

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



ERA23FA182

METEOROLOGY

Specialist's Factual Report

May 21, 2023

TABLE OF CONTENTS

A. ACCIDENT	3
B. METEOROLOGY SPECIALIST	3
C. SUMMARY	3
D. DETAILS OF THE INVESTIGATION	3
E. FACTUAL INFORMATION	4
1.0 SYNOPTIC CONDITION	4
1.1 Surface Analysis Chart.....	4
1.2 Constand Pressure Chart.....	5
2.0 SURFACE OBSERVATIONS	6
2.1 Jesup, Georgia	6
2.2 5-minute Observations from Jesup	9
2.3 NWS METAR Display	9
3.0 SOUNDING.....	10
4.0 SATELLITE IMAGERY	13
5.0 PILOT REPORTS	15
6.0 NWS FORECASTS	15
6.1 Terminal Aerodrome Forecast.....	15
6.2 Aviation Forecast Discussion.....	15
6.3 Graphic Forecast for Aviation.....	16
6.4 Inflight Weather Advisories	18
7.0 PREFLIGHT WEATHER BRIEFING.....	20
8.0 WITNESS PHOTOGRAPHS.....	20
9.0 ASTRONOMICAL DATA	21
APPENDIX A - REVIEW OF JESUP WEATHER FROM APRIL 4-7, 2023	22

A. ACCIDENT

Location: Jesup, Georgia
Date: April 6, 2023
Time: 0750 eastern daylight time
1150 coordinated universal time (UTC)
Airplane: Cirrus SR22; Registration: N911TK

B. METEOROLOGY SPECIALIST

Donald Eick
Senior Meteorologist
National Transportation Safety Board
Washington, DC

C. SUMMARY

On April 6, 2023, about 0750 eastern daylight time, a Cirrus Design Corp SR22, N911TK, was substantially damaged when it was involved in an accident near Jesup, Georgia. The private pilot was fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight. The airplane departed from Fernandina Beach Municipal Airport (KFHB), Fernandina Beach, Florida about 0728 and proceeded to the north-northwest, at 1,700 ft msl, toward Jesup-Wayne County Airport (KJES), Jesup, Georgia. The airplane impacted level terrain about 1,200 feet from the runway 29 threshold, near the approach lighting system.

D. DETAILS OF THE INVESTIGATION

The National Transportation Safety Board's Senior Meteorologist was not on scene for this investigation and conducted the meteorology phase of the investigation remotely, collecting data 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 report documents the general weather products and forecasts over the region during the period and the pertinent meteorological parameters related to the accident. All times are reported as eastern daylight savings time (EDT) based upon the 24-hour clock, local time is -4 hours from UTC, and UTC=Z. NWS airport and weather 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. airports. Directions are referenced to true north and distances 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.

The accident site was located at latitude 31.552288° N and longitude 81.869723° W, at an elevation of about 50 ft.

E. FACTUAL INFORMATION

1.0 Synoptic Condition

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 (NCEP) and the WPC located in College Park, Maryland. These are the base products used in describing weather features and in the creation of forecasts and warnings. Reference to these charts can be found in the Federal Aviation Administration (FAA) "Aviation Weather Handbook", FAA-H-8083-28¹.

1.1 Surface Analysis Chart

The southeast section of the NWS Surface Analysis Chart for 0800 EDT is included as figure 1, with the departure from Fernandina Beach (KFHB), Florida and the planned destination of Jesup (KJES) indicated within the red circle. The chart depicted a high pressure ridge² extending off the east coast and into the general area. Further to the west, a low-pressure system at 1019-hectopascals (hPa)³ was located over southern Mississippi and associated along a stationary front that extended north-northeast into Alabama, Tennessee, and Kentucky. With a cold front extending west-southwest from the low across southern Mississippi and Louisiana. The station models on the chart depicted light southerly winds of 10 knots or less along the coast with winds inland over Georgia being calm. Numerous stations in Georgia and northern Florida were reporting visibility restrictions in mist with clear to overcast conditions. The station model for Jesup indicated calm wind, visibility restricted in mist⁴, obscured

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

² A ridge is an elongated area of high pressure and is typically associated with light winds, clear skies, and subsiding motion.

³ Hectopascal (hPa) is the standard unit for reporting sea-level pressure and is interchangeable with the former term millibar (mb) with the same units. The international standard atmosphere is based on a sea-level pressure of 1013.25-hPa at 15° Celsius (C), or 59° Fahrenheit (F), in which all aircraft performance is based.

⁴ The NWS defines mist (BR) as a visible aggregate of minute water particles suspended in the atmosphere that reduces visibility to less than 7 statute miles, but greater than or equal to 5/8 statute miles.

sky conditions, with a temperature of 63° Fahrenheit (F) and a dew point temperature of 61° F.

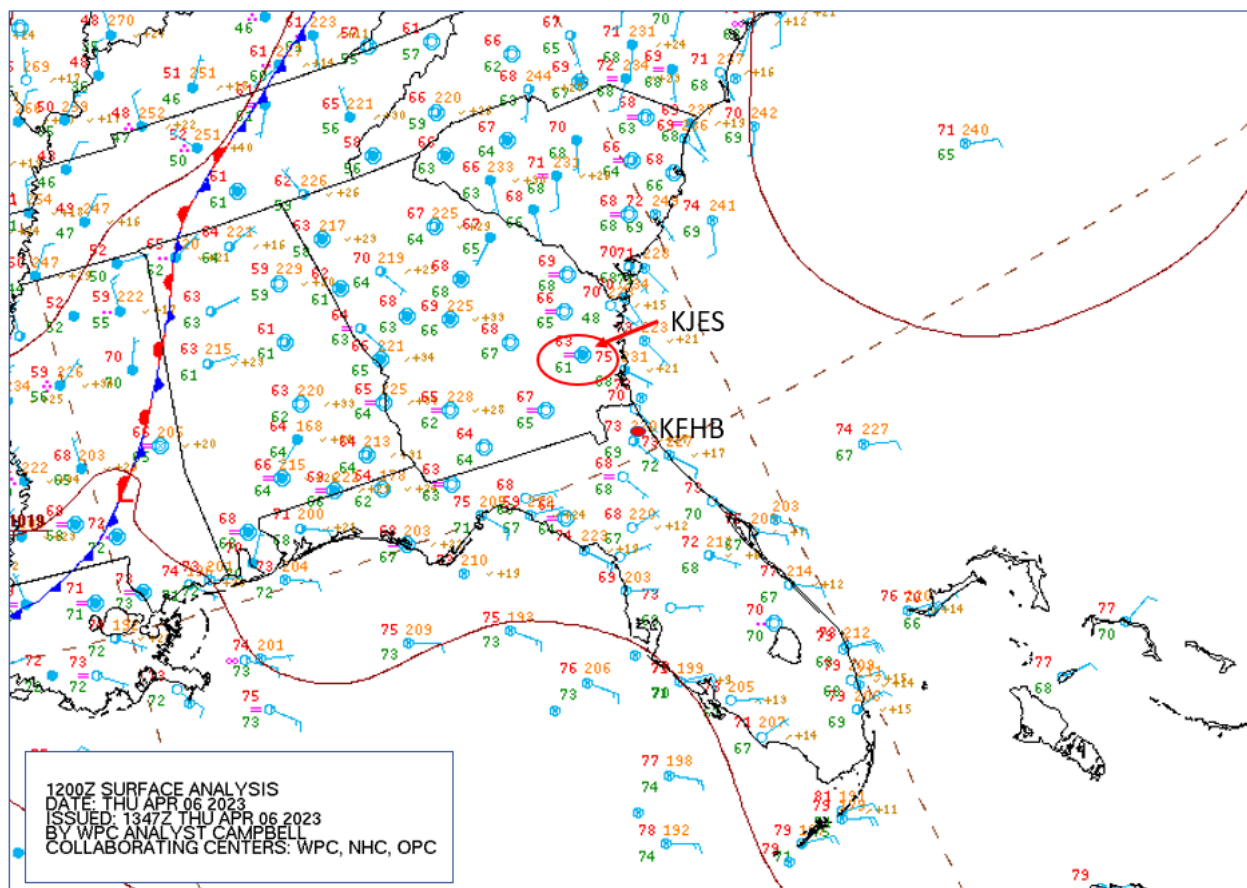


Figure 1 - Southeast section of the NWS Surface Analysis Chart for 0800 EDT with the departure and the destination airports marked within the red circle.

1.2 Constant Pressure Chart

The 850-hPa Constant Pressure Chart for 0800 EDT on April 6, 2023, obtained from the University of Wyoming is included as figure 2 with the location of the main pressure systems annotated. The 850-hPa chart generally represents the general conditions at about 5,000 ft. The chart depicted a high pressure ridge extending from the Azores-Bermuda high west-southwestward across South Carolina into Georgia. The station model for Jacksonville, immediately south of the accident site, depicted an easterly wind of 10 knots or less, a temperature of 15° C, and a dew point temperature of 12° C. The existence of the high pressure ridge over the area and warm 850-hPa temperatures and high relative humidity are common features noted during periods of radiation fog development.

