

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



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METEOROLOGY

Specialist's Factual Report

October 29, 2025

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A. ACCIDENT

Location: Round Mountain, Texas
Date: August 31, 2025
Time: 2102 central daylight time (CDT)
0202 coordinated universal time (UTC) on September 1, 2025
Aircraft: Sikorsky Aircraft Corporation S-76D; Registration: N36RP

B. METEOROLOGY SPECIALIST

Paul Suffern
Senior Meteorologist
National Transportation Safety Board
Washington, DC

C. DETAILS OF THE INVESTIGATION

The NTSB's Senior Meteorologist did not travel for this investigation but gathered all data remotely. Data for this investigation were collected from official National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) sources including the Weather Prediction Center (WPC) and the National Center for Environmental Information (NCEI). This Specialist's Factual Report contains the meteorological factors pertinent to the weather surrounding the accident time. All times are CDT and are based upon the 24-hour clock, where local time is -5 hours from UTC. Directions are referenced to true north and distances are in nautical miles. Heights are in feet (ft) above mean sea level (msl) unless otherwise noted. Visibility is in statute miles and fractions of statute miles. NWS station identifiers use the standard International Civil Aviation Organization 4-letter station identifiers versus the International Air Transport Association 3-letter identifiers, which deletes the initial country code designator "K" for U.S. continental airports.

The accident site was located at approximate latitude 30.343455° N, longitude 98.1576° W, at an elevation of 930 ft.

D. FACTUAL INFORMATION

1.0 Synoptic Situation

The synoptic or large-scale migratory weather systems influencing the area were documented using standard NWS charts issued by the National Center for Environmental Prediction and the WPC, located in College Park, Maryland. These are the base products used in describing synoptic weather features and in the creation of forecasts and warnings for the NWS. Reference to these charts can be found in the Federal Aviation Administration (FAA) "Aviation Weather Handbook", FAA-H-8083-28.¹

2.0 Surface Observations

The area surrounding the accident site was documented using official Aviation Routine Weather Reports (METARs) and Aviation Selected Special Reports (SPECIs)². The following observations were taken from standard code and are provided in plain language. A magnetic variation³ of 3.5° east was indicated over the area.

¹ <https://www.faa.gov/regulationspolicies/handbooksmanuals/aviation/faa-h-8083-28a-aviation-weather-handbook>

² Latest criteria for SPECIs can be found in the Federal Meteorological Handbook: [Federal Meteorological Handbook Number 1, Surface Weather Observations and Reports \(icams-portal.gov\)](https://www.federalmeteorologicalhandbook.com/)

³ Magnetic variation - The angle (at a particular location) between magnetic north and true north. Latest measurement taken from <https://skyvector.com/>

