

Väder och segelflygning

eller

*How I Learned to Stop
Worrying and Love
the Weather*

Robert Danewid

”En del av nedgången i verksamheten kan skyllas på HIRLAM. Är det bara gröna och gula cirklar åker folk inte ut på klubben”

BULLSHIT!

Då har klubben en pedagogisk uppgift!




Är de

Forecast SUNDAY 23 AUG 2009 00Z +12
valid: SUNDAY 23 AUG 2009 12Z

dag?



Total cloudcover (grey-shading) and precipitation (symbols)



Att kunna läsa och förstå
vädret är lika viktigt för
segelflygaren som att
förstå skevroderbromsen

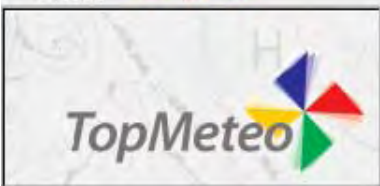
Väderdata på nätet

(som jag använder)

- **HIRLAM**
- Analys/prognoskartor
- Satellitbilder
- Tempogram (soundings)
- Topmeteo - kostar!

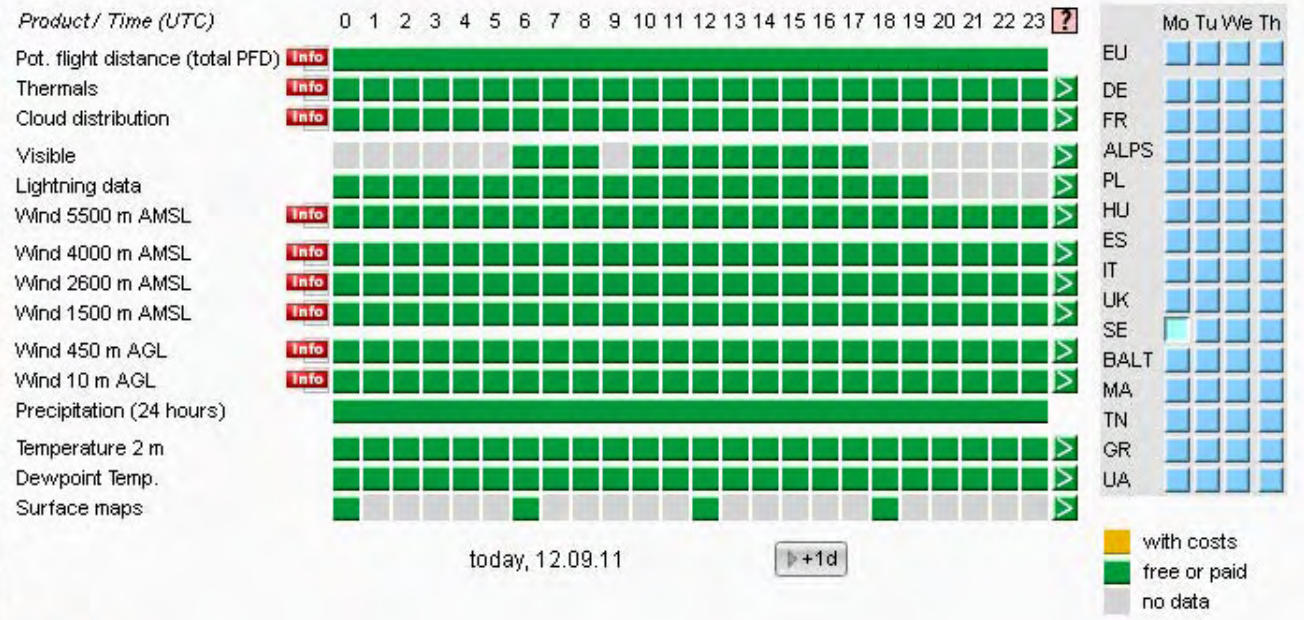
”Väderportaler”

- flyg.pk2.se
- www.feringe.se/w/
- www.vaderprognosen.se
- <http://www.nlf.no/seilfly/seilflyv-ret>
- *Snacka med erfarna kompisar, eller ännu bättre organisera riktiga briefingar*



- logged in as urden123
- Settings
- My user data
- My subscriptions
- log out

- Order + pay
- Aircraft
- Gliding
 - Charts
 - Satellite / lightning
 - Site forecast
 - METAR / TAF
 - CrossCountry-News
 - PFD-Alarm
 - Briefing-Howto
- Paragliding
- Ballooning
- Outdoor



Gliding

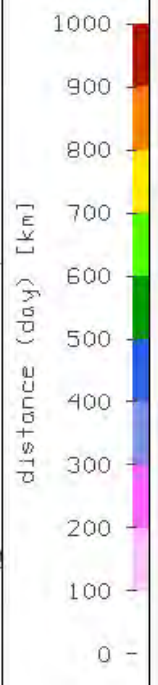
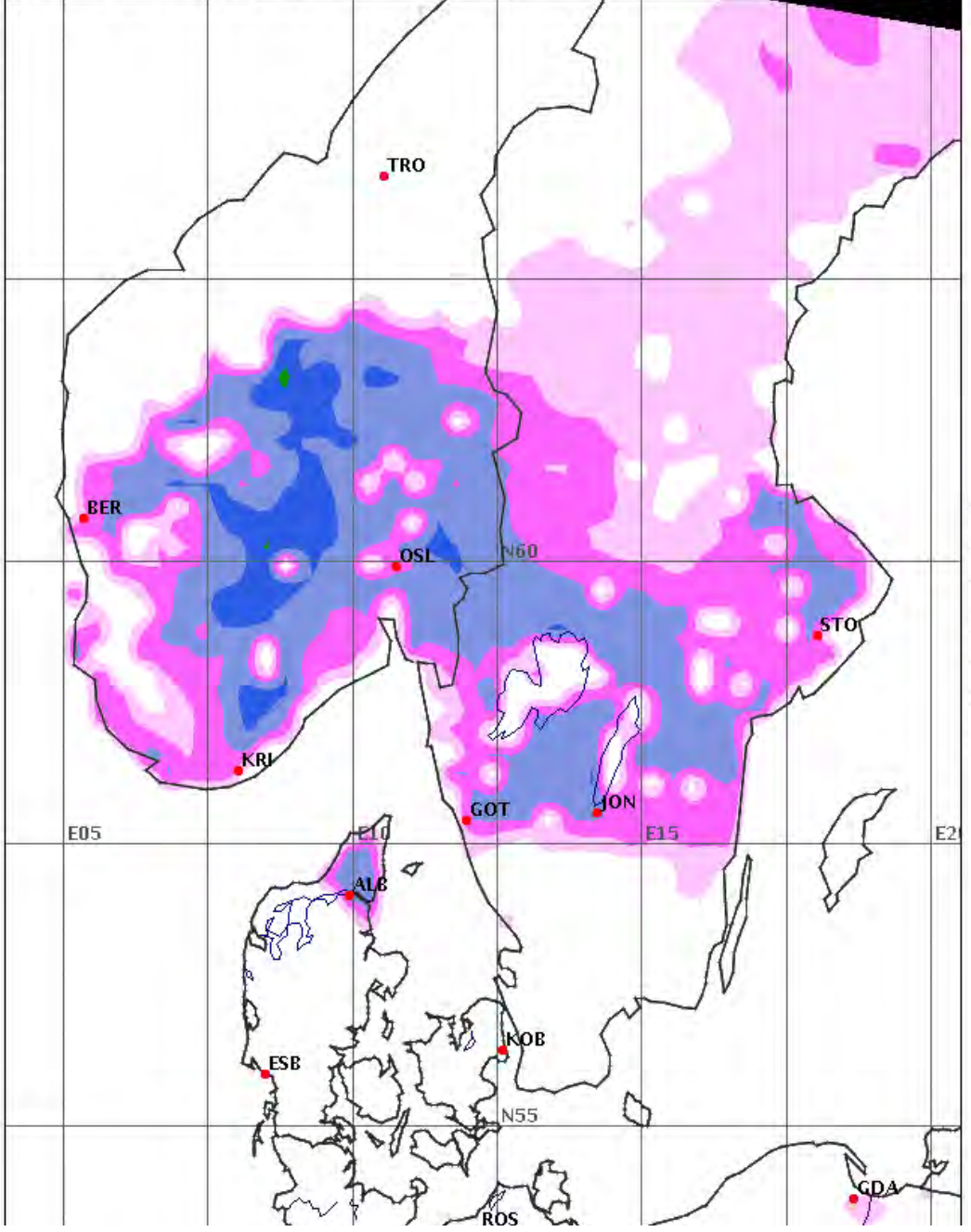
The package Gliding includes all relevant weather information per hour for the upcoming four days. You can obtain all information about individual prices and flat-rate subscriptions in our [Price system](#)

For your assistance

- [How to order a subscription](#)
- [How to select a map type, forecast region and time](#)
- [Selfbriefing howto!](#)

Topmeteo
53-66 €/år

total potent. flight distance (18 m class, 46 kg/m²) ©2011 TopMeteo 3.2.1
valid: Thu 15-09-2011 00.24 UTC run: 12-09-2011 12 UTC



Regional Atmospheric Soaring Prediction

BLIPMAP FORECASTS

Scandinavia
[\(Hier klicken für deutsche Version\)](#)

BLIPMAP stands for "Boundary Layer Information Prediction MAP" -- a model for soaring weather forecast. It has been developed by [Dr. John W. \(Jack\) Glendening \("DrJack"\)](#), who is meteorologist and sailplane pilot himself. For the forecast maps on this webpage, I (Hendrik Hoeth) run the RASP model locally on my server. In case you encounter any technical problems, please mail me at rasp@linta.de. More information on the meteorological model can be found on DrJack's [RASP website](#). There you also find a discussion forum for questions about the model or problems with the forecast.

Maps for the current day are generated every night for the time between 06 and 18 UTC. Maps for the two following days are generated during the early afternoon. Please check the time imprinted on the maps.

Please note that all maps are experimental and cannot substitute for a real meteorological pre-flight preparation.

For de-briefing after your flight, [yesterday's](#)

NEW (19 Nov 2008): winter time, 1-hour

Gratis

Men

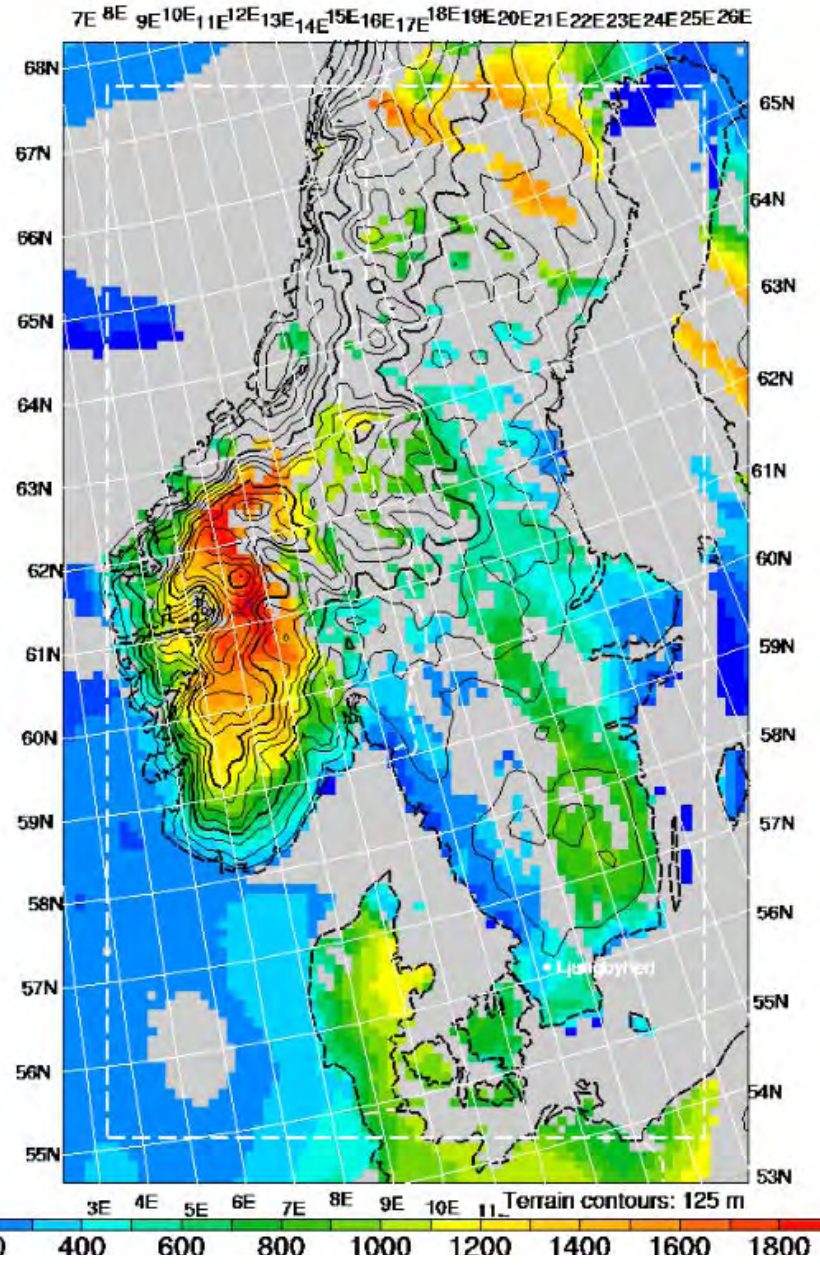
"There is no such thing as a free school lunch"

cannot substitute for

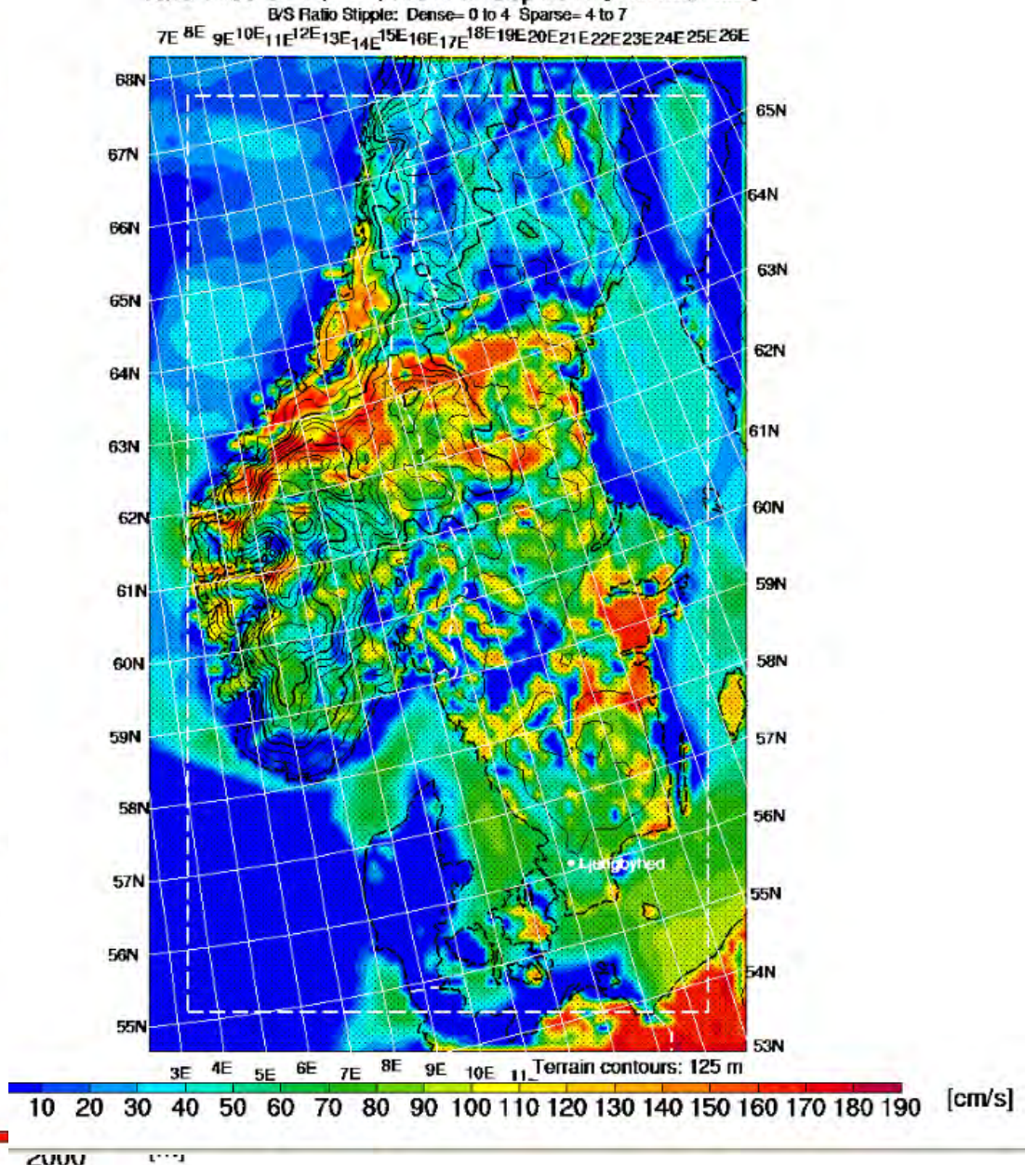
AYS
 12 12
 19+1 13+2
 19+1 13+2

<u>Buoyancy/Shear ratio (B/S)</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Height of Critical Updraft Strength (MSL Hcrit)</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Depth of Critical Updraft Strength (AGL Hcrit)</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>BL Top</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>BL Depth</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Thermal Height Uncertainty</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Sfc. Heating</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Normalized Sfc. Sun</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Sfc. Sun</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
<u>Sfc. Temperature</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2
Wind Parameters:		
<u>Sfc. Wind</u>	07 08 09 10 11 12 13 14 15 16 17 18 19 13	07+1 10+1 13+1 16+1 19+1 13+2

Cu Cloudbase where Cu Potential > 0
 Valid 1400 CET (1300Z) SUN 11 Sep 2011 [19hrFcst@0150z]



Thermal Updraft Velocity (W)
 Valid 1400 CET (1300Z) MON 12 Sep 2011 [19hrFcst@0158z]

