



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

April 1, 2022

Specialist's Factual Report

METEOROLOGY

CEN22FA073

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A. ACCIDENT

Location: LaPlace, Louisiana
Date: December 14, 2021
Time: 1236 central standard time
1836 Coordinated Universal Time (UTC)
Aircraft: Bell 407 helicopter; Registration: N150AS

B. METEOROLOGIST

Paul Suffern
Senior Meteorologist
Operational Factors Division (AS-30)
National Transportation Safety Board

C. DETAILS OF THE INVESTIGATION

The National Transportation Safety Board's (NTSB) Meteorologist did not travel for this investigation and gathered the weather data for this investigation from official National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) sources and also from the National Centers for Environmental Information (NCEI). This Specialist's Factual Report contains the meteorological factors pertinent to the weather surrounding the accident time. All times are central standard time (CST) and are based upon the 24-hour clock, where local time is - 6 hours from UTC. Directions are referenced to true north and distances are in nautical miles. Heights are 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. airports.

The accident site was located at latitude 30.0777° N, Longitude 90.4044° W, at an approximate elevation of 5 feet (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 Weather Prediction Center, 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 joint NWS and Federal Aviation Administration (FAA) Advisory Circular "Aviation Weather Services", AC 00-45H.¹

¹

https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1030

1.1 Surface Analysis Chart

The NWS Surface Analysis Chart centered over the southern United States for 1200 CST is provided as figure 1 with the location of the accident site within the red circle. The chart did not depict any frontal boundaries near the accident site. A high-pressure system with a pressure of 1031-hectopascals (hPa) was located in eastern Tennessee with a low-pressure system at 1013-hPa located in central Kansas.

The station models around the accident site depicted air temperatures in the upper 60's degrees Fahrenheit (°F) to low 70's °F, dew point temperatures in the mid 60's °F with temperature-dew point spreads of 2°F or less, and cloudy skies.

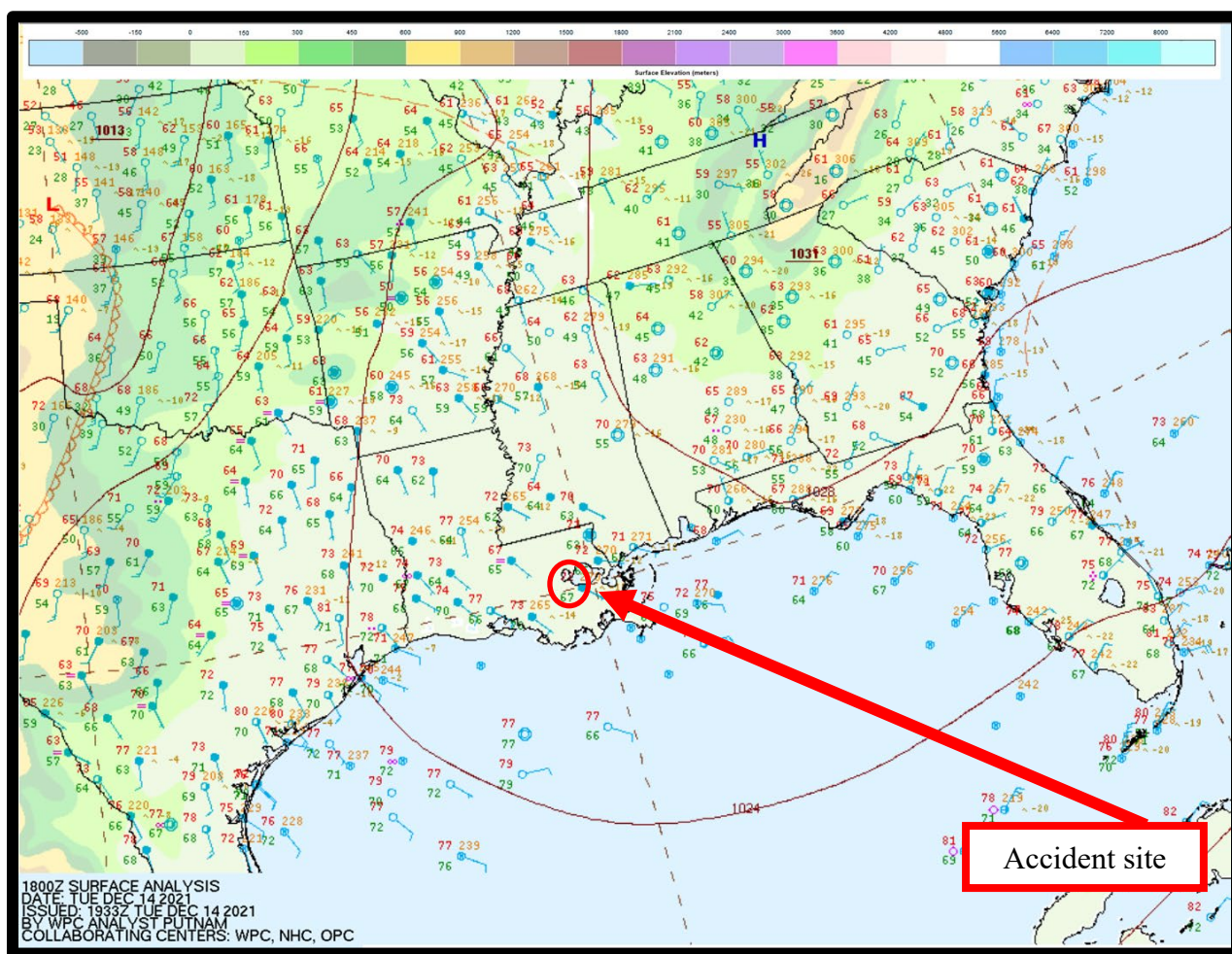


Figure 1 – NWS Surface Analysis Chart for 1200 CST.

