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

CEN23FA125

METEOROLOGY

Specialist's Factual Report

April 4, 2023

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A. ACCIDENT

Location: Port O'Conner, Texas
Date: March 6, 2023
Time: 2157 central standard time
0357 coordinated universal time (UTC) March 7, 2023
Helicopter: Robinson R-44II; Registration: N494SH

B. METEOROLOGY SPECIALIST

Donald Eick
Senior Meteorologist
National Transportation Safety Board
Washington, DC

C. SUMMARY

On March 6, 2023, about 2157 central standard time (CST), a Robinson Helicopter Company (RHC) R-44II helicopter, N494SH, was destroyed when it was involved in an accident near Port O'Connor, Texas. The pilot and passenger sustained fatal injuries. The helicopter was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

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 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.

The accident site was located at latitude 28.415122° N and longitude 96.48012° W at an elevation of 13 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 south-central NWS Surface Analysis chart for 2100 CST is included as figure 1 with a red star marking the approximate accident location. The chart depicted a high pressure system at 1019-hectopascals[2] in the Gulf of Mexico with a ridge[3] extending westward along the Texas coast. The station models surrounding the accident site depicted light southerly winds of 10 knots or less, clear to obscured skies, with temperature and dew points in the 70's Fahrenheit (F). Multiple stations surrounding the accident site were reporting visibility restrictions in mist or fog, with obscured to overcast clouds.

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

[2] Hectopascals (hPa) is the standard unit for reporting sea-level pressure and is interchangeable with the former term millibar (mb) with the same unit. The standard atmosphere is based on a sea-level pressure is 1013.25-hPa and a temperature of 15° Celsius (C) or 59° Fahrenheit (F).

[3] Ridge is an elongated area of high pressure and typically implies relatively clear skies, subsiding motion, and light winds.

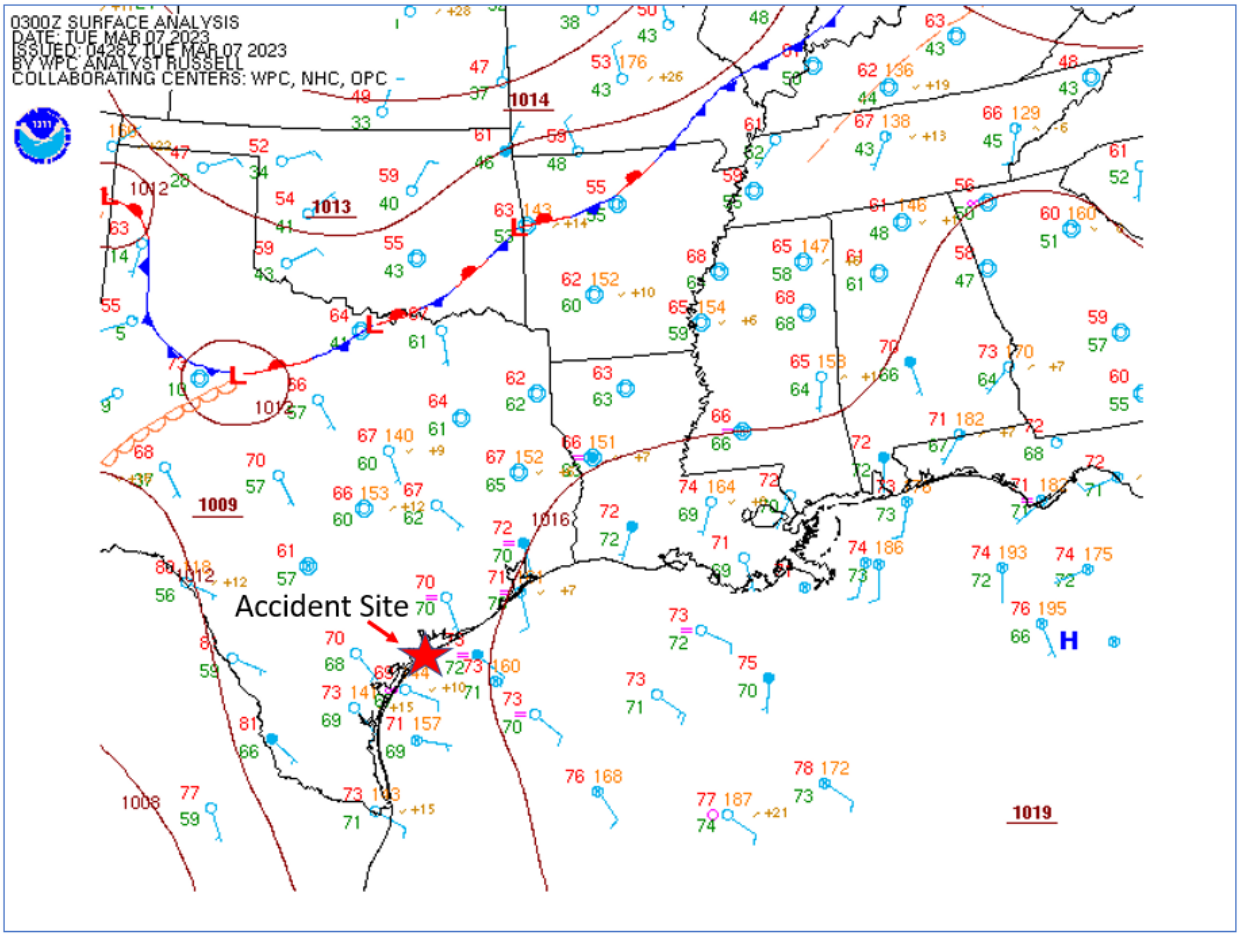

Figure 1 - Southcentral NWS Surface Analysis Chart for 2100 CST with the approximate accident site marked by the red star.

1.2 12-hour Low-Level Significant Weather Prognostic Chart

The 12-hour Low-level Significant Weather Prognostic Chart valid for 0000 CST on March 7, 2023, is included as figure 2. The low-level graphics product is a forecast of aviation weather hazards, primarily intended to be used as a guidance product for briefing the VFR pilot. The forecast domain covers the 48 contiguous states, southern Canada and the coastal waters for altitudes below 24,000 ft. The chart is issued four times a day, and valid for fixed times: 0000, 0600, 1200, and 1800 UTC. The chart depicts the freezing levels, turbulence, and low cloud ceilings and/or restrictions to visibility (shown as contoured areas of MVFR[4] and IFR conditions[5]). The chart depicted an extensive area of MVFR to IFR conditions over the coastal sections of Texas, much of Louisiana, Mississippi, Alabama, and the Florida panhandle.

[4] Marginal Visual Flight Rules (MVFR) conditions are defined as a ceiling between 1,000 ft agl to 3,000 ft and/or visibility between 3 to 5 statute miles inclusive.
[5] Instrument Flight Rule (IFR) conditions are defined as a ceiling less than 1,000 ft agl and/or visibility less than 3 statute miles.

