

Overview of the Nov. 17-19 Storm event

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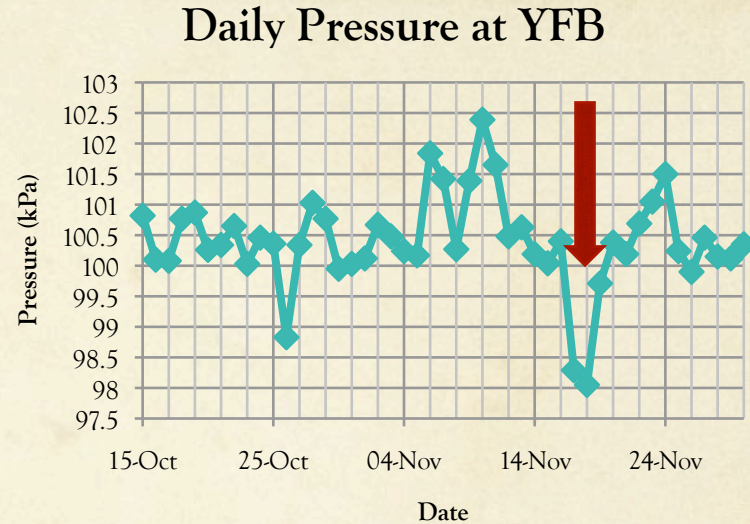
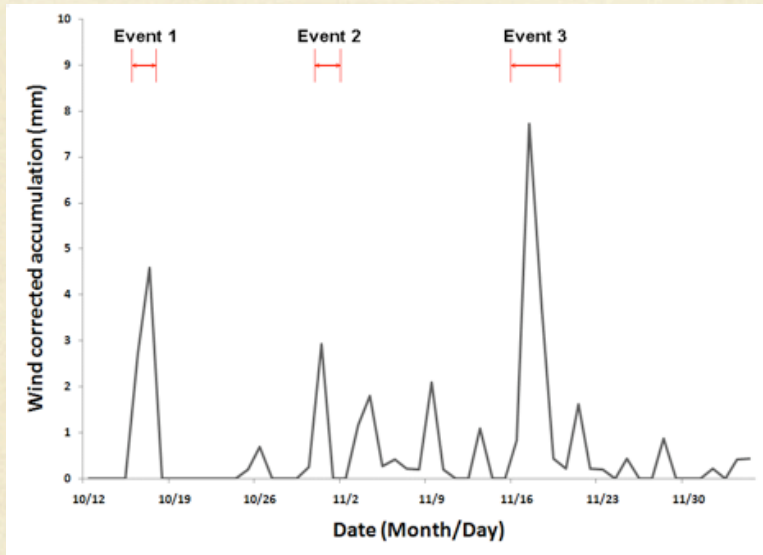
Aims

- Collate data on this case – eye for storm dynamics
- Evaluate the GEM model forecasts
- Search for topographical influences
- Possible sea ice connections

Talk outline

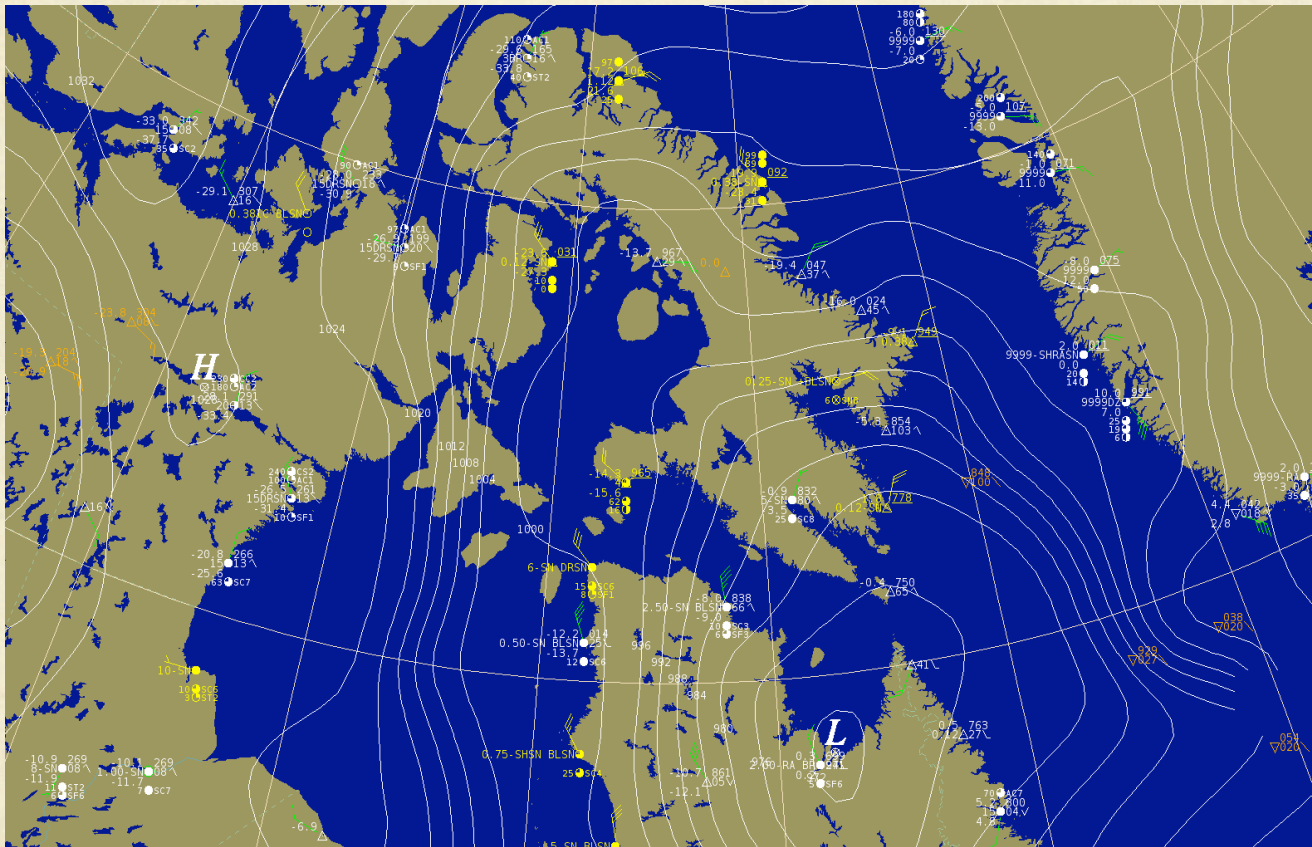
- Synoptic overview of the event
- Catalog of available data
- Some model data (preliminary)
- Questions and issues to address

