National Transportation Safety Board
Office of Aviation Safety
Washington, DC 20594

CEN23LA028

METEOROLOGY

Specialist's Factual Report

February 9, 2023

TABLE OF CONTENTS

A. ACCIDENT

Location: Slidell, Louisiana
Date: November 6, 2022
Time: 2145 central standard time (CST)
0345 coordinated universal time (UTC) on November 7, 2022
Aircraft: Beech E-90; Registration: N809DM

B. METEOROLOGY INVESTIGATOR

Donald Eick
Senior Meteorologist
National Transportation Safety Board
Office of Aviation Safety
Operations Factors Division (AS-30)
Washington, DC

C. SUMMARY

On November 6, 2022, about 2145 central standard time, a Beech E-90, N809DM, was destroyed when it was involved in an accident at Slidell Airport (ASD), Slidell, Louisiana. The commercial pilot sustained serious injuries. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 positioning flight.

According to air traffic control information, the airplane departed John C. Tune Airport (JWN), Nashville, Tennessee, and climbed to a cruise altitude of 22,000 ft mean sea level. The pilot subsequently descended toward his home airport at ASD and attempted a visual approach that was discontinued due to ground fog.

The pilot received an instrument flight rules clearance and flew the RNAV (GPS) RWY 36 approach that was also discontinued due to ground fog. After executing a missed approach, the pilot flew another RNAV (GPS) RWY 36 approach, during which the airplane impacted wooded terrain about 800 ft right of the Runway 36 departure end. A post-impact fire consumed most of the airplane. The pilot egressed the airplane without assistance with serious burn injuries.

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). All times are reported as central standard time (CST) based upon the 24-hour clock, local time is -6 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.

This report documents the general weather products and forecasts over the region during the period and the pertinent meteorological parameters related to the accident. The accident site was located at latitude 30.354207° N and longitude 89.818646° W at an elevation of approximately 30 ft.

E. FACTUAL INFORMATION

1.0 Synoptic Conditions

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-8083-28[1].

1.1 Surface Analysis Chart

The NWS southcentral Surface Analysis Chart for 2100 CST on November 6, 2022 and is included as figure 1 with the approximate accident site within the red circle. The chart depicted a low-pressure system at 1013-hectopascal (hPa) over northeast Texas along a frontal wave with a warm front extending northeastward across northeast Texas, eastern Oklahoma, into Arkansas. A cold front extended westward from the low, and a dryline extended southwestward across Texas. A trough extended west-to-east across eastern Texas, northern Louisiana, southern Mississippi into Alabama. A mesoscale ridge extended over southern Louisiana and over the Gulf of Mexico. The accident site was located in the warm air sector south of the fronts and trough and under the influence of the ridge. The station models surrounding the accident site depicted light and variable winds, overcast to obscured skies, with temperatures from

[1] https://www.faa.gov/regulationspolicies/handbooksmanuals/aviation/faa-h-8083-28-aviation-weather-handbook

68° to 73° Fahrenheit (F), with dew point temperature spreads of 3° F or less over the area.

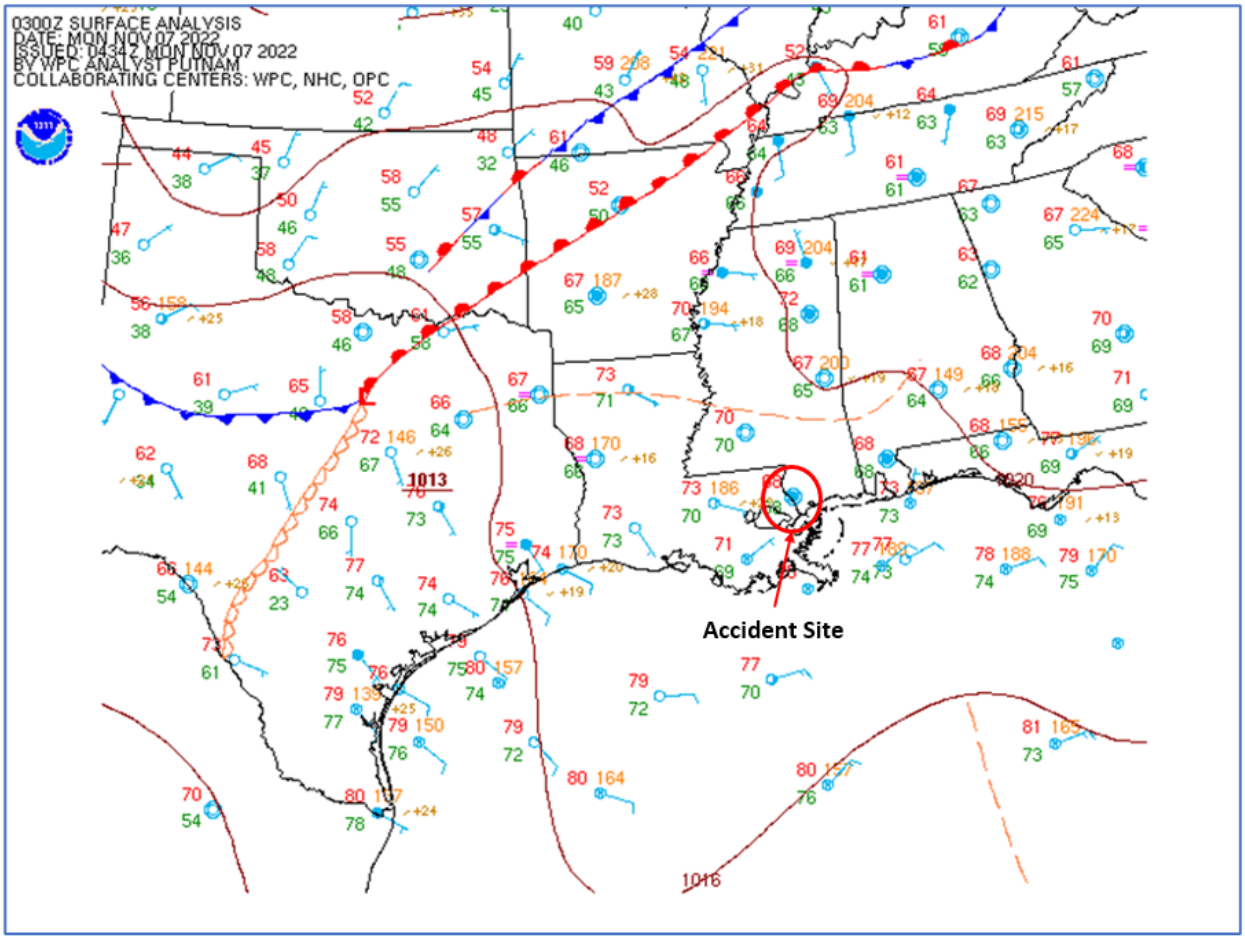

Figure 1 - NWS south central Surface Analysis Chart for 2100 CST with the accident site within the red circle.

1.2 Low-Level Significant Weather Prognostic Chart

The NWS 12- and 24-hour Low-Level Significant Weather Prognostic Chart valid at the time of departure is included as figure 2. The chart provides a depiction of the general flight categories[2] with IFR conditions depicted by a smooth red line, MVFR

[2] 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 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-

conditions by a blue scalloped line, with VFR conditions outside of the scallop line, the freezing level at the surface and every 4,000 ft, and expected turbulence to 24,000 ft. The chart on the left was the expected conditions at 0000 CST on November 7, 2022, which depicted IFR conditions over the lower Louisiana coast with another large area of IFR conditions over western Louisiana and southern Texas. Another area of IFR conditions was depicted over Arkansas, northern Mississippi, Tennessee, and into Kentucky. The freezing level was depicted above 12,000 ft, and no significant turbulence was depicted over the southern Mississippi Valley.

