

# **Weather Information**

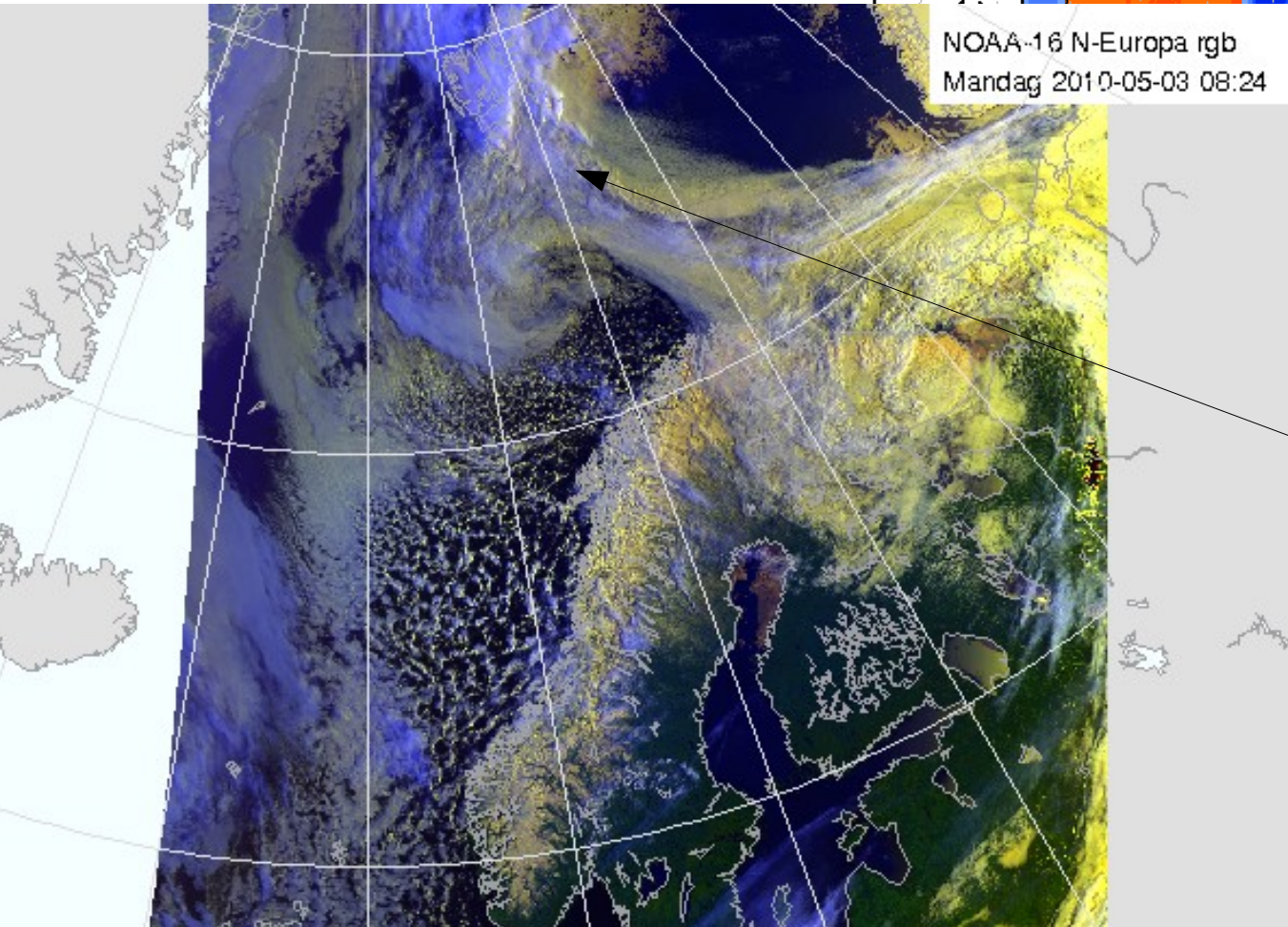
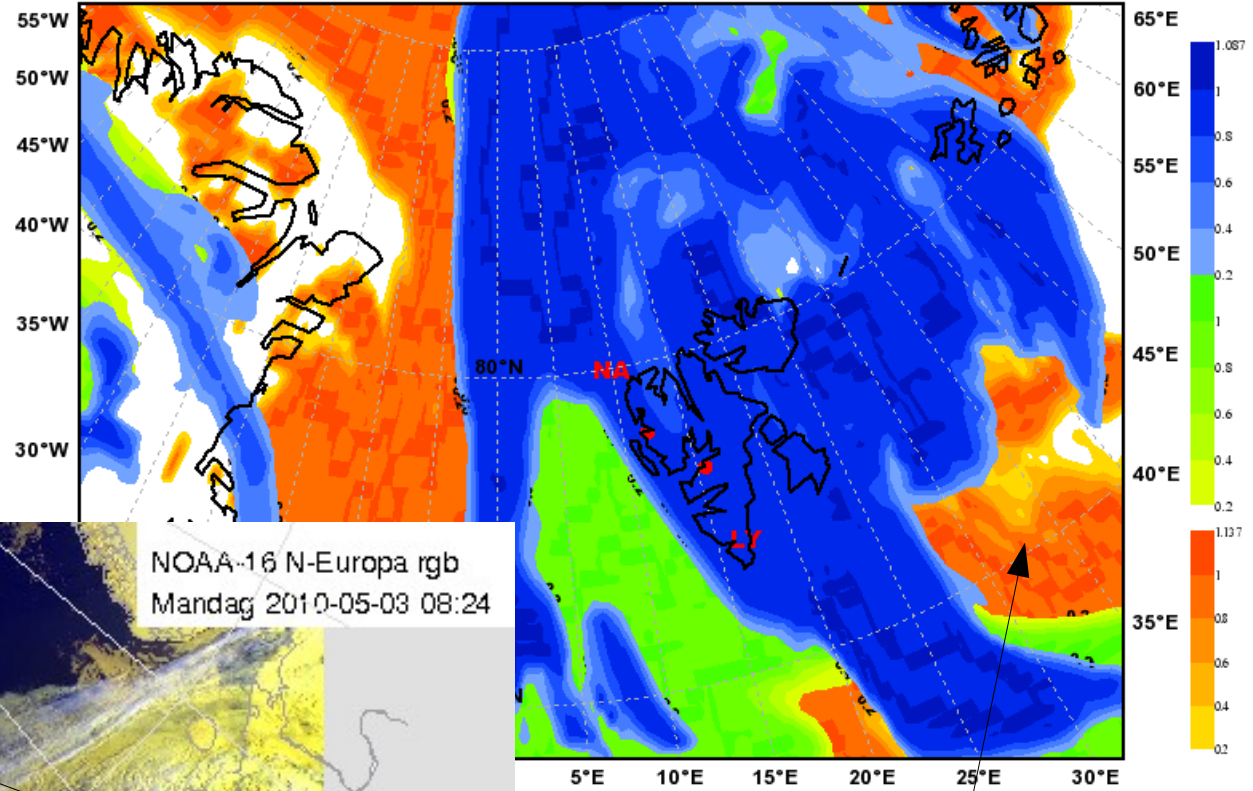
**Monday May 03, 2010**

**Marc Rautenhaus, DLR/IPA**

# Satellite vs. ECMWF clouds

06 UTC (08 local)  
08:24 local

Total Cloud Cover  
gvalid: Mon, 03 May 2010, 06 UTC (init: 20100503 00 UTC +006 h)



Low level clouds we'd like to target.

## TAF

>>> ENSB (SVALBARD/LONGYEAR) <<<

METAR 030650Z 11011KT 9999 -SN FEW010 SCT020 BKN035 M03/M05 Q1016 RMK  
WIND 1400FT 09016KT

TAF 030500Z 0306/0406 11015KT 9999 FEW012 BKN030 TEMPO 0306/0312  
11025KT 4000 -SN VV012

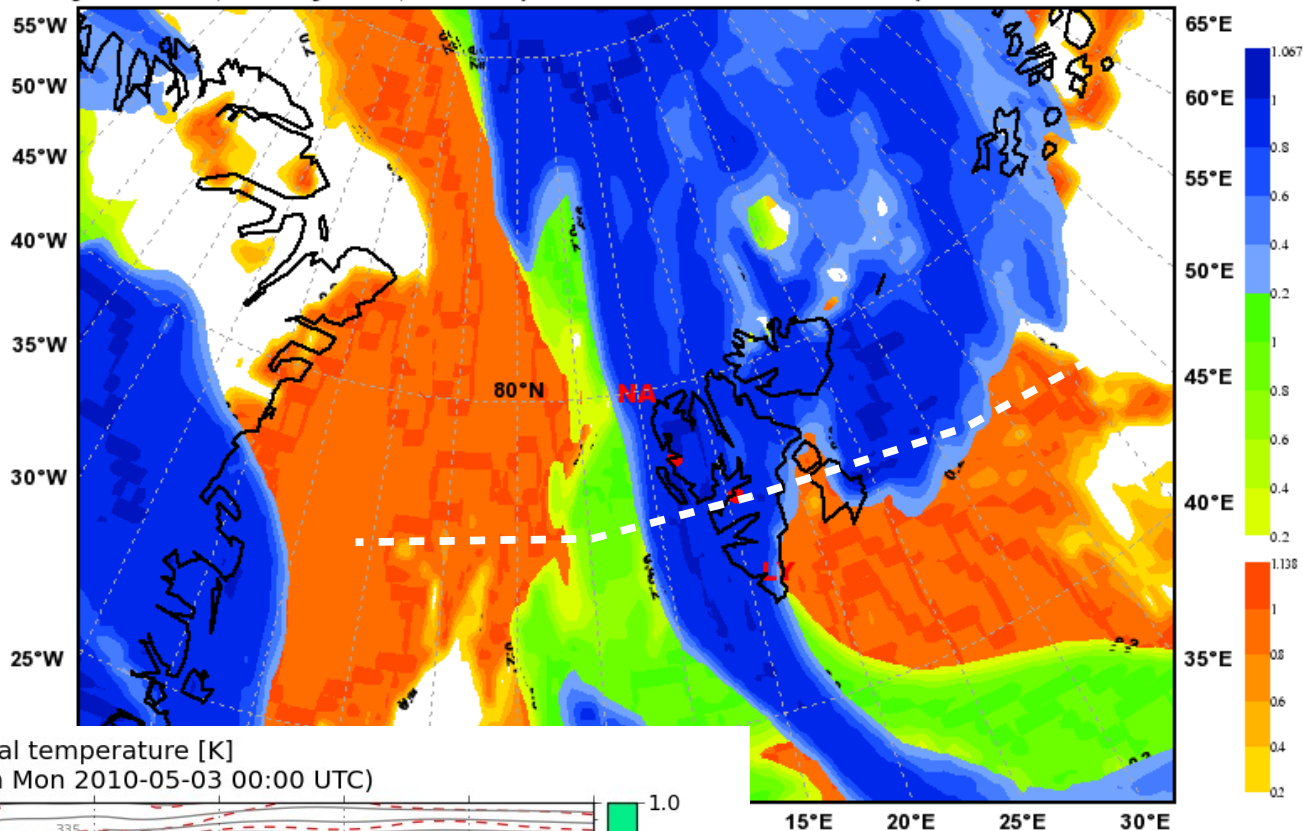
Problem: Danger of icing in the area. When is takeoff possible?



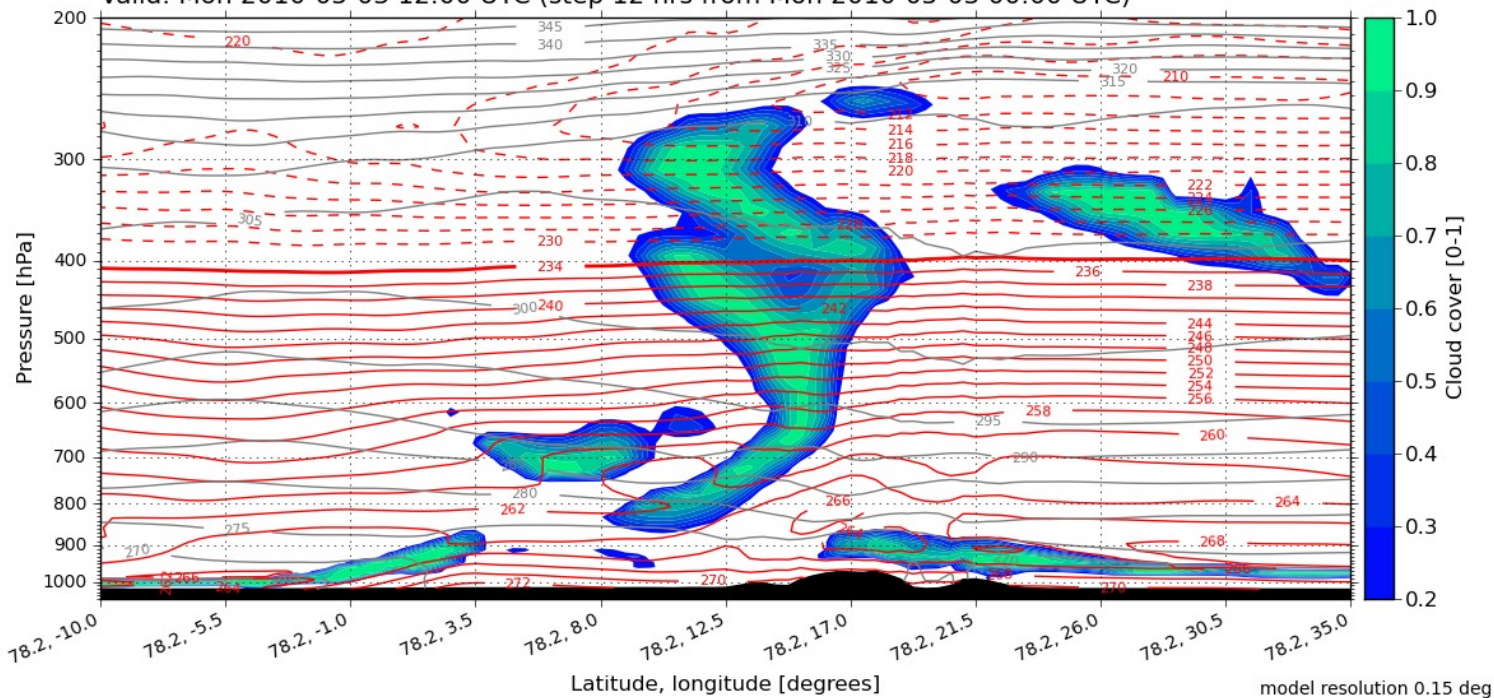
# Forecasted situation at 12 UTC (14 local)

## E-W along 78.22N

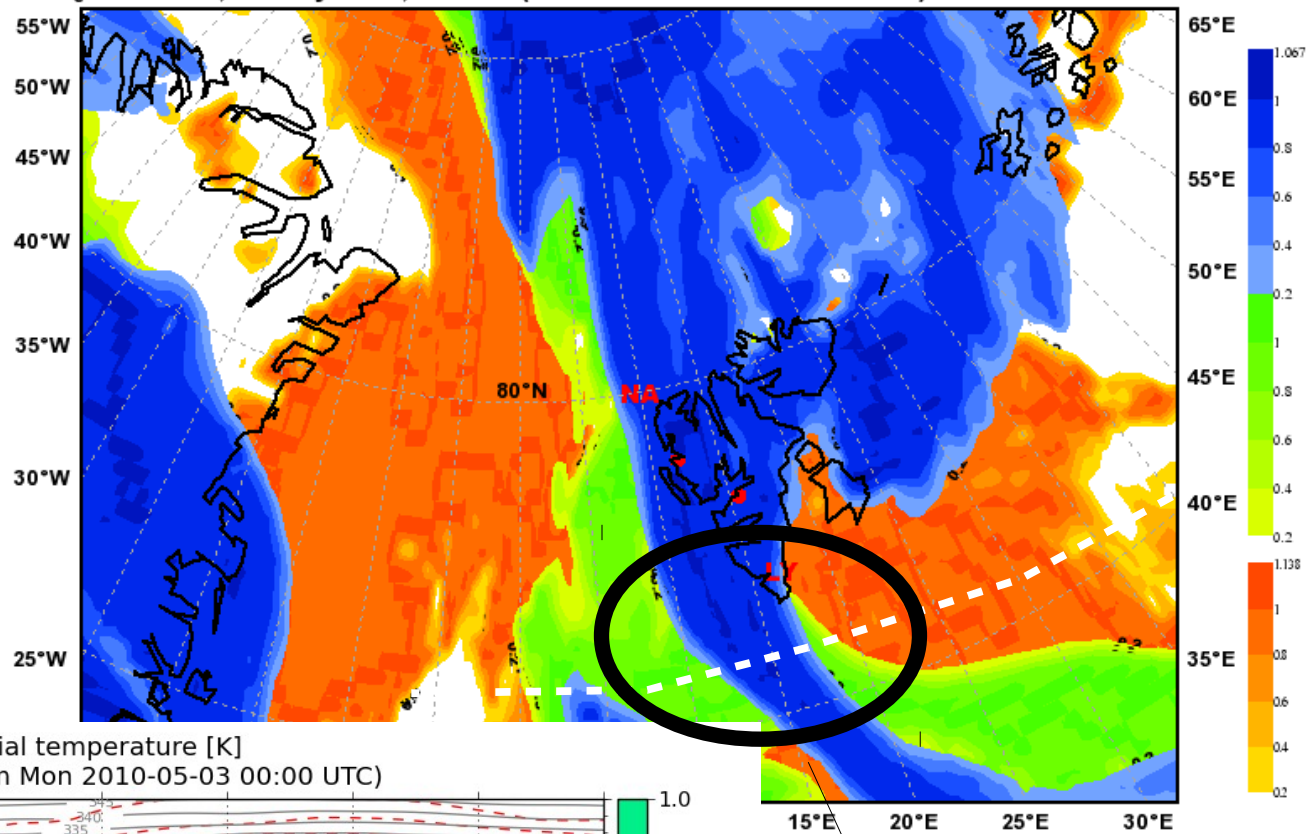
Total Cloud Cover  
Valid: Mon, 03 May 2010, 12 UTC (init: 20100503 00 UTC +012 h)



Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Mon 2010-05-03 12:00 UTC (step 12 hrs from Mon 2010-05-03 00:00 UTC)

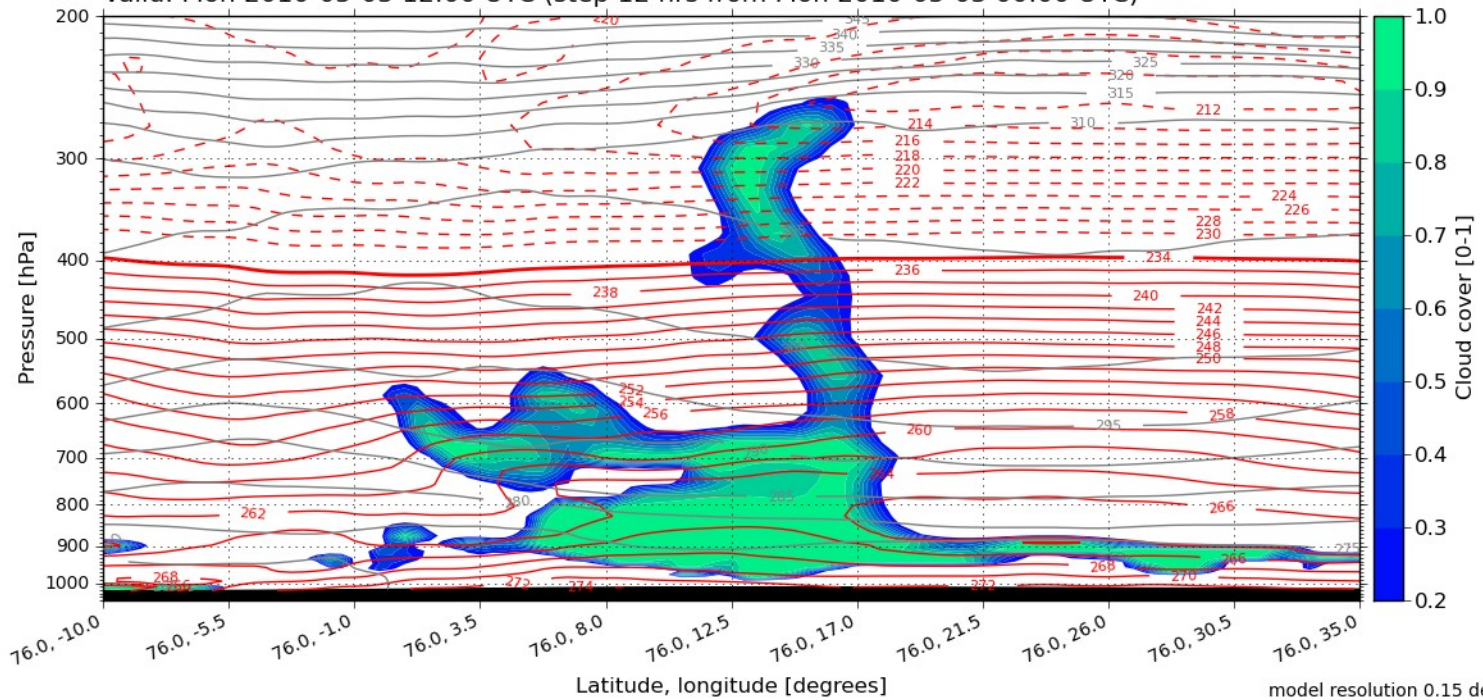


Total Cloud Cover  
Valid: Mon, 03 May 2010, 12 UTC (init: 20100503 00 UTC +012 h)



# E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Mon 2010-05-03 12:00 UTC (step 12 hrs from Mon 2010-05-03 00:00 UTC)

