



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

August 5, 2019

FACTUAL WEATHER INFORMATION

ANC18FA063

Attached is the GDAS sounding for the grid nearest to the accident with an estimated elevation of 7644 ft msl.



Don Eick

From: Williams Shaun [REDACTED]
Sent: Wednesday, June 26, 2019 9:49 AM
To: Eick Donald [REDACTED]
Subject: FW: Denali National Park Accident - Weather

Shaun Williams
Senior Aviation Accident Investigator
National Transportation Safety Board
4760 Oakland Street, Suite 500
Denver, CO 80239
Phone: [REDACTED]

From: Price Noreen [REDACTED]
Sent: Monday, August 6, 2018 1:17 PM
To: Eick Donald [REDACTED] Williams Shaun [REDACTED]
Cc: Helson David [REDACTED] Johnson Clinton [REDACTED]
Subject: RE: Denali National Park Accident - Weather

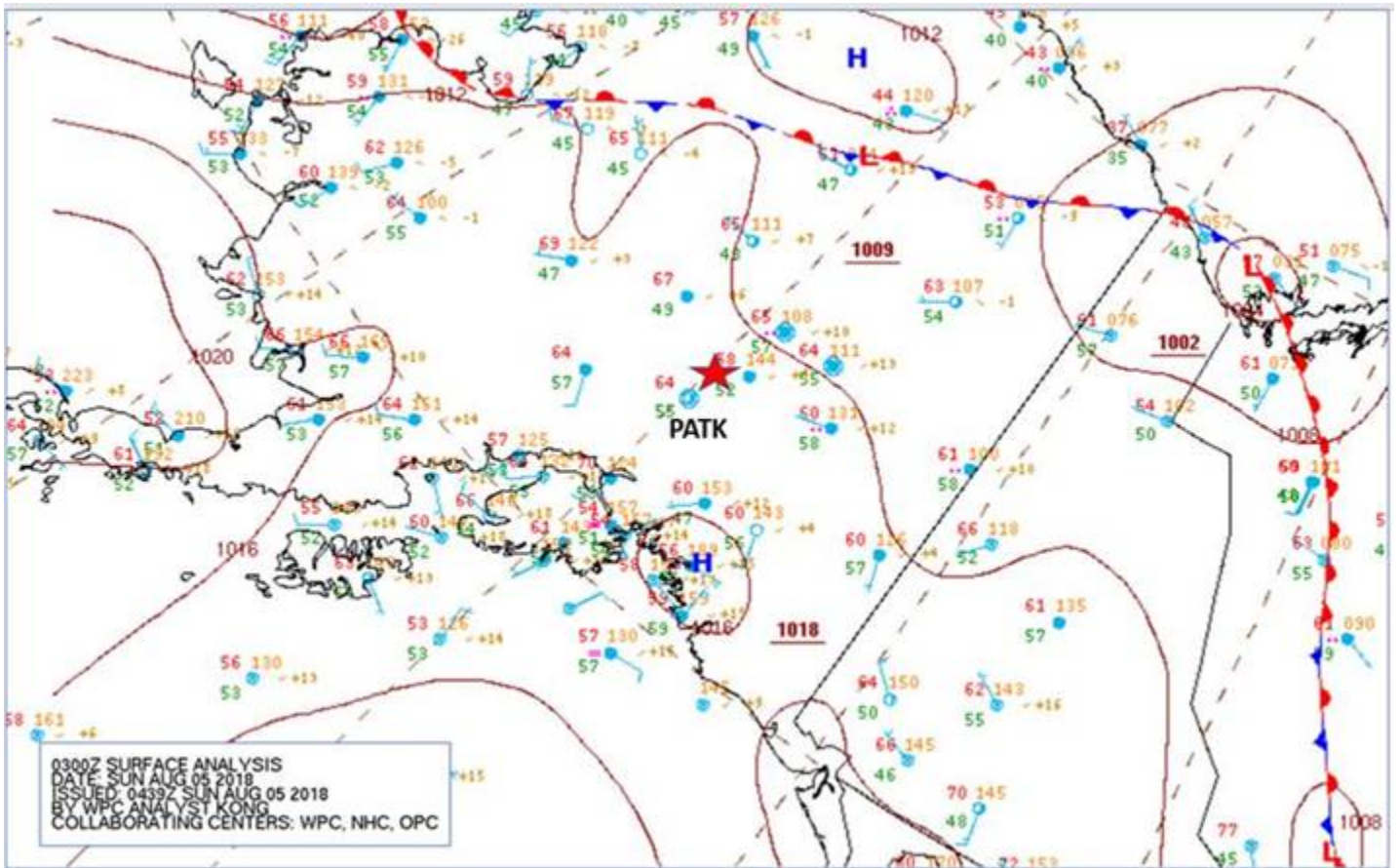
Thanks Don!