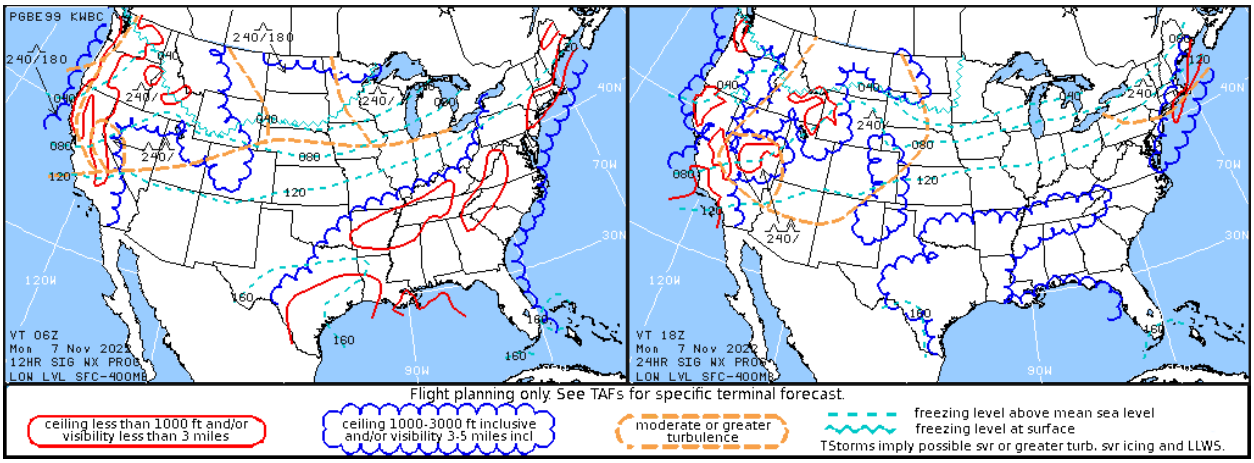

Figure 2 - NWS 12- (left) and 24-hour (right) Low-Level Significant Weather Prognostic Chart valid for 0000 and 1200 CST on November 7, 2022.

2.0 Surface Observations

The area surrounding the accident site was documented using official Aviation Routine Weather Reports (METAR) and Aviation Selected Special Weather Reports (SPECI) which were disseminated longline[3] surrounding the period. Cloud heights are reported above ground level (agl) in the following section, and the magnetic variation was estimated at 1° west based on the latest sectional chart for the area.

2.1 Slidell, Louisiana

The accident occurred as the aircraft was attempting to land at Slidell Airport (KASD), Slidel, Louisiana. The airport has a Federally installed and maintained Automated Surface Observation System (ASOS) and lists an elevation of 28 ft. The following conditions were reported surrounding the time of the accident.

---

category of IFR.

[3] Longline – refers to the dissemination of weather observations with the intent they are available in near-real time to national databases. This does not include access to the observations from the stations very high frequency (VHF) line-of-sight or telephone broadcast.

Special weather observation for KASD at 2129 CST, automated, wind calm, visibility 8 statute mile, ceiling broken at 400 ft agl, temperature 20° Celsius (C) (68°F), dew point temperature 19° C (66°F), altimeter 30.10 inches of mercury (inHg). Remarks; automated station with a precipitation discriminator, temperature 20.0°C, dew point temperature 18.9°C.

Accident 2145 CST

Weather observation for KASD at 2153 CST, automated, wind calm, visibility 5 statute mile in mist, ceiling overcast at 400 ft agl, temperature 19°C (67°F), dew point temperature 18°C (65°F), altimeter 30.11 inHg. Remarks; automated station with a precipitation discriminator, sea-level pressure 1019.5-hPa, temperature 19.4°C, dew point temperature 18.3°C.

Special weather observation for KASD at 2158 CST, automated, wind calm, visibility 1 3/4 mile in mist, ceiling overcast at 400 ft agl, temperature 19°C (67°F), dew point temperature 18° C (65°F), altimeter 30.11 inHg. Remarks; automated station with a precipitation discriminator, visibility ½ variable 5 miles, temperature 18.9°C, dew point temperature 18.3°C.

The general flight categories and raw METAR observations with time in UTC reported from about 1800 through 2240 CST on November 6th (0000Z-0440Z on November 7th) were as follows.

VFR SPECI KASD 070001Z AUTO 14004KT 10SM SCT008 24/21 A3004 RMK AO2 T02390211=
VFR METAR KASD 070053Z AUTO 00000KT 10SM CLR 23/21 A3005 RMK AO2 SLP177 T02280211=
VFR METAR KASD 070153Z AUTO 00000KT 10SM CLR 21/20 A3007 RMK AO2 SLP183 T02060200
MVFR SPECI KASD 070225Z AUTO 00000KT 3SM BR FEW007 21/19 A3008 RMK AO2 T02060194=
IFR SPECI KASD 070240Z AUTO 00000KT 1 3/4SM BR FEW007 19/19 A3009 RMK AO2 VIS 1V5 T01940189=
MVFR SPECI KASD 070250Z AUTO 00000KT 3SM BR FEW007 20/19 A3009 RMK AO2=
VFR METAR KASD 070253Z AUTO 00000KT 7SM FEW007 21/19 A3009 RMK AO2 SLP190 T02060194 53018=
LIFR SPECI KASD 070329Z AUTO 00000KT 8SM BKN004 20/19 A3010 RMK AO2 T02000189 Accident 0345Z
LIFR METAR KASD 070353Z AUTO 00000KT 5SM BR OVC004 19/18 A3011 RMK AO2 SLP195 T01940183=
LIFR SPECI KASD 070358Z AUTO 00000KT 1 3/4SM BR OVC004 19/18 A3011 RMK AO2 VIS 1/2V5 T01890183=
LIFR SPECI KASD 070408Z AUTO 00000KT 1/2SM FG VV004 19/19 A3011 RMK AO2 T01940189=
LIFR SPECI KASD 070416Z AUTO 36003KT 1SM BR VV003 19/19 A3011 RMK AO2 T01940189=
LIFR SPECI KASD 070422Z AUTO 00000KT 3SM BR OVC003 19/19 A3011 RMK AO2 T01940189=
LIFR SPECI KASD 070428Z AUTO 00000KT 1 1/2SM BR OVC003 20/19 A3011 RMK AO2 VIS 1/2V5 T02000194=
LIFR SPECI KASD 070438Z AUTO 00000KT 1/4SM FG VV002 20/19 A3011 RMK AO2 T02000194=

2.2 Picayune, Mississippi

The next closest weather reporting station to the accident site was from Picayune Municipal Airport (KMJD), Picayune, Mississippi, located about 12 miles northeast of the accident site at an elevation of 55 ft. The airport had an Automated Weather Observation System (AWOS), which was not augmented by any human observers and disseminated observations every 20-minutes. At the approximate time of the accident the following conditions were reported.

> *Weather observation for KMJD at 2135 CST, automated, wind calm, visibility 1/4 mile in fog, ceiling overcast at 200 ft agl, temperature 20° C (68° F), dew point temperature 20° C (68° F), altimeter setting 30.10 inHg. Remarks: automated station with a precipitation discriminator.*

The general flight categories and raw METARs reported surrounding the time of the accident were as follows.