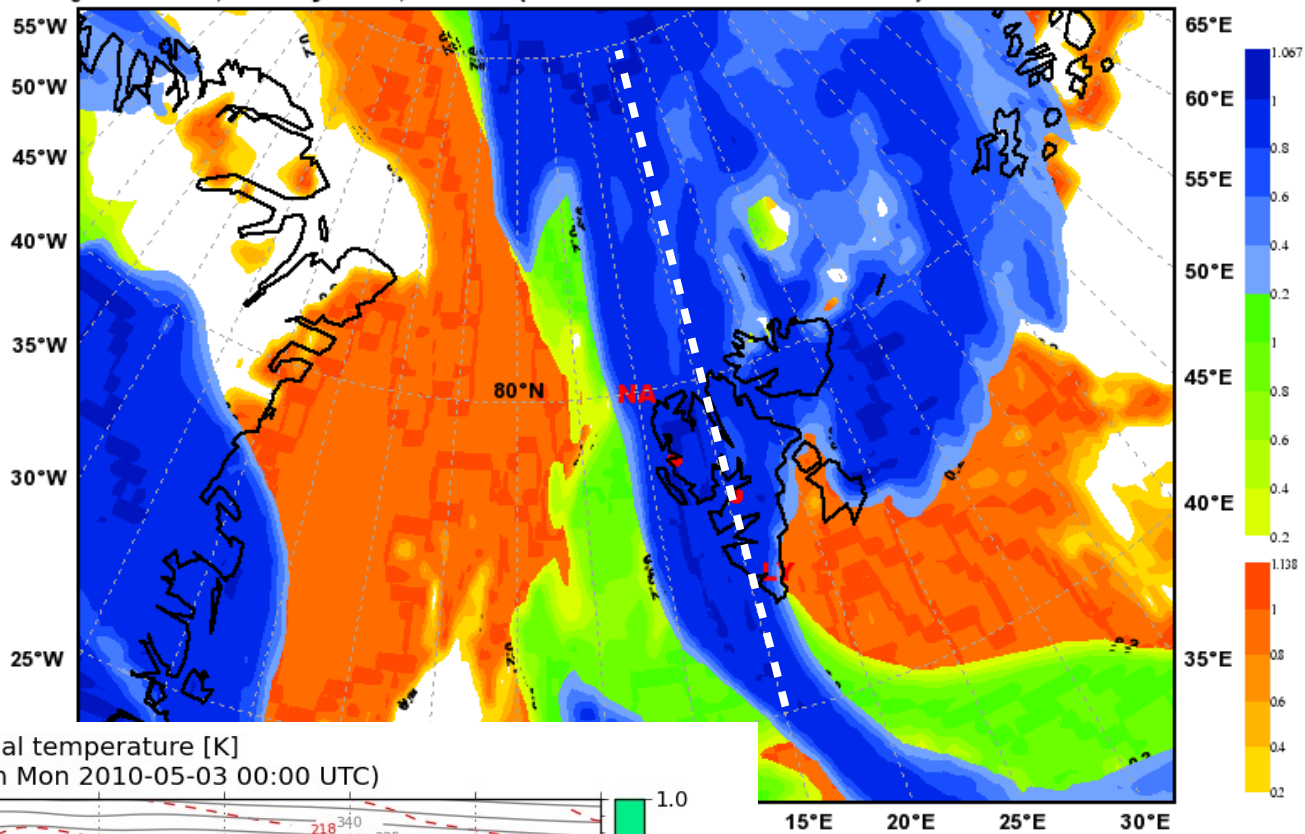


Avoid this area!

model resolution 0.15 deg

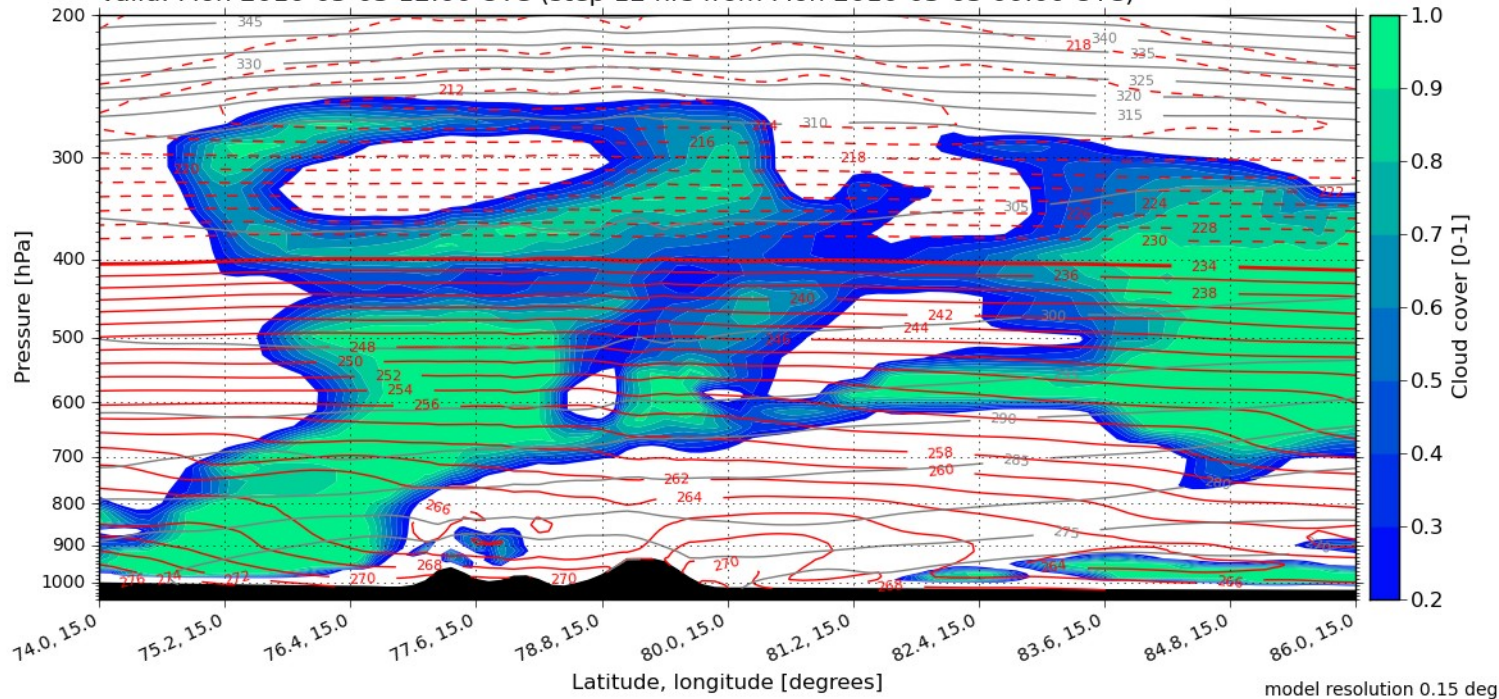


**Total Cloud Cover**  
 Valid: Mon, 03 May 2010, 12 UTC (init: 20100503 00 UTC +012 h)

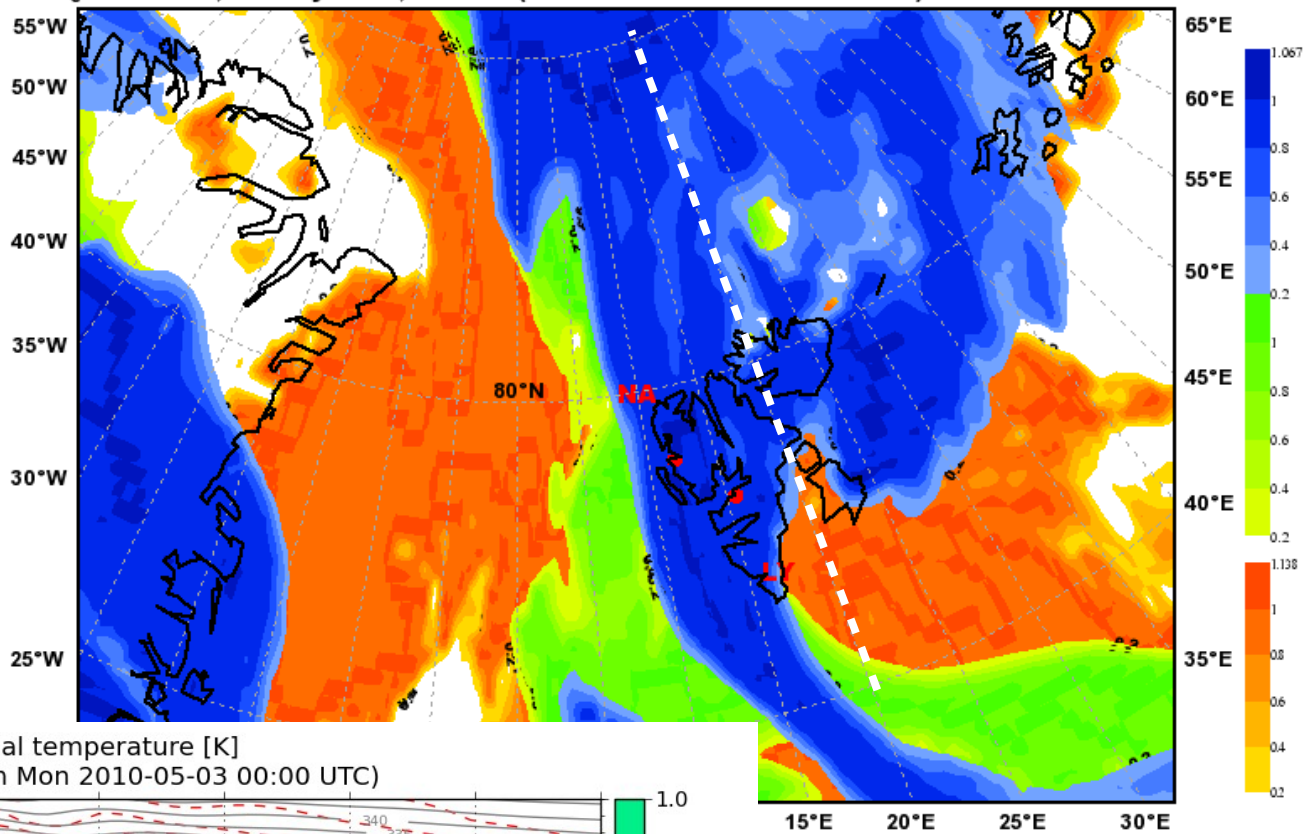


# N-S along 15E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Mon 2010-05-03 12:00 UTC (step 12 hrs from Mon 2010-05-03 00:00 UTC)

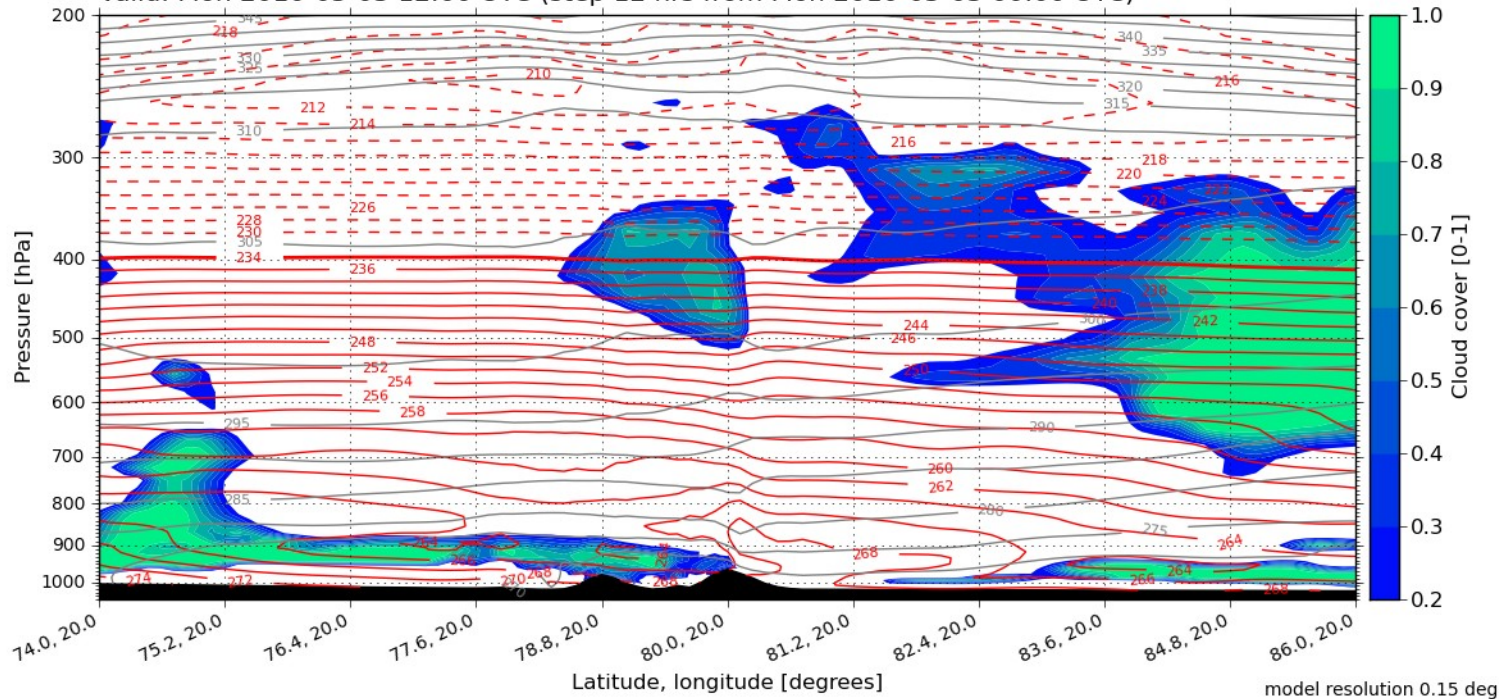


**Total Cloud Cover**  
 Valid: Mon, 03 May 2010, 12 UTC (init: 20100503 00 UTC +012 h)



# N-S along 20E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Mon 2010-05-03 12:00 UTC (step 12 hrs from Mon 2010-05-03 00:00 UTC)



model resolution 0.15 deg



# HIRLAM icing index, from Torgeir's DIANA

LOCAL-HIRLAM.8KM.00  
icing-index  
FL050

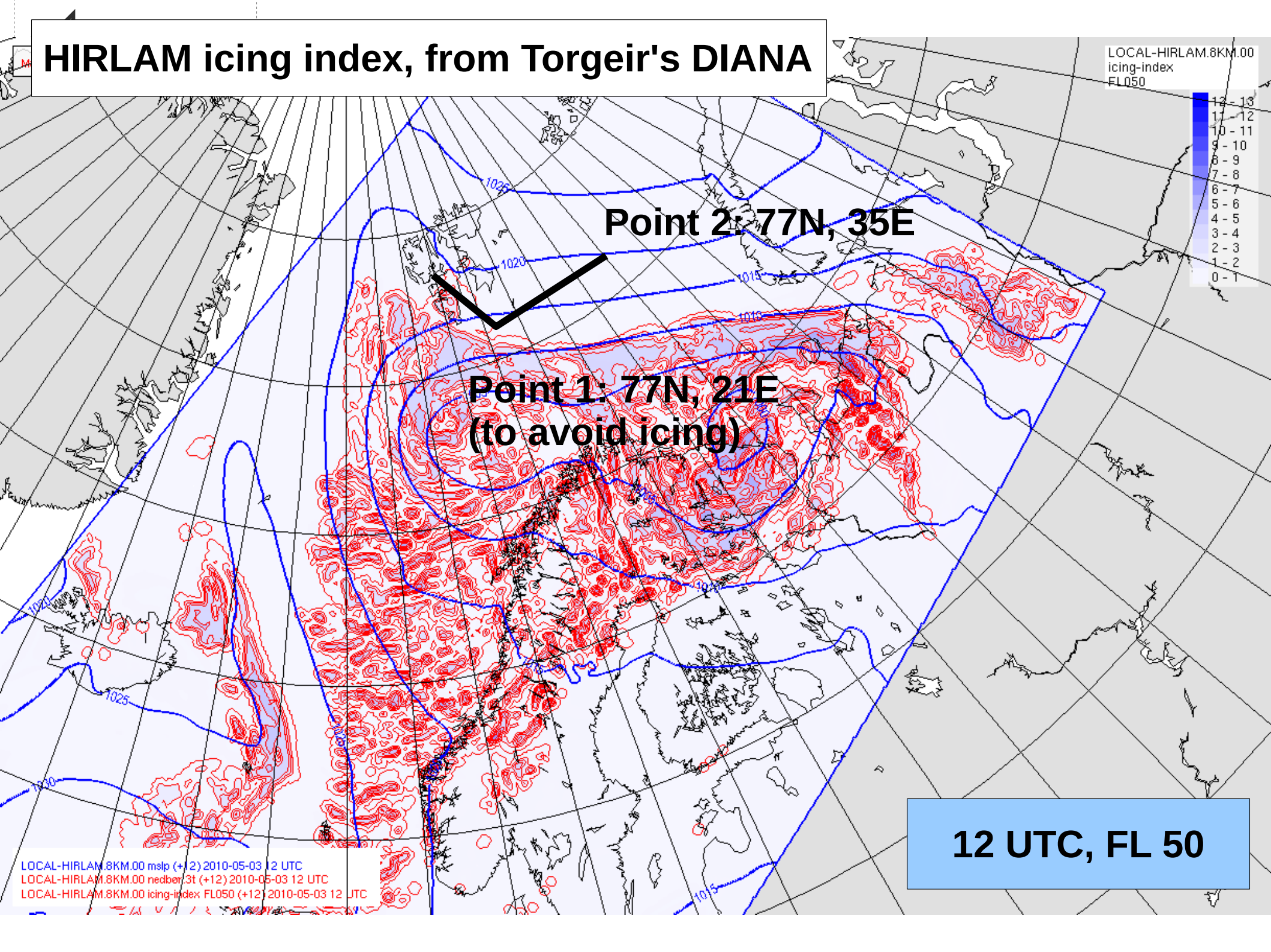


**Point 2: 77N, 35E**

**Point 1: 77N, 21E  
(to avoid icing)**

**12 UTC, FL 50**

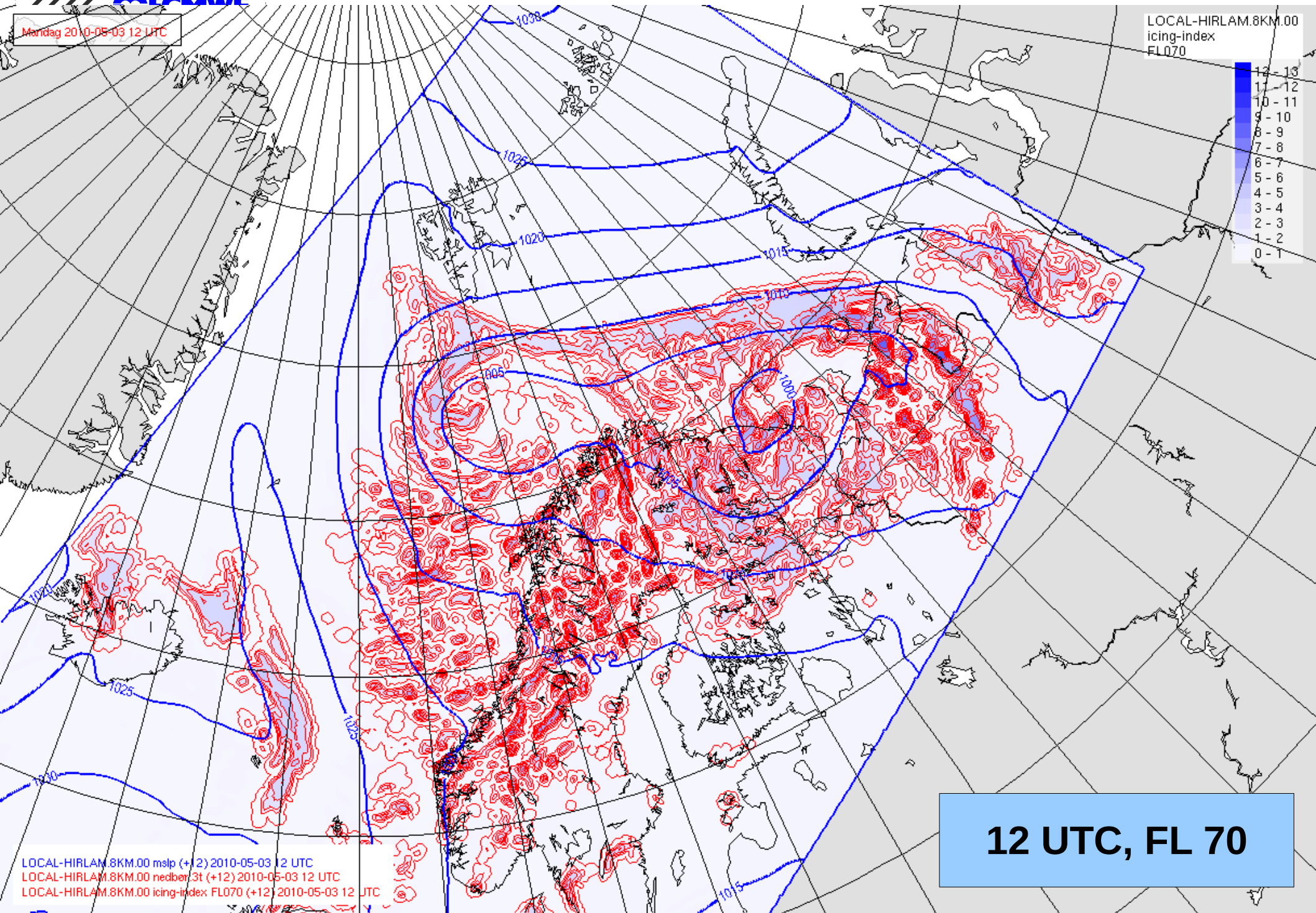
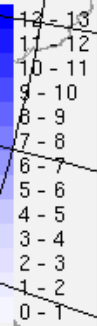
LOCAL-HIRLAM.8KM.00 mslp (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 nedber/3t (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 icing-index FL050 (+12) 2010-05-03 12 UTC





Mandag 2010-05-03 12 UTC

LOCAL-HIRLAM.8KM.00  
icing-index  
FL070

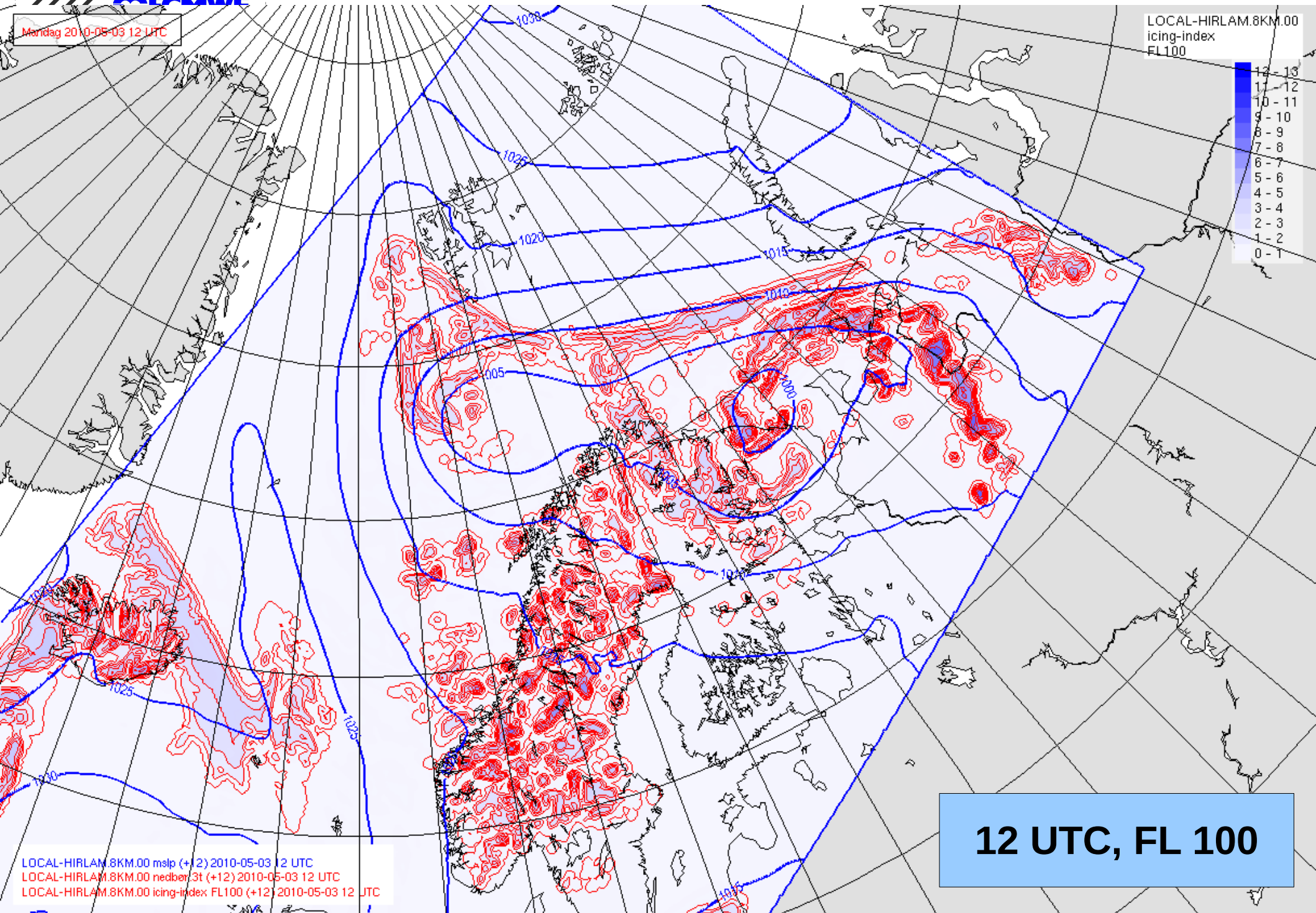
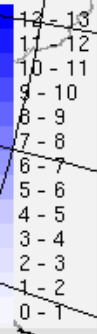