Impact at Iqaluit

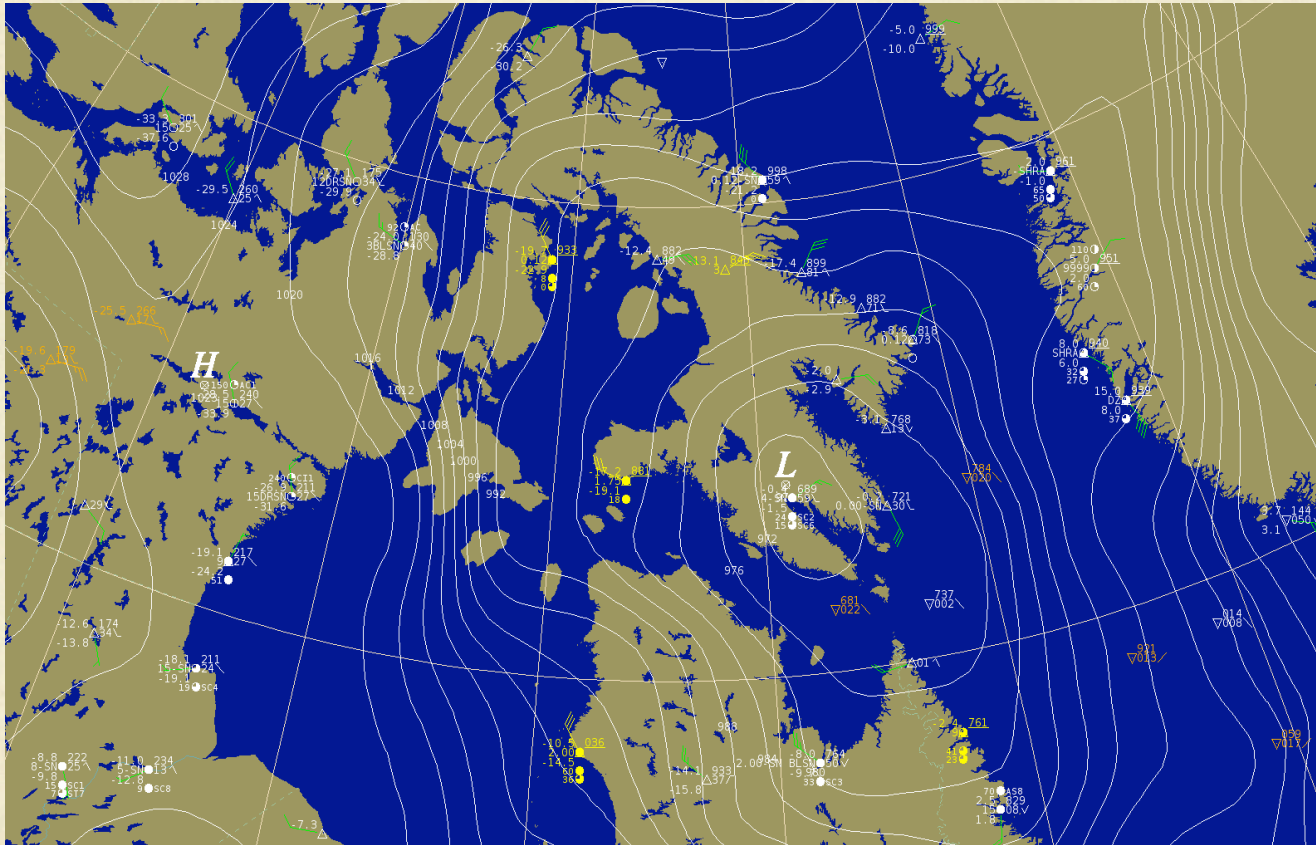


- Left: Accumulated precipitation at Iqaluit over the course of STAR
- Right: Pressure at Iqaluit airport over the period of STAR

