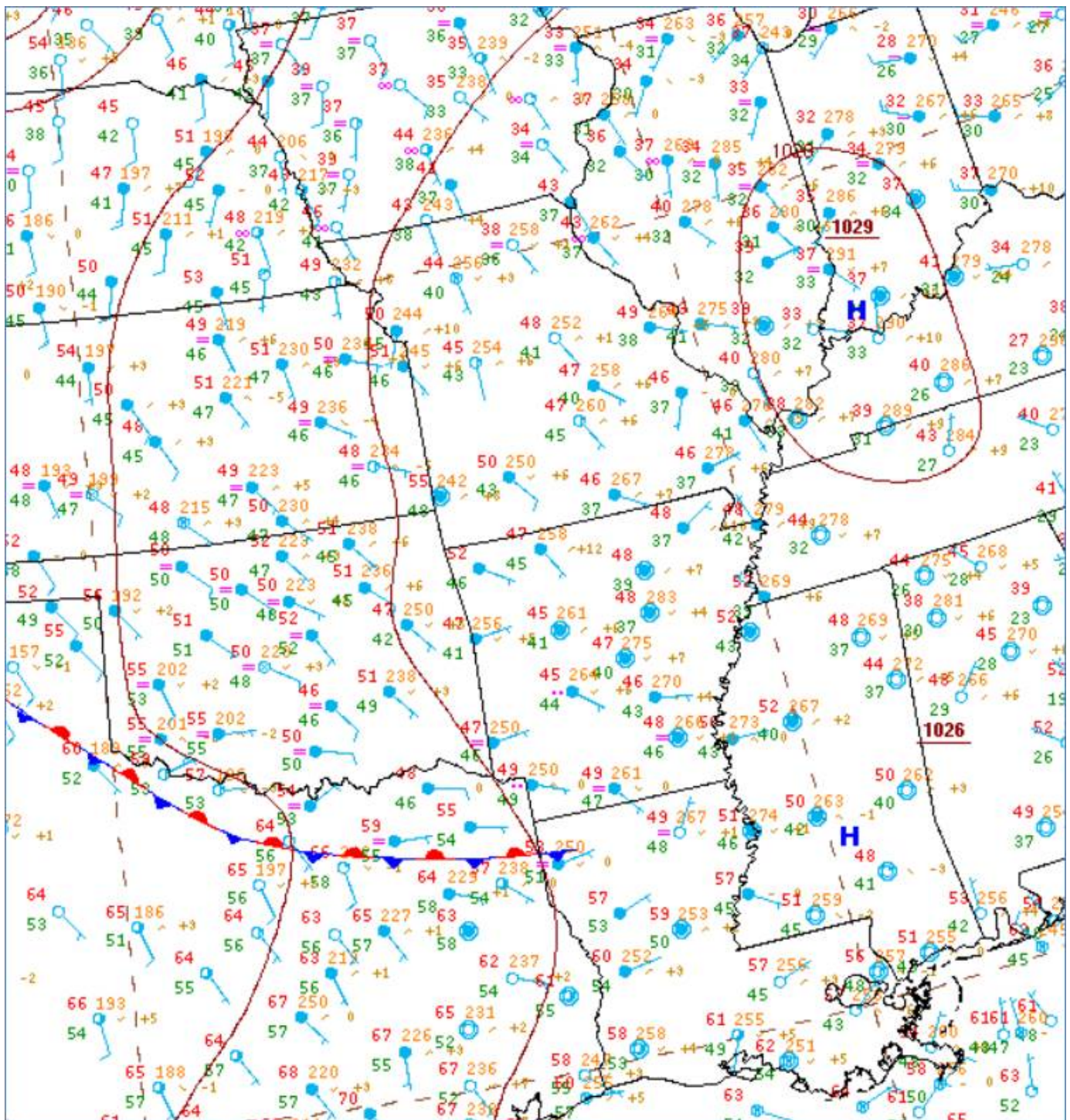


Weather conditions on December 12, 2014 in the vicinity of Springfield, Missouri

Synoptic conditions - The National Weather Service (NWS) Surface Analysis Chart for 1800 CST (0000Z on December 13, 2014) is included below. The chart depicted a stationary front across northern Texas and into Louisiana and a high pressure system over Indiana, which resulted in a weak pressure gradient over the region. The station models depicted general light southeasterly winds over southern Missouri with overcast clouds extending southward to the stationary front.