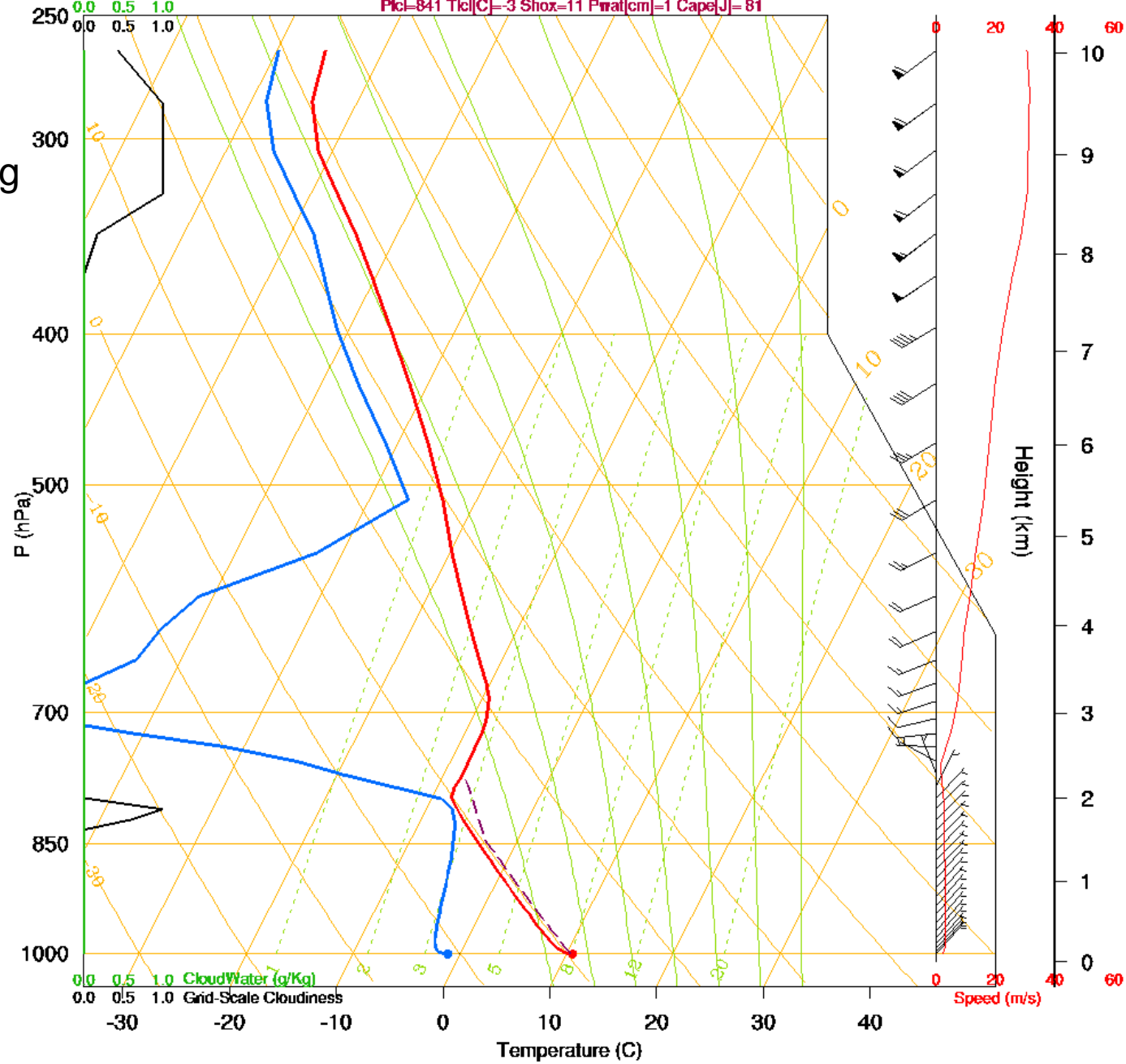


#1: • Ljungbyhed 56.08°, 13.2° (55,25) Valid 1200 CET (1100Z) SUN 2 May 2010 [17hrFcst@0041z]

Pfc1=841 Tfc1[C]=-3 Shox=11 Pwrat[cm]=1 Cape[J]= 81

Tempo-
gram

Sounding





Startsida

Väder

Senaste väder

Prognos

Prognosfält

Punktprognoser

Höjdprognoser

5-dagars utsikt

Beställ väder

Information

Länkar

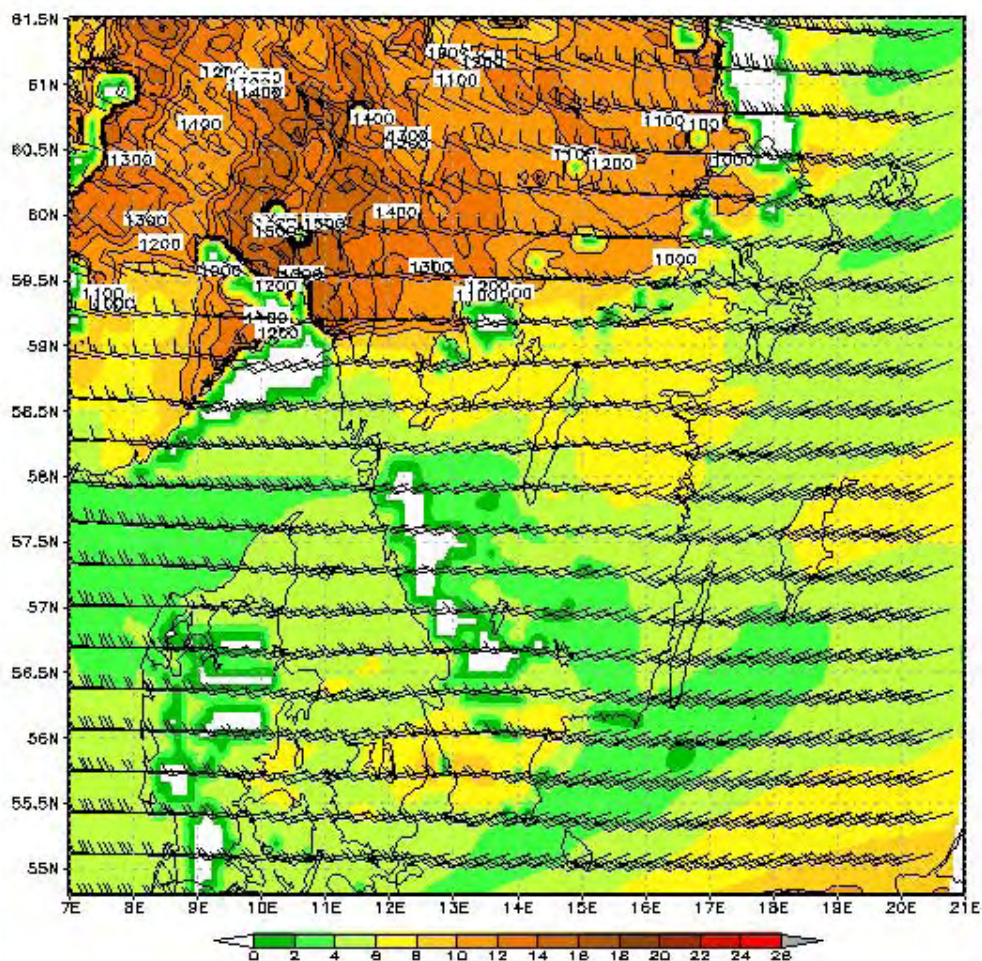
Kontakt

Prognosfält

Klicka på parameter samt område nedan. Dra sedan med musen över tidsstegen.

Uppdaterad 2011-09-12_21:12

Termikhöjd [m] / Vind 10 m [kt] - kl 14, onsdag 14/9



Parameter:

- Nederbörd
- Nederbördstyp
- Temperatur
- Vind/byvind
- Termikhöjd
- Moln ovanifrån
- Molnbas
- Sikt
- Nyl Flygvarningar

Tidssteg:

Animering

- kl 23 12/9
- kl 02 13/9
- kl 05 13/9
- kl 08 13/9
- kl 11 13/9
- kl 14 13/9
- kl 17 13/9
- kl 20 13/9
- kl 23 13/9
- kl 02 14/9
- kl 05 14/9
- kl 08 14/9
- kl 11 14/9
- kl 14 14/9
- kl 17 14/9
- kl 20 14/9

Område:

- NV Europa
- Skandinavien
- N Sverige
- S Sverige
- Danmark
- Ö Svealand

Termikprognoser

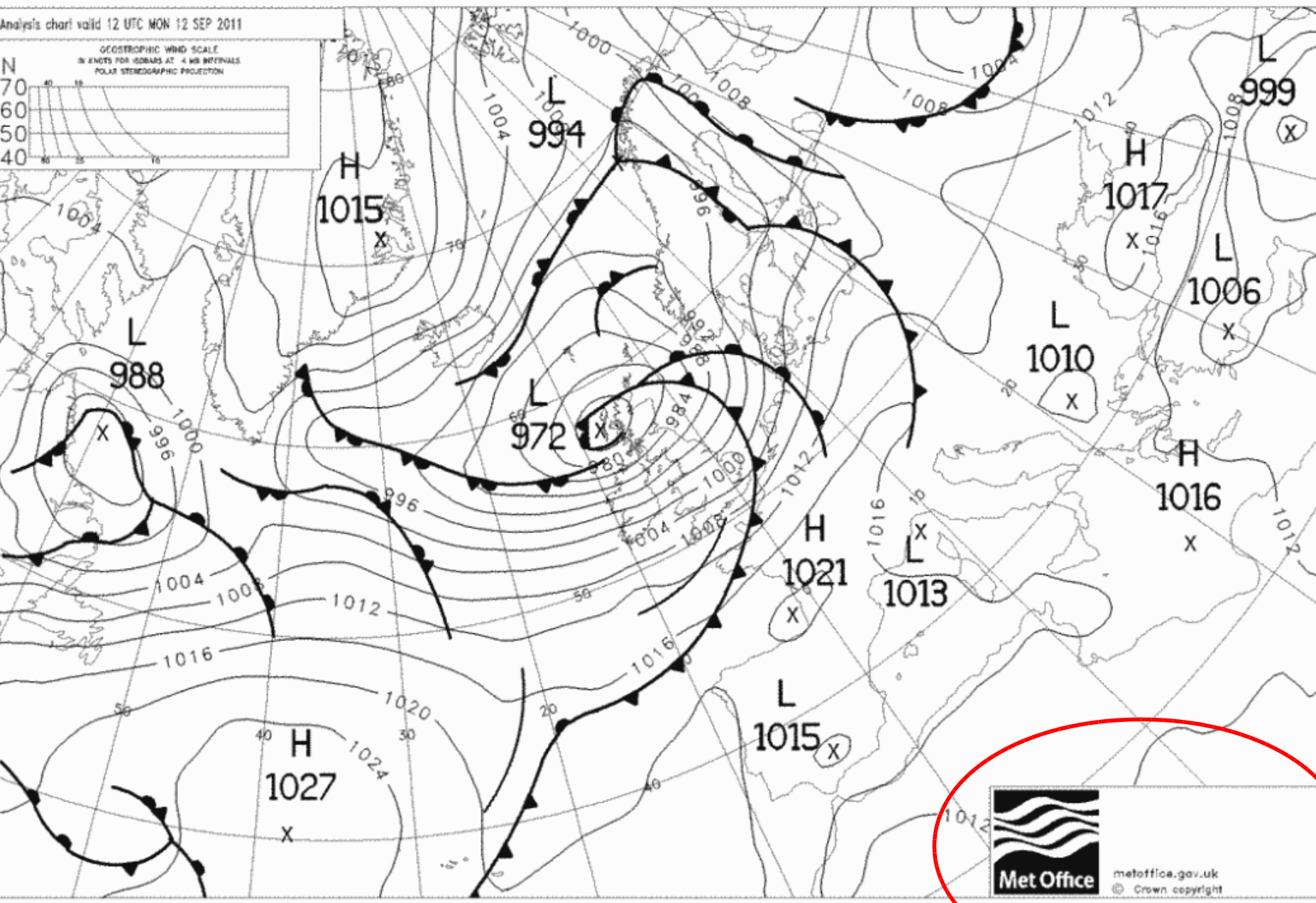
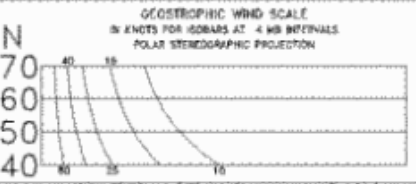
HIRLAM

Mest information på minst bilder

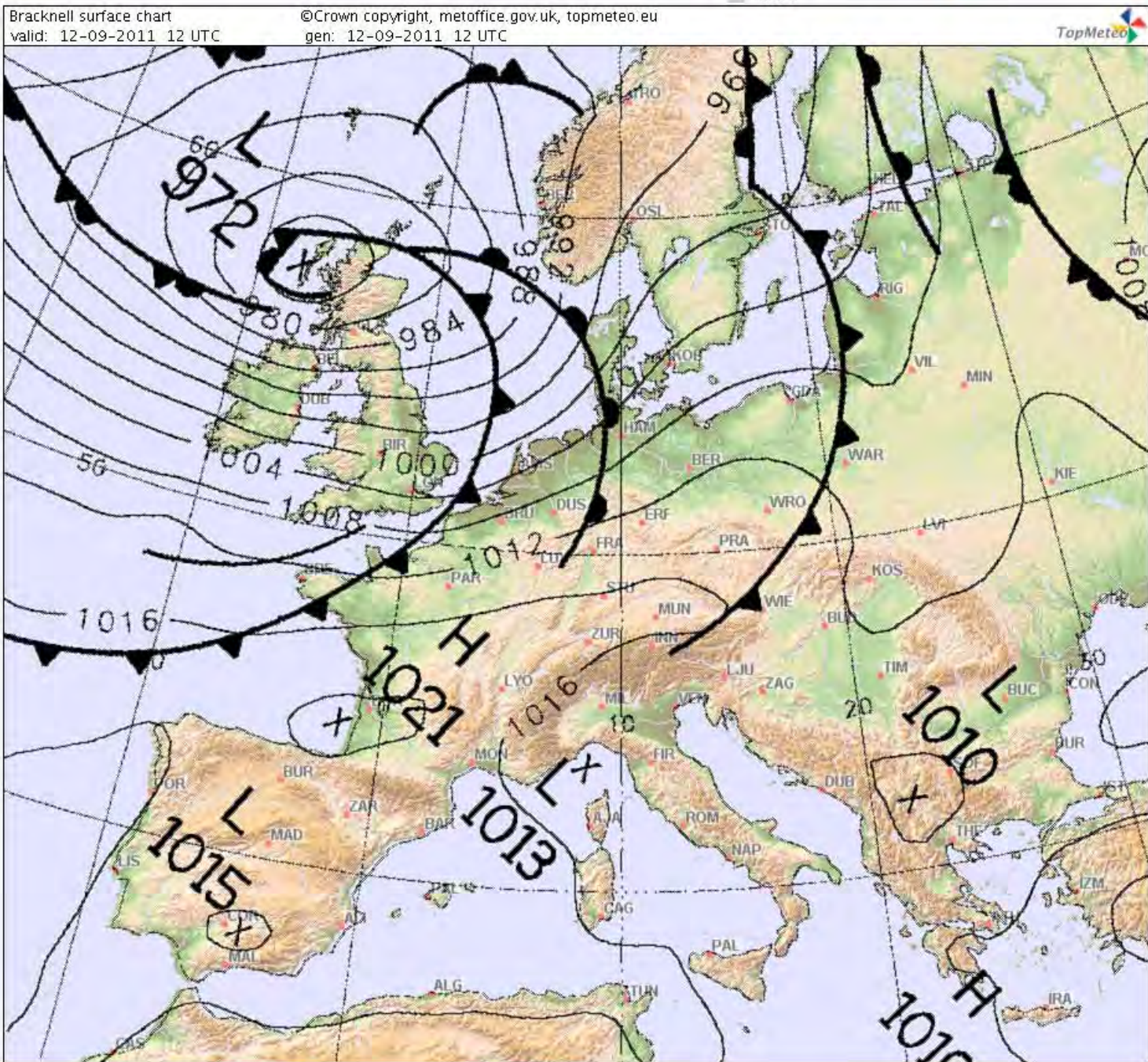
OLC om 2011:

Basis für unseren Sport ist das Wetter. Deswegen gab uns Bernd Fischer von Top Meteo einen Rückblick auf das eher mäßige und von inhomogenen Wetterlagen geprägte Jahr. Er erläuterte plastisch, warum die Vorhersagemodelle in diesem Jahr öfter daneben gelegen haben und gab Tipps zu Interpretation.

Analysis chart valid 12 UTC MON 12 SEP 2011



- Charts
- Satellite / lightning
- Site forecast
- METAR / TAF
- CrossCountry-News
- PFD-Alarm
- Briefing-Howto
- Paragliding
- Ballooning
- Outdoor





Søk blant værvarsel i Norge og verden:

SØK

Skriv stedshavn, f.eks. [Stavanger](#), [Røst](#) eller [Beijing](#). [Avansert søk](#)



[Forsiden](#) [Sverige](#) [Skåne](#) [Ljungbyhed](#)

Detaljert værvarsel time for time for Ljungbyhed i Skåne (Sverige)

Sist oppdatert kl 19:09. **Ny oppdatering ca. kl 22:00**

[Legg til mine steder](#)

[Værvarsel som PDF](#)

[Oversikt](#)

Time for time

[Detaljert](#)

[Langtidsvarsler](#)

[Radar](#)

[Avansert kart](#)

[Været som var](#)

AKTUELLE STEDER

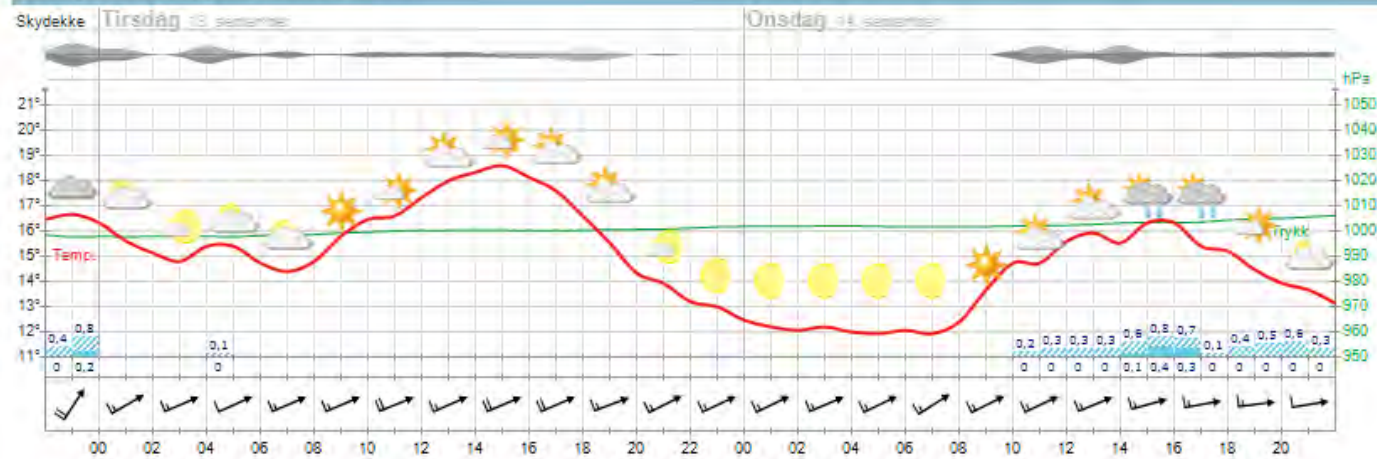
[Ljungbyhed](#)

[Ringebu](#)

[Falköping](#)

[Til hovedmeny i bunnen av sida](#)

