

Bowling David

From: Suffern Paul
Sent: Wednesday, October 31, 2018 8:25 AM
To: Bowling David
Cc: Helson David
Subject: RE: You have been assigned a Meteorology Request (CEN18LA245)
Attachments: unofficialsitelocation.png; 2000edtHRRRupperairsoundingforaccidentsite.png; QITB02_KKCI_292100.PNG; QITC02_KKCI_291800.PNG; QITD02_KKCI_291500.PNG; QITD02_KKCI_291800.PNG; QZTB92_KKCI_291800.PNG; QZTB92_KKCI_292100.PNG; QZTC92_KKCI_291500.PNG; QZTC92_KKCI_291800.PNG; QZTC92_KKCI_292100.PNG; QZTD92_KKCI_291500.PNG; QZTG92_KKCI_290600.PNG

Hi David,

So here is some information for you for CEN18LA245...

Weather conditions around 2000 EDT:

Closest weather reporting site was KMFD as you noted in the prelim:

METAR KMFD 292352Z 17009KT 10SM CLR 29/21 A3007 RMK AO2 SLP171 T02890206 10311 20289 53000=

No other official weather reporting sites within 50 to 75 miles had any different weather conditions than this, in fact most had less wind. I checked the unofficial weather reporting stations around the area and attachment 1 showed the only site close by... "DW5146 Ashland". It was a APRSWXNET/CWOP site, which basically is a citizen weather observer program site... at the accident time of 2000 EDT, DW5146 had a wind of 4.99 mph with gusts to 4.99 mph and direction from 198 degrees. I don't know how this additional wx site was cited, but needless to say in the 2 hours period surrounding accident time the highest gusts was 7 mph. No precipitation, cloud cover, PIREPs, etc... (wx radar/satellite all reviewed)

The 2nd attachment is a weather computer model (HRRR wx model) for the upper air weather data from the surface through 10,000 ft msl for the accident site at 2000 EDT. It showed a conditionally unstable environment from the surface through 4,500 ft msl with a south wind as high as 10 knots. The conditionally unstable environment means that the wind from 4,500 ft could have come down/mixed down to the surface but seeing as the highest wind speed was only 10 knots... not much to mix down. So this means the pilot(s) could have expected a wind from calm to 10 knots but the conditional unstable air would have made for some wind gusts in there until sunset. After sunset the surface environment through 1,000 ft or so would have stablized and wind would have been less gusty and gone towards calm. The upper air program did pick up no clear-air turbulence possible but some light low-level wind shear possible with gusts to 10 knots between surface and 500 ft agl... likely not much for a plane but potential for a balloon?

Weather forecast for between 1600 and 2300 EDT:

The closest point weather forecast to the accident site was the KMFD TAF.. the 1335 EDT TAF was:

TAF KMFD 291735Z 2918/3018 20006KT P6SM FEW050
FM292200 18008KT P6SM SCT250
TEMPO 3009/3012 5SM BR=

And the 1934 EDT KMFD TAF was:

TAF KMFD 292334Z 3000/3024 21007KT P6SM SKC
TEMPO 3009/3012 5SM BR=

So a south wind of 8 knots and high clouds were forecast at 1335 EDT through overnight... while 1934 EDT forecast had southwest wind of 7 knots... both matched observations relatively well (within 50 degrees wind direction and 1 to 3 knots).

Since the text Area Forecast went away the Aviation Weather Center has been using aviation surface/cloud forecast for the same thing and I've attached all the weather forecast made before 1600 EDT and valid through 2300 EDT or so... all the forecast show no AIRMETS (or SIGMETs, CWA, MIS, etc...) valid, clear skies, and a south wind of 5 knots. This would be the same thing as the old text Area Forecast.

There was only 1 PIREP in the area from 0800 EDT through the next morning and the PIREP was issued at 1910 EDT for 5,000 ft and had negative turb and remark smooth report... all other PIREPs were for above FL300:

FDY UA /OV ROD045040 /TM 2310 /FLO50 /TP C172 /SK SKC /TB NEG /RM SMOOTH=

Based on the 2nd attachment (upper air sounding) this Cessna 172 was also in the stable air above the inversion at 4,500 ft msl so definitely very stable/smooth environment.

The Winds aloft forecast had this:

FBUS31 KWNO 292003
FD1US1
DATA BASED ON 291800Z
VALID 300000Z FOR USE 2000-0300Z. TEMPS NEG ABV 24000

FT 3000 6000 9000 12000 18000 24000 30000 34000 39000

CMH 1809 2106+21 3506+14 0306+08 0513-06 9900-18 272332 272243 272855

CMH (Columbus) was the closest point.. based on 1400 EDT data this forecast was issued at 1603 EDT valid from 1600 through 2300 EDT... 3,000 ft wind from 180 degrees at 9 knots, 6,000 ft wind from 210 degrees at 6 knots, temperature 21 degrees Celsius....

CLE (Cleveland) the other close wind aloft forecast point at 3,000 ft wind from 210 degrees at 14 knots...

Of all the weather forecast, the graphical ones did have the wind becoming calm by 2300 EDT and this would be expected after sunset in a light wind environment... typical summertime weather east of the Mississippi River when no thunderstorms in the area.

That sums up all the weather forecast and observations, etc... So no real wind above 10 knots available but would have been gusty from 0 to 10 knots at times with the unstable air mass in the afternoon/early evening. The TAF forecast covered the wind to near 10 knots... graphical forecast was only 5 knots but still within margin. Let me know how else I can help here!

Paul2