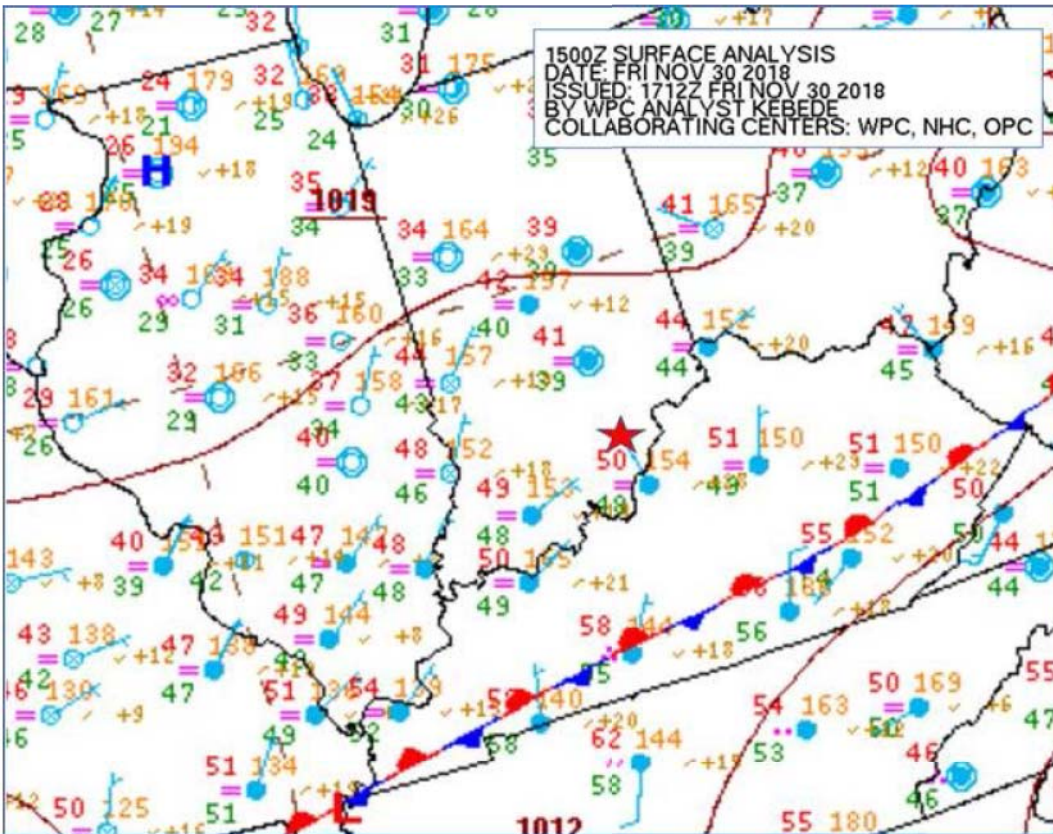


From: [Fick Donald](#)
To: [Aguilera Jason](#)
Cc: [Helson David](#); [Soper Brian](#)
Subject: CEN19FA036 - Updated Weather
Date: Monday, December 3, 2018 7:45:30 AM
Attachments: [image001.png](#)
[image006.png](#)
[image009.png](#)

Weather Conditions November 30, 2018

Synoptic Conditions – The northcentral portion of the NWS Surface Analysis Chart for 0900 CST (1500Z) on November 30, 2018 depicted a low pressure system at 1012-hectopascals (hPa) over the bootheel of Missouri along a stationary front which extended across Kentucky. The accident site was located north of the front. A high pressure system at 1019-hPa was located over northern Illinois resulting in a relative weak pressure gradient over the region. The station models surrounding the accident site indicated light northerly winds of 5 knots or less, overcast clouds with visibility restricted in fog or mist, temperatures of 50° Fahrenheit(F), dew point 48° F.



Observations - The accident airplane departed from [Clark Regional Airport \(KIVY\), Jeffersonville, Indiana](#), which listed at an elevation of 476 ft. The airport listed an Automated Weather Observation System (AWOS), but no broadcasted observers were available. The next closest observations are listed below.