2.0 Surface Observations

The area surrounding the accident site was documented using official Aviation Routine Weather Reports (METARs) and Specials (SPECIs). The following observations were taken from standard code and are provided in plain language. Figure 2 is a local sectional chart with the accident site and the closest weather reporting locations marked.



Figure 2 – Sectional map of the accident area with the location of the accident site and surface observation sites.

Port of South Louisiana Executive Regional Airport (KAPS) had the closest official weather station to the accident site. KAPS had an Automated Weather Observing System (AWOS²) whose longline³ reports were not augmented. The KAPS AWOS was located 9 miles west of the accident site, at an elevation of 7 ft, and had a 1° westerly magnetic variation⁴ (figure 2). KAPS AWOS observations surrounding the accident time are shown below:⁵

[1115 CST] METAR KAPS 141715Z AUTO 00000KT 1/4SM FG OVC002 18/18 A3035
RMK AO2 T01830180

[1135 CST] METAR KAPS 141735Z AUTO 07003KT 1 1/2SM BR OVC002 19/18 A3034
RMK AO2 T01850183

[1155 CST] METAR KAPS 141755Z AUTO 00000KT 2 1/2SM BR OVC002 19/19 A3033
RMK AO2 T01870185 10189 20162

[1215 CST] METAR KAPS 141815Z AUTO 04003KT 3SM BR OVC004 19/19 A3032 RMK
AO2 T01910189

***[1235 CST] METAR KAPS 141835Z AUTO 04003KT 4SM BR BKN004 OVC010 19/19
A3031 RMK AO2 T01940191***

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***[1255 CST] METAR KAPS 141855Z AUTO 02005KT 4SM BR BKN006 OVC012 20/19
A3030 RMK AO2 T01960192***

[1315 CST] METAR KAPS 141915Z AUTO 06004KT 5SM BR BKN006 BKN012 20/19
A3030 RMK AO2 T02000194

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

² AWOS – Automated Weather Observing System is equipped with meteorological instruments to 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.

³ “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.

⁴ Magnetic variation – The angle (at a particular location) between magnetic north and true north. Latest measurement taken from <https://skyvector.com/>

⁵ The bold sections in this NWS product and the rest of the products in this report are intended to highlight the text that directly reference the weather conditions that affected the accident location around the accident time. The local times in this section next to the METARs are provided for quick reference between UTC and local times around the accident time.

KAPS weather at 1235 CST, automated, wind from 040° at 3 knots, visibility 4 miles, mist, broken ceiling at 400 ft above ground level (agl), overcast skies at 1,000 ft agl, temperature of 19° Celsius (C), dew point temperature 19°C, and an altimeter setting of 30.31 inches of mercury (inHg). Remarks, station with a precipitation discriminator, temperature 19.4°C, dew point temperature 19.1°C.

KAPS weather at 1255 CST, automated, wind from 020° at 5 knots, visibility 4 miles, mist, broken ceiling at 600 ft agl, overcast skies at 1,200 ft agl, temperature of 20°C, dew point temperature 19°C, and an altimeter setting of 30.30 inHg. Remarks, station with a precipitation discriminator, temperature 19.6°C, dew point temperature 19.2°C.

Louis Armstrong New Orleans International Airport (KMSY) had the second closest official weather station to the accident site. KMSY had an Automated Surface Observing System (ASOS⁶) whose longline reports were supplemented by an official weather observer. The KMSY ASOS was located 9 miles southeast of the accident site, at an elevation of 4 ft, and had a 1° westerly magnetic variation (figure 2). KMSY AWOS observations surrounding the accident time are shown below:

[1044 CST] SPECI KMSY 141644Z 12005KT 5SM BR OVC005 20/19 A3035 RMK AO2 T02000189

[1053 CST] METAR KMSY 141653Z 15005KT 6SM BR OVC005 21/19 A3035 RMK AO2 SLP280 T02060194

[1153 CST] METAR KMSY 141753Z 13005KT 10SM BKN009 BKN014 OVC250 22/19 A3032 RMK AO2 SLP270 T02220194 10222 20167 58015

[1200 CST] SPECI KMSY 141800Z 14007KT 10SM BKN011 BKN016 BKN250 22/19 A3032 RMK AO2 T02220189

[1220 CST] SPECI KMSY 141820Z 11008KT 10SM BKN016 BKN250 23/19 A3031 RMK AO2 T02280189

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[1240 CST] SPECI KMSY 141840Z 12007KT 10SM SCT020 BKN250 24/19 A3030 RMK AO2 T02390189

[1253 CST] METAR KMSY 141853Z 14005KT 10SM SCT020 BKN250 23/18 A3029 RMK AO2 SLP261 T02330183

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

⁶ ASOS – Automated Surface Observing System is equipped with meteorological instruments to observe and report wind, visibility, weather phenomena, ceiling, temperature, dewpoint, altimeter, and barometric pressure.