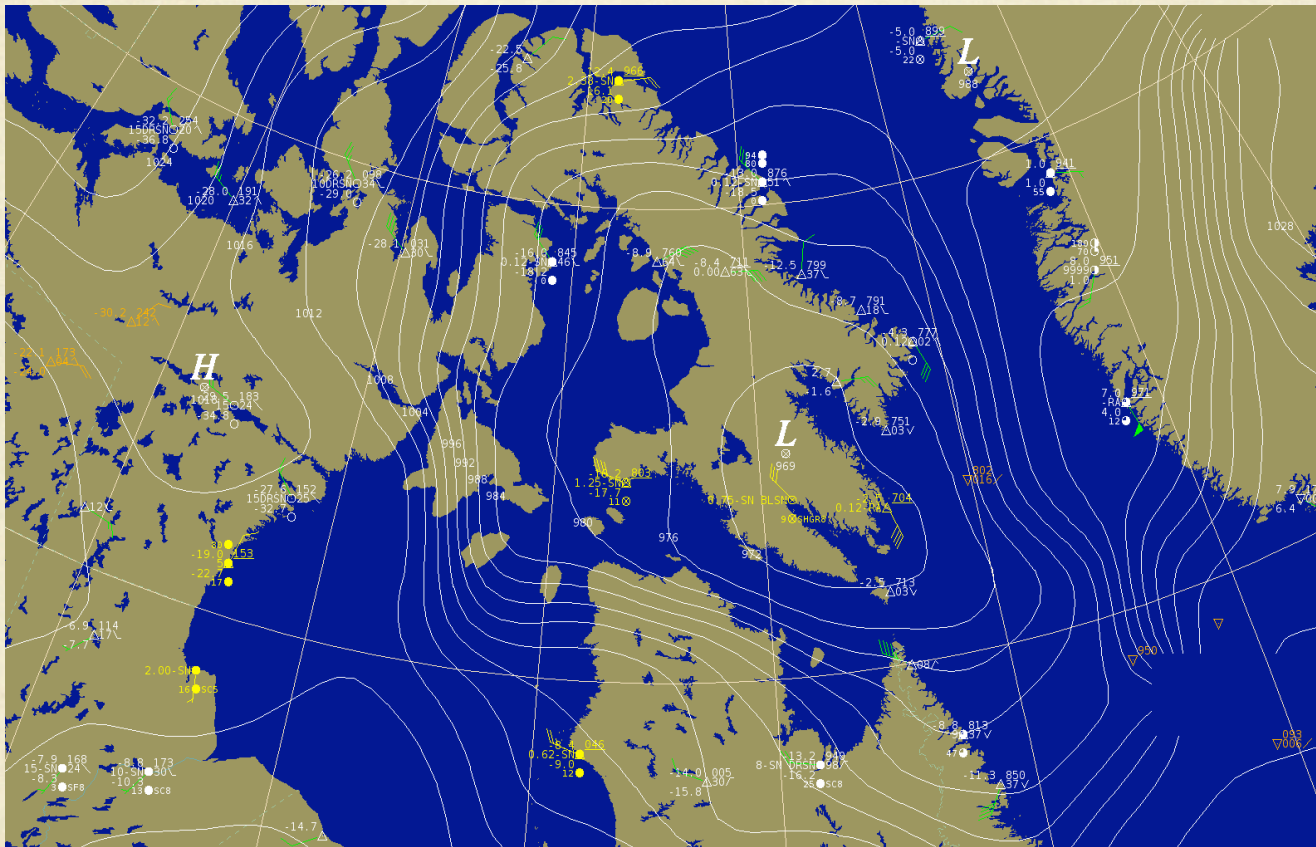
Synoptic view: 18 Z 17 Nov



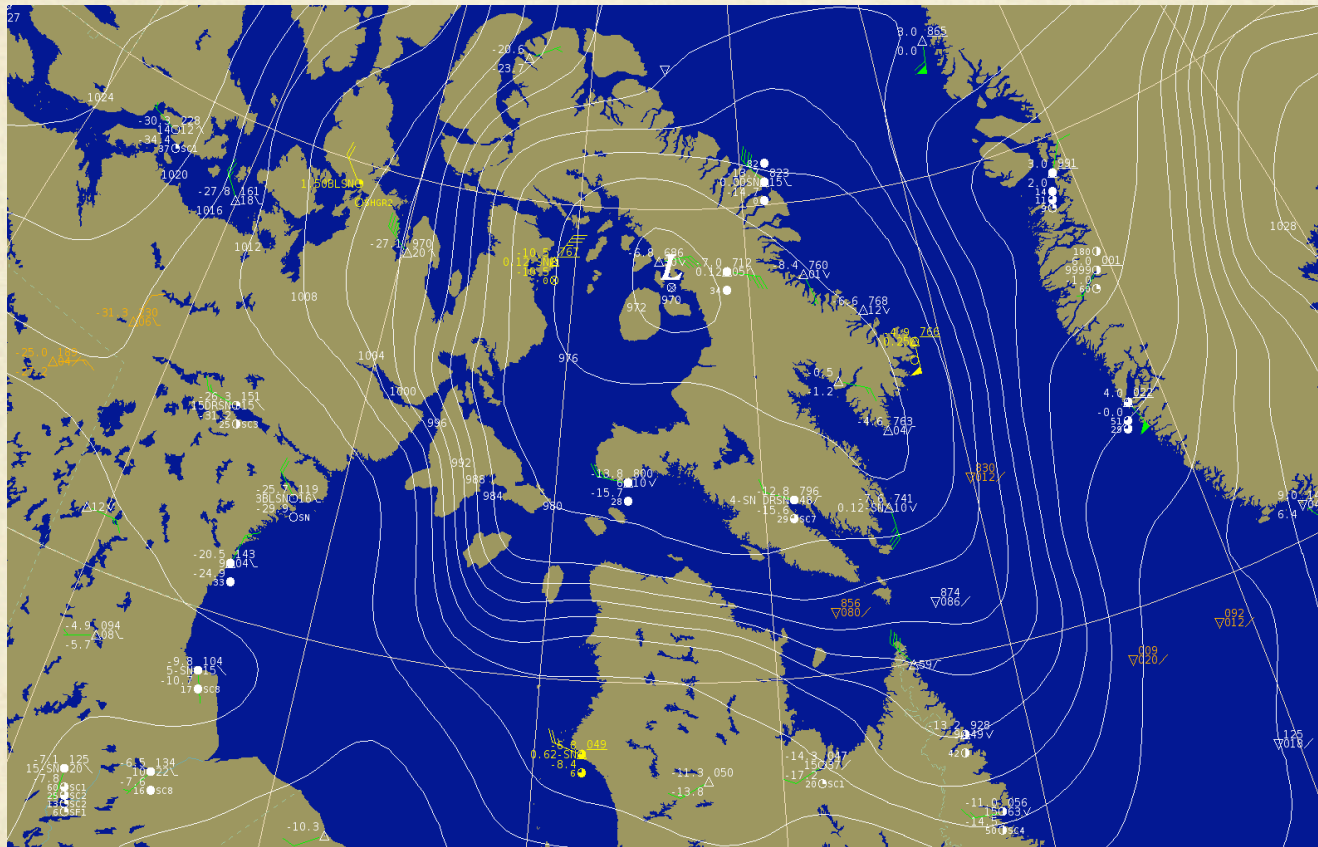
00 Z 18 Nov.



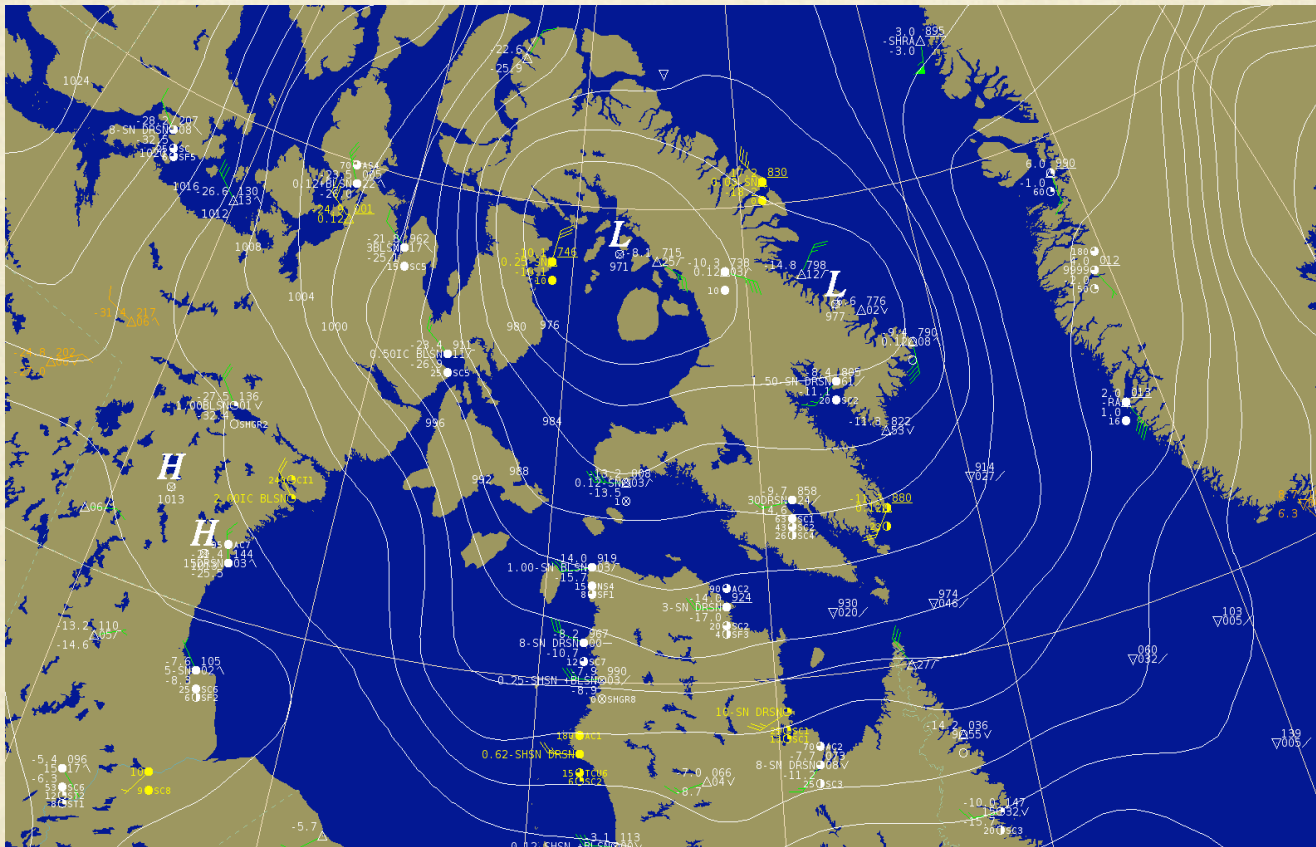
06 Z 18 Nov.