Shaun will be leading this investigation, but I will put into PSB. The AKRCC is still trying to access the site. No updates.

Noreen

From: Eick Donald
Sent: Monday, August 6, 2018 8:41 AM
To: Price Noreen [REDACTED]
Cc: Helson David [REDACTED] Johnson Clinton [REDACTED]
Subject: Denali National Park Accident - Weather

Synoptic Condition – The Alaskan Surface Analysis chart for 1900 AKDT (0300Z on August 5, 2018) is included below. The chart depicted developing stationary front to the north of the accident site with a high-pressure systems at 1018-hectopascals (hPa) to the south along the coastal section. The station models in the vicinity of the accident site depicted light winds, broken to overcast clouds, with temperatures in the 58° to 64° Fahrenheit (F). Further north and northeast of the accident site, and north of the mountain range the stations at McKinley Park Airport (PAIN) and Ft. Greely (PABI) both were reporting moderate rain at the time.



Observations – for Talkeetna Airport (PATK/TKA) which had an ASOS and listed an elevation of 365 ft, and a magnetic variation of 15° East.

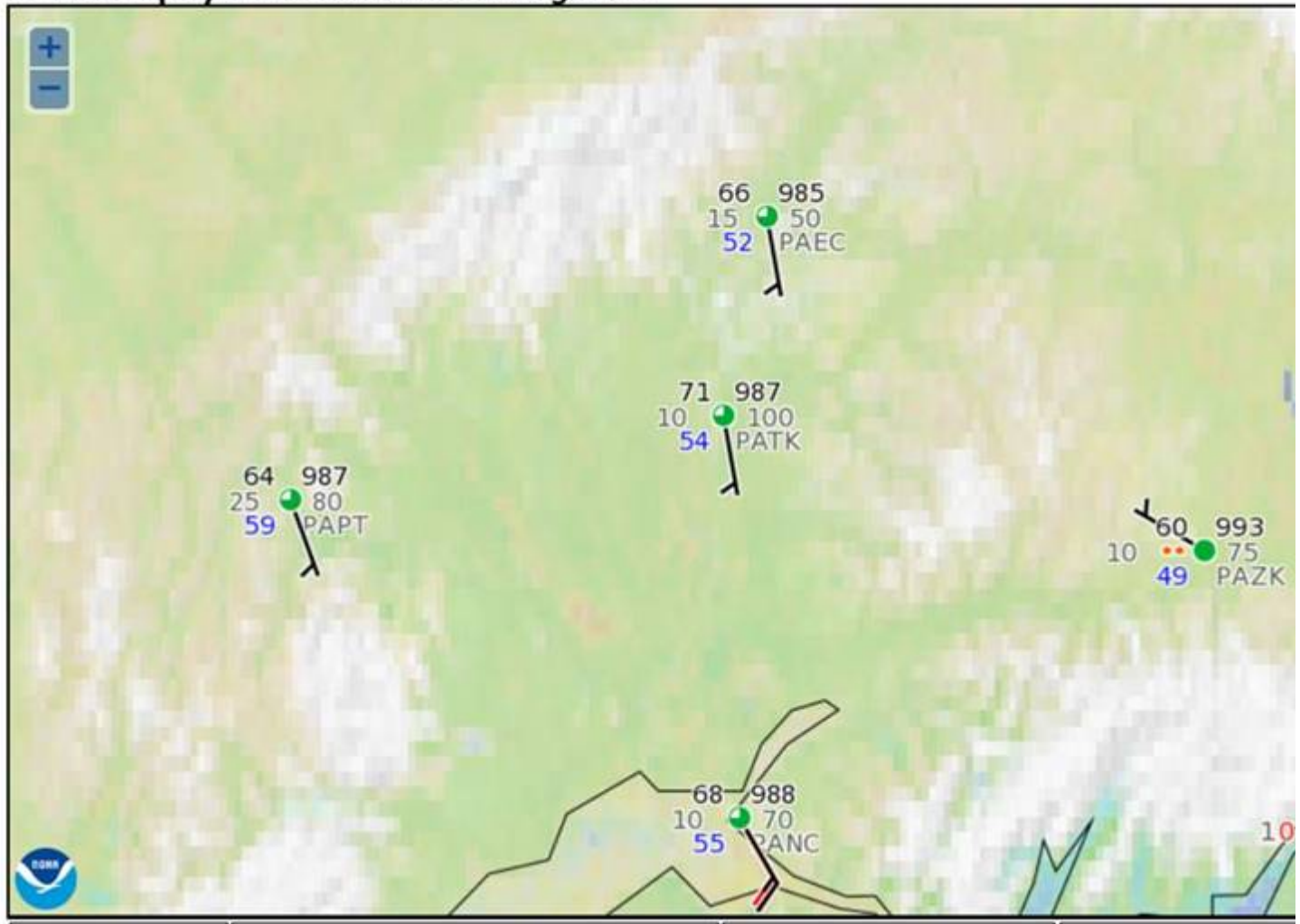
[1253 AKDT] METAR PATK 042053Z 21005KT 10SM OVC070 19/12 A2983 RMK AO2 SLP103 T01890122 52010=