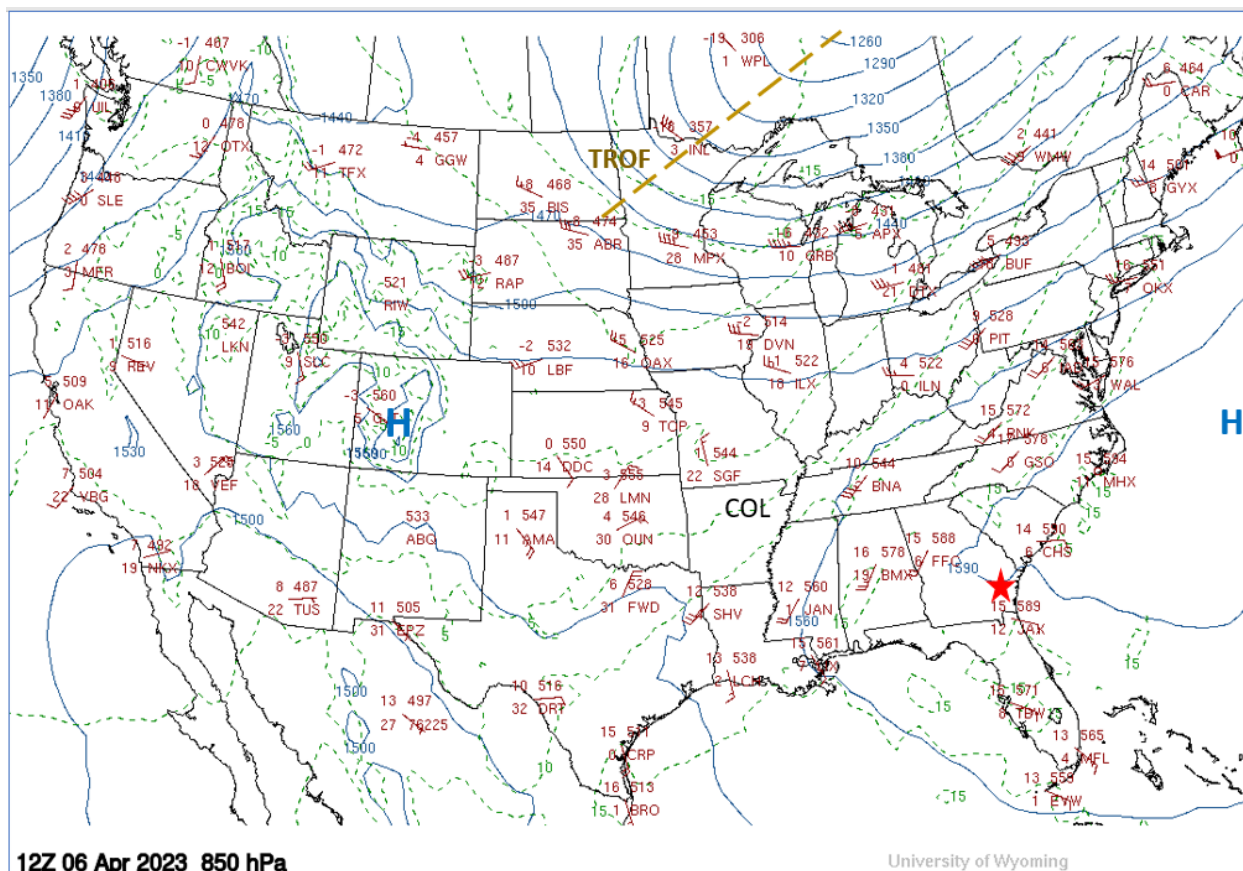


Figure 2 - NWS 850-hPa Constant Pressure chart for 0800 EDT on April 6, 2023.

2.0 Surface Observations

The area was documented using official Aviation Routine Weather Reports (METAR⁵) and Aviation Selected Special Weather Reports (SPECI) that were disseminated longline surrounding the period. Cloud heights are reported above ground level (agl) in the following section, and the latest sectional chart for the area indicated a magnetic variation of 7° W over the area.

2.1 Jesup, Georgia

The accident occurred while the aircraft was attempting to land at Jesup-Wayne County Airport (KJES)⁶, Jesup, Georgia, which lists an elevation of 107 ft. The airport had an Automated Weather Observation System (AWOS), which was not augmented by any human observers and broadcasts locally on 118.125 VHF and issues

⁵ Abbreviation for METeorological Aerodrome Report (METAR).

⁶ Jessup-Wayne County Airport (KJES) has a single asphalt runway 11/29 at 5,500 ft x 100 ft, reported in good condition. The runway had nonprecision runway markings and a 2-bar Precision Approach Path Indicator (PAPI) system, which had a NOTAM current that the system was unusable.

observations long-line⁷ every 20-minutes. The AWOS system was located about 1,780 ft from the threshold of runway 29 and 500 ft south of the runway at an elevation of about 86 ft. A Google Earth view of the airport and the location and photo of the AWOS system is included as figure 3 with the wreckage location marked by the red star and flight track points (blue)⁸.



Figure 3 - Location of the AWOS sensor array at KJES and wreckage location.

At the time of the accident the following weather conditions were being reported.

Weather observation for KJES at 0750 EDT, automated, wind calm, visibility 1/4 mile, dense fog, ceiling overcast at 300 ft agl, temperature 17° Celsius (C), dew point temperature 16° C, altimeter 30.23 inches of mercury (inHg). Remarks: automated station with a precipitation discriminator.

The following general flight categories⁹ and raw observations were reported for KJES between 0538 through 0900 EDT were as follows. The report decoded above is in bold italic type along with the time of the accident.

⁷ Long-line refers to the dissemination of the observations on standard FAA and NWS weather circuits for wide area distribution on the internet and made available to users in almost real-time.

⁸ Flight track data obtained from Automatic Dependent Surveillance-Broadcast (ADS-B) data.

⁹ As defined by 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

VFR METAR KJES 060938Z AUTO 00000KT 7SM CLR 19/18 A3019 RMK AO2

MVFR METAR KJES 060958Z AUTO 00000KT 5SM BR SCT007 BKN012 19/18 A3020 RMK AO2

MVFR METAR KJES 061015Z AUTO 00000KT 5SM BR SCT007 BKN012 18/17 A3020 RMK AO2=

LIFR METAR KJES 061035Z AUTO 00000KT 1/4SM FG OVC003 18/17 A3021 RMK AO2=

LIFR METAR KJES 061055Z AUTO 00000KT 1/4SM FG OVC001 18/17 A3022 RMK AO2=

LIFR METAR KJES 061115Z AUTO 00000KT M1/4SM FG OVC001 18/17 A3023 RMK AO2=

LIFR METAR KJES 061135Z AUTO 00000KT M1/4SM FG OVC001 17/16 A3023 RMK AO2=

LIFR **METAR KJES 061150Z AUTO 00000KT 1/4SM FG OVC003 17/16 A3023 RMK AO2=**

Accident 1150Z

IFR METAR KJES 061221Z AUTO 00000KT 2SM BR BKN007 BKN013 20/19 A3025 RMK AO2=

MVFR METAR KJES 061235Z AUTO 00000KT 5SM BR SCT011 20/19 A3025 RMK AO2=

VFR METAR KJES 061255Z AUTO 00000KT 10SM CLR 21/20 A3026 RMK AO2 A02=

The reports issued surrounding the period indicated that restricted visibilities in mist (BR) were first detected at 0615 EDT, with dense fog (FG)¹⁰ being reported from 0635 through about 0820 EDT, then mist at 0821 through 0835 EDT before clearing at 0855 EDT.

A list of the previous days weather in table format from April 4-7, 2023, are included in the appendix of this report, with time reported in UTC, temperature and dew point temperatures in °F.

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.

¹⁰ Fog (FG) is also water droplets suspended in the air at the Earth's surface and is reported when visibility is less than 5/8 mile, and, unlike drizzle, it does not fall to the ground. Fog is often hazardous when visibility is reduced to 1/4 mile or less and is defined as dense fog.

2.2 5-minute Observations from Jesup

The local FAA designated AWOS technician that services the equipment was able to obtain some of the high resolution 5-minute observations from the KJES system during the period and are included below.

[0700 EDT] METAR KJES 061100Z AUTO 00000KT 1/4SM FG OVC001 18/17 A3022 RMK AO2
[0705 EDT] METAR KJES 061105Z AUTO 00000KT 1/4SM FG OVC001 18/17 A3022 RMK AO2
[0710 EDT] METAR KJES 061110Z AUTO 00000KT 1/4SM FG OVC001 18/17 A3023 RMK AO2
[0715 EDT] METAR KJES 061115Z AUTO 00000KT M1/4SM FG OVC001 18/17 A3023 RMK AO2
[0720 EDT] METAR KJES 061120Z AUTO 00000KT M1/4SM FG OVC001 17/16 A3023 RMK AO2
[0725 EDT] METAR KJES 061125Z AUTO 00000KT M1/4SM FG OVC001 17/16 A3023 RMK AO2
[0730 EDT] METAR KJES 061130Z AUTO 00000KT M1/4SM FG OVC001 17/16 A3023 RMK AO2
[0735 EDT] METAR KJES 061135Z AUTO 00000KT M1/4SM FG OVC001 17/16 A3023 RMK AO2
[0740 EDT] METAR KJES 061140Z AUTO 00000KT 1/4SM FG OVC001 17/16 A3023 RMK AO2
[0745 EDT] METAR KJES 061145Z AUTO 00000KT 1/4SM FG OVC001 17/16 A3023 RMK AO2
[0750 EDT] METAR KJES 061150Z AUTO 00000KT 1/4SM FG OVC003 17/16 A3023 RMK AO2
[0755 EDT]
[0800 EDT]
[0805 EDT]
[0810 EDT]
[0815 EDT]
[0820 EDT]
[0821 EDT] METAR KJES 061221Z AUTO 00000KT 2SM BR BKN007 BKN013 20/19 A3025 RMK AO2

A review of the observations indicated, that after the equivalent of a special observation was made at 0750 EDT due to the change in visibility and ceiling, the next two regular scheduled observations for 0755 and 0815 EDT were not issued by the KJES AWOS. This was explained by the FAA technicians as the AWOS systems clock being reset after the special was made for the next 20-minute observation. The 5-minute data also noted the gap in data after the accident between 0755 through 0820 EDT, with another special being issued at 0821 EDT.

2.3 NWS METAR Display

A display from the NWS Aviation Weather Center's website¹¹ of the METARs at 0750 EDT is included as figure 4. The display includes the regional radar mosaic for the period and displays the current METAR data in graphically using standard abbreviation and symbols, with temperature and dew point temperatures in °F. A legend at the bottom defines how the information is depicted, with the symbols for haze, mist, and fog at the bottom right. The image depicted numerous stations over eastern Georgia reporting LIFR to IFR conditions due to restricted visibilities and low ceilings. The closest VFR conditions being reported were over St. Simmons Island

¹¹ <https://www.aviationweather.gov/metar>

Airport (KSSI) about 35 miles southeast of KJES, and the departure station of KFHB 60 miles south-southeast.

