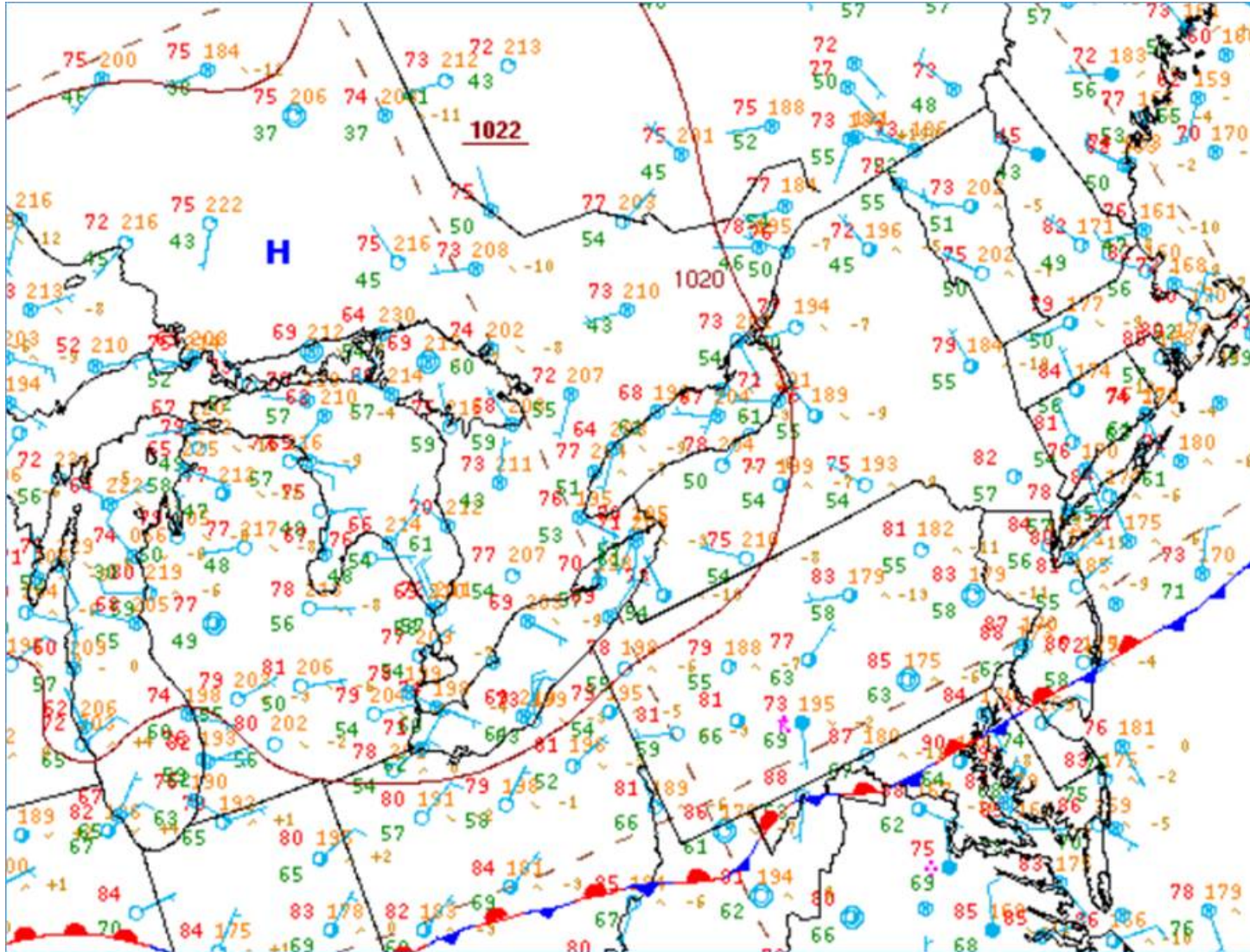


Weather Conditions on July 4, 2017 around Remsen, New York

Synoptic Conditions – The northeast section of the NWS Surface Analysis Chart for 1400 EDT (1800Z) on July 4, 2017 is included below. The chart depicted a high pressure system over the Great Lakes and Toronto, Canada to the northwest at 1022-hectopascals. A cold front extended off the New England coast and westward into southern New Jersey where it became a stationary front across Maryland, West Virginia, and Ohio. A weak pressure gradient was indicated over the northeast with a general north to northwesterly wind of 5 knots over the region. The station model surrounding the accident site indicated northerly winds of 5 knots, scattered clouds, with temperatures in the 70's degrees Fahrenheit (F), and dew points in the 50's, suggesting high based fair weather clouds.



