



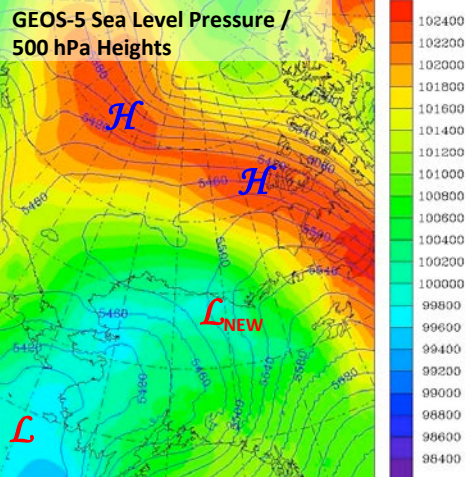
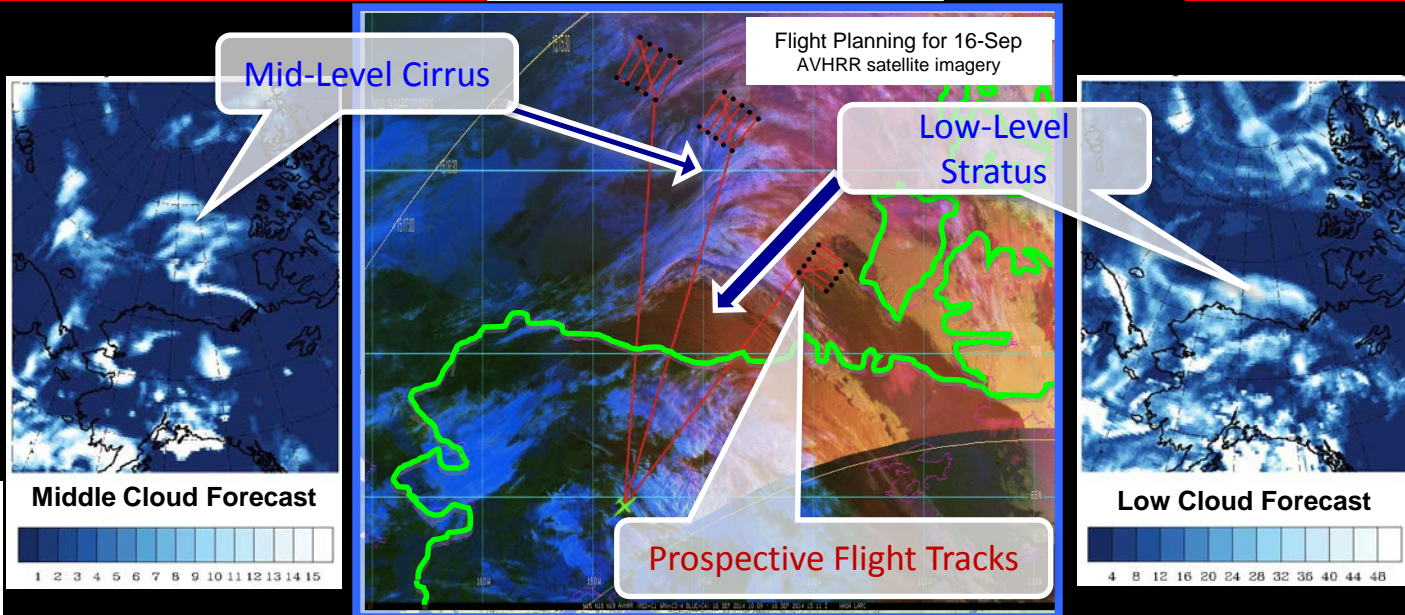
Forecasting in the Southern Beaufort Sea for ARISE



Global Modeling and Assimilation Office

Motivation:

Location and altitude of cloud decks are an important factor in flight planning for ARISE. GEOS-5 forecasts are used to provide this information two to three days ahead of time. This also offers a unique opportunity for the evaluation of GEOS-5 in the data-sparse Arctic.



Impacts:
 GEOS-5 forecasts showed the development of a surface low near Prudhoe Bay on 16 September, with rapidly changing conditions. The forecast low- and mid-level clouds for this time showed a distorted pattern along the coast, in good agreement with AVHRR satellite imagery. On the basis of the GEOS-5 forecasts, flight planners were able to choose flight paths that avoided these cloud decks.

Summary:
 In ARISE, GEOS-5 forecasts have adequately predicted:

- Synoptic weather patterns
- The distribution of high and mid-level cirrus clouds
- Temperature & wind profiles