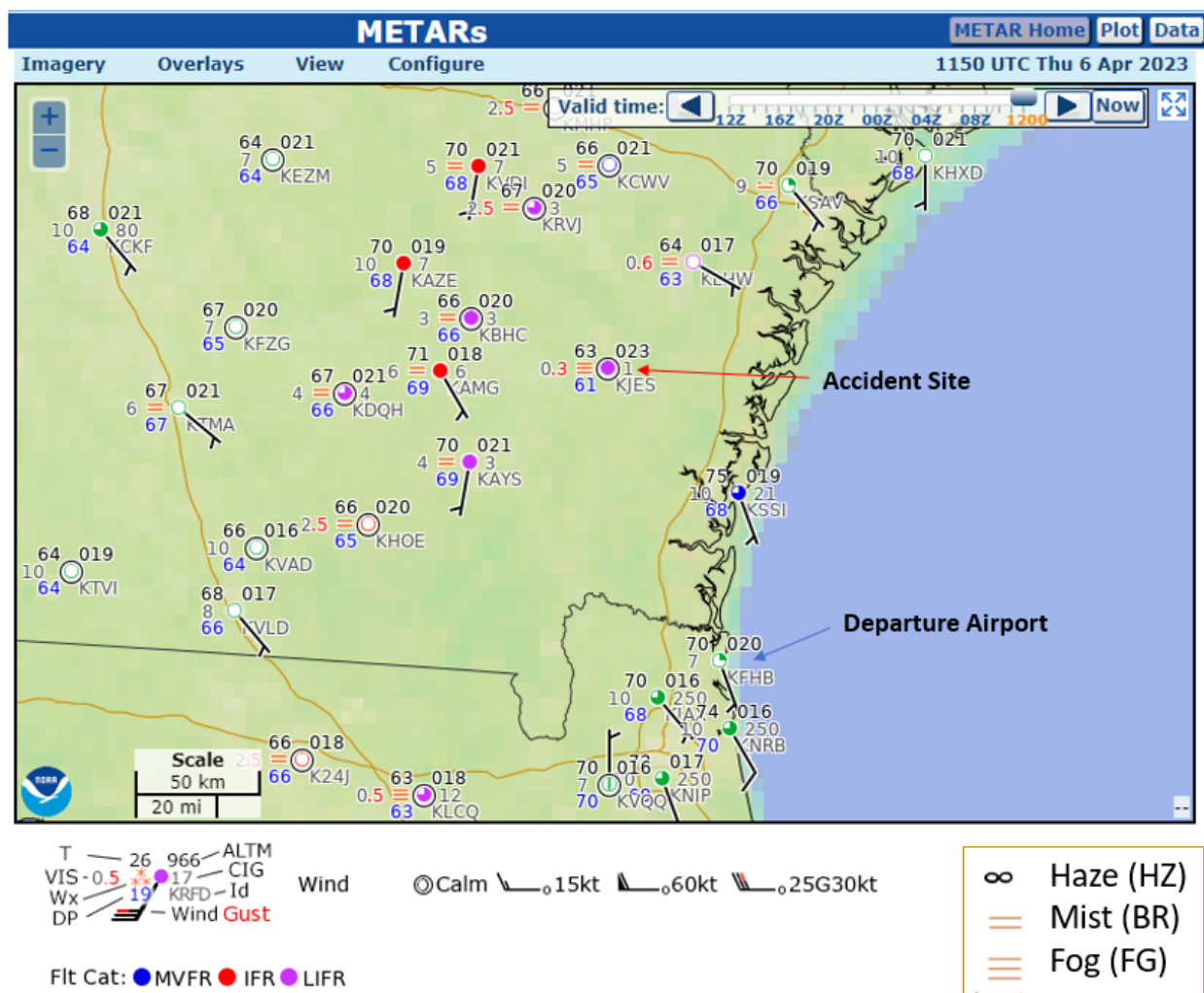


Figure 4 - NWS Aviation Weather Center's METAR display at 0750 EDT between KFHB to KJES.

3.0 Sounding

A High-Resolution Rapid refresh (HRRR) numerical model¹² data was obtained from the NOAA Air Resource laboratory's website for the closest grid point to the accident site for 0800 EDT. The data was then plotted on a standard Skew T log P

¹² The HRRR is a NOAA real-time three-kilometer resolution, hourly-updated, cloud-resolving, convection-allowing atmospheric model, initialized by three-kilometer grids with three-kilometer radar assimilation. Radar data is assimilated in the HRRR every 15 minutes over a one-hour period.

diagram¹³ using the RAOB Analysis software¹⁴ program from the surface to 450-hPa or about 22,000 ft and is included as figure 5.

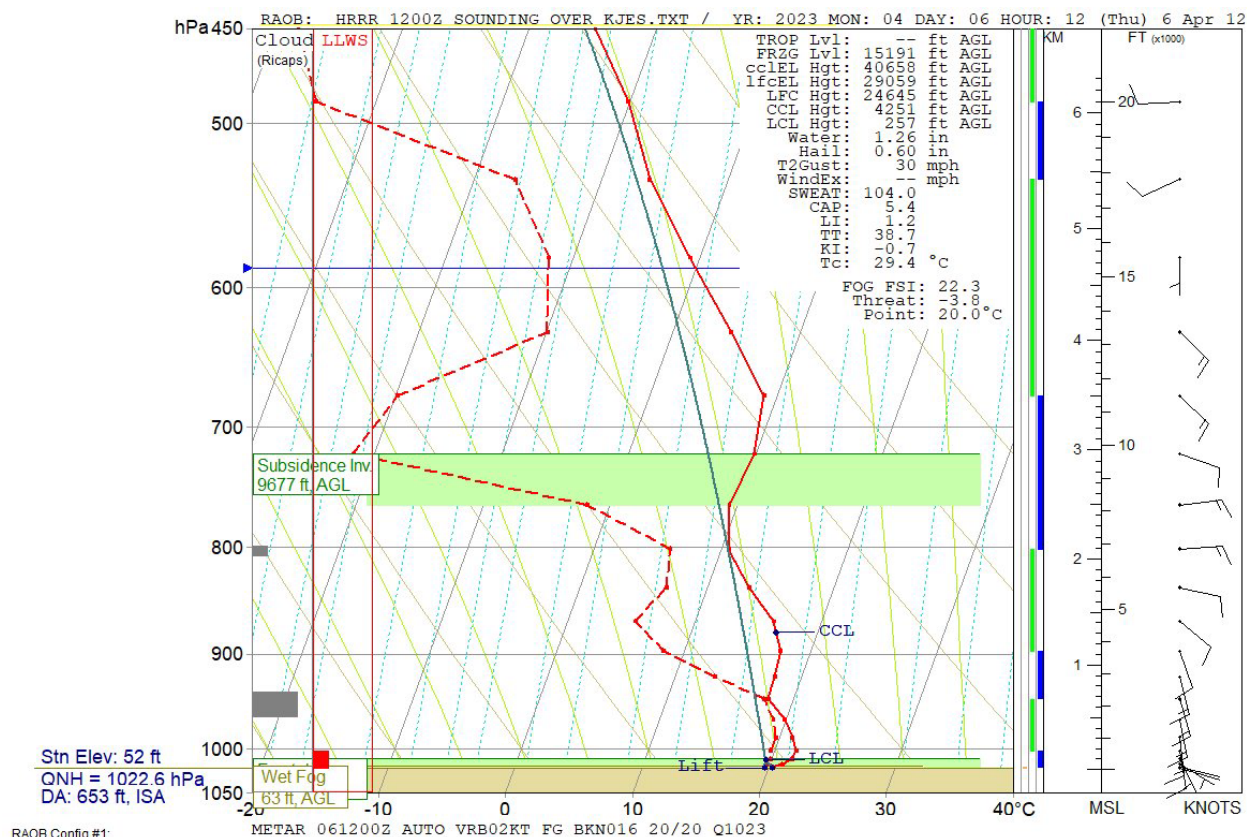


Figure 5 - HRRR numerical sounding for 0800 EDT over the immediate vicinity of the accident site.

The HRRR sounding depicted an elevation of 52 ft over the grid point with a surface temperature of 20.3° C (68.5° F), a dew point temperature of 19.7° C (67.5° F), with a relative humidity of 96%, with a resulting density altitude of 653 ft. The sounding depicted a surface based inversion to about 600 ft agl, and a second layer between about 8,000 ft and 10,000 ft, where temperature increased in altitude. The lifted condensation level (LCL)¹⁵ was identified at 257 ft agl, the convective condensation level (CCL)¹⁶ at 4,250 ft agl, and level of free convection (LFC)¹⁷ at 24,700 ft. The

¹³ Skew T log P diagram is a standard meteorological plot or thermodynamic diagram using temperature and the logarithmic of pressure as coordinates, used to display winds, temperature, dew point, and various indices used to define the vertical structure of the atmosphere.

¹⁴ RAOB -The Universal RAOBsonde Observation program is an interactive sounding analysis program developed by Eosonde Research Services (ERS) previously known as Environmental Research Services, The Villages, Florida.

¹⁵ Lifted Condensation Level (LCL) - the level at which a lifted parcel becomes saturated. The LCL height corresponds to cloud base height for forced ascent.

¹⁶ Convective Condensation Level (CCL) - the level in the atmosphere to which an air parcel, if heated from below, will rise dry adiabatically, without becoming colder than its environment just before the parcel becomes saturated.

¹⁷Level of Free Convection (LFC) - the level where a parcel becomes buoyant, or "warmer" than the

freezing level was identified at 15,240 ft, well above the accident airplanes cruising level at 1,700 ft. The fog indices on the top right section of the diagram indicated a Fog Stability Index (Fog FSI)¹⁸ of 22.3 and the Fog Threat index of -3.8, both of which indicated a high potential for radiation fog formation according to RAOB documentation (table below), with the fog point temperature of 20.0° C, which indicated the temperature which supported radiation fog to form.

Fog Stability Index (FSI)	Likelihood of Radiation Fog
Greater than 55	Low probability
31 to 55	Moderate Probability
Less than 31	High probability

Fog Threat	Likelihood of Radiation Fog
Greater than 3	Low Probability
0 to 3	Moderate Probability
Less than 0	High Probability

The HRRR wind profile indicated light and variable surface wind at 2 knots or less, with winds from the south from immediately above the surface through 4,000 ft with winds backing¹⁹ to the east through 10,000 ft. At 1,500 ft a low-level wind maximum was observed with the wind from 170° at 16 knots, which decreased with height. The mean 0 to 6 kilometer or 18,000 ft wind was from 145° at 8 knots. The accident airplane cruised at 1,700 ft enroute, where the wind was from about 170 at 16 knots with a temperature near 19.6° C. The sounding indicated a light threat of low-level wind shear and turbulence below 1,000 ft.

A listing of the HHR parameters of height, pressure, temperature (T), dew point temperature (Td), relative humidity (RH), wind direction and speed, derived clear air turbulence (CAT), low-level wind shear (LLWS), and icing threat were as follows from the surface through 6,000 ft.