KMSY weather at 1220 CST, wind from 110° at 8 knots, visibility 10 miles or greater, broken ceiling at 1,600 ft agl, broken skies at 25,000 ft agl, temperature of 23°C, dew point temperature 19°C, and an altimeter setting of 30.31 inHg. Remarks, station with a precipitation discriminator, temperature 22.8°C, dew point temperature 18.9°C.

KMSY weather at 1240 CST, wind from 120° at 7 knots, visibility 10 miles or greater, scattered clouds at 2,000 ft agl, broken ceiling at 25,000 ft agl, temperature of 24°C, dew point temperature 19°C, and an altimeter setting of 30.30 inHg. Remarks, station with a precipitation discriminator, temperature 23.9°C, dew point temperature 18.9°C.

Louisiana Regional Airport (KREG) had the closest official weather station to the departure location. KREG had an AWOS whose longline reports were not augmented. The KREG AWOS was located 28 miles west-northwest of the accident site, at an elevation of 14 ft, and had a 1° westerly magnetic variation (figure 2). KAPS AWOS observations surrounding the accident time are shown below:

[1115 CST] METAR KREG 141715Z AUTO 12003KT 5SM BR OVC004 20/20 A3034 RMK AO2 T01970195

[1135 CST] METAR KREG 141735Z AUTO 09004KT 4SM BR OVC004 20/20 A3033 RMK AO2 T01990195

[1155 CST] METAR KREG 141755Z AUTO 13003KT 4SM BR OVC004 20/20 A3032 RMK AO2 T02000197 10200 20163

[1215 CST] METAR KREG 141815Z AUTO 00000KT 5SM BR OVC004 20/20 A3031 RMK AO2 T02030200

DEPARTURE TIME ~1219 CST

[1235 CST] METAR KREG 141835Z AUTO 10004KT 7SM OVC004 20/20 A3030 RMK AO2 T02040201

ACCIDENT TIME 1236 CST

[1255 CST] METAR KREG 141855Z AUTO 13003KT 7SM OVC006 21/21 A3030 RMK AO2 T02090207

[1315 CST] METAR KREG 141915Z AUTO 00000KT 7SM OVC008 22/20 A3029 RMK AO2 T02170197

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

KREG weather at 1235 CST, automated, wind from 100° at 4 knots, visibility 7 miles, overcast ceiling at 400 ft agl, temperature of 20°C, dew point temperature 20°C, and an altimeter setting of 30.30 inHg. Remarks, station with a precipitation discriminator, temperature 20.4°C, dew point temperature 20.1°C.

KREG weather at 1255 CST, automated, wind from 130° at 3 knots, visibility 7 miles, overcast ceiling at 600 ft agl, temperature of 21°C, dew point temperature 21°C, and an altimeter setting of 30.30 inHg. Remarks, station with a precipitation discriminator, temperature 20.9°C, dew point temperature 20.7°C.

The observations from KAPS and KREG surrounding the accident time indicated LIFR⁷ conditions in mist.

3.0 Upper Air Sounding

A High-Resolution Rapid Refresh (HRRR)⁸ model sounding was created for the accident site for 1200 CST⁹ with a surface elevation of sea level.¹⁰ The 1200 CST HRRR sounding was plotted on a standard Skew-T Log P diagram¹¹ with the derived stability parameters included in figure 3 with data from the surface to 700-hPa (or approximately 10,000 ft above msl). These data were analyzed using the RAOB¹² software package. The sounding depicted the lifted condensation level (LCL)¹³ at 465 ft agl, the level of free convection (LFC)¹⁴ at 497 ft agl, and the convective condensation level (CCL)¹⁵ at 2,837 ft agl. The freezing level was located at 13,004 ft. The precipitable water value was 1.33 inches.

⁷ 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-category of IFR.

**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.

⁸ 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.

⁹ 1200 CST was the closest time with weather conditions similar to accident time.

¹⁰ HRRR sounding was created using NOAA Air Resource Laboratory: <https://ready.arl.noaa.gov/READYamet.php>

¹¹ Skew T log P diagram – is a standard meteorological plot 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.

¹² RAOB – (The complete Rawinsonde Observation program) is an interactive sounding analysis program developed by Eosonde Research Services, The Villages, Florida.

¹³ LCL - The height at which a parcel of moist air becomes saturated when it is lifted dry adiabatically.

¹⁴ LFC – The level at which a parcel of saturated air becomes warmer than the surrounding air and begins to rise freely. This occurs most readily in a conditionally unstable atmosphere.

¹⁵ 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.