A search of the NWS regional radar mosaic indicated no weather echoes over the region, so no rain showers or thunderstorms were identified over the region.

Observations – Remsen City Airport (NY57) at an elevation of 1,220 feet and a magnetic variation of 13° West, does not have any weather reporting capability. The airport is located in the foothills of the Adirondack Mountains to the northwest with elevation near 3,750 feet. The closest official weather

reporting was from Griffiss International Airport (KRME), located 12 miles southwest in Rome, NY, at an elevation of 504 ft. Rome reported the following conditions surrounding the period:

METAR KRME 041653Z 35004KT 10SM FEW050 OVC070 23/14 A3011 RMK AO2 SLP195 T02330139 \$=
METAR KRME 041753Z 24004KT 10SM SCT065 OVC090 24/13 A3010 RMK AO2 SLP191 T02440128 10256 20161
58010 \$=

Accident 1830Z

METAR KRME 041853Z 29004KT 10SM FEW070 OVC100 24/13 A3009 RMK AO2 SLP188 T02440133 \$=
METAR KRME 041953Z 00000KT 10SM BKN070 OVC095 24/13 A3010 RMK AO2 SLP189 T02440128 \$=

A review of the 5-minute observations for KRME was also reviewed. The observations for the hour of the accident were as follows:

METAR KRME 041755Z AUTO 23003KT 10SM FEW065 OVC090 24/13 A3010
METAR KRME 041800Z AUTO 22004KT 10SM FEW070 OVC090 24/13 A3010
METAR KRME 041805Z AUTO 00000KT 10SM FEW070 OVC090 24/12 A3010
METAR KRME 041810Z AUTO 23003KT 10SM FEW070 OVC090 24/12 A3010
METAR KRME 041815Z AUTO 23004KT 10SM FEW065 OVC090 24/12 A3010
METAR KRME 041820Z AUTO 20004KT 10SM FEW065 BKN090 24/13 A3010
METAR KRME 041825Z AUTO 20004KT 10SM BKN090 25/13 A3010
METAR KRME 041830Z AUTO 20006KT 10SM BKN095 25/14 A3010
METAR KRME 041835Z AUTO 20005KT 10SM BKN100 26/13 A3010
METAR KRME 041840Z AUTO 17005KT 10SM BKN100 26/13 A3009
METAR KRME 041845Z AUTO 18003KT 10SM BKN100 25/13 A3009
METAR KRME 041850Z AUTO 00000KT 10SM BKN100 25/13 A3009

Given the weak pressure gradient over the area, localized heating and a slight mountain-valley brief may have been the dominate factor in the shift from the northwest to the south of the winds over the region. Wind speeds remained at 6 knots or less during the period.

Forecast – the Terminal Aerodrome Forecasts (TAF) issued for Rome during the period was as follows:

TAF KRME 041120Z 0412/0512 VRB02KT P6SM SKC
FM041600 30006KT P6SM FEW060
FM050100 VRB02KT P6SM SKC=

TAF KRME 041723Z **0418/0518 32008KT P6SM BKN060**
FM050100 VRB03KT P6SM SKC
FM051400 12008KT P6SM BKN060=

The NWS Forecast did not account for the variation in wind direction either. The Area Forecast was as follows:

FAUS41 KPCI 041745
FA1W
-BOSC FA 041745
SYNOPSIS AND VFR CLDS/WX
SYNOPSIS VALID UNTIL 051200
CLDS/WX VALID UNTIL 050600...OTLK VALID 050600-051200
ME NH VT MA RI CT NY LO NJ PA OH LE WV MD DC DE VA AND CSTL WTRS

.
SEE AIRMET SIERRA FOR IFR CONDS AND MTN OBSCN.
TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.
NON MSL HGTS DENOTED BY AGL OR CIG.

.
SYNOPSIS...CDFNT OVR SRN MA WTRS BECMG QSTNRY FNT OVR SRN DE-NRN
VA-SRN OH. BY 12Z CDFNT OVR XTRM SERN VA AND WTRS BECMG QSTNRY
FNT OVR SWRN VA-SRN WV-NERN KY. HI PRES BLDG OVR NERN PTN FA THRU 12Z.