Height	Pres	T	Td	RH	Wind	CAT	LLWS	Icing
(ft msl)	(hPa)	(°C)	(°C)	(%)	(dir/kts)	(FAA)	(FAA)	(AFGWC)
52	1021	20.3	19.7	96	109/ 2		LIGHT	
80	1020	20.2	19.7	97	105/ 1	LGT	LIGHT	
164	1017	21.0	19.7	92	124/ 4	LGT	LIGHT	
333	1011	21.6	19.9	90	156/ 6	LGT	LIGHT	
589	1002	21.7	19.7	88	172/ 11	LGT		

environmental temperature at the same level. The LFC represents the bottom of the layer containing CAPE.

¹⁸ Fog Stability Index (FSI) was developed by the U.S. Air Force Weather Service for use in Germany but can be applied to similar climates. Reference USAF publication 2WW/TN-79/008 and is designed to indicate the potential for radiation fog.

¹⁹ Backing - refers to a counter-clockwise change in direction with height, versus veering or clockwise change in wind direction with height.

1020	987	21.0	19.7	92	174/ 14	
1573	968	19.9	19.0	95	170/ 16	
2224	946	18.0	17.7	98	166/ 16	
2917	923	17.9	13.2	74	168/ 14	LGT
3720	897	17.6	8.4	55	162/ 10	LGT
4640	868	16.2	5.3	48	132/ 8	LGT
5684	836	13.3	6.8	65	104/ 11	LGT

4.0 Satellite Imagery

The NOAA Geostationary Operational Environmental Satellite number 16 (GOES-16) infrared and visible imagery were obtained from an archive at the Space Science Engineering Center (SSEC) at the University of Wisconsin-Madison in Madison, Wisconsin, and processed using the Man-computer Interactive Data Access System (McIDAS) software. The infrared band 13 at a wavelength of 10.3 microns (μm) provided a resolution of 2 kilometers (km) with radiative cloud top temperatures, and the visible band 2 imagery at a wavelength of 0.64 μm provided a resolution of 0.5 km.

Figure 6 is the GOES-16 infrared image for 0746 EDT at 4X magnification with a standard MB temperature enhancement curve applied to highlight the higher and colder clouds typically associated with convection. The image depicted an area of low to mid-level stratiform clouds over western Georgia with relatively clear conditions over eastern Georgia, including the Jesup area. The infrared image was not able to discriminate between the surface temperatures and any low altitude fog over the area.

Figure 7 is the GOES-16 visible image at 0751 EDT at 2X magnification with an enhancement curve applied to artificially increase the amount of light over the area at the time to help highlight the lower clouds due to the low sun angle. The image depicted an area of shallow fog over the Jesup area with an area of low stratiform clouds to the west. Due to the low light conditions, even with the enhancement curve applied, the imagery could not depict the full horizontal and vertical extent of the fog over the area.

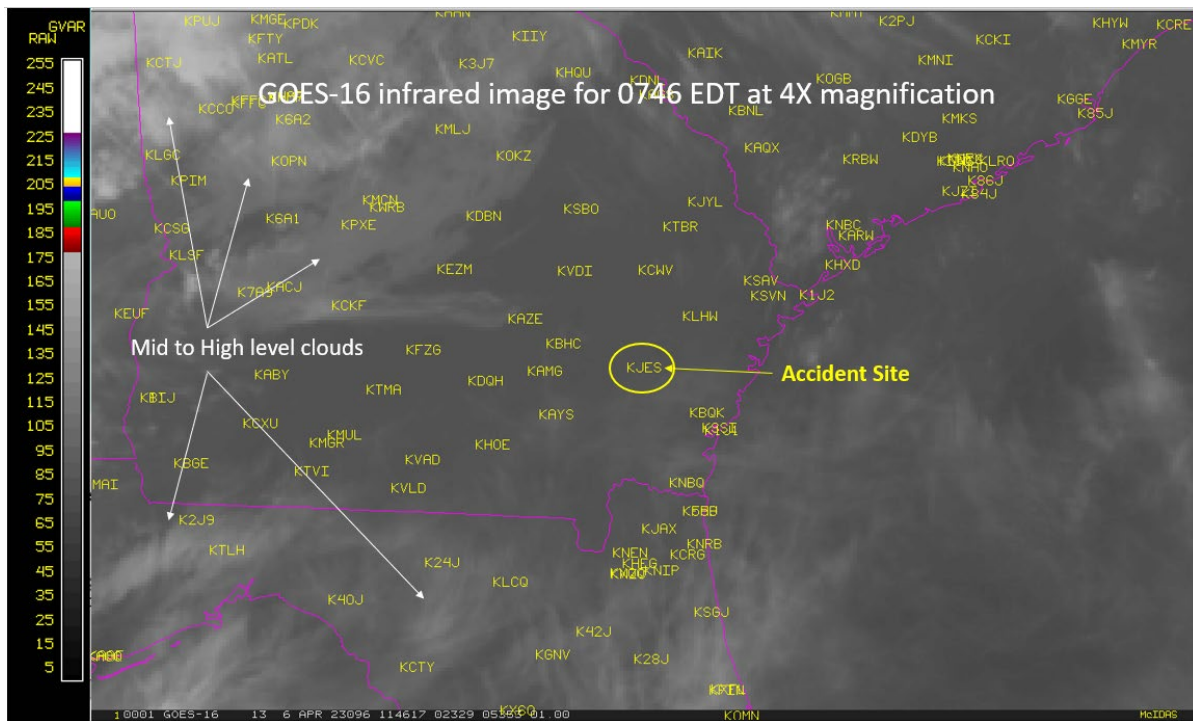


Figure 6 - GOES-16 infrared image for 0746 EDT at 4X magnification.

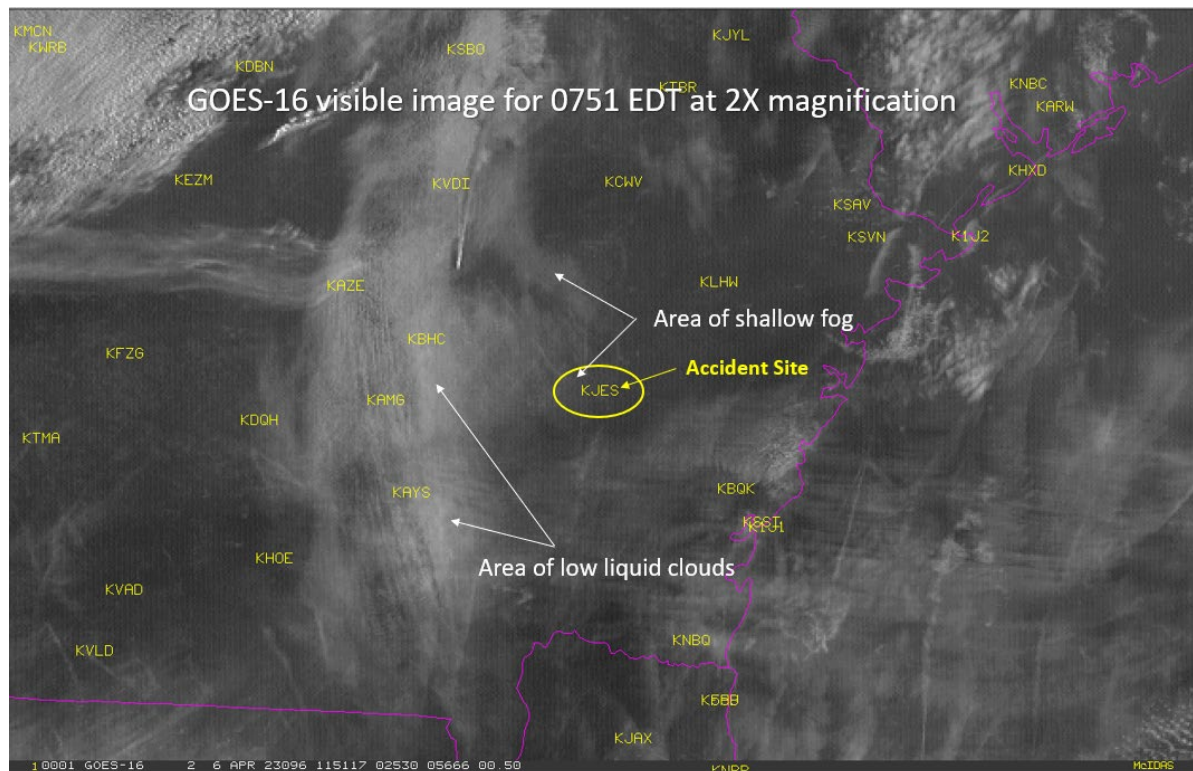


Figure 7 - GOES-16 visible image for 0751 EDT at 2X magnification with enhancement applied.

5.0 Pilot Reports

A search of pilot weather reports (PIREPs) in the national database²⁰ within 120 miles of the accident site from 0400 through 1000 EDT provided the following reports below 12,000 ft.

Accident 1150Z

AGS UA /OV 2 S AGS/TM 1306/FLDURD/TP F2TH/SK OVC009

JAX UA /OV GNV/TM 1335/FLDURD/TP B712/SK CLR/WX 10

JAX UA /OV VQQ/TM 1354/FLDURD/TP C182/SK BKN012

6.0 NWS Forecasts

The NWS Jacksonville (KJAX), Florida Weather Forecast Office (WFO) was responsible for weather forecasts and warnings for the Jesup area, located in Wayne County, Georgia. While the NWS AWC located in Kansas City, Missouri, was responsible for the primary aviation forecasts and advisories.

6.1 Terminal Aerodrome Forecast

A Terminal Aerodrome Forecast (TAF) consists of the expected meteorological conditions significant to aviation at an airport for a specified time period, usually 24 hours and is valid for 5 statute mile radius from the center of an airport's runway complex. The NWS KJAX WFO does not issue a regularly scheduled TAF for KJES.

6.2 Aviation Forecast Discussion

Aviation Forecast Discussions (AFD) are issued by each weather service forecast office (WFO) to describe the weather conditions within their region as it relates to the creation of the TAF. These are useful for additional aviation related issues that cannot be encoded into the TAF. The discussion also gives some reasoning behind the forecast. These are generated roughly every 6 hours and corresponds to the release of the latest TAFs for that office. The AFD's issued by KJAX at 0348 and 0717 EDT were as follows.