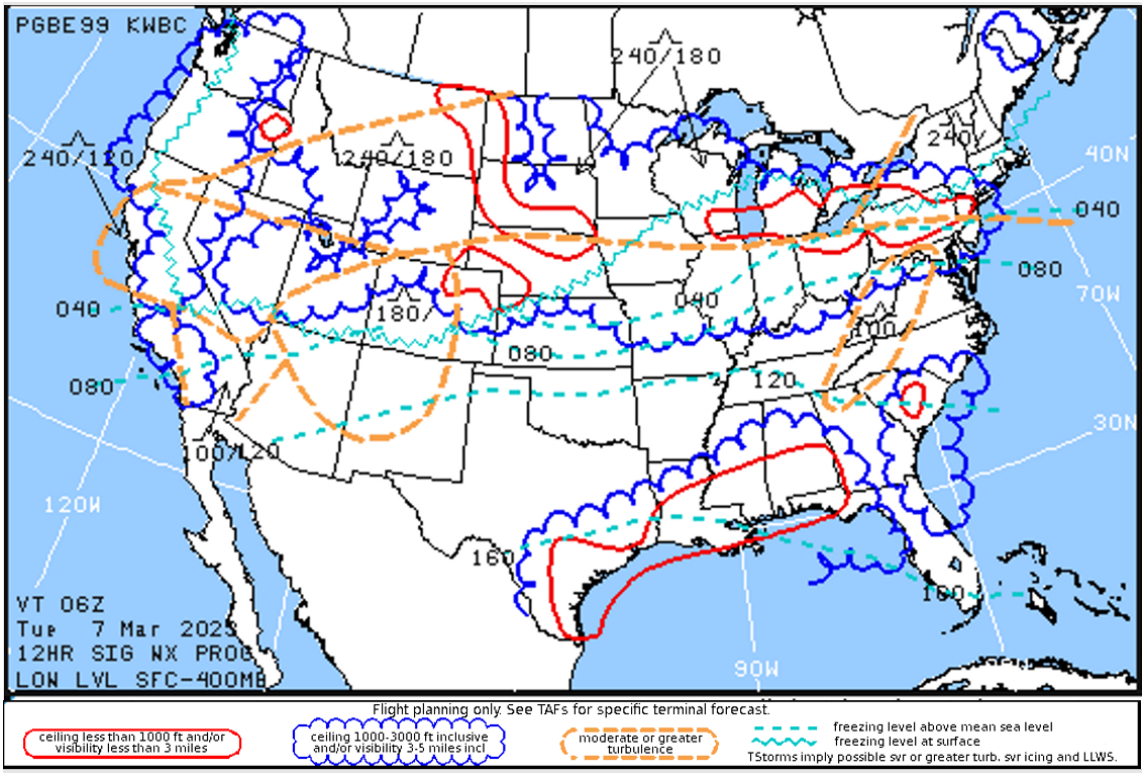

Figure 2 - NWS 12-hour Low Level Significant Weather Prognostic Chart valid for 0000 CST March 7, 2023, depicting expected IFR to MVFR conditions over the Texas coastal areas.

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). Cloud heights are reported above ground level (agl) in the following section, and the magnetic variation was estimated at 4° west based on the latest sectional chart for the area.

2.1 Port Lavaca, Texas

The closest official weather reporting location was from Calhoun County Airport (KPVK), Port Lavaca, Texas, located about 17 miles north-northwest of the accident site at an elevation of 32 ft. The airport had an Automated Weather Observation System (AWOS) and disseminated observations long-line every 20-minutes. At the time of the accident the following conditions were reported.

Weather observation for KPKV at 2155 CST, automated, wind from 160° at 6 knots, visibility 5 miles in mist, ceiling[6] broken at 500 ft agl, temperature 23°

[6] Ceiling is defined as the lowest layer of clouds reported as broken or overcast, or the vertical visibility

Celsius (C), dew point temperature 21° C, altimeter setting 29.99 inches of mercury. Remarks: automated station with a precipitation discriminator, temperature 22.7° C, dew point temperature 21.4° C.

A table of the general flight categories as defined the FAA Aeronautical Information Manual (AIM) section 7-1-7 by the ceiling and/or visibility values, which can be interpreted in general weather observations and forecasts is included as figure 3. The accident pilot was not instrument rated.

Category	Ceiling (feet)		Visibility (miles)
LIFR	less than 500	and/or	less than 1
IFR	500 to 1000	and/or	1 to 3
MVFR	1000 thru 3000	and/or	3 thru 5
VFR	more than 3000	and	more than 5

Figure 3 - General Flight Categories defined.

The general flight categories with the observations for KPVK between about 1800 and 2300 CST are included below.

VFR METAR KPKV 062335Z AUTO 16012KT 10SM CLR 26/21 A2995 RMK AO2 T02630207
VFR METAR KPKV 070015Z AUTO 15012KT 10SM SCT015 25/21 A2996 RMK AO2 T02480214
VFR METAR KPKV 070035Z AUTO 15009KT 10SM CLR 24/22 A2996 RMK AO2 T02440215
VFR METAR KPKV 070055Z AUTO 16008KT 7SM CLR 24/22 A2997 RMK AO2 T02400215
VFR METAR KPKV 070115Z AUTO 14006KT 7SM CLR 24/22 A2997 RMK AO2 T02370215
VFR METAR KPKV 070135Z AUTO 15007KT 7SM SCT007 SCT050 24/22 A2997 RMK AO2 T02350216
MVFR METAR KPKV 070155Z AUTO 16008KT 5SM BR SCT007 23/22 A2997 RMK AO2 T02320216
MVFR METAR KPKV 070215Z AUTO 15008KT 4SM BR SCT007 23/22 A2998 RMK AO2 T02300215
IFR METAR KPKV 070235Z AUTO 16007KT 5SM BR BKN005 23/22 A2998 RMK AO2 T02300216
IFR METAR KPKV 070255Z AUTO 17006KT 5SM BR BKN007 23/22 A2998 RMK AO2 T02300215
MVFR METAR KPKV 070315Z AUTO 16005KT 5SM BR SCT007 23/22 A2999 RMK AO2 T02280215
IFR METAR KPKV 070335Z AUTO 16004KT 5SM BR BKN005 23/21 A2999 RMK AO2 T02260212
IFR METAR KPKV 070355Z AUTO 16006KT 5SM BR BKN005 23/21 A2999 RMK AO2 T02270214
Accident 0357Z
IFR METAR KPKV 070415Z AUTO 16005KT 5SM BR BKN005 23/21 A2999 RMK AO2 T02260213
IFR METAR KPKV 070435Z AUTO 16006KT 5SM BR OVC005 23/21 A2999 RMK AO2 T02260213
IFR METAR KPKV 070455Z AUTO 16007KT 5SM BR OVC005 23/21 A2999 RMK AO2 T02270214
IFR METAR KPKV 070515Z AUTO 16006KT 5SM BR OVC005 23/22 A2999 RMK AO2 T02270215
LIFR METAR KPKV 070535Z AUTO 16007KT 2 1/2SM BR BKN003 OVC006 23/22 A2999 RMK AO2 T02270215

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into a surface based obscuration.

2.2 Rockport, Texas

The next closest weather reporting site was from Aransas County Airport (KRKP), Rockport, Texas, located about 36 miles southwest of the accident site at an elevation of 24ft. The airport had an Automated Surface Observation System (ASOS) installed which was not augmented by any human observers. At the time of the accident the following conditions were being reported.

> *Weather observation for KRKP at 2153 CST, automated, wind from 140° at 7 knots, visibility 4 miles in mist, sky clear, temperature 22° C, dew point temperature 22° C, altimeter setting 29.97 inHg. Remarks: automated station with a precipitation discriminator, sea-level pressure 1015.1-hPa, temperature 22.2° C, dew point temperature 21.7° C.*

The general flight category and raw observations from KRKP from about 1700 through 2353 CST were as follows.