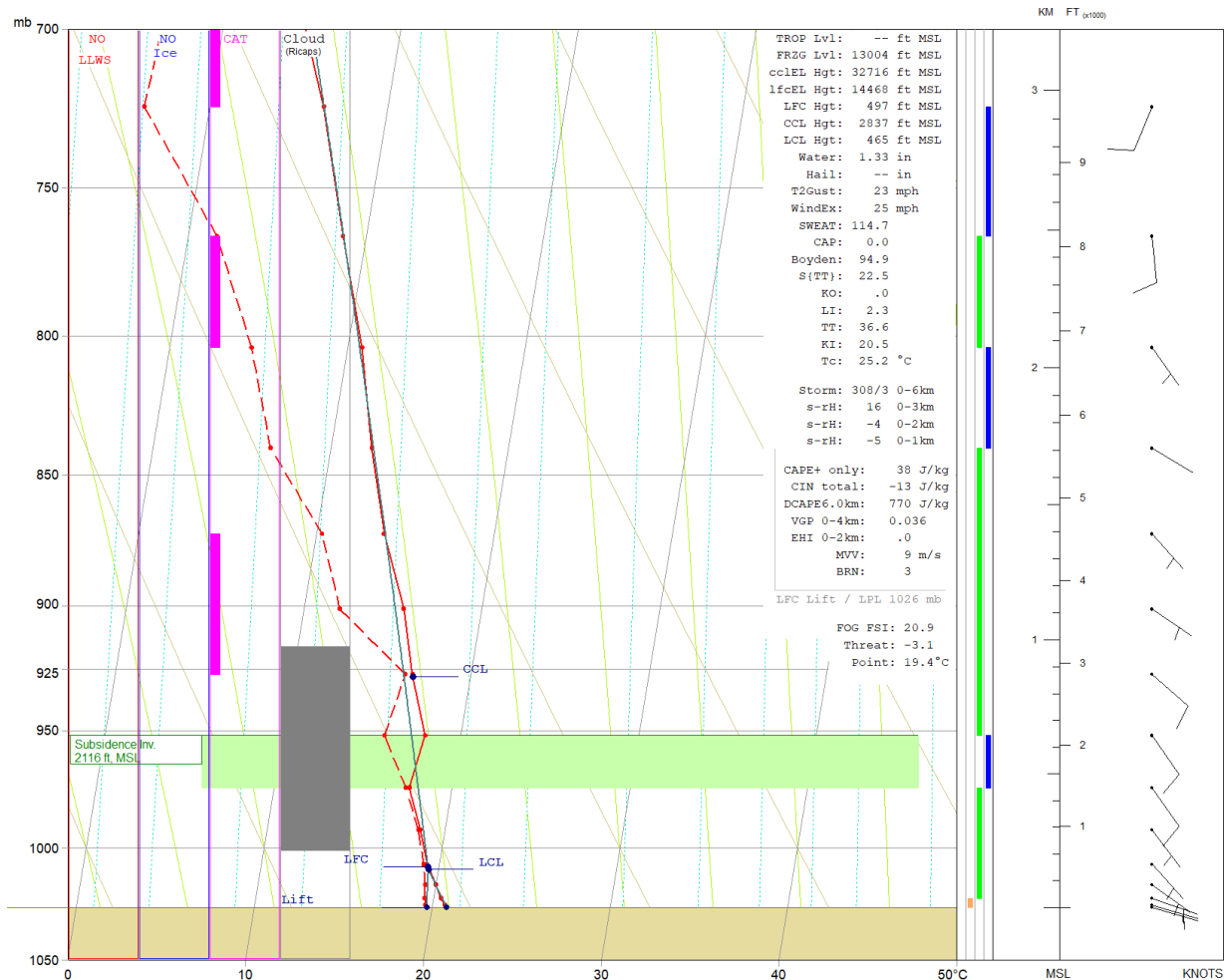


Figure 3 – 1200 CST HRRR sounding.

The 1200 CST HRRR sounding for the accident site indicated a conditionally unstable environment from the surface through 5,500 ft, with a stable layer between 1,750 and 2,100 ft. Clouds were indicated by RAOB to be present from 600 ft through 3,250 ft. The top of a subsidence inversion¹⁶ was noted at 2,116 ft. No icing potential was indicated by RAOB below 10,000 ft.

The 1200 CST HRRR sounding wind profile indicated a near surface wind from 107° at 3 knots with the wind remaining southeasterly through 7,000 ft. The wind speed remained between 3 to 10 knots between the surface and 7,000 ft. RAOB did not indicate the possibility of low-level wind shear (LLWS), but did indicate the possibility of light clear-air turbulence below 3,000 ft.

¹⁶ Inversion – A departure from the usual decrease of the value of an atmospheric property with increasing altitude; also, the layer through which this departure occurs (the "inversion layer"), or the lowest altitude at which the departure is found (the "base of the inversion").

4.0 Satellite Data

Geostationary Operational Environmental Satellite number 16 (GOES-16) visible and infrared data were obtained from an archive at the Space Science Engineering Center at the University of Wisconsin-Madison in Madison, Wisconsin, and processed using the Man-computer Interactive Data Access System software. Visible and infrared imagery (GOES-16 bands 2 and 13) at wavelengths of 0.64 microns (μm) and 10.3 μm , respectively, were retrieved for the period from 0900 CST through 1500 CST and reviewed, and the closest images to the time of the accident were documented.