FXUS62 KJAX 060748

AFDJAX

National Weather Service Jacksonville FL

²⁰ Includes only the reports official recorded and disseminated as a PIREP and may not include "ride reports" broadcasted or other conditions solicited by air traffic controllers and not entered in the formal PIREP format coding. These reports are disseminated in real-time into a database similar to METARs.

...NEAR RECORD WARM TEMPS TODAY AND FRIDAY...

.AVIATION...

(06Z TAFS)

Issued at 200 AM EDT Thu Apr 6 2023

So far, VFR conditions over the area with a few low-mid level clouds and broken coverage of cirrus aloft. **A chance of MVFR vsby for SSI, VQQ, and GNV**, but confidence in this is much lower than last night given the sfc winds still stirring and the additional clouds tonight. With morning daytime heating, a fair amount of cumulus is expected to develop, with a better concentration in the aftn around the GNV terminal. Still largely too dry for any deep convection at that site. In any case, we can't rule out a brief MVFR ceiling at the TAFs from 12z-16z. Winds will be light southeast to east into the early morning, then gradually increasing to 8-14 kt late morning into the aftn with the sea breeze kicking in.

FXUS62 KJAX 061120

AFDJAX

National Weather Service Jacksonville FL

.AVIATION...

(12Z TAFS)

Issued at 717 AM EDT Thu Apr 6 2023

VFR conditions are expected for much of this TAF period. A spotty line of inland moving showers is expected to develop on the east coast sea breeze later this afternoon, which may affect KGNV. An isolated thunderstorm will be possible on this line. Winds will be gusty near the coast Today due to onshore flow. Patchy inland fog Tonight will lead to a period of restrictions toward dawn Friday for KVQQ and KGNV.

6.3 Graphic Forecast for Aviation

The NWS Graphic Forecast for Aviation (GFA) is a graphical depiction of surface wind, thunderstorms, precipitation, color coded general flight categories, and cloud cover bases and tops, from graphical output from the NWS's National Digital Forecast Data (NDFD) with the Graphic-Airmen's Meteorological Information (G-AIRMET) for IFR conditions, mountain obscuration, icing conditions, and strong surface wind overlaid. The GFA provides a forecast for the enroute phase of flight and for locations without a TAF. The GFA is available at the NWS AWC website and through other weather briefing services.

The NWS AWC 3-hour GFA products issued at about 0600 EDT and current at the time of the accident are included as figures 8 and 9, with the approximate accident marked by the red star. The GFA 3-hour Surface Forecast (figure 8) depicted light southerly wind of 5 knots, visibility restricted below 3 miles, with a G-AIRMET for IFR conditions depicted immediately bordering the accident site over eastern Georgia, South Carolina, and into North Carolina. While the GFA 3-hour Cloud Forecast (figure 9) depicted clear skies over the accident site.

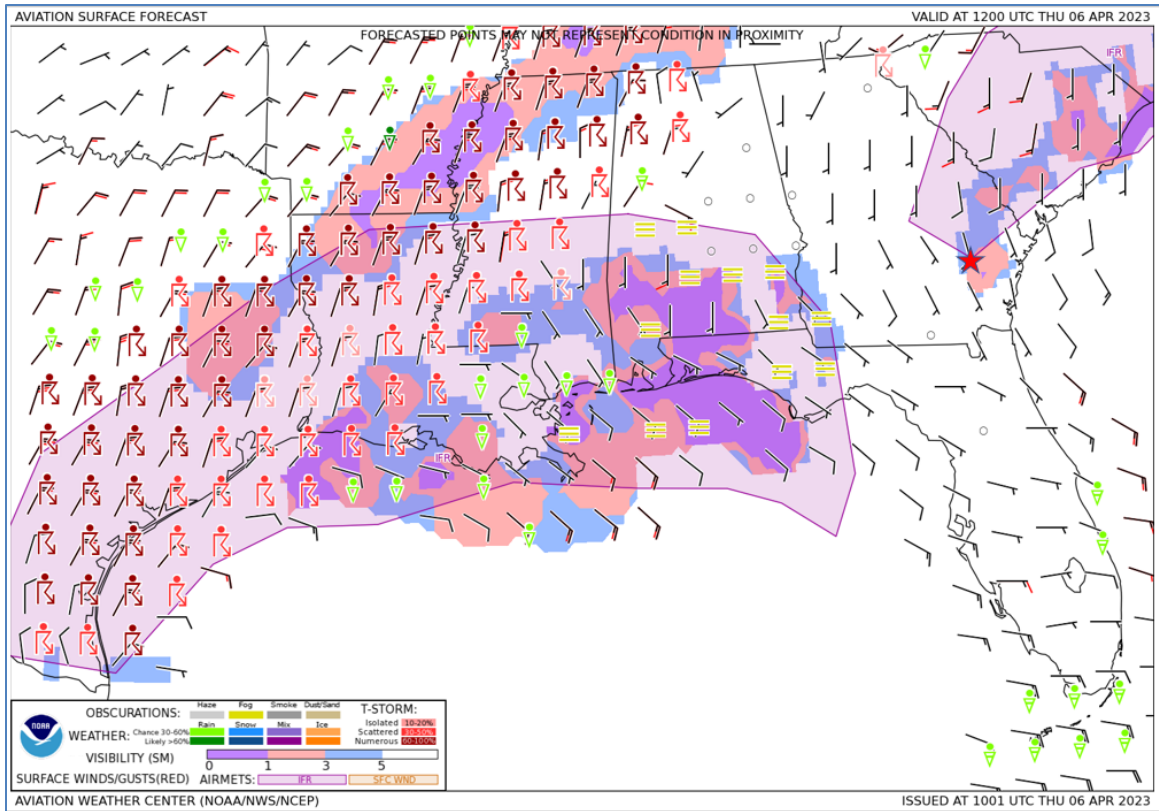


Figure 8 - Graphic Forecast for Aviation 3-hour Surface Forecast valid through 0800 EDT.

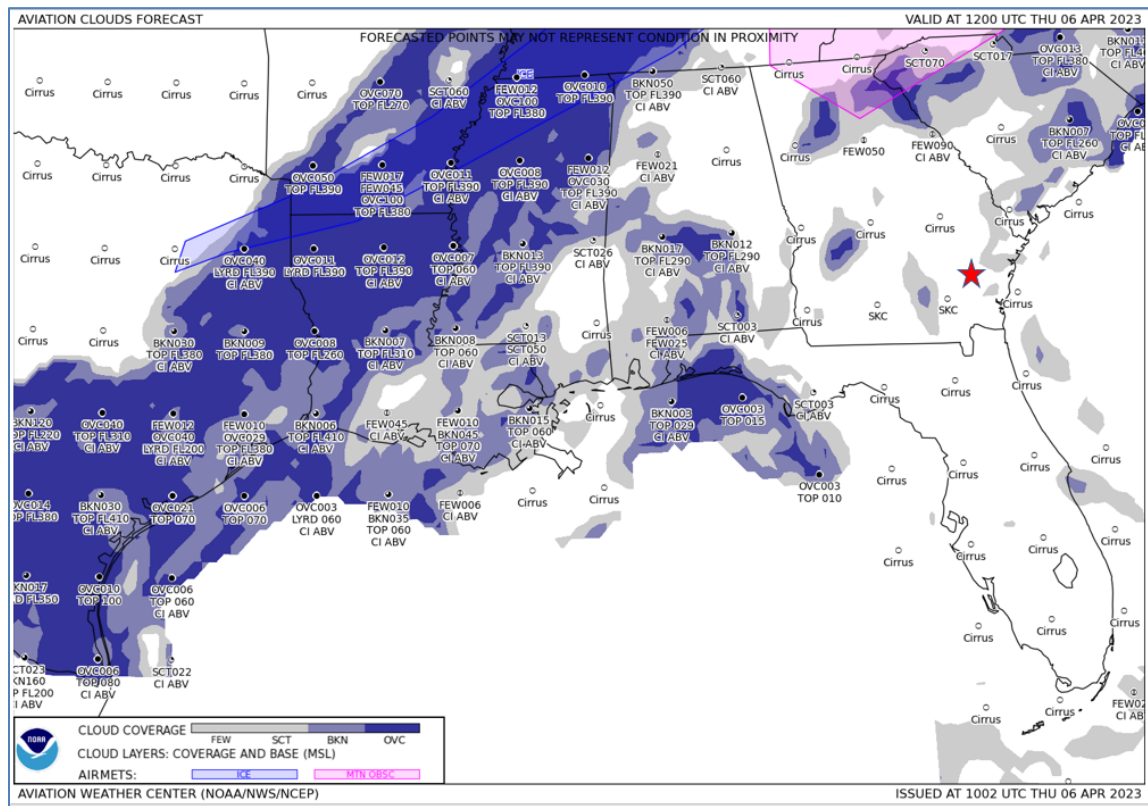


Figure 9 - Graphic Forecast for Aviation 3-hour Cloud Forecast valid through 0800 EDT.

6.4 Inflight Weather Advisories

The NWS issues inflight weather advisories in the form of a Significant Meteorological Information (SIGMET), the Convective SIGMET, the G-AIRMET, and the Center Weather Advisory (CWA). In addition, Severe Weather Watch Bulletins (WW) and associated alert messages (AWW) supplement these advisories. A review of the data indicated the NWS had no SIGMET or Convective SIGMET current surrounding the period. Immediately prior to the accident, the NWS Jacksonville (KZJX) Center Weather Service Unit (CWSU) issued CWA 202 at 0730 EDT for an area of occasional LIFR conditions due to ceilings below 500 ft agl and/or visibilities below 1 mile in fog/mist, which included the accident site. The CWA as depicted on the NWS AWC website is depicted in figure 10. The advisory was transmitted on weather broadcasts and Flight Information Services-Broadcast (FIS-B); however, it is unknown if the pilot received the advisory.

A depiction of the G-AIRMETs valid at 0500 and 0800 EDT from the NWS AWC website are included as figures 11-12. The images depicted a G-AIRMET for IFR conditions over the accident site.