[Bowman Field Airport \(KLOU\), Louisville, Kentucky](#) was the closest weather reporting location to the

accident site and was about 16 miles south-southeast at an elevation of 546 ft, with a magnetic variation of 4° West. The airport had an Automated Surface Observation System (ASOS) and was augmented by observers. The following conditions were reported during the period:

KLOU weather observation at 1053 EST, wind from 050° at 4 knots, visibility 9 miles, ceiling overcast at 800 ft agl, temperature 12° Celsius (C), dew point 8° C, altimeter 30.00 inches of mercury (Hg). Remarks: automated observation system, ceiling 500 variable 1,100 ft agl, sea level pressure 1015.9-hPa, temperature 11.7° C, dew point 8.3° C, maintenance required on system.

SPECI KLOU 301401Z 35004KT 3SM BR BKN003 OVC010 10/Λ2996 RMK ΛO2 CIG 002V006 T0100 \$=

METAR KLOU 301453Z 00000KT 4SM HZ OVC004 11/08 A2999 RMK AO2 SLP154 T01060078 53026=

SPECI KLOU 301530Z 03005KT 7SM OVC006 11/08 A2999 RMK AO2 CIG 004V010 T01110083 \$=

SPECI KLOU 301551Z 05003KT 9SM OVC008 12/08 A3000 RMK AO2 CIG 005V011 \$=

METAR KLOU 301553Z 05004KT 9SM OVC008 12/08 A3000 RMK AO2 CIG 005V011 SLP159 T01170083 \$=

Accident 1628Z

METAR KLOU 301753Z 00000KT 10SM OVC013 13/08 A2997 RMK AO2 SLP147 T01330083 10133 20094 58009 \$=

METAR KLOU 301853Z 00000KT 10SM OVC014 13/08 A2997 RMK AO2 SLP149 T01330083=

Louisville International Airport-Sandiford Field (KSDF), Louisville, Kentucky was located approximately 19 miles south of the accident site at an elevation of 501 ft agl. The airport had an Automated Surface Observation System (ASOS) and was augmented by observers. Surrounding the period the following conditions were reported:

METAR KSDF 301356Z 36004KT 1 3/4SM -DZ BR OVC002 09/08 A2995 RMK AO2 SLP143 P0000 T00940083=

SPECI KSDF 301406Z 35003KT 2SM BR OVC002 10/09 A2996 RMK AO2 DZE06 P0000 T01000089=

SPECI KSDF 301422Z 35005KT 3SM BR BKN003 OVC012 10/09 A2997 RMK AO2 DZE06 P0000 T01000089=

METAR KSDF 301456Z 35005KT 3SM BR OVC005 10/09 A2998 RMK AO2 DZE06 SLP154 P0000 60000 T01000089 51028=

METAR KSDF 301556Z 05006KT 6SM BR OVC007 11/09 A2999 RMK AO2 SLP157 T01110089=

Accident 1628Z

METAR KSDF 301656Z 09005KT 9SM OVC009 12/09 A2998 RMK AO2 SLP152 T01220089=

SPECI KSDF 301725Z 10004KT 9SM SCT010 BKN015 OVC040 13/09 A2997 RMK AO2 T01280094=

SPECI KSDF 301743Z 15005KT 10SM OVC013 13/09 A2997 RMK AO2 T01280089=

METAR KSDF 301756Z 16005KT 10SM OVC013 13/09 A2997 RMK AO2 SLP147 60000 T01330094 10133 20094 58006=

METAR KSDF 301856Z 14005KT 10SM OVC013 13/09 A2997 RMK AO2 SLP149 T01280089=

Terminal Aerodrome Forecast (TAF):

