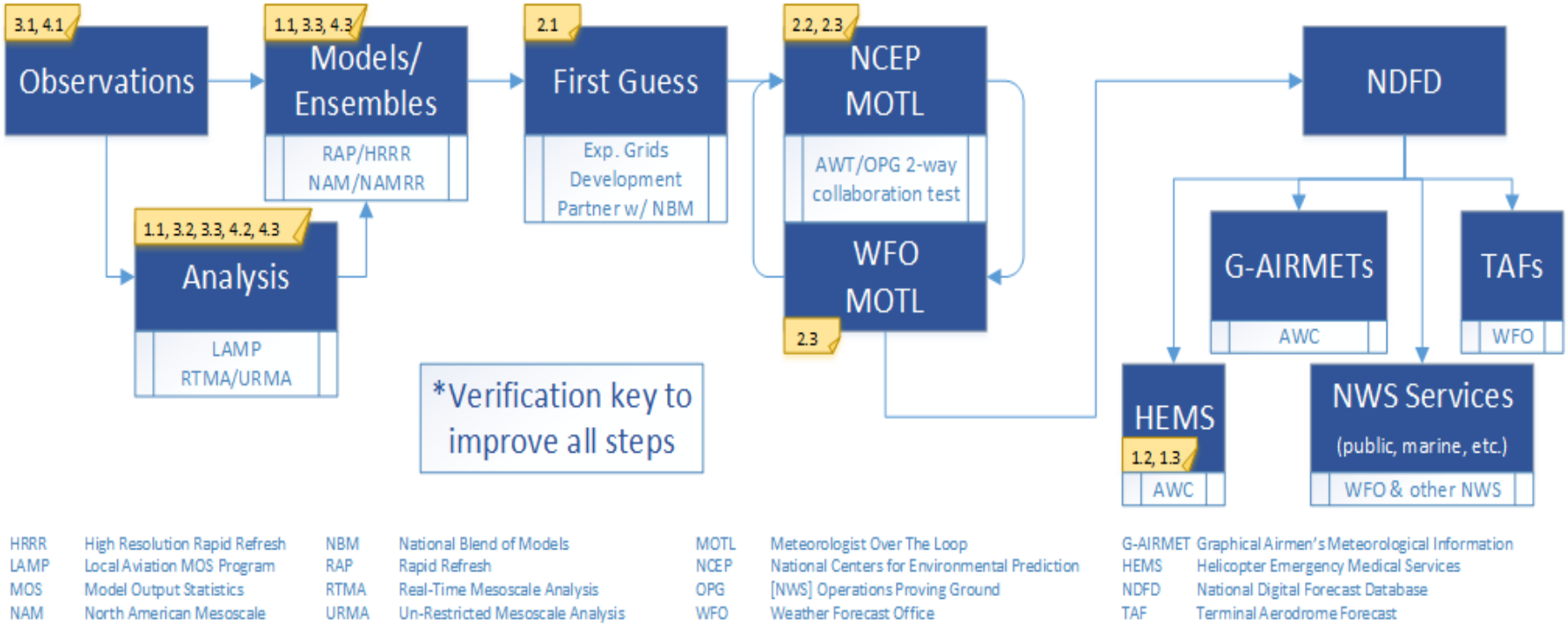
- **Description**
  - Assess the quality of aviation weather variables at specific locations (i.e., select airports) when the observation is missing
  - Parameters (by flight category)

Wind	Wind Gust	Temperature
Pressure	Visibility	Ceiling

  - Stratified by flight category
  - 1 year effort
- **Expected Outcome**
  - Expanded RTMA airport list beyond temperature
  - Regional results

Other RTMA Work

- **Part of Aviation Weather Research Program (AWRP) C&V project**



HRRR	High Resolution Rapid Refresh	NBM	National Blend of Models	MOTL	Meteorologist Over The Loop	G-AIRMET	Graphical Airmen's Meteorological Information
LAMP	Local Aviation MOS Program	RAP	Rapid Refresh	NCEP	National Centers for Environmental Prediction	HEMS	Helicopter Emergency Medical Services
MOS	Model Output Statistics	RTMA	Real-Time Mesoscale Analysis	OPG	[NWS] Operations Proving Ground	NDFD	National Digital Forecast Database
NAM	North American Mesoscale	URMA	Un-Restricted Mesoscale Analysis	WFO	Weather Forecast Office	TAF	Terminal Aerodrome Forecast

RTMA C&V Work

- **Integration into HEMS**
  - 15 minute update versus hourly
  - More robust analysis
    - RTMA uses model background
    - Variety of observations versus only METARs
  - Replace C&V Analysis
    - Only uses METARS and satellite
      - Interpolates METARS
      - Cloud mask to identify clear areas

RTMA C&V Work

- **Future improvements to RTMA C&V**
  - Improve latency
  - HRRR assimilation and post processing specifically for C&V
    - Used for RTMA background field
  - Improvements based upon assessment results