12 Z 18 Nov.



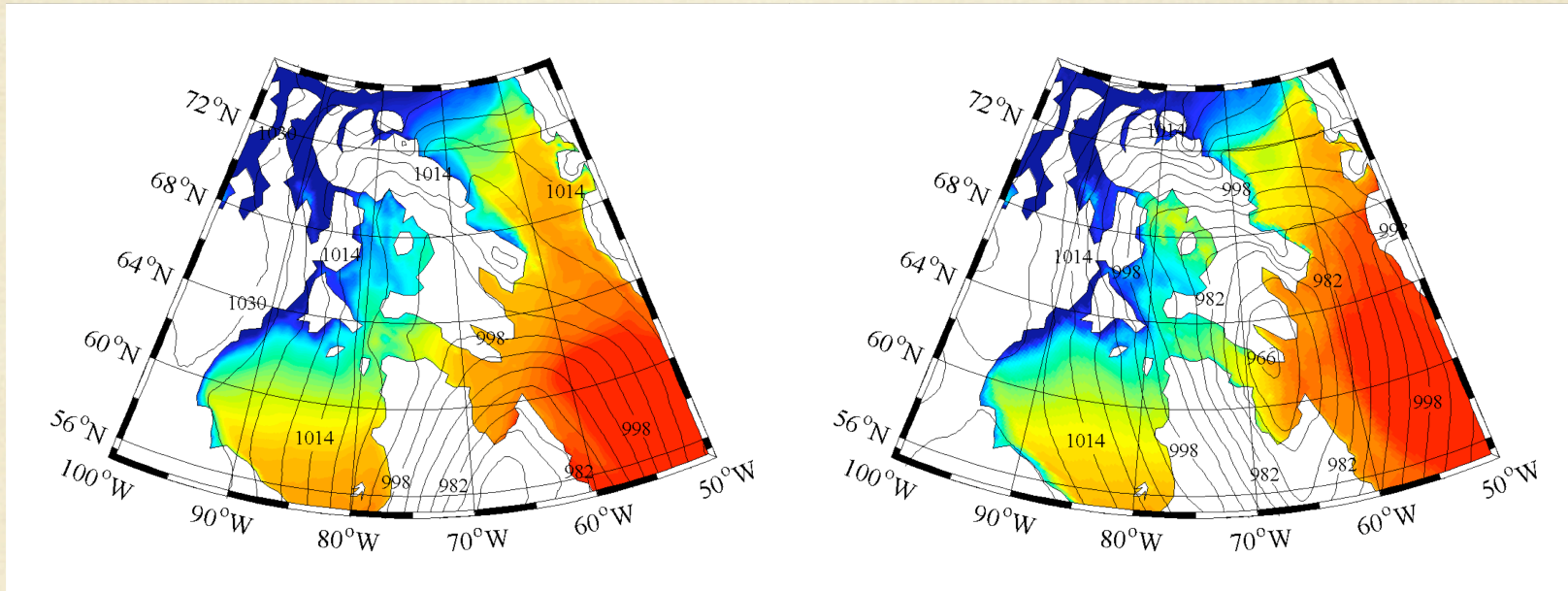
18 Z 18 Nov.



Some available data

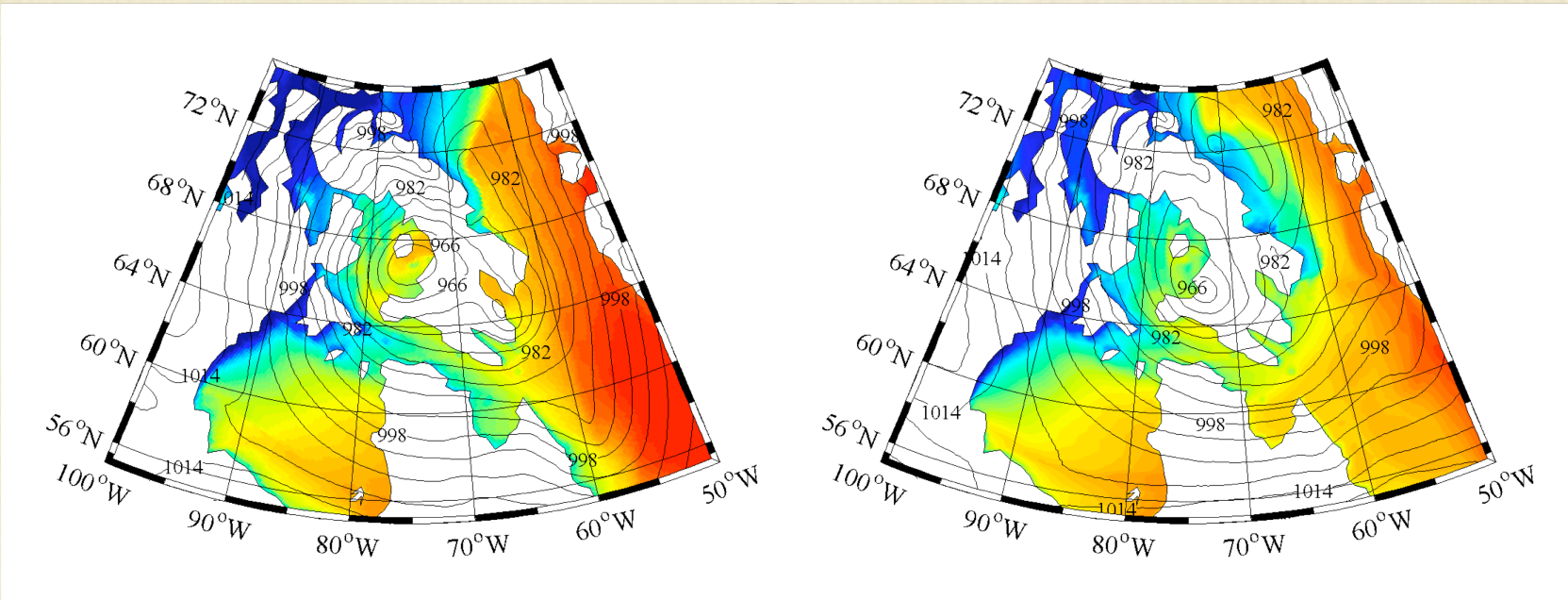
- Aircraft dropsondes
- Increased frequency of upper air soundings associated with the IOP
- Aircraft data on 18 November is collocated with CloudSat overpass
- *Model data* (GEM forecast, future simulations)

GEM forecast - 17 Nov



Sea level pressure (contour, hPa), 2m temperature (shaded, °C)
Left: 12 Z 17 Nov. Right: 00 Z 18 Nov.

