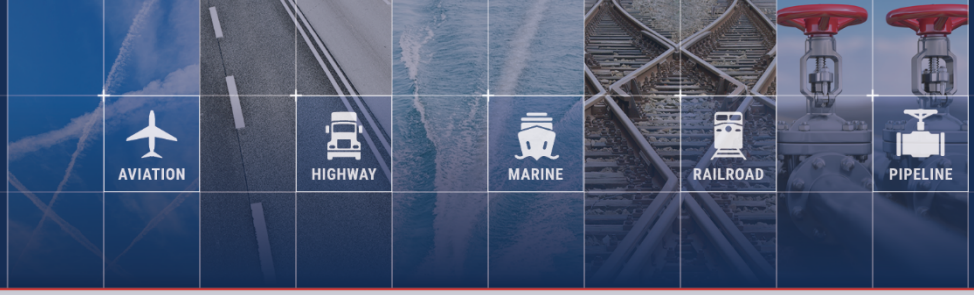

Aviation Investigation Final Report

Location:	ILIAMNA, Alaska	**Accident Number:**	ANC96FA109
Date & Time:	July 27, 1996, 15:05 Local	**Registration:**	N9141T
Aircraft:	Cessna 180B	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The first pilot, a non-instrument rated private pilot, departed on a cross-country flight to a remote area in a float equipped airplane. He was accompanied by a commercial/instrument rated pilot/passenger. The flight was reported overdue and was located 3 days later by search personnel. The airplane collided with mountainous terrain at an elevation of 2,200 feet along the intended flight path to the destination. The accident site was located in an area of hills that had a maximum elevation of 2,452 feet and surrounded by low, flat terrain. About 37 miles east at Iliamna, AK, the 1514 special weather observation was in part: 2,400 feet broken, 4,000 feet overcast, visibility 4 miles in light rain and mist, temperature 55 deg, dew point 52 degrees, wind from 100 deg at 13 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: VFR flight by the pilot into instrument meteorological conditions (IMC), and failure of the pilot to maintain sufficient altitude and/or clearance from mountainous terrain. Factors relating to the accident were: the adverse weather condition (low ceiling and rain) and terrain.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings

1. (F) WEATHER CONDITION - LOW CEILING
2. (F) WEATHER CONDITION - RAIN
3. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: CRUISE

Findings
4. (F) TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

History of the Flight

On July 27, 1996, about 1505 Alaska daylight time, a float equipped Cessna 180B, N9141T, collided with terrain at 2,200 feet mean sea level (msl), about 37 miles west of Iliamna, Alaska. The airplane was being operated as a visual flight rules (VFR) cross-country personal flight to Lake Aleknagik, Alaska, when the accident occurred. The airplane, registered to the first pilot, was destroyed by impact and postimpact fire. The first pilot, a certificated private pilot, and the second pilot, a certificated commercial pilot, both received fatal injuries. Instrument meteorological conditions prevailed in the area. A VFR flight plan was filed by the second pilot. The flight originated from Wolf Lake, about 6 1/2 miles northwest of Palmer, Alaska, about 1340.

The spouse of the first pilot reported that he departed Wolf Lake to pick up the second pilot at Finger Lake located about 1 1/2 miles south of the departure point. The spouse of the second pilot reported she observed her husband get into the right front seat of the airplane.

The second pilot air-filed the flight plan with a route of flight from Wolf Lake via Lake Clark Pass to Lake Aleknagik. The flight was reported overdue and an alert notice was issued by the Federal Aviation Administration (FAA) on July 27, 1996, at 1717. Search personnel located the crash site on July 30, 1996, at 1925.

The accident occurred during the hours of daylight at latitude 59 degrees, 47.317 minutes north and longitude 156 degrees, 09.252 minutes west.

Crew Information

The first pilot held a private pilot certificate with airplane single-engine land and single-engine sea ratings. The most recent third-class medical certificate was issued to the pilot on April 4, 1995, and contained the limitation the holder shall wear corrective lenses while exercising the privileges of his airman's certificate.