Detaljert meteogram, neste 48 timer

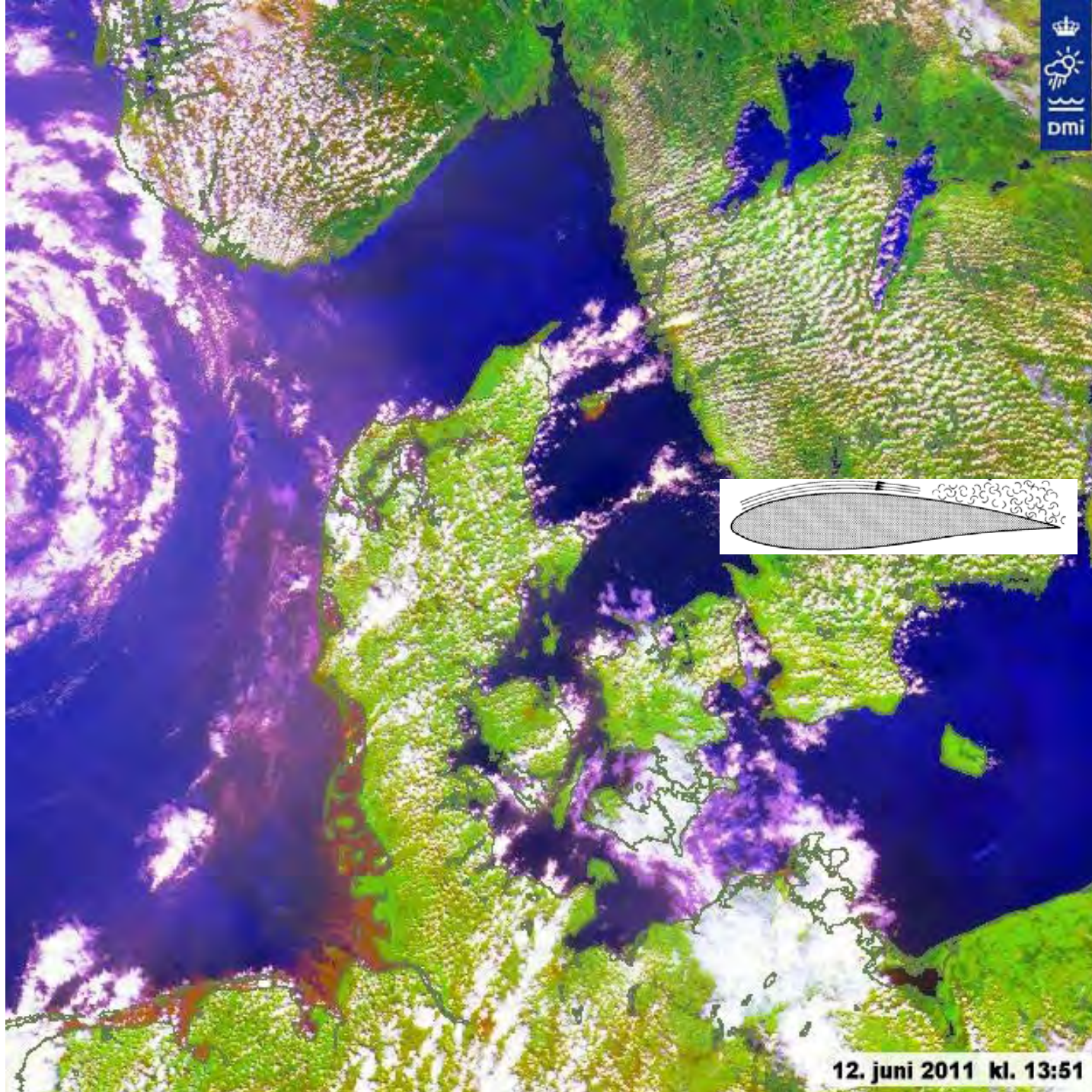


Detaljert varsel 12. september 2011

Tidsp.	Vær	Temp.	Nedbør	Vind	Trykk	Luft-fukt.	Dugg-punkt	Skydekke				
								Samlet	Tåke	Lave skyer	Mellomh. skyer	Høye skyer
kl 23		17°	0–0,4 mm	Frisk bris, 9 m/s fra sørvest	998 hPa	82 %	14°	100 %	0 %	86 %	100 %	0 %
kl 0		16°	0,2–0,8 mm	Frisk bris, 7 m/s fra vest-sørvest	998 hPa	84 %	14°	70 %	0 %	33 %	70 %	0 %

Detaljert varsel 13. september 2011

Tidsp.	Vær	Temp.	Nedbør	Vind	Trykk	Luft-fukt.	Dugg-punkt	Skydekke				
								Samlet	Tåke	Lave	Mellomh.	Høye



12. juni 2011 kl. 13:51

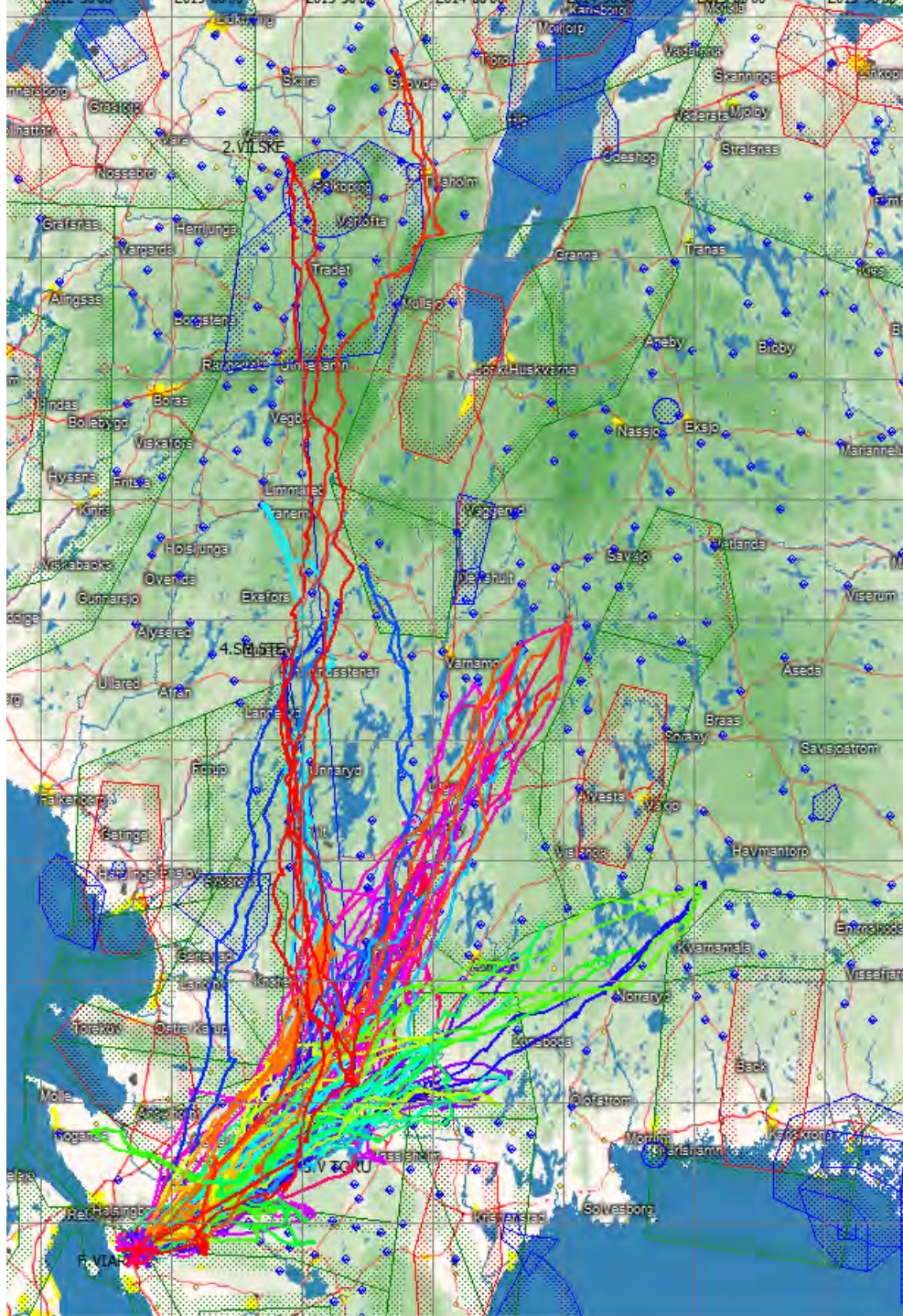
Min egen väderbriefing

- Yr.no – hur ser det ut i stort; sol eller regn
- Analys/prognoskarta
- Hirlam
- Topmeteo
- Rasp temp
- Satellitbild

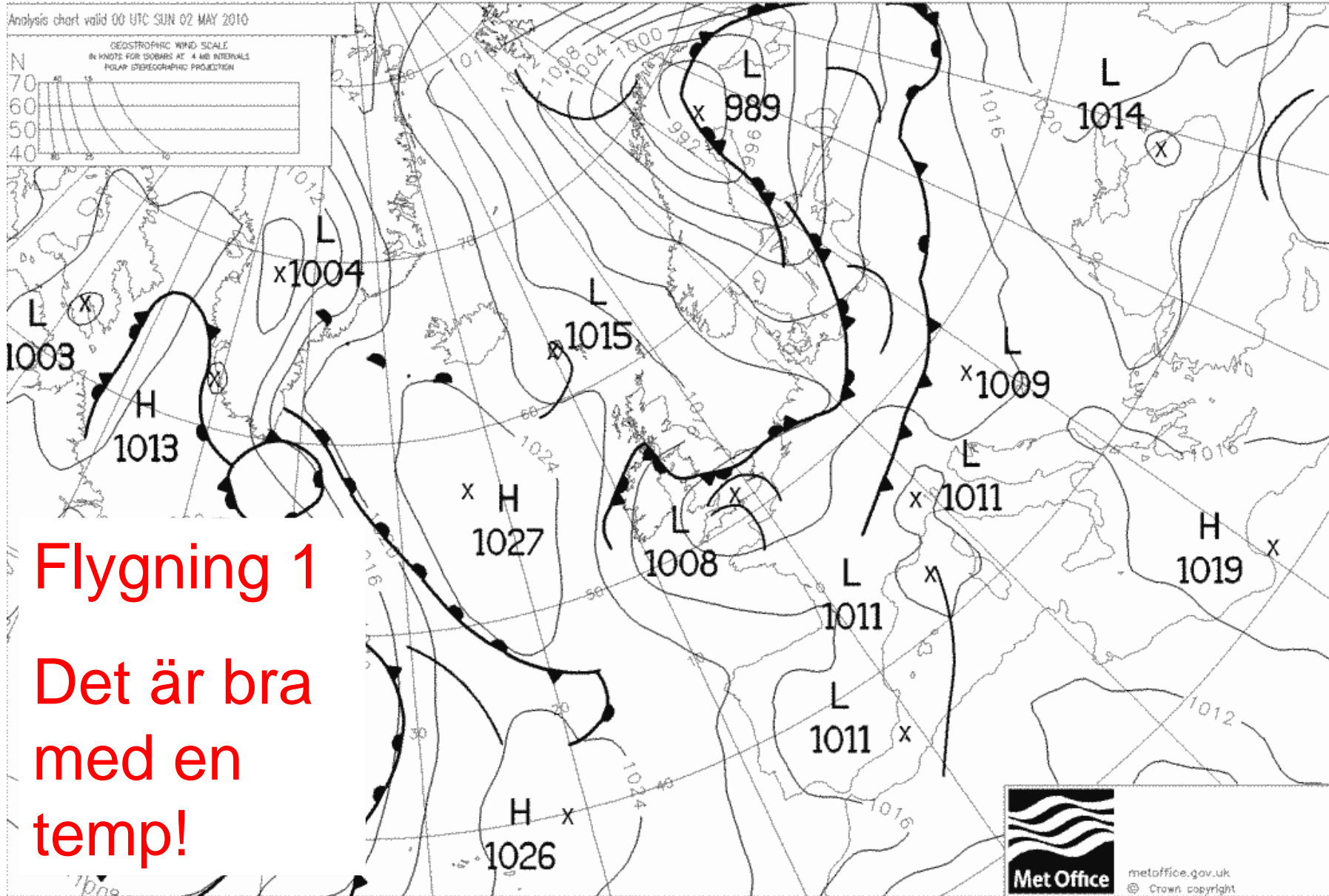




6 flygningar från Viarp
2 flygningar från Vågå

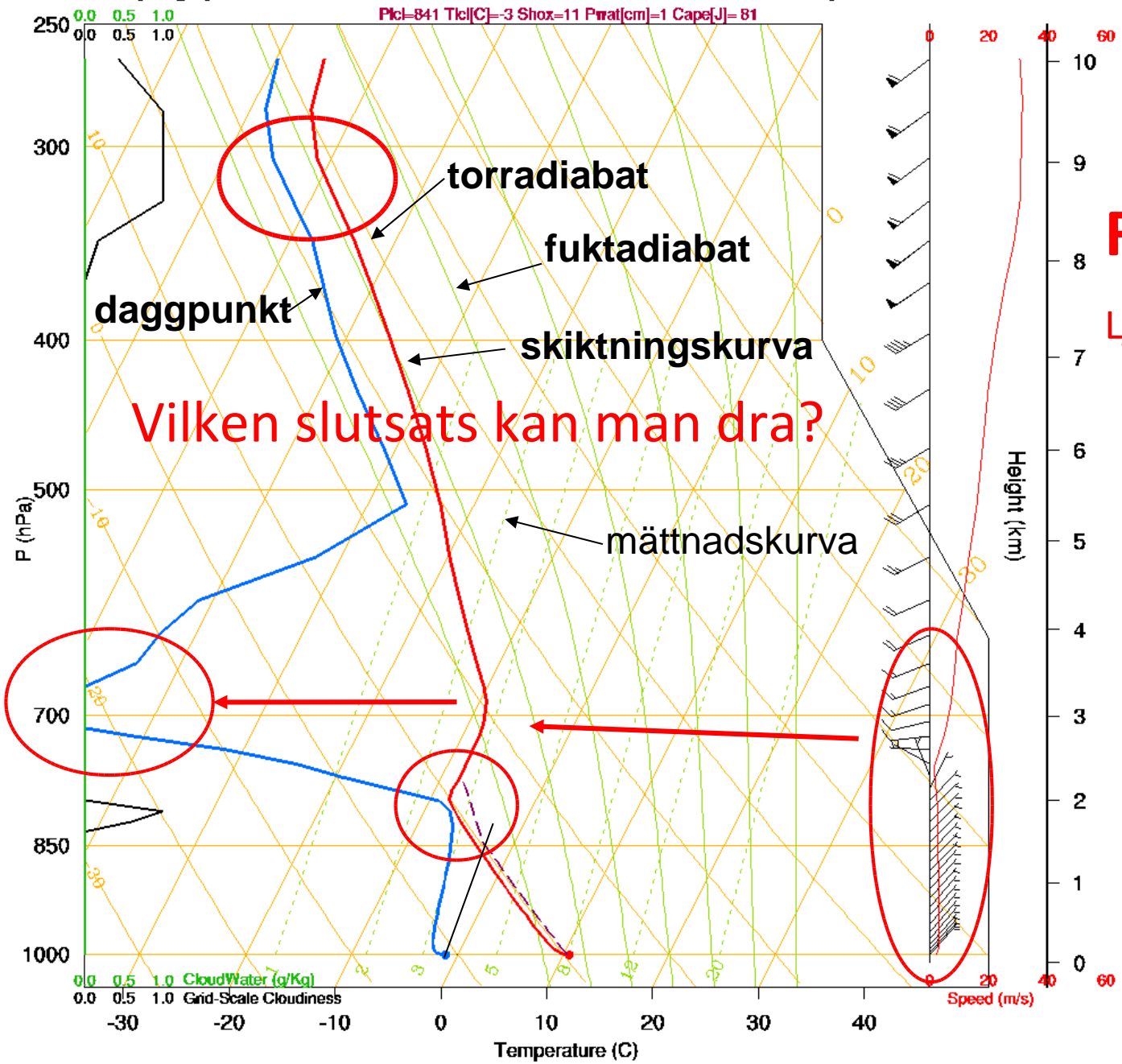


Exempel på
sträckflygningar
från Viarp
2002-2011



Flygning 1

**Det är bra
med en
temp!**



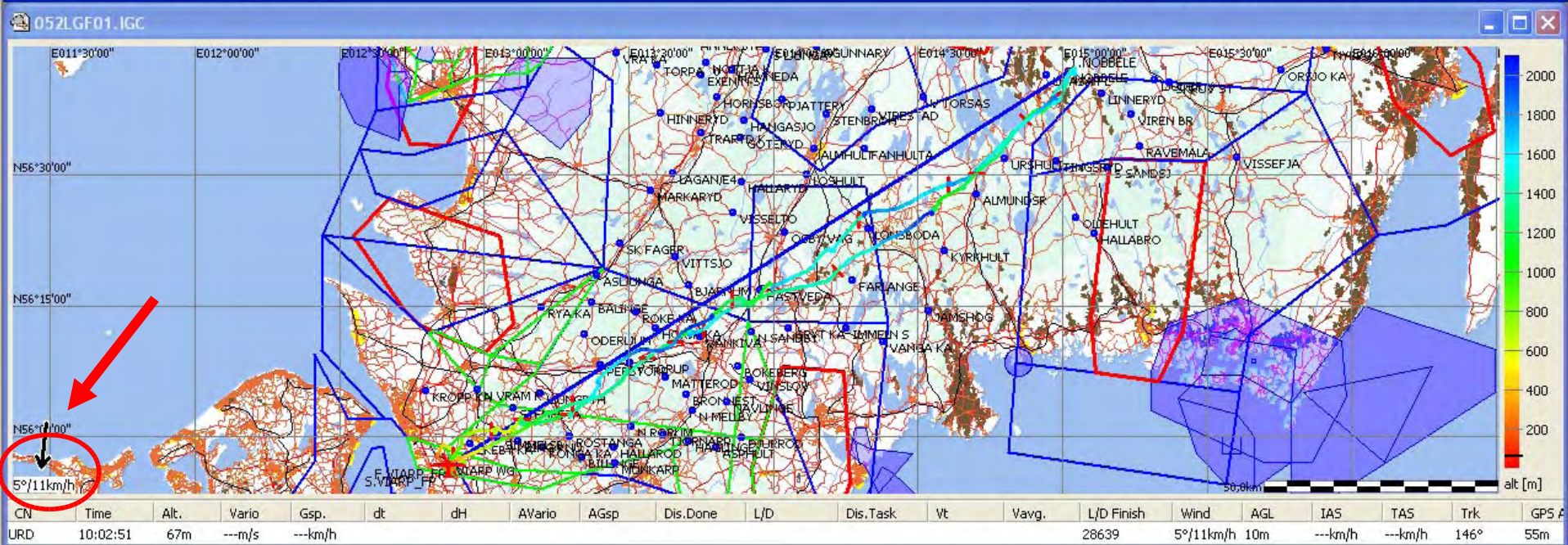
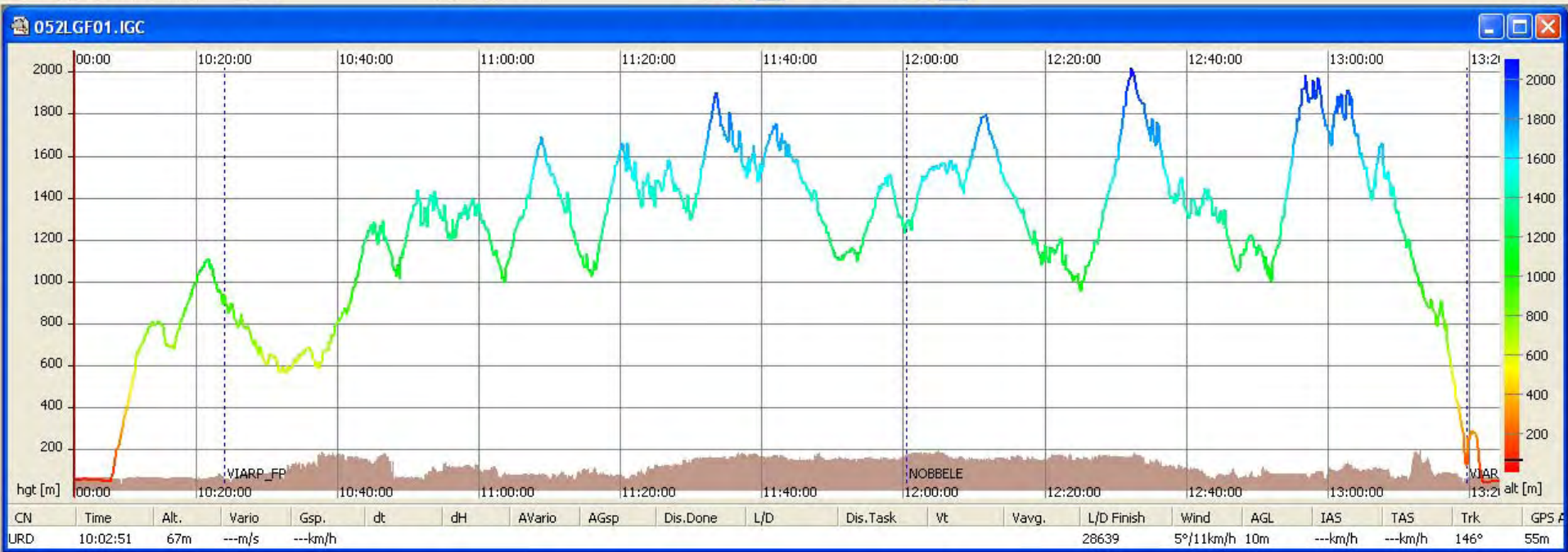
Vilken slutsats kan man dra?