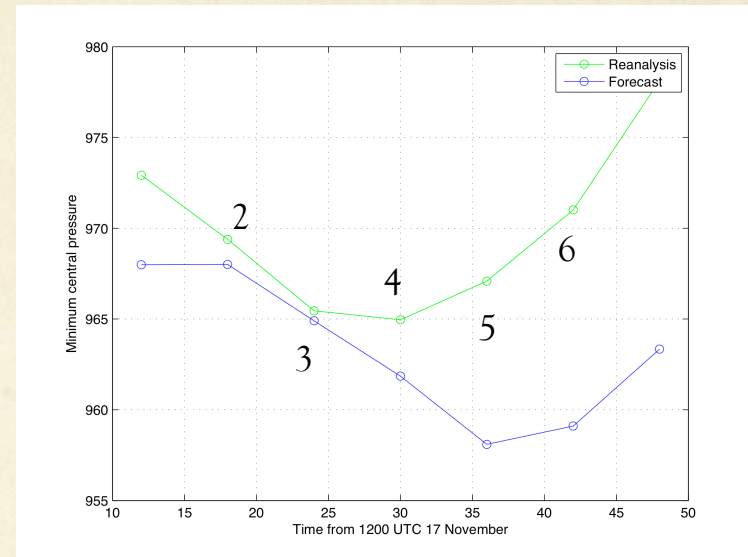
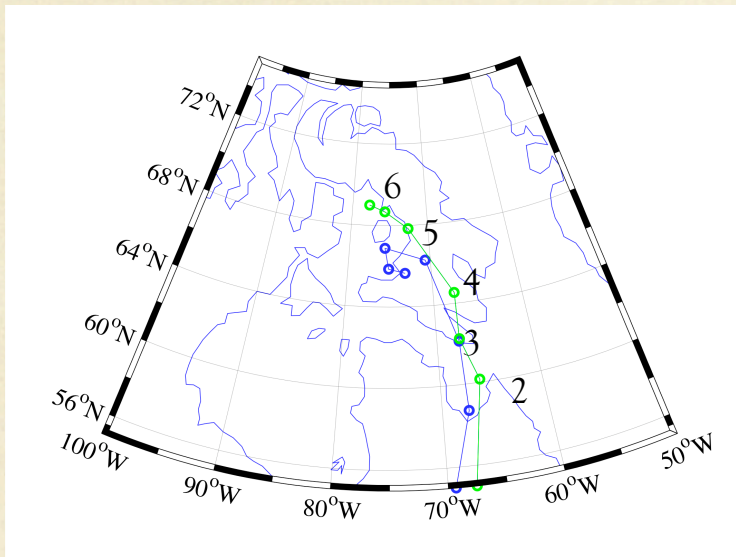
GEM forecast



Sea level pressure (contour, hPa), 2m temperature (shaded, °C)

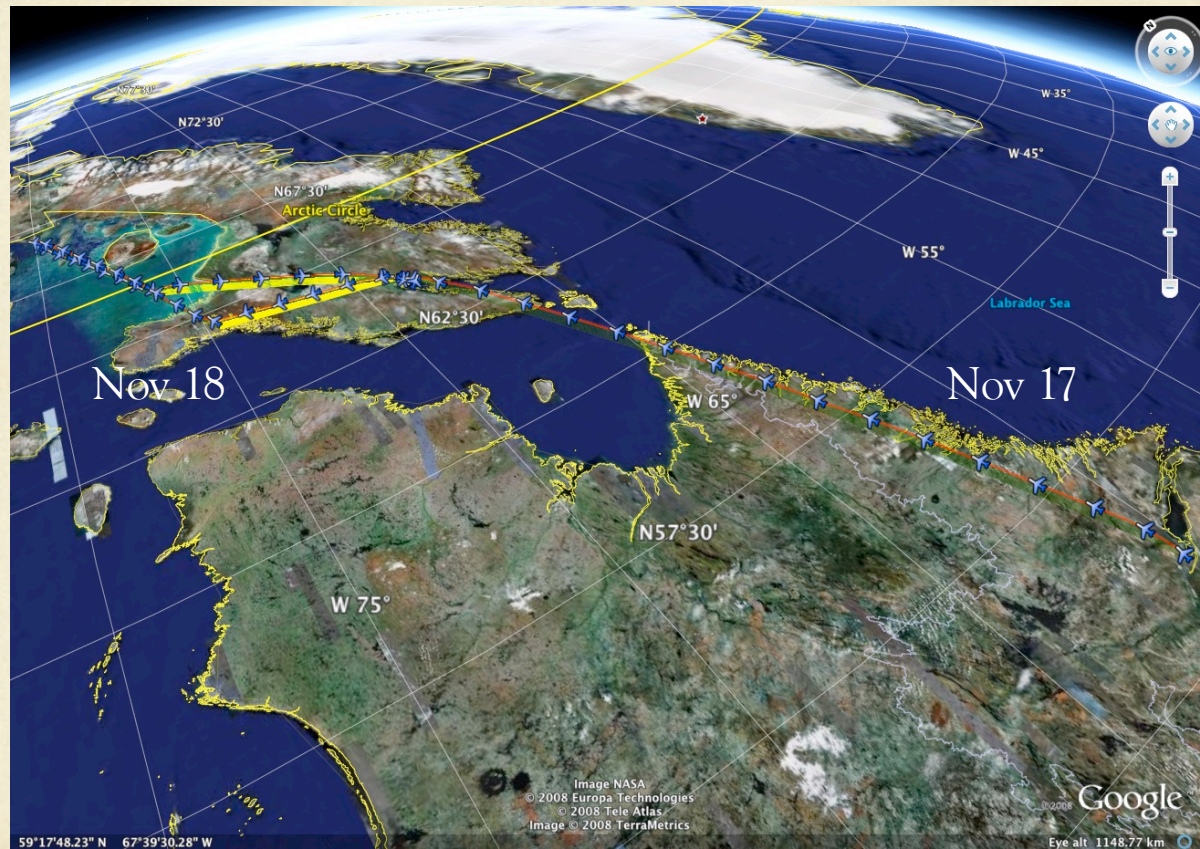
Left: 12 Z 18 Nov. Right: 00 Z 19 Nov.