 [1353 AKDT] METAR PATK 042153Z 32003KT 10SM OVC080 19/13 A2985 RMK AO2 SLP109 T01940128=
 [1453 AKDT] METAR PATK 042253Z 00000KT 10SM OVC070 20/13 A2985 RMK AO2 SLP111 T02000133=
 [1553 AKDT] METAR PATK 042353Z 18006KT 10SM OVC075 21/12 A2986 RMK AO2 SLP113 T02060122 10206 20167 51009=
[1653 AKDT] METAR PATK 050053Z 20006KT 10SM BKN085 OVC100 21/12 A2987 RMK AO2 SLP115 T02110122=
Departure 1715 AKDT
 [1753 AKDT] **METAR PATK 050153Z 17006KT 10SM SCT080 BKN100 22/12 A2987 RMK AO2 SLP117 T02170122=**
 [1853 AKDT] METAR PATK 050253Z 19008KT 10SM FEW085 BKN100 22/13 A2988 RMK AO2 SLP121 T02170128 53008=
 [1953 AKDT] METAR PATK 050353Z AUTO 21004KT 10SM OVC100 20/13 A2990 RMK AO2 SLP127 T02000128 TSNO=
 [2053 AKDT] METAR PATK 050453Z AUTO 17006KT 10SM OVC100 20/13 A2992 RMK AO2 SLP132 T02000128 TSNO=
 [2153 AKDT] METAR PATK 050553Z AUTO 18006KT 10SM BKN100 19/12 A2993 RMK AO2 SLP135 T01940122 10217 20194 51015 TSNO=

Chulitna Airport (PAEC) reported the following conditions:

[1651 AKDT] METAR PAEC 050051Z 17004KT 15SM SCT030 BKN050 19/11 A2985 RMK NOSPECI=
 [1847 AKDT] **METAR PAEC 050247Z 00000KT 10SM SCT020 BKN030 18/13 A2987 RMK NOSPECI LAST=**