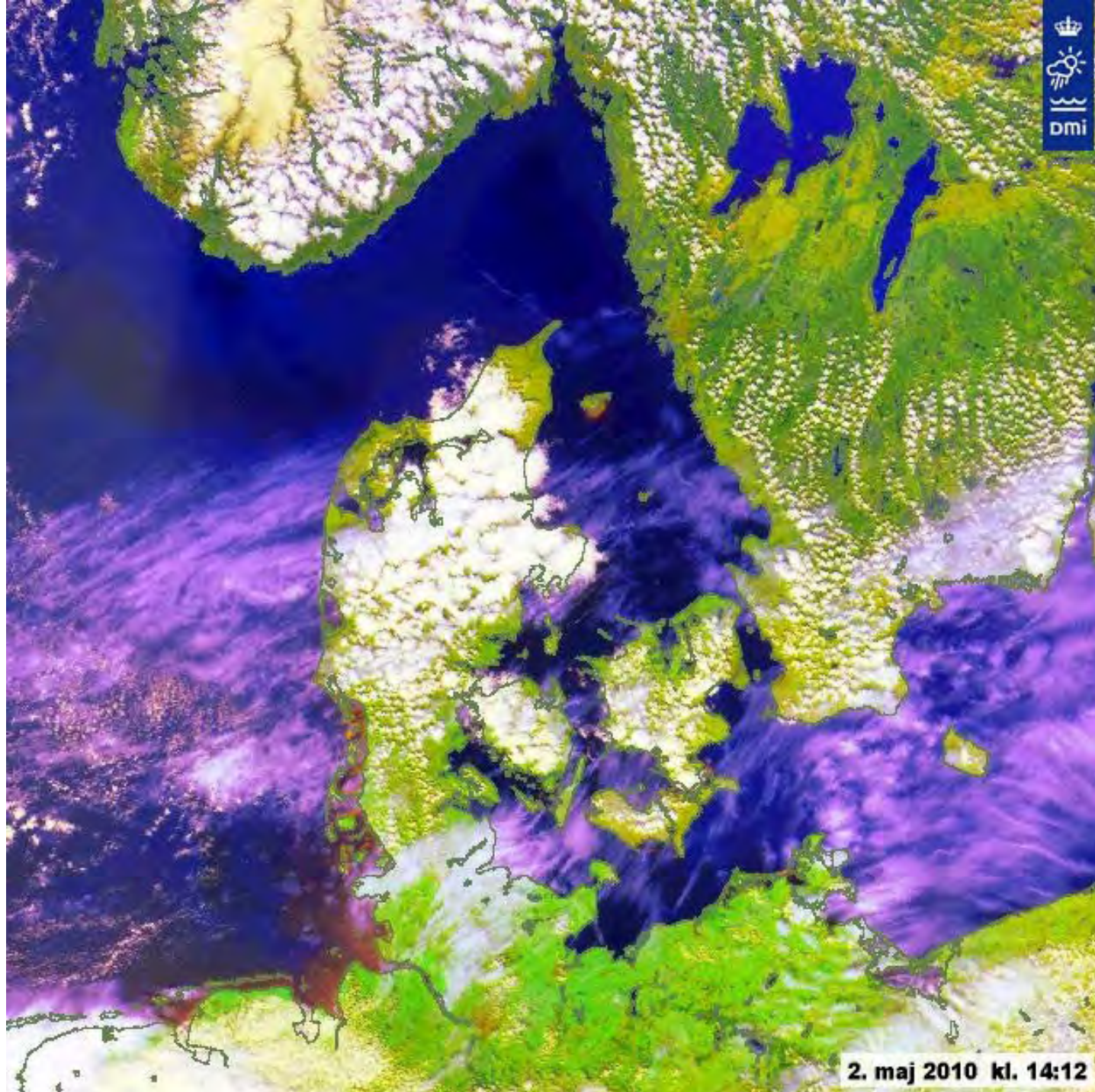
RASP

Ljungbyhed

Molnbas?

- 1. Marktemp längs TorrA
- 2. Markdagg längs MättnK
- 3. FuktA över skärn 1-2





2. maj 2010 kl. 14:12



Engine Monitor Section:

- SOL MDE
- 123.52 (Frequency)
- 130.70 (Frequency)
- COM (Communication)
- DECK (Deck)

LX 7007 PRO IGC Digital Display:

VRMP FP	TSK 00/200
CRG 241°	DIS 64.8
TRK 172°	TRG +3.8
	-391m

Buttons: START/ESC, ENTER, MC, BAL, EVENT

Altitude (ft)	Imp. Gal.	Useable Fuel (Litrs)
10000	100	61
22000	150	61
30000	120	61
33000	120	61
35000	120	61

navTiger Tablet Display:

Malmö e

Horiz. dist. 2000m, Vert. dist. Below 200m

221°/06 km, Cur. L/D -23

Trk	Br	To	Dist
168°	240°	51°	64.8

RPM and BAT Section:

- RPM (Revolutions Per Minute)
- BAT (Battery Voltage)
- RPM(V) LIT(H)



Hennigsche formel



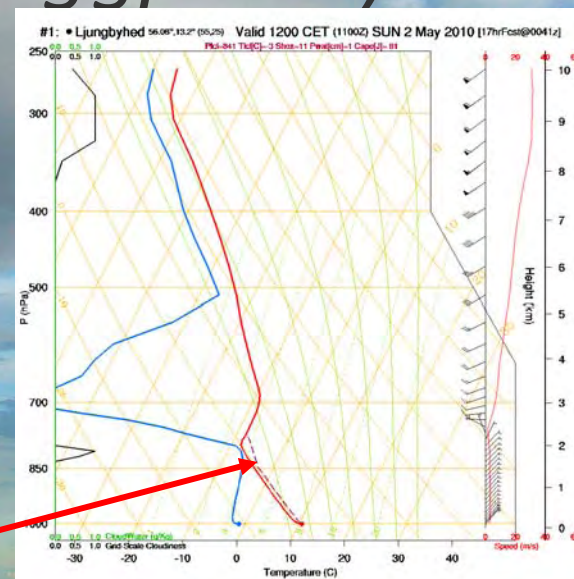
- Molnbas = $(\text{max temp} - \text{daggpunkt}) * 125$

- Från förra bilden
Max temp +12 C

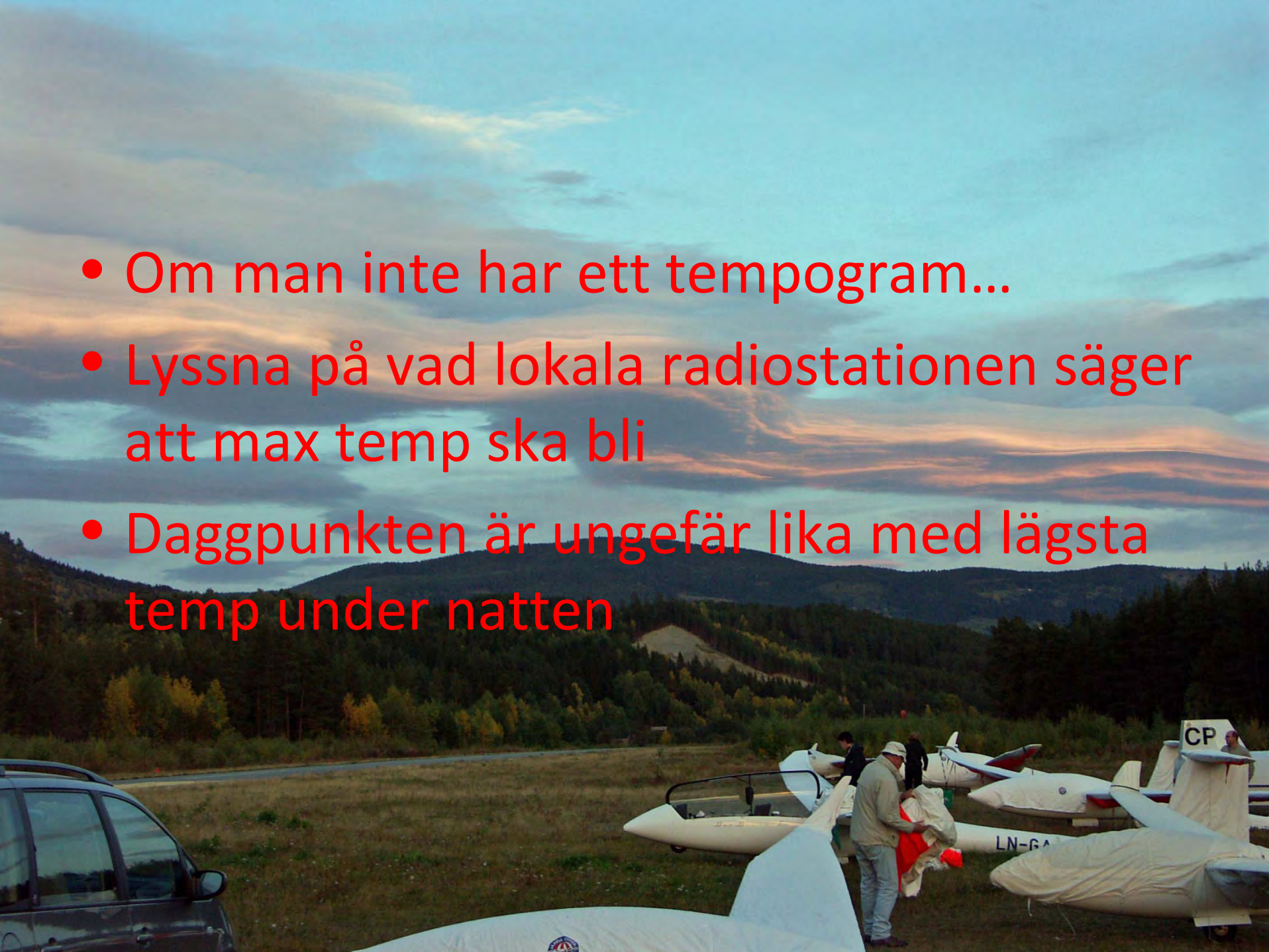
- Daggpunkt -2 C

- $(12 - (-2)) * 125 = 1750 \text{ m}$

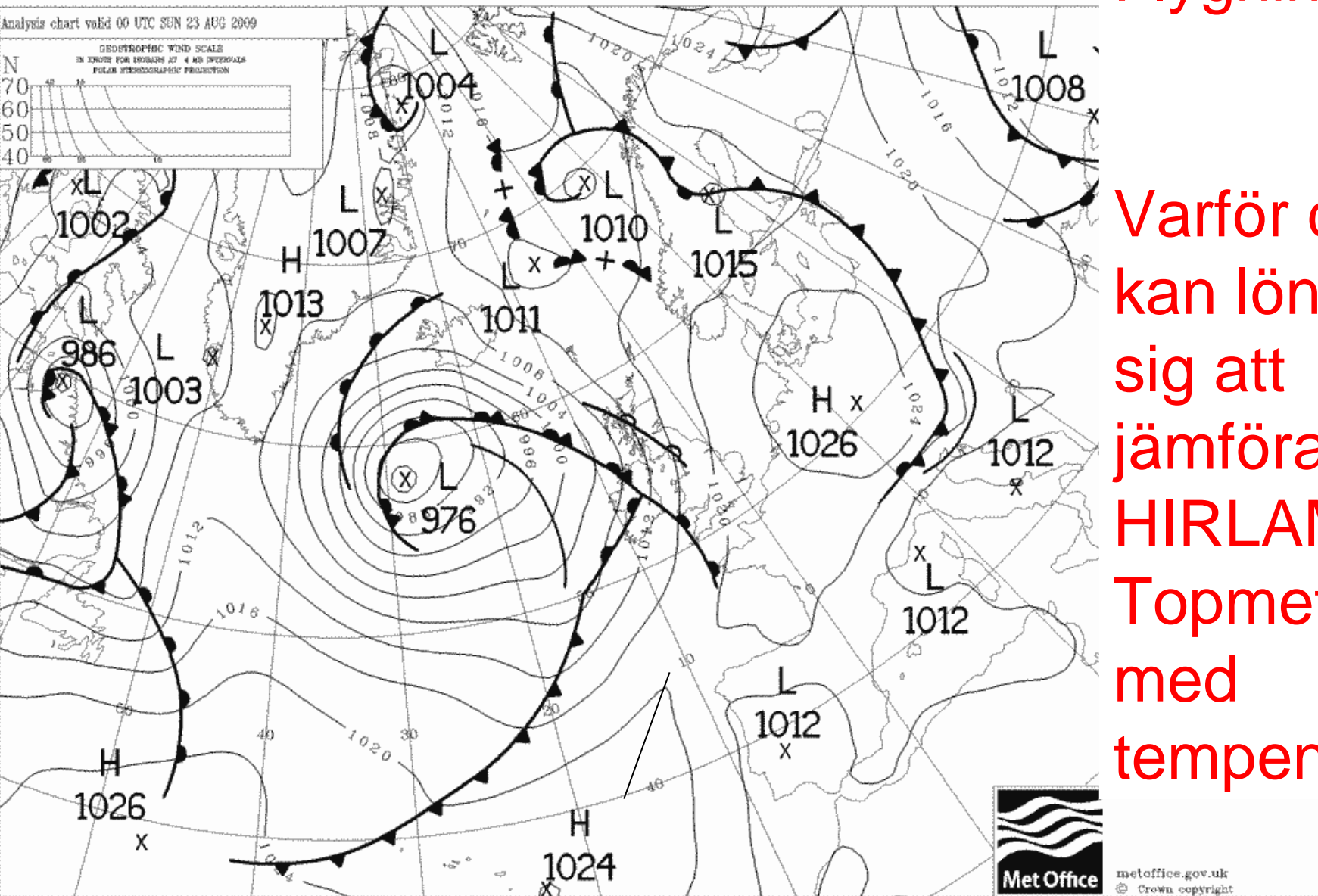
- Gäller om platta cumulus



- Om man inte har ett tempogram...
- Lyssna på vad lokala radiostationen säger att max temp ska bli
- Daggpunkten är ungefär lika med lägsta temp under natten

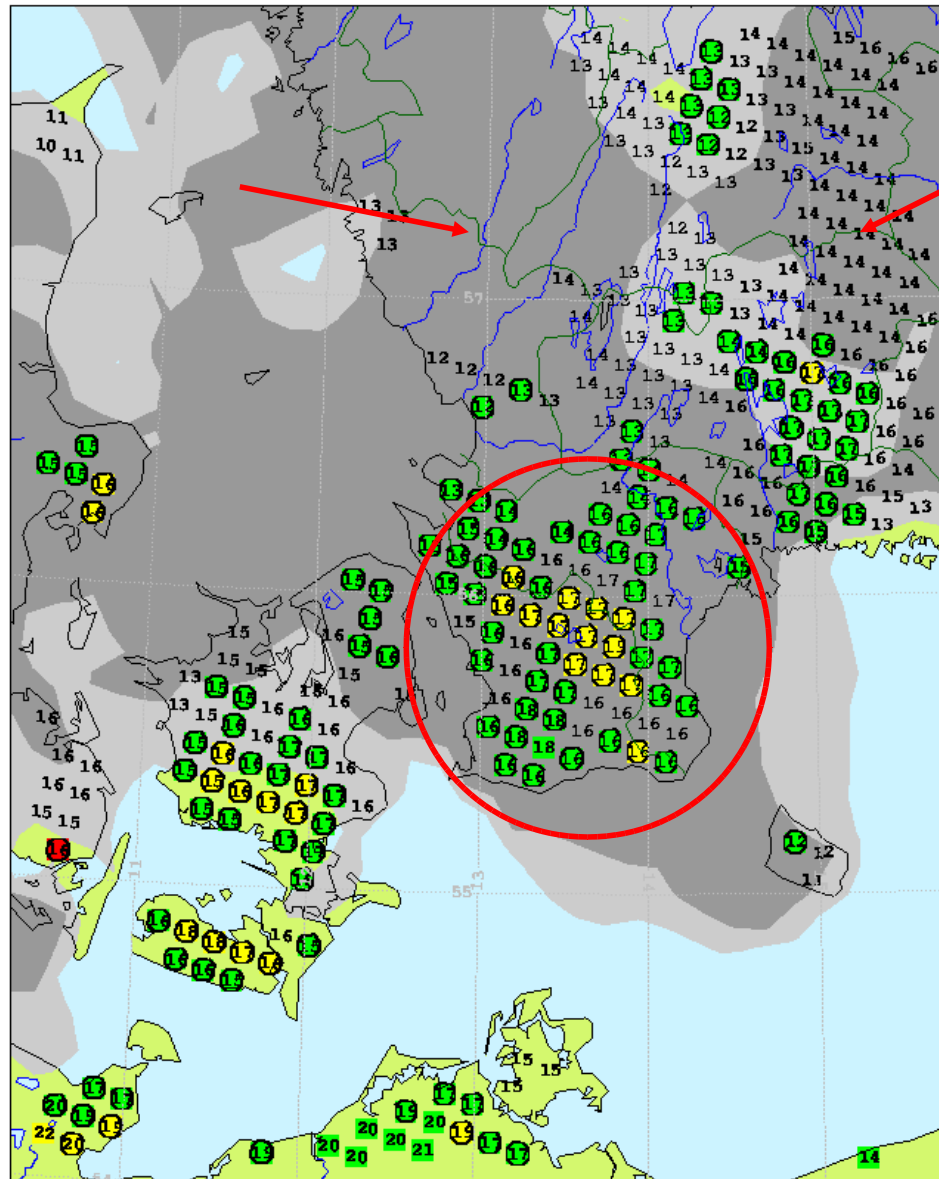


Flygning 2



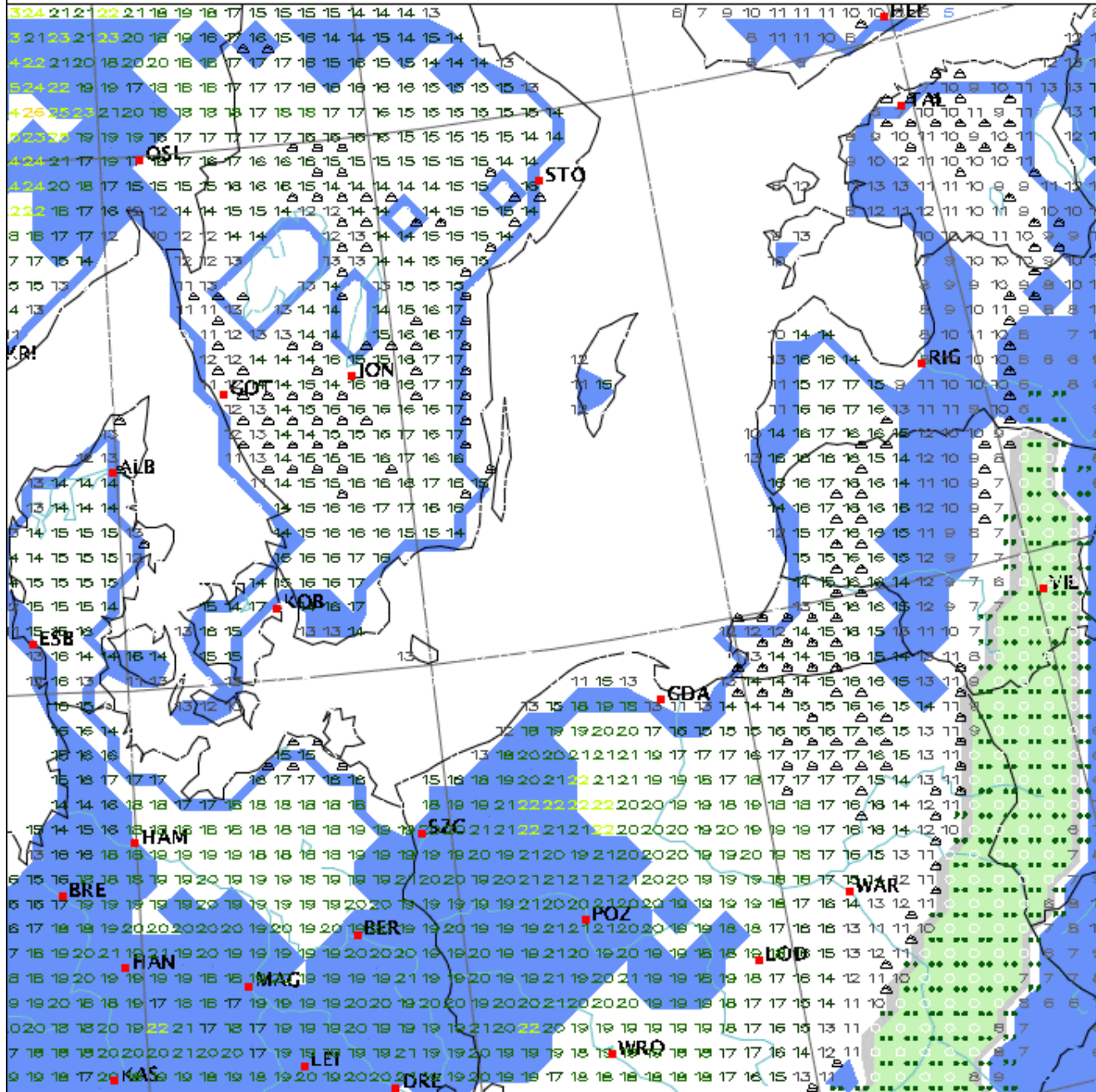
Varför det kan löna sig att jämföra HIRLAM & Topmeteo med tempen

