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Subject: CEN18FA168 wx
Date: Tuesday, May 29, 2018 3:09:24 PM

Jennifer, below is an assessment of the weather situation surrounding the accident involving N507TX at 2019 MDT on 11 May 2018 (0219 UTC on 12 May 2018), which occurred at 39.516111°N 104.833889°W.

- Review of the regional NEXRAD and Terminal Doppler Weather Radar did not identify any pertinent meteorological targets. There was an area of higher reflectivity to the northeast of the accident location but its source is unknown and is not believed to be meteorological. See image below.

- METARs/SPECIs from APA (taken while a human weather observer was on duty) for the times surrounding the accident time are below. The first observation of MVFR conditions was at 1941 MDT, where ceiling was reported as broken at 1500' agl. MVFR conditions extended until 2159 MDT when IFR conditions (ceiling overcast at 600' agl) were reported. During the period, when a broken ceiling was reported, a higher layer of cloud above the broken layer and below 10000' agl was not observed. Surface visibility met VFR/MVFR criteria throughout this period. Visibility did not meet IFR criteria until 2208 MDT (at which point ceiling was overcast at 300' agl).

The observation current at the time of the accident was from 1953 MDT, at which time APA reported: a wind from 330° true at 13 knots, visibility 10 statute miles or greater, ceiling broken at 1500' agl, overcast cloud base at 10000' agl, temperature of 15°C and dew point temperature of 12°C, altimeter 29.81 in Hg; remarks included: peak wind of 27 knots from 330° true was observed at 1907 MDT.

METAR KAPA 112353Z 31015KT 10SM SCT080 BKN110 OVC180 18/11 A2974 RMK AO2 PK WND 33026/2325 SLP033 VIRGA OHD T01780111 10256 20178 53016=

METAR KAPA 120053Z 32016G22KT 10SM SCT110 BKN140 OVC200 17/12 A2977 RMK AO2 SLP038 T01670117=

SPECI KAPA 120141Z 33013KT 10SM BKN015 OVC100 15/12 A2981 RMK AO2 PK WND 33027/0107 T01500117=

METAR KAPA 120153Z 35014G21KT 7SM BKN015 OVC100 15/12 A2982 RMK AO2 PK WND 33027/0107 SLP052 T01500122=

SPECI KAPA 120223Z 36014KT 4SM BR OVC013 13/11 A2984 RMK AO2 T01330111=

METAR KAPA 120253Z 35015KT 3SM BR OVC006 12/11 A2986 RMK AO2 SLP071 T01220111 53033=

SPECI KAPA 120308Z 36014KT 2SM BR OVC003 12/11 A2987 RMK AO2 T01170111=

SPECI KAPA 120314Z 01014KT 1/2SM BR OVC002 11/11 A2987 RMK AO2 SFC VIS 2 T01110106=

METAR KAPA 120353Z 02009KT 1/2SM BR VV001 11/11 A2989 RMK AO2 SFC VIS 3/4 SLP078 T01060106=

Review of the APA ASOS 5-minute automated data for the period indicates sensor observation was generally consistent with the METARs/SPECIs and reveal the human observer was active in augmentation. According to the 5-minute data, the APA ASOS first reported MVFR conditions at about 1935 MDT, and first reported IFR conditions at 2050 MDT.

