

DAY TWO

Airborne Weather Sensors



AIRBORNE WEATHER SENSORS

- As early as January 2004, Tropospheric Airborne Meteorological Data Report (**TAMDAR**) sensors have been gathering humidity, pressure, temperature, winds, icing and turbulence raw data. These observations are transmitted by satellite to ground based data centers which formats and distributes up to date weather information to forecasters.
- The Aircraft Meteorological Data Relay (**AMDAR**) program uses existing aircraft sensors, computers and communication systems to gather, process, format and transmit met data to ground stations via radio links or satellite radio links. Approximately, 300,000 observations per day including temperature, wind speed/direction, humidity, turbulence and required position and temporal data.



REAL TIME MESOSCALE ANALYSIS (RTMA)

- Currently, RTMA provides an alternative report of surface temperature, provided by the National Weather Service (NWS). An InFO letter 15006 dated 6/3/2015, provides information regarding the use of an RTMA report when sensors on an automated weather system fail to report the surface temperature at an airport
- Additional RTMA efforts are being investigated to provide additional weather elements when automated system sensors fail
- The FAA is in discussions with the National Weather Service (NWS) on gridded RTMA data to support Helicopter Emergency Medical Service (HEMS) and Unmanned Aircraft Systems (UAS)
- Discussions on the use of weather sensors on UAS are on going



Weather Sensing

- Operational needs and decision making?
 - What weather elements are needed? E.g. wind, temp, visibility, ceiling etc.
- How we gather information?
 - What is the method to validate the different sensors (accuracy and reliability)?
- How do we report it?
 - How should the information be displayed?



Wrap Up

- Questions?
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