Forecast SUNDAY 23 AUG 2009 00Z +12
valid: SUNDAY 23 AUG 2009 12Z



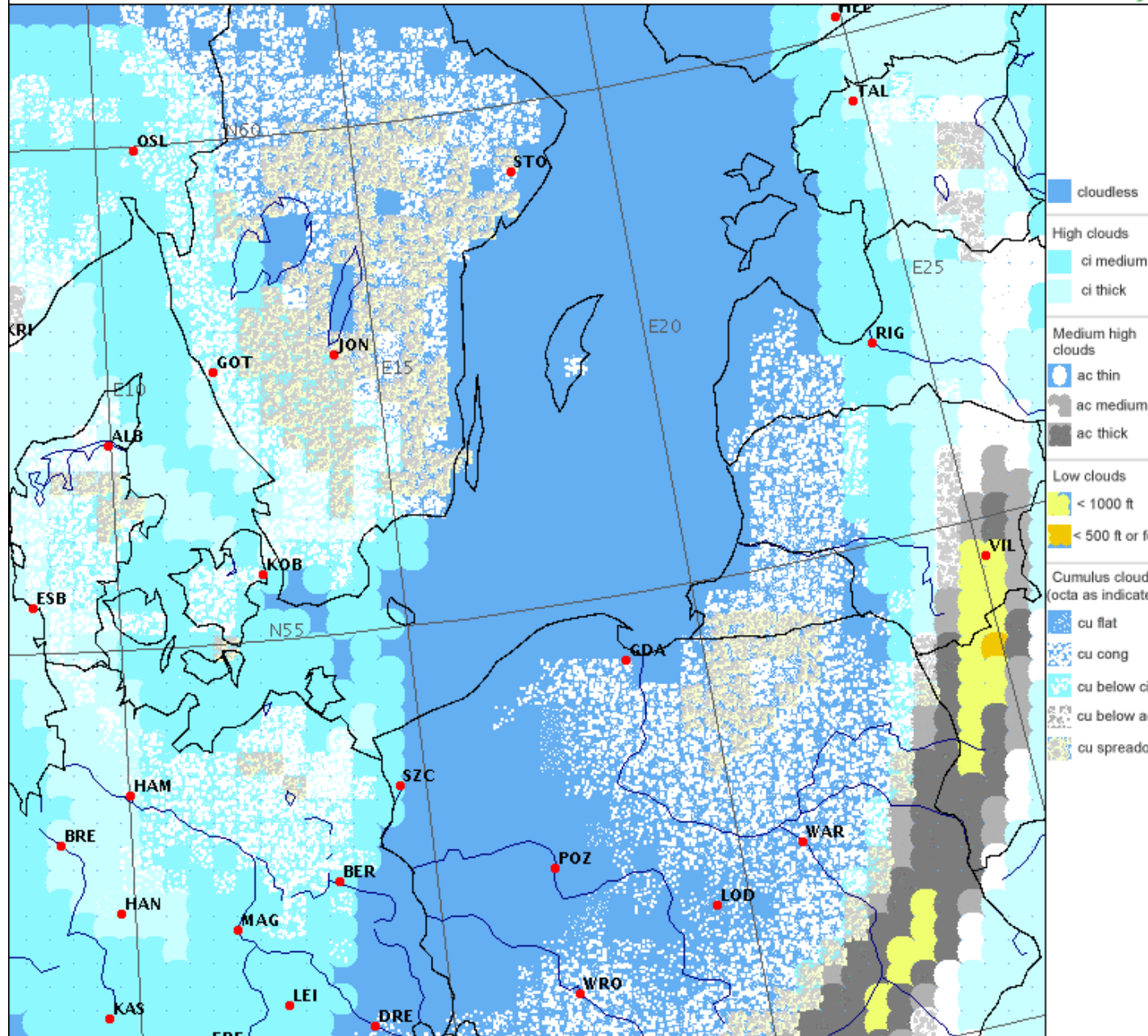
Färgen
på
cirklarna
är inte så
viktig!

Total cloudcover (grey-shading) and precipitation (symbols)
Top of thermals (dry thermals or Cu-base) in hundreds of meters
Mean rate of climb (colorcoded)
1-2 m/s 2-3 m/s >3 m/s



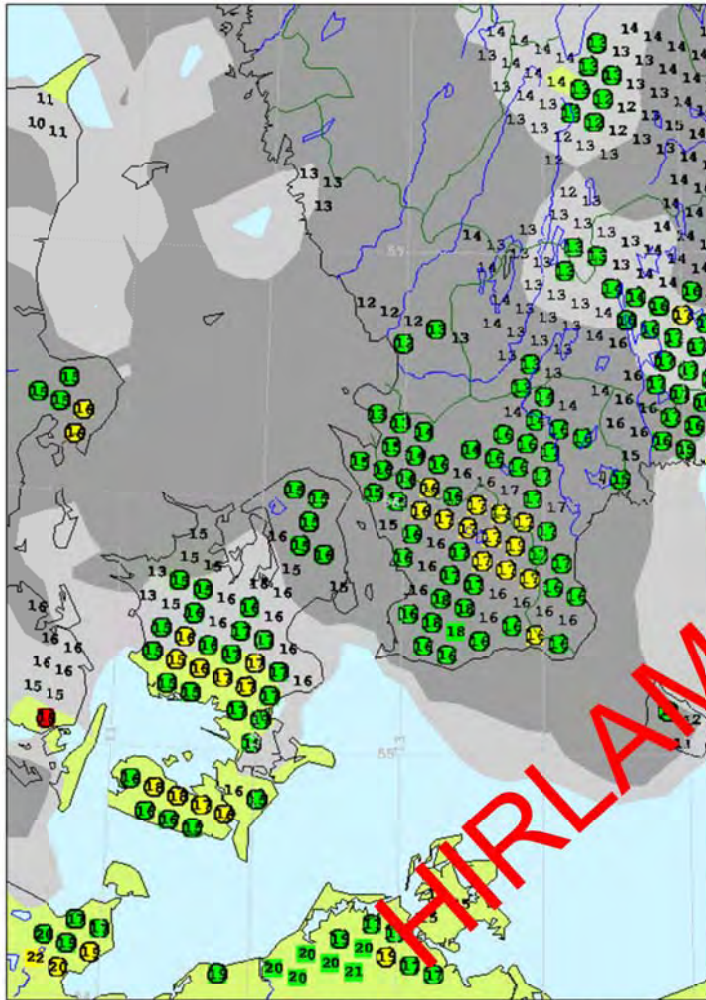
- Colorized digits
 16 17 or 30 32
 20 22 or 32 30
 show height of
 dry thermals or
 Cu cloud base
 in hekto Meters
 MSL
 (30 = 3.000 m)
- Background color
 blue dry thermals
 grey cu clouds
 light green low radiation
 green rain
 dark green downpour
- Signific. weather
 △ Cu Cong
 ☼ CB
 ▽ SH-
 ▽ SH
 ▽ SH+
 ⚡ TS-
 ⚡ TS
 ⚡ TS+
 ⚡ DZ
 ● RA-
 ● RA
 ● RA+
 ⚡ SNRA
 ⚡ SHSNRA
 ⚡ SN
 ⚡ SHSN
 ⚡ FZRA
 ⚡ FZRA+

NOT for air navigation purposes



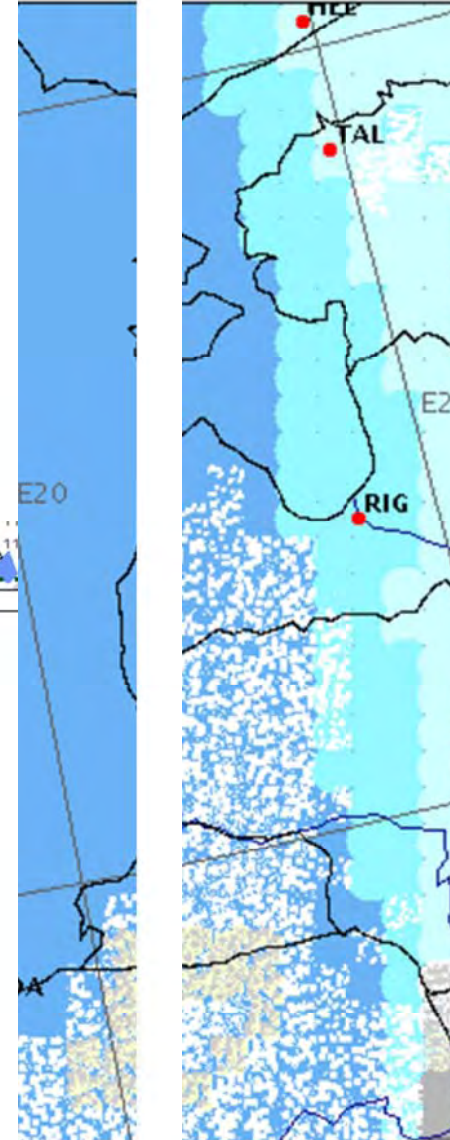
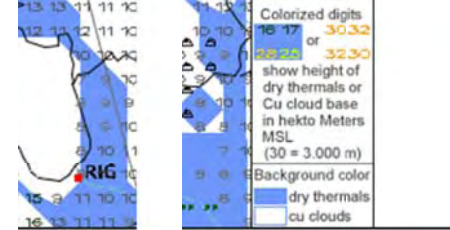
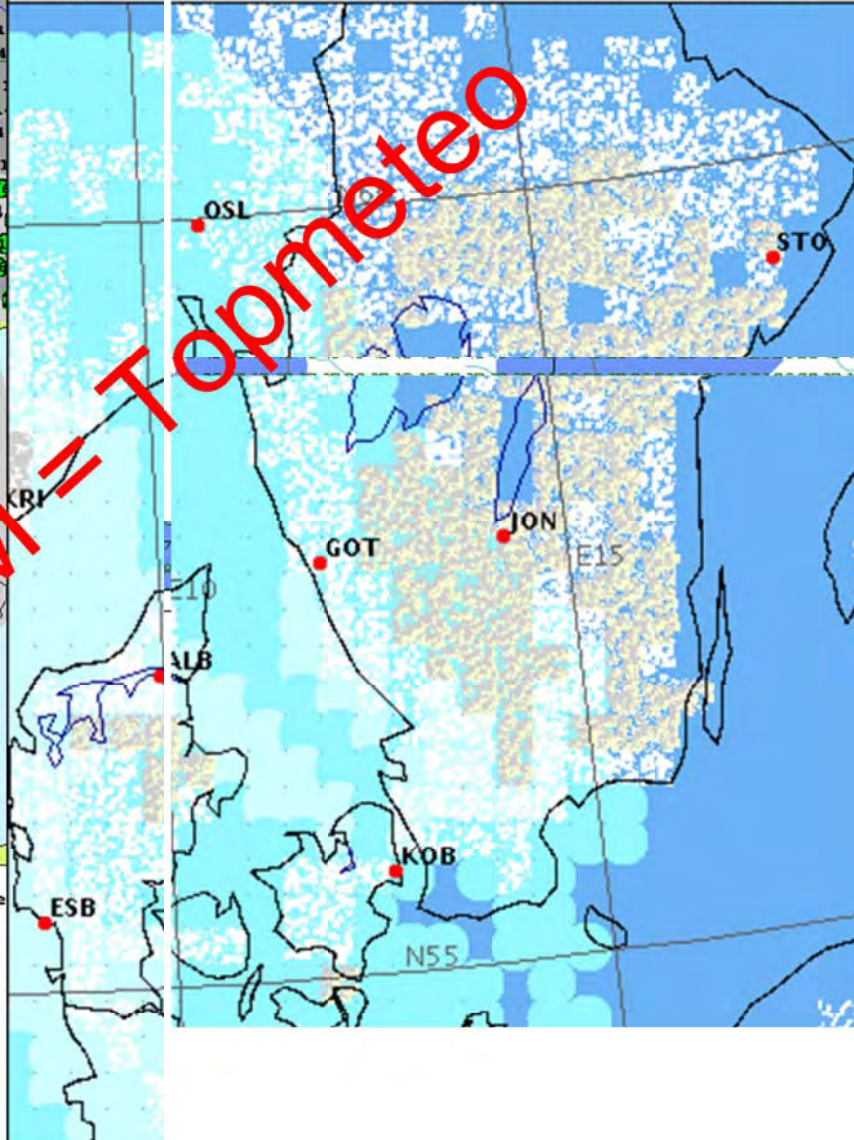
NOT for air navigation purposes

Forecast SUNDAY 23 AUG 2009 00Z +12
 valid: SUNDAY 23 AUG 2009 12Z



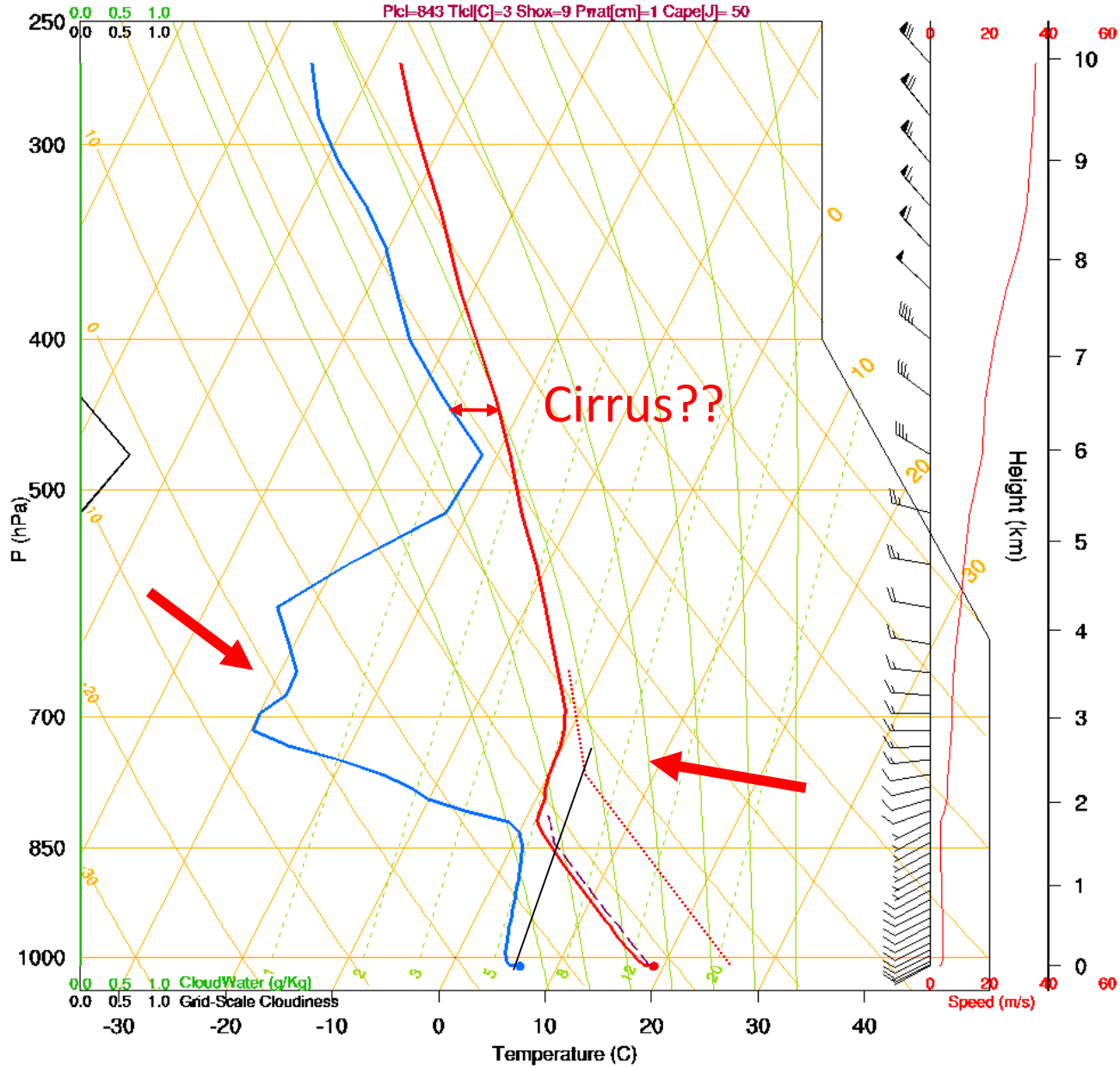
Total cloudcover (grey-shading) and precipitation (symbols)
 Top of thermals (dry thermals or Cu-base) in hundreds of meters
 Mean rate of climb (colorcoded)
 1-2 m/s 2-3 m/s >3 m/s

Cloud distribution ©2001-2009 Wetter-Jetzt
 valid: Sun 23-08-2009 12 UTC run: 23-08-2009 12 UT