LOCAL-HIRLAM.8KM.00 mslp (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 nedber\_3t (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 icing-index FL070 (+12) 2010-05-03 12 UTC

**12 UTC, FL 70**

Mandag 2010-05-03 12 UTC

LOCAL-HIRLAM.8KM.00  
icing-index  
FL 100



LOCAL-HIRLAM.8KM.00 mslp (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 nedber/3t (+12) 2010-05-03 12 UTC  
LOCAL-HIRLAM.8KM.00 icing-index FL100 (+12) 2010-05-03 12 UTC

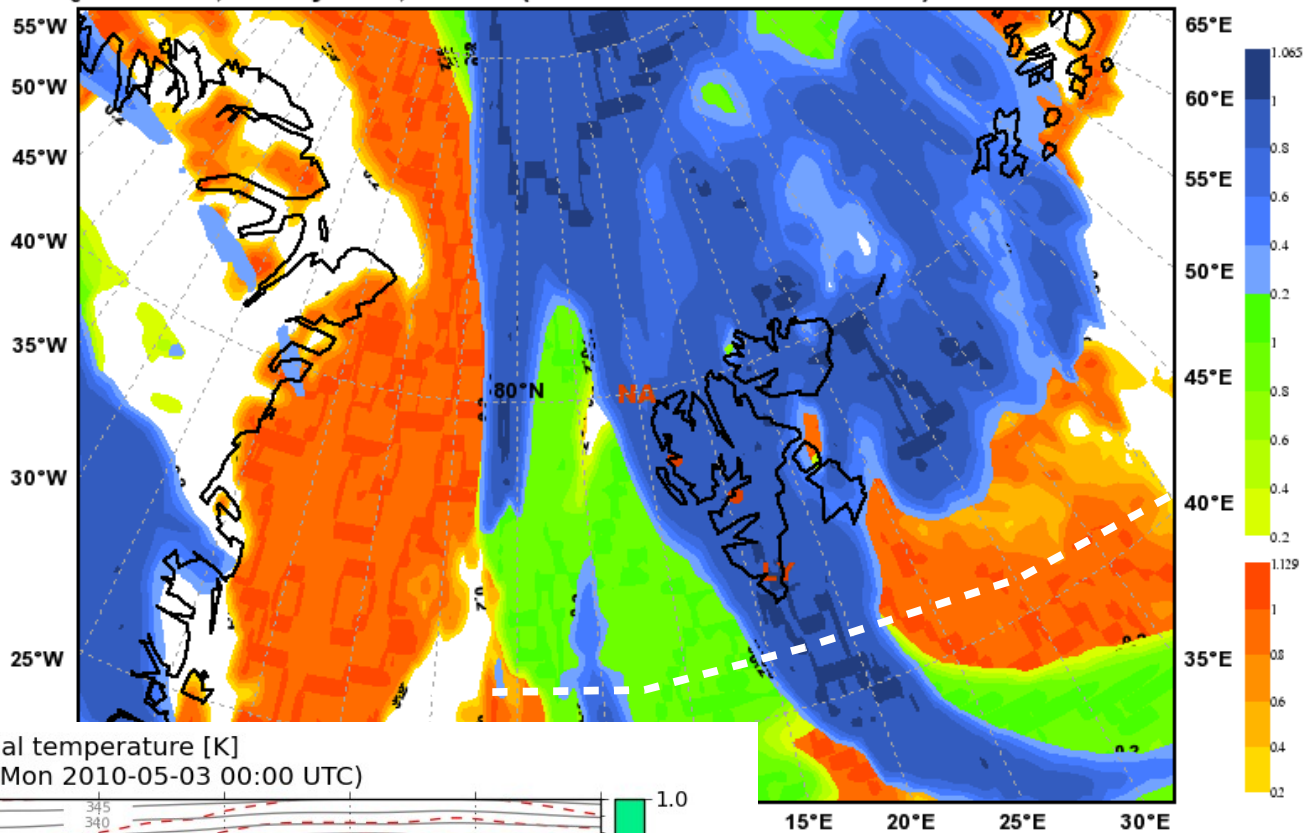
**12 UTC, FL 100**



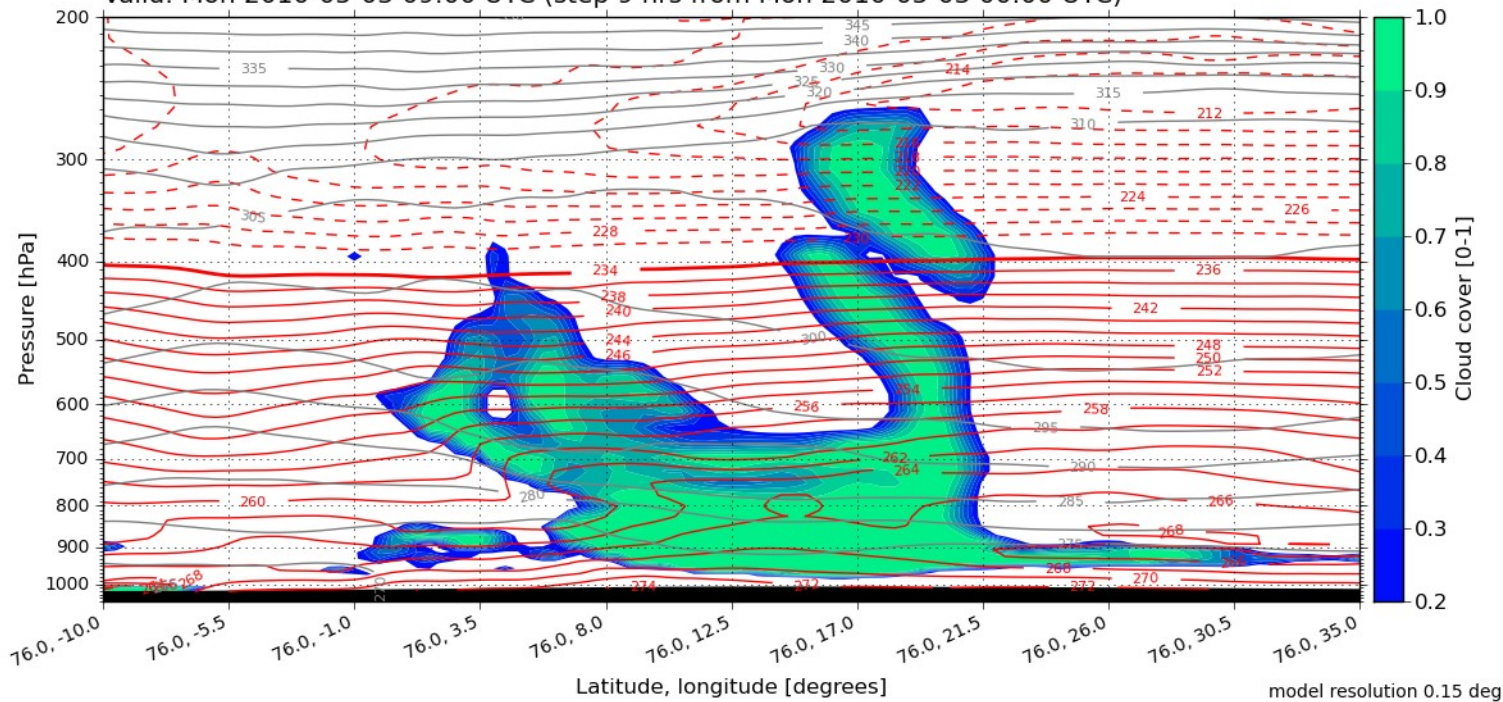
# Cloud development Monday

## E-W along 76N

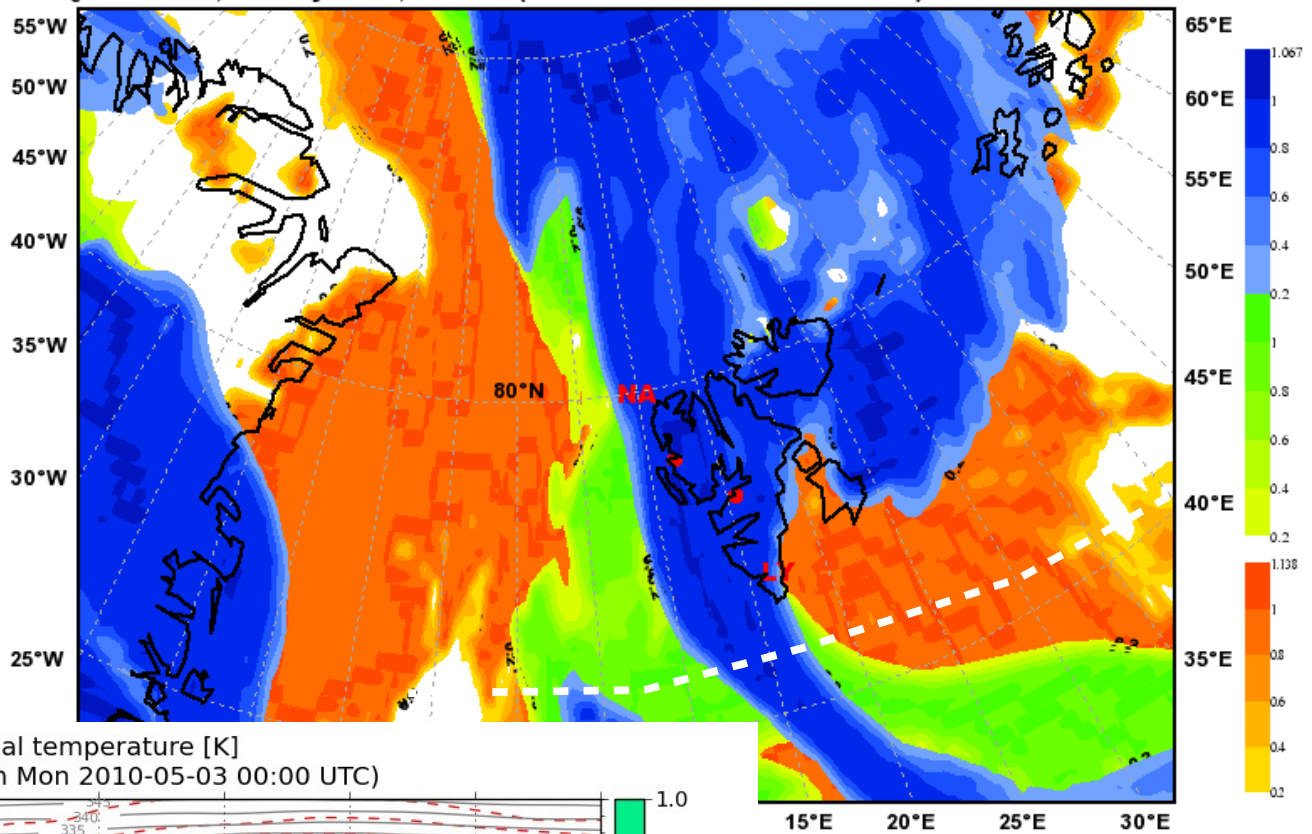
Total Cloud Cover  
Valid: Mon, 03 May 2010, 09 UTC (init: 20100503 00 UTC +009 h)



Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Mon 2010-05-03 09:00 UTC (step 9 hrs from Mon 2010-05-03 00:00 UTC)

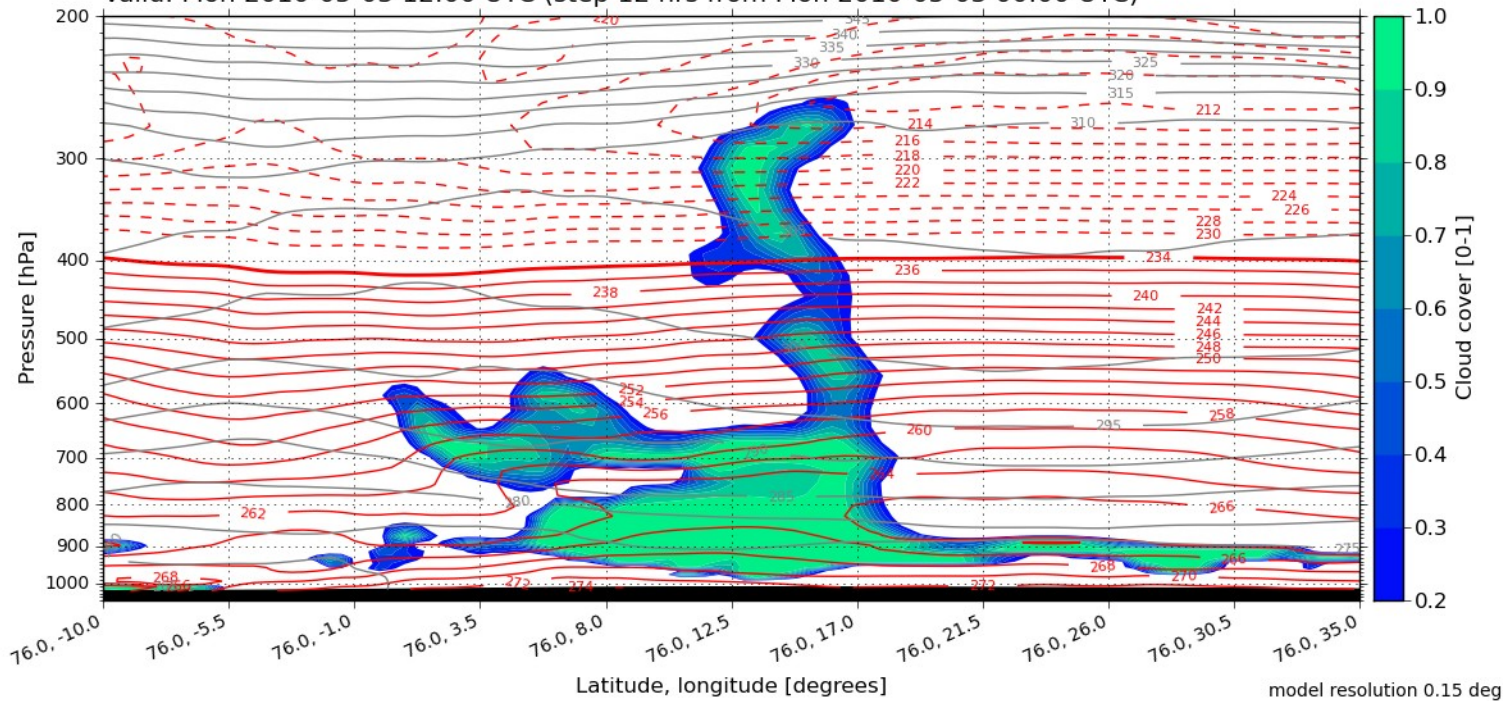


Total Cloud Cover  
Valid: Mon, 03 May 2010, 12 UTC (init: 20100503 00 UTC +012 h)



# E-W along 76N

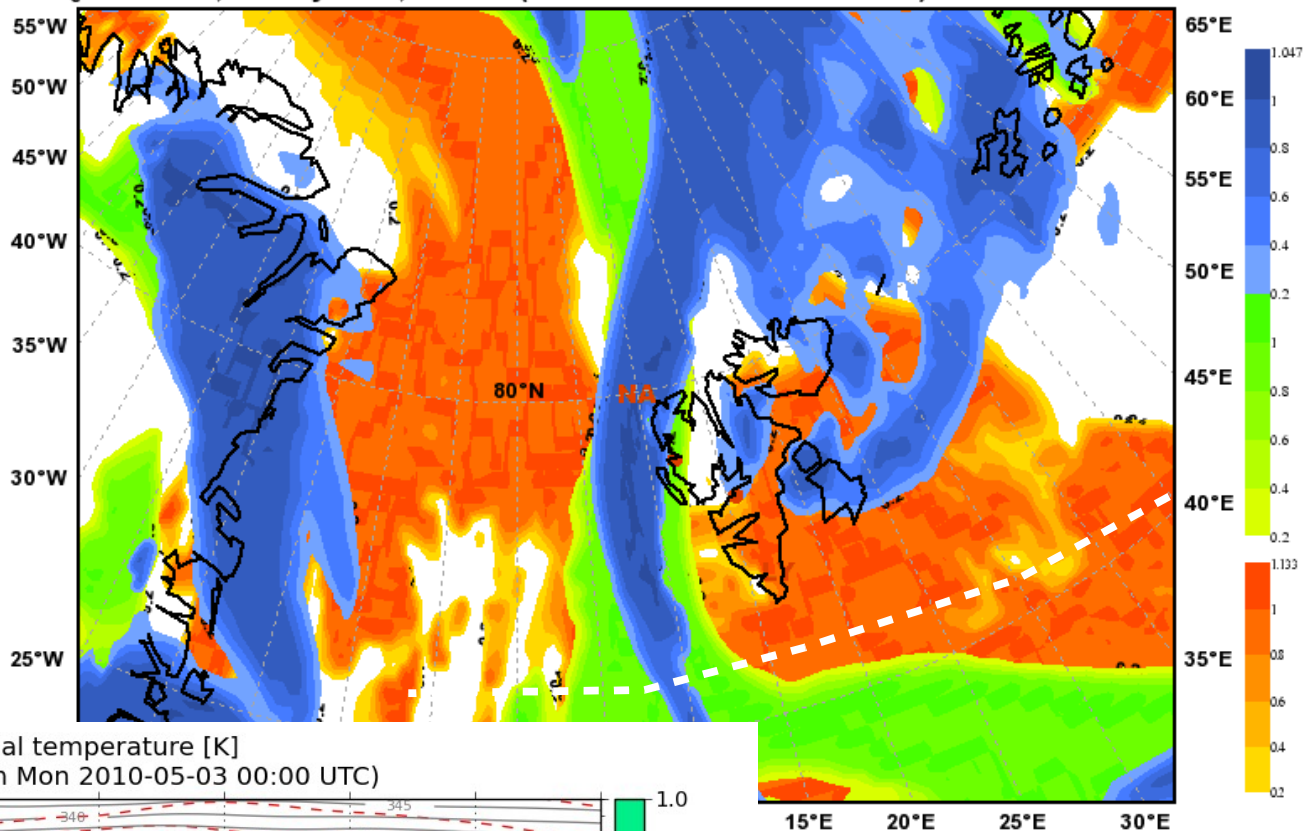
Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Mon 2010-05-03 12:00 UTC (step 12 hrs from Mon 2010-05-03 00:00 UTC)





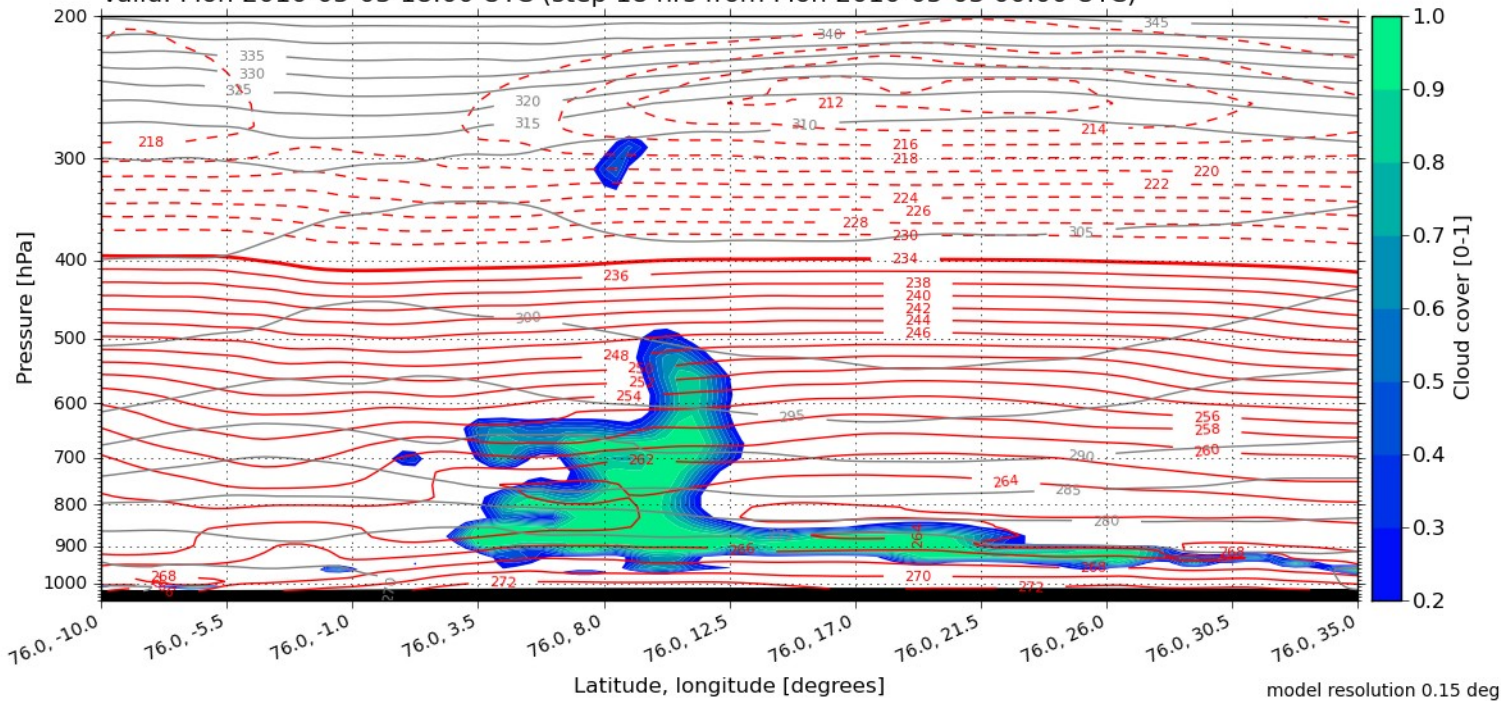


Total Cloud Cover  
Valid: Mon, 03 May 2010, 18 UTC (init: 20100503 00 UTC +018 h)