According to the pilot's logbook, his total aeronautical experience consisted of about 270 hours. In the preceding 90 and 30 days prior to the accident, the logbook lists a total of 15 and 9 hours respectively. The pilot did not hold an instrument rating and had recorded 4.3 hours of simulated instrument training.

The second pilot held a commercial pilot certificate with airplane single-engine land, single-engine sea and instrument airplane ratings. The most recent second-class medical certificate was issued to the pilot on October 24, 1995, and contained the limitation the pilot must wear

corrective lenses. Additionally, the pilot's medical certificate was not valid for night flying or by color signal control.

No personal flight records were located for the second pilot. The aeronautical experience delineated in Supplement E of this report was obtained from a review of FAA records on file in the Airman and Medical Records Center located in Oklahoma City. On the pilot's application for medical certificate on October 24, 1995, the pilot indicated that his total aeronautical experience consisted of about 1,000 hours, of which 100 were accrued in the previous 6 months.

Aircraft Information

The airplane had accumulated a total time in service of about 4,250 hours. Examination of the maintenance records revealed that the most recent annual inspection was accomplished on February 6, 1996, 16 flight hours before the accident. The engine had accrued a total time in service of 4,207 hours of operation and 161 hours since a major overhaul.

Meteorological Information

The National Weather Service issued a weather summary on July 27, 1996, at 1600. The summary reported, in part: "Low pressure is located over the south-central Bering Sea....Mostly cloudy skies covered almost the whole state with the exception of southeast Alaska...Most rain was located over western Alaska northward with portions of the interior and central Alaska reporting light amounts..."

An area forecast for the Iliamna area, issued on July 27, 1996, at 1548, valid for July 27, 1996, at 1600 until July 28, 1996, at 1600, was reporting, in part: Wind, 110 degrees at 15 knots; visibility, greater than 6 statute miles; ceiling, 6000 feet broken; remarks, temporary changes expected between the valid times, light rain, ceilings 3,000 feet broken.

An area forecast for the Yukon, Kuskokwim Delta, issued on July 27, 1996, at 1745, valid until July 28, 1996, at 0600, included in-flight weather advisories (AIRMETs) that stated, in part: "Airmet for IFR and mountain obscuration; temporary ceilings below 1,000 feet, visibility below 3 miles in light rain and mist, broken clouds at 1,500 feet, overcast at 4,000 feet, multiple layers at 25,000 feet, temporary visibilities 5 miles in light rain and mist. Airmet for turbulence; temporary moderate turbulence below 5,000 feet. Airmet for icing; temporary moderate rime icing in precipitation from 7,000 to 20,000 feet. Freezing level, 7,000 feet."

The closest official weather observation station is Iliamna, Alaska, which is located 37 nautical miles east of the accident site. On July 27, 1996, at 1348, an Aviation Routine Weather Report (METAR) was reporting in part: Wind, 100 degrees (true) at 15 knots; visibility, 25 statute miles; clouds, few at 2,800 feet, 5,000 feet scattered, 9,000 feet overcast; temperature, 57.2 degrees F; dew point, 50 degrees F; altimeter, 30.07 inHg.

At 1458, the Iliamna METAR was reporting in part: Wind, 100 degrees (true) at 13 knots; visibility, 20 statute miles in light rain; clouds, 2,800 feet scattered, 4,500 feet broken, 9,000 feet overcast; temperature, 55.4 degrees F; dew point, 50 degrees F; altimeter, 30.07 inHg; remarks, rain began 40 minutes after the hour.

At 1514, a special observation at Iliamna was reporting in part: Wind, 100 degrees (true) at 13 knots; visibility, 4 miles in light rain and mist; clouds, 2,400 feet broken, 4,000 feet overcast; temperature, 55 degrees F; dew point, 52 degrees F; altimeter, 30.07 inHg.

A 1355 METAR from King Salmon, Alaska, located 68 miles south of the accident site was reporting, in part: Wind, 160 degrees (true) at 15 knots, gust to 21 knots; visibility, 10 statute miles; clouds, 2,800 feet broken, 4,000 feet overcast; temperature, 58.8 degrees F; dew point, 52.3 degrees F; altimeter, 30.00 inHg.