HIRLAM-ZTOPMETEO

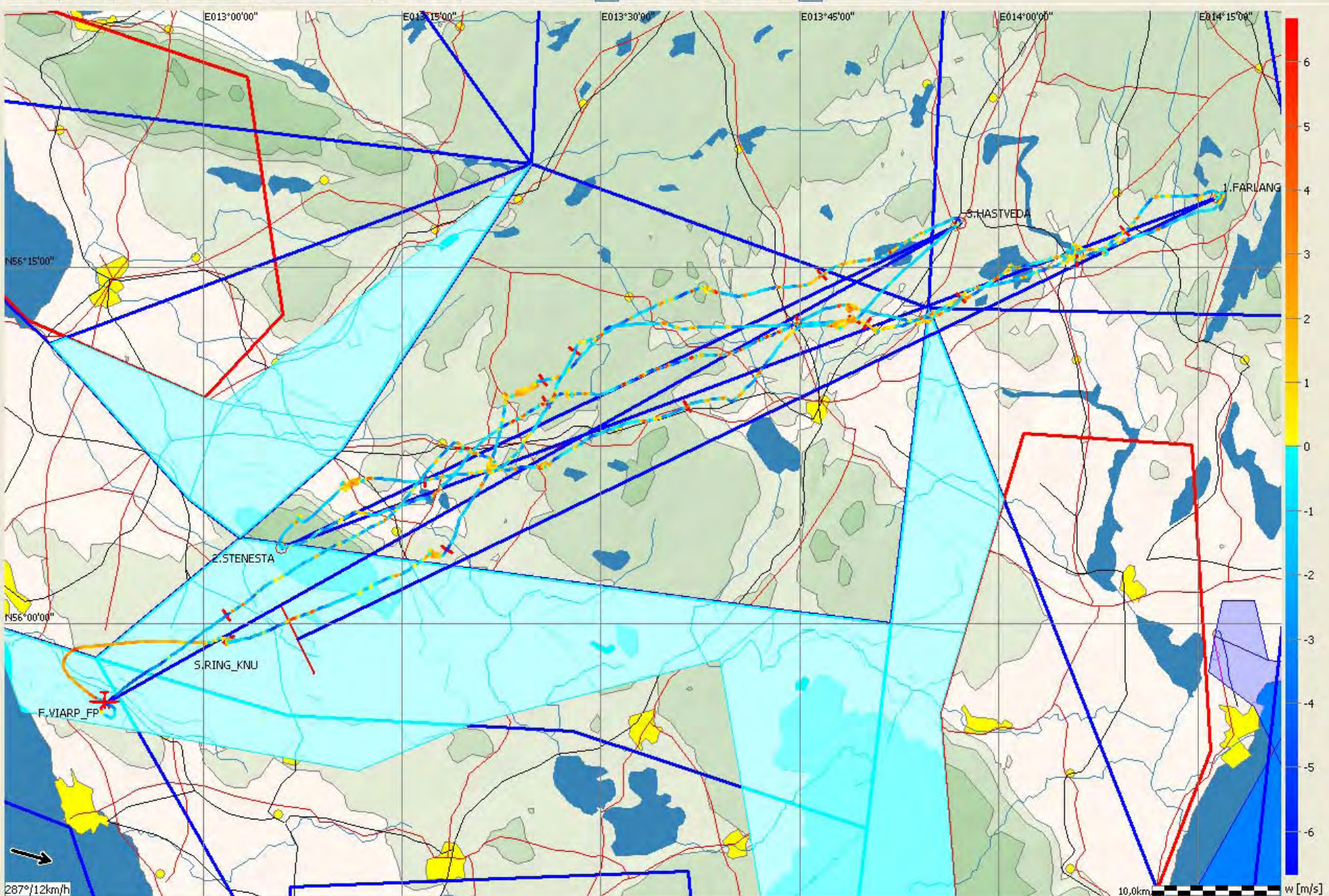
#1: LJUNGBYHED 56.08°,13.2° (64,25) Valid 1300 CET (1200Z) SUN 23 Aug 2009 [18hrFcst@0012z]



Vi tror på HIRLAM & Topmeteo,
men tempen visar att det inte blir
upptornande Cu och utflakningar

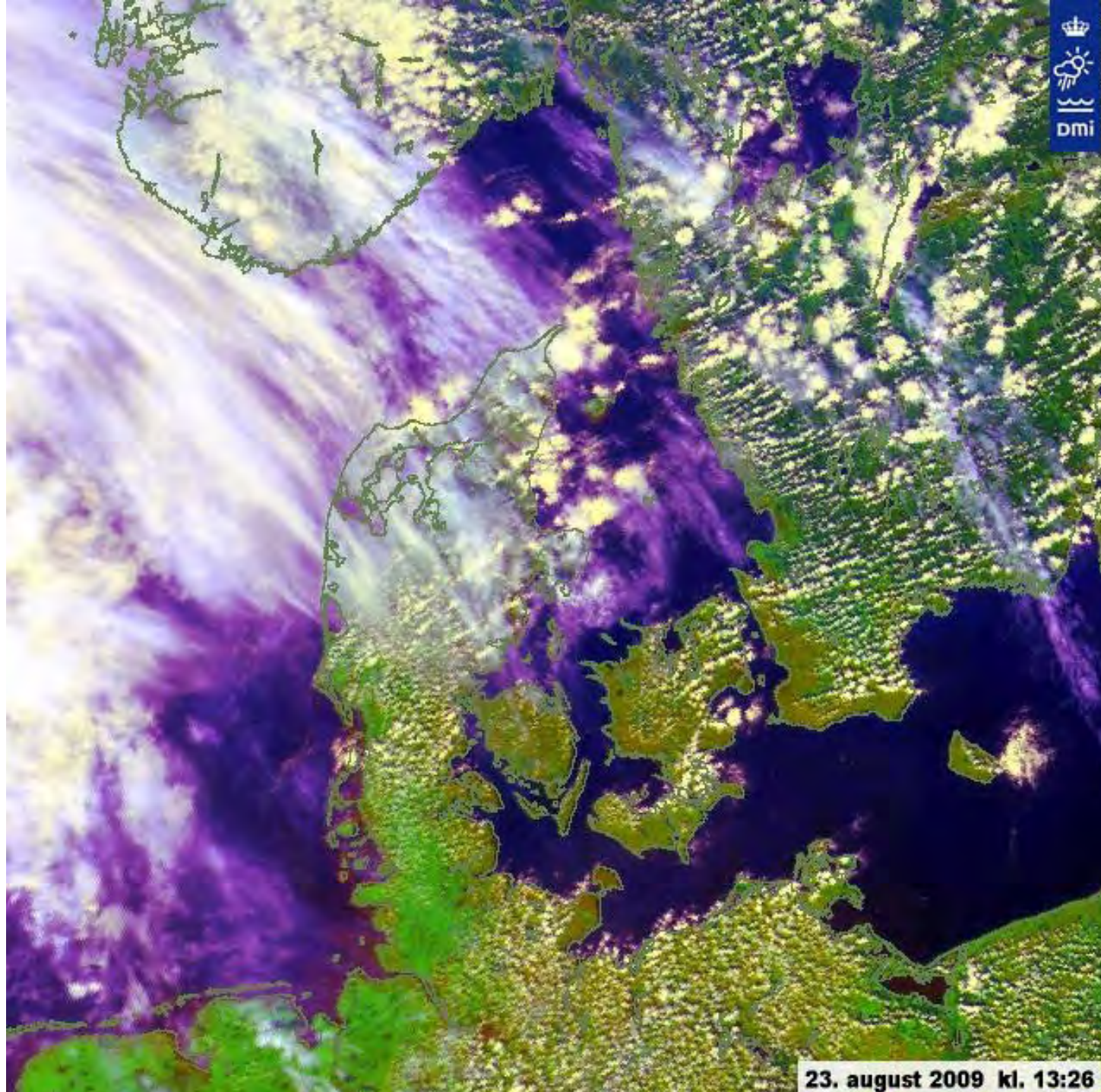


... alltså kör!



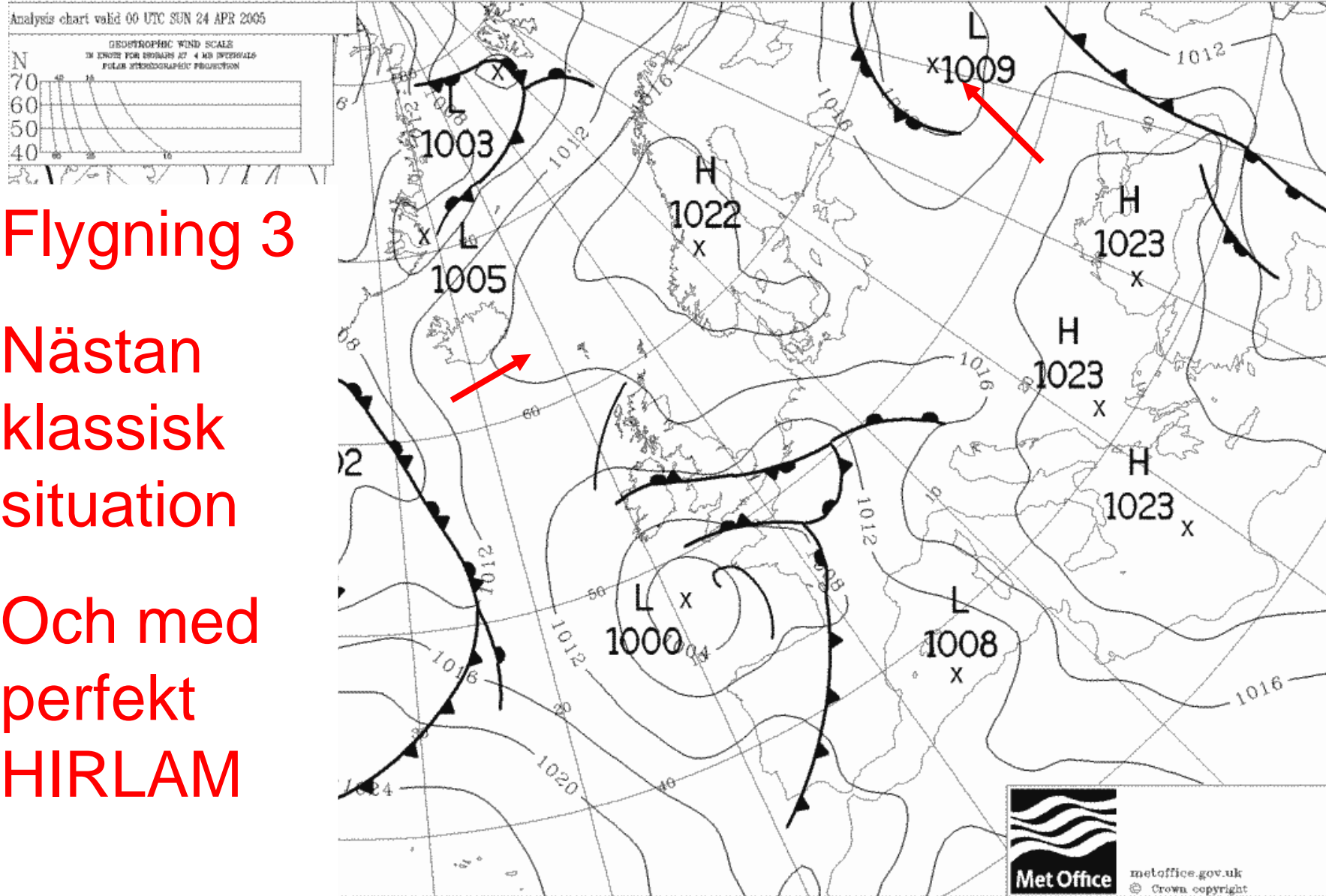
CN	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.
RD	10:55:12	-39m	---m/s	---km/h										-3081	287°/12km/-96m		---km/h	---km/h	180°	53m

w | a | v | p | Q | N56°25'45" E013°59'54" 92m D=88.1km F=-388





CN	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.
RD	10:55:12	-39m	--m/s	--km/h										-3081	287°/12km/-96m		--km/h	--km/h	180°	53m

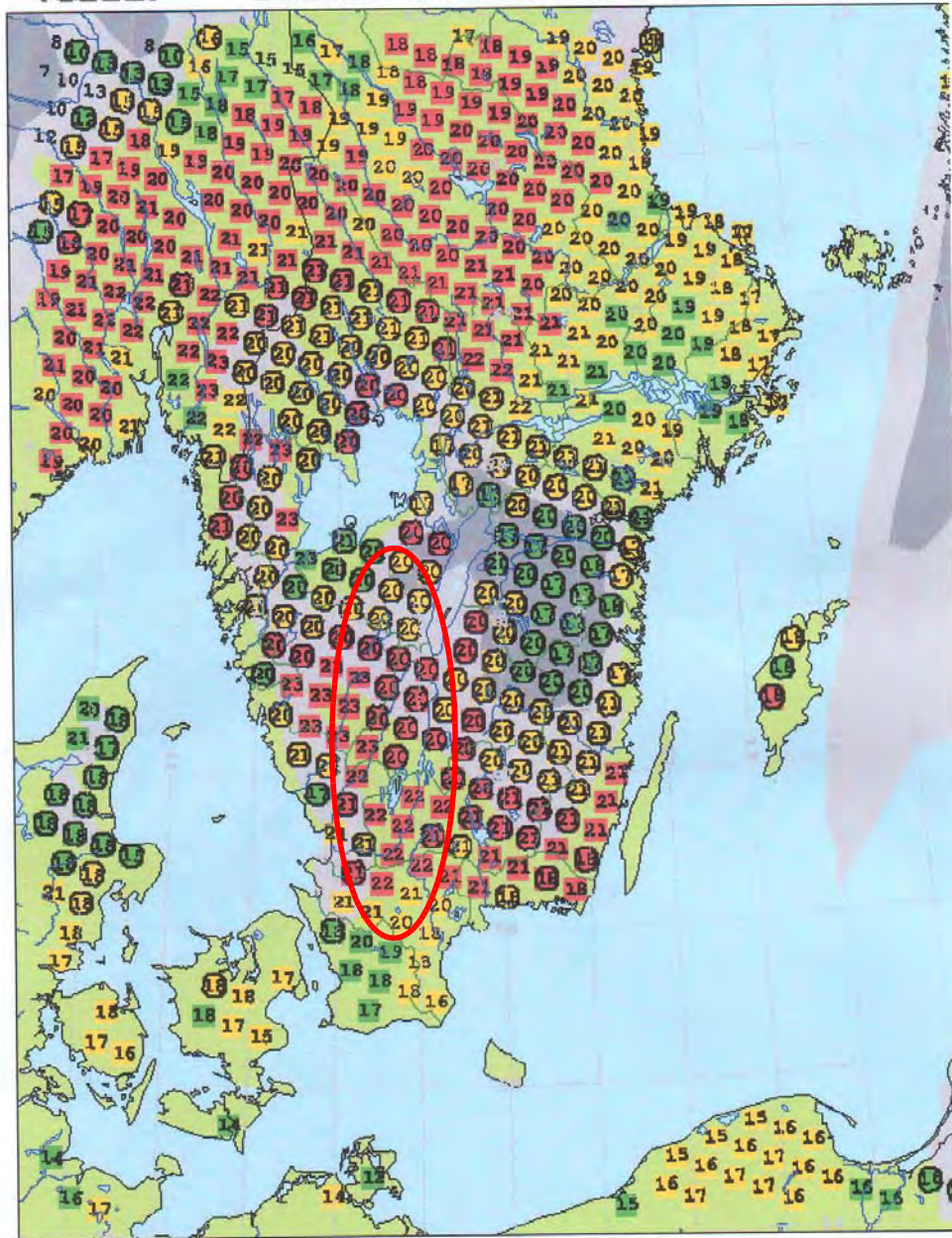


Flygning 3

Nästan
klassisk
situation

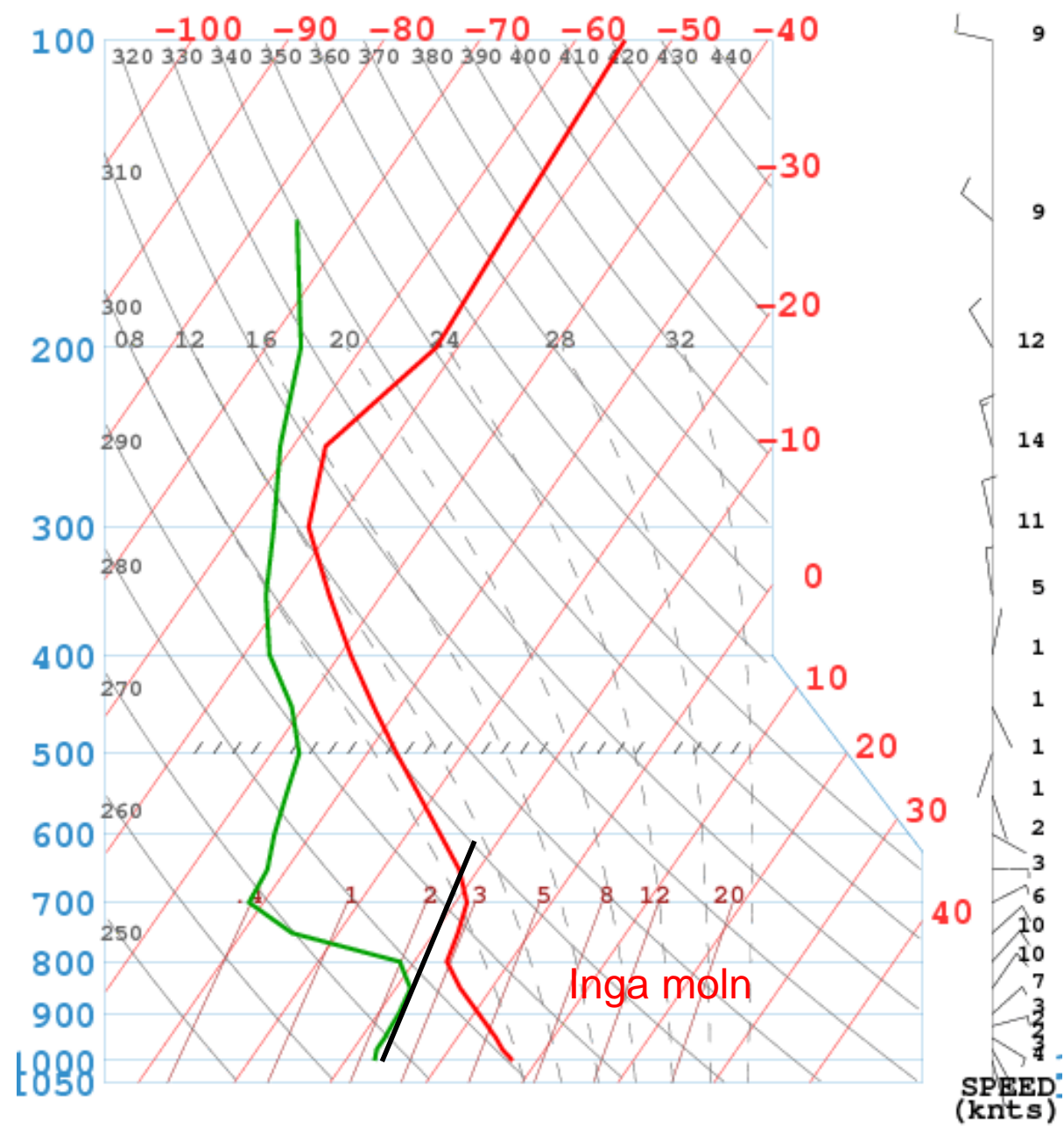
Och med
perfekt
HIRLAM

Forecast SUNDAY 24 APR 2005 00Z +12
 valid: SUNDAY 24 APR 2005 12Z



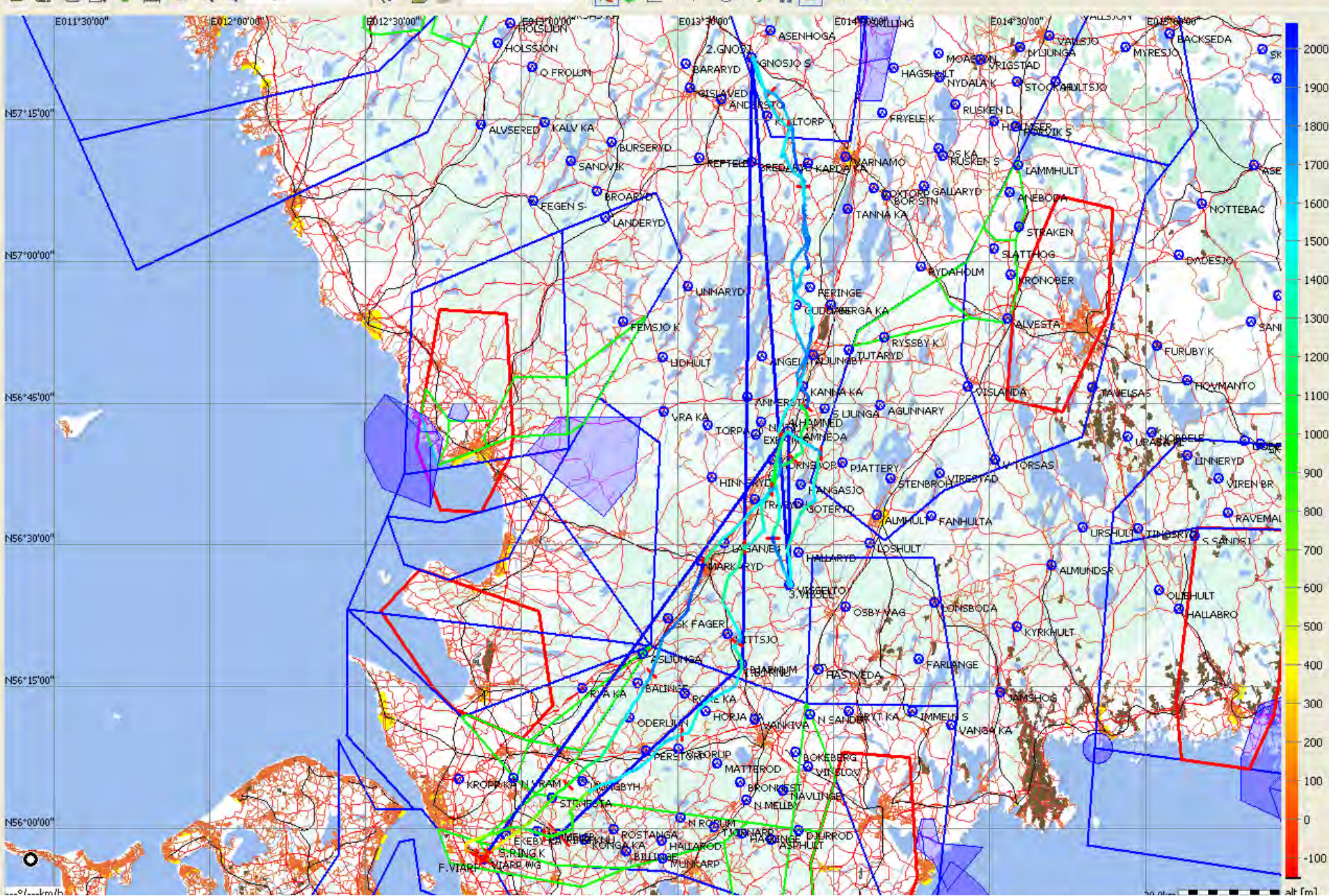
Total cloudcover (grey-shading) and precipitation (symbols)
 Top of thermals (dry thermals or Cu-base) in hundreds of meters
 Mean rate of climb (colorcoded)