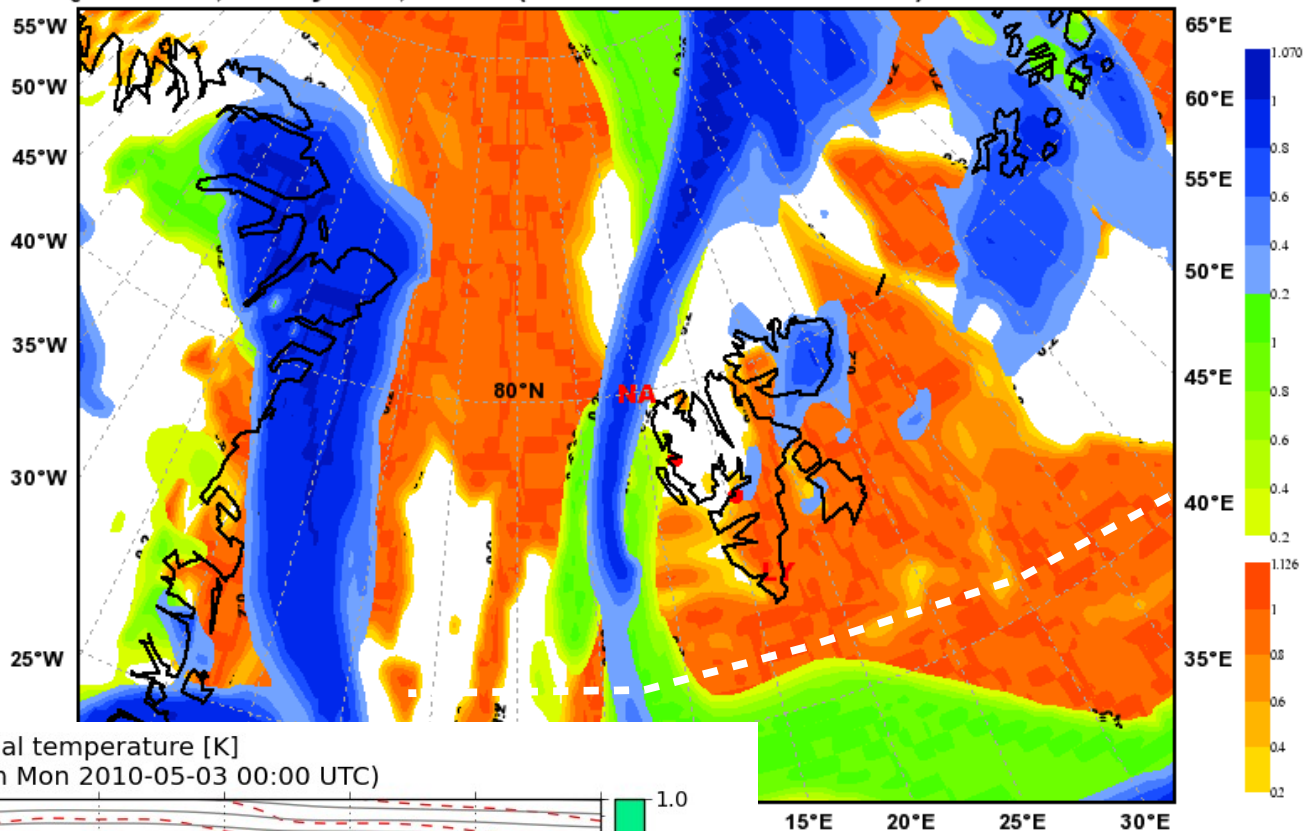
## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Mon 2010-05-03 18:00 UTC (step 18 hrs from Mon 2010-05-03 00:00 UTC)



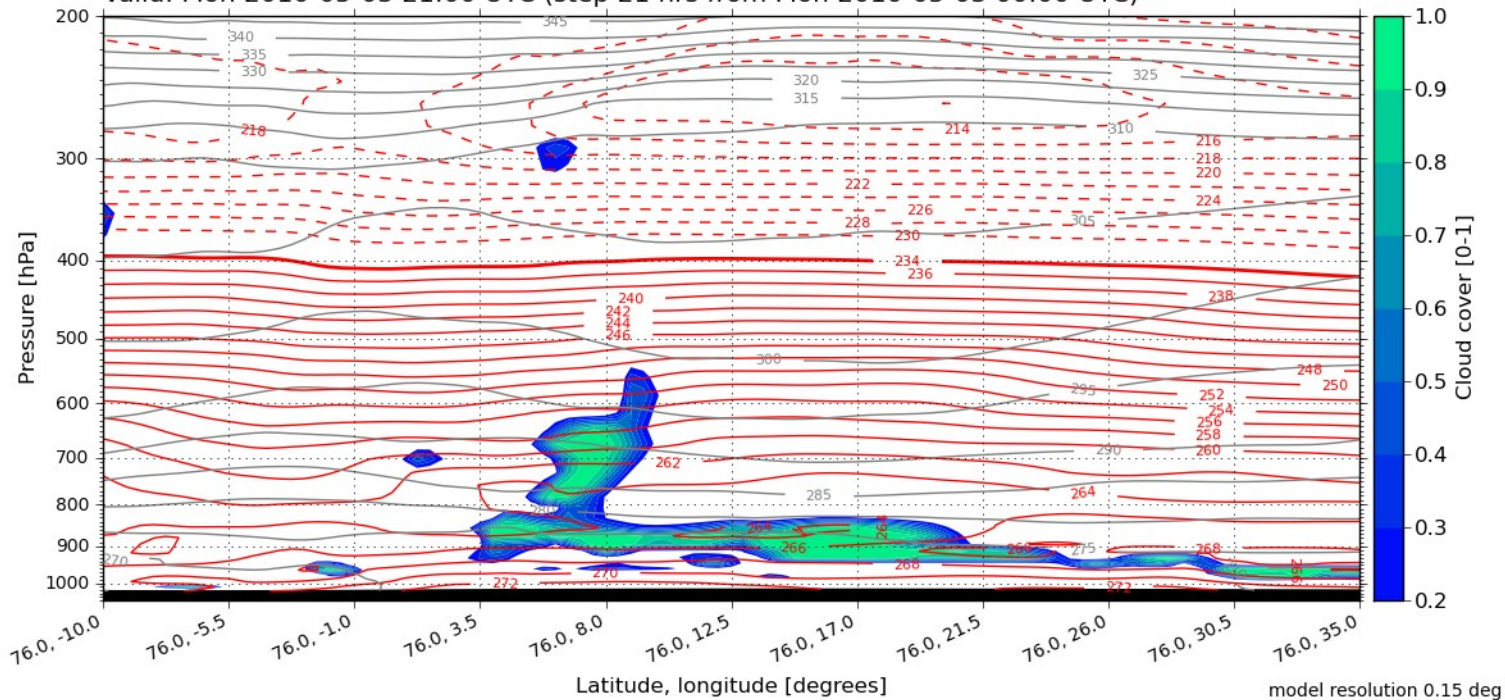


**Total Cloud Cover**  
 Valid: Mon, 03 May 2010, 21 UTC (init: 20100503 00 UTC +021 h)



## E-W along 76N

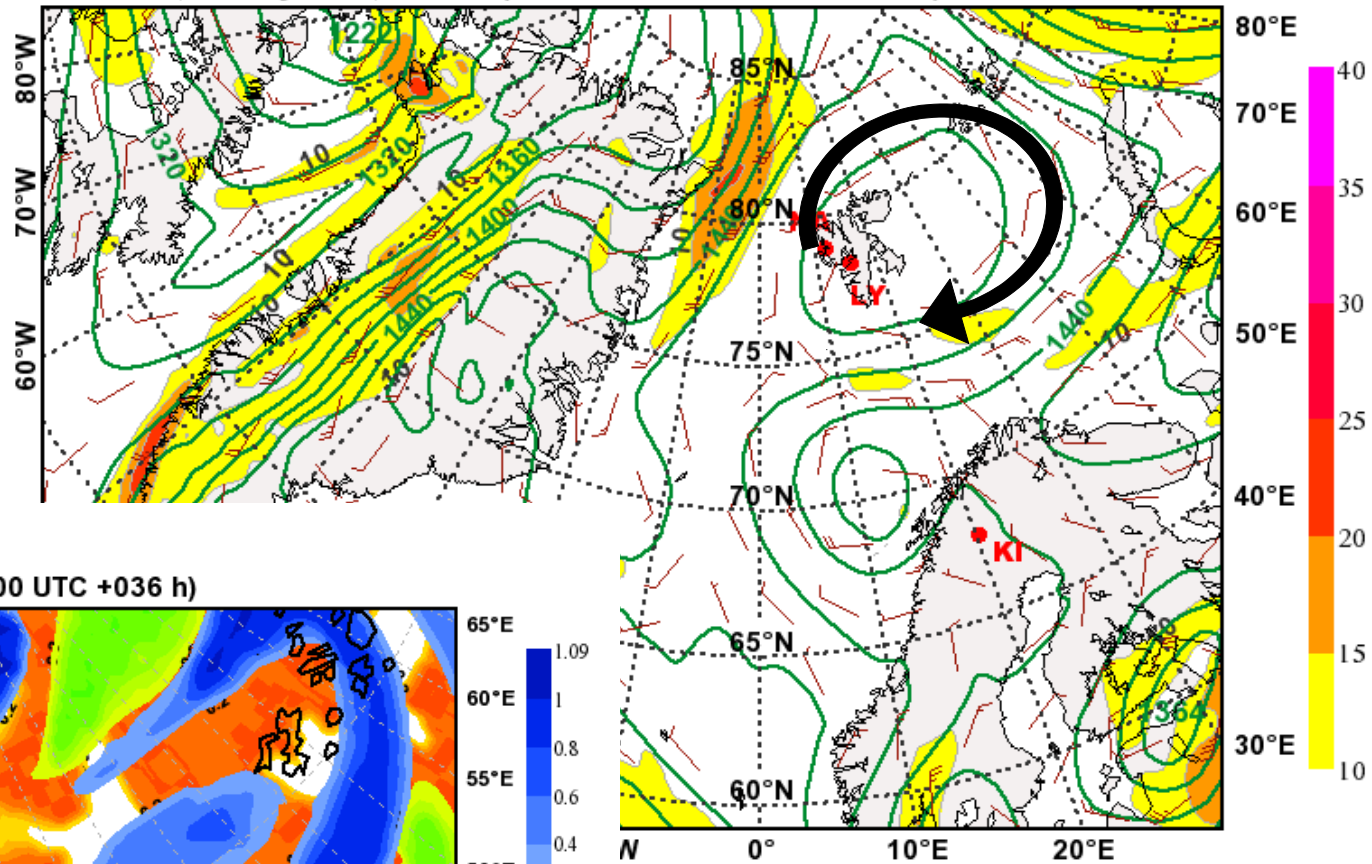
Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Mon 2010-05-03 21:00 UTC (step 21 hrs from Mon 2010-05-03 00:00 UTC)



# Development Tue - Fri

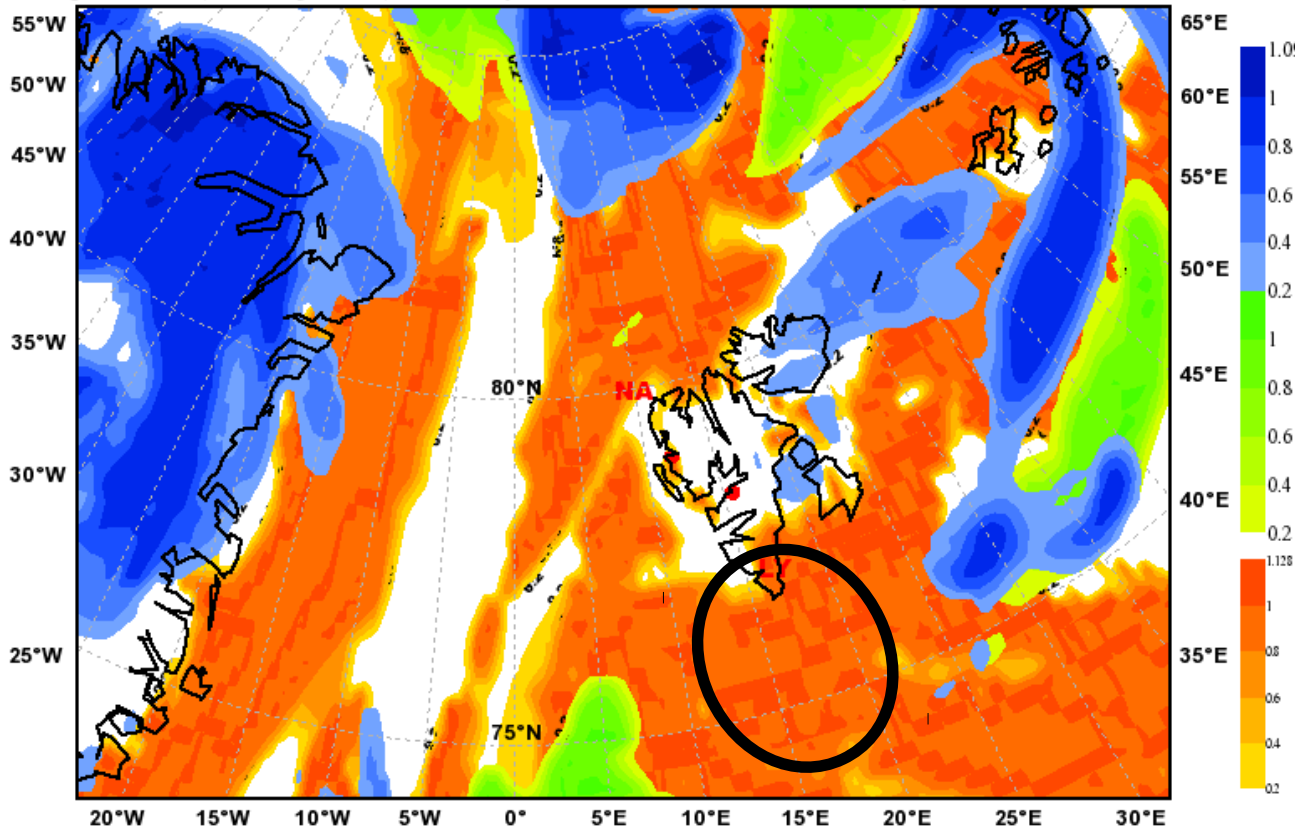


Geopotential Height (m) & Horizontal Wind (m/s) at 850hPa  
 valid: Tue, 04 May 2010, 12 UTC (init: 20100503 00 UTC +036 h)



High pressure on Tuesday.

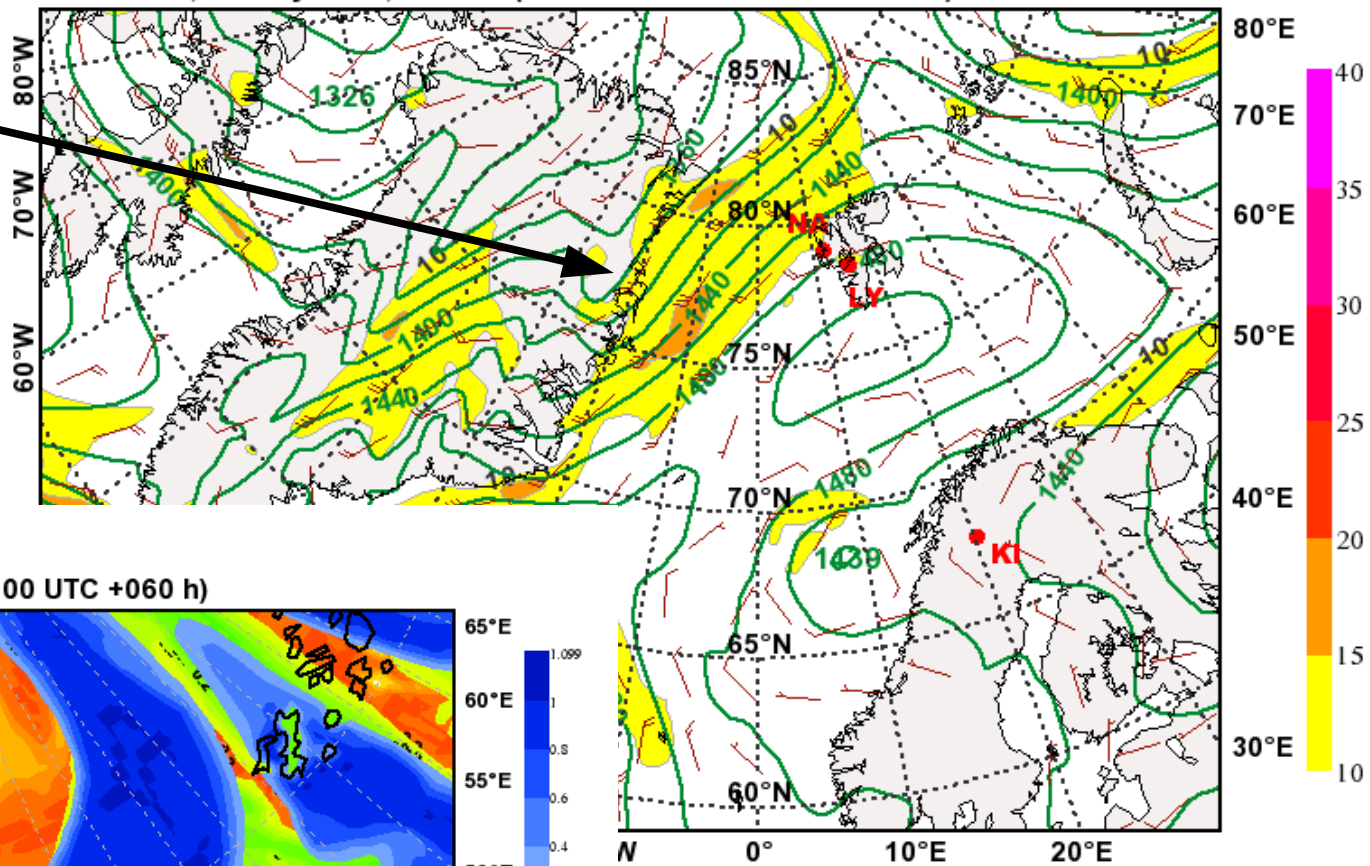
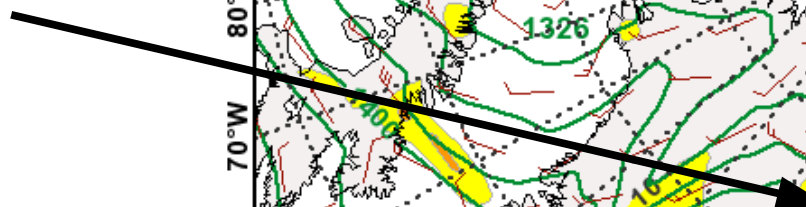
Total Cloud Cover  
 valid: Tue, 04 May 2010, 12 UTC (init: 20100503 00 UTC +036 h)



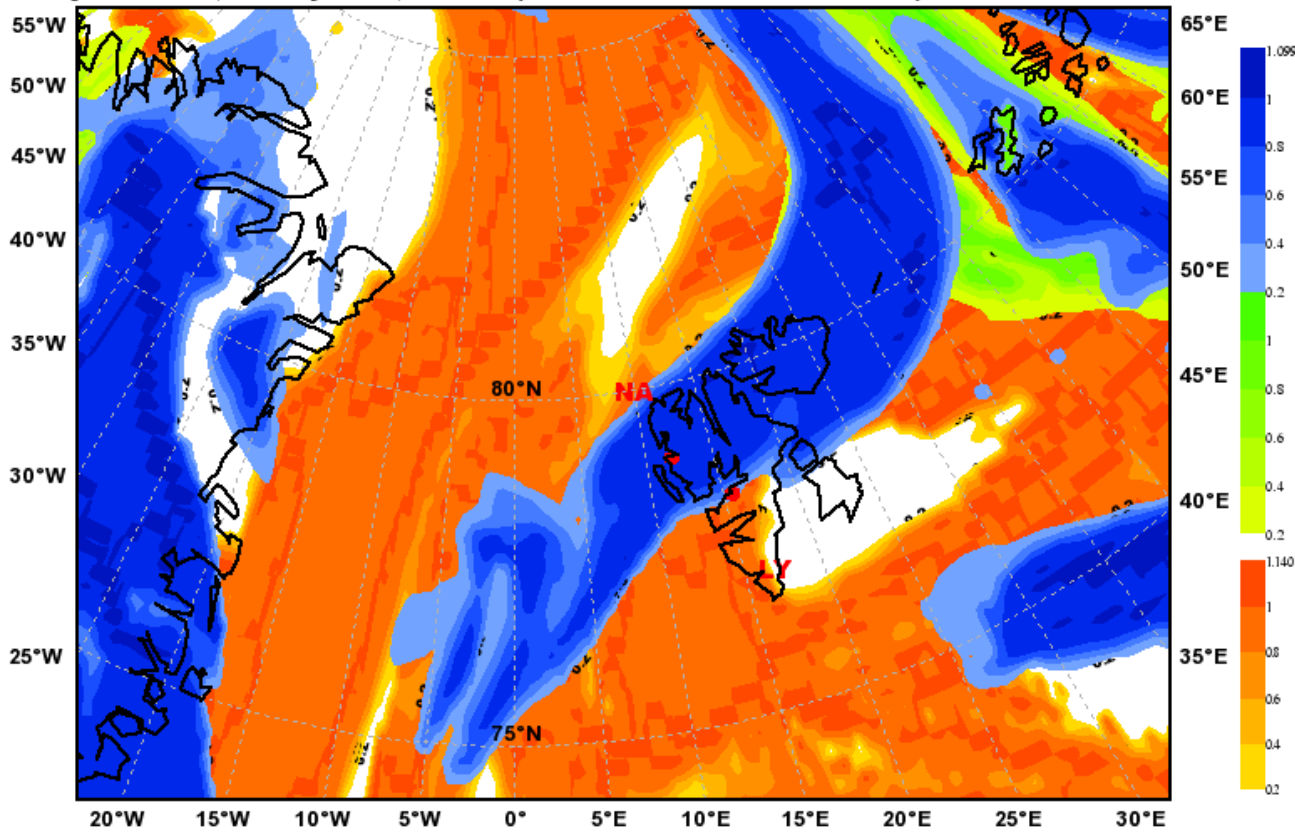
Fly south to get maximum chance of clouds?

Geopotential Height (m) & Horizontal Wind (m/s) at 850hPa  
 valid: Wed, 05 May 2010, 12 UTC (init: 20100503 00 UTC +060 h)

Wave developing into strong cyclone.