LIFR *METAR KMJD 070215Z AUTO 00000KT 3/4SM BR OVC002 20/20 A3008 RMK AO2 VIS M1/4V5*
LIFR *METAR KMJD 070235Z AUTO 00000KT 1/4SM FG OVC002 19/19 A3008 RMK AO2=*
LIFR *METAR KMJD 070255Z AUTO 00000KT 10SM OVC002 20/20 A3009 RMK AO2=*
LIFR *METAR KMJD 070315Z AUTO 00000KT 1/2SM FG OVC001 20/20 A3010 RMK AO2=*
LIFR ***METAR KMJD 070335Z AUTO 00000KT 1/4SM FG OVC002 20/20 A3010 RMK AO2=***
LIFR *METAR KMJD 070355Z AUTO 00000KT 1SM BR OVC002 20/20 A3011 RMK AO2=*
LIFR *METAR KMJD 070415Z AUTO 00000KT 1/4SM FG OVC002 19/19 A3011 RMK AO2=*
LIFR *METAR KMJD 070435Z AUTO 00000KT 3SM BR OVC002 19/19 A3011 RMK AO2=*
LIFR *METAR KMJD 070455Z AUTO 00000KT 1/2SM FG OVC001 18/18 A3011 RMK AO2 VIS 1/4V5*
LIFR *METAR KMJD 070515Z AUTO 00000KT 1/4SM FG OVC001 18/18 A3011 RMK AO2=*

2.3 Bay St Louis, Mississippi

The next closest weather reporting station was from Stennis International Airport (KHSA), Bay St Louis, Mississippi, located 12 miles northeast at an elevation of 23 ft. The airport had an AWOS and was augmented by air traffic controllers during normal operating hours. The last observation before the tower closed was as follows.

> *Weather observation for KHSA for 2050 CST, wind calm, visibility 1/4 mile in fog, ceiling overcast at 200 ft, temperature 19° C (66° F), dew point 19° C (66° F), altimeter setting 30.09 inHg.*

The general flight categories and raw METARs issued during the period were as follows.

MVFR *METAR KHSA 070150Z COR 00000KT 4SM BR SCT003 20/19 A3008=*
LIFR *METAR KHSA 070250Z 00000KT 1/4SM FG OVC002 19/19 A3009=*

2.4 New Orleans, Louisiana

Lakefront Airport (KNEW), New Orleans, Louisiana, was located about 19 miles southwest of the accident site at an elevation of 7 ft. The airport had an ASOS and was augmented by air traffic controllers during normal operating hours. The conditions reported near the time of the accident were as follows.

> *Weather observation for KNEW at 2153 CST, automated, wind calm, visibility 10 miles, sky clear below 12,000 ft, temperature 22° C (71° F), dewpoint temperature 21° C (69° F), altimeter setting 30.11 inHg. Remarks: automated station with a precipitation discriminator, sea-level pressure 1018.9-hPa, temperature 21.7° C, dew point temperature 20.6° C.*

The general flight categories and raw METARs issued during the period were as follows.

VFR METAR KNEW 070253Z AUTO 00000KT 10SM CLR 22/21 A3010 RMK AO2 SLP185 T02220206 53019=
VFR METAR KNEW 070353Z AUTO 00000KT 10SM CLR 22/21 A3011 RMK AO2 SLP189 T02170206
IFR SPECI KNEW 070439Z AUTO 00000KT 2 1/2SM BR FEW006 22/21 A3011 RMK AO2 VIS 1 1/4V5 T02220206=
LIFR SPECI KNEW 070445Z AUTO 04003KT 1 1/4SM BR BKN004 22/21 A3011 RMK AO2 T02220211
LIFR METAR KNEW 070453Z AUTO 04003KT 1 1/4SM BR BKN004 22/21 A3011 RMK AO2 SLP190 T02220211=
LIFR SPECI KNEW 070513Z AUTO 06004KT 1/4SM FG VV002 22/21 A3011 RMK AO2 T02220211=

2.5 NWS Aviation Weather Center's METAR Display

The NWS Aviation Weather Center's (AWC) METAR display for 2145 CST is included as figure 3 with the approximate accident site marked by the red star. The chart depicted the general flight conditions as color coded station models, the METAR data in plotted form with temperature and dew point temperatures in °F. Several stations in the immediate vicinity of the accident site reporting LIFR conditions due to low ceilings and visibilities with fog forming over the area.

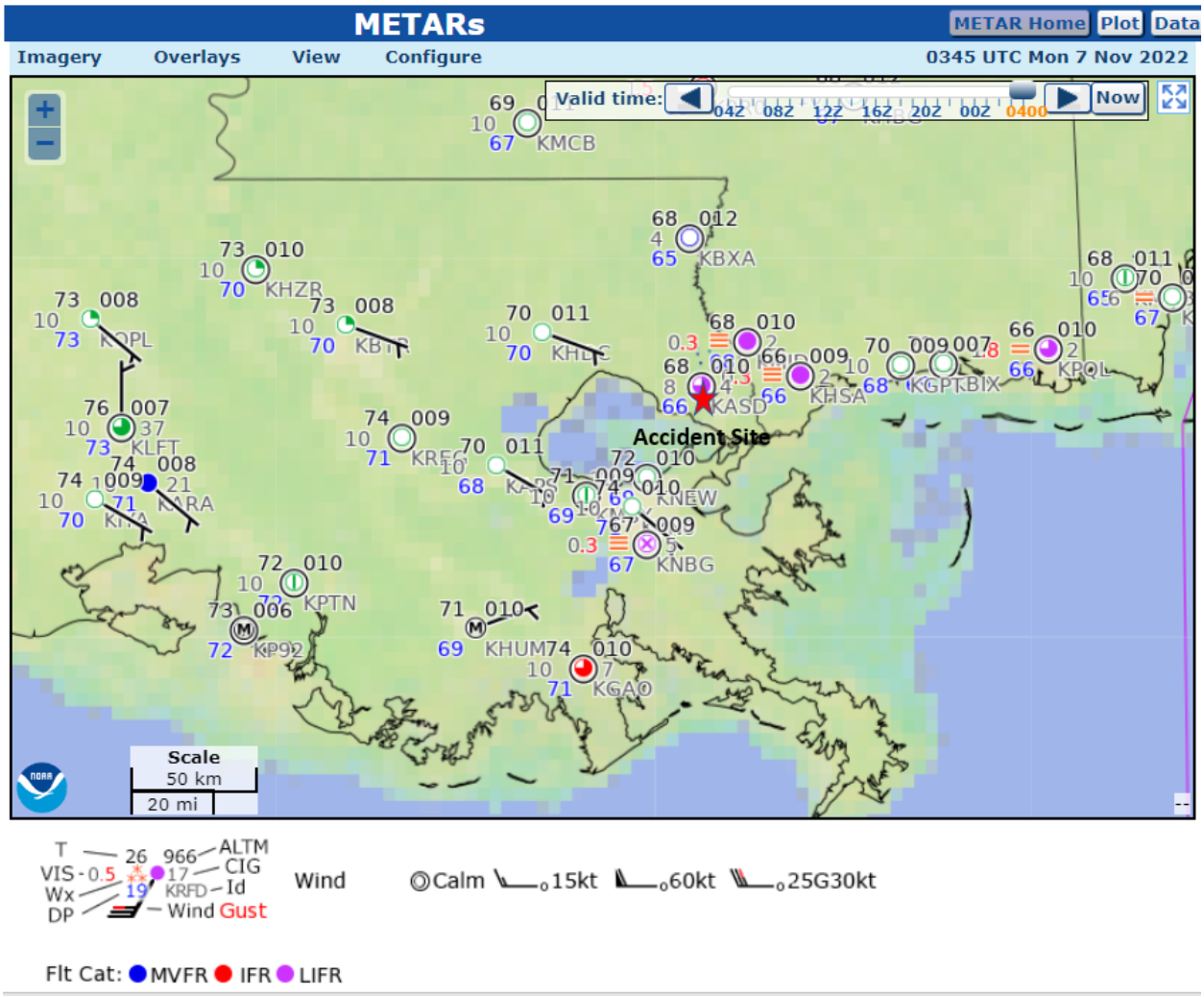

Figure 3 - NWS Aviation Weather Center's METAR display for 2145 CST with the accident site marked by the red star.