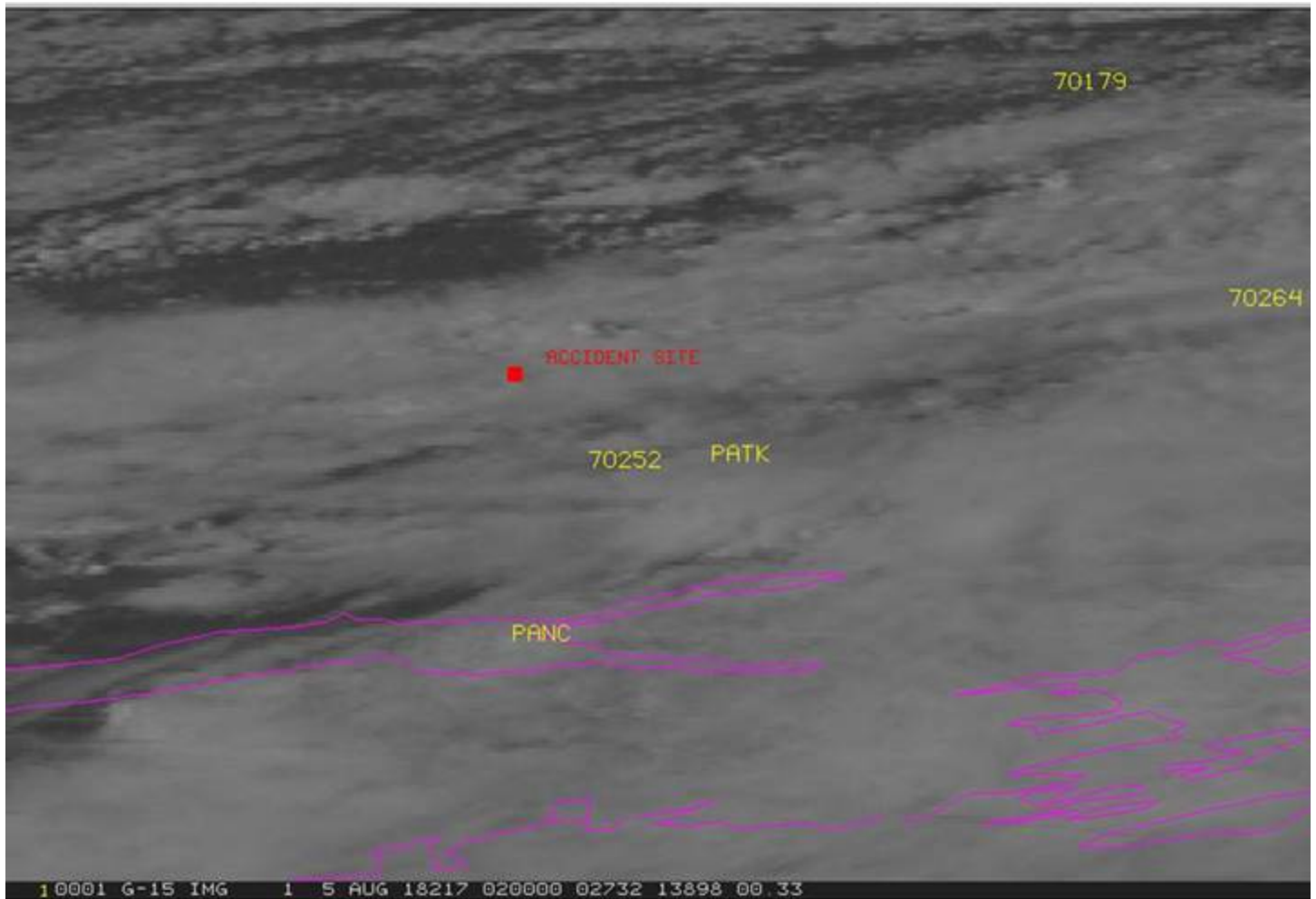
A display of the local METAR observations from the Aviation Weather Center (AWC) for 1800 AKDT is included below.