Figure 4 presents the GOES-16 visible imagery from 1240 CST at 3X magnification with the accident site highlighted with a red square. There was cloud cover above the accident site and to the north and west of the accident site. The cloud cover was moving from south to north at the accident time (attachment 1). Figure 5 presents the GOES-16 infrared imagery from 1240 CST at 6X magnification with the accident site highlighted with a red square. The lower brightness temperatures (red and yellow colors; higher cloud tops) were located to the west of the accident site. The brightness temperature of about 286 Kelvin above the accident site would have been near 5,000 ft based on the vertical temperature profile provided by the 1200 CST HRRR sounding. It should be noted these figures have not been corrected for any parallax error.

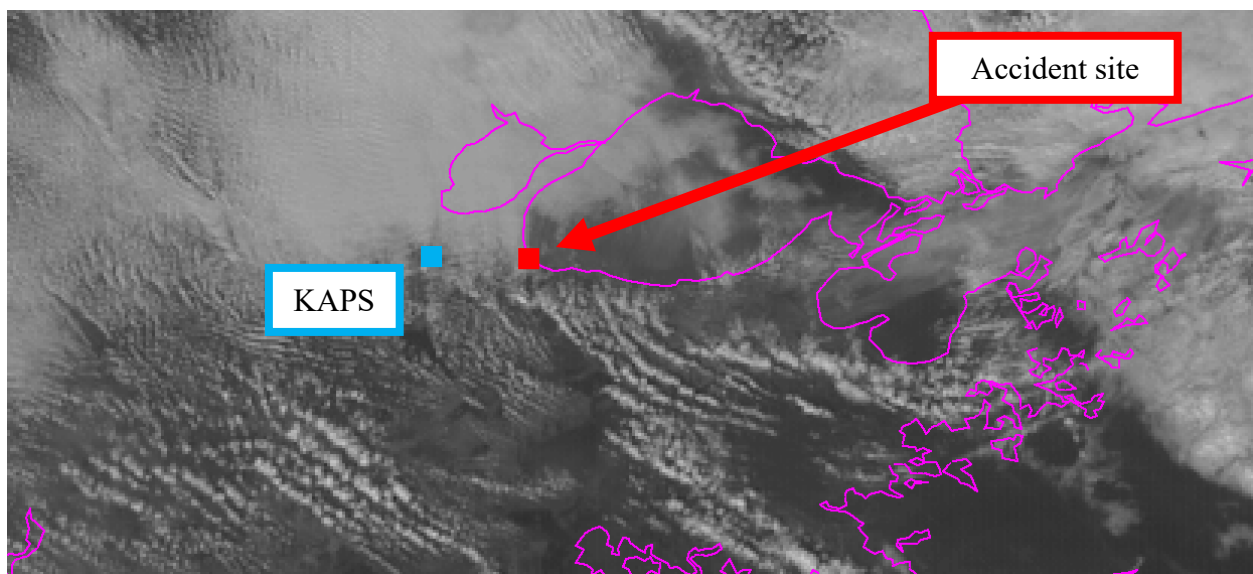


Figure 4 – GOES-16 visible image at 1240 CST.

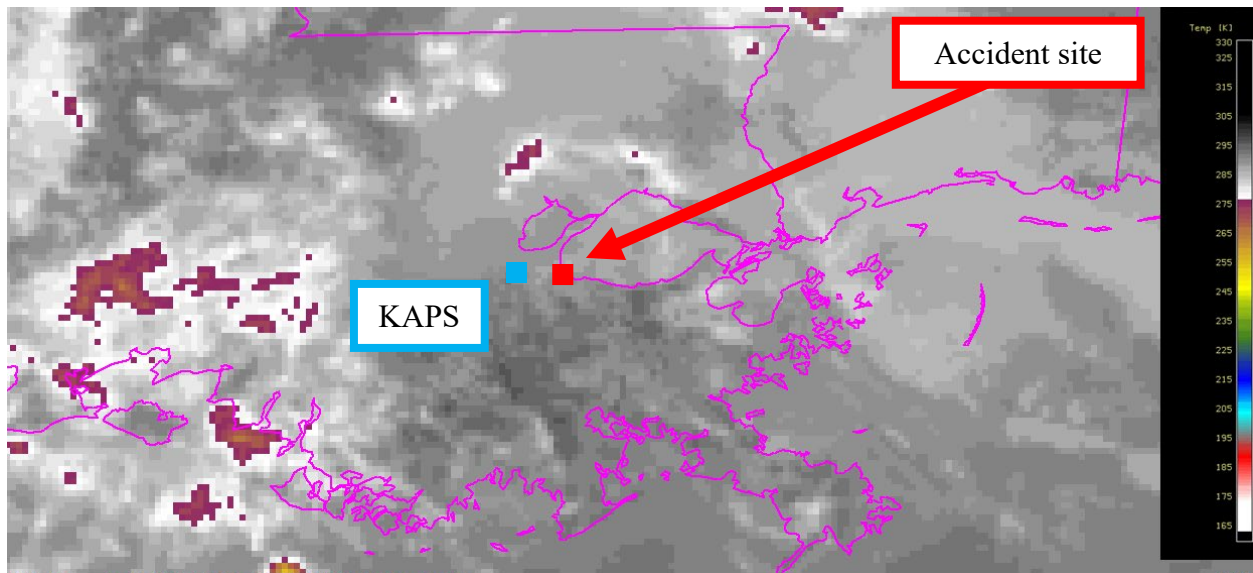


Figure 5 – GOES-16 infrared image at 1240 CST.