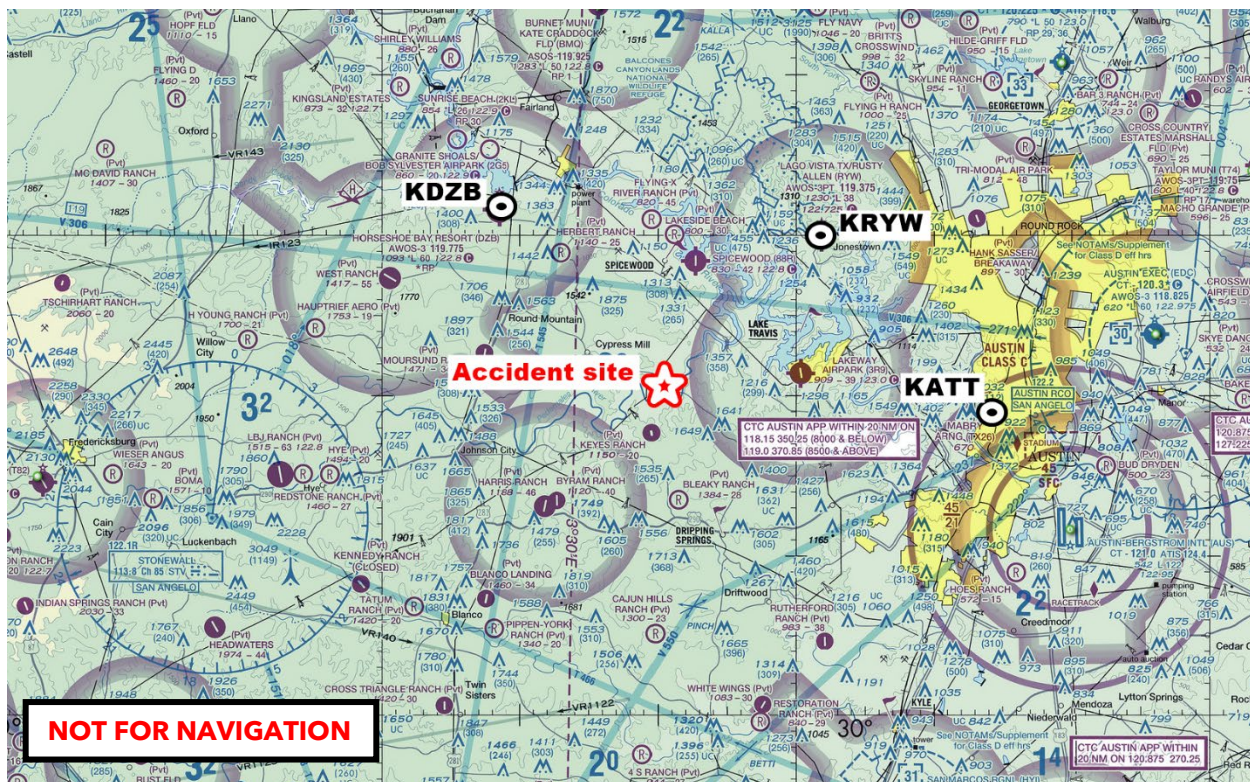


Figure 1. FAA sectional aeronautical chart of the accident area with the locations of the accident site and surface observation sites noted.

The closest weather reporting station for the accident site was Rusty Allen Airport (KRYW), near Lago Vista, Texas, located 13 miles northeast of the accident site (figure 1) at an elevation of 1,230 ft. The airport had an Automated Weather Observing System (AWOS⁴) and its longline⁵ reports were not augmented. The following observations surrounding the accident time were issued⁶:

[1955 CDT] METAR KRYW 010055Z AUTO 08003KT 7SM -RA SCT010
BKN048 OVC075 23/23 A3006 RMK AO2 P0001 T02300230=

⁴ AWOS - Automated Weather Observing System is equipped with meteorological instruments to typically observe and report temperature, dewpoint, wind speed and direction, visibility, cloud coverage and ceiling up to 12,000 feet, and altimeter setting. AWOS are maintained by the FAA. Certain AWOS may have different reporting or observational equipment.

⁵ "Longline" refers to the dissemination of weather observations with the intent that they are available in near-real time to national databases and accessible to the general global public from a large number of vendors. This does not include public accessibility to observations from a reporting station's Very High Frequency (VHF; line-of-site) or telephone broadcast, where applicable. Longline dissemination of weather observations is the primary vehicle through which the weather observations are distributed.

⁶ The bold sections of products in this report are intended to highlight the text that directly reference the weather conditions that affected the accident region around the accident time. The local times in this section next to the METARs are provided for quick reference.

[2015 CDT] METAR KRYW 010115Z AUTO 00000KT 7SM -RA SCT049
BKN060 BKN070 23/23 A3006 RMK AO2 LTG DSNT SW P0001
T02280228=

[2035 CDT] METAR KRYW 010135Z AUTO 00000KT 7SM -RA SCT050
23/23 A3007 RMK AO2 LTG DSNT S P0001 T02270227=

**[2055 CDT] METAR KRYW 010155Z AUTO 03004KT 7SM -RA CLR
23/23 A3007 RMK AO2 P0002 T02270227=**

ACCIDENT TIME 2102 CDT

**[2115 CDT] METAR KRYW 010215Z AUTO 06003KT 7SM -RA
SCT005 23/23 A3008 RMK AO2 T02260226=**

[2135 CDT] METAR KRYW 010235Z AUTO 00000KT 7SM SCT001
SCT005 23/23 A3009 RMK AO2 T02260226=

The bold type observations decoded in plain language were as follows:

KRYW weather at 2055 CDT, automated, wind from 030° at 4 knots, visibility 7 miles, light rain, clear skies below 12,000 ft above ground level (agl), temperature of 23°C, dew point temperature of 23°C, and an altimeter setting of 30.07 inches of mercury (inHg). Remarks, automated station with a precipitation discriminator, 0.02 inches of precipitation since 1955 CDT, temperature 22.7°C, dew point temperature 22.7°C.

