

Monday September 29 weather briefing for ARISE, Fairbanks Alaska mission region

** target area of the day: Calibration flights (3 potential targets: North, South-Central, Southwest) **

Current synoptic overview and short range forecast for next flight day Tuesday Sept. 30:

The large scale synoptic features include a broad low pressure circulation encompassing much of the Beaufort Sea. A trough of low pressure will extend from this broad circulation over the Sea along the far eastern border of Alaska with Canada. To the southwest, high pressure will build in from the Bering Sea from west to east over this part of the state of Alaska. No significant storminess is expected in this time-frame anywhere in any of the potential target regions. The northern flight plan will most assuredly see the most deep-layer cloudiness with mixed rain-snow precipitation chances. The southwest flight plan will categorically see the least amount of cloud coverage with good possibilities of clear profile scenes which will be described in more detail below. The south-central flight plan may also be a good opportunity for a combination of cirrus-free conditions and clear-sky profiles....however, this flight plan may see some high northwest winds aloft, with speeds of up to 90kts between 8-9km.

If going for clear sky profiles along the southwest flight plan, a good opportunity for no-cloud scenes will be centered on 60N and between 155-160W. There will be an increase in low cloud fraction north of this latitude. Do not expect strong winds at any altitude anywhere in this target box. Tropopause heights in this zone will be high and uniformly around 10.0-10.5km with temperatures here around -58C. Except right near the surface, the entire profile will remain below the freezing point at 60N and 155-1660W. The south-central flight plan weather will be similar to the southwest flight plan except for stronger flight level winds and low tropopause heights/temperatures (~8.5km).

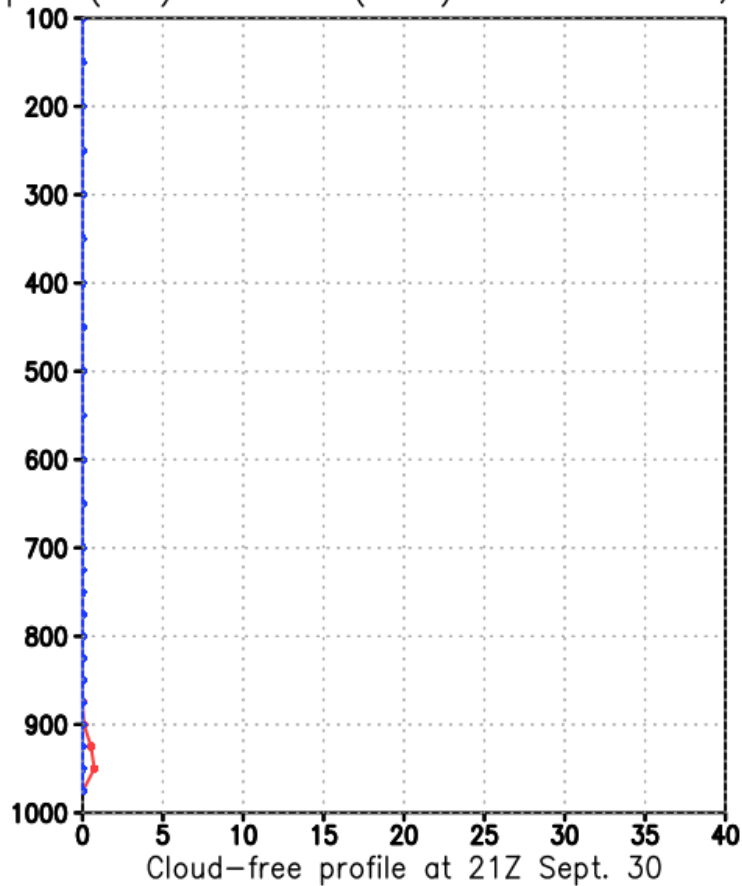
If going for the north flight plan, there will be a broken to overcast cloud deck over the Beaufort Sea 70-75N. Mid-level cloudiness, though somewhat less, will also be present in this district...especially over land (northeastern quadrant of the state). The scene should be fairly devoid of cirrus above 8km. Expect tropopause heights in the northern target area to be around 6.5km. Winds within the northern target area will be relatively weak at all flight levels. Direction will be easterly northern Beaufort and westerly over the coast and land.

Outlook for the succeeding flight day Wednesday Oct. 01:

Much of the state will be situated on the northern and eastern periphery of high pressure located over the central Bering Sea. This position relative to a high pressure center typically promotes fair weather and very low chances for precipitation development. The southern tier of the state should see clear-sky scenes once again on Wednesday especially along 60N and 135W-150W. Some enhanced multilayer cloud decks may be present to the west of this.

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Liquid (red) and Ice (blue) water at 60N, 155W



GrADS: IGES/COLA