3.0 Sounding

A High-Resolution Rapid Refresh (HRRR) numerical model data for 2200 CST over KASD and the approximate accident site grid point was obtained from the NOAA Air Resource Laboratory database and plotted utilizing RAOB software program and plotted on a standard Skew T log P diagram and is depicted as figure 4.

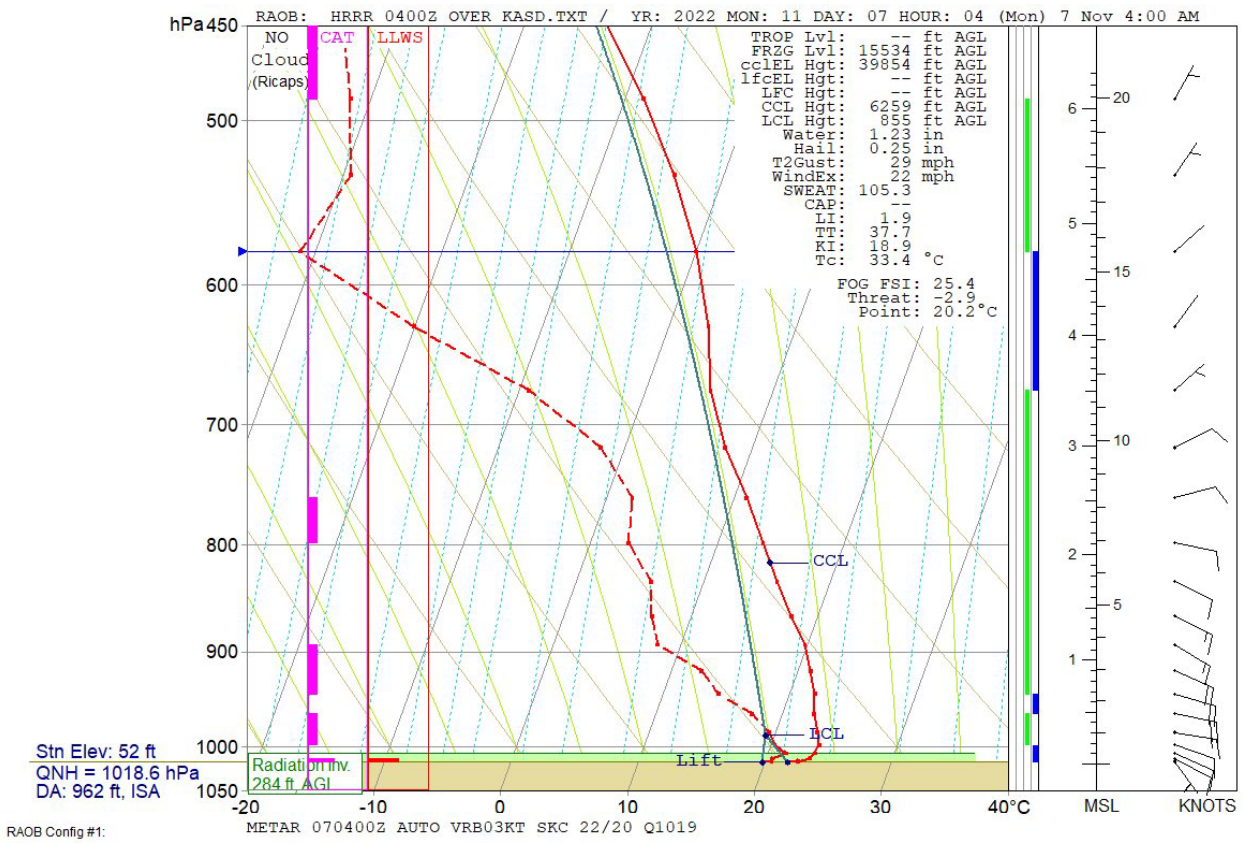

Figure 4 – A High Resolution Rapid Refresh (HRRR) numerical model sounding over the closest grid point to the accident site for 2200 CST.

The sounding depicted an elevation of 52 ft at the nearest grid point, with a near surface temperature of 21.8°C (71.2°F), a dew point temperature of 19.8°C (67.6°F), with a relative humidity of 88%. The lifted condensation level (LCL) was identified at 855 ft agl, with the convective condensation level (CCL) at 6,269 ft agl. The freezing level was identified at about 15,300 ft. The precipitable water content was 1.23 inches. The sounding depicted a stable atmosphere with a surface based temperature inversion to approximately 500 ft and a Lifted Index of 1.9. The Fog Point or the temperature in which radiation fog is expected to form was 20.2° C, with the Fog Threat of -2.9 and a Fog Stability Index (FSI) of 25.4, which both indicated a moderate to high likelihood for radiation fog formation. The HRRR wind profile indicated a light and variable surface wind, with winds from the southeast immediately above the surface and backing to the northeast or turning counterclockwise with height. A low-level wind maximum was indicated near 2,200 ft with winds from 110° at 22 knots, and the mean 0 to 6 kilometer or 18,000 ft wind was from 090° at 7 knots.

A table of the HRRR sounding parameters of height, pressure, temperature, dew point temperature, relative humidity, wind direction and speed, and derived Clear Air turbulence (CAT), Low-Level Wind Shear (LLWS), and icing potential from the surface to about 10,000 ft were as follows.

Height (ft-msl)	Pres (hPa)	T (°C)	Td (°C)	RH (%)	DD/FF (deg/kt)	CAT FAA	LLWS FAA	ICING FAA
52	1017	21.8	19.8	88	146/ 3			
80	1016	22.6	20.5	88	147/ 3	MDT	MODRT	
165	1013	23.4	20.5	84	121/ 9			
336	1007	23.7	21.4	87	116/ 10			
595	998	23.8	20.3	81	110/ 12	LGT		
1001	984	23.3	19.5	79	100/ 15	LGT		
1590	964	22.5	17.6	74	103/ 20			
2220	943	22.0	14.4	62	109/ 22	LGT		
2955	919	21.0	12.4	58	116/ 19	LGT		
3769	893	19.8	8.2	47	123/ 15			
4667	865	17.9	6.9	49	119/ 13			
5722	833	15.8	5.9	52	118/ 10			
6914	798	13.6	3.0	49	102/ 8	LGT		
8293	759	11.0	2.0	54	073/ 9			
9806	718	7.9	-1.9	50	060/ 8			

The RAOB analysis program indicated a moderate risk of low-level turbulence and wind shear below 100 ft.

4.0 Satellite Imagery

The Geostationary Operational Environmental Satellite number 16 (GOES-16) data 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 GOES-16 infrared (band 13) imagery for 2146 CST at 6X magnification with a brightness enhancement applied is included as figure 5 with the accident site marked by the red square. The image depicted an area of low stratiform type clouds to fog over the Louisiana coast and the accident site by the darker shades with the radiative cloud top temperature of 292 Kelvin or 18.8°C, over the accident site which corresponded to cloud tops near 4,000 ft based on the HRRR sounding.