VFR METAR KRKP 062253Z AUTO 14010KT 6SM HZ CLR 24/22 A2994 RMK AO2 SLP140 T02440217=
MVFR SPECI KRKP 062333Z AUTO 14010KT 5SM BR FEW009 24/22 A2994 RMK AO2 T02390217=
IFR METAR KRKP 062353Z AUTO 14009KT 4SM BR BKN008 23/22 A2995 RMK AO2 SLP142 T02330217 10278 20233 55000=
IFR SPECI KRKP 070022Z AUTO 14011KT 4SM BR BKN007 23/22 A2995 RMK AO2 T02280217=
IFR SPECI KRKP 070042Z AUTO 14009KT 3SM BR BKN005 23/22 A2995 RMK AO2 CIG 004V009 T02280217=
IFR METAR KRKP 070053Z AUTO 13010KT 4SM BR BKN005 23/22 A2995 RMK AO2 SLP143 T02280217=
LIFR SPECI KRKP 070114Z AUTO 14009KT 4SM BR BKN004 22/22 A2995 RMK AO2 T02220217=
LIFR SPECI KRKP 070150Z AUTO 13009KT 3SM BR OVC003 22/22 A2996 RMK AO2=
LIFR METAR KRKP 070153Z AUTO 12008KT 3SM BR OVC003 22/22 A2996 RMK AO2 SLP146 T02220222=
LIFR SPECI KRKP 070159Z AUTO 13008KT 2SM BR OVC003 22/22 A2996 RMK AO2 T02220222=
LIFR SPECI KRKP 070213Z AUTO 13007KT 3SM BR OVC002 22/22 A2996 RMK AO2 T02220217=
MVFR SPECI KRKP 070241Z AUTO 13007KT 4SM BR SCT003 22/22 A2997 RMK AO2 T02220217=
MVFR METAR KRKP 070253Z AUTO 14007KT 4SM BR FEW004 22/22 A2997 RMK AO2 SLP151 T02220217 53008=
MVFR METAR KRKP 070353Z AUTO 14007KT 4SM BR CLR 22/22 A2997 RMK AO2 SLP151 T02220217=
Accident 0357Z
MVFR METAR KRKP 070453Z AUTO 15008KT 4SM BR CLR 22/22 A2997 RMK AO2 SLP149 T02220217=
MVFR METAR KRKP 070553Z AUTO 15007KT 4SM BR CLR 22/21 A2996 RMK AO2 SLP146 T02170211 10233 20217 402780200 58005=

2.3 NWS METAR Display

A depiction of the NWS Aviation Weather Center's METAR display from their website[7] for 2200 CST is included as figure 4 with the approximate accident site

[7] https://www.aviationweather.gov/metar

marked by the red star. The NWS regional radar mosaic is also overlaid for the period and indicated no significant echoes over the area surrounding the period.

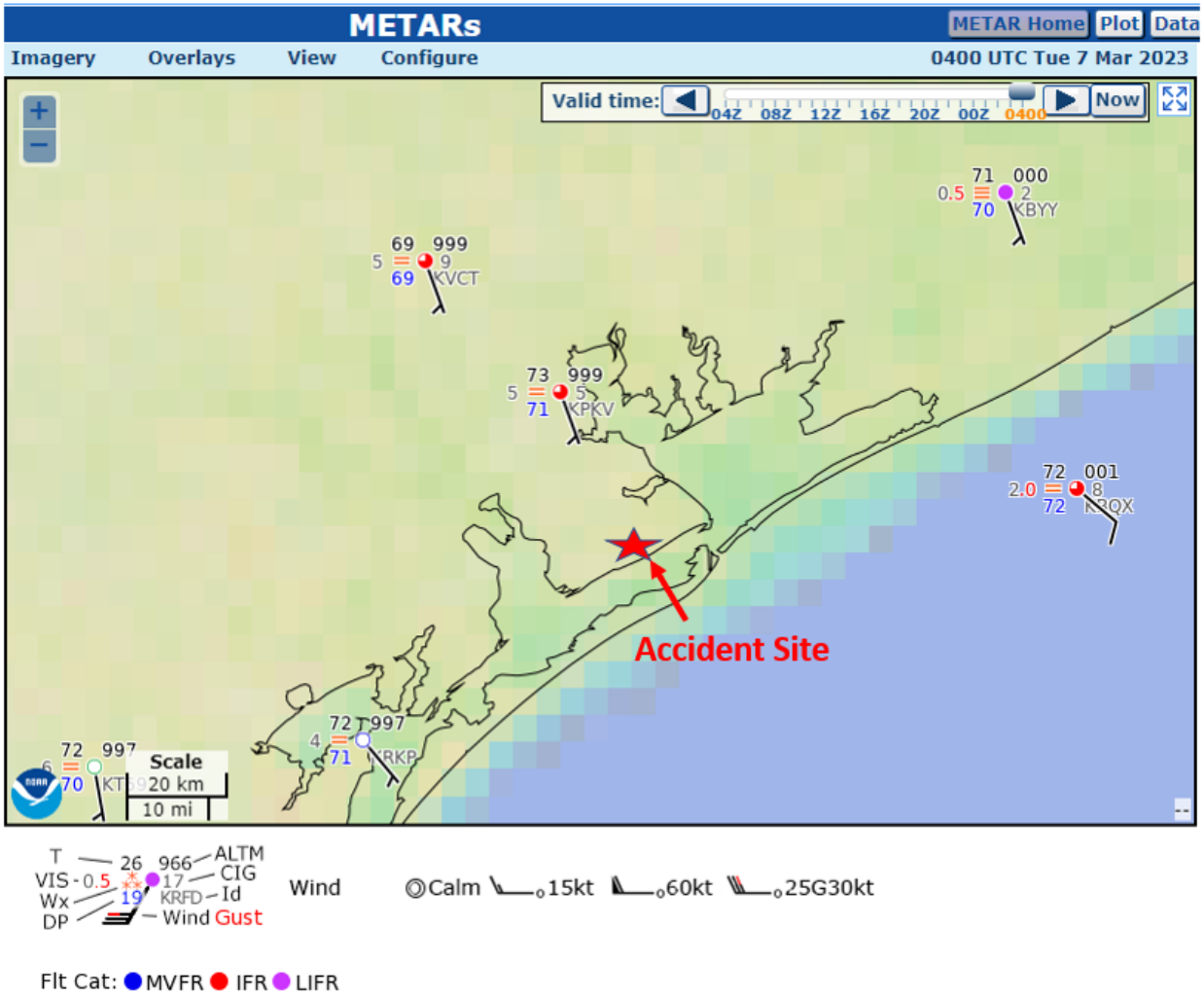

Figure 4 - NWS Aviation Weather Center's METAR display for 2100 CST with the approximate accident site marked by the red star.

3.0 Pilot Reports

A search for pilot weather reports or PIREPs within 90 miles of the accident site between 1600 and 0100 CST on March 7, 2023, provided a single report that was disseminated into the national database.

HOU UA /OV 2N SGR/TM 0509/FLDURD/TP SR22/SK OVC006

The report from a Cirrus SR22 at 2309 CST about 2 miles north of Sugar Land Regional Airport (SGR) or approximately 80 miles north-northwest of the accident site reported encountering overcast clouds at 600 ft.