KRYW weather at 2115 CDT, automated, wind from 060° at 3 knots, visibility 7 miles, light rain, scattered clouds at 500 ft agl, temperature of 23°C, dew point temperature of 23°C, and an altimeter setting of 30.08 inHg. Remarks, automated station with a precipitation discriminator, temperature 22.6°C, dew point temperature 22.6°C.

The next closest weather reporting station for the accident site was Horseshoe Bay Resort Airport (KDZB), located 15 miles northwest of the accident site (figure 1) at an elevation of 1,093 ft. The airport had an AWOS and its longline reports were not augmented. The following observations surrounding the accident time were issued:

[1955 CDT] METAR KDZB 010055Z AUTO 00000KT 24/23 A3004 RMK
AO2 P0002 T02420233 PWINO=

[2015 CDT] METAR KDZB 010115Z AUTO 00000KT 24/23 A3004 RMK
AO2 LTG DSNT SW T02420233 PWINO=

[2035 CDT] METAR KDZB 010135Z AUTO 00000KT 24/23 A3005 RMK
AO2 LTG DSNT SW T02410232 PWINO=

**[2055 CDT] METAR KDZB 010155Z AUTO 00000KT 24/24 A3005
RMK AO2 LTG DSNT SW T02420235 PWINO=**

ACCIDENT TIME 2102 CDT

**[2115 CDT] METAR KDZB 010215Z AUTO 00000KT 24/23 A3005
RMK AO2 T02400232 PWINO=**

[2135 CDT] METAR KDZB 010235Z AUTO 00000KT 24/23 A3005 RMK
AO2 T02380230 PWINO=

The bold type observations decoded in plain language were as follows:

KDZB weather at 2055 CDT, automated, wind calm, temperature of 24°C, dew point temperature of 24°C, and an altimeter setting of 30.05 inHg. Remarks, automated station with a precipitation discriminator, lightning distant⁷ southwest, temperature 24.2°C, dew point temperature 23.5°C, precipitation identifier information not available.

KDZB weather at 2115 CDT, automated, wind calm, temperature of 24°C, dew point temperature of 23°C, and an altimeter setting of 30.05 inHg. Remarks, automated station with a precipitation discriminator, temperature 24.0°C, dew point temperature 23.2°C, precipitation identifier information not available.

The closest weather reporting station to Austin from the accident site was from Mabry Army Reserve National Guard Heliport (KATT), located 21 miles east of the accident site (figure 1) at an elevation of 670 ft. Equipment type is unknown. KATT longline reports were not augmented. The following observations surrounding the accident time were issued:

[1851 CDT] METAR KATT 312351Z AUTO VRB03KT 10SM TS SCT100
27/22 A3000 RMK AO2 TSB44 SLP147 60000 T02670222 10322 20267
53005=

[1906 CDT] SPECI KATT 010006Z AUTO VRB04KT 10SM -RA FEW090
SCT110 26/22 A3000 RMK AO2 RAB2355 TSE00 P0000 T02610222=

⁷ Distant is defined as the phenomena beyond 10 NM.

[1951 CDT] METAR KATT 010051Z AUTO VRB04KT 10SM -RA SCT100
BKN120 26/22 A3001 RMK AO2 RAB2355E12B42 TSE00 SLP148 P0000
T02560217=

**[2051 CDT] METAR KATT 010151Z AUTO 00000KT 10SM -RA
BKN110 24/23 A3001 RMK AO2 SLP151 P0001 T02440228=**

ACCIDENT TIME 2102 CDT

**[2151 CDT] METAR KATT 010251Z AUTO VRB03KT 10SM CLR 24/22
A3004 RMK AO2 RAE14 SLP157 P0000 60001 T02440222 53012=**

[2251 CDT] METAR KATT 010351Z AUTO VRB03KT 10SM CLR 24/22
A3003 RMK AO2 SLP156 T02390222=

The bold type observations decoded in plain language were as follows:

KATT weather at 2051 CDT, automated, wind calm, visibility 10 miles or greater, light rain, broken ceiling at 11,000 ft agl, temperature of 24°C, dew point temperature of 23°C, and an altimeter setting of 30.01 inHg. Remarks, automated station with a precipitation discriminator, sea level pressure 1015.1 hectopascals (hPa), 0.01 inches of precipitation since 1951 CDT, temperature 24.4°C, dew point temperature 22.8°C.