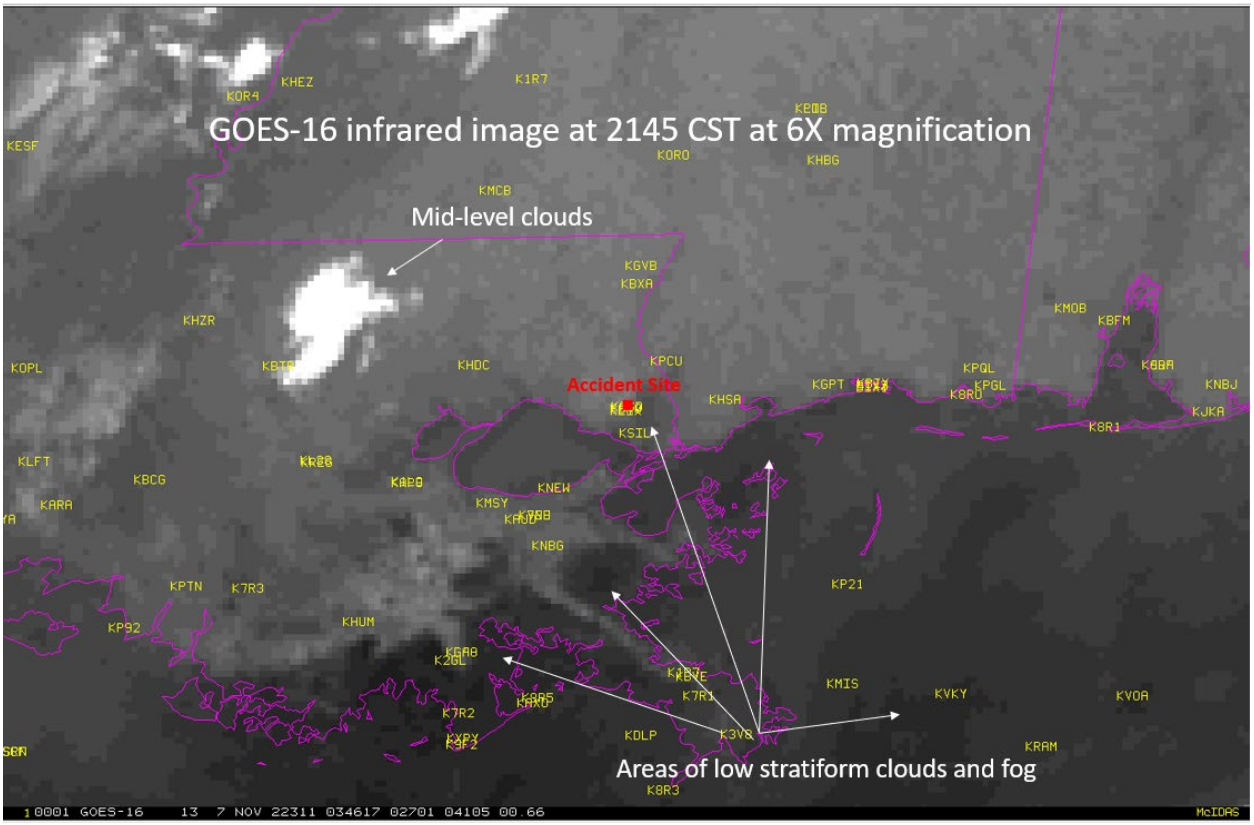

Figure 5 - GOES-16 infrared image for 2146 CST at 6X magnification with accident site in red.

5.0 Pilot Weather Reports

There were no pilot weather reports or PIREPs reported in the national database from 1700 through 2400 CDT within 60 miles of Slidel, Louisiana, surrounding the period.

6.0 Weather Radar Imagery

A review of the NWS New Orleans/Baton Rouge (KLIX) Weather Surveillance Radar 1988 Doppler (WSR-88D) depicted no significant meteorological echoes over the area surrounding the period of the accident. Figure 6 is the KLIX WSR-88D 0.48° base reflectivity image for 2142 CST with the flight track of N809DM overlaid in black[4]. No significant echoes were identified over the area at the time of the accident.

[4] A filter eliminated echoes less than 20 dBZ due to excess ground clutter over the area ducting the beam towards the ground due to the low-level temperature inversion over the area.

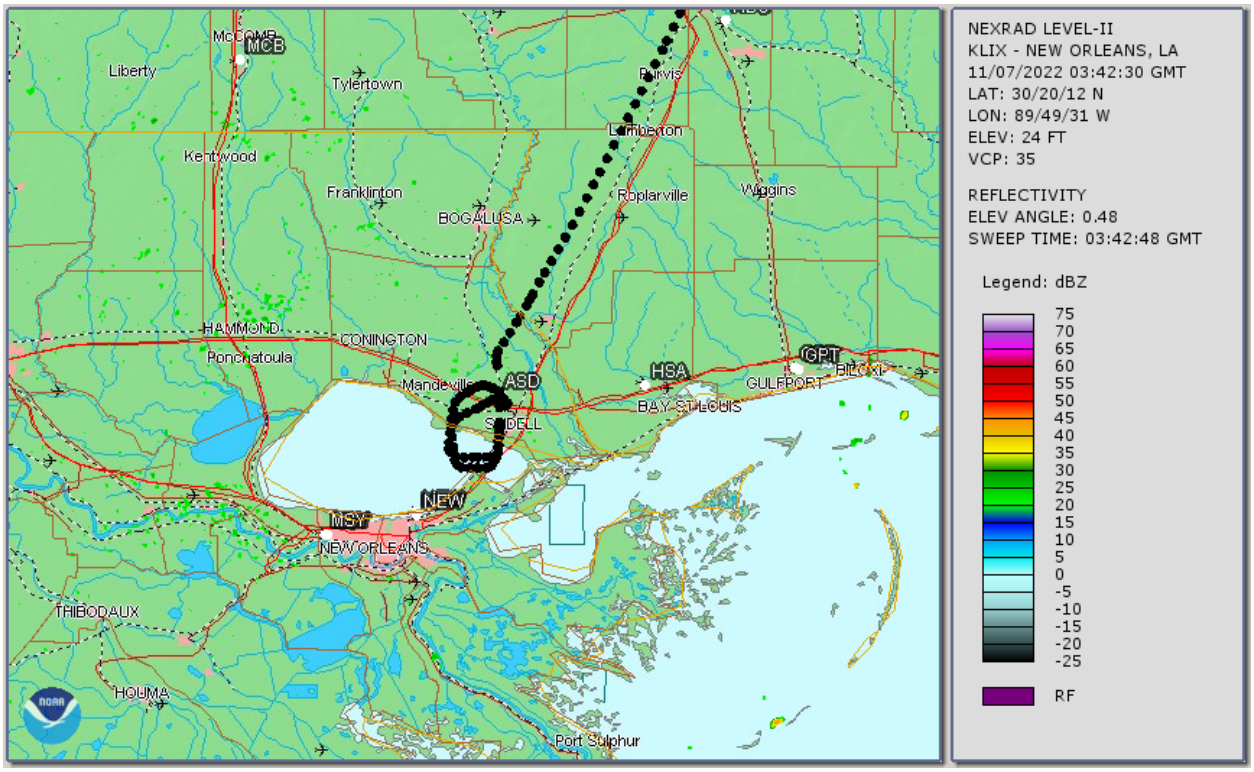

Figure 6 - NWS KLIX WSR-88D 0.48° base reflectivity image for 2142 CST with the flight track of N809DW overlaid.

7.0 NWS Forecasts

The local weather forecasts and advisories issued by the NWS New Orleans/Baton Rouge (KLIX) Weather Forecast Office (WFO), located in Slidell, Louisiana, and the aviation weather products issued by the NWS AWC valid for the period related to the accident are documented below.