Forecast, Reanalysis

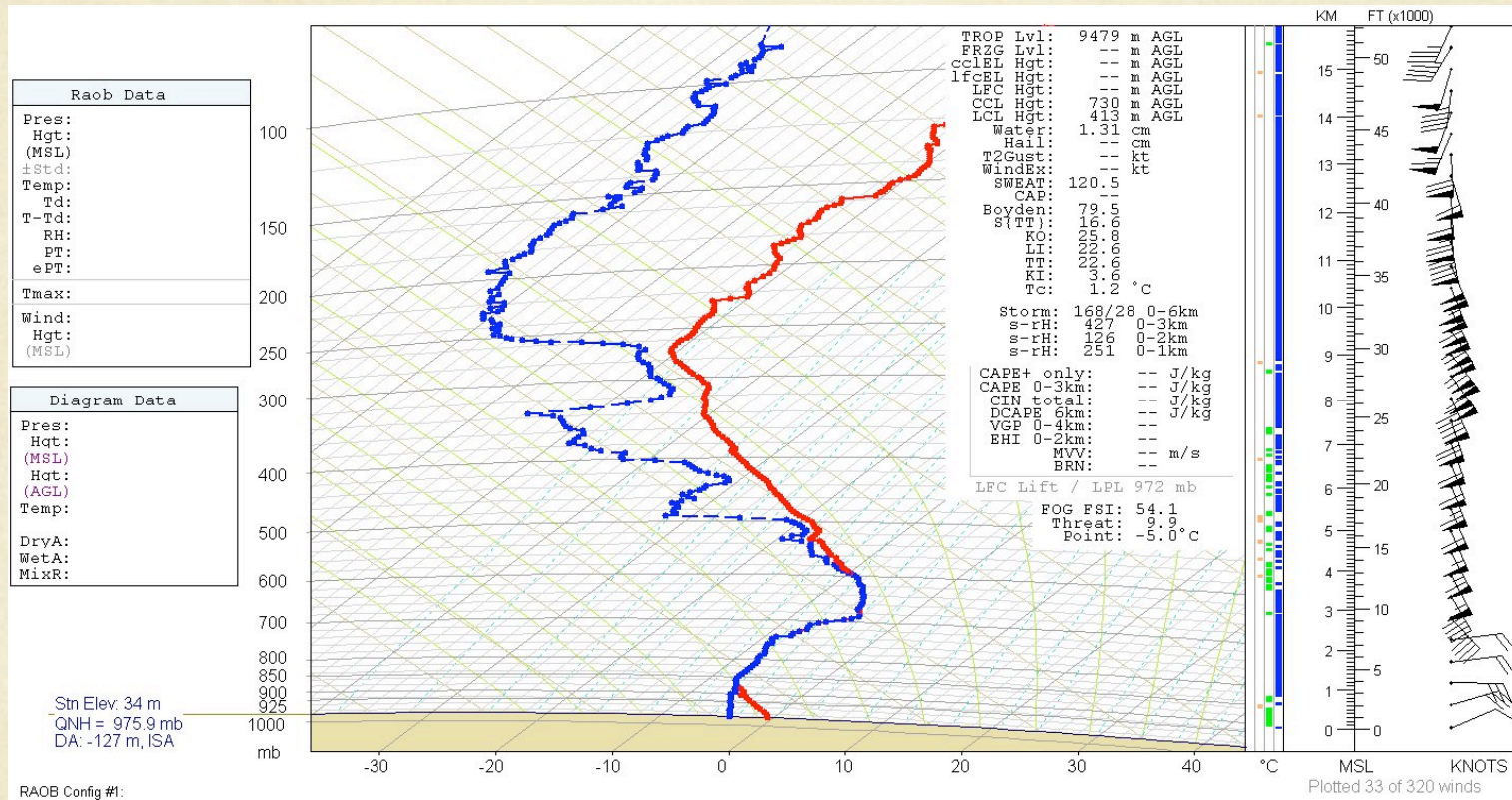


- Left: Storm track based on the position of minimum central pressure (sea level) for NARR (green) and for GEM forecast initialized 0 Z 17 November (blue).
- Right: Minimum central pressure (sea level) of the system over time for NARR (green) and for GEM forecast initialized 0 Z 17 November (blue).