4.0 Atmospheric Sounding

A High-Resolution Rapid refresh (HRRR)[8] numerical model sounding was obtained from the NOAA Air Resource laboratory archive was obtained for the closest grid point[9] to the accident site for 2200 CST. The data was then plotted on a standard Skew T-log P diagram using the RAOB Analysis software[10] from the surface to 500-hPa or approximately 18,000 ft. The sounding is included as figure 5 below.

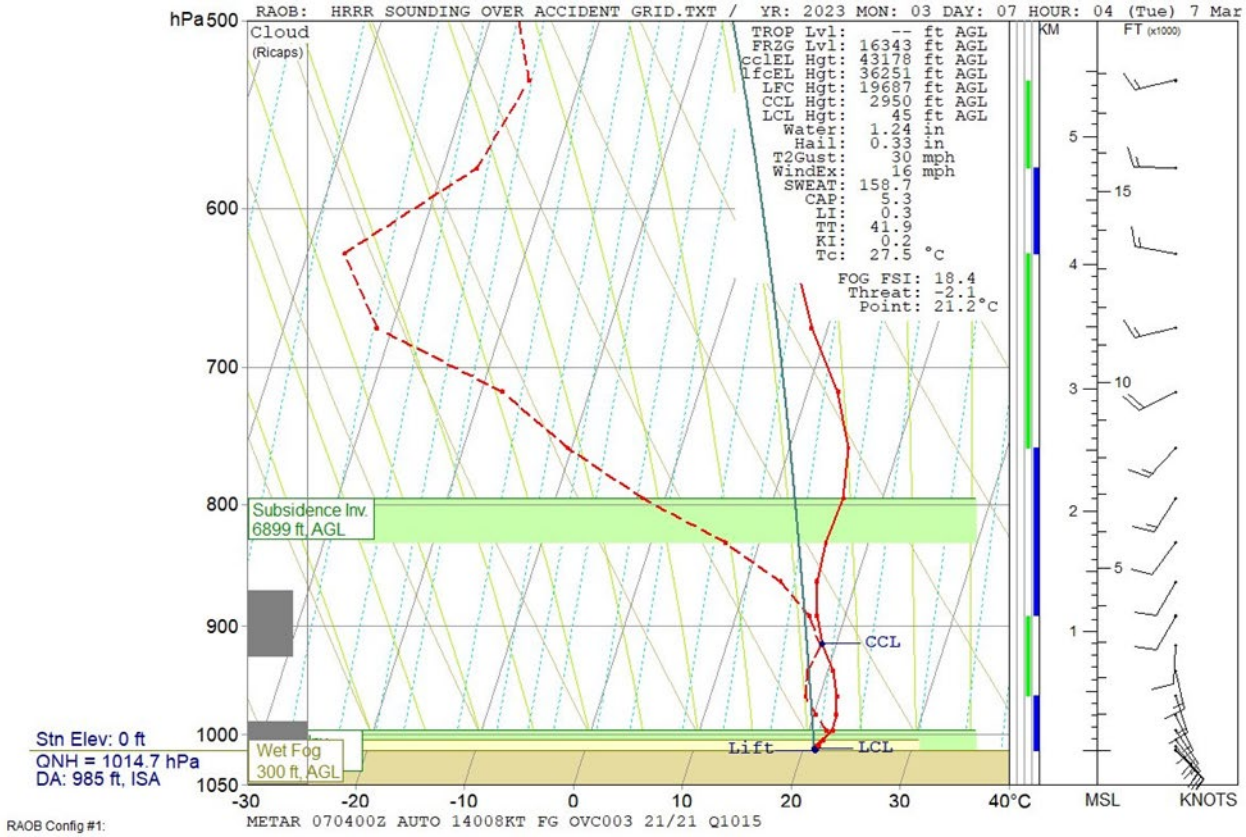

Figure 5 – High Resolution Rapid Refresh numerical model sounding over the closest grid point to the accident site for 2200 CST.

The sounding depicted an elevation at sea-level over the grid point with a near surface temperature of 21.2° C (70.2° F), a dew point temperature of 21.1° C (70.0° F), with a relative humidity of 99%, a sea-level pressure of 1015-hPa, with a resulting density altitude of 985 ft. The sounding depicted a surface based temperature

[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] Grid point coordinates were latitude 28.42° N and longitude 96.48° W.

[10] RAOB –The Complete RAwinsonde OBservation program is an interactive sounding analysis program developed by Eosonde Research Services (ERS) previously known as Environmental Research Services, The Villages, Florida.

inversion[11] to about 1,000 ft with another inversion due to subsidence between 5,500 and about 7,000 ft, where temperature increased with altitude within those levels. The lifted condensation level (LCL)[12] was identified at 45 ft agl, with the convective condensation level (CCL)[13] at 2,960 ft agl. The precipitable water content was 1.24 inches. The lifted index (LI)[14] was 0.3 and indicated a stable atmosphere below 8,000 ft. The RAOB analysis program supported the development of radiation fog with a fog point temperature[15] of 21.2° C and supported an overcast layer of stratiform clouds with bases near 300 ft with tops near 800 ft, and a broken layer above with bases near 2,600 ft with tops to 4,400 ft (indicated in gray on left axis). The freezing level was identified at about 16,400 ft.

The HRRR wind profile indicated surface wind from 140° at 8 knots with winds veering[16] to the southwest above 1,000 ft and then to the west near 10,000 ft. A low-level wind maximum was identified at approximately 500 ft with winds from about 150° at 18 knots and indicated a potential moderate threat of low-level wind shear conditions due to the vertical wind shear. The mean 0 to 6 kilometer or 18,000 ft wind was from 235° at 11 knots.

The HRRR parameters of height, pressure (Pres), temperature (T), dew point temperature (Td), relative humidity (RH), wind direction and speed, Clear Air Turbulence (CAT) intensity and Low-Level Wind Shear (LLWS) potential through 5,000 ft is included below.

Height (ft msl)	Pres (hPa)	T (°C)	Td (°C)	RH (%)	Wind (dir/kt)	CAT (FAA)	LLWS (FAA)
0	1015	21.2	21.1	99	140/ 8		
28	1014	21.2	21.2	100	140/ 8	LGT	MODRT
113	1011	21.4	21.0	98	142/ 13	LGT	LIGHT
283	1005	21.6	21.6	100	144/ 16		
541	996	22.2	21.6	96	148/ 18		

[11] Inversion is an increase in temperature with altitude and is typically associated with a stable layer and resists vertical motion.
[12] Lifted Condensation Level (LCL) - the level at which a lifted parcel becomes saturated. The LCL height corresponds to cloud base height for forced ascent.
[13] Convective Condensation Level (CCL) - the height at which a parcel of air, when heated sufficiently from below, rises and becomes saturated. It is where newly forming convective clouds should form bases.
[14] Lifted Index (LI) - A common measure of atmospheric instability. Its value is obtained by computing the temperature that air near the ground would have if it were lifted to 500-hPa or approximately 18,000 feet and comparing that temperature to the actual temperature at that level. Negative values indicate instability - the more negative, the more unstable the air is, and the stronger the updrafts are likely to be with any developing thunderstorms.
[15] It is the common value for the formation of radiation type fog. The fog point is determined by following the saturation mixing ratio line to the dew point curve to the LCL pressure level to the surface temperature.
[16] Veering wind refers to the wind direction changing clockwise in direction with height.

