



Aviation Investigation Final Report

Location:	Myrtle Beach, South Carolina	Accident Number:	ERA19LA043
Date & Time:	November 12, 2018, 14:15 Local	Registration:	N840JC
Aircraft:	Aero Commander 690	Aircraft Damage:	Substantial
Defining Event:	Turbulence encounter	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot was approaching the airport to land in instrument meteorological conditions when he encountered heavy turbulence. He continued the approach and the airplane started to descend rapidly. Although he added full power in an attempt to climb, the airplane continued to descend until it collided with the Atlantic Ocean. The forward portion of the fuselage, which included the cockpit separated from the airplane. The pilot did not report any anomalies with the airplane before the accident.

Review of weather information for the area of the airport about the time of the accident revealed light to moderate precipitation with a high potential for moderate turbulence and low-level wind shear below about 2,000 ft. Radar imagery did not reveal signatures typically associated with microburst activity. Based on the available information, it is likely that the pilot encountered low-level windshear and turbulence during the approach, which resulted in a loss of airplane control.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

An encounter with low-level windshear and turbulence during the landing approach, which resulted in a loss of airplane control.

Findings

Environmental issues	Clear air turbulence - Contributed to outcome
Aircraft	(general) - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Approach-IFR final approach	Turbulence encounter (Defining event)
Approach-IFR final approach	Loss of control in flight
Approach-IFR final approach	Collision with terr/obj (non-CFIT)

On November 12, 2018, about 1415 eastern standard time, a Gulfstream American (Aero Commander) 690C, N840JC, was substantially damaged when it was involved in an accident near Myrtle Beach, South Carolina. The commercial pilot was seriously injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he was following radar vectors for the downwind leg of the traffic pattern to runway 36 at MYR. He turned onto final approach and was inside the outer marker when he encountered heavy turbulence. As he continued the approach, he described what he believed to be a microburst and the airplane started to descend rapidly. The pilot added full power in an attempt to climb, but the airplane continued to descend until it collided with the Atlantic Ocean 1 mile from the approach end of runway 36.

A witness stated that the airplane looked "relatively low." He watched the airplane for about 10 seconds before it impacted the water about 150-300 ft from the shore. He stated that the airplane was not doing anything erratic and he could not remember if he heard the engines running. After impact, the forward portion of the fuselage which included the cockpit separated from the airplane. The witness swam out to the airplane and assisted the pilot to the shore.

In addition to the fuselage damage, the airplane also sustained substantial damage to the left wing and right horizontal stabilizer.

The 1456 weather recorded at MYR included overcast clouds at 500 ft above ground level (agl) and wind from 360° at 10 knots. The temperature was 13°C and the dew point was 13°C. The altimeter setting was 30.16 inches of mercury.

Between 1356 and 1456, the visibility was restricted in some form, likely in rain and/or mist, but the weather phenomena were not reported. Precipitation accumulation was noted during this period in the remark section. It is unknown why the system did not report or why the tower observer did not record or augment the observation. Rain was later officially reported after 1550.

The next closest official weather reporting station was about 12 miles northeast at Grand Strand Airport (CRE), North Myrtle Beach, South Carolina. The airport had an automated surface observation system (ASOS) augmented by tower personnel. At the time of the accident, wind was from 350° at 4 knots, visibility was 1 1/2 miles in moderate rain and mist, and the ceiling was overcast at 500 ft agl.

The following figure shows the accident airplane's flight track overlaid on base reflectivity radar imagery. The flight track showed the last radar target at 650 ft mean sea level near the accident site. Echoes of 5 to 15 dBZ extended over the flight track and accident site. No strong reflectivity echoes or gradients were noted over or in the vicinity of the accident site to indicate any thunderstorms and the radial velocity data did not detect any divergent couplets typically associated with microbursts.

