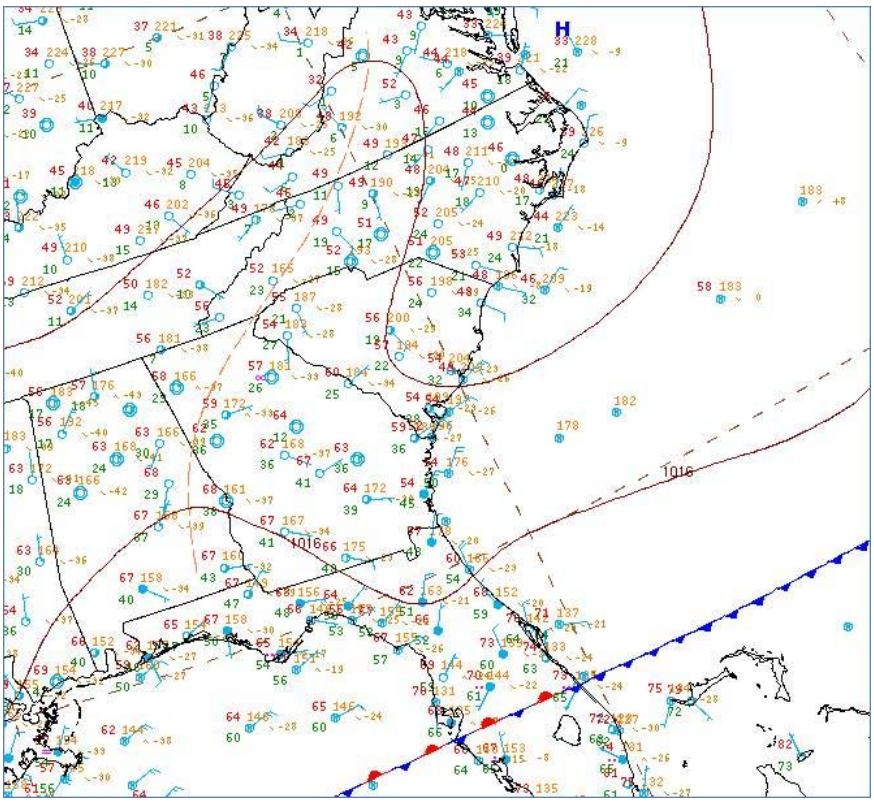
Etcher Shawn

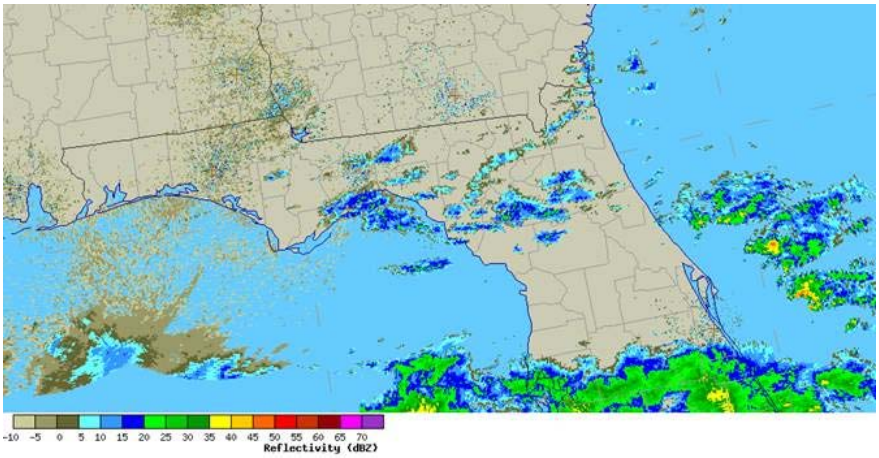
From: Eick Donald **Sent:** Wed 3/26/2014 11:16 AM
To: Etcher Shawn
Cc: Soper Brian; Misencik Paul
Subject: ERA14FA168 - Brunswick, GA Weather
Attachments: GOES13-IR2145Z.PNG(122KB) GOES13-VIS2145Z.PNG(162KB)

Weather conditions on March 23, 2014

Synoptic conditions – the National Weather Service (NWS) Surface Analysis Chart for 1700 EDT (2100Z) centered over the east coast is included below. A high pressure system at 1023-hectopascals (hPa) was located off the Maryland and Virginia coast with a ridge extending southwestward into the Carolinas and eastern Georgia. A stationary front extended east-to-west across central Florida, south of the Jacksonville area. The station models over eastern Georgia indicated



The regional radar mosaic from the University Center for Atmospheric Research (UCAR) for 1745 EDT (2145Z) is included below and indicated an area of very light intensity echoes in the vicinity of Brunswick, GA in the range of 5 to 15 dBZ.