976	981	22.1	20.2	89	156/ 17	
1506	963	21.6	18.7	84	164/ 16	
2195	940	20.5	18.2	87	169/ 14	LGT
2898	917	18.8	18.6	99	183/ 10	LGT
3710	891	17.4	16.7	96	208/ 10	
4639	862	16.4	13.1	81	208/ 8	
5697	830	16.1	6.9	54	214/ 9	LGT

5.0 Satellite Imagery

The Geostationary Operational Environmental Satellite number 16 (GOES-16) 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 imagery surrounding the period were reviewed and the closest images to the accident time were documented. The infrared long wave imagery (band 13) at a wavelength of 10.3 microns (μ m) provided radiative cloud top temperatures with a nominal spatial resolution of 2 km. Due to the low light conditions at the time of the accident, the higher resolution visible imagery was not useful.

Figure 6 is the GOES-16 infrared image at 4X magnification with a MB temperature enhancement curve applied for 2156 CST, with the accident site noted by the red square. The image could not specifically detect or display any significant low-level cloud layers given the temperature contrast along the Texas coastal regions.

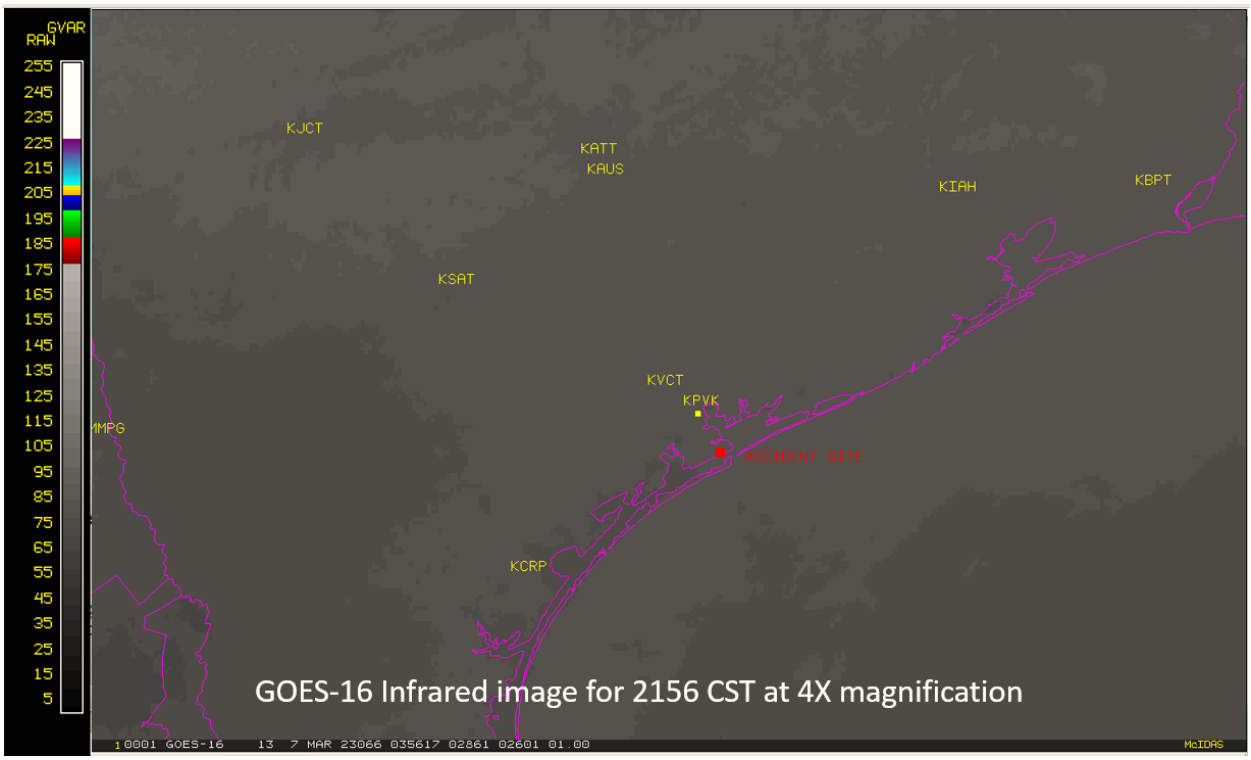

Figure 6 - GOES-16 infrared image for 2156 CST at 4X magnification with the accident site marked by the red square.

Figure 7 is the GOES-16 GeoColor[17] image for 2156 CST which better depicted the extent of the low-level clouds and fog layer over the coastal region of Texas during the period. The approximate accident site is marked by the white star, and the low liquid water clouds and/or fog areas are highlighted in light blue.

[17] GeoColor is a multispectral product composed of True Color using a simulated green component during the daytime and an infrared product at night that uses bands 7 and 13 that differentiates low liquid water clouds and higher clouds composed of ice crystals.

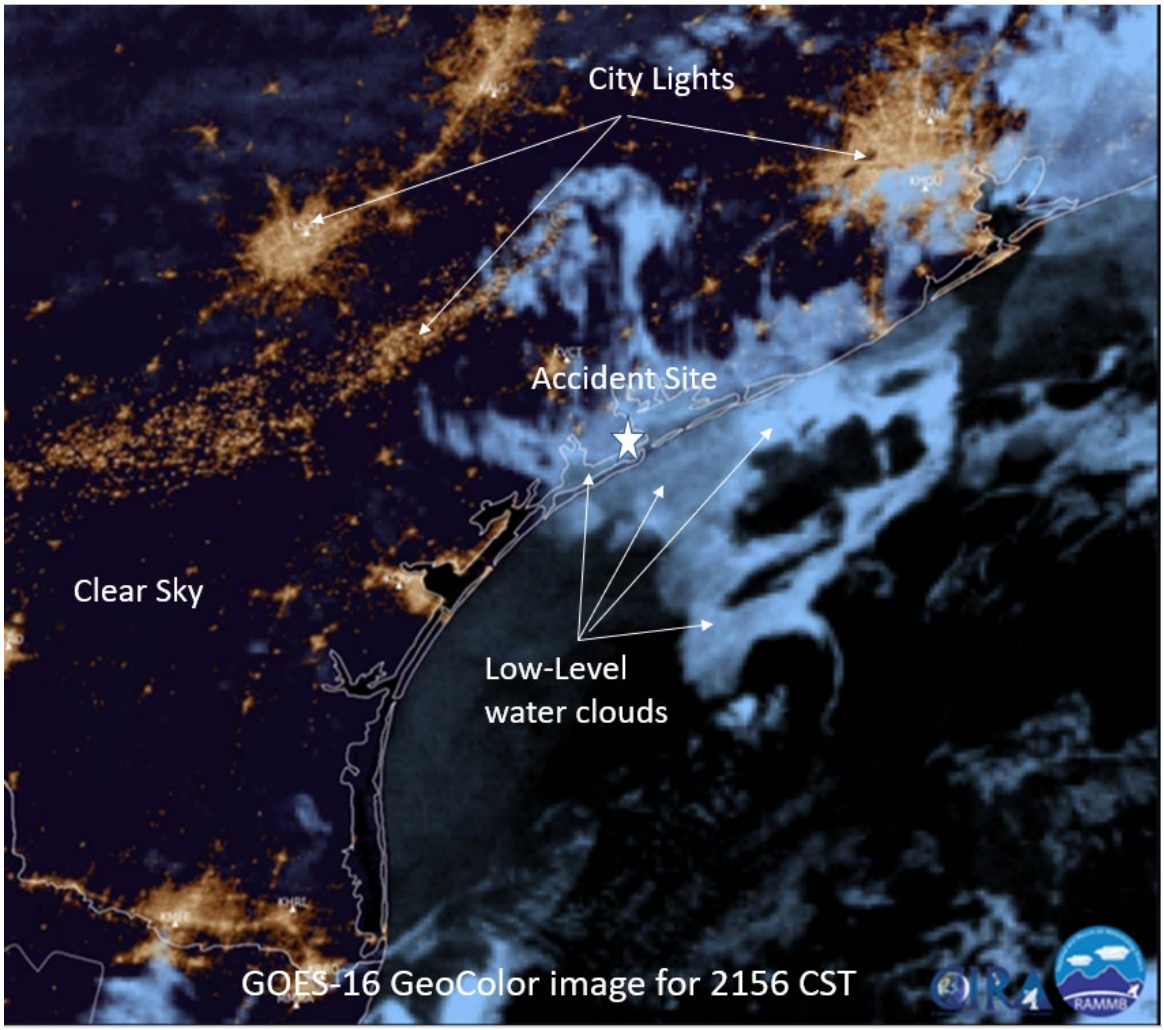

Figure 7 - GOES-16 GeoColor image for 2156 CST over southcentral Texas.

