



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

March 10, 2021

Specialist's Factual Report

METEOROLOGY

ERA21LA132

A. ACCIDENT

Location: Indian Head, Maryland
Date: February 17, 2021
Time: 0945 eastern standard time
1445 coordinated universal time (UTC)
Airplane: Cessna 150G; Registration: N8428J

B. METEOROLOGIST

Don Eick
Senior Meteorologist
Operational Factors Division (AS-30)
National Transportation Safety Board

C. SUMMARY

On February 17, 2021, about 0945 eastern standard time, a Cessna 150G, N8428J, was substantially damaged when it was involved in an accident near Maryland Airport (2W5), Indian Head, Maryland. The flight instructor and pilot-rated student were uninjured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 instructional flight.

D. DETAILS OF THE INVESTIGATION

The National Transportation Safety Board's (NTSB) Senior Meteorologist was not on scene for this investigation and conducted the meteorology phase of the investigation from the Washington D.C. office, collecting data from official NWS sources including the Weather Prediction Center (WPC) and the National Center for Environmental Information (NCEI). All times are eastern standard time (EST) based upon the 24 hour clock, local time is +5 hours to UTC, and UTC=Z. 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 provides a meteorological review on the weather conditions and National Weather Service (NWS) aviation weather products applicable to the accident region around the accident time.

E. WEATHER INFORMATION

1.0 Observations

The official NWS Meteorological Aerodrome Reports (METARs) and Special Reports (SPECIs) disseminated longline in the time surrounding the period were documented for the area. The cloud

heights are reported above ground level (agl) in the following section, and the magnetic variation over the region was estimated as 11° W based on the sectional chart for the area.

Maryland Airport (2W5), Indian Head, Maryland, at an elevation of 175 ft, did not have any official weather reporting capability other than a windsock for visual identification of local winds.

The closest weather reporting station to the accident site and the planned destination was Davison Army Airfield (KDAA), Fort Belvoir, Virginia, located approximately 8 miles northwest of Indian Head, MD. The airfield lists an elevation of 74 ft and had an Automated Surface Observation System (ASOS) and reported the following conditions surrounding the time of the accident.

KDAA weather at 0856 EST (1356Z), automated, wind from 320° at 11 knots, visibility 10 miles or more, sky clear below 12,000 ft agl, temperature -2° Celsius (C), dew point -13° C, altimeter 30.42 inches of mercury. Remarks: automated station with a precipitation discriminator, sea-level pressure 1030.5-hectopascals (hPa), temperature -2.2° C, dew point temperature -13.4° C, maintenance indicator on.

KDAA weather at 0956 EST (1456Z), automated, wind from 340° at 5 knots, visibility 10 miles or more, scattered clouds at 21,000 ft agl, temperature -1° C, dew point -14° C, altimeter 30.44 inches of mercury. Remarks: automated station with a precipitation discriminator, sea-level pressure 1031.2-hPa, temperature -1.3° C, dew point temperature -13.8° C, 3-hour pressure tendency risen 2.4-hPa, maintenance indicator on.

Below are the reported conditions from KDAA between February 10-17, 2021 with time in UTC. The station reported precipitation on February 16th with falling temperatures on February 17th. A period of freezing precipitation was also reported on February 14th and February 13th. The data provides the sea-level pressure (PMSL), Altimeter setting (ALTM), temperature (TMP) and dew point temperature (DEW), relative humidity (RH), wind direction (DIR) and speed (SPD), wind gusts (GUST), and peak wind direction and speed, visibility (VIS), clouds, weather, minimum and maximum temperatures, hourly precipitation (P01), and 6-hour precipitation totals (PCP).