Observations – the closest weather reporting location to the accident site was from Brunswick Golden Isle Airport (KBQK), Brunswick, GA, at an elevation of 26 feet and a magnet variation of 4° W. The airport had an Automated Weather Observation System (AWOS) without a precipitation discriminator, which means the system could not determine weather or precipitation type. The following conditions were reported at the time of the accident:

Brunswick Golden Isle (KBQK) weather at 1735 EDT, automated, wind from 050° at 12 knots gusting to 17 knots, visibility 10 miles, ceiling overcast at 3,800 feet, temperature 12° Celsius (C), dew point 7° C, altimeter 30.08 inches of mercury (Hg).

The raw observations were as follows:

METAR KBQK 241655Z AUTO 05014G22KT 10SM SCT026 OVC050 15/07 A3018 RMK AO1=

METAR KBQK 241715Z AUTO 04012G21KT 10SM SCT026 OVC060 15/07 A3017=

METAR KBQK 241735Z AUTO 04012G24KT 10SM OVC060 15/06 A3016=

METAR KBQK 241755Z AUTO 05015G21KT 10SM OVC060 15/06 A3016 RMK AO1=

METAR KBQK 241815Z AUTO 05015G22KT 10SM SCT030 OVC060 15/07 A3015=

METAR KBQK 241835Z AUTO 06016G22KT 10SM SCT030 BKN060 16/07 A3013=

METAR KBQK 241855Z AUTO 04013G20KT 10SM SCT030 SCT060 BKN120 15/06 A3013 RMK AO1=

METAR KBQK 241915Z AUTO 06014KT 10SM BKN044 BKN060 BKN120 15/07 A3011 RMK AO1=

METAR KBQK 241935Z AUTO 05015KT 10SM OVC040 13/07 A3011=

METAR KBQK 241955Z AUTO 05012KT 10SM OVC040 13/07 A3011 RMK AO1=

METAR KBQK NIL=

METAR KBQK 242015Z AUTO 06013G21KT 10SM OVC038 13/07 A3010=

METAR KBQK 242035Z AUTO 05013G21KT 10SM OVC038 13/07 A3009=

METAR KBQK 242055Z AUTO 05014G17KT 10SM OVC038 12/07 A3009 RMK AO1=

METAR KBQK NIL=

METAR KBQK 242115Z AUTO 05012G16KT 10SM OVC038 12/07 A3009=

METAR KBQK 242135Z AUTO 05012G17KT 10SM OVC038 12/07 A3008=

Accident 2144Z

METAR KBQK 242155Z AUTO 05010G16KT 10SM OVC038 12/07 A3008 RMK AO1=

METAR KBQK NIL=

METAR KBQK 242215Z AUTO 05013G17KT 10SM OVC036 12/07 A3007=

METAR KBQK 242235Z AUTO 05011KT 10SM OVC036 12/07 A3007=

METAR KBQK 242255Z AUTO 04012G18KT 10SM SCT021 OVC036 12/08 A3007 RMK AO1=

METAR KBQK 242315Z AUTO 03008KT 360V060 10SM SCT021 OVC036 12/08 A3006=

METAR KBQK 242335Z AUTO 04007KT 10SM SCT021 OVC036 12/08 A3006=

Malcolm McKinnon Airport (KSSI), Brunswick, GA, was located approximately 8 miles south at an elevation of 19 feet and a magnetic variation of 5° W. The airport had a federally installed and maintained Automated Surface Observation System (ASOS) and reported the following conditions at the approximate time of the accident:

McKinnon Airport, Brunswick weather at 1753 EDT, automated, wind from 040° at 16 knots gusting to 24 knots, visibility 10 miles in light rain, ceiling overcast at 3,500 feet agl, temperature 12° C, dew point 7° C, altimeter 30.06 inches of Hg. Remarks: automated weather observation system, sea level pressure 1018.0-hectopascals (hPa), hourly precipitation less than 0.01 inch, temperature 12.2° C, dew point 7.2° C.