6.0 NWS Forecasts

The accident occurred in Calhoun County, Texas which was under the responsibility of the NWS Corpus Christi (KCRP), Texas, Weather Forecast Office (WFO). The local weather bulletins and forecasts issued by the office related to the accident are documented below along with the standard aviation weather products from the NWS AWC located in Kansas City, Missouri.

6.1 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 closest airport that the NWS KCRP WFO issued a TAF was Victoria Regional Airport (KVCT),

Victoria, Texas, located about 35 miles northwest of the accident site at an elevation of 115 ft. While the TAF was not valid for the accident site, pilots often refer to the closest TAFs to get a breakdown of the conditions expected across the region. The TAF issued at 1732 CST was as follows with the time period applicable to the accident in bold blue type.

TAF KVCT 062332Z 0700/0724 14009KT P6SM SCT015
FM070400 14006KT 4SM BR BKN007
FM070700 12004KT 1/2SM FG OVC003
FM071500 15010KT 3SM BR OVC010
FM071800 16014G22KT P6SM SCT025 BKN040=

The forecast expected from 1800 through 2200 CST a wind from 140° at 9 knots, visibility 6 miles or more, with scattered clouds at 1,500 ft agl. After 2200 through 0100 CST on March 7th, IFR conditions were expected with a wind from 140° at 6 knots, visibility of 4 miles in mist, with a ceiling broken at 700 ft. After 0100 CST the wind was from 120° at 4 knots, visibility of 1/2 mile in fog with ceiling overcast at 300 ft were expected through 0900 CST.

6.2 Area Forecast Discussion

The NWS Aviation 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. These are useful for additional aviation-related issues that cannot be encoded into the TAF and provide some reasoning behind the forecast. The KCRP AFD issued at 1742 CST was as follows.

FXUS64 KCRP 062342
AFDCRP

Area Forecast Discussion
National Weather Service Corpus Christi TX
542 PM CST Mon Mar 6 2023

...New AVIATION...

.SHORT TERM...
(Tonight through Tuesday night)
Issued at 252 PM CST Mon Mar 6 2023

Key Message:

- Patchy to Areas of fog possible overnight

Persistence is the main story over the short term with settled weather expected as quasi-zonal flow remains in place. Fog has mostly cleared out this afternoon after burning off a little later today due to increased cloud cover and expect a similar story for tomorrow. Temperatures this

afternoon should top out in the mid 80s to low 90s with similar temperatures tomorrow. Winds will continue to increase through the evening becoming breezy at times increasing moisture even more.

Another round of patchy to areas of fog is expected to develop a bit earlier tonight with marine fog developing before midnight and spreading inland with patchy to areas of fog across the region after midnight.

.AVIATION...
(00Z TAFS)
Issued at 536 PM CST Mon Mar 6 2023

VFR conditions this afternoon are expected to deteriorate to a mixture of MVFR/IFR levels later this evening at all terminals. By early Tuesday morning, LIFR conditions will be possible at all eastern sites, with patchy to areas of fog impacting the region*. Poor aviation conditions are likely to persist through mid to late Tuesday morning, before returning to VFR levels by the afternoon. Breezy southeasterly winds this afternoon will decouple overnight, becoming light. Winds will increase again late Tuesday morning, with gusts up to 30 mph possible by the afternoon.*

.CRP WATCHES/WARNINGS/ADVISORIES...
TX...None.
GM...None.

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 GFA 3- and 6-hour forecasts issued at about 1900 CST and valid for 2100 CST are included as figures 8 and 9, and for 0000 CST are included as figures 10 and 11 respectively. The 3- and 6-hour GFA surface forecasts expected southerly winds at about 10 knots with visibilities less than 1 mile in fog along the coast, with a G-AIRMET for IFR conditions depicted over the accident site on the 6-hour forecast. While the 3- and 6-hour GFA cloud forecast expected overcast clouds at 300 ft with tops near 1,000 ft and increasing to 1,500 ft on the 6-hour forecast over the coastal section and increasing inland with time.

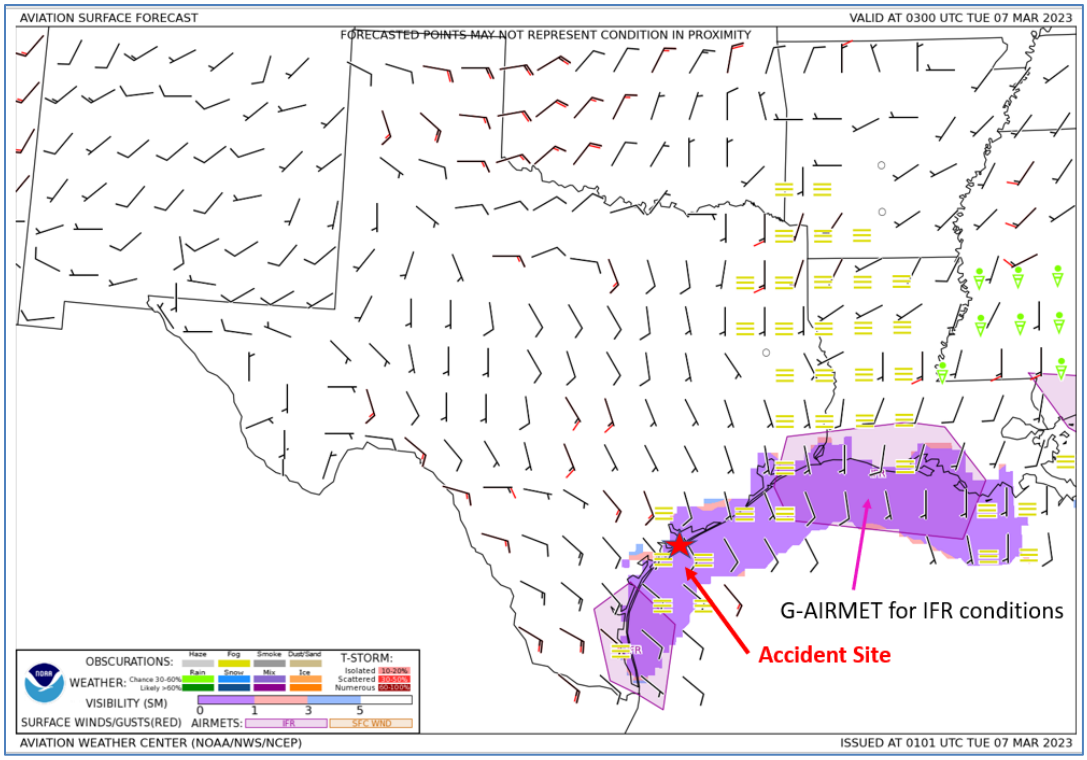

Figure 8 - GFA 3-hour Surface Forecast issued at 1901 CST and valid for 2100 CST.