STN	TIME	PMSL	ALTM	TMP	DEW	RH	DIR	SPD	GUST	PEAK	VIS	CLOUDS	Weather	MIN	MAX	P01	PCP
	DD/HHMM	hPa	inHg	F	F	%	deg	kt			mile			F	F	in	in
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
DAA	17/1456	1031.2	30.44	30	7	38	340	5			10.0	SCT210					
DAA	17/1356	1030.5	30.42	28	8	42	320	11			10.0	CLR					
DAA	17/1256	1030.2	30.41	26	10	50	330	7			10.0	SCT190					
DAA	17/1156	1028.8	30.37	26	9	47	340	6			10.0	SCT170	OVC190	25	28		
DAA	17/1056	1027.8	30.34	26	10	50	310	7			10.0	BKN190					
DAA	17/0956	1027.1	30.32	25	11	53	300	6			10.0	BKN200	BKN230				
DAA	17/0856	1025.4	30.27	26	11	53	310	10			10.0	CLR					
DAA	17/0756	1025.1	30.26	26	10	49	310	5			10.0	CLR					
DAA	17/0656	1023.7	30.22	27	11	49	320	7	16		10.0	CLR					
DAA	17/0556	1023.7	30.22	28	12	52	310	9			10.0	CLR		28	35		
DAA	17/0456	1023.0	30.20	28	12	51	300	9			10.0	CLR					
DAA	17/0356	1021.7	30.16	29	11	47	310	12	20		10.0	CLR					
DAA	17/0256	1020.3	30.12	31	12	45	300	19	25	30027	10.0	CLR					
DAA	17/0156	1019.3	30.09	32	13	44	300	11	18		10.0	FEW065					
DAA	17/0056	1017.6	30.04	33	15	46	310	10	21		10.0	BKN055					
DAA	16/2356	1016.3	30.00	36	16	44	310	14	24		10.0	BKN048	BKN060				