KATT weather at 2151 CDT, automated, wind variable at 3 knots, visibility 10 miles or greater, clear skies below 12,000 ft agl, temperature of 24°C, dew point temperature of 22°C, and an altimeter setting of 30.04 inHg. Remarks, automated station with a precipitation discriminator, rain ended at 2114 CDT, sea level pressure 1015.7 hPa, a trace of precipitation since 2051 CDT, 6-hourly precipitation of 0.01 inches, temperature 24.4°C, dew point temperature 22.2°C, 3-hourly pressure increase of 1.2 hPa.

The observations from the KRYW, KDZB, and KATT AWOSs around the time of the accident reported VFR⁸ conditions prevailing with light rain.

⁸ The NWS and the FAA Aeronautical Information Manual (AIM) section 7-1-7 defines the following general flight categories:

- Low Instrument Flight Rules (LIFR*) - ceiling below 500 ft above ground level (agl) and/or visibility less than 1 statute mile.
- Instrument Flight Rules (IFR) - ceiling between 500 to below 1,000 feet agl and/or visibility 1 to less than 3 miles.
- Marginal Visual Flight Rules (MVFR**) - ceiling from 1,000 to 3,000 ft agl and/or visibility 3 to 5 miles.
- Visual Flight Rules (VFR) - ceiling greater 3,000 ft agl and visibility greater than 5 miles.

* By definition, IFR is a ceiling less than 1,000 ft agl and/or visibility less than 3 miles while LIFR is a sub-category of IFR.

3.0 National Radar Imagery

A regional view of the NWS National Reflectivity Mosaic is included as figure 2 for 2105 CDT with the approximate location of the accident site marked by a red circle. The mosaic imagery depicted echoes of 15 to 25 dBZ⁹ above the accident site

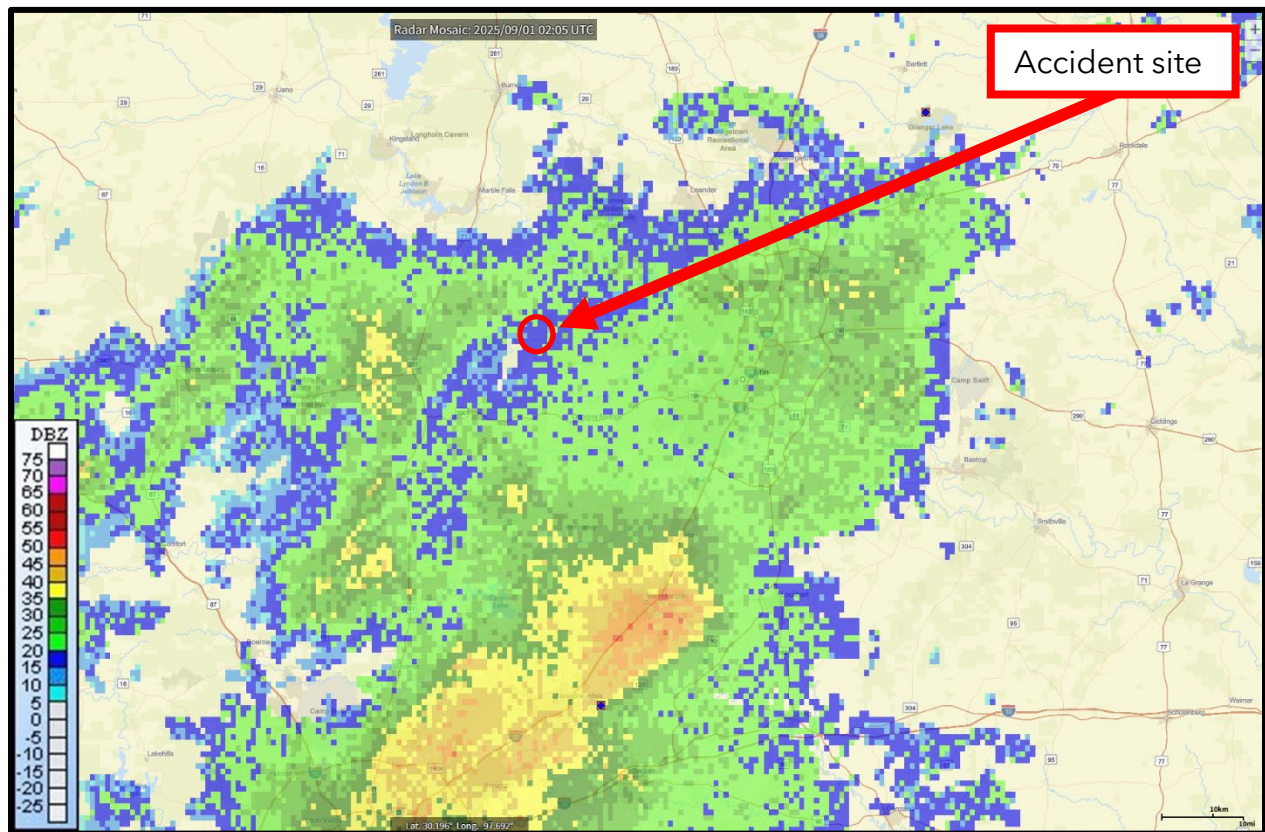


Figure 2. National Reflectivity Mosaic for 2105 CDT.