The NWS National radar mosaic for the period indicated no meteorological echoes over the route of flight or accident site.

Observations – the Springfield Downtown Airport (3DW) at an elevation of 1,374 feet does not have weather reporting capability. The closest weather reporting location is from Springfield-Branson National Airport (KSGF) located 7 miles west at an elevation of 1,268 feet and a magnetic variation of 3 East. The airport has an Automated Surface Observation System (ASOS) and reported the following conditions at the time of the accident:

Springfield-Branson National Airport weather at 1652 CST, wind from 180° at 6 knots, visibility unrestricted at 10 statute miles, ceiling overcast at 1,800 feet agl, temperature 11° Celsius (C), dew point 7° C, altimeter 30.26 inches of mercury.

The raw observations and general flight categories surrounding the period were as follows:

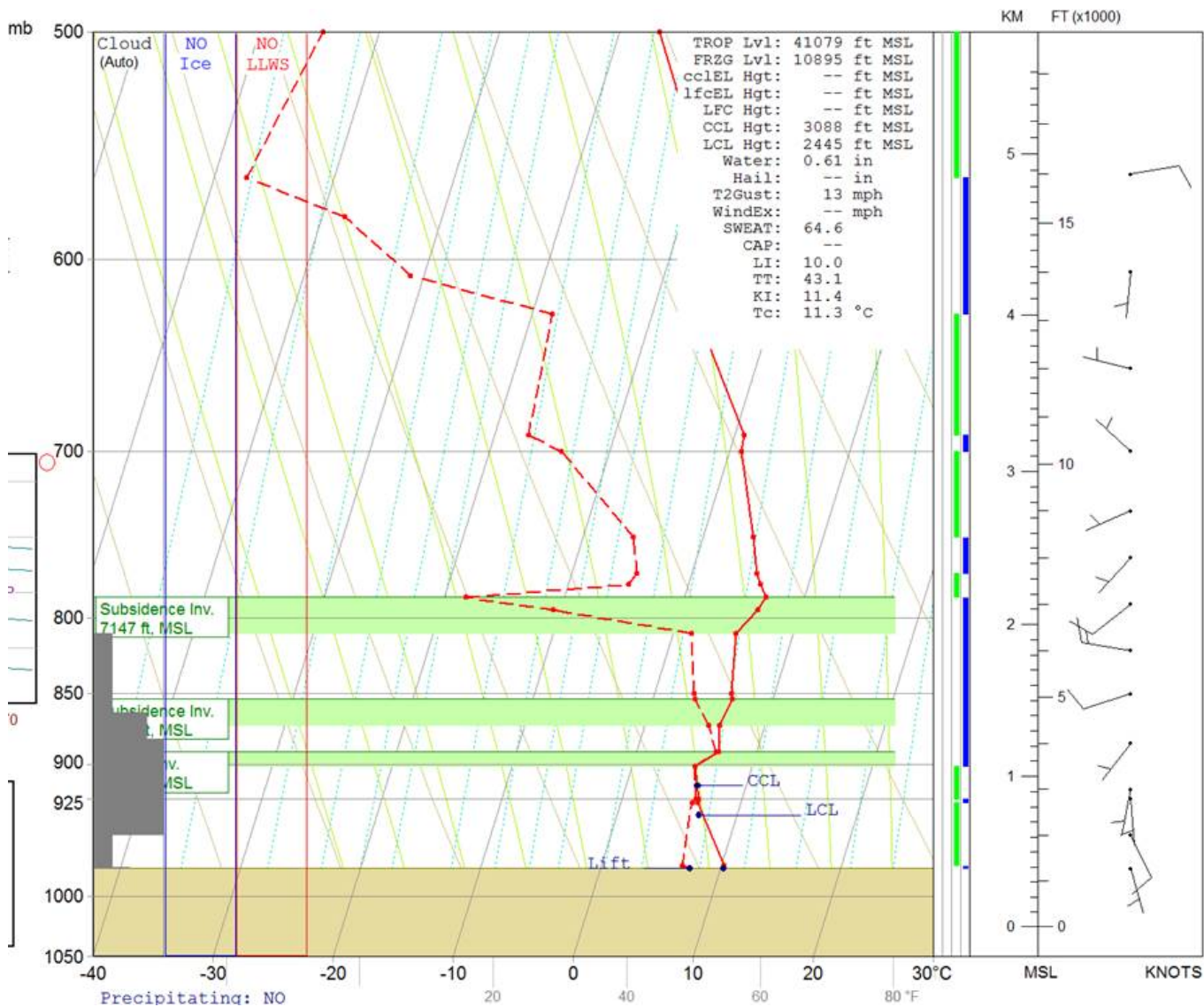
MVFR METAR KSGF 121952Z 15011KT 10SM BKN014 11/07 A3024 RMK AO2 SLP243 T01110067=
MVFR SPECI KSGF 122027Z 18010KT 10SM OVC015 11/07 A3023 RMK AO2 T01110067=
MVFR METAR KSGF 122052Z 15007KT 10SM BKN015 12/07 A3024=
VFR SPECI KSGF 122148Z 17006KT 10SM SCT016 12/07 A3024 RMK AO2=
VFR METAR KSGF 122152Z 16006KT 10SM SCT016 12/07 A3024 RMK AO2 SLP243 T01170067=
MVFR SPECI KSGF 122205Z 14005KT 10SM BKN017 12/07 A3025 RMK AO2 T01170072=
MVFR METAR KSGF 122252Z 18006KT 10SM OVC018 11/07 A3026=
Accident 2340Z
MVFR METAR KSGF 122352Z 14008KT 10SM OVC016 10/06 A3026 RMK AO2 SLP250 T01000061 10117 20094 53006=
MVFR METAR KSGF 130052Z 14009KT 10SM OVC018 09/06 A3027=