.
NH VT

N HLF...SCT-BKN060 TOP 120-140. ISOL -SHRA/TSRA. CB TOP FL370. 23Z SCT060 SCT CI. OTLK...VFR 08Z VLYS IFR BR.
S HLF...SCT-BKN060 TOP 120. 23Z SCT060 SCT CI. 02Z SCT100. OTLK...VFR 09Z MTN VLYS IFR BR ELSW MVFR BR.

.
MA RI CT

SERN MA...SCT050 SCT CI. 21Z OCNL BKN050 TOP 100. 01Z SCT050 SCT CI. OTLK...VFR 10Z MVFR BR.
RMNDR...SCT-BKN060 TOP 120. 23Z SCT060 SCT CI. 03Z SCT CI. OCNL SCT080. OTLK...VFR.

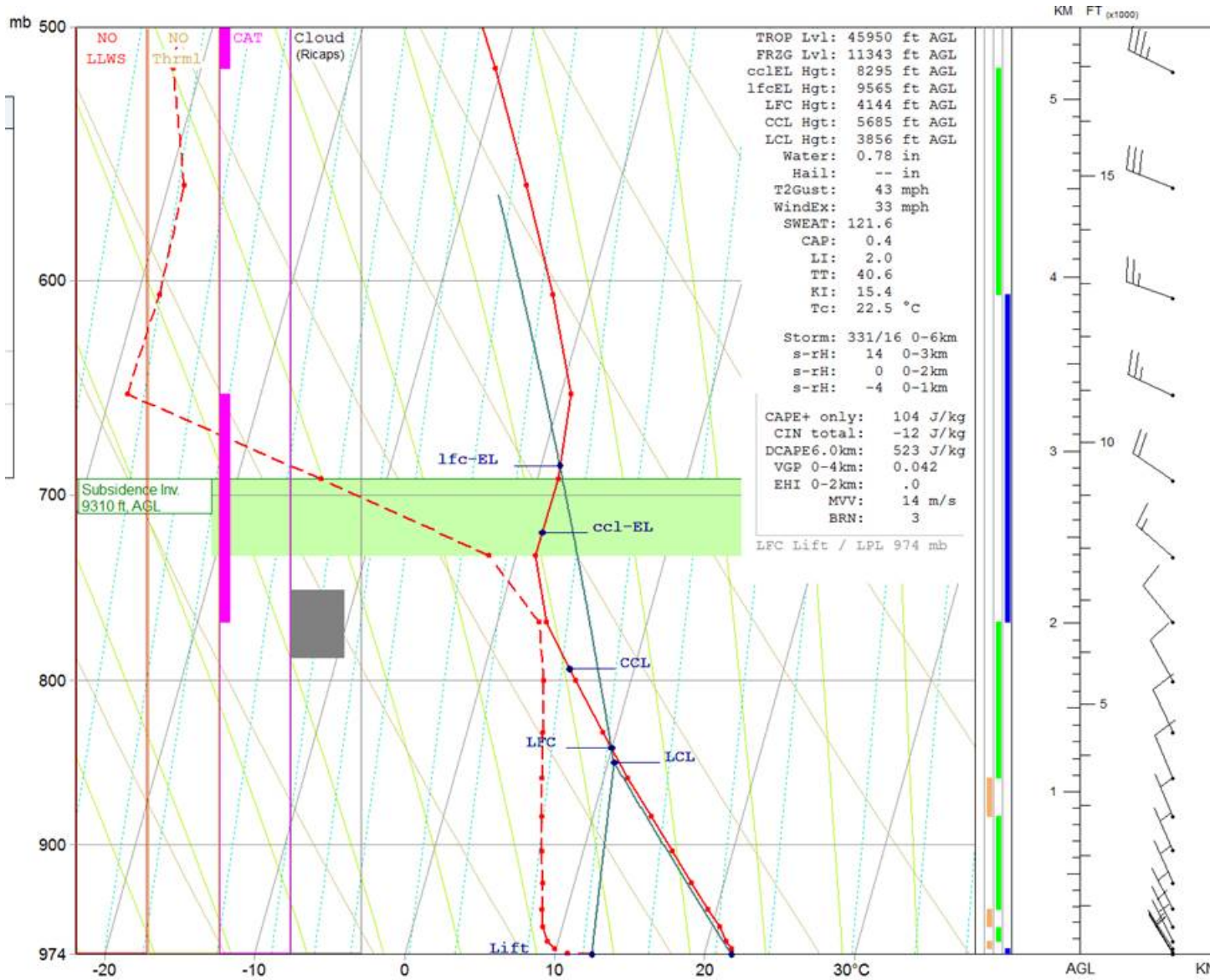
.
NY LO

NERN-N CNTRL NY...SCT-BKN070 TOP 120. 23Z SCT070 SCT CI. 02Z SCT CI. OTLK...VFR 08Z MVFR BR.
SERN NY-LONG ISLAND...
CSTL PLAIN..SCT070 SCT CI. OTLK...VFR.
INLAND..SCT-BKN060 TOP 100. 01Z SCT070 SCT CI. OTLK...VFR 09Z MVFR BR.
S CNTRL-WRN NY...SCT-BKN050 TOP 100. 00Z SCT060. 02Z SKC OR SCT CI. OTLK...VFR 08Z S PTN MVFR BR.
LO...SKC OR SCT CI. OTLK...VFR.

.
PA NJ

NJ/ERN PA...
N HLF..SCT-BKN060 TOP 120. BECMG 0204 SCT060 SCT CI. OTLK...VFR.
S HLF..SCT040 BKN060 TOP 140. ISOL -SHRA/TSRA. CB TOP FL400. 03Z SCT040 SCT100 SCT-BKN CI. OTLK...VFR 08Z S
PTN MVFR BR.
CNTRL-WRN PA...
N HLF..SCT-BKN060 TOP 100. 00Z SCT060 SCT CI. OTLK...VFR.
S HLF..BKN050 TOP 160. WDLY SCT -SHRA/TSRA. CB TOP FL400. BECMG 0305 TOP 140. ISOL -SHRA. OTLK...VFR
SHRA 07Z MVFR BR.

Sounding – A High-Resolution Rapid Refresh (HRRR) numerical model over the accident site was run from archive data from the NOAA Air Resource Laboratory for 1400 EDT (1800Z) and is included below. The model depicted the expected wind from the northwest or from 330 at 3 knots with little variation in direction with height through 7,000 feet. No significant wind shear, thermals, or turbulence was identified below 5,000 feet. The sounding had a relative humidity of 55% at the surface and the estimated cloud bases were at 5,685 feet agl and supported scattered clouds with tops near 7,000 feet. The atmosphere was characterized as stable with a lifted index of +2.0, with the lowest layer below 1,000 feet unstable due to the dry rapid cooling with altitude. The mean wind was from 300° at 21 knots, with winds below 5,000 feet less than 10 knots.