1-2 m/s 2-3 m/s >3 m/s



56.15 13.88 04/24/2005 12Z + 0hr

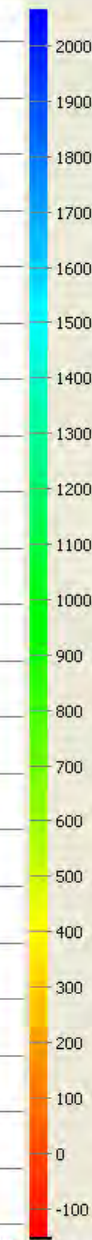
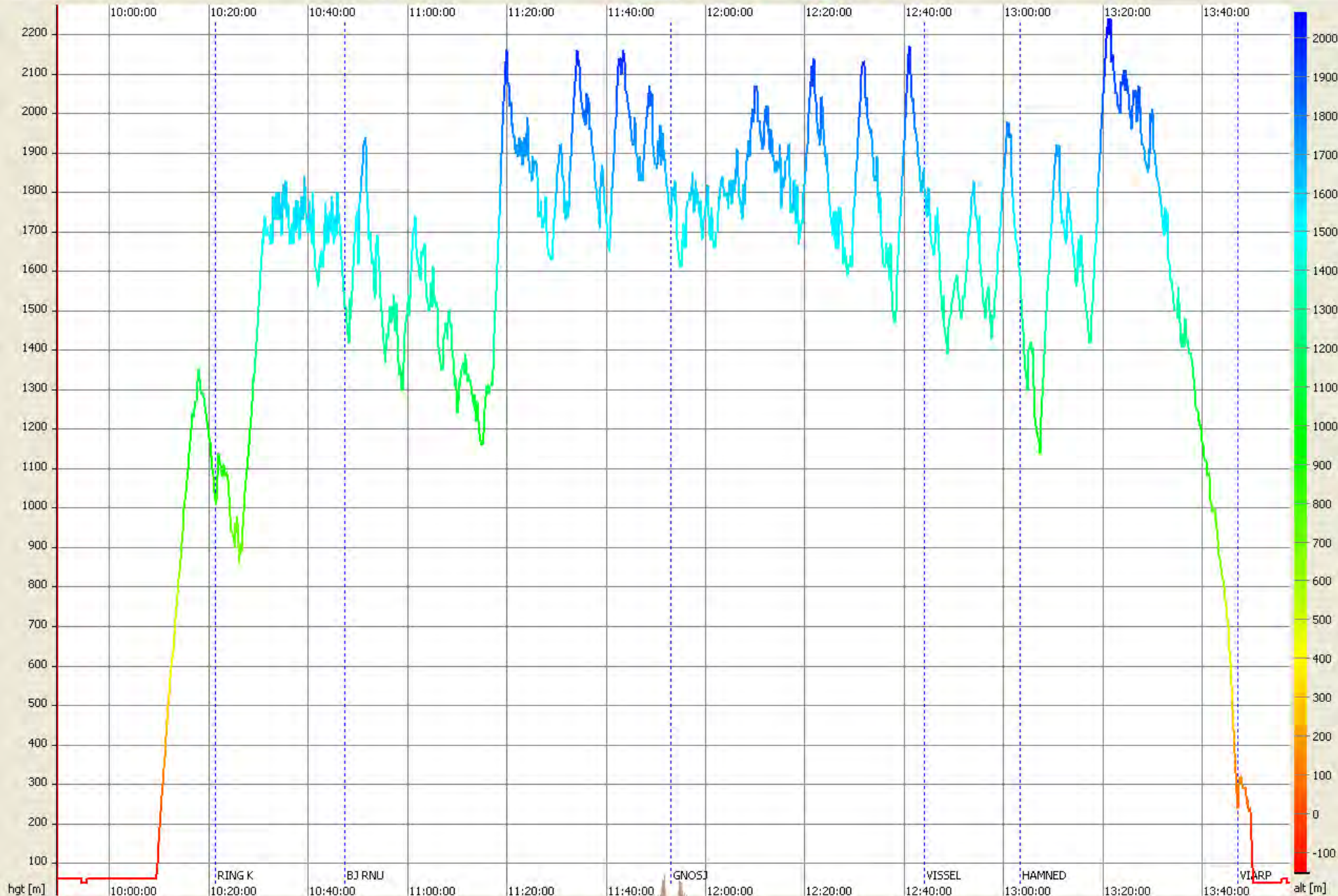
Hennigsche:
 $8 - (-8) * 125 =$
2000 m





24. april 2005 kl. 14:30





Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.
------	------	-------	------	----	----	--------	------	----------	-----	----------	----	-------	------------	------	-----	-----	-----	-----	----------



GNOSJE 69km351°
9 TP 111km127°

- 1 Förarvikt
- 2 Sittposition
- 3 Fastbindningsremmar
- 4 Roderkontroll
- 5 Bromskontroll
- 6 Klaffkontroll
- 7 Trimkontroll
- 8 Höjdmätare
- 9 Radio
- 10 Styrtvå av
- 11 Huv tåst
- 12 LINBROTT

START ESC ENTER 300V
BRG 351° DIR 69.1%
TRK 156° M 304° 00%
6.1 -8032m
2.6 1.2 1943m

COMPAQ
IPAQ Pocket PC
K.12: To: Gnosjö Str
103
Dis: 69.1 351° 159° Gnosjö Str
F: 90
Menu
Brodit

BATTERY MAIN STBY
RADIO VARIO G
ON OFF

123.52 MHz
CGM



1. Försvikt
2. Giltposition
3. Färdändringsremmar
4. Rödskontroll
5. Bromskontroll
6. Klaffkontroll
7. Träskkontroll
8. Höjdmätare
9. Radio
10. Stjärnjul av
11. Huv klät
12. LINSDOTT

GNOSJE 16km331°
9 TP 169kmh357°



START ESC ENTER 3000





1. Forward
2. Sideposition
3. Fuel/Dringenermar
4. Radiocontrol
5. Fuelcontrol
6. Fuelcontrol
7. Transcontrol
8. Fuelcontrol
9. Radio
10. Signal on
11. No fuel
12. LINDICOTT

BATTERY MAIN RADIO VARIO G
STBY

MAIN ON
OFF

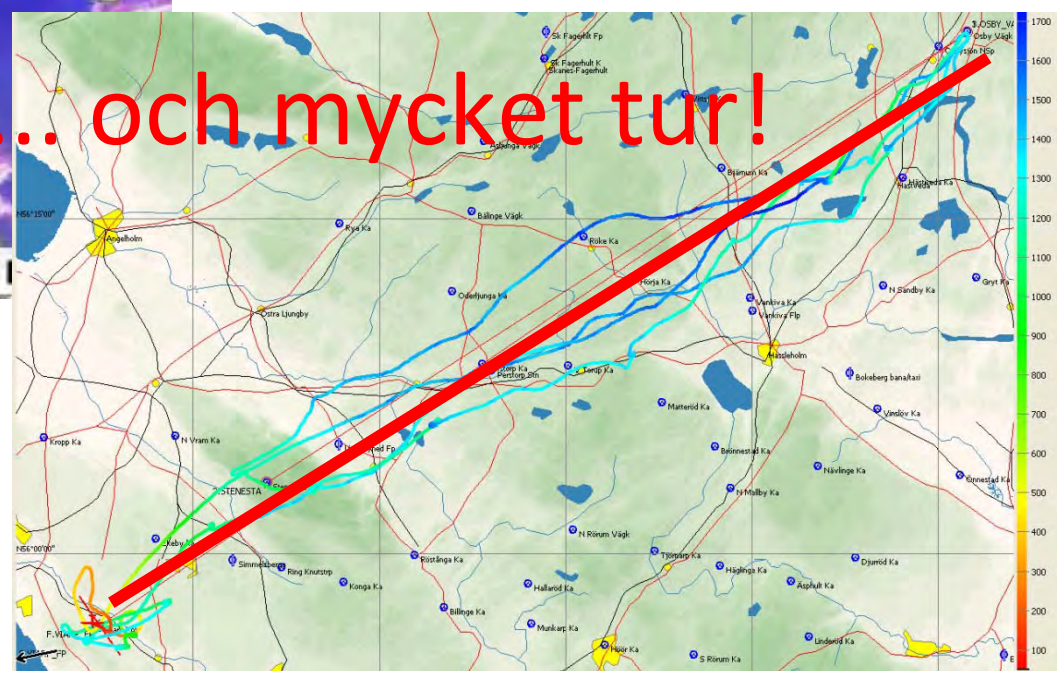
Brodit





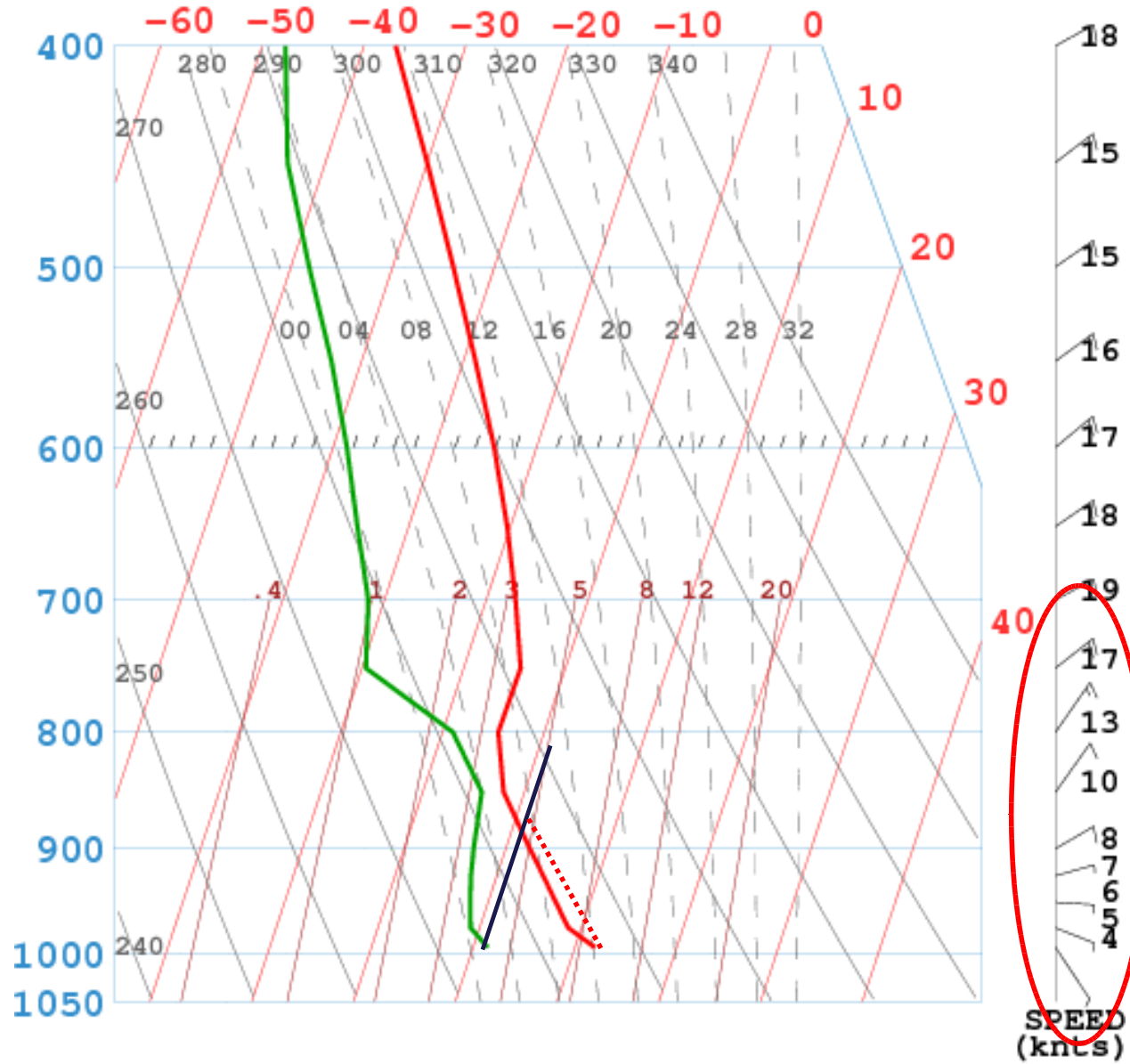
Skicklighet..... och mycket tur!

19. april 2008



Flygning 4
Exempel på lyckad
banläggning

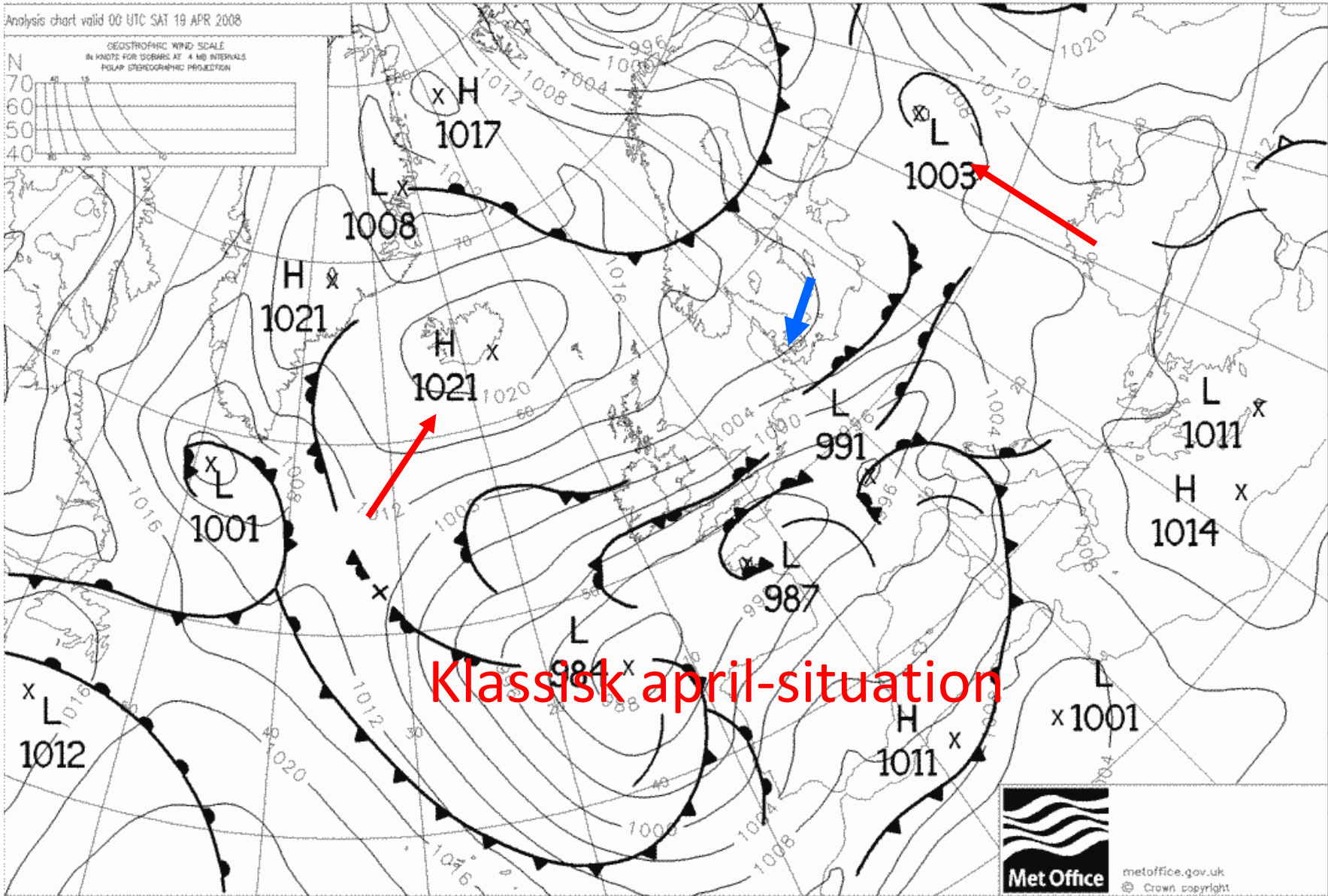
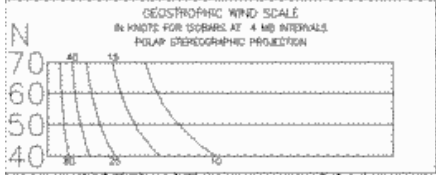
gdas1.apr08.w3