The raw observations surrounding the period were as follows:

METAR KSSI 241753Z AUTO 03017G23KT 10SM -RA BKN060 OVC110 14/06 A3015 RMK AO2 PK WND 02029/1721 SLP208 P0000 60000 T01390061 10150 20122 56015=

METAR KSSI 241853Z AUTO 04016G24KT 10SM -RA OVC041 13/07 A3012 RMK AO2 PK WND 01028/1824 SLP199 P0000 T01330067=

METAR KSSI 241953Z AUTO 03017G26KT 10SM -RA OVC038 13/07 A3009 RMK AO2 PK WND 05026/1945 SLP189 P0000 T01330067=

METAR KSSI 242053Z AUTO 04015KT 10SM -RA OVC038 13/07 A3008 RMK AO2 SLP184 P0000 60000 T01280072 56025=

Accident 2144Z

METAR KSSI 242153Z AUTO 04016G24KT 10SM -RA OVC035 12/07 A3006 RMK AO2 SLP180 P0000 T01220072=

METAR KSSI 242253Z AUTO 04011G18KT 10SM OVC035 13/08 A3006 RMK AO2 RAE41 SLP178 P0000 T01280078=

METAR KSSI 242353Z AUTO 04009KT 10SM OVC034 13/08 A3004 RMK AO2 SLP171 60000 T01280078 10144 20122 58013=

Forecast for KSSI was as follows:

TAF KSSI 241728Z 2418/2518 04017G26KT P6SM VCSH BKN025 OVC040

TEMPO 2418/2421 SCT025

FM250100 04012G18KT P6SM -SHRA OVC015

FM250400 03010KT 5SM -SHRA BR OVC008

FM251300 36010KT P6SM VCSH BKN008 OVC015

FM251700 32012KT P6SM BKN020 BKN040=

TAF AMD KSSI 241955Z 2420/2518 04017G26KT P6SM VCSH SCT025 OVC040

FM250100 04012G18KT P6SM -SHRA OVC015

FM250400 03010KT 5SM -SHRA BR OVC008

FM251300 36010KT P6SM VCSH BKN008 OVC015

FM251700 32012KT P6SM BKN020 BKN040=

Destination of weather for Jacksonville Executive Airport at Craig (KCRG), Jacksonville, FL was as follows:

METAR KCRG 241653Z 06012G22KT 10SM FEW024 OVC030 17/09 A3013 RMK AO2 SLP201 T01720094=

METAR KCRG 241753Z 04014G19KT 10SM OVC030 16/09 A3011 RMK AO2 SLP197 T01610094 10172 20150 57009=

METAR KCRG 241853Z 05013G20KT 10SM OVC027 16/09 A3009 RMK AO2 SLP190 T01610094=

METAR KCRG 241953Z 04013G21KT 10SM OVC029 16/09 A3006 RMK AO2 SLP178 T01610089=

METAR KCRG 242053Z 03014G19KT 10SM OVC027 16/09 A3006 RMK AO2 SLP177 T01610089 56019=

Accident 2144Z

METAR KCRG 242153Z 04014G19KT 10SM OVC028 16/09 A3004 RMK AO2 SLP170 T01560094=

METAR KCRG 242253Z 03010KT 10SM OVC026 16/09 A3003 RMK AO2 SLP167 T01560094=

METAR KCRG 242353Z 04010KT 10SM OVC025 16/10 A3001 RMK AO2 SLP160 T01560100 10167 20156 56017=

TAF KCRG 241728Z 2418/2518 05015G23KT P6SM VCSH BKN025 OVC040

FM250000 05010G15KT P6SM -SHRA OVC015

FM250300 03008KT 4SM -SHRA BR OVC007

FM251200 35008KT P6SM VCSH BKN008 OVC015

FM251600 32012KT P6SM BKN020 BKN040=

Sounding – The Jacksonville (KJAX) 2000 EDT (0000Z March 25, 2014) upper air sounding located approximately 50 miles south of the accident site indicated the freezing level was at 10,000 feet, and implied no in-flight icing in the vicinity. The lifted condensation level (LCL) or approximate base of the clouds was at 1,580 feet agl, with the relative humidity greater than 80% from the LCL to approximately 6,300 feet support low stratiform clouds. The sounding indicated a defined low-level frontal inversion from 2,500 to 3,800 feet with a marked change in wind direction and a high probability of moderate turbulence at 3,800 feet. The Lifted Index (LI) was 12, and indicated a stable atmosphere.