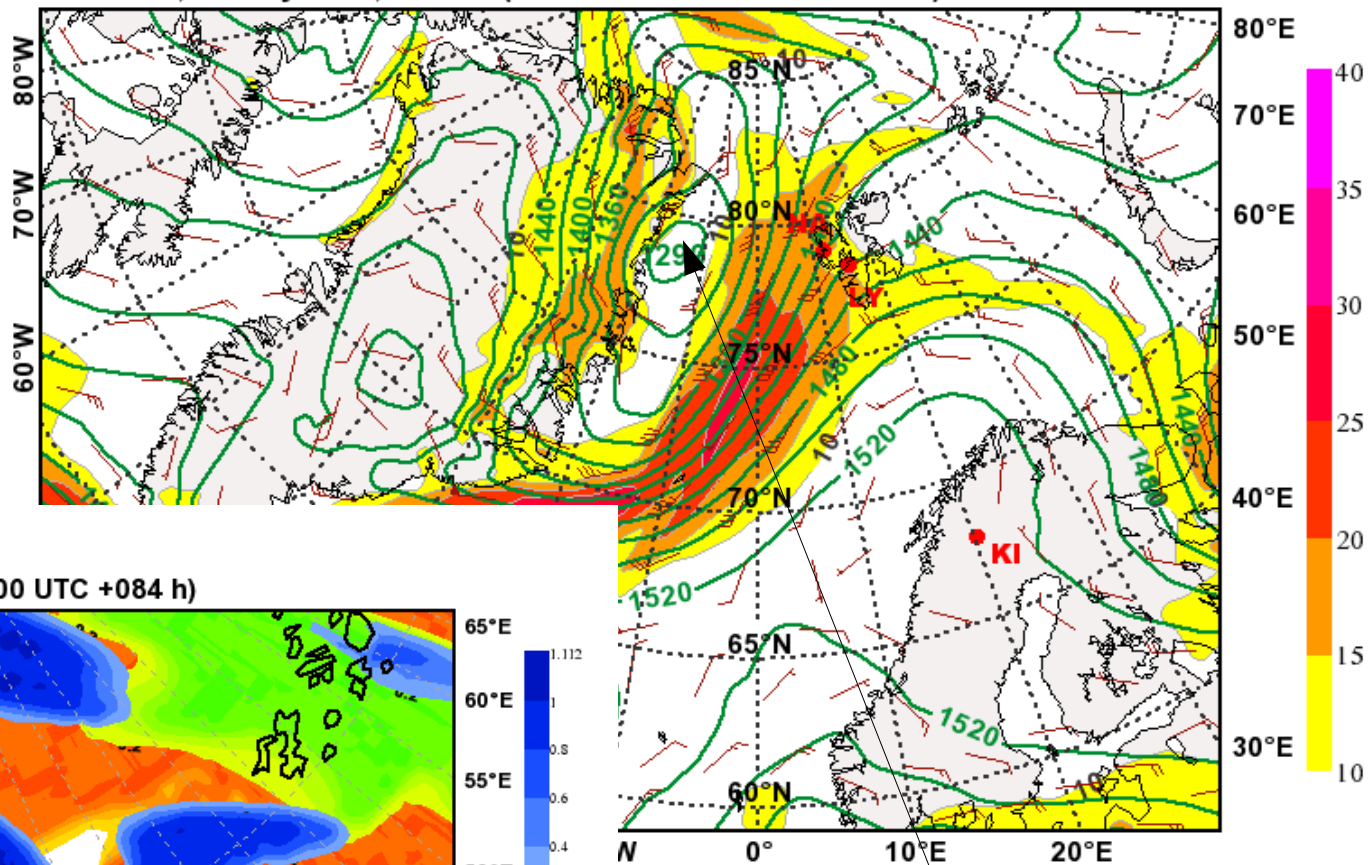


Total Cloud Cover  
 valid: Wed, 05 May 2010, 12 UTC (init: 20100503 00 UTC +060 h)

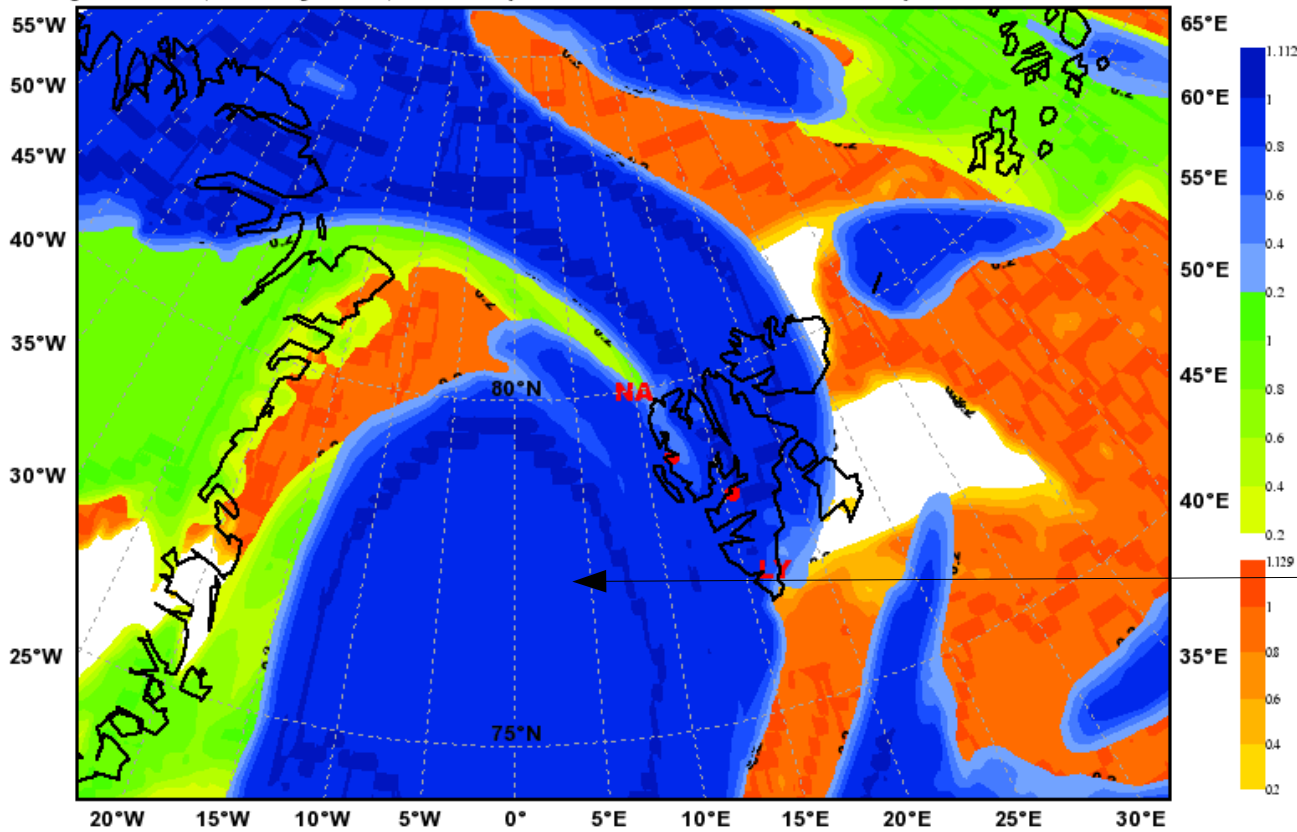




Geopotential Height (m) & Horizontal Wind (m/s) at 850hPa  
 valid: Thu, 06 May 2010, 12 UTC (init: 20100503 00 UTC +084 h)



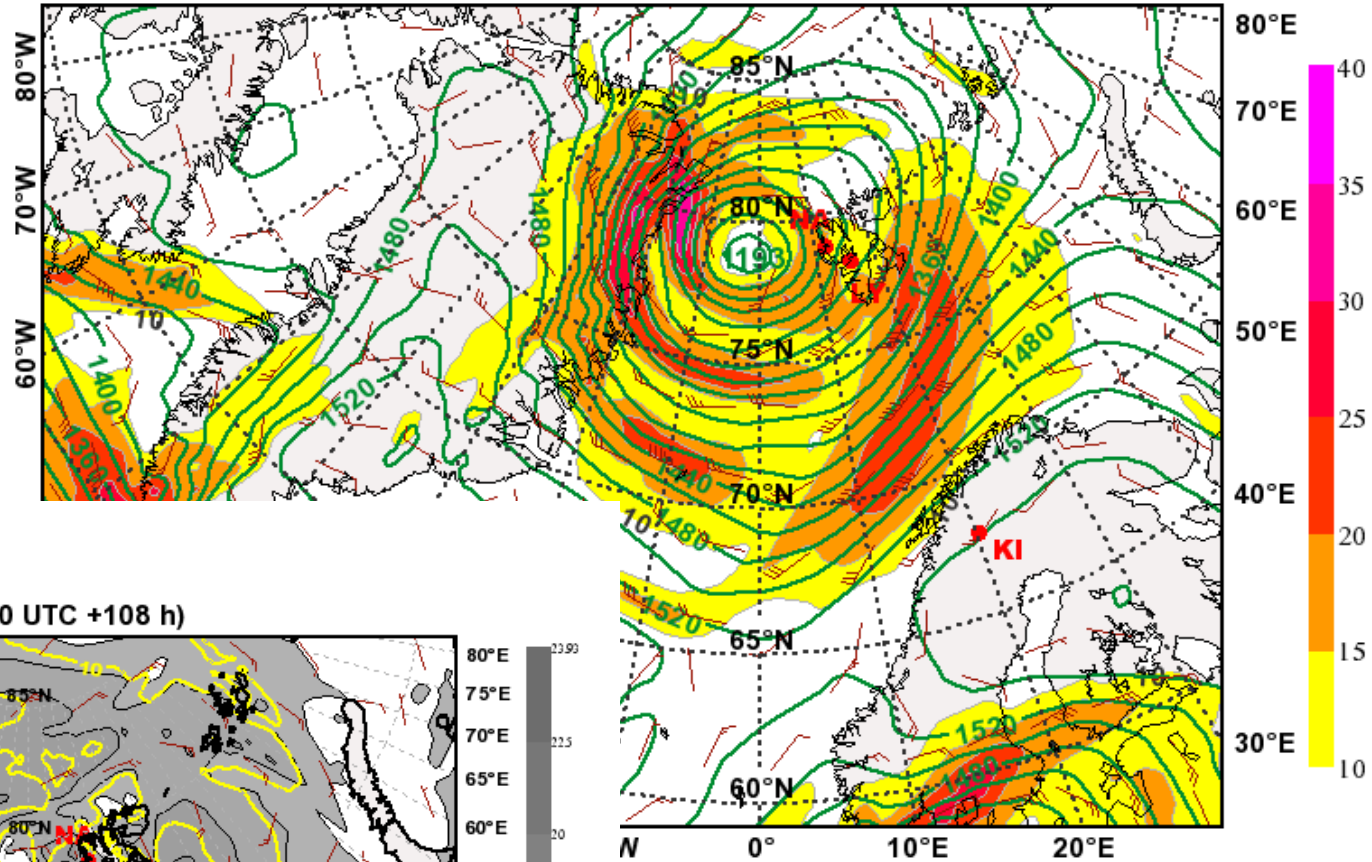
Total Cloud Cover  
 valid: Thu, 06 May 2010, 12 UTC (init: 20100503 00 UTC +084 h)



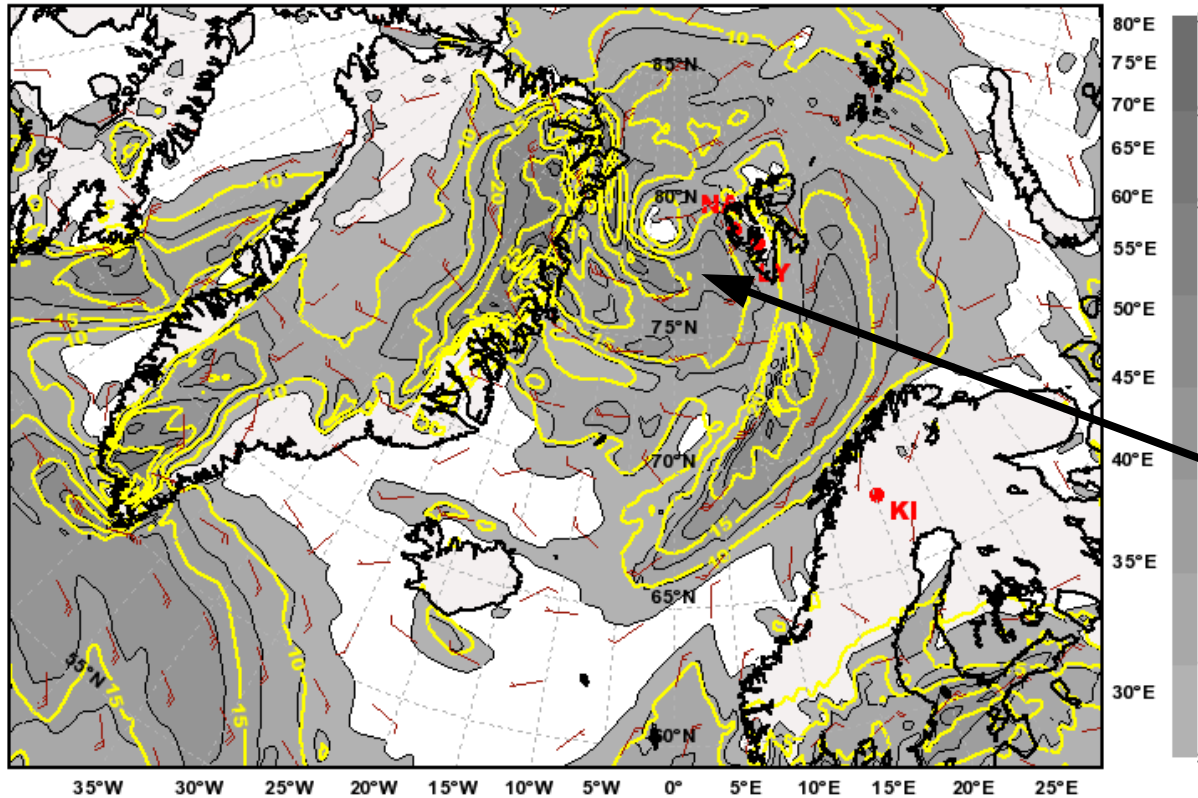
Low  
 approaching

Geopotential Height (m) & Horizontal Wind (m/s) at 850hPa  
 valid: Fri, 07 May 2010, 12 UTC (init: 20100503 00 UTC +108 h)

Cyclone deepens strongly between Thu noon and Fri noon.



10 m Wind and 10 m Wind gusts [m s<sup>-1</sup>]  
 valid: Fri, 07 May 2010, 12 UTC (init: 20100503 00 UTC +108 h)

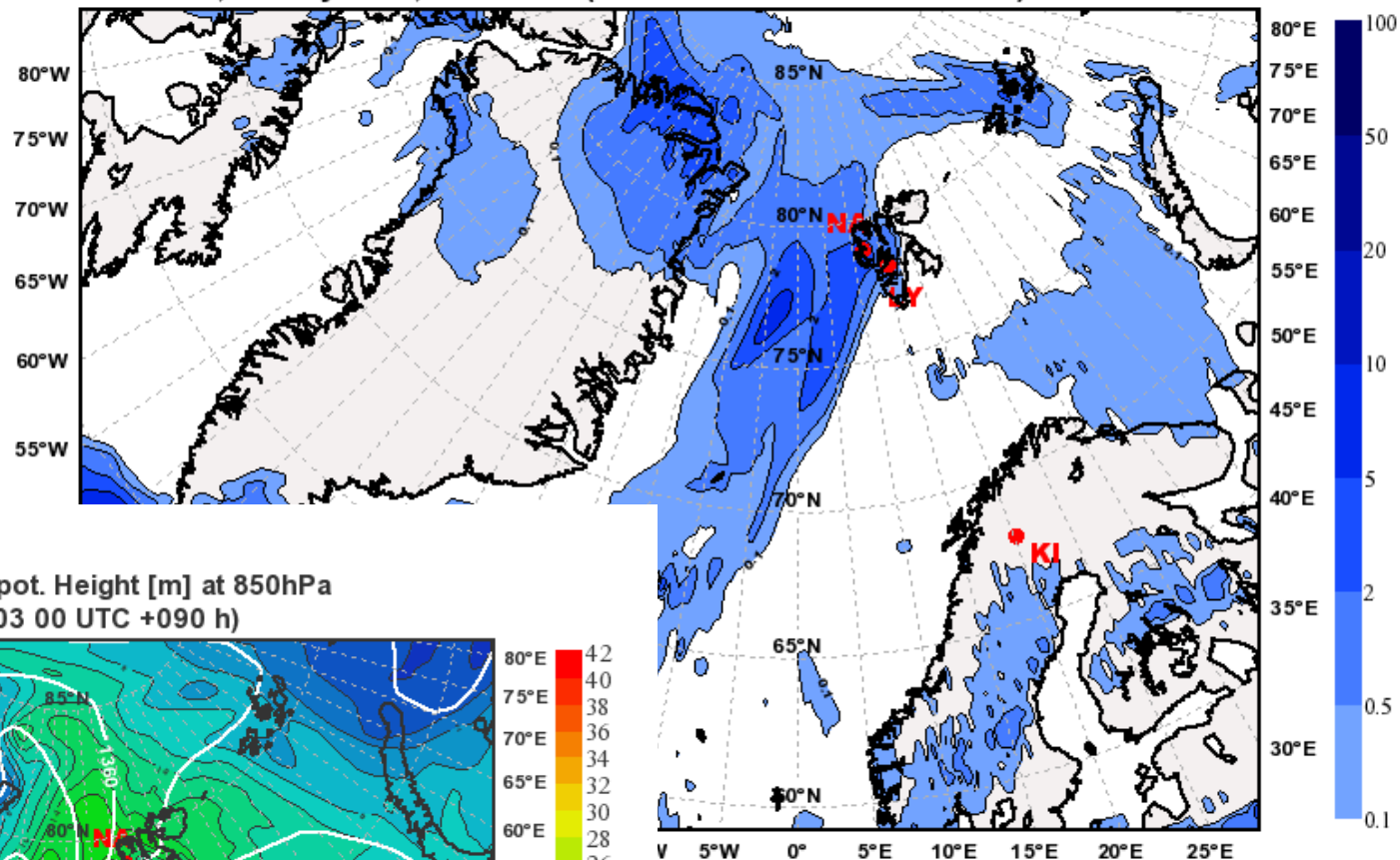


High winds can be reached west of Spitsbergen (7-9 Bft).

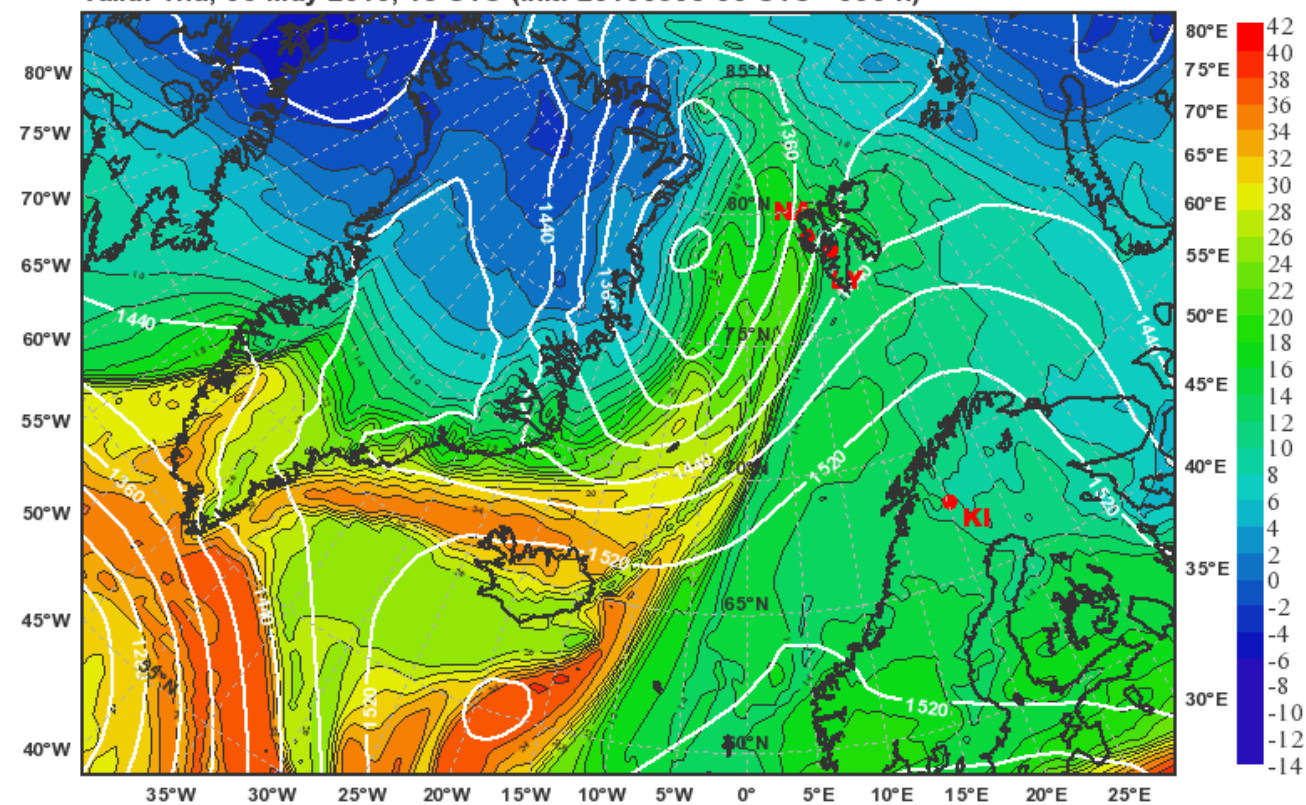


Front arrives  
Thursday evening.