DAA	16/2256	29.92	39	22	51	310	16	23	31027	10.0	BKN050	OVC065						
DAA	16/2156	29.85	43	29	57	310	18	25		10.0	FEW022	BKN030	OVC050					
DAA	16/2056	29.79	45	39	81	280	3			10.0	BKN048	BKN060						
DAA	16/1956	29.77	43	38	84	280	4			10.0	BKN023	OVC039						
DAA	16/1856	29.73	43	38	84	230	5			10.0	OVC009							
DAA	16/1756	29.70	42	38	85	0	0			10.0	OVC008			37	42			
DAA	16/1656	29.71	42	38	86	250	3			10.0	OVC007							
DAA	16/1556	29.68	40	37	87	0	0			10.0	OVC007							
DAA	16/1456	29.68	39	36	89	160	3			10.0	OVC007							
DAA	16/1356	29.70	38	36	92	210	3			10.0	OVC004							
DAA	16/1256	29.65	37	35	92	0	0			10.0	BKN005	OVC015						
DAA	16/1156	1004.0	29.64	37	35	92	140	4		10.0	BKN013	OVC020		36	37	0.28		
DAA	16/1056	1004.4	29.65	37	35	92	0	0		10.0	BKN008	OVC013						
DAA	16/0956	1004.7	29.66	37	35	93	280	3		10.0	BKN006	OVC010				0.00		
DAA	16/0856	1005.0	29.67	37	35	93	290	5		8.0	OVC005		-RA			0.01/0.27		
DAA	16/0756	1006.1	29.70	36	35	93	250	3		10.0	BKN006	BKN016	OVC021			0.13		
DAA	16/0656	1007.4	29.74	36	34	93	0	0		10.0	OVC007		-RA			0.13		
DAA	16/0556	1009.1	29.79	36	34	93	0	0		10.0	BKN004	OVC016	-RA	35	36	0.12/0.66		
DAA	16/0456	1011.2	29.85	36	34	93	0	0		2.8	FEW003	OVC034	+RA	FG		0.23		
DAA	16/0356	1014.5	29.95	36	34	93	260	7		2.5	OVC007		+RA	FG		0.30		
DAA	16/0256	1014.5	29.95	35	33	92	0	0		3.0	OVC005		-RA	FG		0.01/0.01		
DAA	16/0156	1015.6	29.98	35	33	92	0	0		2.8	OVC005		-DZ	FG		0.00		
DAA	16/0056	1016.9	30.02	35	33	92	0	0		3.0	OVC005		FG					
DAA	15/2356	1017.6	30.04	36	34	92	60	4		4.0	OVC005		FG	36	41	0.00		
DAA	15/2256	1019.0	30.08	37	35	90	100	3		3.0	OVC006		FG					
DAA	15/2156	1019.3	30.09	38	34	86	40	3		10.0	SCT010	OVC015				0.00		
DAA	15/2056	1020.0	30.11	40	32	74	0	0		10.0	OVC017		-RA			0.00/0.00		
DAA	15/1956	1020.0	30.11	41	32	71	0	0		10.0	OVC020							
DAA	15/1856	1020.0	30.11	41	30	66	0	0		10.0	OVC020							
DAA	15/1756	1020.6	30.13	40	30	66	0	0		10.0	OVC021			36	41			
DAA	15/1656	1022.0	30.17	40	30	65	360	4		10.0	OVC021							
DAA	15/1556	1022.7	30.19	40	29	65	340	3		10.0	BKN020	OVC026						
DAA	15/1456	1022.7	30.19	38	28	67	0	0		10.0	BKN030	BKN040	OVC070					
DAA	15/1356	1023.7	30.22	37	28	69	330	4		10.0	BKN021	OVC028						
DAA	15/1256	1022.7	30.19	36	28	71	0	0		10.0	OVC031							
DAA	15/1156	1022.3	30.18	36	28	73	0	0		10.0	OVC032			35	36	0.00		
DAA	15/1056	1022.0	30.17	36	28	73	0	0		10.0	OVC029							
DAA	15/0956	1022.0	30.17	35	28	74	0	0		10.0	BKN029	OVC036						
DAA	15/0856	1022.3	30.18	35	29	77	330	3		10.0	OVC029					0.00/0.00		
DAA	15/0756	1022.7	30.19	35	28	74	350	3		10.0	SCT029	BKN042	BKN055					
DAA	15/0656	1022.7	30.19	36	28	74	350	3		10.0	BKN029					0.00		
DAA	15/0556	1023.0	30.20	35	29	76	320	5		10.0	OVC031		-RA	35	37	0.00/0.00		
DAA	15/0456	1023.4	30.21	35	31	84	0	0		10.0	BKN033	BKN040				0.00		
DAA	15/0356	1023.7	30.22	37	28	70	0	0		10.0	SCT048							
DAA	15/0256	1023.7	30.22	36	28	71	0	0		10.0	OVC040							
DAA	15/0156	1024.0	30.23	37	28	69	0	0		10.0	BKN043	OVC055						
DAA	15/0056	1024.0	30.23	37	29	73	0	0		10.0	OVC070							
DAA	14/2356	1024.7	30.25	37	29	74	360	3		10.0	OVC049			35	37			
DAA	14/2256	1024.4	30.24	37	29	74	340	3		10.0	OVC055							
DAA	14/2156	1024.0	30.23	37	30	75	0	0		10.0	OVC050							
DAA	14/2056	1024.0	30.23	37	32	80	330	3		10.0	FEW014	OVC049						
DAA	14/1956	1024.1	30.23	36	31	80	340	4		10.0	OVC050							
DAA	14/1856	1024.1	30.23	36	31	83	10	4		10.0	FEW013	BKN048						
DAA	14/1756	1024.7	30.25	35	31	86	0	0		10.0	OVC009			29	35	0.00		
DAA	14/1656	1025.1	30.26	34	30	85	0	0		10.0	OVC008							
DAA	14/1556	1025.7	30.28	33	29	85	0	0		10.0	OVC009							
DAA	14/1456	1025.4	30.27	32	28	86	0	0		10.0	OVC008					0.00		
DAA	14/1356	1025.4	30.27	31	27	86	0	0		10.0	OVC009							
DAA	14/1256	1024.4	30.24	30	27	89	0	0		8.0	SCT006	OVC017				0.00		
DAA	14/1256	1024.4	30.24	30	27	89	0	0		8.0	SCT006	OVC017				0.00		
DAA	14/1156	1024.1	30.23	29	27	90	0	0		4.0	OVC005		FZDZ	28	29	0.00/0.00		
DAA	14/1056	1023.0	30.20	29	26	89	0	0		7.0	OVC006							
DAA	14/0956	1022.7	30.19	29	26	89	0	0		10.0	OVC006							
DAA	14/0856	1022.4	30.18	29	26	89	0	0		10.0	OVC005					0.00/0.00		
DAA	14/0756	1022.4	30.18	29	26	89	0	0		10.0	OVC006		-FZDZ			0.00		
DAA	14/0656	1022.0	30.17	28	26	89	0	0		9.0	OVC006							
DAA	14/0556	1022.0	30.17	28	25	88	0	0		10.0	OVC007			28	29	0.00		
DAA	14/0456	1022.4	30.18	28	25	87	0	0		10.0	OVC007							
DAA	14/0356	1022.0	30.17	28	25	88	0	0		10.0	OVC007							
DAA	14/0256	1022.0	30.17	29	26	88	0	0		9.0	OVC007					0.00		
DAA	14/0156	1021.7	30.16	29	26	89	0	0		9.0	OVC007					0.00		