The wind profile indicated light northeasterly winds at the surface with a low-level wind maximum at 2,000 feet from 060° at 26 knots, with wind veering rapidly to the south above the inversion, and then veering to the southwest and west by 10,000 feet. The mean wind was from 270° at 27 knots. A defined jetstream was over the regions with the maximum wind was located above the tropopause at 38,000 feet with wind from 270° at 140 knots.

Satellite imagery – the GOES-13 infrared image at 1745 EDT indicated a layer of low to mid-level stratocumulus to nimbostratus type clouds with a radiative cloud top temperature of 256 Kelvin or -17 C, which indicated cloud tops near 20,000 feet. No defined cumulonimbus clouds were identified in the vicinity of the accident site. The visible image for 1745 EDT is also included.

Weather Radar - the VAX WSR-88D 0.5° base reflectivity image at 1743 EDT (2143Z) is attached and shows several very light intensity echoes immediately south of the accident site on the order of 0 to 25 dBZ.

Area Forecast – the forecast for the route was as follows:

FAUS42 KKCI 241850 AAA 2014083 1852

FA2W

-MIAC FA 241850 AMD

SYNOPSIS AND VFR CLDS/WX

SYNOPSIS VALID UNTIL 251200

CLDS/WX VALID UNTIL 250600...OTLK VALID 250600-251200

NC SC GA FL AND CSTL WTRS E OF 85W

.

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 SRN FL ATLC CSTL WTRS ACRS FL STRAIT INTO SERN

GLFMEX. RDG OVR RMNDR OF FA RGN. 12Z CDFNT E CNTRL FL ATLC CSTL

WTRS THRU SRN FL PEN INTO SERN GLFMEX. TROF NWRN NC THRU SRN SC.

.

NC

MTNS...SKC. 01Z OVC090 TOP FL200. OTLK...VFR BECMG 09Z IFR CIG SN BR.

PIEDMONT...SKC. OTLK...VFR BECMG 10Z MVFR CIG.

CSTL PLAIN...SKC. OTLK...VFR.

.

SC

MTNS...SKC. 03Z BKN140 TOP FL200. OTLK...VFR BECMG 10Z MVFR CIG.

PIEDMONT...SCT150. OTLK...VFR.

CSTL PLAIN...SKC. 21Z SCT CI. 02Z OVC060 LYRD FL200. ISOL -TSRA. CB TOP FL380. OTLK...VFR BECMG 06Z MVFR RA BR.

.

GA...UPDT

NRN...BKN CI. 05Z OVC060 LYRD FL200. OTLK...VFR.

SWRN...SCT100 BKN CI. 02Z OVC030 LYRD FL200. OTLK...MVFR CIG.

SERN...BKN150 TOP FL200. *03Z OVC040. VIS 3SM SCT -SHRA/ISOL -TSRA. CB TOP FL400. OTLK...IFR SHRA.*

.

FL...UPDT

WRN PNHDL...OVC110 TOP FL200. ISOL -SHRA/-TSRA. CB TOP FL400. OTLK...VFR.

ERN PNHDL...OVC100 TOP FL200. 23Z OVC030. ISOL -TSRA. CB TOP FL400. 05Z OVC020. ISOL -TSRA. OTLK...MVFR CIG.

NRN PEN...OVC020 LYRD FL250. 22Z SCT -SHRA/ISOL -TSRA. CB TOP FL400*. 02Z OVC010. VIS 3SM SCT -SHRA/WDLY SCT -TSRA.*

OTLK...IFR CIG SHRA/TSRA BECMG 09Z IFR CIG BR.

CNTRL PEN...OVC020 LYRD FL250. ISOL -SHRA/-TSRA. CB TOP FL400. 02Z VIS 3-5SM SCT -SHRA/WDLY SCT -TSRA. 06Z OVC010. VIS 3SM

SCT -SHRA/WDLY SCT -TSRA. OTLK...IFR CIG SHRA/TSRA.