Total Precipitation [mm]  
valid: Thu, 06 May 2010, 12-18 UTC (init: 20100503 00 UTC +090 h)

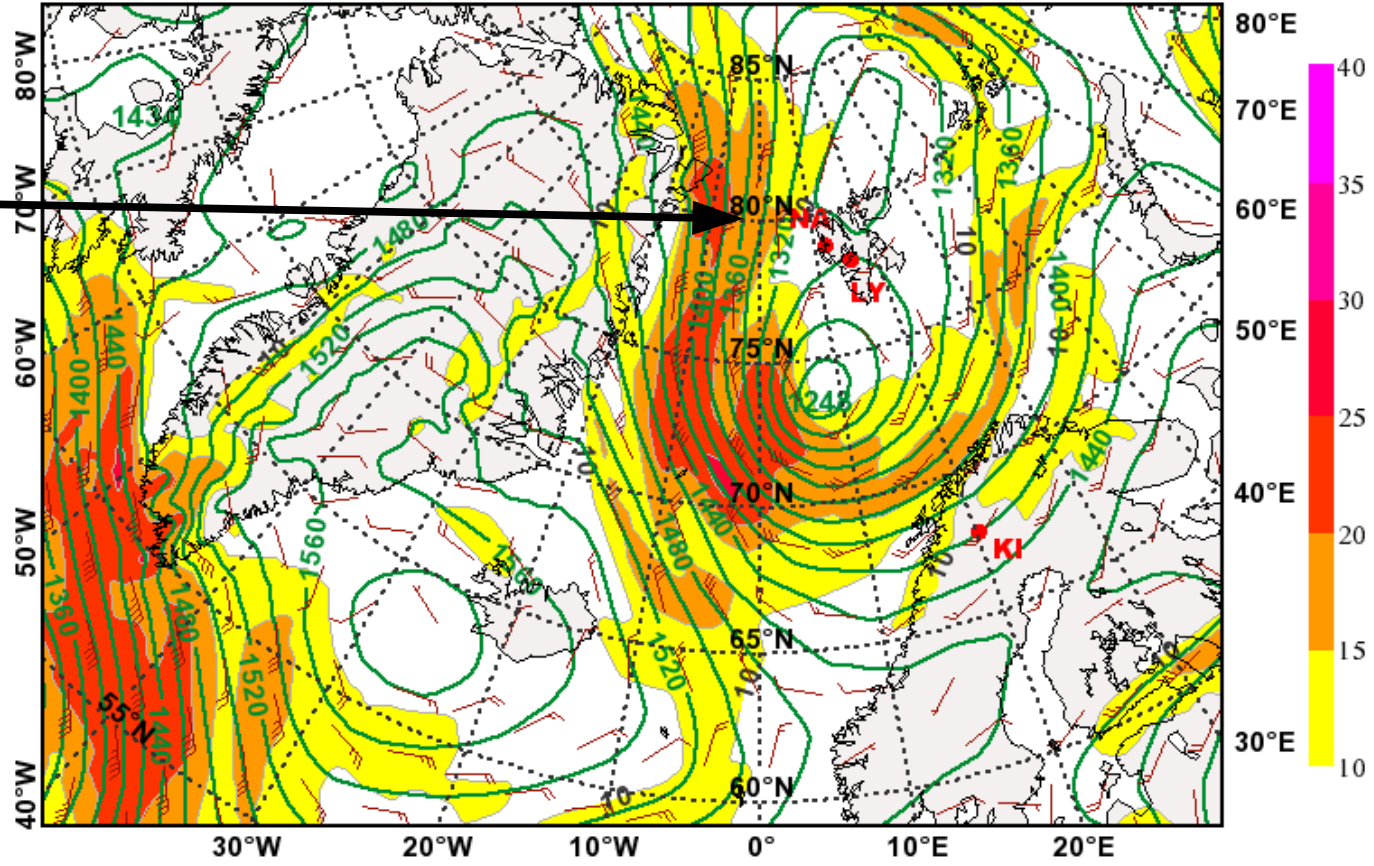


Equivalent Potential Temperature [°C] & Geopot. Height [m] at 850hPa  
valid: Thu, 06 May 2010, 18 UTC (init: 20100503 00 UTC +090 h)



Geopotential Height (m) & Horizontal Wind (m/s) at 850hPa  
valid: Sat, 08 May 2010, 12 UTC (init: 20100503 00 UTC +132 h)

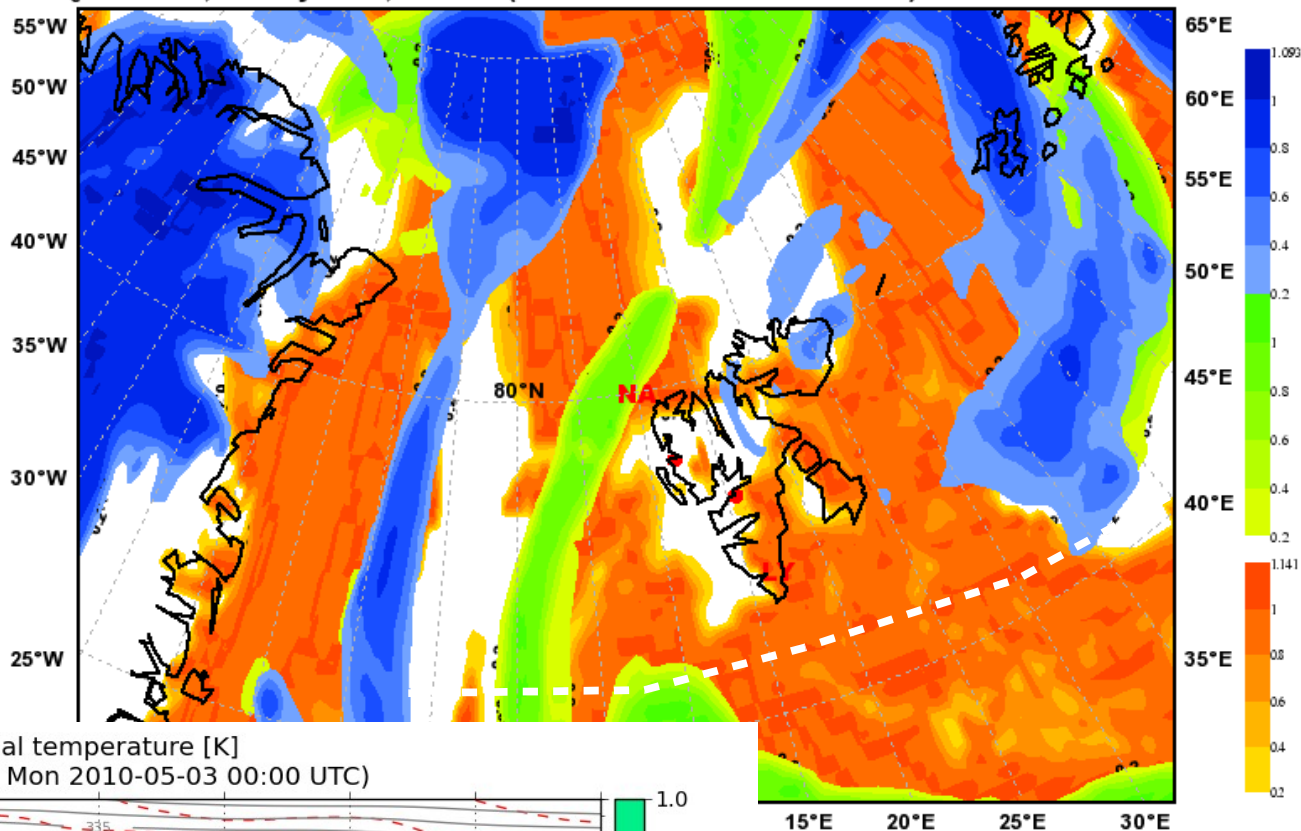
Northerly winds on Saturday?





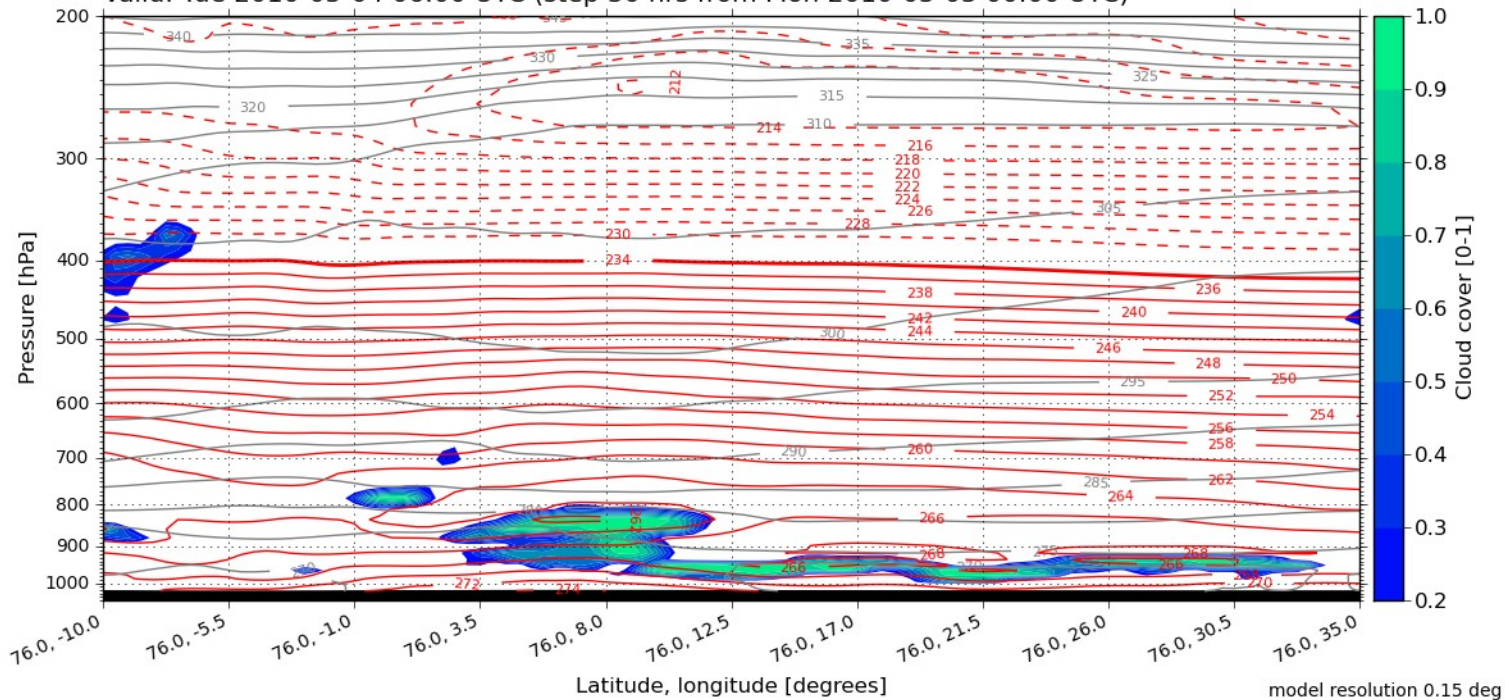
## Tuesday vertical sections.

**Total Cloud Cover**  
 Valid: Tue, 04 May 2010, 06 UTC (init: 20100503 00 UTC +030 h)



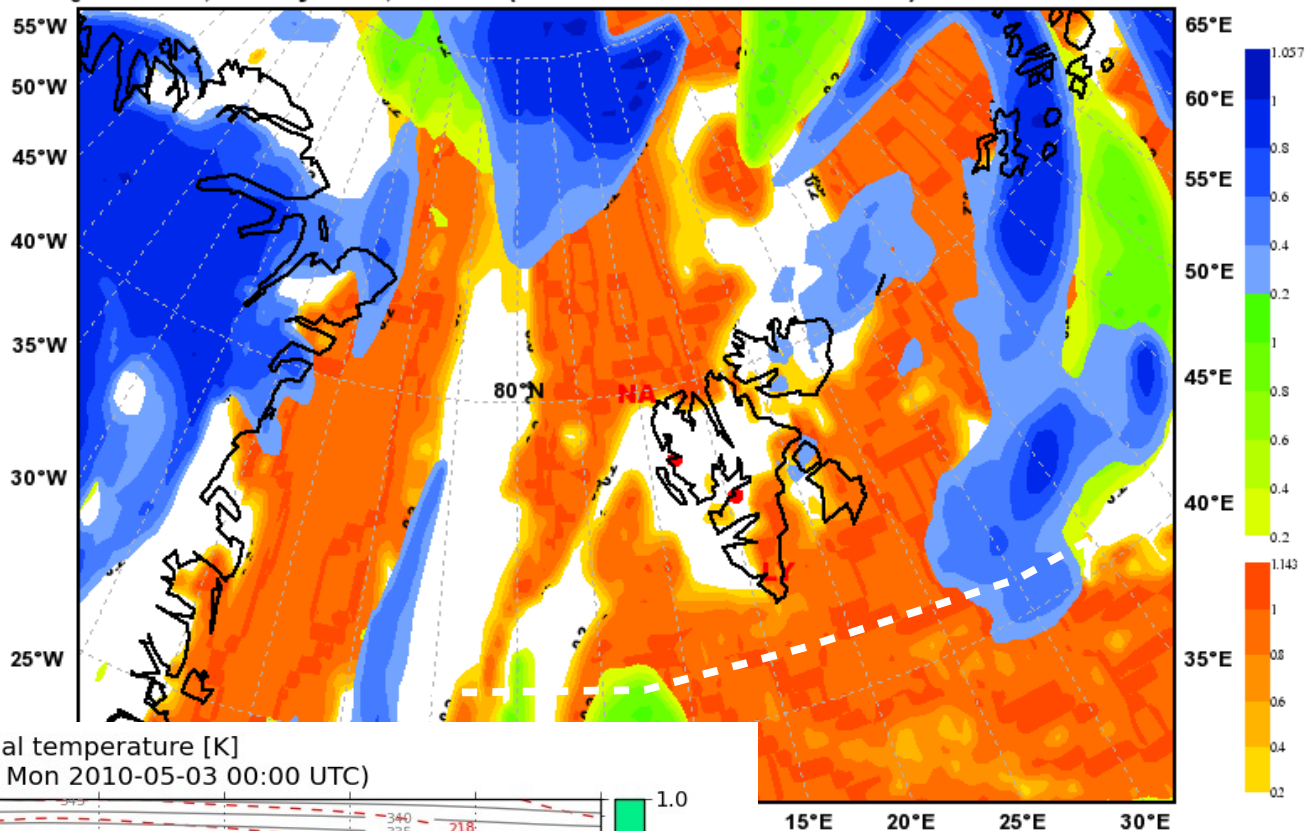
## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 06:00 UTC (step 30 hrs from Mon 2010-05-03 00:00 UTC)



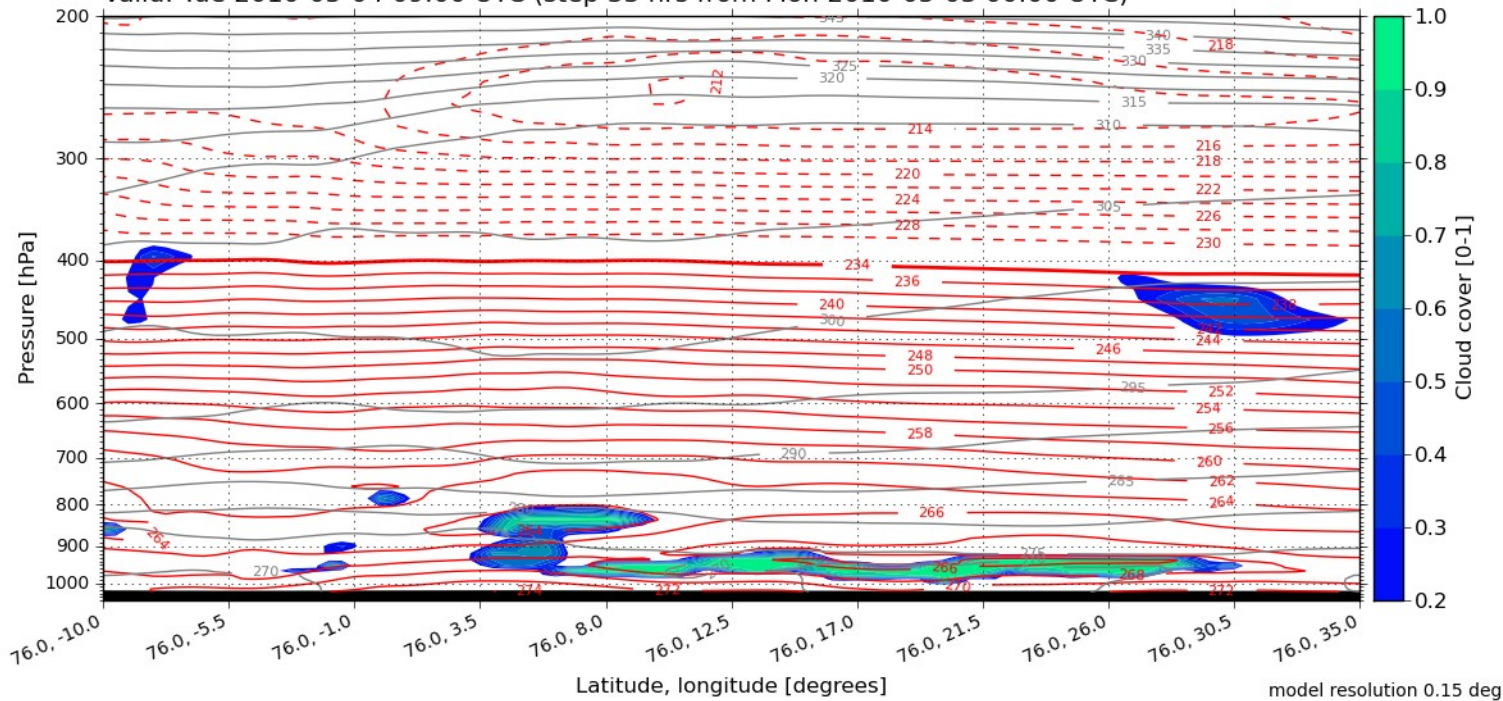


**Total Cloud Cover**  
 valid: Tue, 04 May 2010, 09 UTC (init: 20100503 00 UTC +033 h)

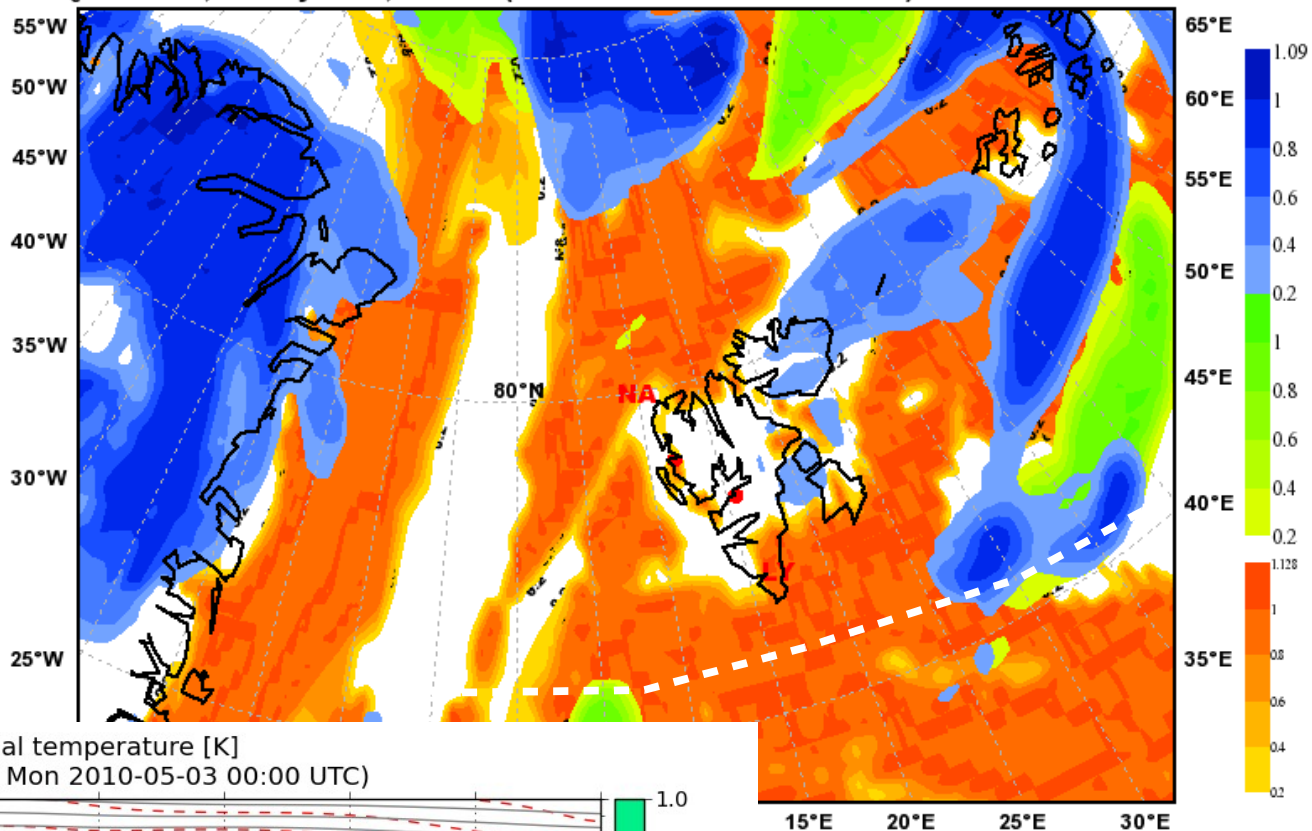


## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 09:00 UTC (step 33 hrs from Mon 2010-05-03 00:00 UTC)