TAF AMD KSDF 301619Z 3016/0118 VRB05KT P6SM OVC012

TEMPO 3016/3018 6SM BR BKN008

FM301800 VRB05KT P6SM BKN012

TEMPO 3020/3022 4SM -DZ BR OVC011

FM010200 VRB03KT 5SM -DZ BR OVC009

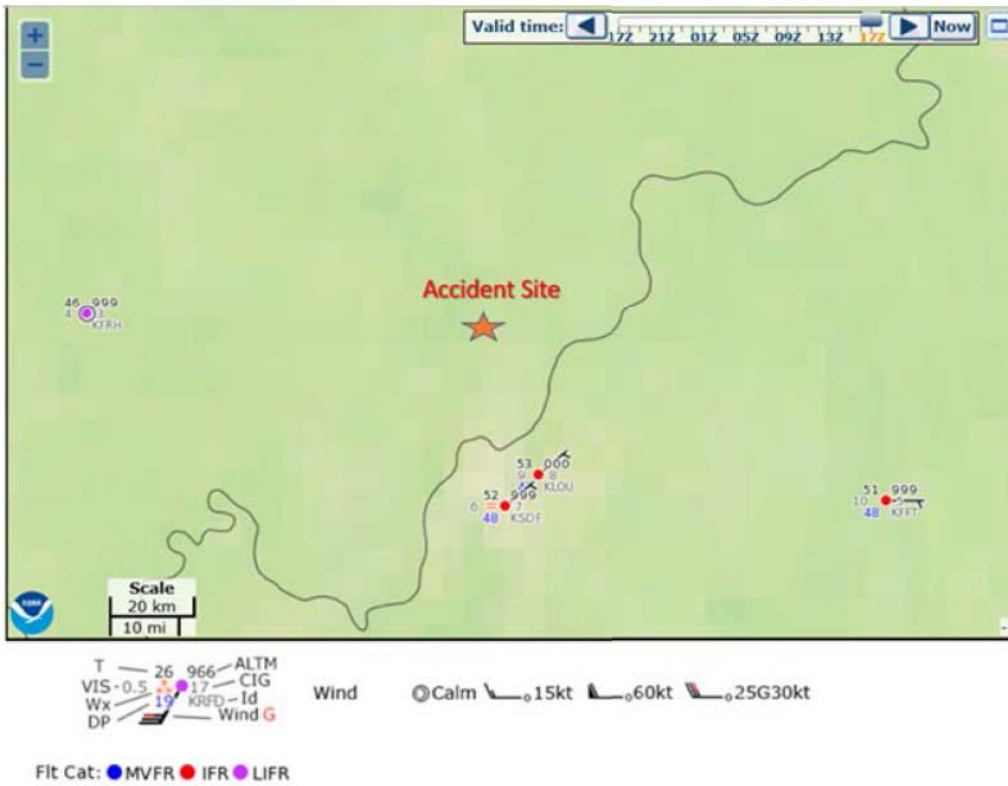
FM010500 10007KT 3SM -RA BR OVC007

FM011100 14012KT 4SM -RA BR SCT012 BKN025