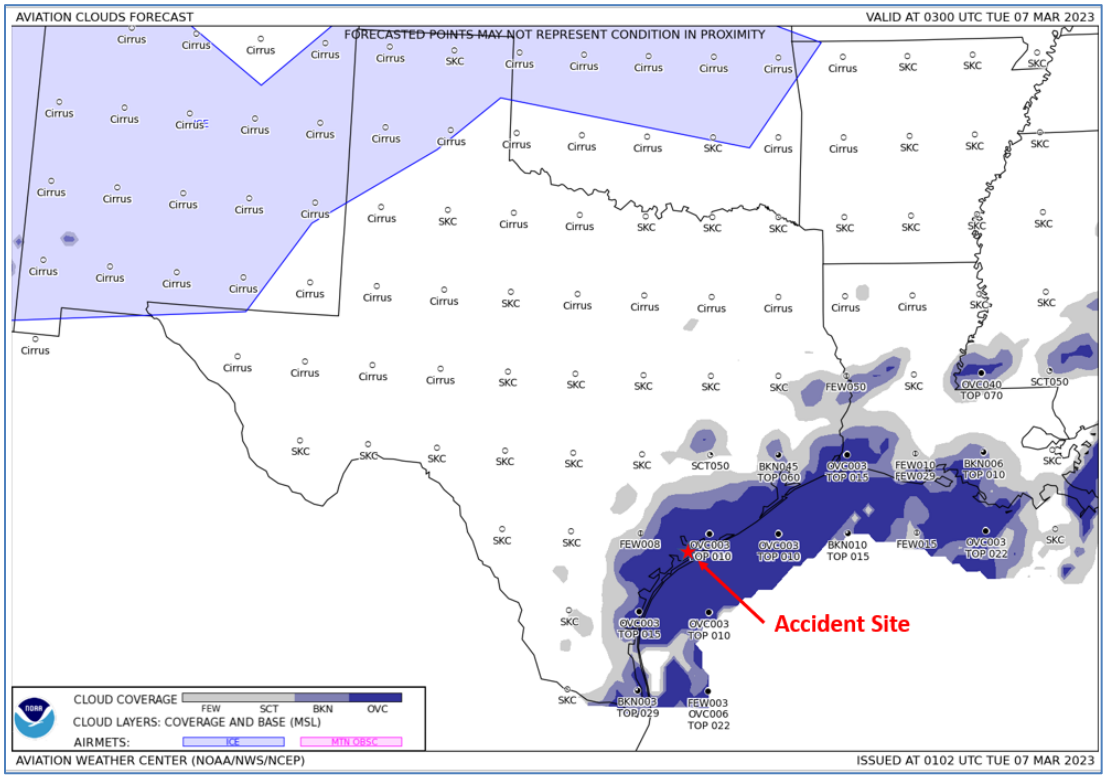

Figure 9 - GFA 3-hour Cloud Forecast issued at 1902 CST and valid for 2100 CST.

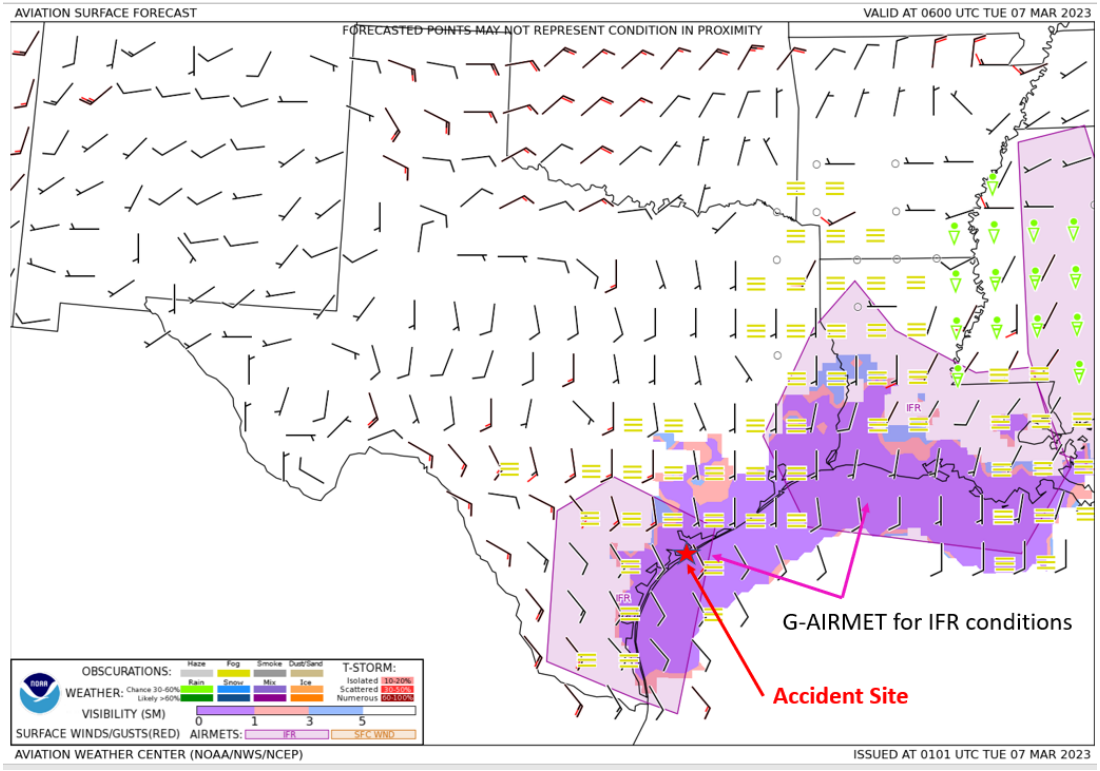

Figure 10 - GFA 6-hour Surface Forecast valid for 0000 CST on March 7, 2023.

