

Huhn Michael

From: Eick Donald
Sent: Wednesday, August 31, 2016 4:57 AM
To: Huhn Michael
Subject: Reno Weather WPR16FA172 - Sparks, NV

Synoptic Conditions – A review of the NWS Surface Analysis Chart for 1700 MDT (0000Z) depicted a developing cold frontal system over extreme northern Nevada with southwesterly winds over the region at 15 to 20 knots. No specific boundary was identified over the area at the time of the accident, and a review of the NWS WSR-88D did not detect any significant weather echoes over the region during the period.

Observations – Reno/Tahoe International Airport (KRNO) at an elevation of 4,415 feet and a magnetic variation of 16° E, had an ASOS installed and reported the following conditions:

Reno/Tahoe International Airport weather observation at 1834 MDT (0134Z), wind from 260° at 14 knots gusting to 21 knots, visibility 10 miles, a few clouds at 10,000 feet agl, few clouds at 20,000 feet, temperature 29° Celsius (C), dew point -4° C, altimeter 30.00 inches of mercury (Hg). Remarks: automated observation system, smoke and haze all quadrants, temperature 29.4° C, dew point -4.4° C.

A review of the observations indicated winds from the south veering to the west with time with winds gusting to 27 knots. Altocumulus standing lenticular clouds were observed in all quadrants surrounding the airport during the period, and were a visual indication of orographic clouds associated with mountain wave conditions. Smoke and haze was also being reported surrounding the period.

*METAR KRNO 302055Z 19019G27KT 10SM FEW100 FEW180 SCT220 34/M05 A3004 RMK AO2 PK WND 18027/2054 SLP112 ACSL
ALQDS FU HZ N-NE AND SW-NW-N
T03391050 56016=*

*METAR KRNO 302155Z 19018G26KT 10SM FEW100 FEW180 FEW220 33/M07 A3002 RMK AO2 PK WND 21026/2147 SLP105 ACSL
DSNT NE-SE FU HZ ALQDS T03331067=*

*METAR KRNO 302255Z 25017G21KT 10SM FEW100 FEW180 FEW220 33/M06 A3002 RMK AO2 SLP106 ACSL DSNT E-SE FU HZ
ALQDST03331061=*

*METAR KRNO 302355Z 23013KT 10SM FEW100 FEW200 32/M07 A3001 RMK AO2 SLP103 ACSL DSNT S FU HZ ALQDS T03221067
10339 20272 56010=*

METAR KRNO 310055Z 29017G20KT 10SM FEW100 FEW200 31/M05 A3001 RMK AO2 SLP104 FU HZ ALQDS T03111050=

Accident 0130Z

SPECI KRNO 310134Z 26014G21KT 10SM FEW100 FEW200 29/M04 A3000 RMK AO2 FU HX ALQDS T02941044=

*METAR KRNO 310155Z 27009G18KT 10SM FEW100 FEW200 29/M04 A3000 RMK AO2 SLP104 ACSL DSNT N-NE FU HZ ALQDS
T02891044=*

*METAR KRNO 310255Z 29012KT 10SM SCT100 SCT180 27/M04 A3000 RMK AO2 PK WND 30030/0210 SLP106 ACSL DSNT SE-SW
T02671039 55003=*

METAR KRNO 310355Z 30015G21KT 10SM FEW100 SCT180 26/M04 A3001 RMK AO2 SLP108 T02561039=

Forecast current at the time:

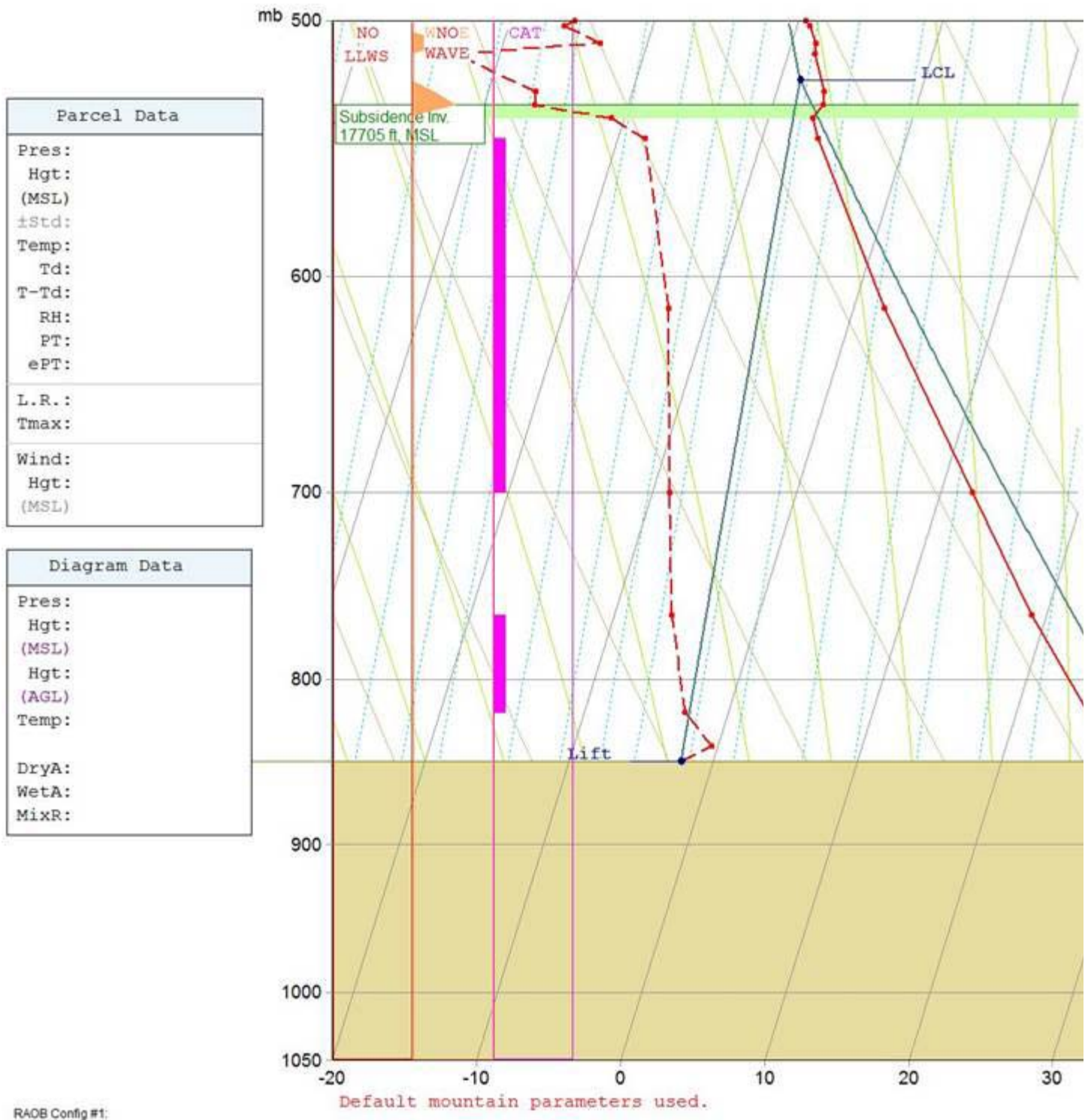
TAF KRNO 302321Z 3100/3124 24015G26KT P6SM FEW140