7.1 Terminal Aerodrome Forecast

A Terminal Aerodrome Forecast (TAF) is a concise statement of the expected meteorological conditions significant to aviation for a specified time period within 5 statute miles of the center of the airport's runway complex (terminal). The TAFs issued by KLIX at 1732 CST prior to the flight's departure was as follows.

TAF KASD 062332Z 0700/0724 12005KT P6SM FEW250
FM070900 00000KT 5SM BR SCT250
TEMPO 0710/0714 2SM BR VV003
FM071430 VRB03KT P6SM SCT250
FM072100 09007KT P6SM SCT250=

The initial forecast issued at 1732 CST for KASD expected VFR conditions to prevail with winds from 120° at 5 knots, visibility better than 6 miles, with a few clouds

at 25,000 ft agl. MVFR conditions were expected after 0300 CST due to mist, with LIFR conditions temporarily between 0400 through 0800 CST in mist and sky obscured with vertical visibility at 300 ft agl.

The forecast was amended immediately prior to the accident at 2143 CST and became as follows.

AMD TAF KASD 070343Z 0704/0724 00000KT P6SM BKN004
FM070900 00000KT 5SM BR BKN003
TEMPO 0710/0714 2SM BR VV003
FM071430 VRB03KT P6SM SCT250
FM072100 09007KT P6SM SCT250=

The amended forecast for KASD issued at 2143 CST expected from 2200 CST winds calm, visibility better than 6 miles, ceiling broken at 400 ft agl. A temporary condition of visibility of 2 miles in mist with obscured skies at 300 ft were expected between 0400 through 0800 CST on November 7, 2022.

7.2 Area Forecast Discussion

The NWS Area Forecast Discussions (AFD) are issued by each WFO to describe the short-term weather conditions within their region with an aviation section that includes the general conditions as they relate to the creation of the TAF. Included in that bulletin is an Aviation Forecast Discussion which are useful for additional aviation-related issues that cannot be encoded into the TAF and provide some reasoning behind the forecast. The KLIX WFO issued the AFD at 1842 CST which was as follows.

FXUS64 KLIX 070042
AFDLIX

Area Forecast Discussion
National Weather Service New Orleans LA
642 PM CST Sun Nov 6 2022

...New UPDATE, AVIATION...

.UPDATE...
Issued at 609 PM CST Sun Nov 6 2022

Main concern is still dense fog potential. Over the land this is still a somewhat unclear/foggy forecast (pun intended). Typically, fog is difficult to form with temps in the 70s but most of the guidance still thinks we should cool into the lower to mid-60s over the northern half of the CWA. Right now, no changes will be made to the fog or morning low forecast but quickly glancing on current temps and dewpoints it would appear our low temp forecast is a little too warm. That said looking back at this morning when dewpoints were in the mid-60s to lower 70s last night temps drop pretty aggressively after 8z last night which finally allowed fog to develop. If that occurs again dense fog is likely. Other issue could be advection of marine fog. Already hearing reports of hazy conditions over the

Lake. If this continues to develop faster than expected, we may need to speed up the Marine dense fog advisory, but this would likely mean dense fog could move just inland a little faster than expected. /CAB/

.

.AVIATION...
(00Z TAFS)
Issued at 609 PM CST Sun Nov 6 2022

VFR conditions currently in place across all terminals but expecting impacts to begin before 6z and likely expand through the morning. Main concern is fog which could drop a few locations down to LIFR but confidence is not that high right now. Best potential is probably closer to the lake around MSY, NEW, HDC, and especially ASD. *After sunrise conditions should begin to improve but if there is dense fog right around the lake that may take a touch longer than any of the inland sites. /CAB/*

.

.LIX WATCHES/WARNINGS/ADVISORIES...
LA...Dense Fog Advisory from 11 PM this evening to 9 AM CST Monday *for LAZ034>037-039-046>048-056>058-071-076-079>086.*

GM...Dense Fog Advisory from 11 PM this evening to 9 AM CST Monday for GMZ530-532-534.

MS...Dense Fog Advisory from 11 PM this evening to 9 AM CST Monday for MSZ068>071-077-080>082.

GM...Dense Fog Advisory from 11 PM this evening to 9 AM CST Monday for GMZ532-534.

7.3 Public Weather Advisory

As indicated in the AFD above the NWS KLIX issued a dense fog advisory for the area at 1351 CST which extended over the accident site and was as follows. This advisory was not transmitted to aviation users.

WWUS74 KLIX 061951
NPWLIX

URGENT - WEATHER MESSAGE
National Weather Service New Orleans LA
151 PM CST Sun Nov 6 2022

LAZ034>037-039-046>048-056>058-071-076-079>086-MSZ068>071-077-080>082-070400-
/O.NEW.KLIX.FG.Y.0015.221107T0500Z-221107T1500Z/
Pointe Coupee-West Feliciana-East Feliciana-St. Helena-Washington-Iberville-West Baton Rouge-East Baton Rouge-Assumption-St. James-St. John The Baptist-Northern Tangipahoa-Southeast St. Tammany-Northern St. Tammany-Southwestern St. Tammany-Central Tangipahoa-Lower Tangipahoa-Northern Livingston-Southern Livingston-Western Ascension-Eastern Ascension-Wilkinson-Amite-Pike-Walthall-Pearl River-Hancock-Harrison-Jackson-Including the cities of New Roads, Lettsworth, Livonia, Spillman, St. Francisville, Wakefield, Jackson, Clinton, Felps, Darlington, Easleyville, Greensburg, Montpelier, Bogalusa, Enon, Franklinton, Bayou Sorrel, Plaquemine, White Castle, Port Allen, Addis, Brusly, Baton Rouge, Pierre Part, Labadieville, Paincourtville, Convent, Lutcher, Gramercy, Laplace, Reserve, Amite, Kentwood, Roseland,

*Wilmer, **Slidell,** Covington, Folsom, Bush, Mandeville, Madisonville, Hammond, Tickfaw, Independence, Robert, Ponchatoula, Akers, Denham Springs, Walker, Livingston, Springfield, Killian, Whitehall, French Settlement, Sorrento, Acy, Gonzales, Prairieville, Geismar, Donaldsonville, Centreville, Dolorosa, Fort Adams, Woodville, Gillsburg, Gloster, Smithdale, Liberty, McComb, Dexter, Salem, Tylertown, Crossroads, McNeil, Poplarville, Picayune, Bay St. Louis, Waveland, Diamondhead, Gulfport, Pascagoula, Ocean Springs, Moss Point, Gautier, and St. Martin*
151 PM CST Sun Nov 6 2022

...DENSE FOG ADVISORY IN EFFECT FROM 11 PM THIS EVENING TO 9 AM CST MONDAY...

**** WHAT...Visibility one quarter mile or less in dense fog.***

** WHERE...Along and north of the I-10/I-12 corridor.*

** WHEN...From 11 PM this evening to 9 AM CST Monday.*

** IMPACTS...Hazardous driving conditions due to low visibility.*

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If driving, slow down, use your headlights, and leave plenty of distance ahead of you.

The advisory was updated and reissued at 2157 CST immediately after the accident for dense fog over the area and included the Slidell area.