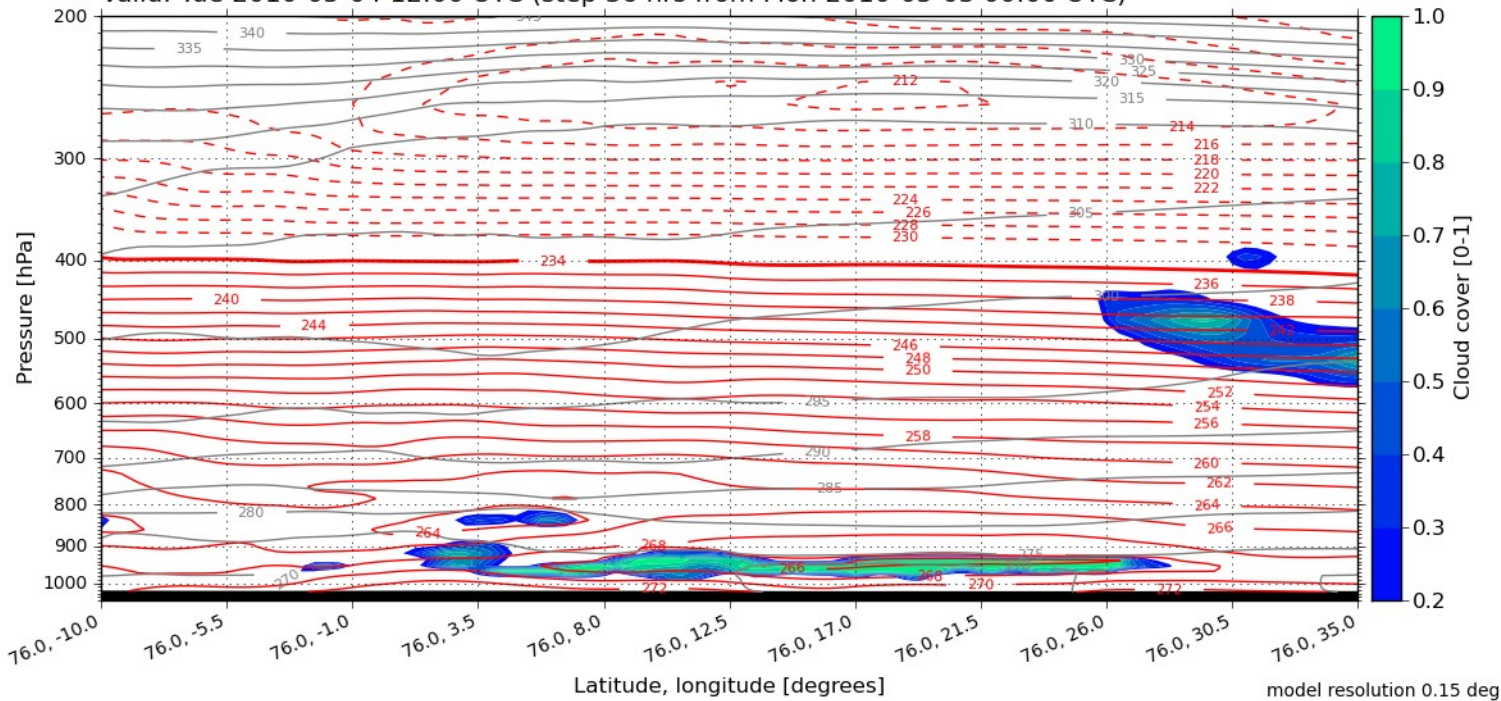


**Total Cloud Cover**  
 Valid: Tue, 04 May 2010, 12 UTC (init: 20100503 00 UTC +036 h)



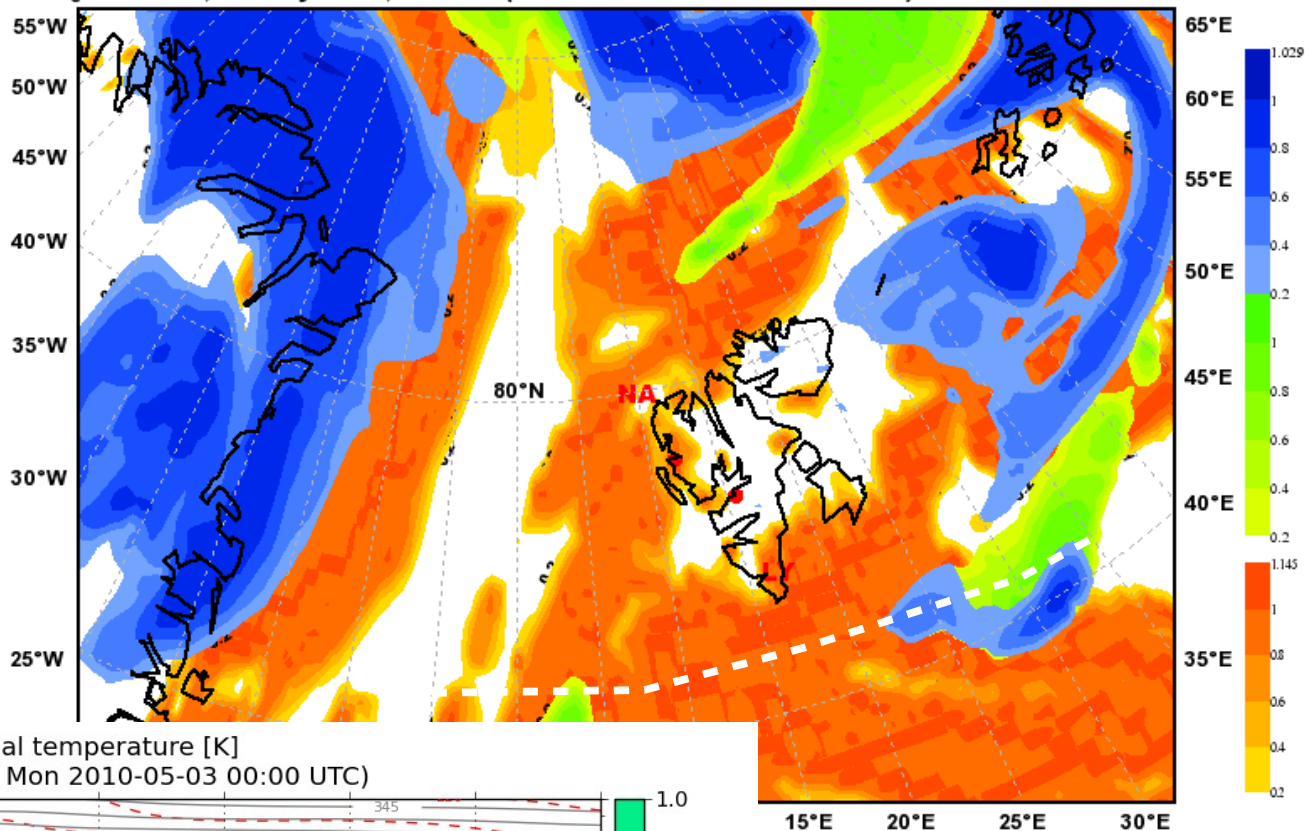
## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 12:00 UTC (step 36 hrs from Mon 2010-05-03 00:00 UTC)



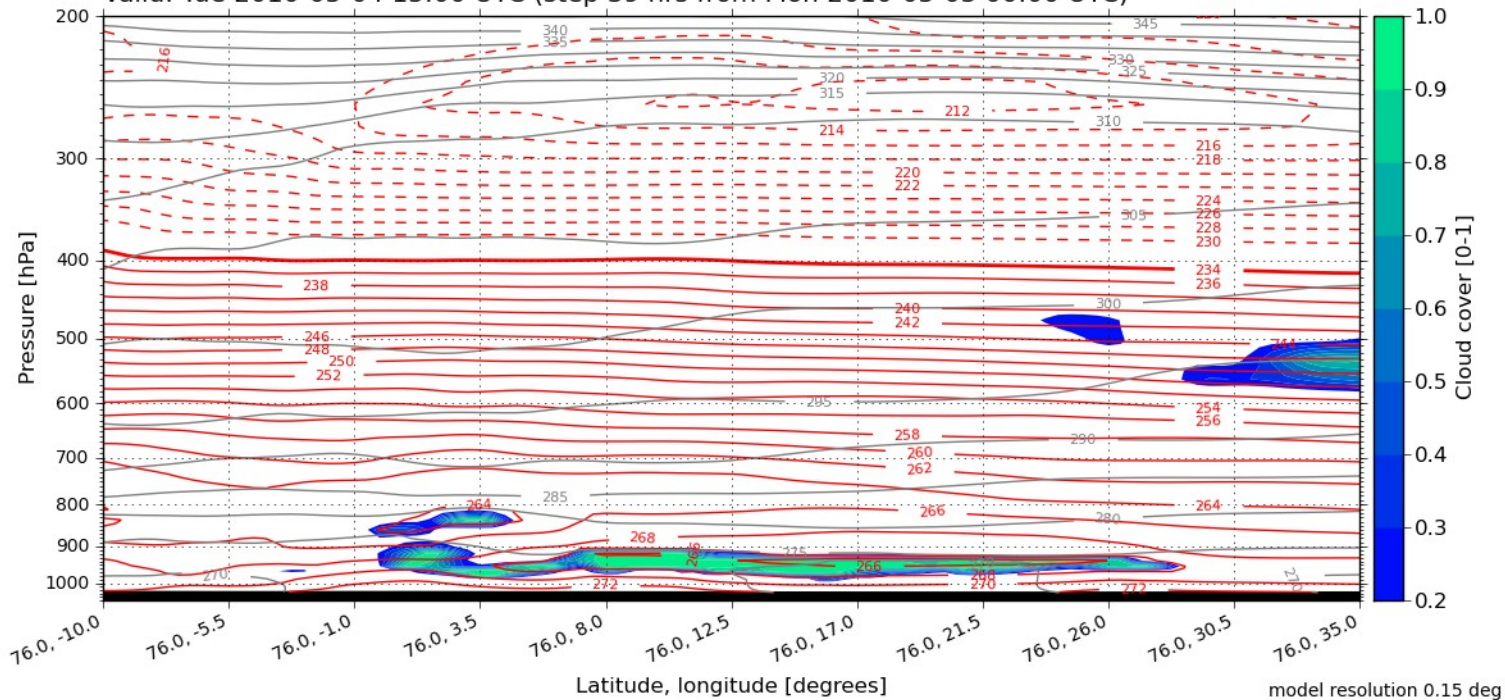


**Total Cloud Cover**  
 Valid: Tue, 04 May 2010, 15 UTC (init: 20100503 00 UTC +039 h)



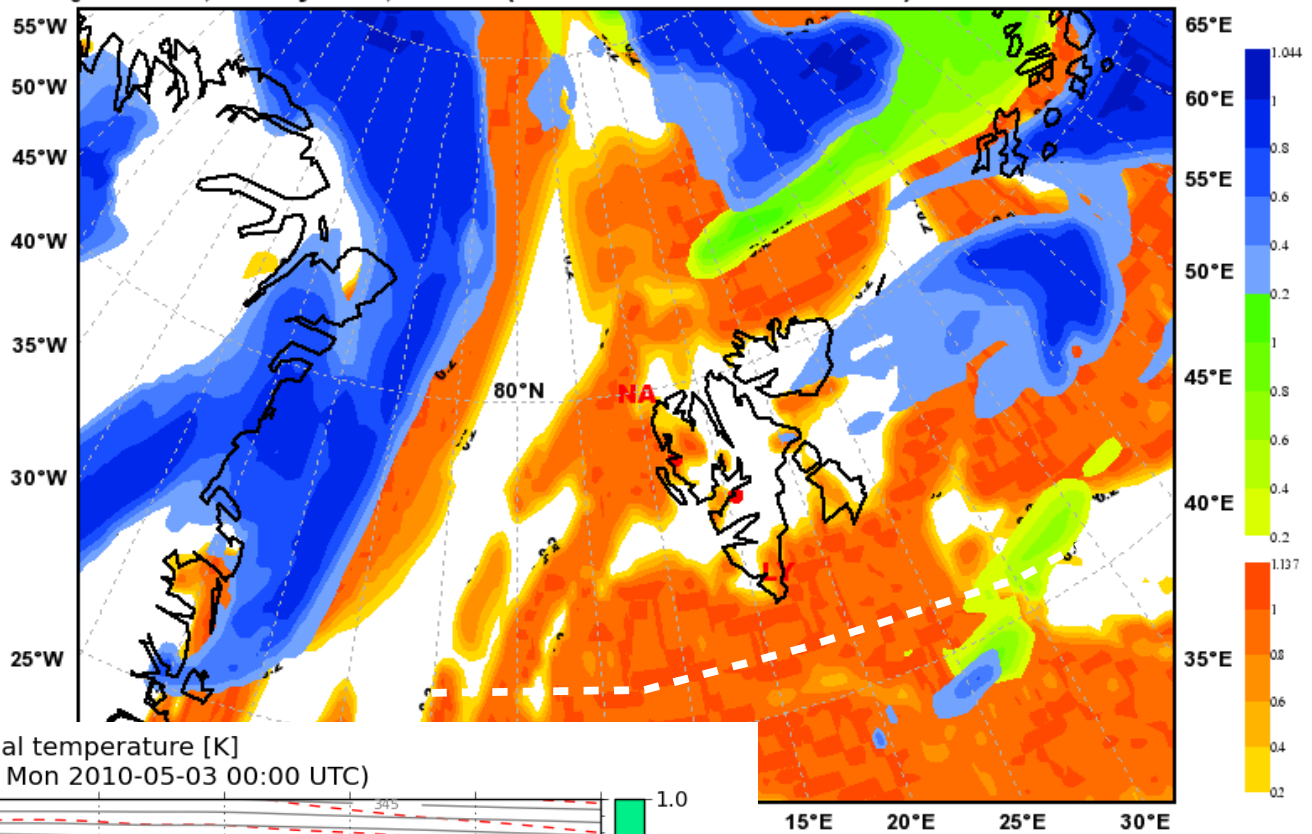
## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 15:00 UTC (step 39 hrs from Mon 2010-05-03 00:00 UTC)



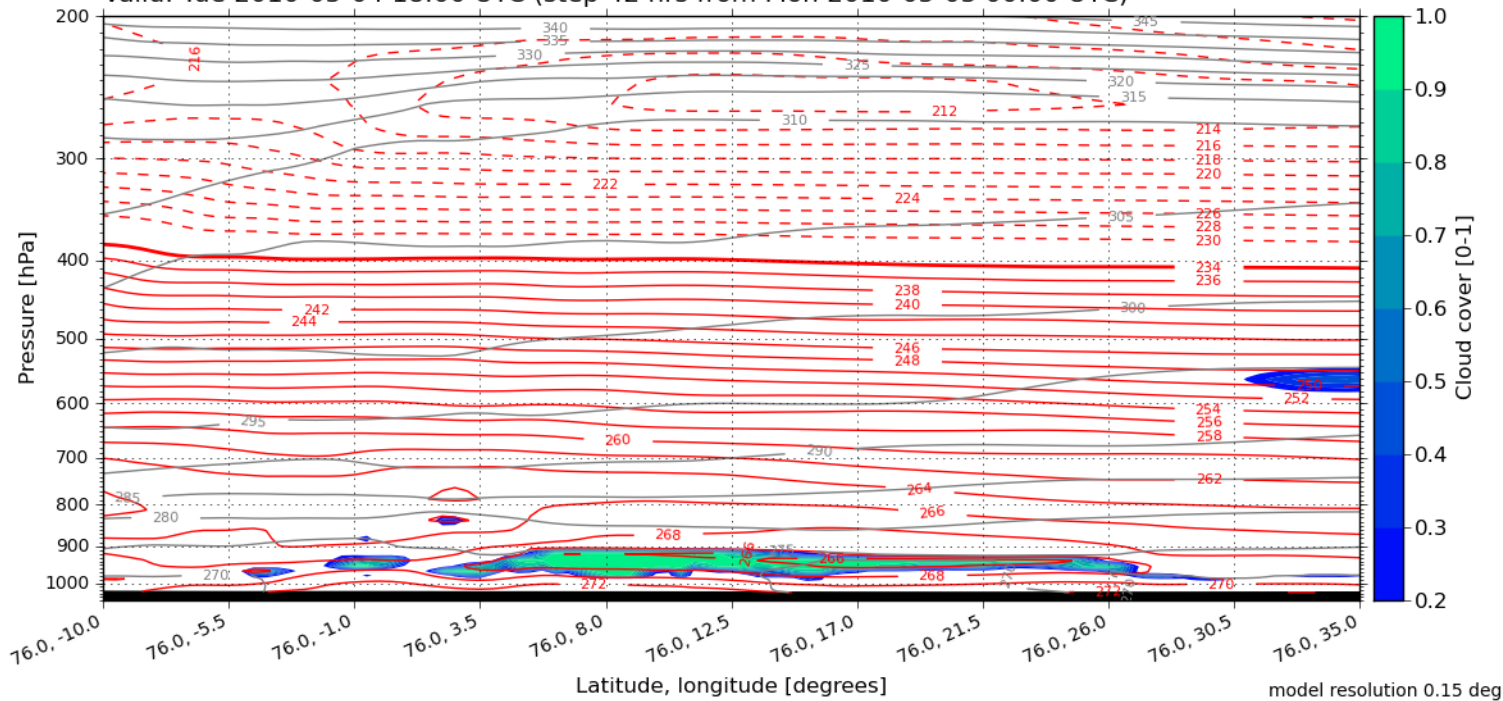
model resolution 0.15 deg

**Total Cloud Cover**  
 Valid: Tue, 04 May 2010, 18 UTC (init: 20100503 00 UTC +042 h)



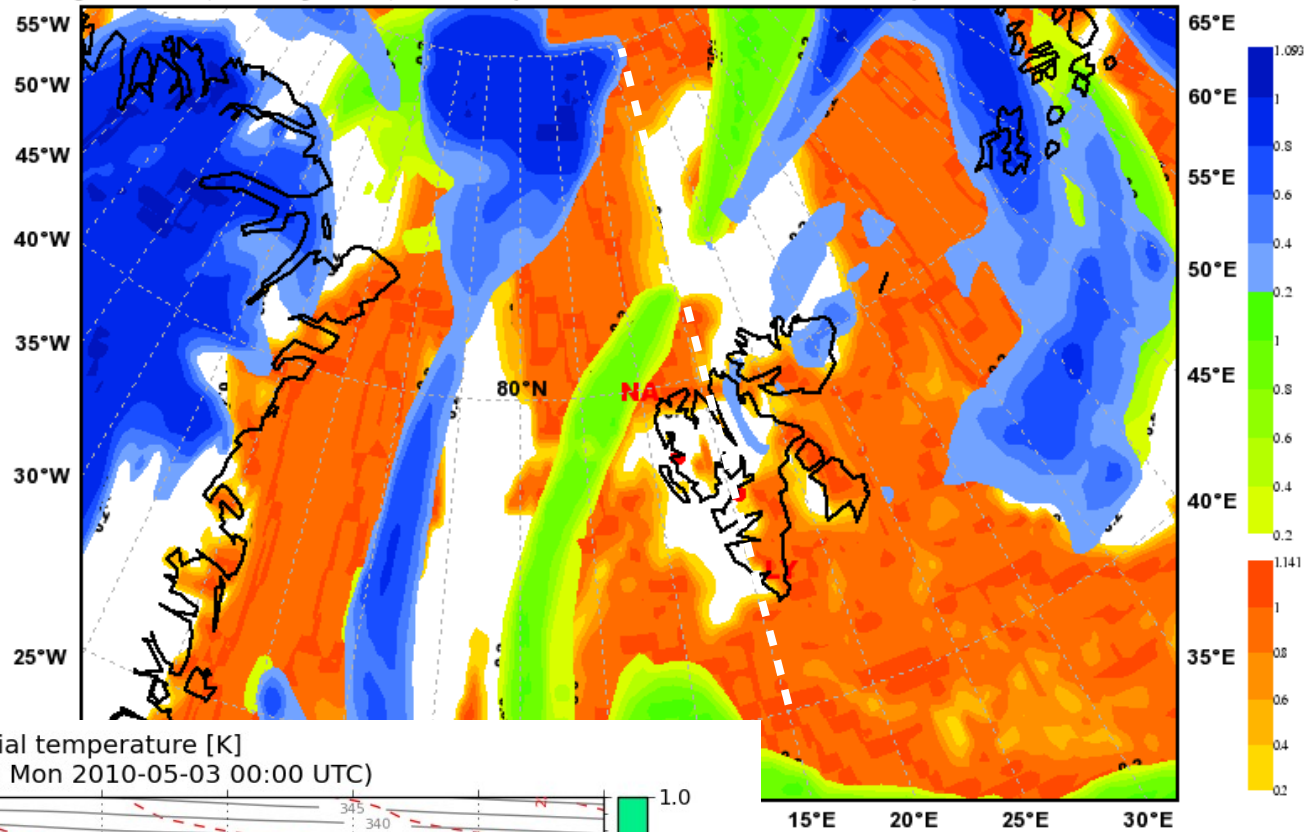
## E-W along 76N

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 18:00 UTC (step 42 hrs from Mon 2010-05-03 00:00 UTC)



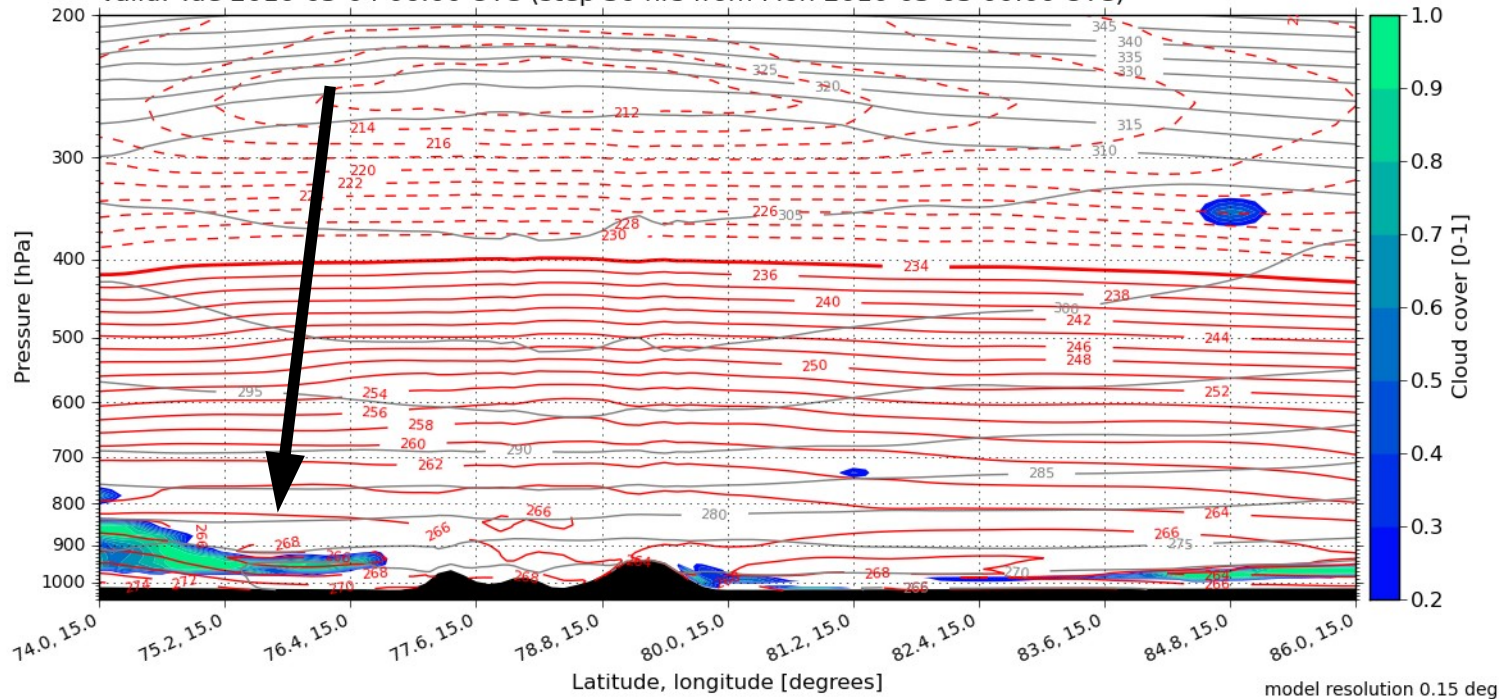


Total Cloud Cover  
Valid: Tue, 04 May 2010, 06 UTC (init: 20100503 00 UTC +030 h)

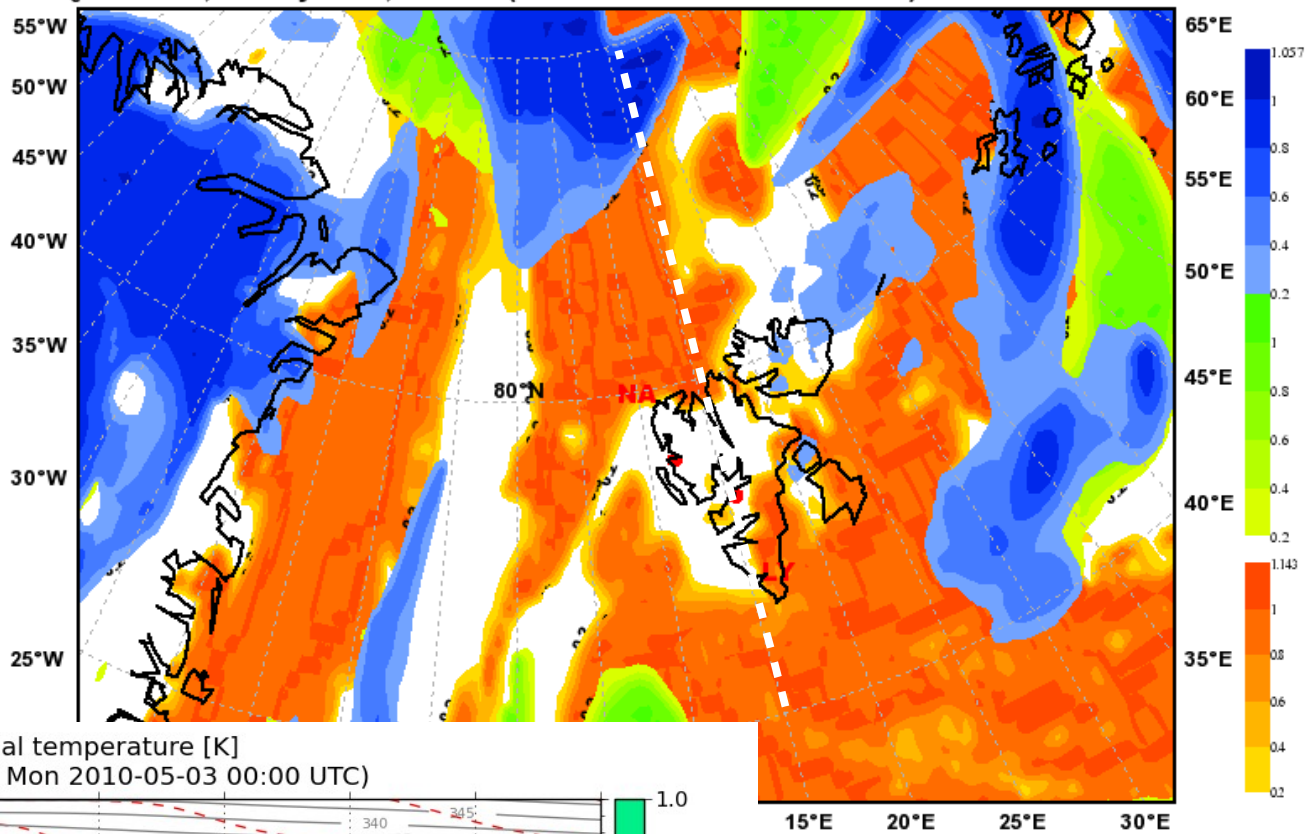


# N-S along 15E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Tue 2010-05-04 06:00 UTC (step 30 hrs from Mon 2010-05-03 00:00 UTC)