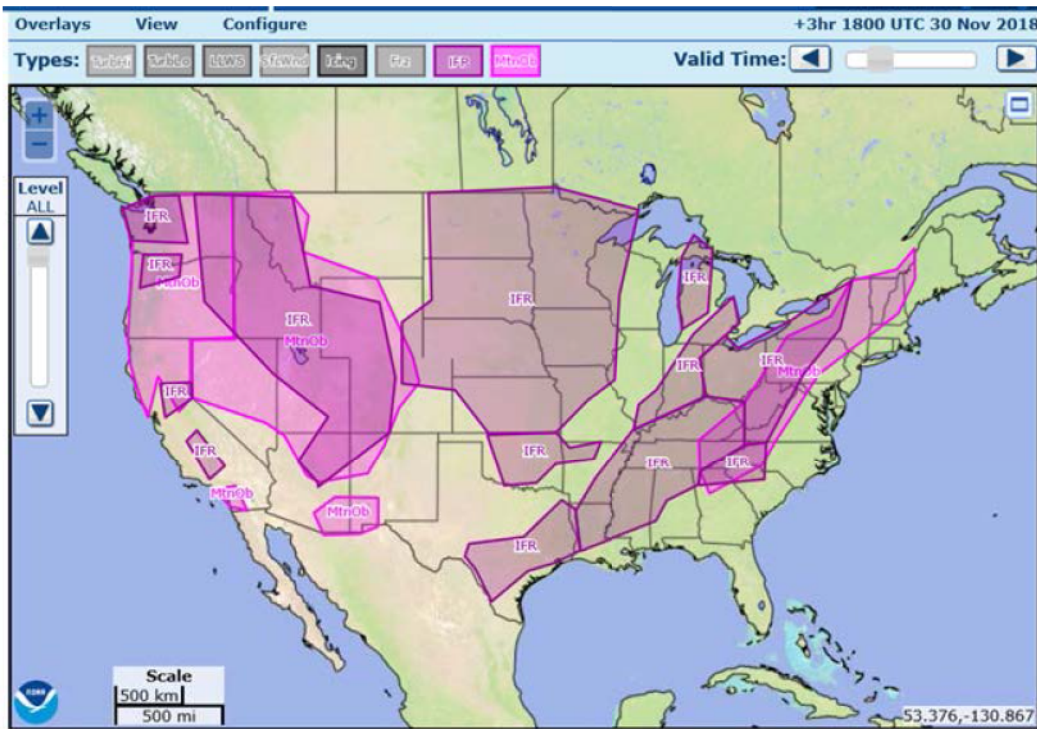
FM011400 15013G20KT 4SM -SHRA OVC012=

NWS Aviation Weather Center (AWC) METAR display at 1030 CST depicted IFR to LIFR conditions

prevailing over the area.

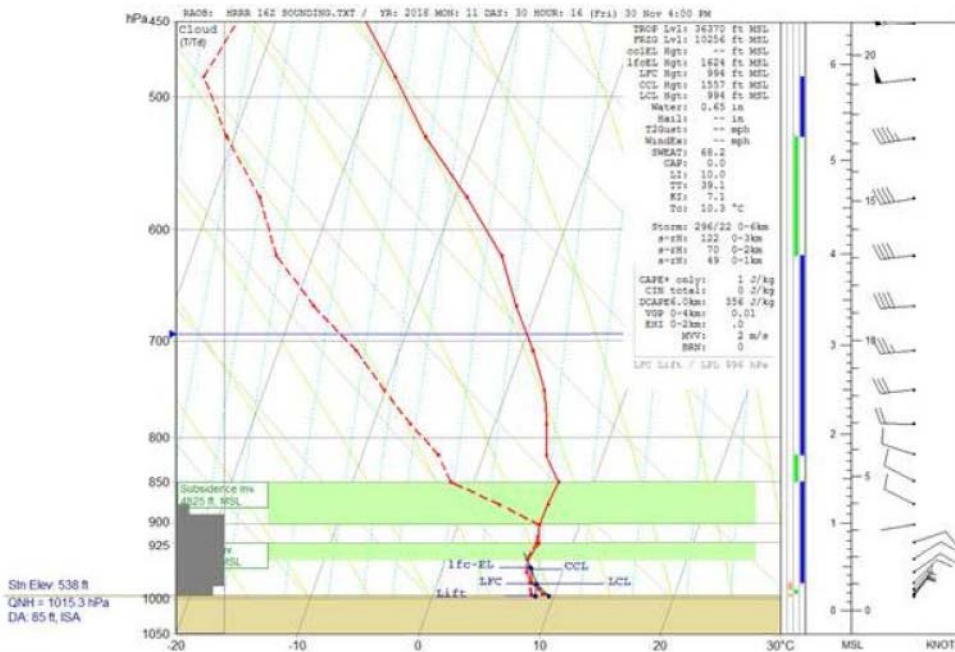


AIRMET Sierra for IFR conditions current for the region.