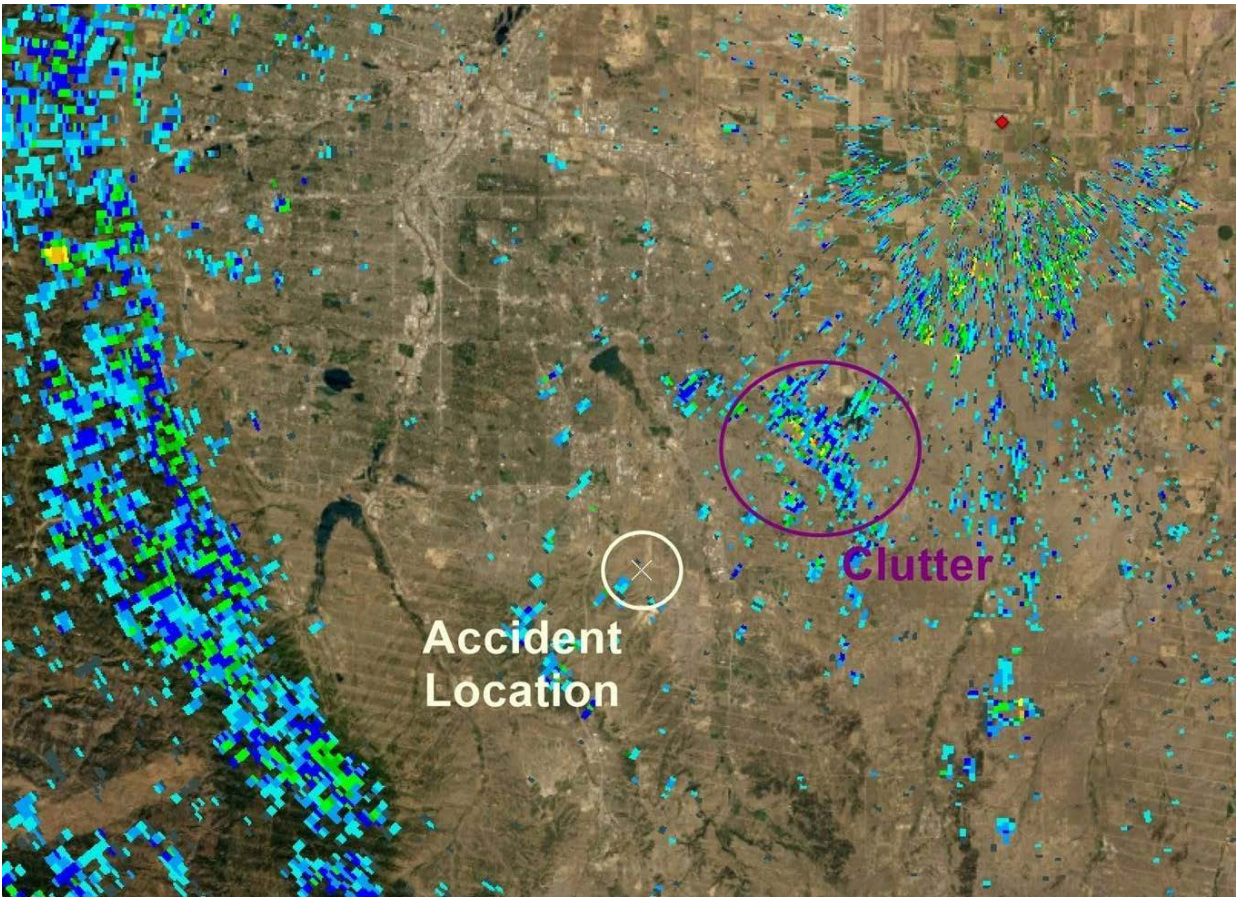
5-MIN KAPA 120135Z 33013G22KT 10SM BKN015 OVC100 15/12 A2980 6000 80 7400 330/13G22 RMK AO2 PK WND 33027/0107 T01500117

5-MIN KAPA 120250Z 36014KT 3SM BR OVC006 12/11 A2986 5950 93 7000 350/14 RMK AO2

- Leidos Flight Services and CSC DUATS had no contact with N507TX on 11 May 2018.
- There were no publicly-disseminated PIREPs within about 50 miles of the accident site, within two hours of the accident time, and below FL200. This does not include any PIREPs that were only broadcast publicly on the radio and not entered into a national database. Ceiling, cloud tops and sunlight reports (witness statements) from airborne aircraft operating in the vicinity of the accident location around the accident time should be weighted heavily here.
- High Resolution model data for 2000 MDT for the accident site reveals an environment of relatively high relative humidity around a 6800'-7300' msl layer. These numbers should not be taken as literal cloud-supporting boundaries, but act to support any assessment of cloud in or near this layer.
- Unfortunately, satellite data is not helpful here as we can't see below some relatively high ice cloud (possibly cirrus) that was across the region. This may be the overcast cloud at 10000' agl being reported in the APA observations. However the satellite data does identify some high, thick cloud to the west of the accident location, which could impact illumination from the setting sun.
- Freezing level was up around 14000' msl.
- For the accident location, the USNO reported sunset at 2003 MDT with civil twilight ending at 2033 MDT. There was no moon at these time.
- The Area Forecast Discussion issued at 1955 MDT by the NWS Weather Forecast Office in Boulder and applicable to the accident location and time included the following aviation section:

Convection perhaps pushed in the lower stratus from the eastern plains into the airports quicker. IFR conditions will be likely now through overnight. Might need to add more restrictions to visibility watching trends. Model forecast soundings are now showing the stratus taking longer to break out tomorrow morning, might take until almost noon as upslope NE winds continue. Conditions should then scatter out after 17z with ENE winds increasing. Showers/T-storms may be nearby, but shouldn't impact the terminals. Another round of stratus looks possible Saturday evening and overnight.
- There were no AIRMETs for IFR conditions or mountain obscuration active at the time and location of the accident. No SIGMETs. No CWA/MIS active from the ZDV CWSU.

NEXRAD image from around the time of the accident:



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