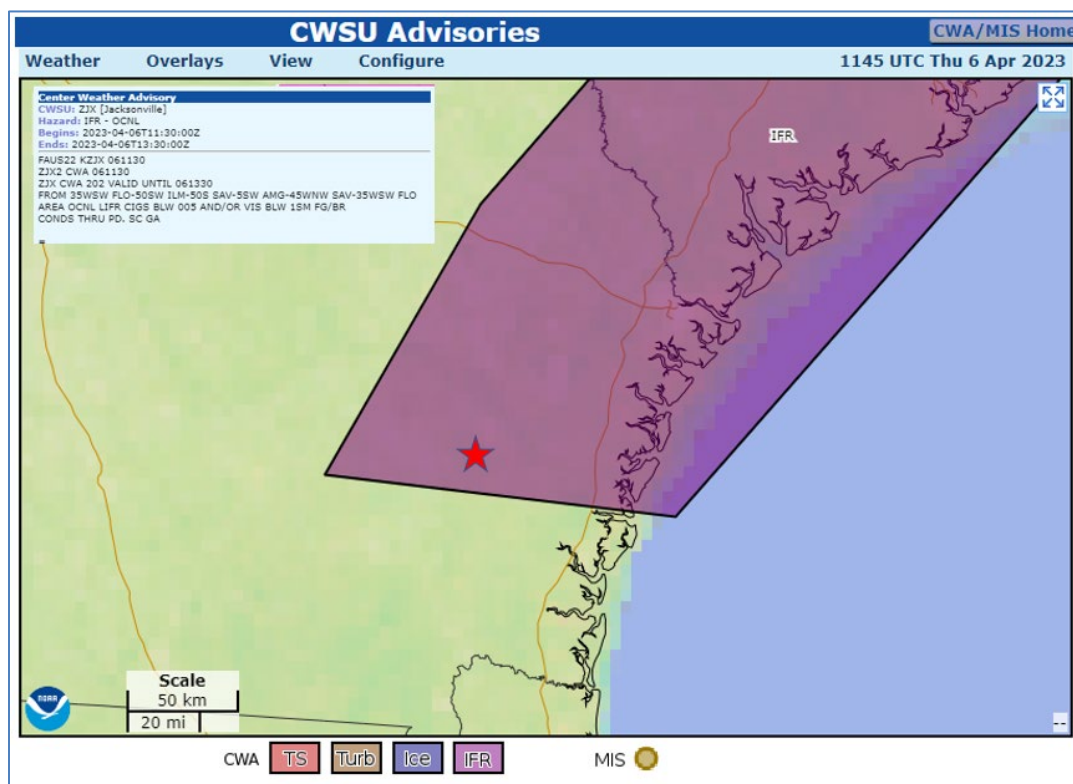


Figure 10 - Plot of Center Weather Advisory 202 for occasional LIFR conditions due to ceilings below 500 ft agl and/or visibility below 1 mile in fog/mist.

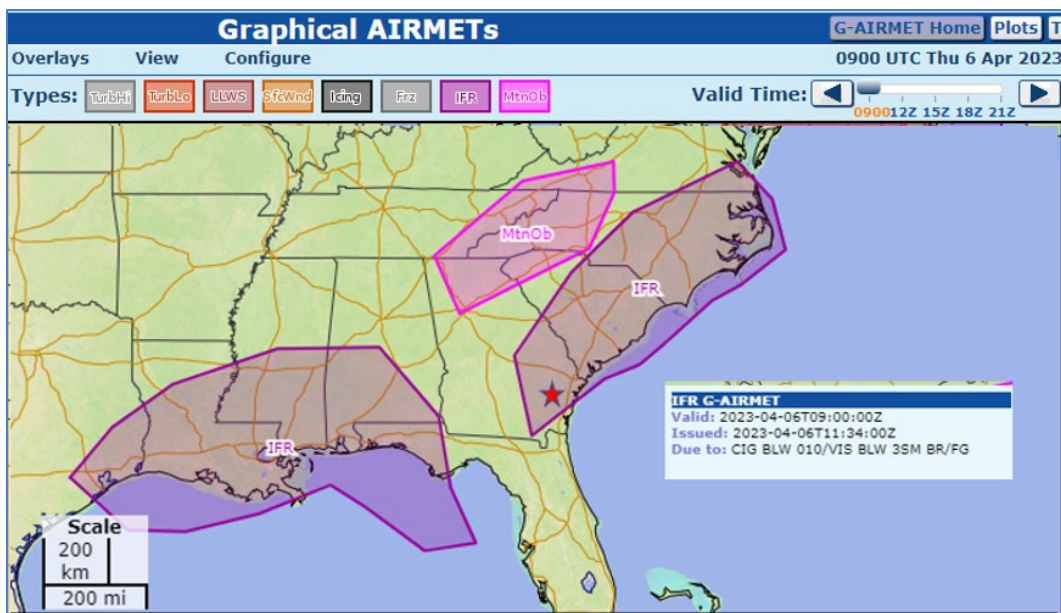


Figure 11 - Graphic-AIRMET for IFR conditions for low ceilings and/or visibilities below 3 miles in mist/fog valid at 0500 EDT.

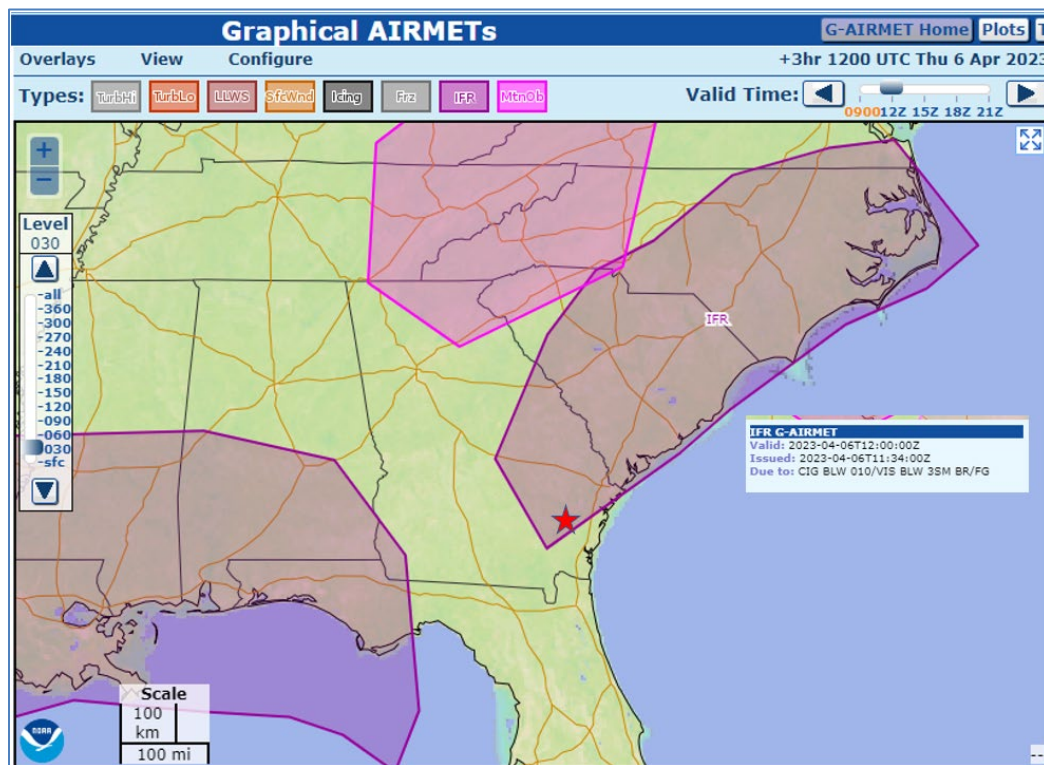


Figure 12 - Graphic-AIRMET for IFR conditions for low ceilings and/or visibilities below 3 miles in mist/fog valid at 0800 EDT.

7.0 Preflight Weather Briefing

A search of the FAA's contract Automated Flight Service Station (AFSS) provider Leidos indicated that they nor any 3rd party vendors using their system had any contact with the pilot of N911TK for any weather briefings on April 6, 2023. A separate search of ForeFlight indicated that the pilot had an account and had created a route string between KFHB and KJES at 0627 EDT at a selected altitude of 2,500 ft. The pilot also reviewed the airport pages for KJES at 0626 and for KFHB at 0713 EDT, which provided the airport runway diagram, AWOS frequency, and other radio frequencies, and access to the latest METARs, runway lengths and conditions, instrument procedures, and notice to airmen (NOTAM) data for those airports. While not a formal weather briefing it did provide the latest observations for the area. The observation available at that time would have provided the following observation for KJES.

Weather observation for KJES at 0615 EDT, automated, wind calm, visibility 5 miles in mist, scattered clouds at 700 ft agl, ceiling broken at 1,200 ft, temperature 18° C (64°F), dew point temperature 17° C (63°F), altimeter setting 30.20 inHg.

The estimated enroute time was 14 minutes. There were no records of any other weather products or imagery documented during that period.

On the previous day, the pilot had filed an IFR flight plan and received a weather briefing for a flight from Fernandina Beach (KFHB) to Jacksonville Cecil Airport (KVQQ), and then from KVQQ to KJES with an estimated arrival time of 1602 EDT on April 5, 2023.

8.0 Witness Photographs

An airport worker arriving at KJES took a picture of the conditions at 0756 EDT from the ramp near the fuel pump, looking northwest. It is included as figure 13. The image showed the fog with the tree line still mostly obscured by the fog.



Figure 13 - Photograph from the ramp at KJES at 0756 EDT.

9.0 Astronomical Data

The United States Naval Observatory's website provided the following astronomical data for April 6, 2023, for the coordinates of Jesup, Georgia. The time of the accident is in bold italic type for reference.

<u>Sun</u>	<u>Time (EDT)</u>
Begin of civil twilight	0646
Sunrise	0710
<i>Accident</i>	<i>0750</i>
Upper Transit	1330
Sunset	1950
End civil twilight	2015

At the time of the accident the sun was 7.7° above the horizon at an azimuth of 87°.

Submitted by:

Donald Eick
NTSB Senior Meteorologist

APPENDIX A - REVIEW OF JESUP WEATHER FROM APRIL 4-7, 2023

Summary review of the KJES weather conditions reported from April 4-7, 2023, in table form with temperature and dew point temperatures reported in °F. The station identifier and date/time (UTC) are color coded by the general flight categories (LIFR- purple, IFR- red, MVFR-blue, VFR-black).

