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InFO

Information for Operators

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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos

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Subject: National Weather Service (NWS) Real-Time Mesoscale Analysis (RTMA).

Purpose: This InFO provides updated information on the use of the NWS RTMA weather data when sensors on an automated weather system fail to report either temperature or altimeter setting at an airport.

Background: Automated weather observation systems provide surface weather reports at many airports in the United States. Systems such as the Automated Surface Observing System (ASOS) or Automated Weather Observing System (AWOS) have reliably provided weather reports at airports for over 30 years. Occasionally the sensors on these automated systems have been known to fail. Many airports utilize human weather observers to either back-up or augment these systems. However, at airports without a human weather observer to back-up or augment an automated system, the lack of weather information due to failed sensors have led to delays, diversions, and cancellations in air carrier operations.

Over the past several years the Federal Aviation Administration (FAA) conducted research on the RTMA system through the NWS Environmental Modeling Center. The research provided variability and reliability of RTMA information for most elements of the Meteorological Aerodrome Report (METAR), allowing FAA to compare both sources of weather information. The main difference is with RTMA's latency, diurnal heating, and temperature variability. Nevertheless, the data indicates that altimeter setting and temperature data from an RTMA can be used in lieu of the missing METAR information if mitigation strategy is established.

The FAA received feedback from operators including questions on temperature mitigation related to performance, winter operations, and instrument approach considerations at Cold Temperature Restricted Airports when applying RTMA temperature. The FAA considered this feedback and decided to provide easier access to the data including risk mitigation information for operational use.

The NWS developed a web-based look-up table for reporting temperature and pressure that operators, pilots, and aircraft dispatchers could use. Hourly reports of temperature and altimeter for approximately 540 airports are available every hour, 24 hours a day. The FAA Flight Standards Service worked with the FAA Weather Camera Program to display this information in a user-friendly manner.

Discussion: The FAA Weather Camera Website (https://weathercams.faa.gov/) now provides access to weather information from airports whose NWS RTMA data is available. Operators may begin using these reports with the approval of the Certificate Management Office with successful adoption of mitigation procedures.

A. Procedures. Operators who use RTMA data should develop and implement policies and procedures as soon as possible to ensure the pilot-in-command (PIC), and the aircraft dispatcher for part 121 domestic and flag operations, have access to or are otherwise provided with current RTMA temperature and altimeter setting reports. These reports should be available during the conduct of operations at any airport where altimeter setting or temperature is not being reported by an automated weather system or human weather observer and where minimums are increased to account for latency and/or performance variability in the data. The Operator should update their RTMA procedures in the General Operations Manual or Enhanced Weather Information System (EWINS) program revision if applicable. Procedures should be established for distribution of the data to the flightcrew via company dispatch and recording as required by 121 Subpart V Records and Reports.

B. Mitigation Adjustments. FAA concluded, based on its research, that buffer mitigations should be applied to account for latency and variability of the RTMA data. Operators should adjust RTMA temperature and altimeter settings to account for latency, diurnal heating, temperature, and pressure variability.

1). Rationale for Mitigation Adjustments.

1. RTMA updates hourly. RTMA is reported approximately 40 minutes past the hour for which it is valid.
2. Diurnal Temperature can increase and decrease hourly.
3. Pressure remains fairly consistent over large areas. However, it can change rapidly with convective weather or fast-moving frontal boundaries. RTMA will generally not capture these rapid changes.

2). RTMA Temperature. When temperature is missing from the airport's METAR:

1. Use mitigated temperature which accounts for latency and performance variability. Use for takeoff and landing calculations.
2. Use RTMA Temperature for any required temperature correction (e.g., Cold Temperature Restricted Airports or Baro-VNAV corrections). See AIM 7-3-1 for more information on operations in non-standard temperatures.
3. If RTMA Temperature is used to calculate ground deicing hold over time, a pre-takeoff contamination check is required.