FM310200 29012G22KT P6SM FEW220
FM310600 VRB04KT P6SM SCT220
FM312000 22016G27KT P6SM FEW140=

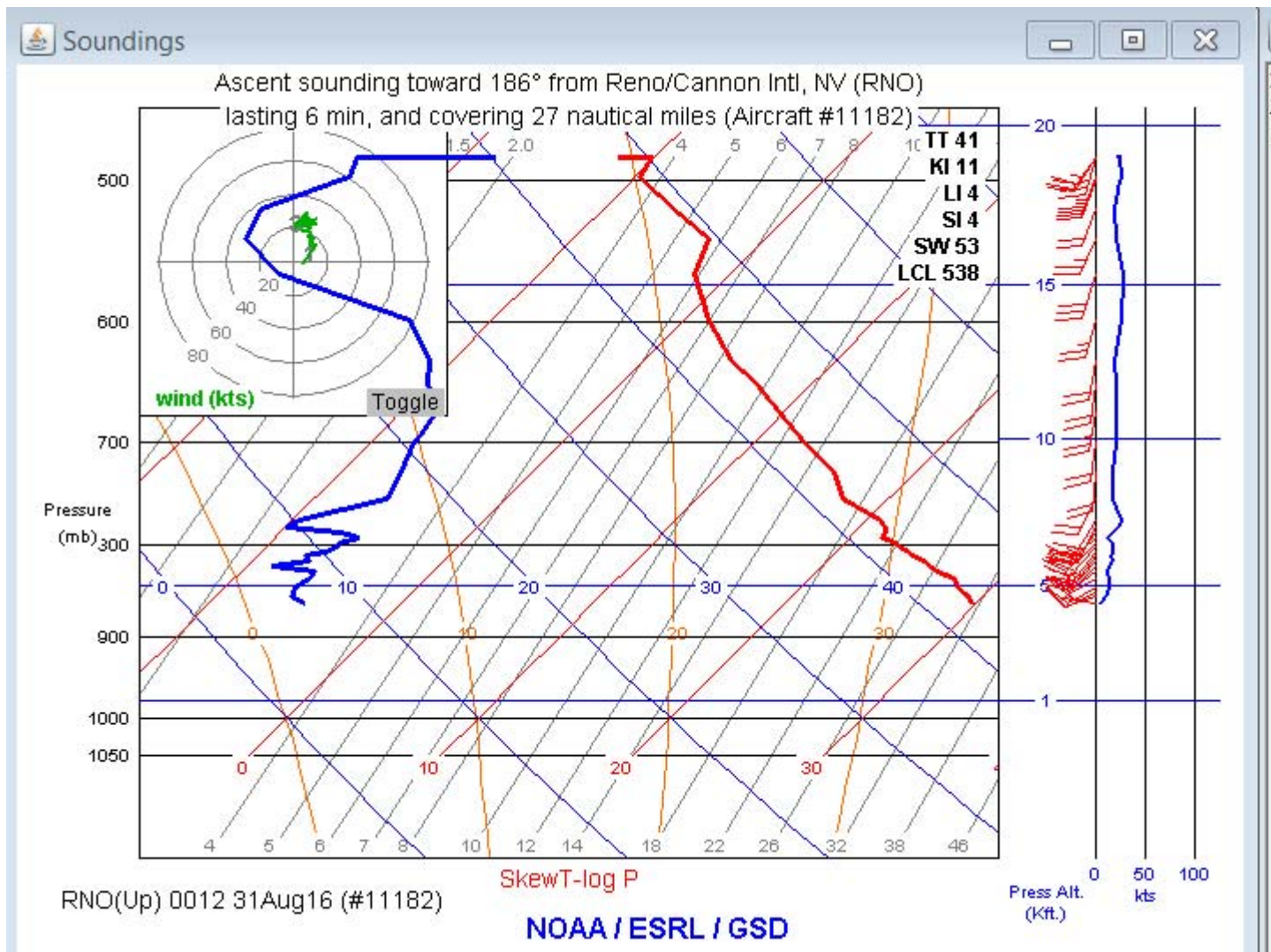
Pilot Reports – the following reports were made in the area surrounding the time of the accident:

RNO UA /OV SWR135020/TM 0458/FL140/TP B737/TB MOD/RM DURD 140-125
RNO UA /OV FMG165050/TM 0531/FL235/TP B737/TB MOD CHOP/RM DURD 235-125

Sounding – the 1700 MDT (0000Z) upper air sounding from Reno was reviewed for hazards. The sounding depicted a dry low-level environment with an inversion near 17,700 feet due to subsidence. The lifted condensation level (LCL) or approximate cloud base was at 13,189 feet agl. The wind profile indicated surface wind from the west or 250° at 12 knots with winds backing or turning counter clockwise to the southwest with height and increase in speed. The mean or 6 kilometer or 18,000 feet winds were from 210° at 25 knots. The freezing level was at 14,770 feet and did not support any icing conditions. The sounding wind and thermal structure supported the development of mountain wave conditions with a predominant wave near 17,500 feet with the potential for moderate and stronger turbulence. No significant low-level turbulence or wind shear was identified below 2,000 feet agl.