SWRN PEN...OVC040 LYRD FL250. ISOL -SHRA/-TSRA. CB TOP FL400. 03Z OVC020. SCT -SHRA/WDLY SCT -TSRA. OTLK...MVFR CIG

SHRA/TSRA.

SERN PEN...OVC040 LYRD FL250. 21Z ISOL -SHRA/-TSRA. CB TOP FL400. 02Z OVC090. ISOL -SHRA/-TSRA. OTLK...VFR.

KEYS...SCT040. 02Z SCT030. OTLK...VFR.

.

CSTL WTRS

ATLC WTRS

NC/SC...SCT040. 00Z OVC040 LYRD FL250. WDLY SCT -SHRA/-TSRA. CB TOP FL400. OTLK...VFR SHRA/TSRA.

GA/FL...OVC030 LYRD FL250. WDLY SCT -SHRA/-TSRA. CB TOP FL400*. OTLK...VFR SHRA/TSRA.*

GULF WTRS E OF 85W...OVC020 LYRD FL250. WDLY SCT -SHRA/-TSRA. CB TOP FL400. OTLK...MVFR CIG SHRA/TSRA.

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In-flight Weather Advisories – the following advisories were current at the time of the accident:

WAUS42 KKCI 242045 *2014083 2044*

WA2S

-MIAS WA 242045

AIRMET SIERRA UPDT 4 FOR IFR VALID UNTIL 250300

.

AIRMET IFR...GA FL AND CSTL WTRS

FROM 40N CRG TO OMN TO 20N PIE TO 30E TLH TO 40N CRG

CIG BLW 010/VIS BLW 3SM PCPN/BR. CONDS DVLPG 00-03Z. CONDS CONTG BYD 03Z THRU 09Z.

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WAUS42 KKCI 242045 2014083 2041

WA2T

-MIAT WA 242045

AIRMET TANGO UPDT 3 FOR TURB VALID UNTIL 250300

.

NO SGFNT TURB EXP OUTSIDE OF CNVTV ACT.

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WAUS42 KKCI 242045 2014083 2039

WA2Z

-MIAZ WA 242045

AIRMET ZULU UPDT 3 FOR ICE AND FRZLVL VALID UNTIL 250300

.

AIRMET ICE...SC GA FL AND CSTL WTRS

FROM 130SSE ILM TO 200ENE PBI TO 70ENE PBI TO 40ESE RSW TO 60S RSW TO 80W EYW TO 90WSW PIE TO 130ESE LEV TO

50WSW CTY TO 60SSW TLH TO 20SSW PZD TO 20E SAV TO 130SSE ILM

MOD ICE BTN 130 AND FL240. CONDS CONTG BYD 03Z THRU 09Z.

.

OTLK VALID 0300-0900Z...ICE NC SC GA FL AND CSTL WTRS

BOUNDED BY 50SE ECG-190ESE ECG-130SSE ILM-190ENE PBI-60ENE PBI-60E MIA-60SSE RSW-80WNW EYW-90WSW PIE-130ESE LEV-60SW

TLH-CRG-AMG-30N CHS-20WNW FLO-50SE ECG

MOD ICE BTN 130 AND FL240. CONDS CONTG THRU 09Z.

.

FRZLVL...RANGING FROM 005-140 ACRS AREA

MULT FRZLVL 030-080 BOUNDED BY ODF-50SSE CLT-60SE FLO-20SW CHS-30ENE ATL-ODF

040 ALG 30E VXV-40SSW HMV-20SSW CLT-160ESE ILM

080 ALG 50S LGC-50W SAV-180SSE ILM

120 ALG 130ESE LEV-90WSW PIE-20SW PIE-ORL-130ENE PBI-190ENE PBI

WSUS31 KKCI 242055 2014083 2050

SIGE

-MKCE WST 242055

CONVECTIVE SIGMET...NONE

OUTLOOK VALID 242255-250255

FROM 70NE OMN-210E OMN-220ENE PBI-160E PBI-70ENE PBI-MIA-100WNW

EYW-90WSW SRQ-210S CEW-70SSW CEW-PIE-ORL-70NE OMN

WST ISSUANCES EXPD. REFER TO MOST RECENT ACUS01 KWNS FROM STORM

PREDICTION CENTER FOR SYNOPSIS AND METEOROLOGICAL DETAILS.