The model data from the surface to 10,000 feet was as follows:

Height (ft-MSL)	Pres (mb)	T (C)	Td (C)	RH (%)	DD/FF (deg/ kts)	CAT (FAA)	LLWS
1299	974	21.8	12.5	55	331 / 3		
1328	973	21.8	10.8	50	331 / 3		
1416	970	21.7	9.9	47	330 / 3		
1563	965	21.2	9.3	47	336 / 4		
1859	955	20.5	8.7	47	334 / 5		
2217	943	19.4	8.3	49	335 / 5		
2760	925	17.8	7.9	52	338 / 5		
3403	904	15.9	7.2	56	338 / 6		
4088	882	13.9	6.6	61	339 / 7		
4849	858	11.6	5.9	68	339 / 8		
5757	830	9.1	5.1	76	337 / 9		
6754	800	6.3	4.2	86	333 / 10		
7883	767	3.3	2.8	97	324 / 11	LGT	
9160	731	1.3	-1.8	80	313 / 14	LGT	
10609	692	1.4	-14.4	30	307 / 20	LGT	

In-Flight Weather Advisories – there were no NWS AIRMETs, SIGMETs current over the area for any hazardous weather conditions.

Winds and Temperature Aloft – the NWS forecast was as follows:

WINDS ALOFT FORECASTS

DATA BASED ON 041200Z

VALID 041800Z FOR USE 1400-2100Z. TEMPS NEG ABV 24000

FT	3000	6000	9000	12000	18000	24000	30000	34000	39000
SYR	3306	3406+08	3109+02	2923+01	3036-12	2949-24	296538	296946	296654
ALB	3405	3410+08	3015+03	2924+00	2837-12	2849-25	287138	287545	286653

Summary – NWS forecasts and model data suggest northwesterly winds prevailing over the area at 10 knots or less. However; the 5-minute resolution ASOS observations for Rome indicate a local mountain valley wind condition at low altitudes with winds from the south or uphill with the afternoon heating of the surface. No significant low-level turbulence or wind shear was identified over the area and no NWS advisories were current over the area.

Advise if you need anything further.

Donald E. Eick
Senior Meteorologist
National Transportation Safety Board
Office of Aviation Safety
Operational Factors Division (AS-30)