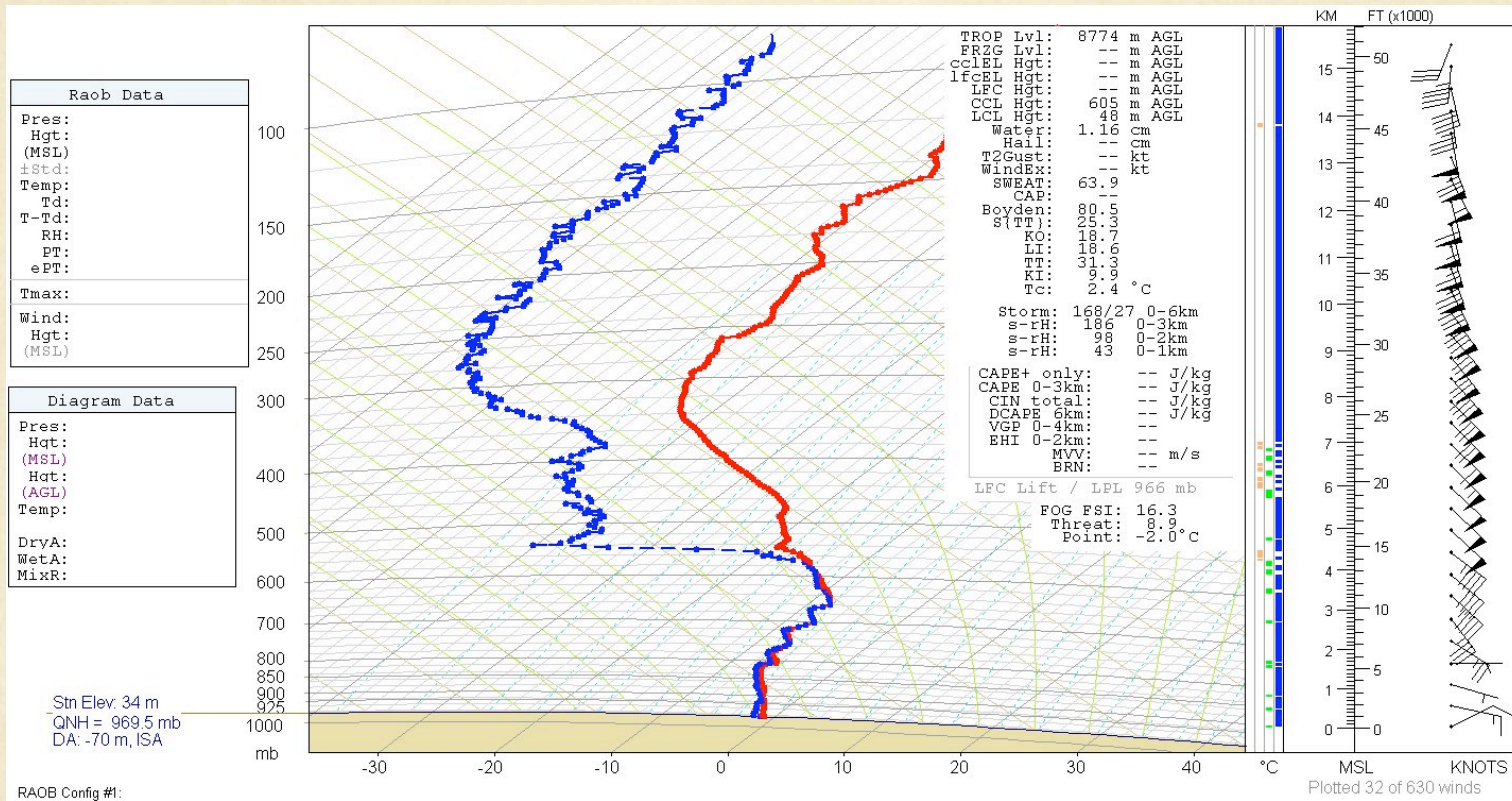
Flight tracks



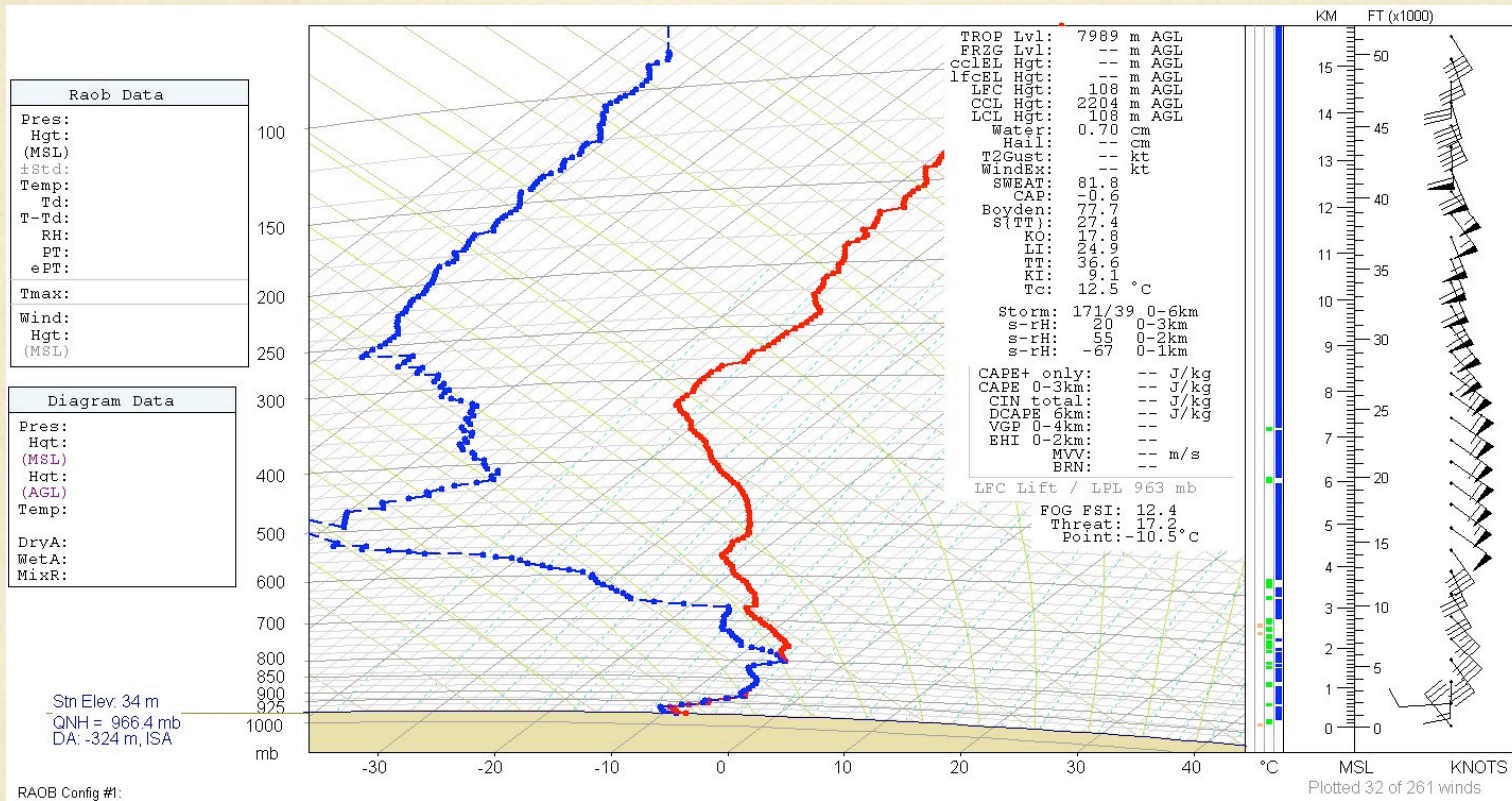
Iqaluit 21Z 17 Nov.



