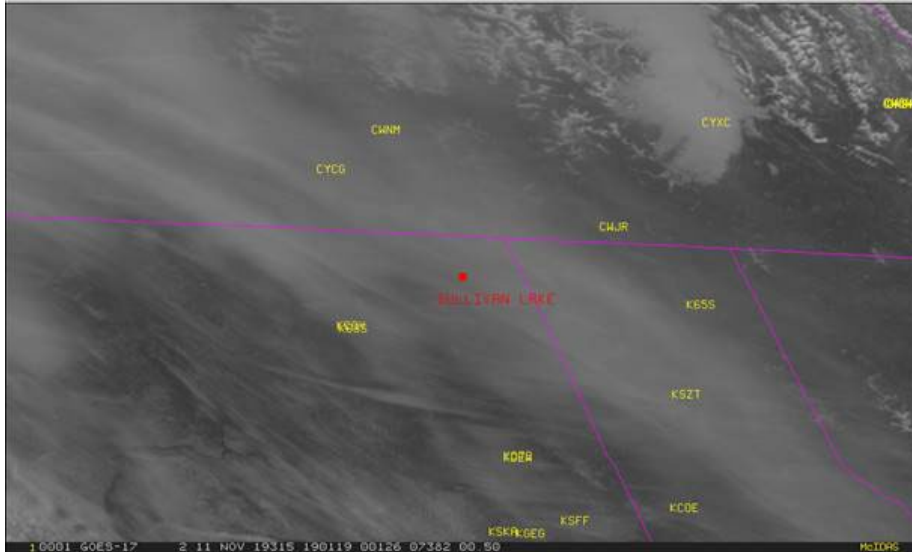


From: [Eick Donald](#)
To: [Smith Maja](#)
Subject: RE: WPR20LA028 - Metaline, WA Weather
Date: Wednesday, November 20, 2019 10:02:38 AM
Attachments: [image008.png](#)



The GOES-17 visible satellite image for 1101 PST at 2X magnification is included above and depicted thin high cirriform clouds. No significant turbulence signatures over the area.

From: Smith Maja <[REDACTED]>
Sent: Wednesday, November 20, 2019 10:17 AM
To: Eick Donald <[REDACTED]>
Cc: Helson David <[REDACTED]>
Subject: Re: WPR20LA028 - Metaline, WA Weather

Thank you

From: Eick Donald <[REDACTED]>
Sent: Wednesday, November 20, 2019 7:14:04 AM
To: Smith Maja <[REDACTED]>
Cc: Helson David <[REDACTED]>
Subject: RE: WPR20LA028 - Metaline, WA Weather

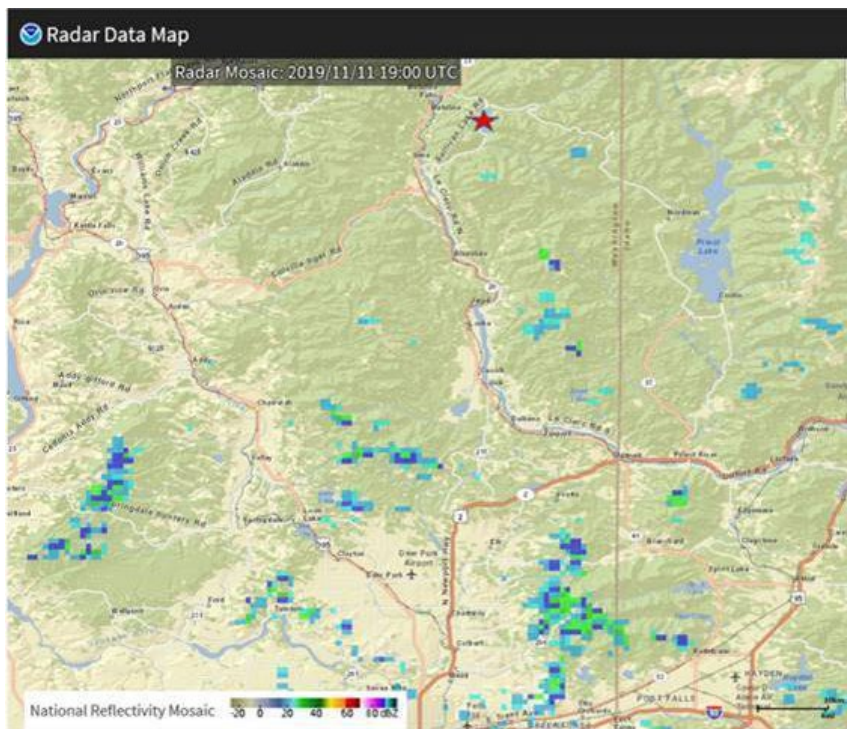
Summary – no hazardous weather identified over the area at the approximate time of the accident. I did see some unknown freezing precipitation in the Spokane area prior to the event but still VFR conditions, the threat of any significant icing was low. Model sounding data over the accident site indicated a 10° C temperature-dew point spread, suggesting no visibility restrictions or any low clouds. No carburetor icing hazard due to low relative humidity.