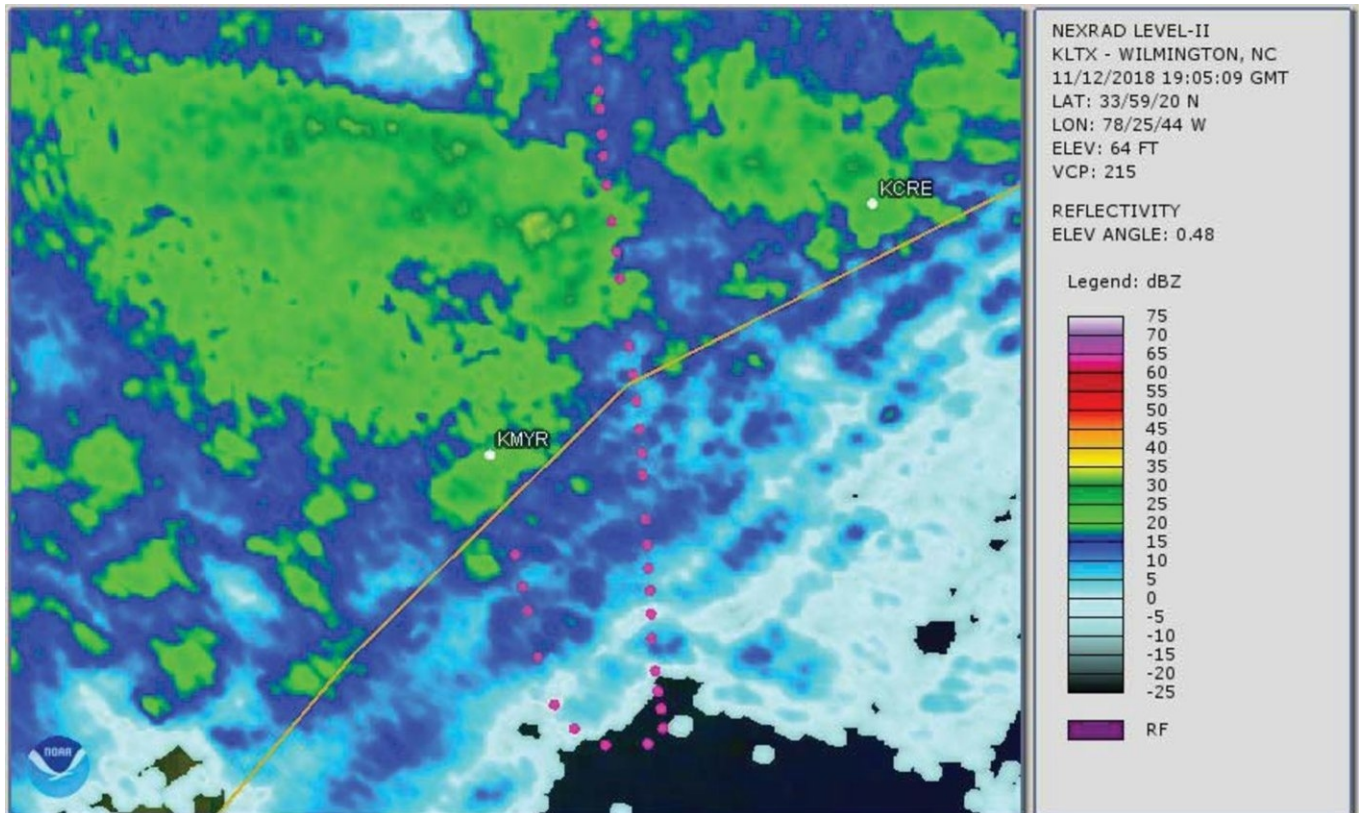


Figure -Base reflectivity image with flight track overlay

The NAM sounding wind profile indicated a surface wind from the ENE at 7 knots with wind veering to the south and southwest above the frontal inversion with wind speeds increasing with height. The mean 18,000 ft wind was from 240° at 35 knots. At 2,000 ft, the wind was estimated from 120° at 30 knots. The sounding supported a high potential for moderate turbulence below 2,000 ft and low-level wind shear in the inversion layer.

Pilot Information

Certificate:	Airline transport; Commercial	Age:	68,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	July 2, 2018
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 22335 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aero Commander	Registration:	N840JC
Model/Series:	690 C	Aircraft Category:	Airplane
Year of Manufacture:	1981	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	11676
Landing Gear Type:	Retractable - Tricycle	Seats:	13
Date/Type of Last Inspection:	August 14, 2018 Annual	Certified Max Gross Wt.:	4635 lbs
Time Since Last Inspection:	4 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	8441.1 Hrs as of last inspection	Engine Manufacturer:	Airesearch
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	TPE33110T511K
Registered Owner:		Rated Power:	750 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KMYR, 25 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	18:56 Local	Direction from Accident Site:	344°
Lowest Cloud Condition:		Visibility	4 miles
Lowest Ceiling:	Overcast / 500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.15 inches Hg	Temperature/Dew Point:	13°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Cumberland, MD (CBE)	Type of Flight Plan Filed:	IFR
Destination:	Myrtle Beach, SC (MYR)	Type of Clearance:	IFR
Departure Time:	12:29 Local	Type of Airspace:	Class C

Airport Information

Airport:	MYRTLE BEACH INTL MYR	Runway Surface Type:	Asphalt
Airport Elevation:	25 ft msl	Runway Surface Condition:	Wet
Runway Used:	36	IFR Approach:	ILS
Runway Length/Width:	9503 ft / 150 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	33.643611, -78.919441 (est)

Administrative Information

Investigator In Charge (IIC):	Alleyne, Eric		
Additional Participating Persons:	Marjorie V Jake; FAA/FSDO; Baltimore, MD Dana S Metz; Honeywell; Phonix, AZ		
Original Publish Date:	February 9, 2022	Investigation Class:	3
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98628		

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