STN	TIME	ALTM	TMP	DEW	RH	DIR	SPD	VIS	CLOUDS	Weather
	DD/HHMM	inHg	F	F	%	deg	kt	mile		
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
JES	07/1415	30.22	73	70	89	200	5	10.0	CLR	
JES	07/1355	30.22	72	70	94	0	0	10.0	CLR	
JES	07/1335	30.22	72	70	94	0	0	10.0	SCT002	
JES	07/1315	30.22	68	66	94	0	0	7.0	BKN002	
JES	07/1255	30.21	68	64	88	0	0	1.0	OVC002	FG
JES	07/1235	30.21	64	64	100	0	0	0.2	OVC002	FG
JES	07/1215	30.20	63	61	94	0	0	0.2	OVC002	FG
JES	07/1155	30.20	63	61	94	0	0	0.2	OVC002	FG
JES	07/1135	30.20	61	59	94	0	0	0.2	OVC002	FG
JES	07/1215	30.20	63	61	94	0	0	0.2	OVC002	FG
JES	07/1155	30.20	63	61	94	0	0	0.2	OVC002	FG
JES	07/1135	30.20	61	59	94	0	0	0.2	OVC002	FG
JES	07/1115	30.19	61	59	94	0	0	0.0	OVC002	FG
JES	07/1055	30.19	61	59	94	0	0	0.5	OVC002	FG
JES	07/1035	30.19	61	59	94	0	0	0.5	OVC002	FG
JES	07/1015	30.19	61	59	94	0	0	4.0	BKN002	BKN006 OVC012 FG
JES	07/0955	30.18	61	59	94	0	0	7.0	SCT006	BKN009 OVC015
JES	07/0935	30.18	63	61	94	0	0	1.0	BKN003	OVC010 FG
JES	07/0915	30.18	63	61	94	0	0	0.2	OVC003	FG
JES	07/0855	30.18	61	59	94	0	0	0.5	OVC003	FG
JES	07/0835	30.18	61	59	94	0	0	1.5	OVC010	FG
JES	07/0815	30.19	61	59	94	0	0	0.5	OVC009	FG
JES	07/0755	30.19	63	59	88	0	0	7.0	SCT013	
JES	07/0735	30.19	64	61	88	0	0	10.0	CLR	
JES	07/0715	30.20	64	61	88	0	0	10.0	CLR	
JES	07/0655	30.20	63	61	94	0	0	7.0	CLR	
JES	07/0635	30.21	64	63	94	0	0	7.0	CLR	
JES	07/0615	30.21	64	63	94	0	0	7.0	CLR	
JES	07/0555	30.21	64	63	94	0	0	7.0	CLR	
JES	07/0535	30.22	66	63	88	0	0	7.0	CLR	
JES	07/0515	30.22	66	63	88	0	0	7.0	CLR	
JES	07/0455	30.23	68	64	88	0	0	7.0	CLR	
JES	07/0435	30.23	66	63	88	0	0	7.0	CLR	
JES	07/0415	30.23	68	64	88	0	0	10.0	CLR	
JES	07/0355	30.23	70	64	83	0	0	10.0	CLR	
JES	07/0335	30.23	70	64	83	0	0	10.0	CLR	

JES	07/0315	30.23	70	64	83	0	0	10.0	CLR		
JES	07/0255	30.23	70	66	88	0	0	10.0	CLR		
JES	07/0235	30.23	72	64	78	0	0	10.0	CLR		
JES	07/0215	30.23	72	66	83	0	0	10.0	CLR		
JES	07/0155	30.23	72	64	78	150	3	10.0	CLR		
JES	07/0135	30.22	72	64	78	140	3	10.0	CLR		
JES	07/0115	30.22	72	64	78	0	0	10.0	CLR		
JES	07/0055	30.22	73	64	73	150	3	10.0	CLR		
JES	07/0035	30.21	73	64	73	0	0	10.0	CLR		
JES	07/0015	30.21	75	64	69	150	3	10.0	CLR		
JES	06/2355	30.21	77	64	65	150	3	10.0	SCT090		
JES	06/2335	30.20	79	64	61	160	4	10.0	SCT090		
JES	06/2315	30.20	79	64	61	150	3	10.0	SCT090		
JES	06/2255	30.19	81	64	58	140	3	10.0	BKN090		
JES	06/2235	30.19	81	64	58	140	4	10.0	SCT090		
JES	06/2215	30.18	82	64	55	120	5	10.0	BKN090		
JES	06/2155	30.18	82	64	55	130	7	10.0	SCT090		
JES	06/2135	30.18	82	64	55	120	8	10.0	SCT090		
JES	06/2115	30.18	84	64	51	110	7	10.0	BKN090		
JES	06/2055	30.18	84	64	51	130	5	10.0	SCT050	SCT070	BKN080
JES	06/2035	30.18	88	64	46	150	5	10.0	SCT046	SCT060	BKN080
JES	06/2010	30.19	88	63	43	130	5	10.0	CLR		
JES	06/1958	30.19	88	63	43	160	3	10.0	CLR		
JES	06/1939	30.20	88	64	46	200	3	10.0	CLR		
JES	06/1921	30.21	88	63	43	200	3	10.0	CLR		
JES	06/1855	30.22	86	61	43	100	3	10.0	SCT075		
JES	06/1835	30.23	86	63	46	140	3	10.0	SCT048	SCT060	SCT075
JES	06/1815	30.23	86	64	49	100	5	10.0	SCT048	BKN060	BKN070
JES	06/1755	30.24	88	63	43	200	3	10.0	SCT044	SCT060	
JES	06/1735	30.25	84	64	51	180	5	10.0	SCT044	SCT050	
JES	06/1719	30.25	84	64	51	0	0	10.0	SCT044	SCT050	
JES	06/1655	30.26	84	64	51	180	3	10.0	BKN039	BKN045	BKN075
JES	06/1638	30.27	84	68	58	0	0	10.0	BKN039		
JES	06/1610	30.28	82	64	55	0	0	10.0	BKN033		
JES	06/1559	30.28	84	68	58	0	0	10.0	SCT033		
JES	06/1535	30.29	81	66	62	0	0	10.0	SCT029		
JES	06/1515	30.29	81	68	66	200	4	10.0	BKN025		
JES	06/1500	30.29	81	68	66	240	4	10.0	BKN023		
JES	06/1435	30.28	79	68	70	210	5	10.0	SCT019		
JES	06/1415	30.28	79	70	74	190	6	10.0	SCT017		
JES	06/1355	30.28	77	70	78	200	5	10.0	SCT015		
JES	06/1335	30.28	73	70	89	210	6	10.0	CLR		
JES	06/1315	30.27	72	70	94	200	4	10.0	CLR		
JES	06/1255	30.26	70	68	94	0	0	10.0	CLR		
JES	06/1235	30.25	68	66	94	0	0	5.0	SCT011		FG
JES	06/1221	30.25	68	66	94	0	0	2.0	BKN007	BKN013	FG
JES	06/1150	30.23	63	61	94	0	0	0.2	OVC003		FG
JES	06/1135	30.23	63	61	94	0	0	0.0	OVC001		FG
JES	06/1221	30.25	68	66	94	0	0	2.0	BKN007	BKN013	FG
JES	06/1150	30.23	63	61	94	0	0	0.2	OVC003		FG
JES	06/1135	30.23	63	61	94	0	0	0.0	OVC001		FG
JES	06/1115	30.23	64	63	94	0	0	0.0	OVC001		FG
JES	06/1055	30.22	64	63	94	0	0	0.2	OVC001		FG
JES	06/1035	30.21	64	63	94	0	0	0.2	OVC003		FG
JES	06/1015	30.20	64	63	94	0	0	5.0	SCT007	BKN012	FG
JES	06/0958	30.20	66	64	94	0	0	5.0	SCT007	BKN012	FG
JES	06/0938	30.19	66	64	94	0	0	7.0	CLR		
JES	06/0924	30.18	66	64	94	0	0	5.0	CLR		FG
JES	06/0858	30.18	66	64	94	0	0	1.8	X007		FG
JES	06/0835	30.18	66	64	94	0	0	1.5	X007		FG
JES	06/0815	30.17	66	64	94	0	0	3.0	CLR		FG
JES	06/0755	30.17	68	64	88	0	0	3.0	CLR		FG
JES	06/0735	30.18	66	64	94	0	0	4.0	CLR		FG