DAA	14/0056	1021.7	30.16	29	25	86	0	0
DAA	13/2356	1021.7	30.16	29	26	86	0	0
DAA	13/2256	1021.7	30.16	30	27	87	0	0
DAA	13/2156	1021.7	30.16	30	27	86	0	0
DAA	13/2056	1022.0	30.17	31	27	87	0	0
DAA	13/1956	1022.7	30.19	30	27	88	0	0
DAA	13/1856	1023.0	30.20	30	27	88	0	0
DAA	13/1756	1024.4	30.24	29	26	85	0	0
DAA	13/1656	1025.1	30.26	29	24	83	10	4
DAA	13/1556	1025.4	30.27	29	23	80	360	3
DAA	13/1456	1025.7	30.28	29	21	72	10	3
DAA	13/1356	1025.7	30.28	30	18	60	10	5
DAA	13/1256	1025.4	30.27	31	17	57	10	3
DAA	13/1256	1025.4	30.27	31	17	57	10	3
DAA	13/1156	1024.7	30.25	30	19	63	30	4
DAA	13/1056	1025.1	30.26	30	17	56	10	5
DAA	13/0956	1025.4	30.27	31	17	55	0	0
DAA	13/0856	1025.4	30.27	31	18	59	10	6
DAA	13/0756	1025.7	30.28	31	21	66	360	3
DAA	13/0656	1025.7	30.28	30	21	69	0	0
DAA	13/0556	1026.4	30.30	30	22	73	0	0
DAA	13/0456	1026.1	30.29	30	22	72	10	3
DAA	13/0356	1026.8	30.31	31	21	67	10	3
DAA	13/0256	1026.8	30.31	31	21	66	20	5
DAA	13/0156	1026.4	30.30	31	21	65	10	3
DAA	13/0056	1026.1	30.29	31	21	67	0	0
DAA	12/2356	1026.1	30.29	31	21	67	0	0
DAA	12/2256	1025.7	30.28	31	21	65	0	0
DAA	12/2156	1026.1	30.29	31	21	64	0	0
DAA	12/2056	1025.7	30.28	32	20	62	30	3
DAA	12/1956	1026.1	30.29	31	20	63	0	0
DAA	12/1856		30.30	31	19	62	0	0
DAA	12/1756		30.31	31	19	59	0	0
DAA	12/1656		30.35	31	18	58	0	0
DAA	12/1556	1028.1	30.35	30	17	57	30	5
DAA	12/1456	1027.8	30.34	29	16	57	60	3
DAA	12/1356	1028.1	30.35	30	17	58	30	3
DAA	12/1256	1027.1	30.32	29	17	59	50	3
DAA	11/1256	1023.0	30.20	35	32	92	0	0
DAA	11/1156	1022.0	30.17	35	32	92	0	0
DAA	11/1056	1021.7	30.16	35	33	92	0	0
DAA	11/0956	1021.7	30.16	35	33	92	0	0
DAA	11/0856	1021.3	30.15	35	33	92	0	0
DAA	11/0756	1021.7	30.16	35	33	92	110	3
DAA	11/0656	1022.0	30.17	35	33	93	130	5
DAA	11/0556	1023.0	30.20	34	33	93	0	0
DAA	11/0456	1023.7	30.22	34	32	92	0	0
DAA	11/0356	1023.7	30.22	34	31	92	120	5
DAA	11/0256	1024.7	30.25	34	32	92	0	0
DAA	11/0158	1024.4	30.24	34	32	93	130	3
DAA	11/0056	1025.7	30.28	33	31	93	0	0
DAA	10/2356	1025.4	30.27	33	31	93	110	3
DAA	10/2256	1026.4	30.30	32	30	93	0	0
DAA	10/2156	1026.4	30.30	34	32	90	0	0
DAA	10/2056	1026.1	30.29	37	31	79	180	4
DAA	10/1956	1026.4	30.30	42	26	54	200	3
DAA	10/1856	1027.1	30.32	42	26	52	180	4
DAA	10/1756	1027.1	30.32	42	25	50	150	3
DAA	10/1656	1028.1	30.35	42	25	50	90	4
DAA	10/1556	1028.8	30.37	43	25	48	0	0
DAA	10/1456	1029.1	30.38	39	24	53	20	3
DAA	10/1356	1029.1	30.38	38	25	59	0	0
DAA	10/1256	1028.8	30.37	35	24	64	0	0