MKCE WST 242155

CONVECTIVE SIGMET...NONE

OUTLOOK VALID 242355-250355

FROM 70NE OMN-210E OMN-220ENE PBI-160E PBI-70ENE PBI-MIA-100WNW

EYW-90WSW SRQ-210S CEW-70SSW CEW-PIE-ORL-70NE OMN

WST ISSUANCES EXPD. REFER TO MOST RECENT ACUS01 KWNS FROM STORM

PREDICTION CENTER FOR SYNOPSIS AND METEOROLOGICAL DETAILS.

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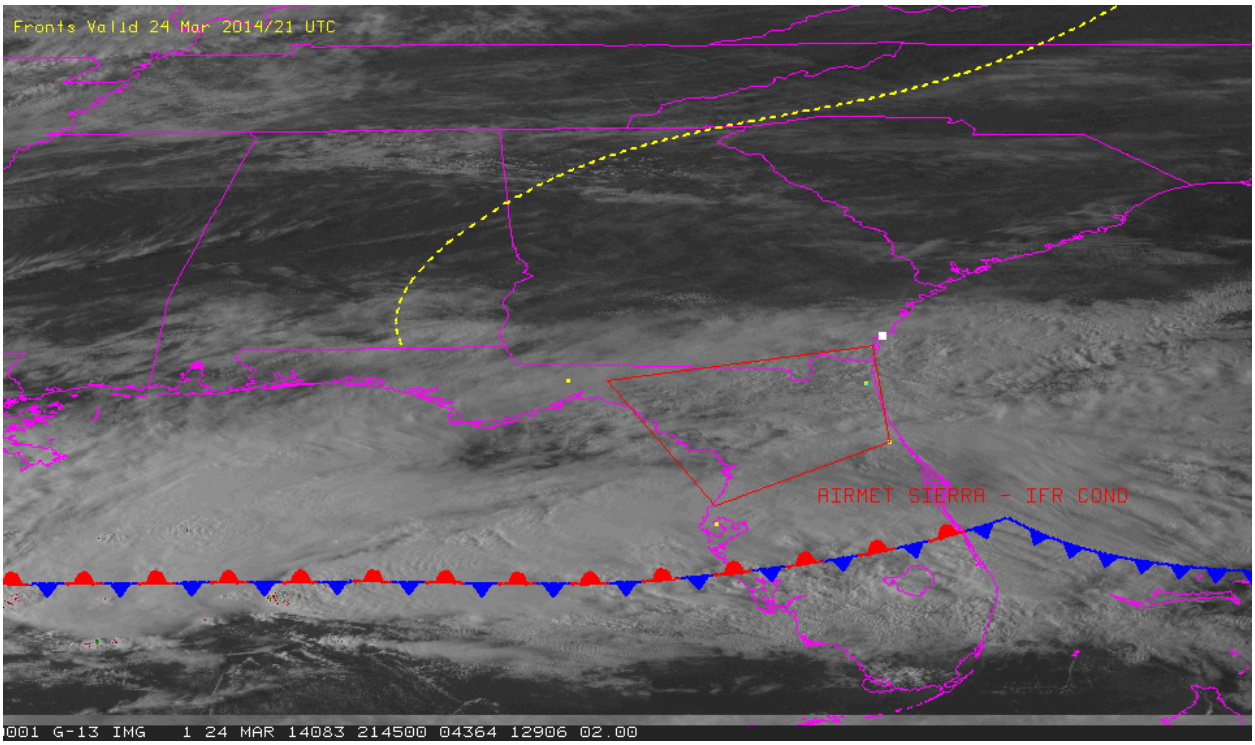