METAR Display valid at 0200 UTC 5 Aug 2018

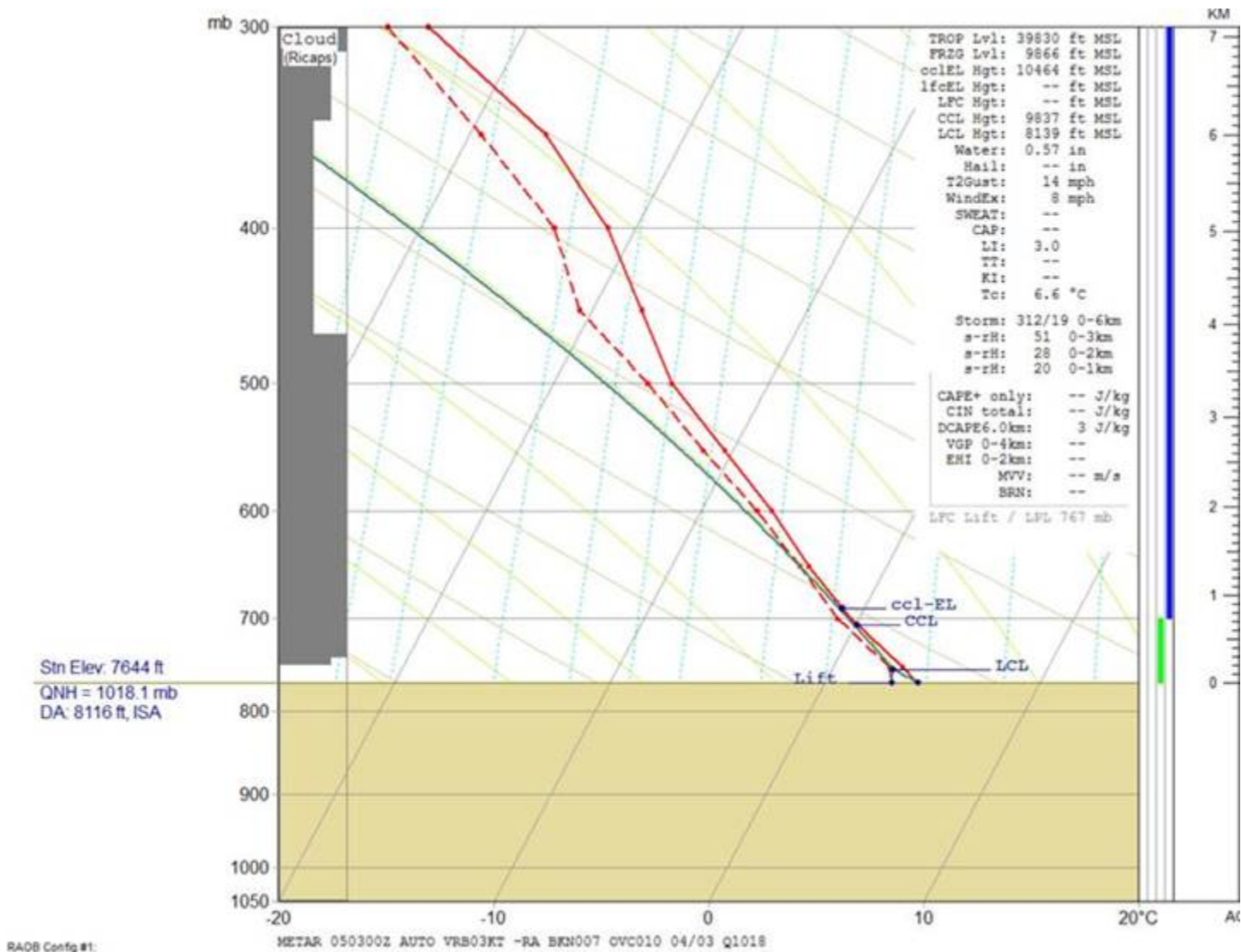


Satellite Imagery – the GOES-15 visible image at 1800 AKDT (0200Z) at 4X magnification is attached. The image depicted a layer of overcast clouds over the accident site.

The infrared image depicted a radiative cloud top temperature of 257 Kelvin or -16 Celsius (C), which corresponded to cloud tops near 20,000 ft based on a PANC and GDAS model sounding over the accident for 0000Z and 0300Z.