JES	06/0719	30.18	66	64	94	0	0	5.0	SCT014		FG
JES	06/0658	30.19	66	64	94	0	0	1.8	BKN014		FG
JES	06/0638	30.20	66	64	94	0	0	3.0	CLR		FG
JES	06/0601	30.21	68	64	88	0	0	5.0	CLR		FG
JES	06/0521	30.22	70	66	88	0	0	10.0	CLR		
JES	06/0455	30.23	70	66	88	0	0	7.0	CLR		
JES	06/0424	30.23	70	66	88	0	0	7.0	CLR		
JES	06/0401	30.23	72	66	83	0	0	7.0	SCT075		
JES	06/0335	30.23	70	68	94	0	0	10.0	CLR		
JES	06/0318	30.24	72	68	88	0	0	10.0	CLR		
JES	06/0301	30.23	72	68	88	0	0	10.0	CLR		
JES	06/0221	30.22	73	68	83	0	0	10.0	CLR		
JES	06/0201	30.22	73	68	83	0	0	10.0	CLR		
JES	06/0138	30.21	73	68	83	0	0	10.0	CLR		
JES	06/0115	30.20	73	68	83	0	0	10.0	CLR		
JES	06/0050	30.18	75	68	78	160	3	10.0	CLR		
JES	06/0035	30.17	77	66	69	140	4	10.0	CLR		
JES	06/0015	30.17	77	66	69	140	4	10.0	CLR		
JES	05/2355	30.16	79	64	61	140	5	10.0	CLR		
JES	05/2335	30.15	79	64	61	150	6	10.0	CLR		
JES	05/2315	30.15	81	64	58	150	3	10.0	CLR		
JES	05/2255	30.14	82	63	51	140	6	10.0	CLR		
JES	05/2230	30.14	84	63	48	160	6	10.0	CLR		
JES	05/2215	30.14	86	63	46	160	3	10.0	CLR		
JES	05/2135	30.13	88	63	43	160	4	10.0	SCT050	SCT055	
JES	05/2115	30.13	88	63	43	130	6	10.0	SCT055	SCT075	
JES	05/2050	30.13	88	63	43	120	5	10.0	BKN065	BKN075	OVC085
JES	05/2035	30.13	88	63	43	130	7	10.0	SCT065	BKN075	BKN085
JES	05/2024	30.13	90	63	41	110	6	10.0	SCT065	BKN085	
JES	05/2001	30.13	90	59	36	190	4	10.0	SCT065	SCT085	
JES	05/1930	30.14	88	59	38	210	5	10.0	SCT075	SCT085	
JES	05/1915	30.15	88	61	40	170	5	10.0	SCT060	SCT070	
JES	05/1855	30.15	88	61	40	170	6	10.0	SCT060	BKN070	
JES	05/1835	30.16	88	61	40	150	7	10.0	BKN050		
JES	05/1820	30.16	88	61	40	200	5	10.0	SCT050		
JES	05/1755	30.16	88	63	43	190	7	10.0	CLR		
JES	05/1735	30.17	86	63	46	170	4	10.0	SCT044		
JES	05/1720	30.17	86	64	49	140	6	10.0	SCT044		
JES	05/1658	30.18	86	66	52	160	5	10.0	SCT040		
JES	05/1639	30.19	84	66	55	130	5	10.0	SCT038		
JES	05/1558	30.20	84	70	62	190	6	10.0	CLR		
JES	05/1535	30.20	81	70	70	180	5	10.0	CLR		
JES	05/1515	30.20	81	70	70	200	6	10.0	CLR		
JES	05/1455	30.20	73	70	89	200	4	10.0	CLR		
JES	05/1440	30.19	73	70	89	160	3	10.0	CLR		
JES	05/1415	30.20	72	70	94	190	4	10.0	SCT005		
JES	05/1355	30.20	72	70	94	0	0	7.0	BKN003	BKN006	
JES	05/1335	30.20	70	68	94	0	0	0.2	OVC003		FG
JES	05/1315	30.19	68	68	100	0	0	0.0	OVC003		FG
JES	05/1255	30.18	68	66	94	0	0	0.0	OVC003		FG
JES	05/1235	30.18	66	64	94	0	0	0.0	OVC003		FG
JES	05/1215	30.18	64	63	94	0	0	0.0	OVC003		FG
JES	05/1155	30.17	64	63	94	0	0	0.0	OVC003		FG
JES	05/1135	30.16	63	63	100	0	0	0.0	OVC003		FG
JES	05/1215	30.18	64	63	94	0	0	0.0	OVC003		FG
JES	05/1155	30.17	64	63	94	0	0	0.0	OVC003		FG
JES	05/1135	30.16	63	63	100	0	0	0.0	OVC003		FG
JES	05/1115	30.16	63	61	94	0	0	0.0	OVC003		FG
JES	05/1055	30.15	63	61	94	0	0	0.2	OVC003		FG
JES	05/1035	30.15	64	63	94	0	0	0.2	OVC003		FG
JES	05/1015	30.15	64	63	94	0	0	0.0	OVC003		FG
JES	05/0955	30.14	63	63	100	0	0	0.0	OVC003		FG
JES	05/0935	30.13	63	61	94	0	0	0.0	OVC003		FG

JES	05/0915	30.13	63	61	94	0	0	0.2	OVC003		FG
JES	05/0855	30.13	61	59	94	0	0	3.0	OVC003		FG
JES	05/0835	30.13	63	61	94	0	0	4.0	BKN003		FG
JES	05/0815	30.14	63	61	94	0	0	0.8	OVC001		FG
JES	05/0755	30.14	63	61	94	0	0	1.2	OVC001		FG
JES	05/0735	30.14	63	61	94	0	0	0.8	OVC001		FG
JES	05/0710	30.13	63	61	94	0	0	0.2	OVC001		FG
JES	05/0655	30.13	64	61	88	0	0	0.5	OVC001		FG
JES	05/0635	30.13	64	61	88	0	0	1.0	OVC001		FG
JES	05/0547	30.15	66	64	94	0	0	4.0	CLR		FG
JES	05/0518	30.15	66	64	94	0	0	5.0	CLR		FG
JES	05/0504	30.15	66	64	94	0	0	4.0	CLR		FG
JES	05/0435	30.14	68	64	88	0	0	7.0	CLR		
JES	05/0415	30.14	68	64	88	0	0	7.0	CLR		
JES	05/0355	30.14	68	64	88	0	0	10.0	CLR		
JES	05/0335	30.14	68	64	88	0	0	10.0	CLR		
JES	05/0315	30.14	68	64	88	0	0	10.0	CLR		
JES	05/0255	30.14	70	64	83	0	0	10.0	CLR		
JES	05/0235	30.13	70	66	88	0	0	10.0	CLR		
JES	05/0215	30.13	72	66	83	0	0	10.0	CLR		
JES	05/0155	30.12	72	68	88	0	0	10.0	CLR		
JES	05/0135	30.12	72	66	83	0	0	10.0	CLR		
JES	05/0115	30.11	72	66	83	0	0	10.0	CLR		
JES	05/0055	30.10	73	66	78	0	0	10.0	CLR		
JES	05/0035	30.10	73	68	83	0	0	10.0	CLR		
JES	05/0015	30.09	75	68	78	0	0	10.0	CLR		
JES	04/2322	30.07	82	66	58	0	0	10.0	CLR		
JES	04/2255	30.07	82	64	55	0	0	10.0	CLR		
JES	04/2235	30.07	84	64	51	160	3	10.0	CLR		
JES	04/2218	30.07	84	64	51	160	4	10.0	CLR		
JES	04/2200	30.06	84	63	48	180	4	10.0	CLR		
JES	04/2135	30.06	86	64	49	180	3	10.0	CLR		
JES	04/2115	30.06	86	64	49	170	3	10.0	CLR		
JES	04/2055	30.07	86	63	46	210	4	10.0	SCT046	SCT050	
JES	04/2035	30.07	82	64	55	200	3	10.0	BKN044	BKN050	
JES	04/2015	30.07	84	64	51	190	5	10.0	BKN044		
JES	04/1955	30.07	86	64	49	130	4	10.0	BKN044		
JES	04/1935	30.07	86	64	49	130	4	10.0	BKN044	BKN050	
JES	04/1915	30.08	82	64	55	0	0	10.0	SCT050		
JES	04/1855	30.09	82	64	55	0	0	10.0	SCT034	SCT042	
JES	04/1835	30.09	81	66	62	120	3	10.0	BKN035	OVC045	
JES	04/1755	30.10	81	68	66	210	3	10.0	SCT029		
JES	04/1735	30.11	81	68	66	190	5	10.0	BKN027	BKN034	OVC041
JES	04/1722	30.11	82	70	66	60	3	10.0	BKN027	OVC037	
JES	04/1655	30.12	79	68	70	0	0	10.0	OVC023		
JES	04/1630	30.13	77	68	74	0	0	10.0	OVC019		
JES	04/1615	30.14	77	68	74	0	0	10.0	BKN017	BKN022	OVC032
JES	04/1550	30.14	77	70	78	0	0	10.0	SCT015	BKN032	
JES	04/1535	30.14	77	70	78	0	0	10.0	SCT007	SCT032	
JES	04/1515	30.13	73	70	89	0	0	10.0	SCT007	BKN036	
JES	04/1455	30.13	72	70	94	170	3	10.0	BKN005	OVC036	
JES	04/1435	30.12	70	68	94	0	0	7.0	OVC005		
JES	04/1415	30.12	70	68	94	0	0	7.0	OVC003		
JES	04/1355	30.11	68	66	94	0	0	4.0	OVC003		FG
JES	04/1335	30.10	68	64	88	0	0	4.0	OVC003		FG
JES	04/1300	30.10	66	64	94	0	0	7.0	OVC003		
JES	04/1238	30.09	66	64	94	0	0	7.0	BKN003	OVC019	
JES	04/1204	30.08	66	64	94	0	0	0.0	OVC003		FG
JES	04/1055	30.06	63	61	94	0	0	0.2	OVC003		FG
JES	04/1035	30.05	63	61	94	0	0	1.0	OVC003		FG
JES	04/1015	30.04	61	59	94	0	0	10.0	OVC003		
JES	04/0955	30.03	61	59	94	0	0	7.0	OVC005		
JES	04/0935	30.03	61	59	94	0	0	5.0	BKN005		FG

JES	04/0915	30.03	61	59	94	0	0	7.0	BKN007		
JES	04/0855	30.02	61	59	94	0	0	5.0	OVC007	FG	
JES	04/0835	30.02	61	59	94	0	0	7.0	SCT007		
JES	04/0815	30.02	59	57	94	0	0	10.0	CLR		
JES	04/0755	30.02	61	59	94	0	0	7.0	CLR		
JES	04/0735	30.02	61	59	94	0	0	7.0	CLR		
JES	04/0715	30.02	61	59	94	0	0	7.0	CLR		
JES	04/0655	30.03	61	59	94	0	0	5.0	BKN002	FG	
JES	04/0635	30.03	61	59	94	0	0	5.0	OVC002	FG	
JES	04/0615	30.04	61	59	94	0	0	0.8	OVC002	FG	
JES	04/0555	30.04	63	61	94	0	0	3.0	SCT002	FG	
JES	04/0535	30.05	63	61	94	0	0	5.0	CLR	FG	
JES	04/0515	30.05	63	61	94	0	0	4.0	CLR	FG	
JES	04/0455	30.05	64	63	94	0	0	3.0	SCT075	FG	
JES	04/0435	30.06	64	63	94	0	0	5.0	OVC075	FG	
JES	04/0415	30.06	64	63	94	0	0	7.0	OVC075		
JES	04/0355	30.06	64	63	94	0	0	7.0	BKN075		
JES	04/0335	30.06	64	63	94	0	0	7.0	CLR		
JES	04/0315	30.06	64	63	94	0	0	7.0	SCT080		
JES	04/0255	30.06	64	63	94	0	0	10.0	OVC080		
JES	04/0235	30.06	64	63	94	0	0	5.0	OVC090	FG	
JES	04/0215	30.05	64	63	94	0	0	7.0	BKN090	OVC120	
JES	04/0155	30.05	64	63	94	0	0	7.0	BKN090	BKN120	
JES	04/0135	30.04	64	63	94	0	0	7.0	SCT090	BKN120	
JES	04/0115	30.04	66	63	88	0	0	10.0	OVC100		
JES	04/0055	30.03	66	63	88	0	0	10.0	OVC100		
JES	04/0035	30.04	66	63	88	50	6	10.0	BKN100	OVC120	-RA
JES	04/0020	30.03	66	63	88	240	3	10.0	SCT080	SCT100	OVC120 -RA