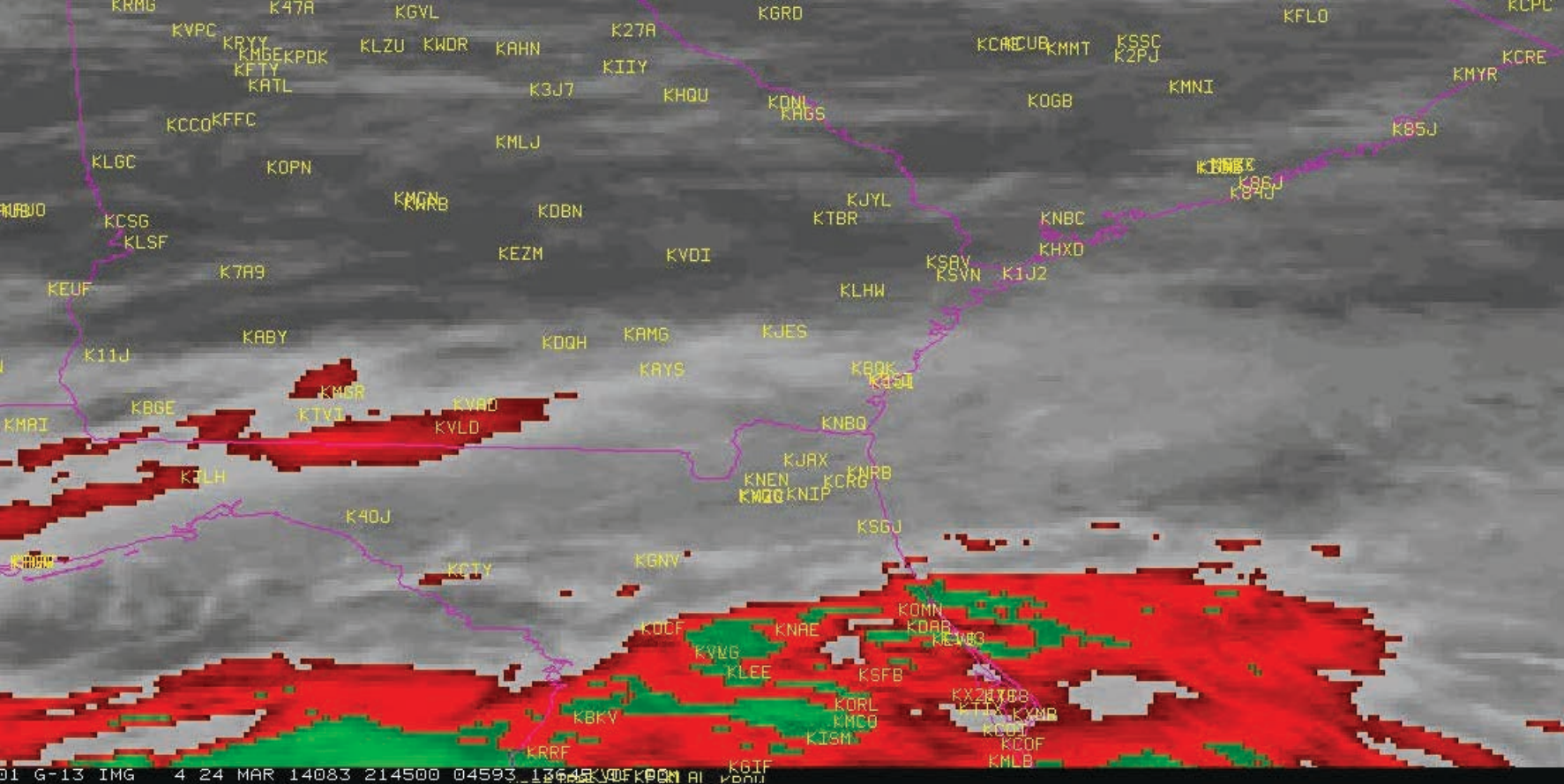
Pilot Reports – limited reports in the system, none immediately surrounding the accident:

SSI UA /OV 20E SSI/TM 1522/FL300/TP B737/TB MOD BTN FL300-FL380/RM ZJX CWSU=

LHW UA /OV SAV290037-SAV250038 /TM 1532 /FL060 /TP M20T /SK OVC042-TOP050 /TA 09 /TB NEG /RM SMTH RIDE CLOUD COVER OVC OCNL BKN=