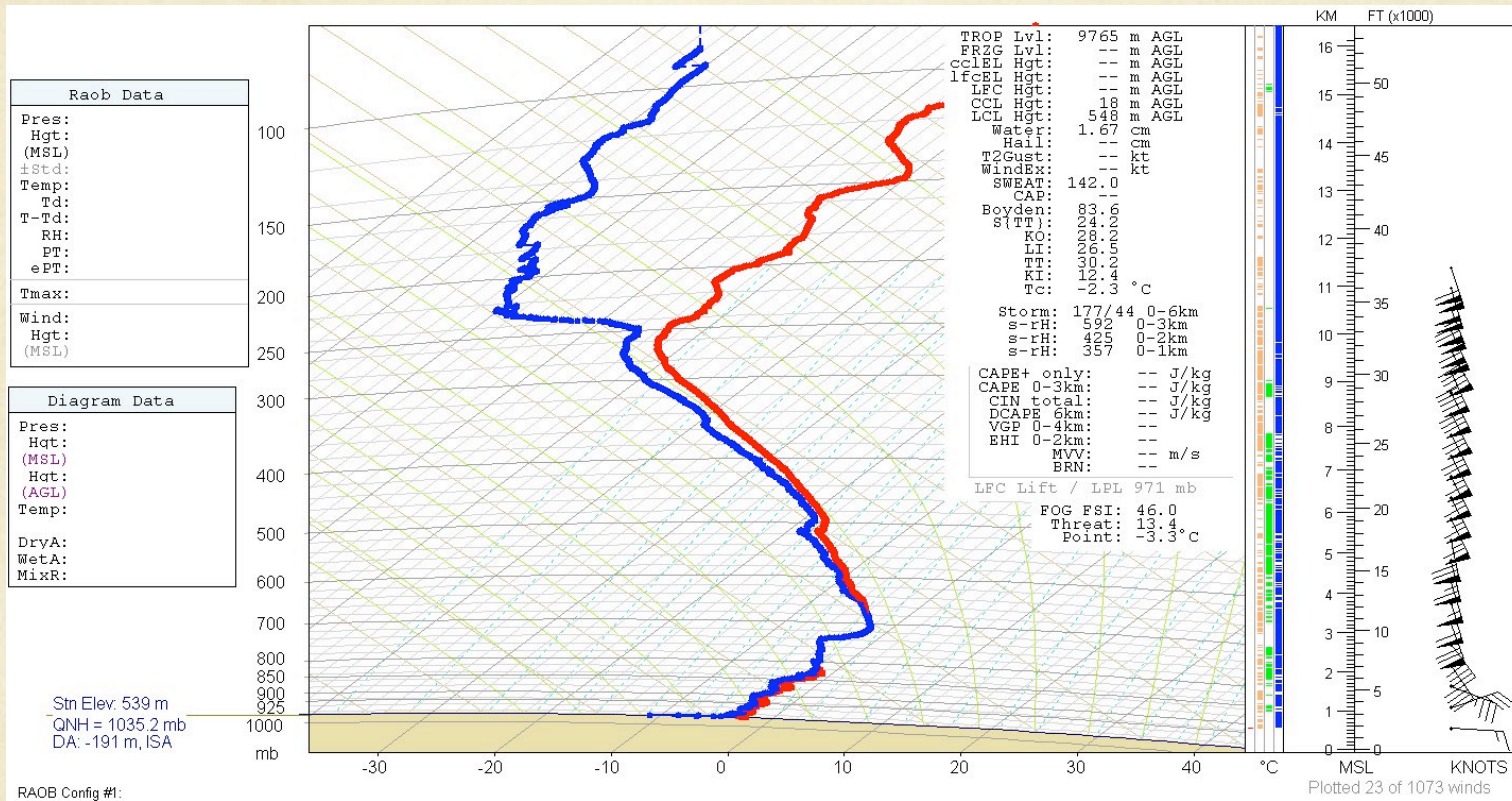
Iqaluit 00 Z 18 Nov.



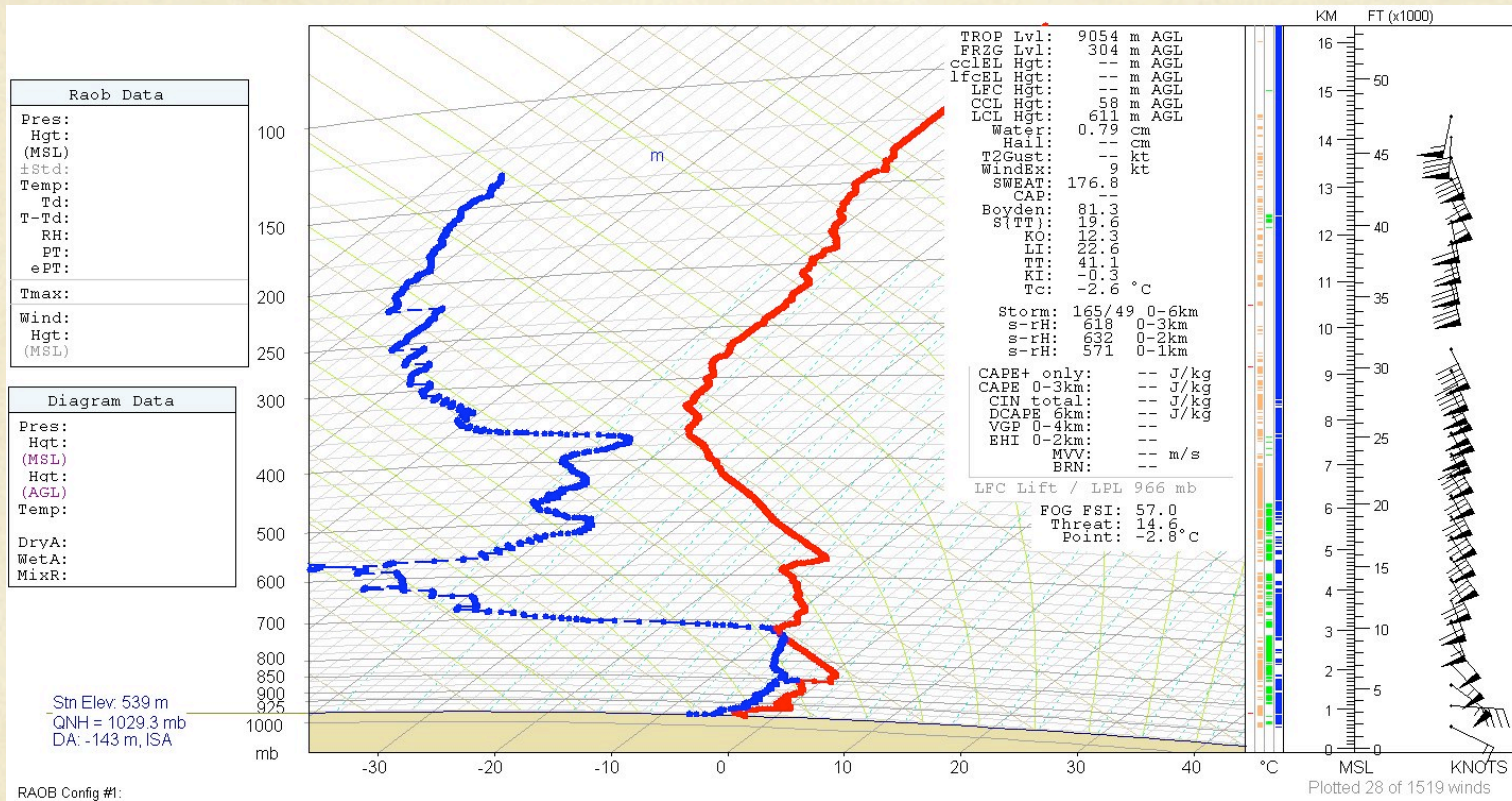
Iqaluit 03 Z 18 Nov.



Pangnirtung 00 Z 18 Nov.



Pangnirtung 03 Z 18 Nov.



Conclusions

- Want to get closer to the truth given the wealth of available observation
- Interesting dynamics hinted at in data analyzed so far
 - Soundings show intriguing structure
- Synergy with other studies of the same storm
 - Opportunity to improve simulation