5.0 Regional Radar Imagery Information

A regional view of the NWS National Reflectivity Mosaic is included as figure 6 for 1240 CST with the approximate location of the accident site marked by a red circle. The image depicted no echoes above the accident site at the accident time.

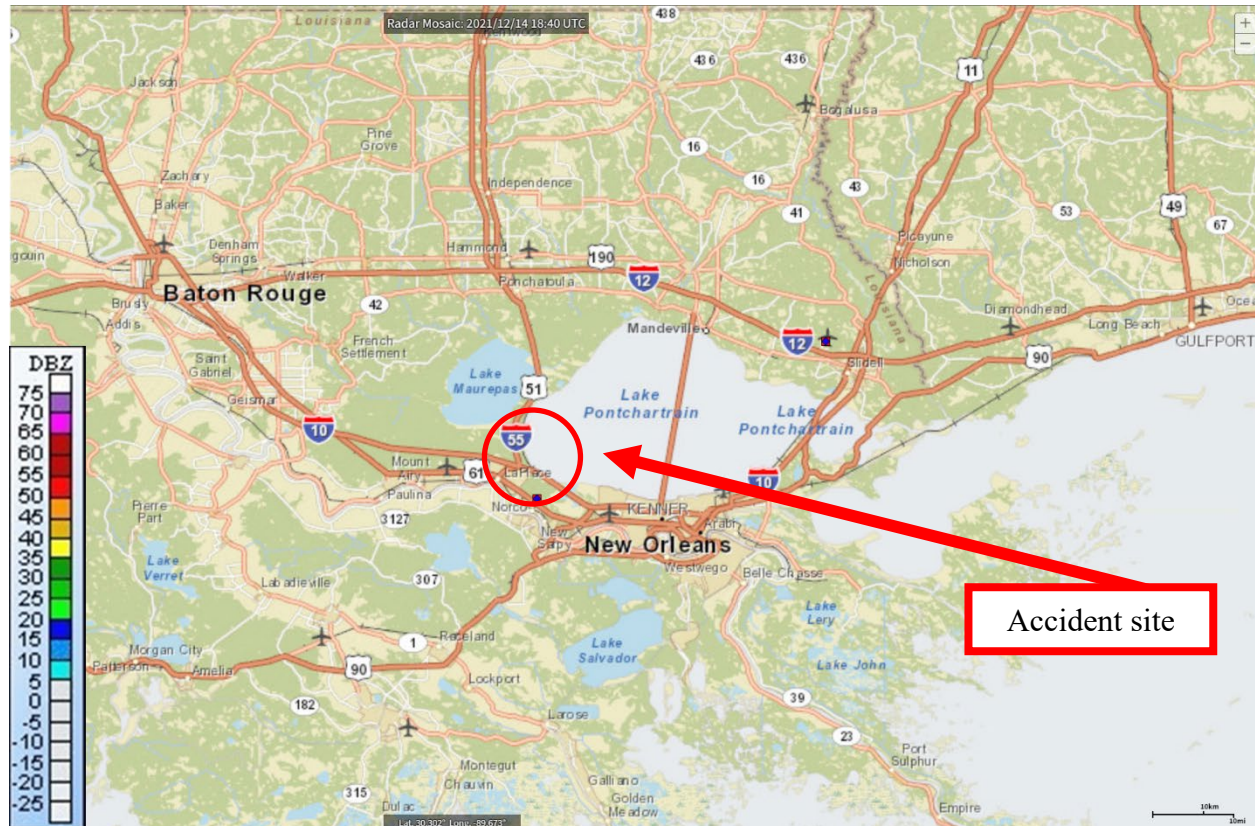


Figure 6 – National Reflectivity Mosaic for 1240 CST.

6.0 Pilot Reports

The longline-disseminated pilot reports¹⁷ (PIREPs) distributed into the national airspace (NAS) were reviewed from about two hours prior to the accident time to two hours after the accident time and the PIREPs within 100 miles of the accident site below 18,000 ft are shown below:

GPT UA /OV GPT/TM 1638/FL009/TP B717/SK OVC009

GPT UA /OV GPT/TM 1641/FL012/TP B717/RM TOPS 012

BTR UA /OV RWY 13 ARR/TM 1641/FL003/TP CRJ9/SK OVC002/WX 2 1/2SM/TA 17/WV 12005

HBG UA /OV KHBG/TM 1649/FLUNKN/TP C182/RM RPTD BASES 015 ZHU

HSA UA /OV HSA360002/TM 1705/FL0007/TP T2/TB BASE REPORT 700 FT

¹⁷ Only pilot reports with the World Meteorological Organization headers UBLA**, UBMS**, and UBAL** were considered. These do not include pilot reports only broadcast via radio.

GPT UA /OV GPT315003/TM 1744/FL011/TP GOSHAWK/SK OVC011

GPT UA /OV FAP RY 14/TM 1802/FL011/TP C130/SK BASES 011

GPT UA /OV DEP RY 14/TM 1825/FL008/TP C130/SK BASES 008

GPT UA /OV FAP RY 14/TM 1840/FL010/TP TEX2/SK BASES 010

BTR UA /OV 3 SM SW OF BTR/TM 1950/FL014/TP BE55/SK BKN/RM BASES 014BKN

GPT UA /OV GPT/TM 2028/FL037/TP DA40

7.0 Significant Meteorological Information

There were no non-convective or convective Significant Meteorological Information (SIGMET) advisories valid for the accident site at the accident time.