Sounding – a High Resolution Rapid System (HRRS) numerical model for 1600Z over the accident site

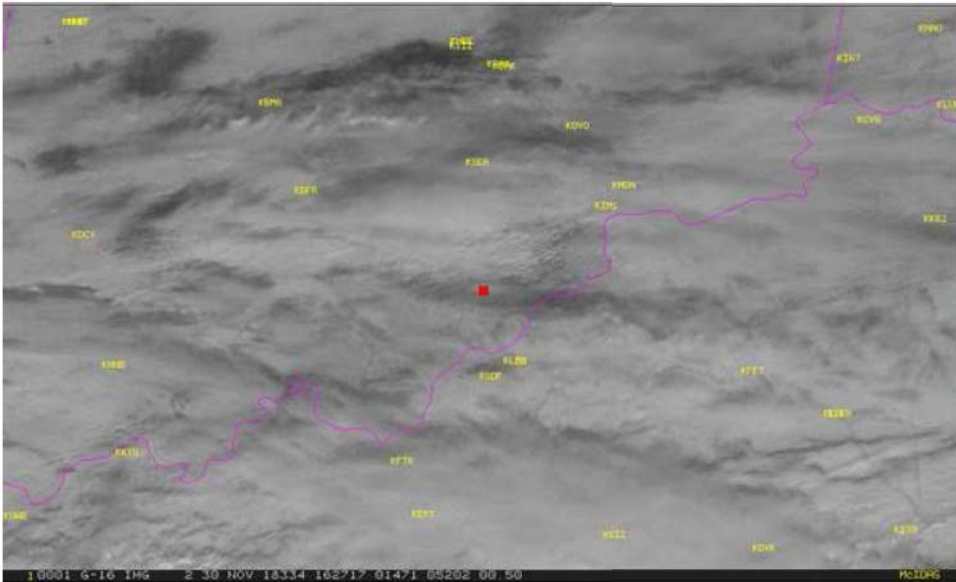
coordinates is included below an depicted a saturated low-level environment with a strong low-level temperature inversion with tops to 4,825 ft. The lifted condensation Level (LCL) and level of free convection (LFC) was identified at 456 ft agl, with the convective condensation level (CCL) at 1,019 ft agl. The sounding had a 100% relative humidity from the LFC through 3,200 ft. The freezing level was identified at about 10,250 ft. The wind profile indicated a surface wind from 040° at 5 knots with winds veering to the east and increasing to 12 knots at 1,400 ft and shearing to the west immediately above the temperature inversion and increasing in wind speeds with height. The mean 0 to 6 kilometer or 18,000 ft wind was from 266° at 29 knots.



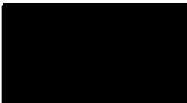
The sounding data derived height, pressure, temperature, dew point, relative humidity, wind, and clear air turbulence, low-level wind shear, and icing potential from the surface to 21,000 ft over the accident site were as follows:

Height (ft-MSL)	Pres (hPa)	T (C)	Td (C)	RH (%)	DD / FF (deg / kts)	CAT (FAA)	LLWS	Icing - Type (AFGWC method)
538	996	9.6	8.5	93	37 / 5			
565	995	9.5	8.2	92	35 / 5		LIGHT	
620	993	9.0	8.1	94	36 / 6			
785	987	8.6	7.9	95	36 / 6	LGT	LIGHT	
1034	978	7.8	7.7	99	42 / 9	LGT		
1425	964	7.5	7.1	97	52 / 12			
1906	947	6.8	6.7	99	54 / 12	LGT		
2541	925	7.2	7.0	99	70 / 8	MDT		
3222	902	6.7	6.7	100	260 / 2	MDT		
3981	877	6.8	2.8	76	298 / 9			
4825	850	7.0	-1.9	53	300 / 10			
5824	819	5.2	-3.7	53	290 / 12	MDT		
6959	785	4.3	-6.9	44	271 / 18	MDT		
8210	749	3.1	-10.1	37	263 / 28	LGT		
9663	709	1.0	-13.6	33	264 / 34	LGT		
11265	667	-1.7	-18.4	27	266 / 39			
13079	622	-4.4	-23.0	22	263 / 41			
15136	574	-9.0	-26.1	24	260 / 42			
17236	528	-14.2	-30.6	24	261 / 44	LGT		
19180	488				264 / 50			
19282	486	-18.5	-34.3	24		LGT		
21102	451				265 / 57			

Satellite imagery – the GOES-16 visible image at 2X for 1627Z is included below and depicted an extensive area of low stratiform clouds with tops near 10,000 ft.



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