At 1455, the METAR at King Salmon was reporting, in part: Wind, 150 degrees (true) at 15 knots, gust to 23 knots; visibility, 10 statute miles; clouds, few at 1,800 feet, 2,700 feet broken, 4,000 feet overcast; temperature, 60 degrees F; dew point, 51 degrees F; altimeter, 29.99 inHg.

Communications

After departure, the second pilot filed a VFR flight plan over the airplane radio with the Kenai Flight Service Station. While filing the flight plan, the second pilot listed his name and address as the pilot. The second pilot then inquired about any pilot reports (PIREP's) in the Lake Clark area and the status of remote communications outlets (RCO's). No further communication was received from the airplane.

A request was made to the FAA for any available radar data in the area of the accident. They reported that they had not provided radar services to the airplane and no radar data was available. On July 30, 1996, search personnel with the Alaska Rescue Coordination Center (RCC) located an intermittent radar track segment in the area of the accident. The radar segment for the date of the accident began at 1448 at latitude 60 degrees, 3 minutes north and longitude 155 degrees 8 minutes west. The magnetic heading of the radar target was 241 degrees; speed, 124 knots; altitude, 2,500 feet; transponder code, 1200.

At 1453, the radar track was at latitude 59 degrees, 55 minutes north and longitude 155 degrees, 35 minutes west. At 1502, the radar track ended at latitude 59 degrees, 50 minutes north and longitude 155 degrees, 57 minutes west. The ending location was 7 miles northeast of the accident site.

Wreckage and Impact Information

The National Transportation Safety Board investigator-in-charge (IIC) examined the airplane wreckage at the accident site on July 31, 1996. A path of wreckage debris and ground scars from the initial point of ground contact to the wreckage point of rest was observed on a

magnetic heading of 230 degrees, at an elevation of 2,200 feet msl. The terrain at the accident site consisted of medium and large rocks in a saddle area of rolling hills. The highest mountain in the area of the accident was 2,452 feet. The area surrounding the hills consisted of extensive low and flat terrain. (All heading/bearings noted in this report are oriented toward magnetic north.)

All of the airplane's major components were found at the main wreckage area The first observed impact point was a disruption of the soil and rocks where fragments of Plexiglas and aluminum were located. About 20 feet along the wreckage path from the first observed point of impact, two parallel gouges, about 10 feet apart, were noted in the soil and rocks. Along the right gouge, a segment of right wing leading edge material was located. Along the left gouge, the forward tip of the left float assembly was found separated from the airplane and partially buried in the ground. About 30 feet from the initial impact point, a segment of a door post and portions of the engine were found separated from airplane. Further along the wreckage path, the airplane continued to disintegrate through an area of large boulders and onto a near vertical, 15 foot high rock wall. About 50 feet along the wreckage path, the left wingtip was found separated from the airframe. Further along the wreckage path, the engine propeller was located separated from the crankshaft and portions of charred aluminum were noted.

The main fuselage came to rest upslope from the left wing at the base of the rock wall were a postcrash fire incinerated most of the cabin/cockpit area back to the empennage. The cockpit and instrument panel exhibited extensive crushing and distortion. The empennage was separated from the fuselage at the forward edge of the vertical stabilizer attach point and lying upslope from the cabin area. The horizontal and vertical stabilizers, rudder and elevators were attached. The empennage exhibited fire damage along the forward edge of the point of fuselage separation. Additional portions of the airplane, including cabin seats, elevator trim wheel assembly, the left door, and portions of windshield were scattered about 125 feet upslope from the main fuselage area.

The left float assembly was located inverted upslope from the cockpit area, lying on the right wing. The forward third of the float was extensively crushed in an aft direction and torn open. The right float assembly was located upslope and aft of the empennage. The forward and aft spreader bars were still attached to the float. The forward third of the float was crushed in an aft direction and torn open.