8.0 Center Weather Service Advisories

The Houston (ZHU) Air Route Traffic Control Center (ARTCC) Center Weather Service Unit (CWSU) was responsible for the accident region. There were no Center Weather Advisories (CWA) valid for the accident site at the accident time issued by ZHU CWSU.

9.0 Airmen's Meteorological Information

There was an Airmen's Meteorological Information (AIRMET) advisory Sierra valid for the accident site at the accident time. The AIRMET Sierra issued at 0845 CST forecast IFR conditions in mist and fog through 1500 CST:

WAUS44 KKCI 141445

WA4S

-DFWS WA 141445

AIRMET SIERRA UPDT 3 FOR IFR VALID UNTIL 142100

.

**AIRMET IFR...OK TX AR LA MS AL KS MO AND CSTL WTRS
FROM 50WSW MCI TO MEI TO 40W CEW TO 130ESE LEV TO 120SSW LCH TO
80E BRO TO 90W BRO TO DLF TO 50W DLF TO 50ESE FST TO 30W SPS TO
40SSW SLN TO 50WSW MCI
CIG BLW 010/VIS BLW 3SM BR/FG. CONDS CONTG BYD 21Z THRU 03Z.**

....

10.0 Graphical Forecasts for Aviation

The Graphical Forecasts for Aviation (GFA) products issued before the accident flight and valid at 1200 CST are shown in attachment 2. The GFA surface forecast applicable to the accident region that was valid before the accident flight's departure for times surrounding the accident time indicated VFR surface visibilities with a southeast surface wind at 5 knots. The GFA cloud forecast applicable to the accident region that was valid before departure for times surrounding the accident time indicated broken to overcast cloud coverage with ceilings between 300 and 1,000 ft and cloud tops to 2,900 ft. The Graphical AIRMET¹⁸ (G-AIRMET) Sierra for IFR conditions was overlaid on the GFA surface forecast imagery. The only human-generated information reflected in the two GFA products were the G-AIRMETs. For more information, please see attachment 2.

11.0 Terminal Aerodrome Forecast

KMSY was the closest airport to the accident site with an NWS Terminal Aerodrome Forecast¹⁹ (TAF). The KMSY TAF valid at the time of the accident was issued at 1138 CST and was valid for a 24-hour period beginning at 1200 CST. The 1138 CST TAF for KMSY was as follows:

```
FTUS44 KLIX 141738
TAFMSY
TAF
KMSY 141738Z 1418/1524 12008KT P6SM BKN008
FM142000 11008KT P6SM SCT008 BKN040
FM150800 VRB04KT 3SM BR BKN010
FM151000 VRB04KT 1/4SM FG VV003
FM151600 12008KT 3SM BR BKN008
FM151700 14009KT P6SM BKN050=
```

Between 1200 and 1400 CST the forecast expected a wind from 120° at 8 knots, greater than 6 miles visibility, and a broken ceiling at 800 ft agl.

12.0 NWS Area Forecast Discussion

The NWS office in New Orleans, Louisiana, (WFO LIX) was responsible for the public forecast and TAFs in the region of the accident site. WFO LIX issued the following Area Forecast Discussion at 0601 CST identifying improving conditions expected by 0900 CST:

```
FXUS64 KLIX 141201
AFDLIX
```

```
Area Forecast Discussion
National Weather Service New Orleans LA
601 AM CST Tue Dec 14 2021
```

.AVIATION(12Z TAFs)...

¹⁸ <https://aviationweather.gov/gairmet>

¹⁹ According to NWS Instruction 10-813: "An NWS TAF consists of the expected meteorological conditions significant to aviation at an airport for a specified time period. For the U.S., this is the area within five (5) statute miles (SM) of the center of an airport's runway complex." www.nws.noaa.gov/directives/sym/pd01008013curr.pdf

Some areas of patchy dense fog have formed that may hang around until just after sunrise, mainly for the river parishes. This brings LIFR conditions for some terminals, while others not effected by the fog sit in VFR. The fog should start to clear out around 15Z, bringing all terminals back to VFR for the day. Another decent setup for some radiation fog tonight, that will likely return some airports to LIFR conditions. Fog looks to start to form after 06Z, but will vary by airport location. HL

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.PREV DISCUSSION... /issued 457 AM CST Tue Dec 14 2021/

SHORT TERM(Today through Thursday)...

We're seeing some areas of lower visibilities across our CWA this morning, due to areas of patchy fog. Areas of fog likely continue for some areas, with conditions starting to improve around or after 15Z. Temperatures gradually increase this week, with high temps today expected in the mid 70s for most areas. High pressure will continue to dominate the short term forecast period, promoting easterly flow at the surface and very low PoPs. This trend continues on Wednesday and into Thursday, with continuing warmer temperatures that are expected to reach back near or above 80. With record high temperatures most of the this week somewhere in the mid 70s to mid 80s, it is possible we could break some records.