Forecast (TAF) issued current at the time of the accident expected MVFR ceilings to prevail with occasional VFR conditions with scattered clouds. The forecast was as follows:

TAF AMD KSGF 121928Z 1219/1318 17008KT P6SM BKN015
TEMPO 1220/1223 SCT015
FM130500 16006KT 5SM BR OVC007
FM130800 16006KT 1SM BR OVC003=

Satellite imagery – the GOES-13 infrared imagery was reviewed and indicated low stratiform clouds over the area. No cumulonimbus clouds or any other clouds with potential icing conditions were identified over the route of flight.

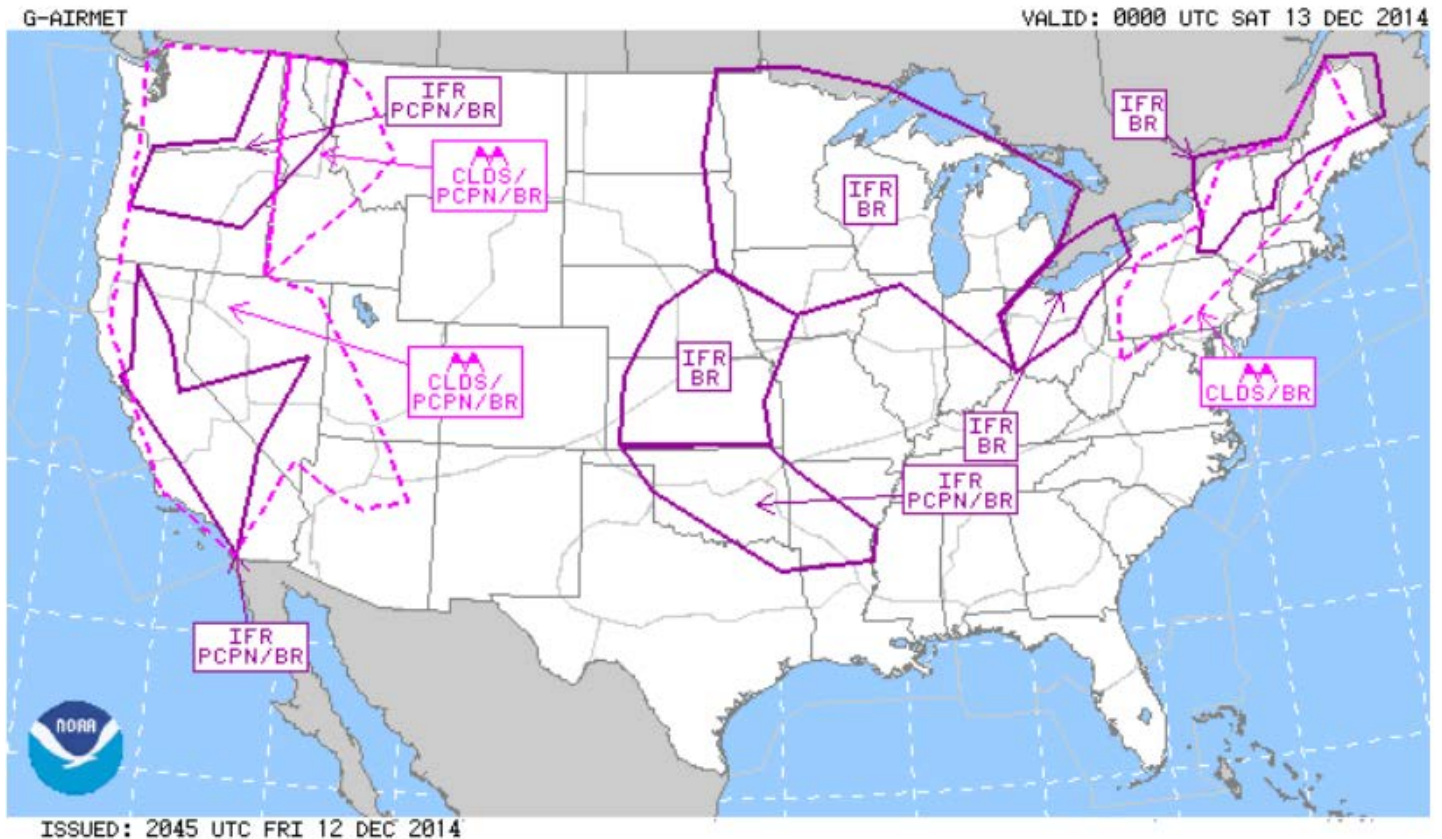
Sounding – the Springfield (KSGF) 1800 CST sounding was reviewed and support a layer of clouds from the lifted condensation level at 1,200 feet agl with tops near 5,000 feet, with the layer having more than 80% relative humidity. Several temperature inversions were noted below 8,000 feet and indicated a stable atmosphere, with a Lifted Index of 10. The freezing level was at 10,900 feet. The wind profile indicated light southerly winds below 5,000 feet with speeds less than 10 knots. No significant turbulence or low-level wind shear (LLWS) was noted.