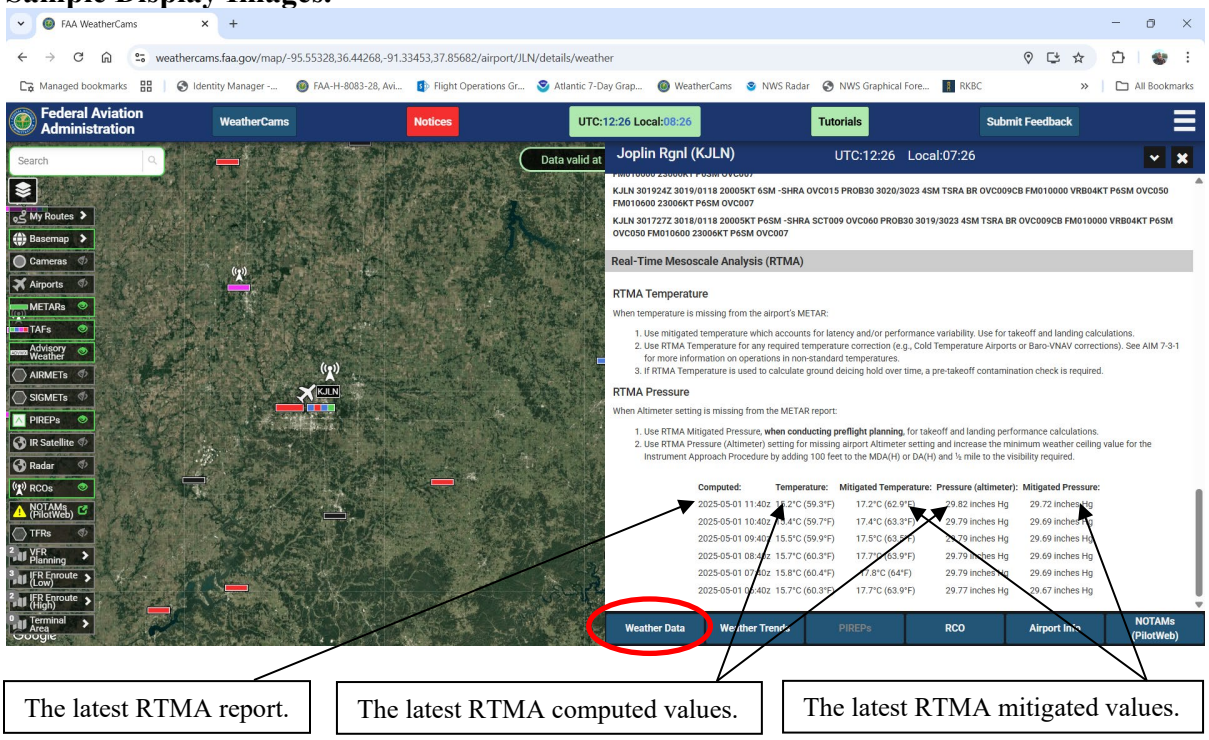
3). RTMA Pressure. When Altimeter setting is missing from the METAR report:

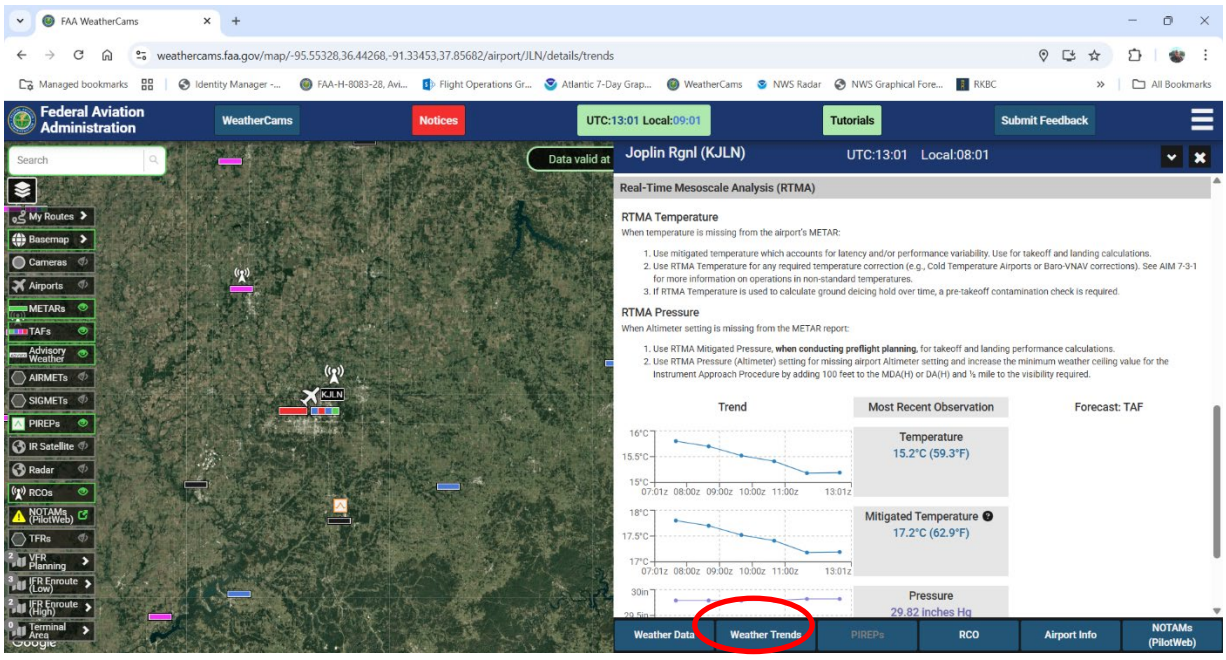
1. Use RTMA Mitigated Pressure, when conducting preflight planning, for takeoff and landing performance calculations.
2. Use RTMA Pressure (Altimeter) setting for missing airport altimeter setting and increase the minimum weather ceiling value for the Instrument Approach Procedure by adding 100 feet to the MDA(H) or DA(H) and ½ mile to the visibility required.

C. Accessing RTMA Values.

1. Go to https://weathercams.faa.gov/;
2. Zoom to or enter the 3 or 4 letter designator in the search bar for the airport desired;
3. Select the METAR location on the map;
4. Select the Weather Data or Weather Trends tab for the selected airport.

D. Sample Display Images.





Recommended Action: Directors of Operations, Dispatch and Operational Control Managerial Staff should ensure that the appropriate operator, pilot, and dispatch personnel are trained in the access and use of RTMA temperature and altimeter setting in lieu of the missing element in the METAR. The RTMA elements will not be inserted into the METAR.

Contact: Please direct questions or comments regarding this InFO to the Air Transportation Division at 9-AFS-200-Correspondence@FAA.gov.