

Wednesday October 01 weather briefing for ARISE, Fairbanks Alaska mission region

\*\* target area of the day: calibration flights (3 potential targets: southwest, south-central, north) \*\*

Current synoptic overview and short range forecast for next flight day  
Thursday Oct. 02:

Much of the state will be found within a col, with high pressure ridges located over the Bering Sea and over the Yukon Province...and low pressure systems over the central Beaufort Sea and Gulf of Alaska. The Gulf of Alaska low will become quite intense with very high wind speeds at all altitudes and widespread deep-layered cloudiness and heavy precipitation. By 21z on Thursday October 02, this low pressure system will be centered on 54N and 148W. The Beaufort Sea low will be much broader and weaker by comparison. Expect broken to occasionally overcast mid and high cloud decks associated with that low with only light scattered snow precipitation. The remainder of the state will see fairly tranquil weather conditions.

Southwest Target area:

Once again, this region is primed to be the least cloudy with lightest winds at all altitudes. Good opportunities will present itself for shooting clear-sky profiles along 60N and between 152-160W. There should be some more liquid phase low clouds to the northwest of this clear band. Winds will primarily be out of the northeast and light below 3km, out of the northwest and light at 5km, and out of the north about 40kts at 8km. Tropopause heights will be high, around 11km here at temperatures around -55C.

South-Central target area:

The weather conditions within this region will be similar to the southwest target area except there may be some additional mid-layer (4-7km) ice phase cloud material...especially along 150W and between 62-65N. Also, this area will be near, but still to the north of the powerful Gulf of Alaska low spiraling to the south. Low clouds are not expected in the south-central target zone. Tropopause heights will be a little lower around 10km and at a temperature of about -53C. Winds will be light at most flight levels with varying direction. Some higher winds may be seen around 9km out of the southwest...around 75kts. Do not fly south of 60N towards the vicinity of the Gulf of Alaska low.

North target area:

Generally speaking, this area will be rather tranquil. Light winds will be found at all flight levels in the northern district. Low clouds will be broken to occasionally overcast over the Beaufort Sea adjacent to the north coast, but scattered to broken over land further south. Only thin transient bands of higher ice phase clouds will traverse this zone. No high cirrus is expected. The tropopause will be found around 8km at a temperature of about  $-40^{\circ}\text{C}$ . Any light snowfall will be confined to small patches along the coast between 150-160W.

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