Model Sounding – a Global Data Assimilation System (GDAS) model sounding over the accident site for 1900 AKDT (0300Z) was obtained from the NOAA Air Resource Laboratory archive data and plotted on a Skew T log P diagram. The model sounding for latitude 62.8966° N and longitude 151.0966° W estimated the station elevation of 7,644 ft msl. The temperature was 4.3 C (39.7 F), dew point 3.1 C (37.6 F), with a relative humidity of 92%, with surface wind variable at 3 knots. The precipitable water was 0.57 inches. The sounding estimated the cloud bases broken at 700 ft agl, with overcast clouds at 1,000 ft with cloud tops to 21,000 ft, with higher clouds above. The freezing level was at 9,866 ft and supported light-to-moderate rime type icing in clouds and precipitation. The wind profile indicated light southwest surface winds which veered to the west with height. The mean 0 to 6 kilometer or 18,000 ft wind was from 280° at 26 knots.



Forecast for KATK current at time of departure:

TAF PATK 041733Z 0418/0518 VRB04KT P6SM BKN080
FM050300 18009KT P6SM BKN060=

TAF PATK 042336Z 0500/0524 VRB04KT P6SM OVC070
FM050300 18009KT P6SM BKN060
FM052100 18015KT P6SM -RA SCT030 OVC050=

Area Forecast – current at the time

FAAK48 PAWU 452004Z
FA8H
ANCH FA 042015Z
AK SRN HLF EXCPT SE AK...

AIRMETS VALID UNTIL 050415
CB IMPLY POSSIBLE SEV OR GREATER TURBC SEV ICE LLWS AND IFR CONDS.
NON MSL HEIGHTS NOTED BY AGL OR CIG.

SYNOPSIS VALID UNTIL 051400Z

A WEAK TROF OVER THE NORTHERN AND EASTERN GULF OF ALASKA WILL GRADUALLY DISSIPATE THRU THE OVERNIGHT HOURS. A 1001 MB LOW PRESSURE SYSTEM WILL MOVE EASTWARD TO THE SOUTHWESTERN SEWARD PENINSULA BY 14Z. A WEAK WARM FRONT WILL EXTEND SOUTHEAST TO VICINITY PAMC AND A NEARLY STATIONARY FRONT WILL EXTEND SOUTHWESTWARD FROM THE LOW TO VICINITY PASY BY END OF PERIOD. A STRONG RIDGE OF HIGH PRESSURE WILL PERSIST OVER THE EASTERN ALUTIANS TO THE ALASKA PENINSULA.

COOK INLET AND SUSITNA VALLEY AB..VALID UNTIL 05/0800Z

CLOUDS AND WEATHER

AIRMET MOUNTAIN OBSCURATION..N AND E PATK MTS OCNL OBSC IN CLDS/PCPN.NC..

SCT-BKN070 TOPS TO FL200. SU VLY ISOLD BKN030. TIL 23Z N PATK SCT BKN050TCU TOP FL200 -SHRA

AFT 23Z N PATK ISOL BKN020CB TOP FL250 VIS 5SM -TSRA

ALG MTN N AND E PATK OCNL CIG BKN020 -SHRA.

VCY BLUGA POINT SFC WINDS SE 20G30KT.

OTLK VALID 05/0800Z-1400Z..VCY MTS N PANC MVFR CIG SHRA. ELSW VFR.

PASSES..LAKE CLARK..MERRILL...VFR

RAINY...VFR.AFT 02Z ISOL MVFR CIG SHRA.

..TURBULENCE

AFT 05Z W PANC OCNL MOD TURB FL300-FL390

ICE AND FREEZING LEVEL...

TIL 02Z N PATK ISOLD MOD ICEIC 130-FL200. FZLVL 090 N TO 120 S.

Astronomical Data – for Talkeetna, Matanuska-Susitna Borough, Alaska from the United States Naval Observatory for August 4, 2018:

Begin civil twilight	0424 AKDT
Sunrise	0533 AKDT
Sun transit	1406 AKST
Sunset	2238 AKDT
End civil twilight	2345 AKDT

Further Weather Requested - Have request the NWS Alaska Aviation Weather Units graphic weather forecasts current during the period and the FAA Weather Camera images surrounding the area.
Will provide when available.

Don Eick
NTSB Senior Meteorology