Pilot Reports (UA) – current at the time of preflight briefing:

SGF UA /OV SGF /TM 1433 /FL033 /TP E145 /SK OVCUNKN-TOP033/BKN058-TOP062/ SKC=
MCI UA /OV MCI360008/TM 1626/FLUNKN/TP E145/SK OVC045-TOP050
IRK UA /OV IRK/TM 1701/FL046/TP C402/SK TOP 046 BASE 040/RM ZKC FDC=
KSZL UA /OV KSZL/TM 1957/FLUNKN/TP F16/SK BKN025/BKN045-TOP050/RM DURC
KSZL UA /OV KSZL/TM 2124/FLUNKN/TP T38/SK BKN031-TOP036/WX FV02SM/RM DURD
MCI UA /OV MCI180003 /TM 2245 /FLUNKN /TP B737 /SK OVC030-TOP035 /RM DURC=

In-Flight weather Advisories – No NWS advisories were current for any organized IFR, turbulence, icing, or thunderstorms over the area. AIRMET Sierra for IFR conditions current for the area near the stationary front is attached, but did not apply to the accident flight.



Winds and Temperature Aloft Forecast (FD):

DATA BASED ON 121800Z

VALID 130000Z FOR USE 2000-0300Z. TEMPS NEG ABV 24000

FT 3000 6000 9000 12000 18000 24000 30000 34000 39000 45000 53000

MKC 2114 2410+10 2608+03 9900-02 0516-15 0429-28 066843 066954 045761 361262 340964

COU 2307 2711+08 2810+04 2905-02 0514-16 0426-29 053444 054554 054160

SGF 2311 2615+07 2706+03 9900-03 0512-17 0627-30 064745 065054 053257 351560 321463

Astronomical Data - the United States Naval Observatory web site indicated the following astronomical conditions for Springfield, Greene County, Missouri, on December 12, 2014.

Beginning civil twilight	0649 CST
Sunrise	0718
Sun transit	1207
Sunset	1656
End civil twilight	1725
Moonset	1118
Moonrise	2257

At the time of the accident the Sun was 8.7° below the horizon at an azimuth of 247°.

Donald E. Eick
Senior Meteorologist
National Transportation Safety Board