WWUS74 KLIX 070357
NPWLIX

URGENT - WEATHER MESSAGE
National Weather Service New Orleans LA
957 PM CST Sun Nov 6 2022

LAZ034>037-039-046>048-056>058-071-076-079>086-MSZ068>071-077-080>082-071200-
/O.CON.KLIX.FG.Y.0015.221107T0500Z-221107T1500Z/
Pointe Coupee-West Feliciana-East Feliciana-St. Helena-Washington-Iberville-West Baton Rouge-East Baton Rouge-Assumption-St. James-St. John The Baptist-Northern Tangipahoa-Southeast St. Tammany-Northern St. Tammany-Southwestern St. Tammany-Central Tangipahoa-Lower Tangipahoa-Northern Livingston-Southern Livingston-Western Ascension-Eastern Ascension-Wilkinson-Amite-Pike-Walthall-Pearl River-Hancock-Harrison-Jackson-Including the cities of New Roads, Lettsworth, Livonia, Spillman,St. Francisville, Wakefield, Jackson, Clinton, Felps, Darlington, Easleyville, Greensburg, Montpelier, Bogalusa, Enon, Franklinton, Bayou Sorrel, Plaquemine, White Castle, Port Allen, Addis, Brusly, Baton Rouge, Pierre Part, Labadieville, Paincourtville, Convent, Lutcher, Gramercy, Laplace, Reserve, Amite, Kentwood, Roseland, Wilmer, Slidell, Covington, Folsom, Bush, Mandeville, Madisonville, Hammond, Tickfaw, Independence, Robert, Ponchatoula, Akers, Denham Springs, Walker, Livingston, Springfield, Killian, Whitehall, French Settlement, Sorrento, Acy, Gonzales, Prairieville, Geismar, Donaldsonville, Centreville, Dolorosa, Fort Adams, Woodville, Gillsburg, Gloster, Smithdale, Liberty, McComb, Dexter, Salem, Tylertown, Crossroads, McNeil, Poplarville, Picayune, Bay St. Louis, Waveland, Diamondhead, Gulfport, Pascagoula, Ocean Springs, Moss Point,
Gautier, and St. Martin

957 PM CST Sun Nov 6 2022

...DENSE FOG ADVISORY REMAINS IN EFFECT UNTIL 9 AM CST MONDAY*...*

** WHAT...Visibility one quarter mile or less in dense fog.*

** WHERE...Along and north of the I-10/I-12 corridor.*

** WHEN...From 11 PM this evening to 9 AM CST Monday.*

** IMPACTS...Hazardous driving conditions due to low visibility.*

PRECAUTIONARY/PREPAREDNESS ACTIONS...

If driving, slow down, use your headlights, and leave plenty of distance ahead of you.

7.4 Graphic Forecasts 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 GFA 3-hour Surface and Cloud Forecast graphics issued at about 1900 CST and valid for 2100 CST are included as figures 7 and 8 respectively. The GFA 3-hour Surface Forecast valid at the time of departure depicted light southeasterly winds near 5 knots, with a G-AIRMET for IFR conditions extending over western Louisiana and Texas Gulf coast, which did not extend over the accident site at that time. The 3-hour Cloud forecast expected clear skies over the accident site.

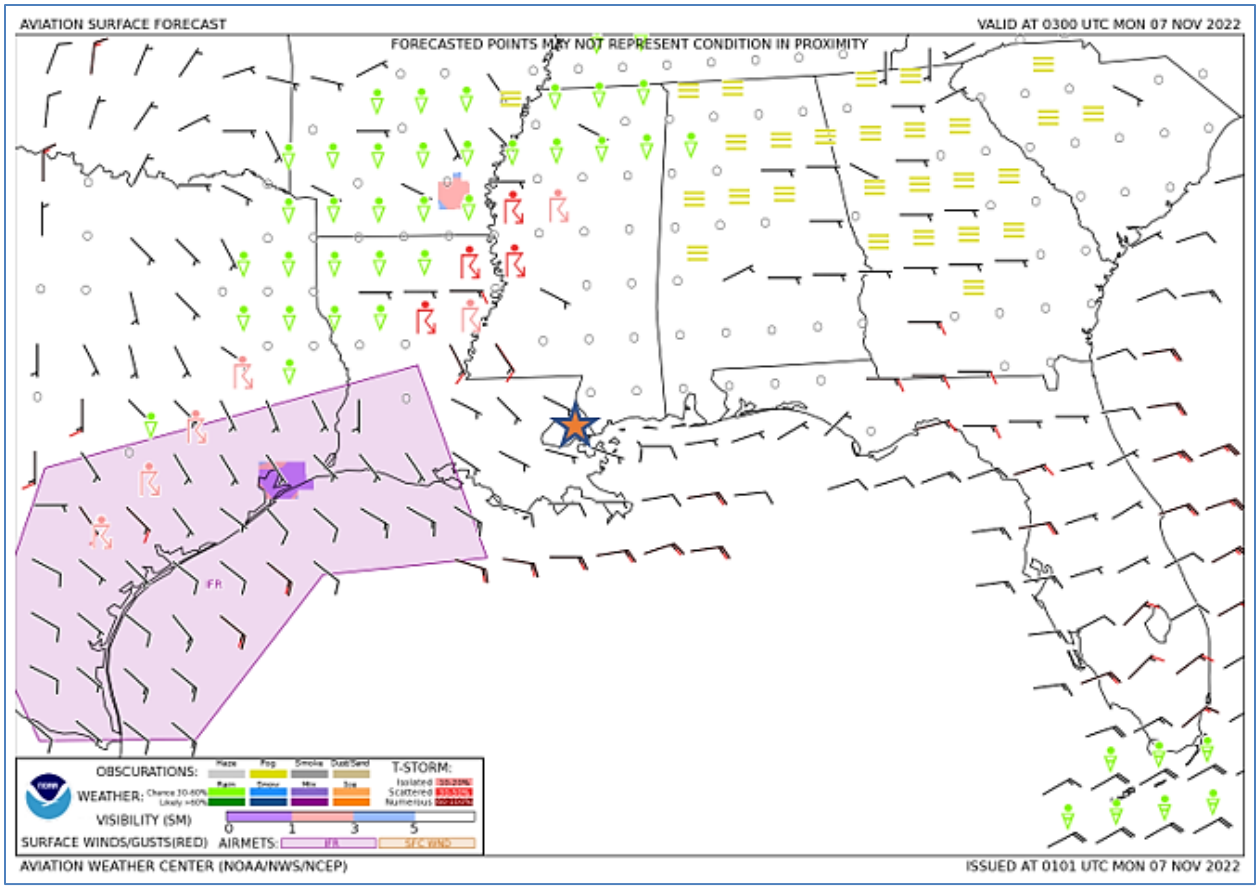

Figure 7 - 3-hour Graphic Forecast for Aviation (GFA) Surface Forecast valid for 2100 CST with the accident site marked by a red star, and the G-AIRMETs for IFR conditions and strong surface winds.

