

Tuesday September 30 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
Wednesday Oct. 01:

High pressure is firmly established across the Bering Sea and along the Southern tier of the state of Alaska. A broad area of low pressure is located further north over the Beaufort Sea. Within this broad area, multiple smaller but weak low pressure centers can be found rotating. Precipitation in the form of freezing rain or snow will be confined to the northwest quadrant of the state and also along the up-slope of the Brooks Range.

Southwest Target area:

Expect the best opportunity for clear sky profiles here. Cloud liquid and ice profiles within much of this zone appear to be dry with very limited water, especially along and south of the 62nd latitude parallel. Wind will be out of the northeast and light in the lowest few kilometers, and out of the northwest but still light above. Tropopause heights/temperatures will average around 9.0km/−52C across much of this region.

South-Central target area:

Much the same conditions than the Southwest target area. Possibly a few more high thin cirrus clouds around 6-8km 60-62N and along 150W. Low level winds (1-3km) even weaker and variable direction. Winds aloft light westerly.

North target area:

One smaller area of low pressure will rotate about a mean larger circulation further north. This will parallel the north coast and overspread deep-later cloudiness here along with some light precipitation. Tropopause heights will average around 7.5-8.0km in this target area with tropopause temperatures around −46C. Winds will be westerly along the north coast at 3km altitude and about 40kts in magnitude, and 60kts at 5km.

Outlook for the succeeding day Thursday Oct. 02:

The well-established ridge of high pressure bridged across the southern tier of the state begins to gradually weaken along 150W. Over the Beaufort Sea, a broad low pressure occlusion remains centered at 77N and 150W with at least one or two trailing frontal bands across the state with associated deep-

layer cloud cover and light precipitation. The southwest and south-central coast of the state will continue to be favored for clear sky profiles.

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