MCN UA /OV MCN295015 /TM 1715 /FL025 /TP P28T /TB MOD CONS=

Weather briefing – the pilot obtained a preflight weather briefing prior to departure from a qualified Direct User Access Terminal System (DUATS) provider at 1516 EDT, and filed an IFR flight plan through ForeFlight.com with Lockheed Martin Flight Service. Enroute he also contacted Flight Watch, obtained the latest weather for the destination, obtained the updated AIRMET Sierra for IFR conditions over Florida, and issued a pilot report.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KIIY
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KHQU
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KAGS
KCCO
KFFC
KMLJ
KLGC
KOPN
KMGN
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KJYL
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K11J
KDQH
KAMG
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KAYS
KBQK
KMGR
KBGE
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KVLD
KMAI
KNBQ
KJAX
KNEN
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KNIP
KNRB
KJLH
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KGNV
KCQT
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KOMN
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KCOF
KMLB
KCUB
KMMT
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KMNI
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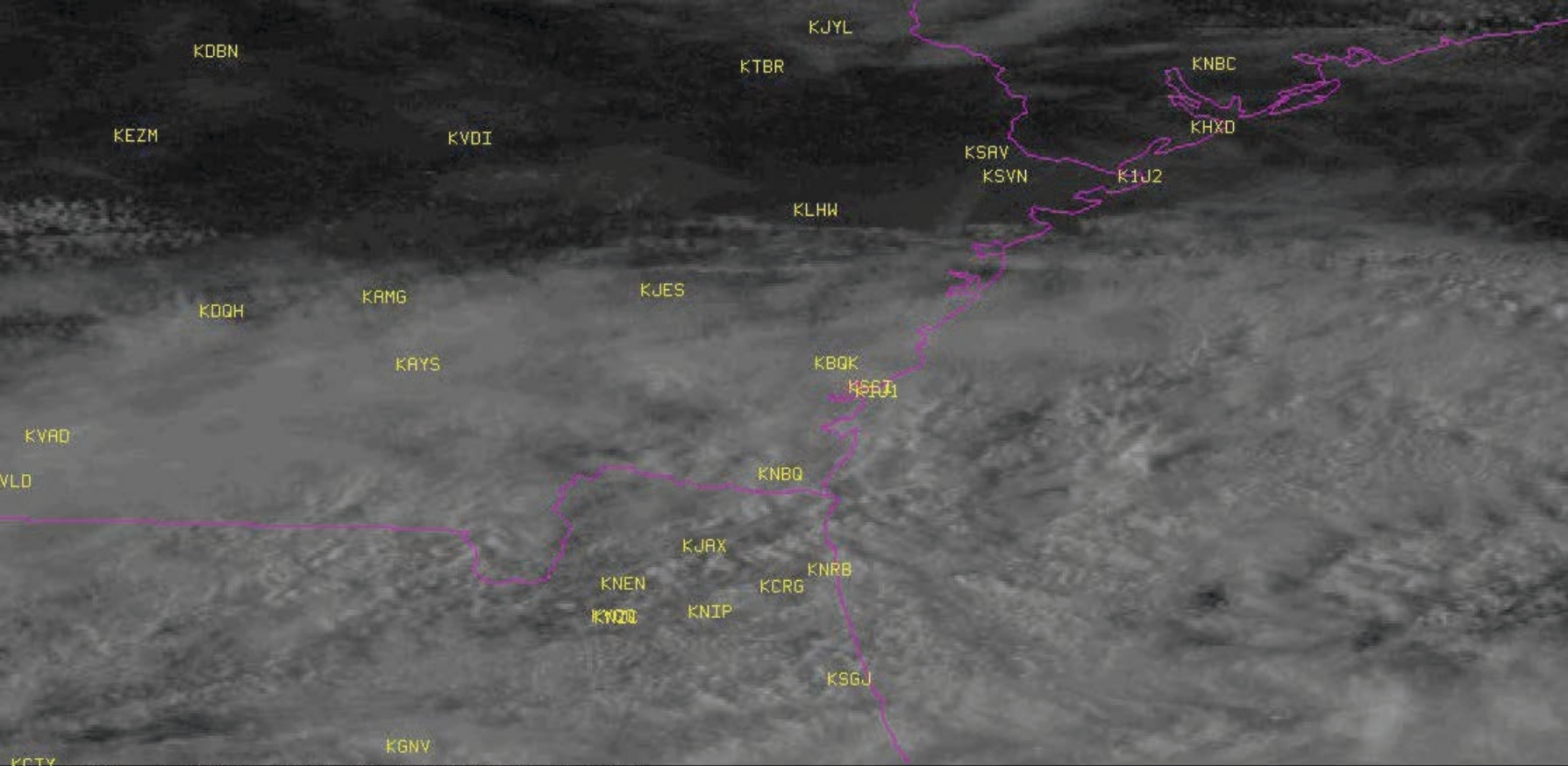

G-13 IMG 1 24 MAR 14083 214500 04730 13984 00.50