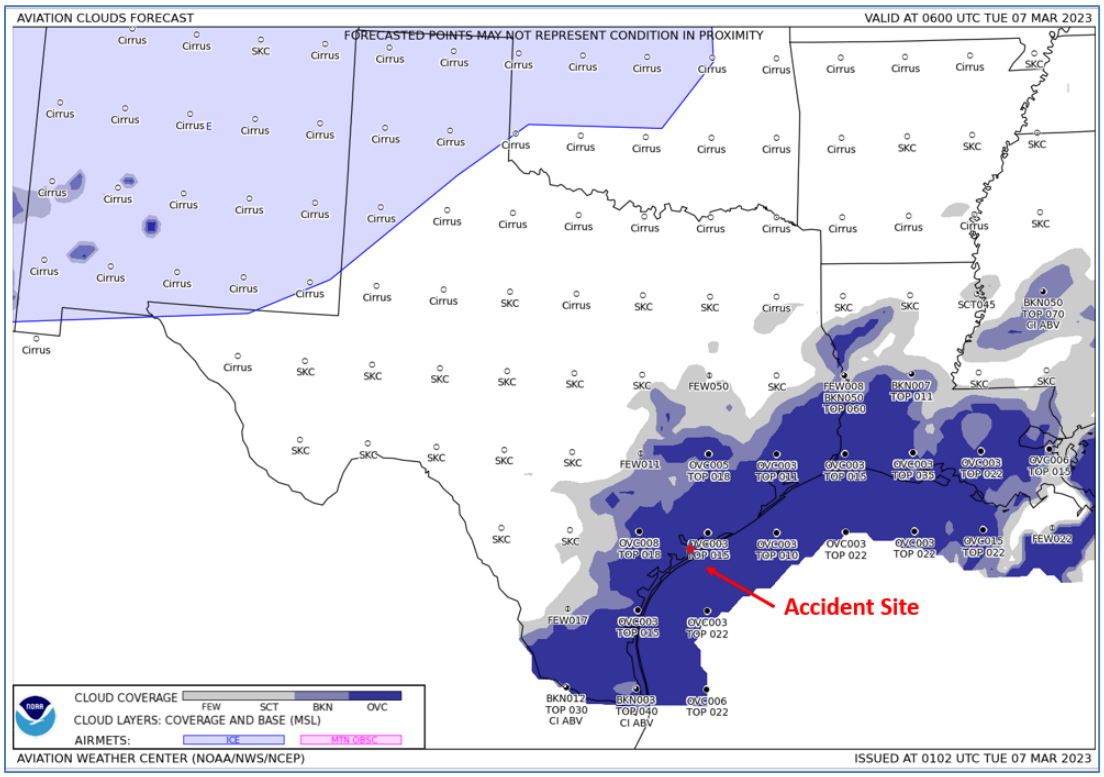

Figure 11 - GFA 6-hour Cloud Forecast valid for 0000 CST on March 7, 2023.

6.4 Inflight Weather Advisories

The NWS issues the primary adverse aviation weather information in the forms of a Significant Meteorological Information (SIGMET), the Convective SIGMET, the Graphic-Airmen's Meteorological Information (G-AIRMET) and Center Weather Advisory (CWA). During the period surrounding the accident the NWS AWC issued several G-AIRMETs current for IFR conditions over the region and is depicted in figure 12.

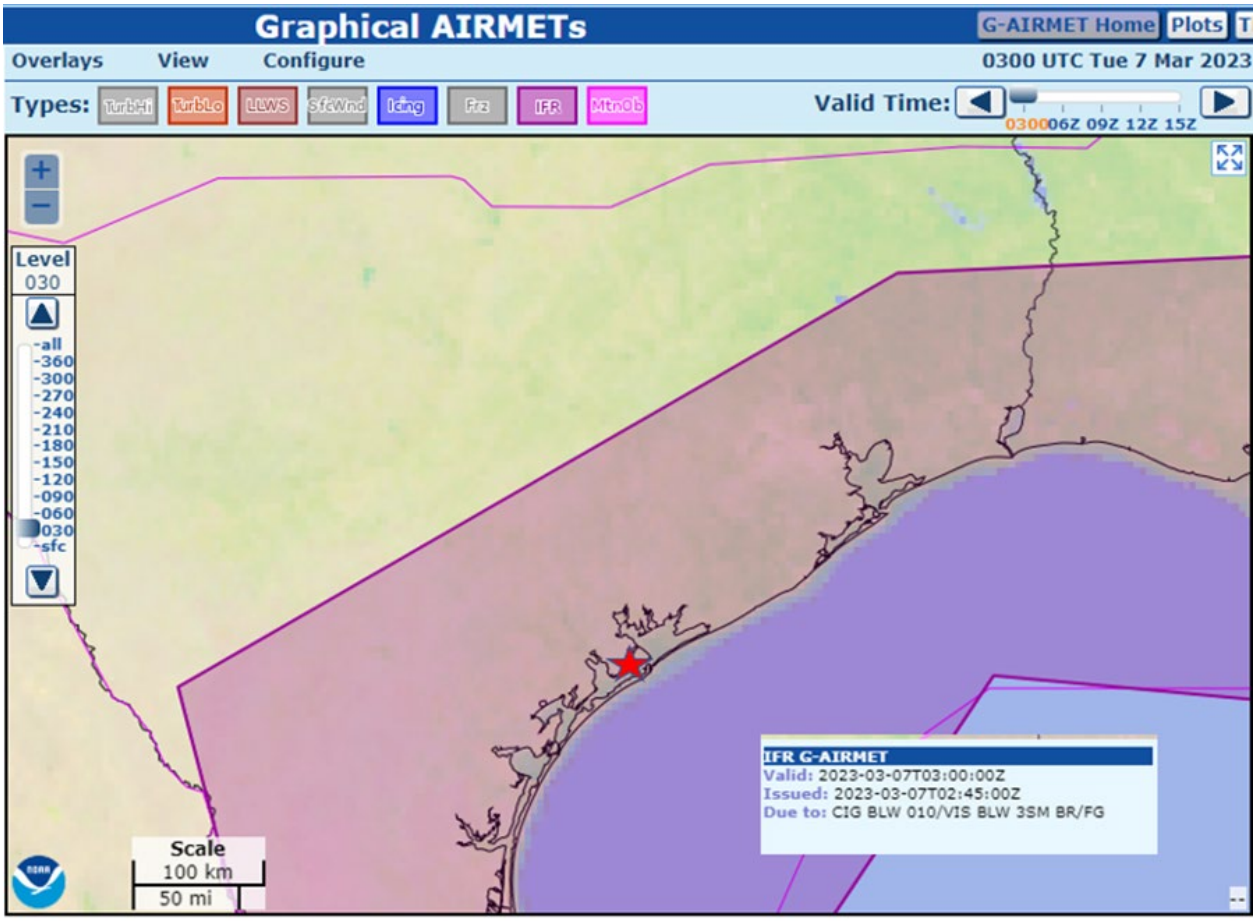

Figure 12 – NWS G-AIRMET for IFR conditions depicted at the time of the accident for ceilings below 1,000 ft agl and/or visibilities below 3 miles in mist and fog.

7.0 Astronomical Conditions

The United States Naval Observatory's website[18] provided the following astronomical condition for Port O'Conner, Texas, on March 6, 2023. The time of the accident has been added in bold type for reference.

[18] https://aa.usno.navy.mil/data/index

SUN	Time (CST)
Begin civil twilight	0623
Sunrise	0647
Upper Transit	1238
Sunset	1830
End civil twilight	1853
Accident	***2157***

MOON	Time (CST)
Moonset	0634
Moonrise	1757
Accident	***2157***

At the time of the accident the Sun was more than 15° below the horizon, while the Moon was about 50° above the horizon at an azimuth of 109°. The phase of the Moon was a full Moon and was 99.7% illuminated**.**

8.0 Weather Briefing

The FAA contract Automated Flight Service Station provider Leidos had no contact with the pilot on March 6, 2023, for any weather briefing or to file any flight plans. No third party vendors utilizing the Lockheed Flight Service (LFS) system also had no contact with the pilot. A separate search of ForeFlight, indicated that they also had no account with the accident pilot and no record of any weather briefings or flight plans being filed.

9.0 Witness Statements

A witness located about 1,000 ft southwest of where the helicopter took off from, observed the helicopter's anti-collision lighting system operating as it departed from the road, and reported that it was "extremely foggy" when the helicopter took off. The neighbor reported that she could "barely see" her boat dock from her living room, which was about 75 ft away.

Submitted by:

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