**By definition, VFR is a ceiling greater than or equal to 3,000 ft agl and visibility greater than 5 miles while MVFR is a sub-category of VFR.

⁹ dBZ - A non-dimensional "unit" of radar reflectivity which represents a logarithmic power ratio (in decibels or dB) with respect to radar reflectivity factor, Z.

4.0 Significant Meteorological Information

There were Convective Significant Meteorological Information (SIGMET)¹⁰ 7C and 16C valid for the accident site at the accident time. Convective SIGMET 7C issued at 1955 CDT (and valid through 2155 CDT) forecast an area of severe thunderstorms with tops above FL450¹¹, hail to 1 inch, and wind gusts to 50 knots possible, with the SIGMET polygon moving from 260° at 15 knots. Convective SIGMET 7C was replaced by Convective SIGMET 16C at 2055 CDT (and valid through 2255 CDT). Convective SIGMET 16C forecast an area of thunderstorms with tops above FL450 with the SIGMET box moving from 290° at 10 knots:

```
WSUS32 KPCI 010055
SIGC
-MKCC WST 010055
CONVECTIVE SIGMET 7C
VALID UNTIL 0255Z
TX
FROM 30N MAF-70SE ACT-40SSE SAT-80SSE MRF-60W MRF-30N MAF
AREA SEV TS MOV FROM 26015KT. TOPS ABV FL450.
HAIL TO 1 IN...WIND GUSTS TO 50KT POSS.
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¹⁰ Significant Meteorological Information is a weather advisory that contains meteorological information concerning the safety of all aircraft. There are two types of SIGMETs: convective and non-convective. A US SIGMET advises of weather, other than convective activity, that is potentially hazardous to all aircraft. SIGMETs are issued (for the lower 48 states and adjacent coastal waters) for the following weather-impacted reasons:

- Severe Icing
- Severe or Extreme Turbulence
- Dust Storms and/or Sand Storms lowering visibility to less than 3 miles
- Volcanic Ash

If the total area affected during the forecast period is very large, only a small portion of this total area may be affected at any one time. SIGMETs are issued for 6 hour periods for conditions associated with hurricanes and 4 hours for all other events. If conditions persist beyond the forecast period, the SIGMET is updated and reissued. Convective SIGMETs are issued hourly for thunderstorm-related aviation hazards.

¹¹ Flight Level - A Flight Level (FL) is a standard nominal altitude of an aircraft, in hundreds of ft. This altitude is calculated from the International standard pressure datum of 1013.25 hPa (29.92 inHg), the standard sea-level pressure, and therefore is not necessarily the same as the aircraft's true altitude either above mean sea level or above ground level.

WSUS32 KPCI 010155
SIGC
-MKCC WST 010155
CONVECTIVE SIGMET 16C
VALID UNTIL 0355Z
TX NM
FROM 20WNW MAF-30E CWK-20SE LRD-70NNW MRF-20WNW MAF
AREA TS MOV FROM 29010KT. TOPS ABV FL450.

5.0 Astronomical Data

The astronomical data obtained for the accident site on August 31, 2025, indicated the following:

SUN

Begin civil twilight	0645 CDT
Sunrise	0709 CDT
Sun transit	1333 CDT
Sunset	1956 CDT
End civil twilight	2021 CDT
Accident time	2102 CDT¹²

At the time of the accident the Sun was below the horizon.

MOON

Moonrise	1455 CDT
Moon transit	1954 CDT
Accident time	2102 CDT¹³
Moonset	0004 CDT on September 1, 2025

At the time of the accident the Moon at an altitude of 28.67° and azimuth of 196.69° with 57.9% of the Moon's disk illuminated.

Submitted by:

Paul Suffern
Senior Meteorologist

¹² Inserted accident time for reference and context.

¹³ Inserted accident time for reference and context.