10.0	OVC012							0.00
10.0	OVC010						29 31	0.00/0.17
10.0	OVC011						UP	0.00
10.0	BKN009 OVC017						UP	0.02
9.0	BKN008 OVC012						-FZRA	0.06/0.15
5.0	OVC008						UP FG	0.04
4.0	BKN008 OVC015						-FZRA FG	0.05
8.0	OVC010						-FZRA 28 31	.06/0.17
8.0	SCT014 OVC045						-FZRA	0.05
8.0	BKN025						-FZRA	0.04
9.0	OVC023						-FZRA	0.02/0.02
10.0	OVC025						UP	0.00
10.0	OVC026							
10.0	OVC026							
10.0	BKN023 OVC031						30 31	
10.0	OVC021							
10.0	OVC022							
10.0	OVC023							
10.0	OVC022							
10.0	OVC021							
10.0	OVC020						30 31	
10.0	OVC022							
10.0	OVC022							
10.0	OVC024							
10.0	OVC023							
10.0	OVC025							
10.0	BKN026 OVC048						31 32	
10.0	OVC023							
10.0	OVC024							
10.0	OVC030							
10.0	BKN024							
10.0	OVC025							
10.0	OVC025						30 31	
10.0	OVC026							
10.0	BKN032							
10.0	OVC030							
10.0	OVC033							
10.0	OVC034							
8.0	OVC007							0.00
10.0	OVC006						-RA 34 35	0.00/0.05
7.0	OVC006						-DZ	0.01
8.0	OVC006							
7.0	OVC007							0.00/0.04
8.0	OVC006						-DZ	0.00
7.0	OVC006						-RA	0.04
4.0	BKN005 OVC012						-RA FG 33 34	0.06/0.21
4.0	BKN007 OVC027						-RA FG	0.08
5.0	OVC031						-RA FG	0.06
6.0	BKN006 OVC034						RA FG	0.00/0.01
6.0	SCT005 BKN024 OVC030						FG	
6.0	SCT006 BKN024 BKN043						-RA FG	0.01
2.8	FEW003 OVC007						-SN-RA 33 43	.01/0.05
2.0	SCT007 BKN011 OVC020						-RA-SN FG	
4.0	OVC011						-RA FG	0.02
10.0	SCT016 BKN022 OVC030						-RA	0.00/0.00
10.0	OVC039							
10.0	OVC039							
10.0	OVC039						34 44	
10.0	BKN038							
10.0	SCT036							
10.0	FEW200							
10.0	FEW170							
10.0	CLR							

Submitted by:

Don Eick
Senior Meteorologist