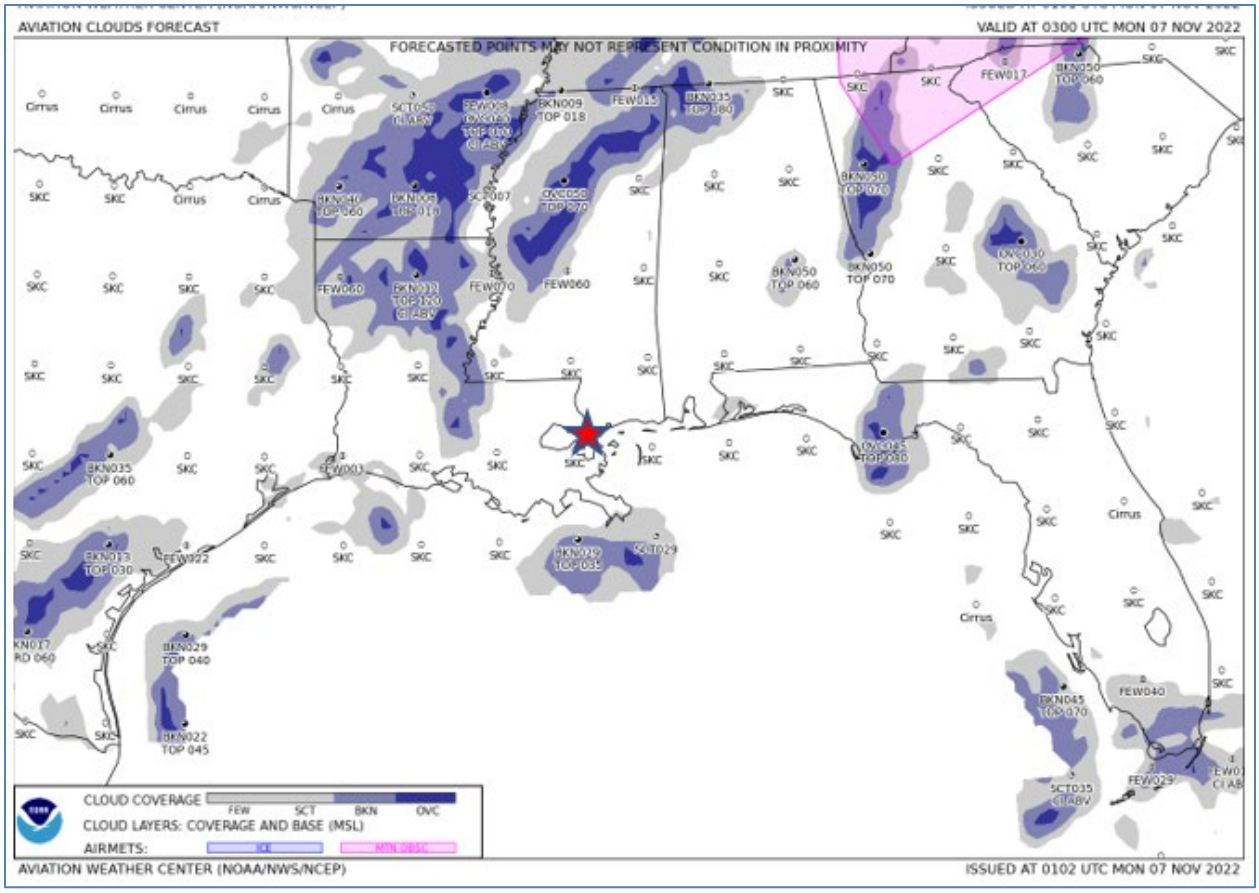

Figure 8 - 3-Hour Graphic Forecast for Aviation Cloud Forecast valid for 2100 CST with the accident site marked by the red star and G-AIRMETs for icing and mountain obscuration conditions.

7.5 NWS Inflight Weather Advisories

The NWS issues inflight weather advisories in the form of a Significant Meteorological Information (SIGMET), the Convective SIGMET, the Graphic-Airmen's Meteorological Information (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, Convective SIGMET, CWA or severe weather bulletins which were current surrounding the time of the accident. The NWS AWC did have a G-AIRMET which was issued at 2045 CST for IFR conditions over the accident site for ceiling below 1,000 ft agl and/or visibility below 3 miles in mist/fog. The G-AIRMET issued at 2045 CST is included as figure 9 with the approximate accident site marked by the red star.

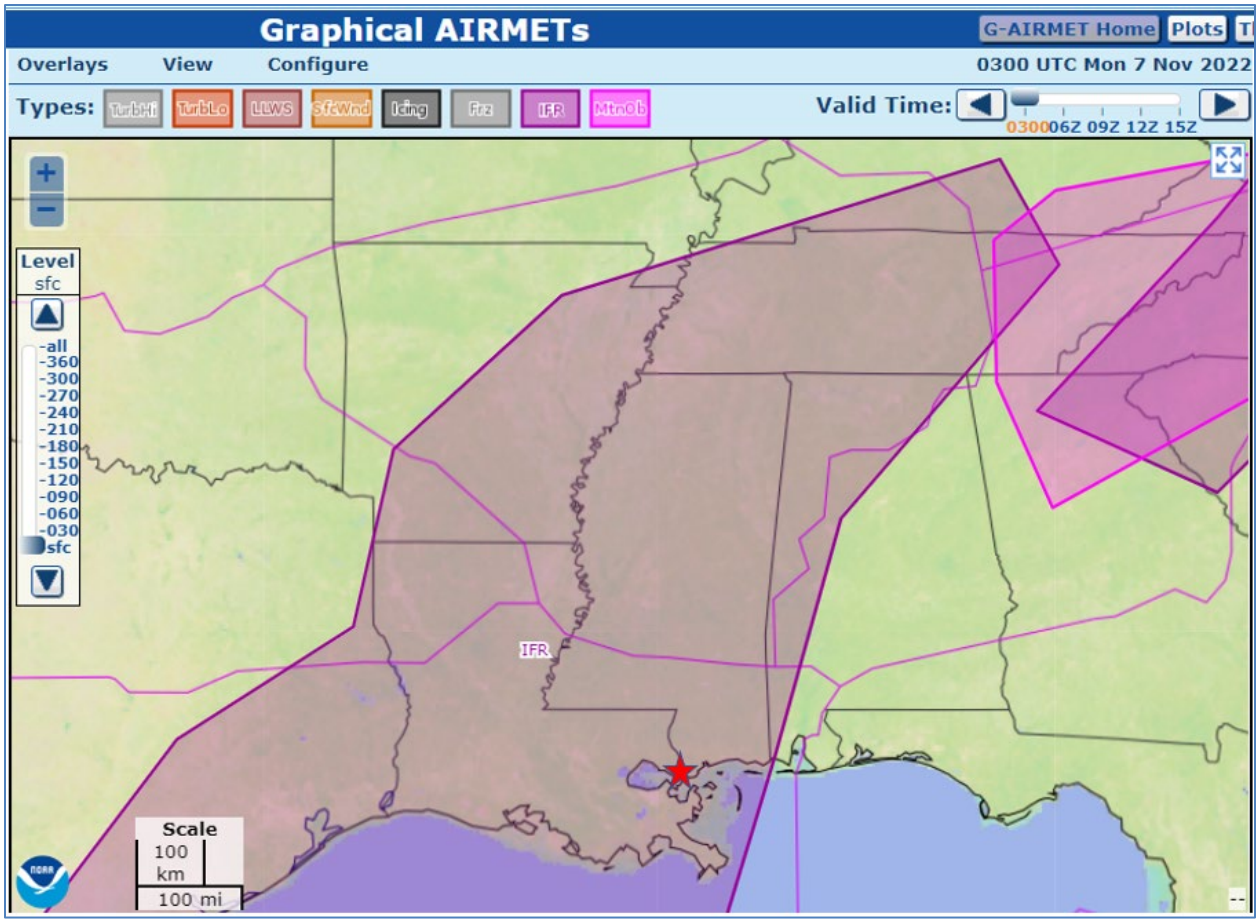

Figure 9 - G-AIRMET updated at 2145 CST and extended over the accident site for IFR conditions.

8.0 Astronomical Conditions

The United States Naval Observatory's website provided the following astronomical conditions for the Slidell, Louisiana on November 6, 2022.

Sun	Time (CST)
Begin Civil Twilight	0552
Sunrise	0617
Upper Transit	1143
Sunset	1708
End Civil Twilight	1733
Accident	***2145***

Moon	Time (CST)
Moonset	0425
Moonrise	1614

Accident	***2145***
Upper Transit	2246

At the time of the accident the Sun was more than 15° below the horizon, and the Moon was 65° above the horizon at an azimuth of 142°. The phase of the Moon was a waxing gibbous with 98% of the Moon's visible disk illuminated, a full Moon occurred on November 8, 2022.

Submitted by:

Donald Eick
NTSB Senior Meteorologist