The left wing separated from the burned fuselage at the inboard end. The lift strut was attached to the wing but separated from the fuselage at the lower attach point. The wing was bent aft about 45 degrees at the landing light assembly. The upper surface of the wing exhibited extensive fire damage. The outboard end was crushed and bent upward. The right wing was separated from the fuselage and exhibited extensive crushing and fire damage. The right lift strut was separated from the wing and fuselage and was lying on the right horizontal stabilizer. The upper end of the lift strut was still attached to a portion of wing spar that was torn away from the wing.

The left wing mounted landing light bulbs were unbroken and their bulb filaments were both tightly coiled. Both wing mounted fuel caps were attached to their respective fuel tanks. Due to the impact and postimpact fire damage, the flight controls could not be moved by their respective control mechanisms.

The propeller assembly separated from the engine crankshaft and both blades separated from the hub. One propeller blade, located along the wreckage path, exhibited leading edge and trailing edge distortion and destruction with extensive gouging, chordwise scratching, "S" bending, and torsional twisting. The outboard 12 inches of the blade was separated from the rest of the blade. The second blade, located about 150 feet upslope from the fuselage, exhibited similar destruction and was fractured about midspan. The fracture point exhibited leading edge gouging and aft bending about 90 degrees.

The engine sustained extensive impact damage and was separated from the airframe. Both magnetos separated from their respective attach points. One magneto was located about 250 feet beyond the engine point of rest, upslope and on top of the rock wall. The second magneto was located along the wreckage path. The engine case sustained severe impact and crush signatures. The top portion of the case was fractured and broken at numerous points, exposing the engine crankshaft to view. The number 2 cylinder separated from the engine case and was located along the wreckage path adjacent to the left wing.

Medical and Pathological Information

Initial information from the FAA, developed during the start of the investigation, indicated that the second pilot was acting as the pilot-in-command. Based on the initial information, the Alaska State Medical Examiner, 5700 E. Tudor, Anchorage, Alaska, decided to conduct a postmortem examination of the second pilot on August 1, 1996. A postmortem examination of the first pilot was not conducted.

Search and Rescue

On July 30, 1996, about 1730, search personnel with the Alaska RCC located a radar target on their computer that was intermittent in the area of the accident and was oriented along the likely path of the accident airplane. A search airplane followed the radar path on a heading of 230 degrees from the Lake Clark Pass area toward the intended destination. The wreckage was spotted on July 30, 1996, about 1825. A rescue helicopter was then dispatched to the area but low ceilings and low visibility prevented the helicopter from reaching the crash site until July 31, 1996. No emergency locator transmitter (ELT) signal was received from the accident airplane.

Wreckage Release

The Safety Board did not take custody of the wreckage. No parts or components were retained by the Safety Board.

Pilot Information

Certificate:	Private	**Age:**	41,Male
Airplane Rating(s):	Single-engine land; Single-engine sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	April 4, 1995
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	270 hours (Total, all aircraft), 207 hours (Pilot In Command, all aircraft), 15 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N9141T
Model/Series:	180B 180B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	50641
Landing Gear Type:	Float	**Seats:**	4
Date/Type of Last Inspection:	February 6, 1996 Annual	**Certified Max Gross Wt.:**	2650 lbs
Time Since Last Inspection:	16 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4250 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	O-470-K
Registered Owner:	DAVID L. MOUNTJOY	**Rated Power:**	230 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ILI ,207 ft msl	**Distance from Accident Site:**	37 Nautical Miles
Observation Time:	15:14 Local	**Direction from Accident Site:**	72°
Lowest Cloud Condition:	Unknown	**Visibility**	4 miles
Lowest Ceiling:	Broken	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	100°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	13°C / 11°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	PALMER , AK	**Type of Flight Plan Filed:**	VFR
Destination:	LAKE ALEKNAGIK , AK	**Type of Clearance:**	None
Departure Time:	13:40 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	59.850669,-154.560089(est)

Administrative Information

Investigator In Charge (IIC):	Erickson, Scott
Additional Participating Persons:	RICHARD MAHL; ANCHORAGE , AK
Original Publish Date:	August 29, 1997
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=2761