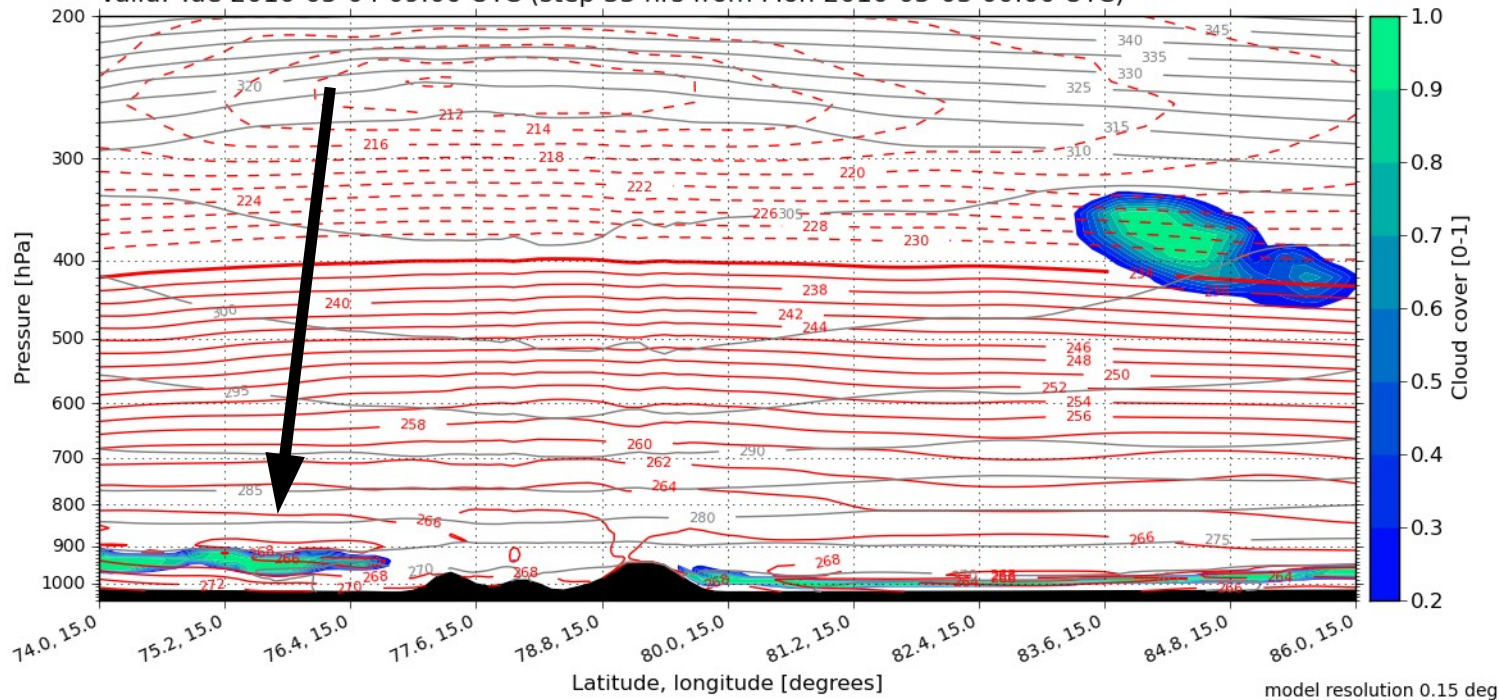


Total Cloud Cover  
Valid: Tue, 04 May 2010, 09 UTC (init: 20100503 00 UTC +033 h)



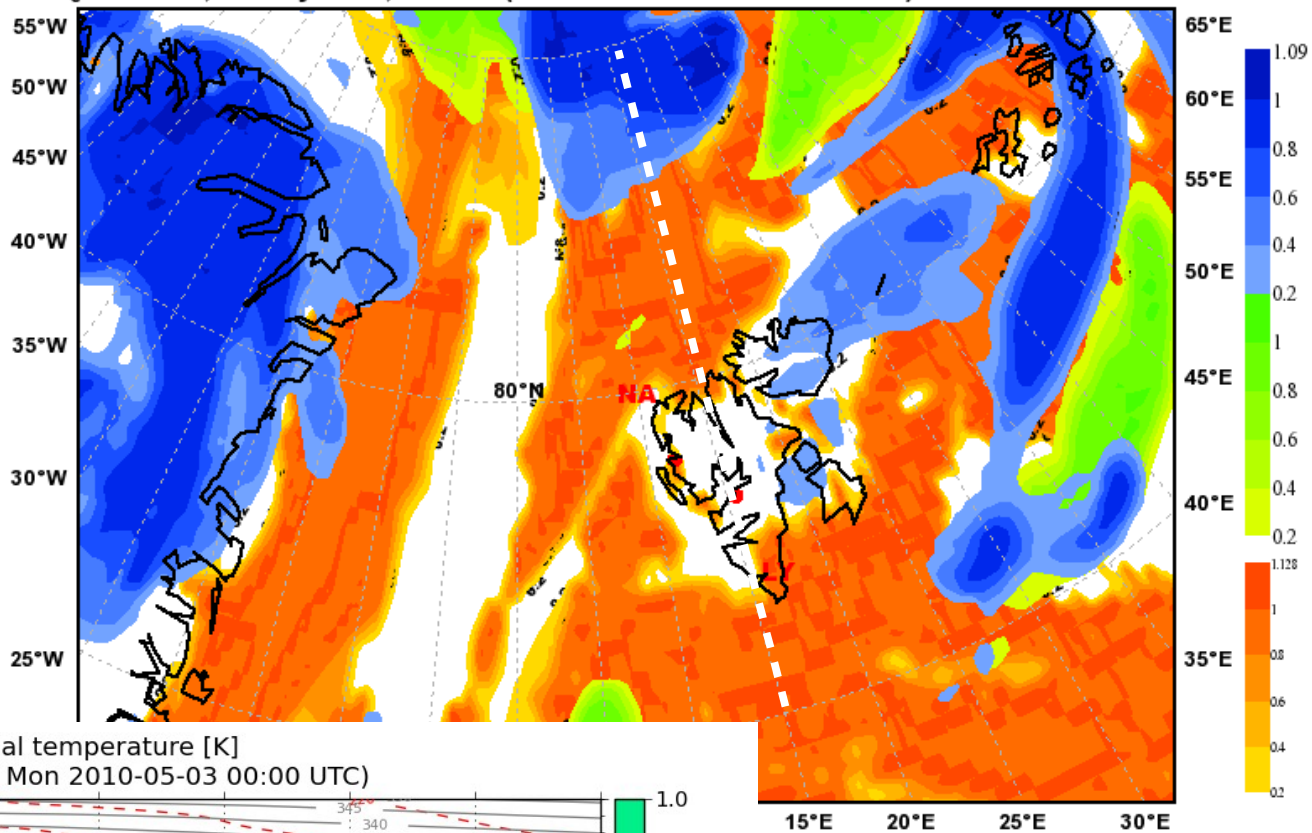
## N-S along 15E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Tue 2010-05-04 09:00 UTC (step 33 hrs from Mon 2010-05-03 00:00 UTC)



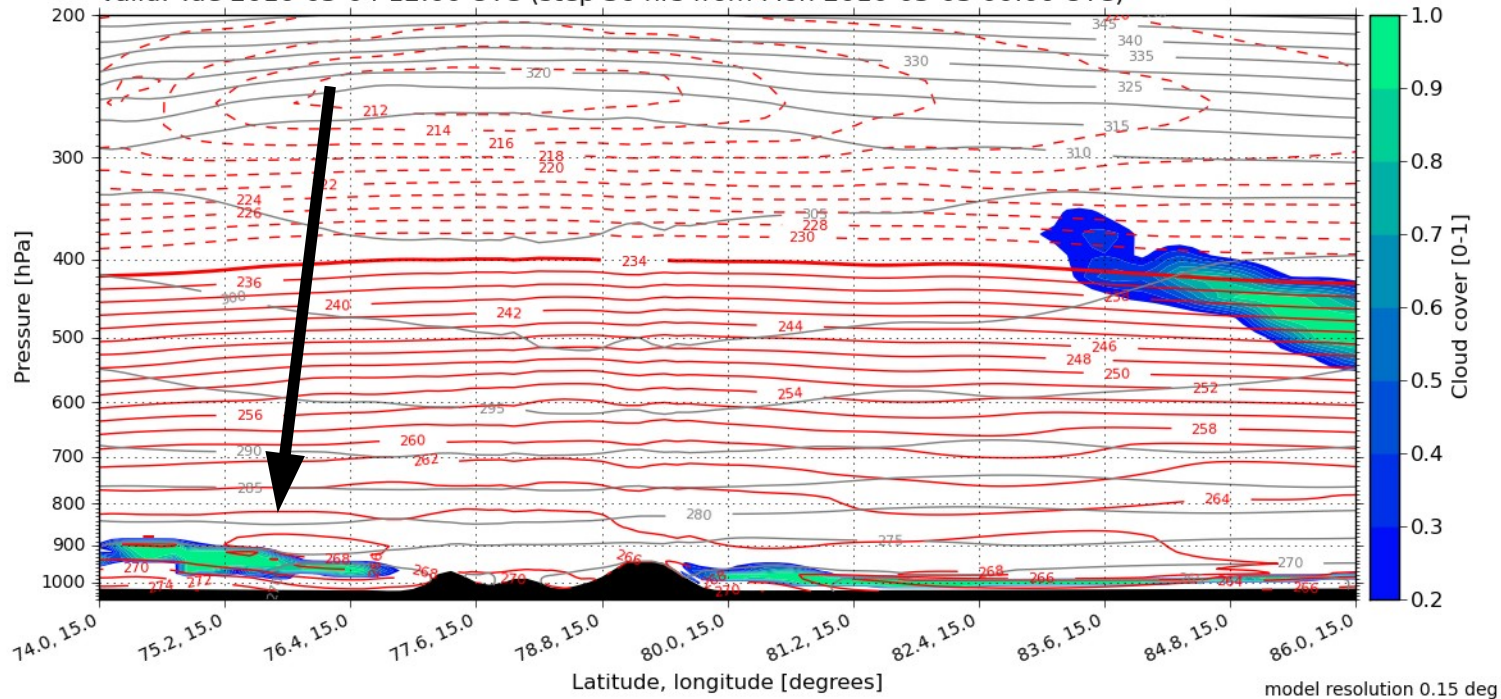


Total Cloud Cover  
Valid: Tue, 04 May 2010, 12 UTC (init: 20100503 00 UTC +036 h)

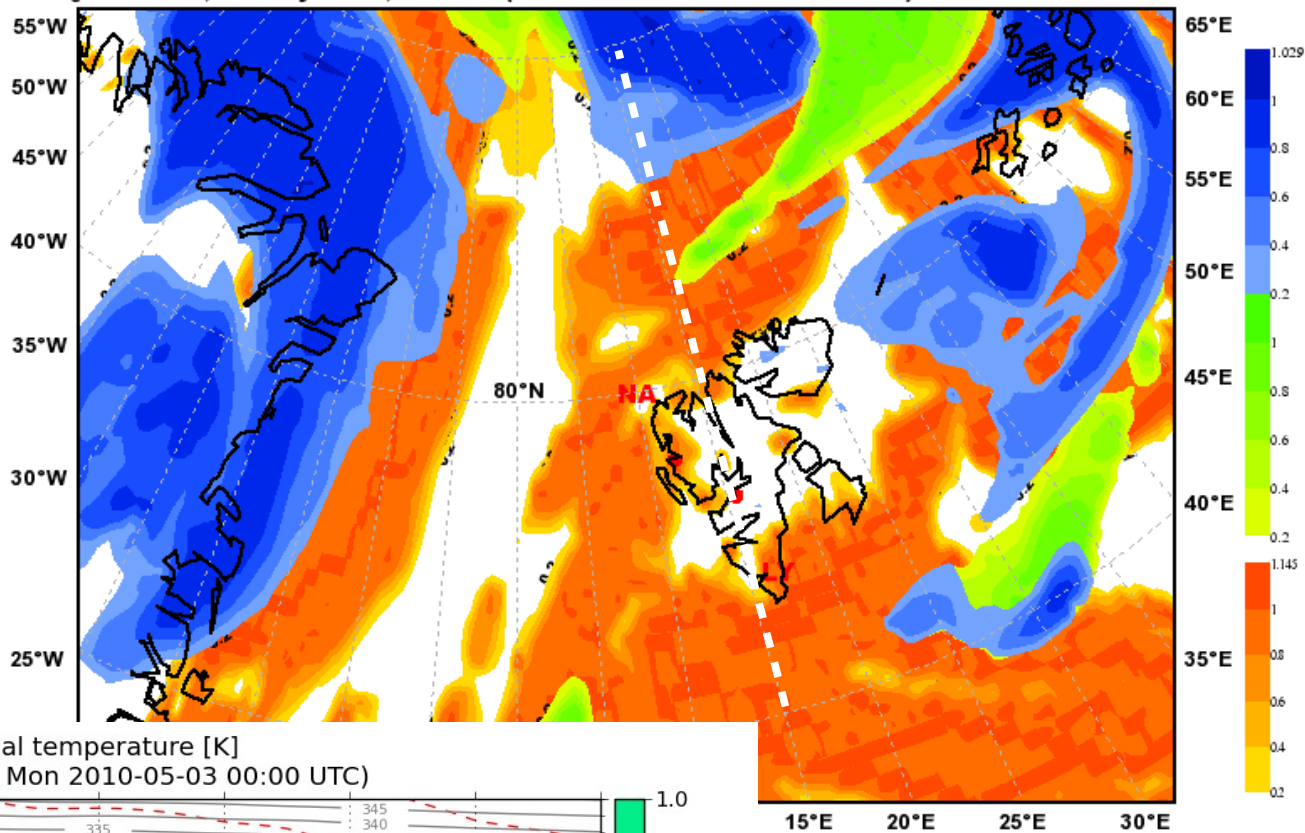


## N-S along 15E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Tue 2010-05-04 12:00 UTC (step 36 hrs from Mon 2010-05-03 00:00 UTC)

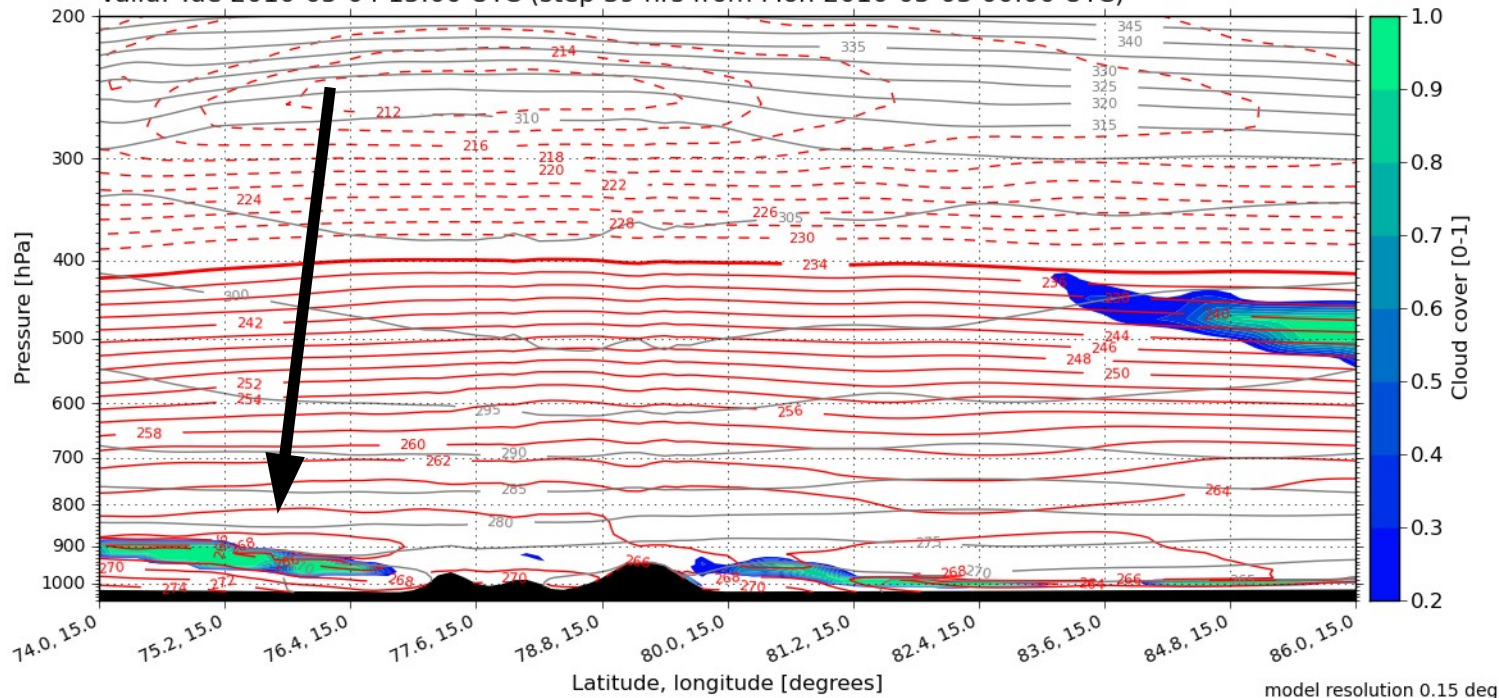


**Total Cloud Cover**  
 Valid: Tue, 04 May 2010, 15 UTC (init: 20100503 00 UTC +039 h)



## N-S along 15E

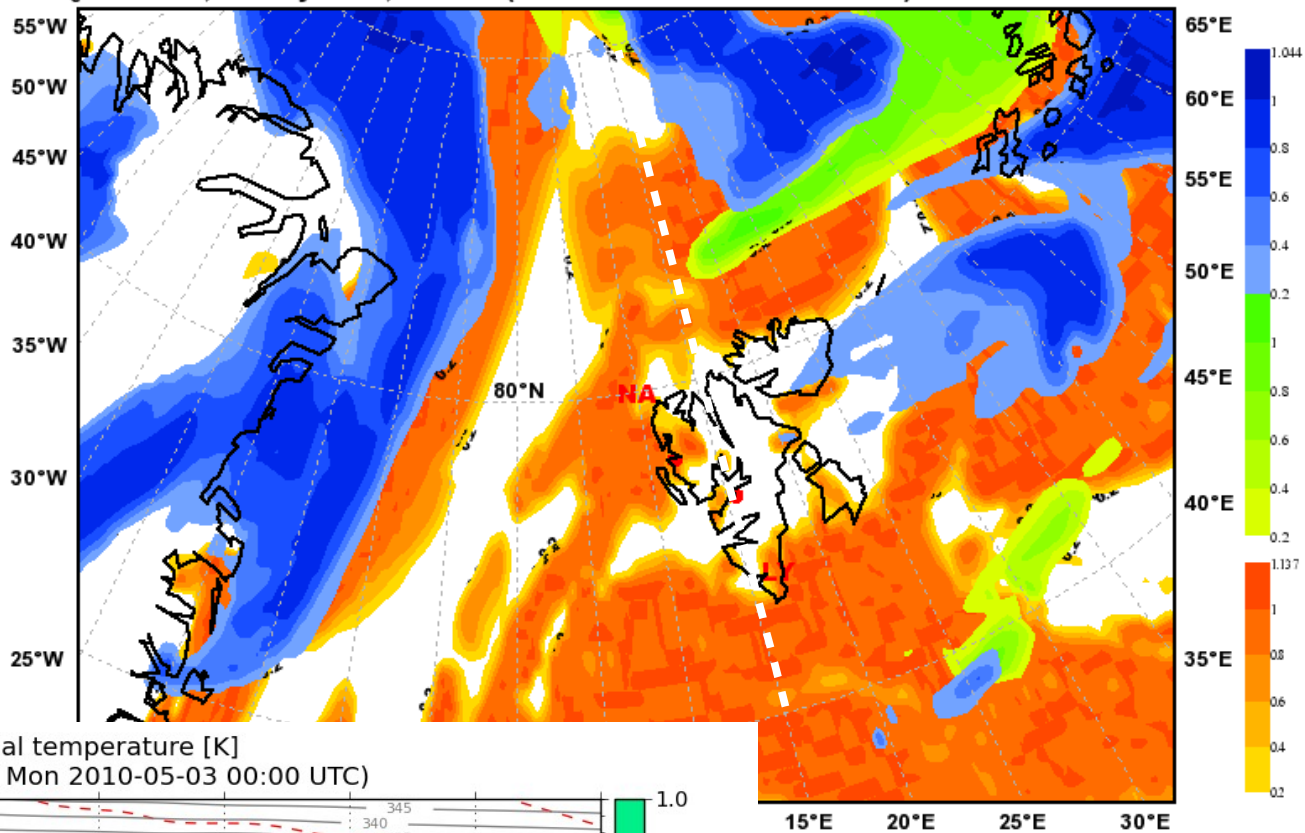
Cloud cover [0-1] with temperature [K] and potential temperature [K]  
 Valid: Tue 2010-05-04 15:00 UTC (step 39 hrs from Mon 2010-05-03 00:00 UTC)



model resolution 0.15 deg



Total Cloud Cover  
Valid: Tue, 04 May 2010, 18 UTC (init: 20100503 00 UTC +042 h)



## N-S along 15E

Cloud cover [0-1] with temperature [K] and potential temperature [K]  
Valid: Tue 2010-05-04 18:00 UTC (step 42 hrs from Mon 2010-05-03 00:00 UTC)