From: Eick Donald [REDACTED]
Sent: Wednesday, November 20, 2019 10:08 AM
To: Smith Maja [REDACTED]
Cc: Helson David [REDACTED]
Subject: WPR20LA028 - Metaline, WA Weather

Weather conditions in the vicinity of Metaline, WA on November 11, 2019

Synoptic conditions – A review of the NWS Surface Analysis Chart for 1000 PST depicted a warm front approaching the Washington Pacific coast and multiple stations over western Washington depicted broken to overcast skies and visibility in mist. Two high pressure systems were located immediately northeast and southeast over Canada into Montana at 1041- and 1045-hectopascals (hPa). A general weak pressure gradient was indicated over eastern Washington and northern Idaho. Over the eastern Washington clear skies and light winds were indicated.

A review of the National Composite Radar Mosaic indicated no significant weather echoes over the area immediately surrounding the accident site. Several small areas of very light intensity echoes were depicted in the Spokane area. The observations from Fairchild Air Force Base (KSKA) during the period reported broken clouds at 16,000 ft with unknown freezing precipitation.

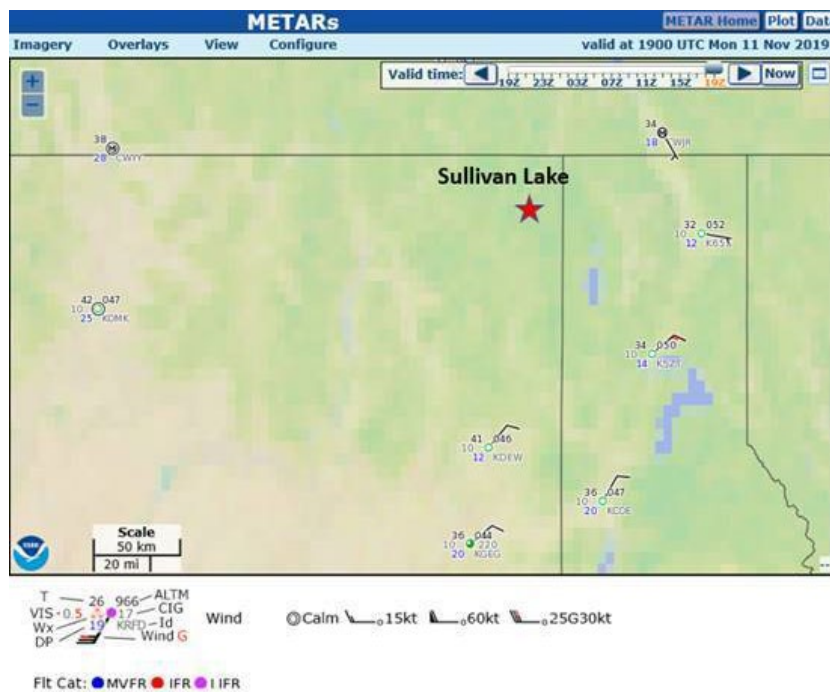


Observations – the accident airplane departed from Colville Municipal Airport (63S), which does not have any weather reporting capability. The closest official weather reporting location to the accident site was from Boundary County Airport (65S) located approximately 40 miles east of Sullivan Lake, at an elevation of 2,337 ft. Boundary County Airport had an Automated Weather Observation System (AWOS) and reported the following conditions surrounding the period:

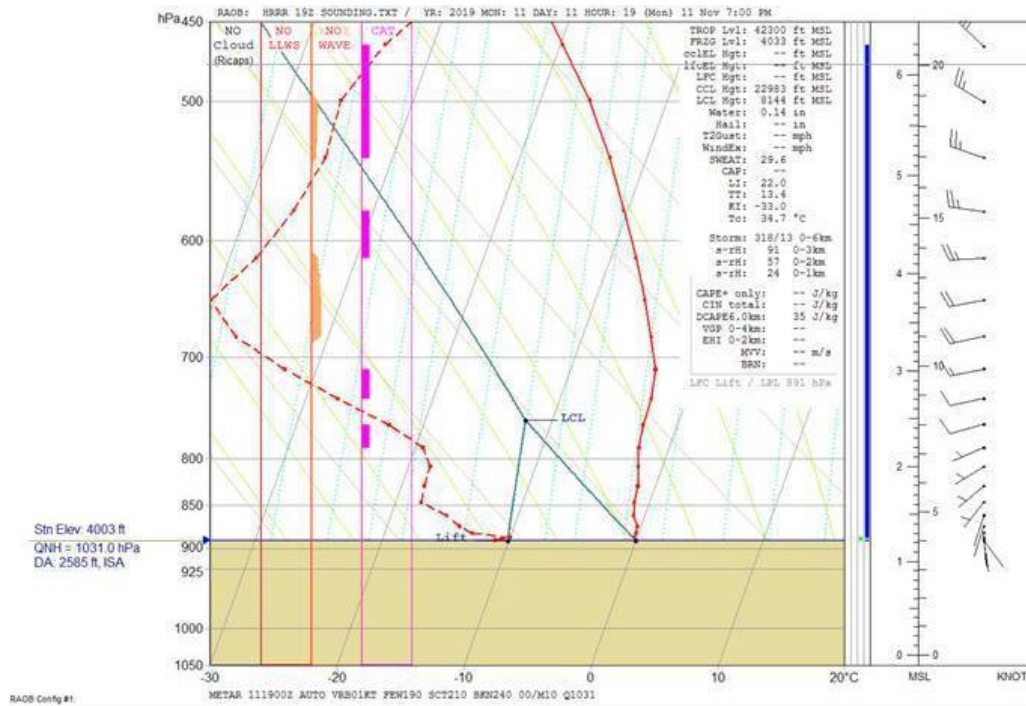
METAR K65S 111810Z AUTO 08003KT 10SM CLR 00/M11 A3053 RMK AO2=
 METAR K65S 111830Z AUTO 06006G14KT 10SM CLR 00/M11 A3052 RMK AO2=
 METAR K65S 111850Z AUTO 10003KT 10SM CLR 00/M11 A3052 RMK AO2=
 METAR K65S 111910Z AUTO 08006KT 10SM CLR 00/M12 A3051 RMK AO2=
 METAR K65S 111930Z AUTO 07005KT 10SM CLR 01/M11 A3050 RMK AO2=
 METAR K65S 111950Z AUTO 00000KT 10SM CLR 01/M12 A3049 RMK AO2=
 METAR K65S 112010Z AUTO 11004KT 10SM CLR 02/M11 A3048 RMK AO2=

Similar conditions were reported at Deer Park Airport (KDEW), Deep Park, WA, located 39 miles northwest of the departure airport.

A depiction of the NWS Aviation Weather Centers METAR display for 1100 CST (1900Z) with the approximate accident site marked by a red star.



Sounding - A High Resolution Rapid Refresh (HRRR) numerical model sounding was obtained for the approximate accident coordinates for 1100 PST. The sounding indicated a near surface temperature of 0° C (32° F), a dew point temperature of -10° C (14° F), with a relative humidity of 47%, and calm surface wind. The freezing level was at the surface and no clouds were indicated below 12,000 ft. The atmosphere was characterized as stable with a Lifted Index of 22. The wind profile indicated light south-southwest winds which veered to the west and west-northwest with height. The mean 0 to 6 kilometer or 18,000 ft winds was from 288° at 17 knots. The sounding did not depict any strong indications of any low-level turbulence, or wind shear below 5,000 ft, and the wind profile did not support any strong mountain wave activity. Since no clouds were indicated below 12,000 ft no structural icing signatures were also noted.



Inflight Weather Advisories – a search of NWS SIGMETs, Convective SIGMETs, CWAs, AIRMETs indicated that there were no advisories extended over the area of eastern Washington surrounding the period.

Winds and Temperatures Aloft Forecast – the forecast over the area was as follows:

WINDS ALOFT FORECASTS
DATA BASED ON 111800Z
VALID 120000Z FOR USE 2000-0300Z. TEMPS NEG ABV 24000

FT	3000	6000	9000	12000	18000	24000	30000	34000	39000
GEG		2312+02	2520+01	2819-03	2931-15	3042-25	305942	306053	304664
LWS	1306	2316+04	2417+01	2718-02	3030-14	3142-25	316341	316452	316964

Our satellite access through McIDAS is presently down and will pull up satellite images when able.

Donald Eick
NTSB Senior Meteorologist
Office of Aviation Safety
Operational Factors Division (AS-30)

Washington, DC 20594

Cell
Office M-W