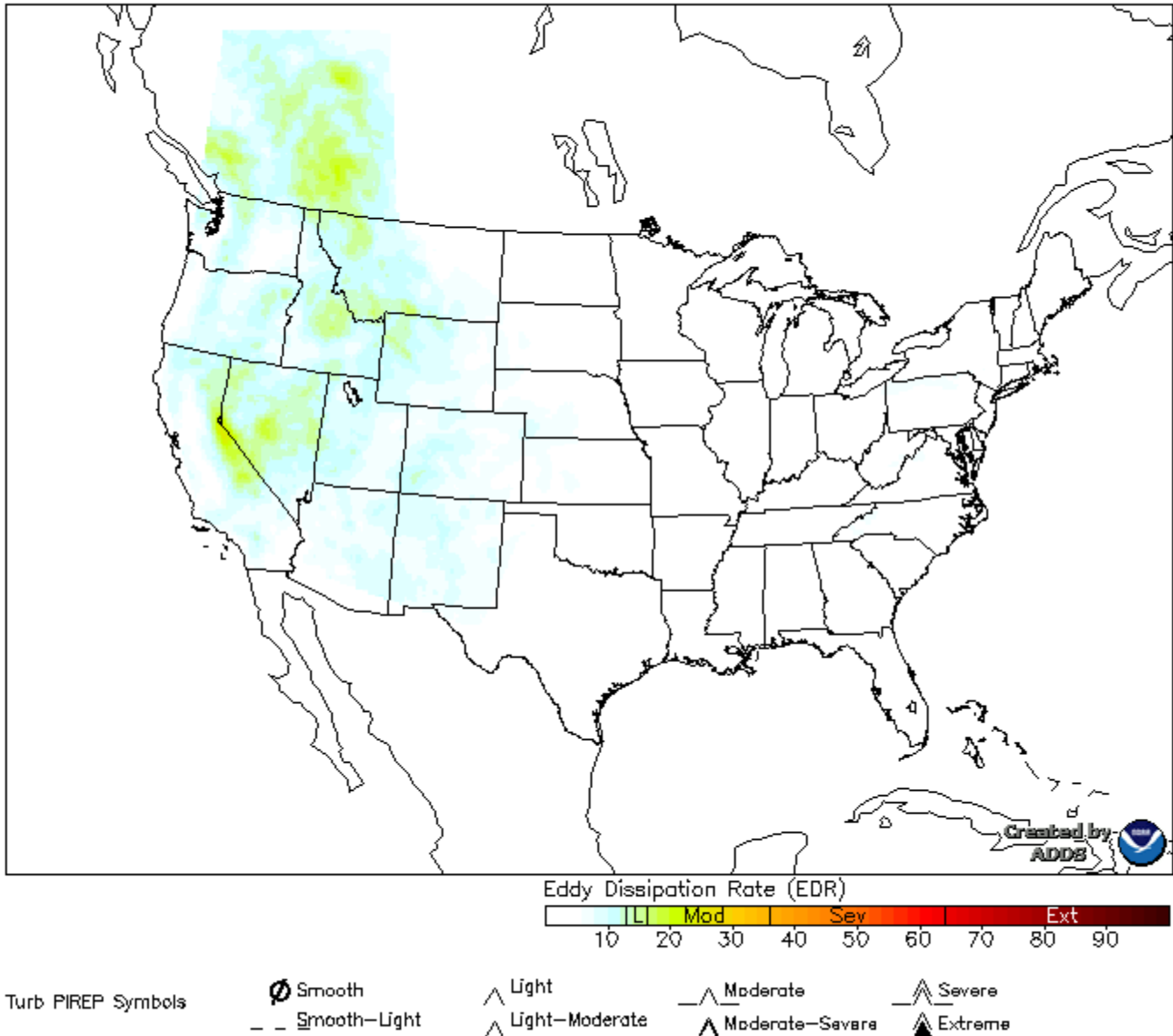
AMDARS aircraft sounding – a review of aircraft derived soundings provided an ascent sounding departing KRNO at 17012 MDT (0012Z) and is included below. The wind profile indicated westerly winds backing to the south with a low-level wind maximum near 7,000 feet from 210° at 28 knots, which was not detected on the Reno sounding.



In-Flight Weather Advisories – there were no SIGMETs, Convective SIGMETs, Center Weather Advisories, or AIRMETs issued for any significant areas of IFR conditions, turbulence, icing, or thunderstorms over the region during the period. A review of the NWS Graphic Turbulence Guidance (GTG) mountain wave algorithm also did not detect any significant low level turbulence or wave action over the area over light to moderate intensity.

GTG - Mountain wave at FL190

00 hr forecast valid 0900 UTC Wed 31 Aug 2016



Astronomical data – the United States Naval Observatory provided the following data for Reno.

Beginning civil twilight: 0559 MDT

Sunrise: 0629 MDT

Accident: 1830MDT

Sunset: 1932 MDT

End civil twilight: 2000 MDT

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