The main forecast concern in the short term will be the fog potential. Tonight we have a decent environmental setup for radiation fog, with light winds and a gradually increasing amount of moisture. patchy fog looks likely for many areas, with some localized areas of dense fog possible. Taking a look at short range model data, some very small amounts of QPF are showing up. With no real chances of rain over land, this QPF is most likely coming from models picking up on some areas of dense fog.

-HL

LONG TERM (Friday through Tuesday)...

At the start of this portion of the forecast period, the once eastern CONUS dominating upper level ridge will already be cut down to south of the Appalachian Mountains after one northern stream trough passes across the Great Lakes. Behind that trough, the next trough will be passing east across then northern/central Rocky Mountains. With the upper ridge still encompassing the southeastern US, still looking at near record high temps locally. One change from previous days is the potential for showers. As that Rockies trough approaches, it will draw in moisture from the tropics. Coverage isn't looking particularly high nor is shower intensity. Nevertheless, introduce chance POPs at this point. Its more of a precursor, to real rain chances this weekend.

The trough in the Rockies Friday will race eastward, passing across the mid Mississippi Valley and Great Lakes by Sunday morning. It

really doesn't appear to dig much per GFS solution. The ECMWF suggest a deeper trough and full FROPA but lacks run to run solution. So, keeping with the GFS solution, first boundary associated with the northern stream approaches the local area Saturday afternoon. Shear values on model soundings look way to weak to support severe weather. However, relatively cold mid levels could possibly support small hail or at least some thunderstorms. Progressive pattern brings a more southern stream trough across the lower Mississippi Valley Sunday night. The close proximity of the base of the trough will bring continued high rain chances. Strong surface inversion will be in place as the rain is all post frontal and induced by isentropic lift. Thus, not a thunder producing situation. Those showers will continue shifting east and ending for the local area as another trough the north phases with the southern stream one. High pressure looks to build and and possibly bring temps back down to climo.

MEFFER

MARINE...

High pressure will continue to dominate at the surface today and tomorrow, keeping easterly flow through Wednesday. As this high pressure is slowly pushed east by a trough that forms in the southern stream and eventually moves up towards the Great lakes region later in the week, we will see flow transition to southeasterly. Some chances for showers return on Friday as that SE flow builds moisture back into the area, with our next cold front expected into the weekend. HL

&&

.PRELIMINARY POINT TEMPS/POPS...

MCB	75	58	74	61	/	0	0	0	0
BTR	77	61	77	63	/	0	0	0	0
ASD	76	58	76	61	/	0	0	0	0
MSY	75	64	77	66	/	0	0	0	0
GPT	72	58	73	61	/	0	0	0	0
PQL	73	55	75	60	/	0	0	0	0

&&

.LIX WATCHES/WARNINGS/ADVISORIES...

LA...None.

GM...None.

MS...None.

GM...None.

&&

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13.0 Winds and Temperature Aloft Forecast

The NWS 0758 CST Winds and Temperature Aloft forecast valid for the closest point to the accident site is included below:

```
FBUS31 KWN0 141358  
FD1US1  
DATA BASED ON 141200Z  
VALID 141800Z    FOR USE 1400-2100Z. TEMPS NEG ABV 24000  
  
FT   3000    6000    9000    12000    18000    24000    30000    34000    39000  
MSY 1709 1710+13 2008+08 2610+02 3217-08 3118-20 282338 302548 292959
```

The closest forecast point to the accident site was New Orleans, Louisiana (MSY). The 0758 CST MSY forecast for use between 0800 CST and 1500 CST indicated a wind at 3,000 ft from 170° at 9 knots and a wind at 6,000 ft from 170° at 10 knots with a temperature of 13°C.

14.0 Pilot Weather Briefing

The accident pilot did not request weather information²⁰ from Leidos Flight Service.

A search of archived ForeFlight information indicated that the accident pilot did not request nor view weather information or imagery from ForeFlight before the accident flight. The accident pilot did enter several route strings into his subscription on the ForeFlight App before the accident flight. For more information please see attachment 3. There is no record of the accident pilot receiving or retrieving any other weather information before or during the accident flight.

15.0 Witness Information

Following the accident time, a United States Coast Guard (USCG) helicopter was launched to the scene to provide search and rescue support. The USCG pilot reported that the weather was VFR at KMSY, but deteriorated from MVFR to IFR to the west. The USCG pilot indicated from a top-down view, there was very dense fog from all areas with a tall column of clouds to the west of the power line at the intersection where the accident occurred. For more information please see attachment 4.

²⁰ https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-92.pdf

16.0 Astronomical Data

The astronomical data obtained for the accident site on December 14, 2021, indicated the following:

SUN	
Begin civil twilight	0623 CST
Sunrise	0649 CST
Sun transit	1156 CST
Accident time	1236 CST²¹
Sunset	1703 CST
End civil twilight	1730 CST

At the time of the accident the Sun was located at an altitude of 35.81° and azimuth of 191.48°.

E. LIST OF ATTACHMENTS

Attachment 1 – GOES-16 visible satellite animation between 1136 and 1336 CST

Attachment 2 – GFA valid for the accident site at accident time

Attachment 3 – ForeFlight correspondence

Attachment 4 – USCG correspondence

Submitted by:

Paul Suffern
Senior Meteorologist

²¹ Inserted accident time for reference and context.