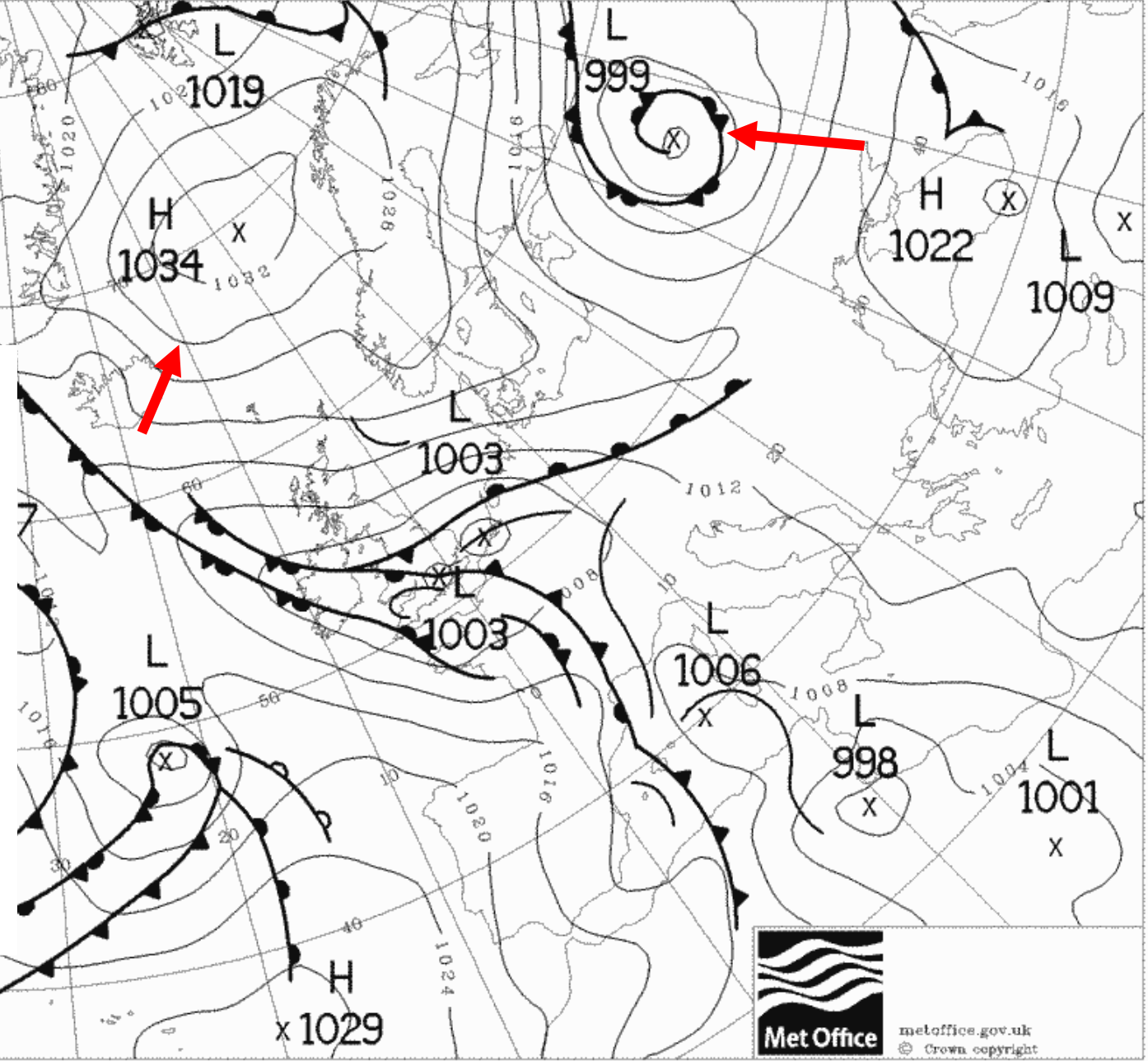
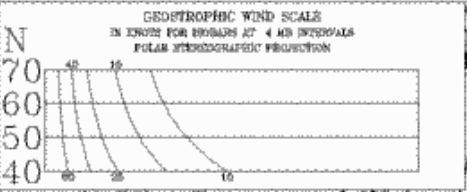
56.50 13.88 04/19/2008 12Z + 0hr

>12 kts
-> molngator

Analysis chart valid 00 UTC SAT 19 APR 2008



Klassisk april-situation

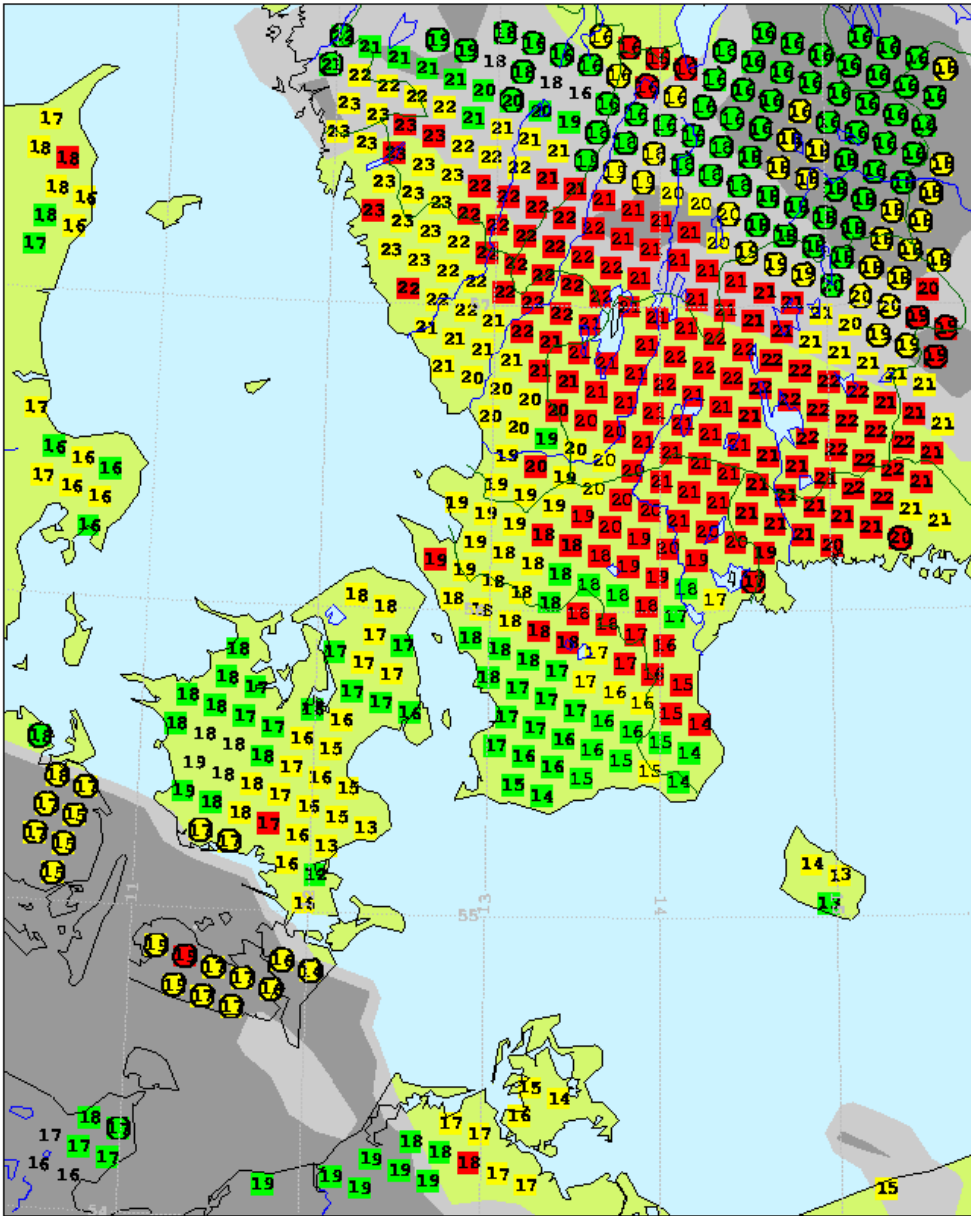


Flygning 5

När livet
ler och
allting
stämmer



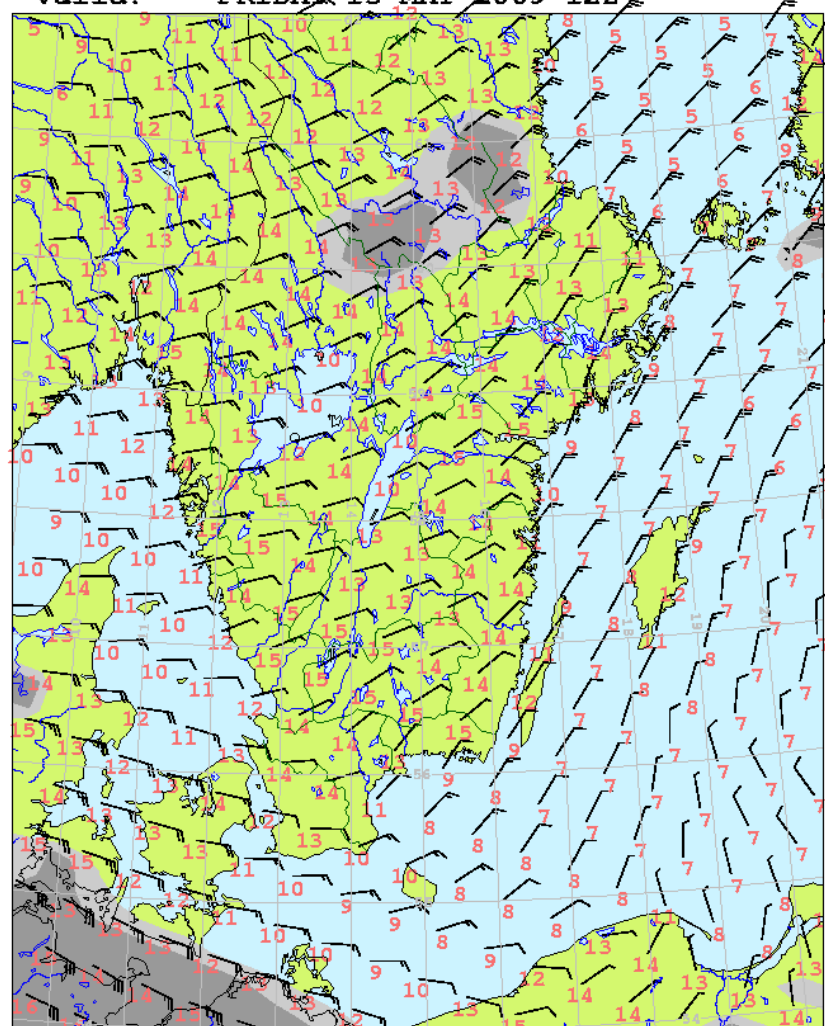
Forecast FRIDAY 15 MAY 2009 00Z +12
 valid: FRIDAY 15 MAY 2009 12Z



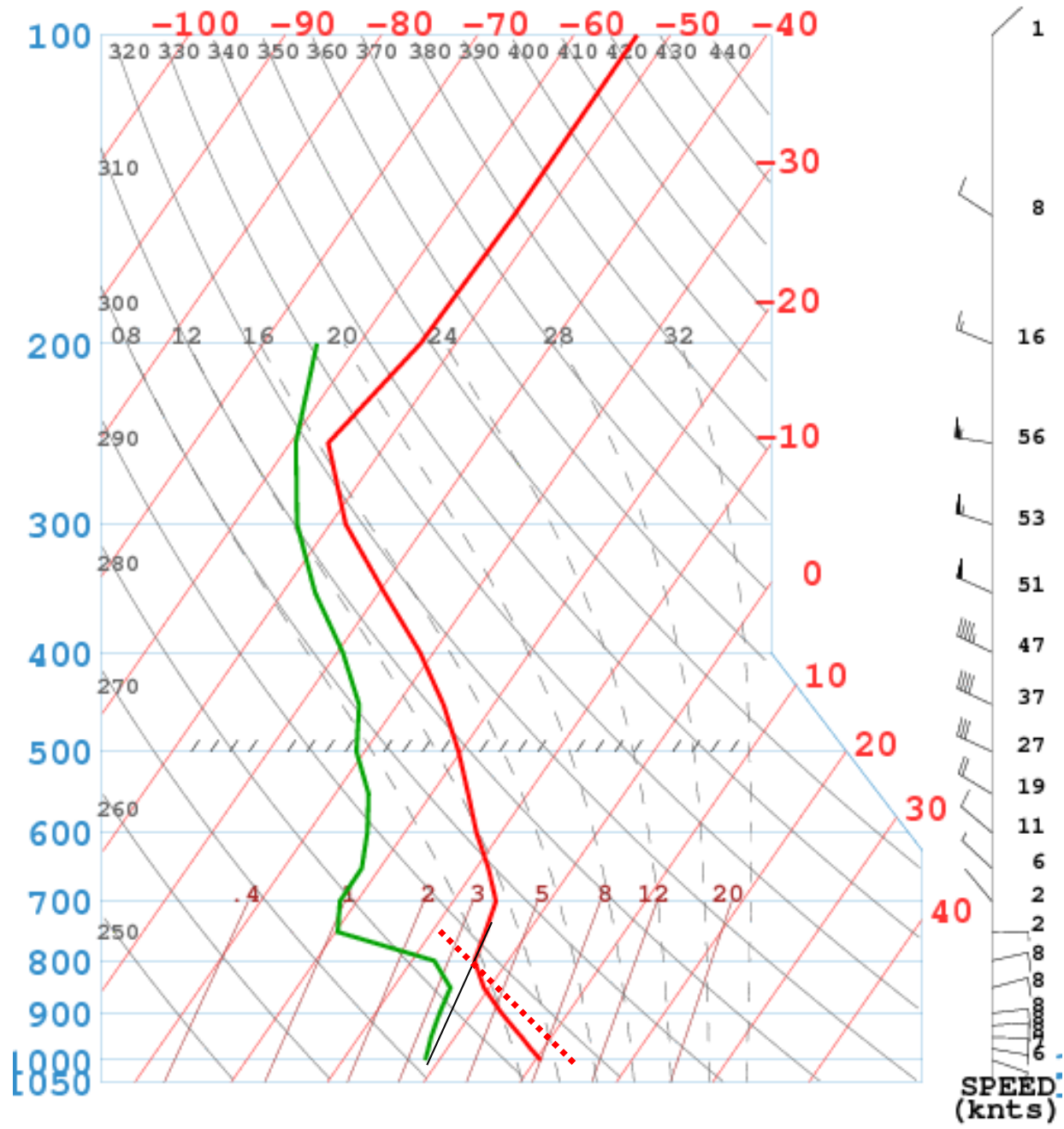
Total cloudcover (grey-shading) and precipitation (symbols)
 Top of thermals (dry thermals or Cu-base) in hundreds of meters
 Mean rate of climb (colorcoded)

1-2 m/s 2-3 m/s >3 m/s

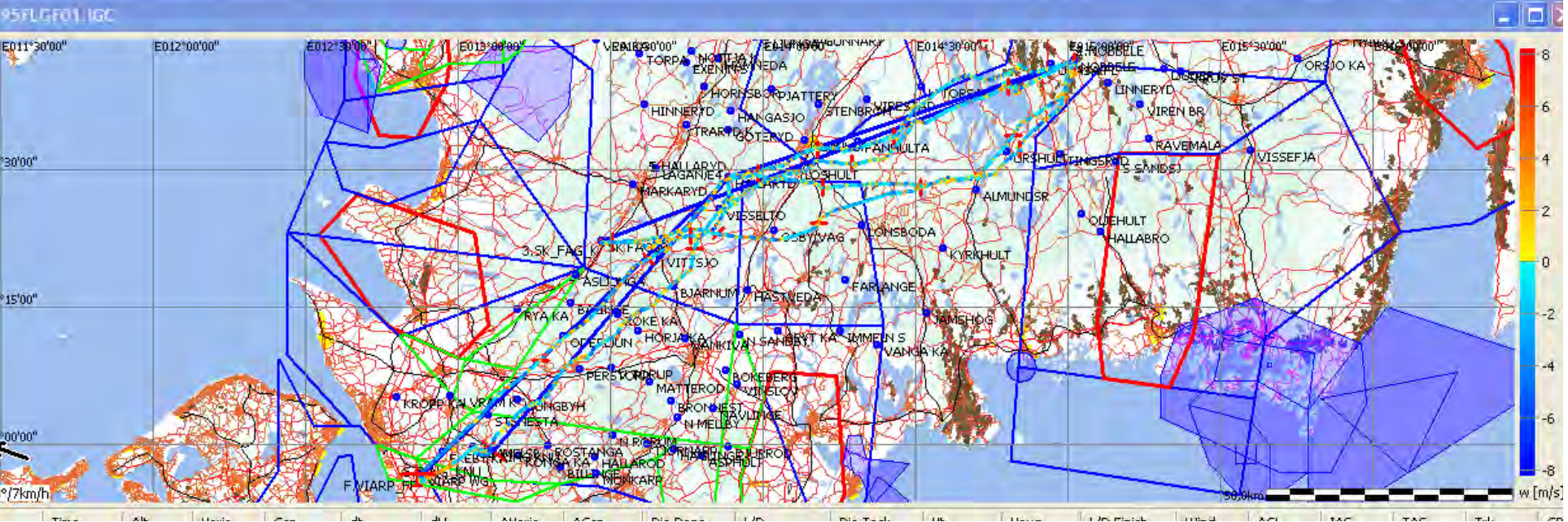
Forecast FRIDAY 15 MAY 2009 00Z +12
 valid: FRIDAY 15 MAY 2009 12Z



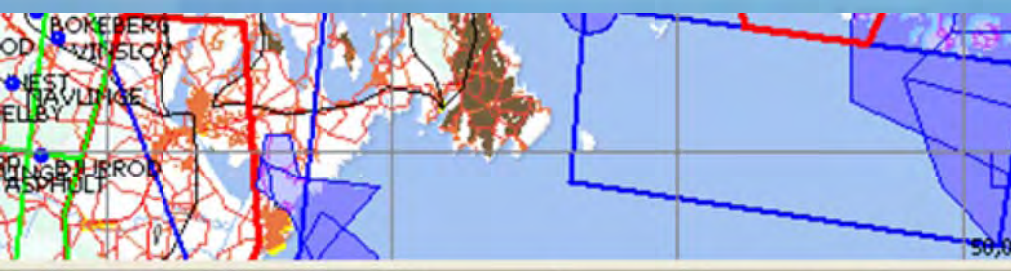
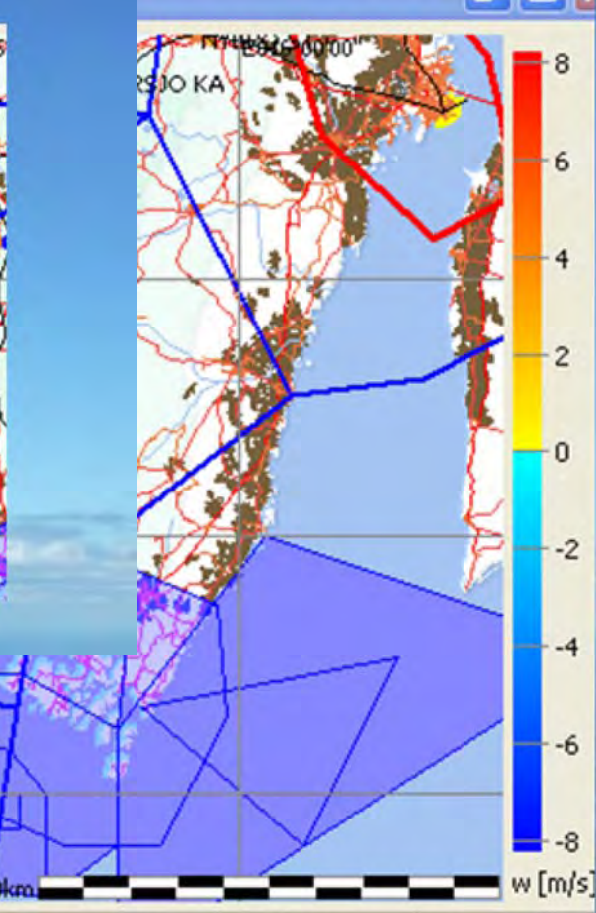
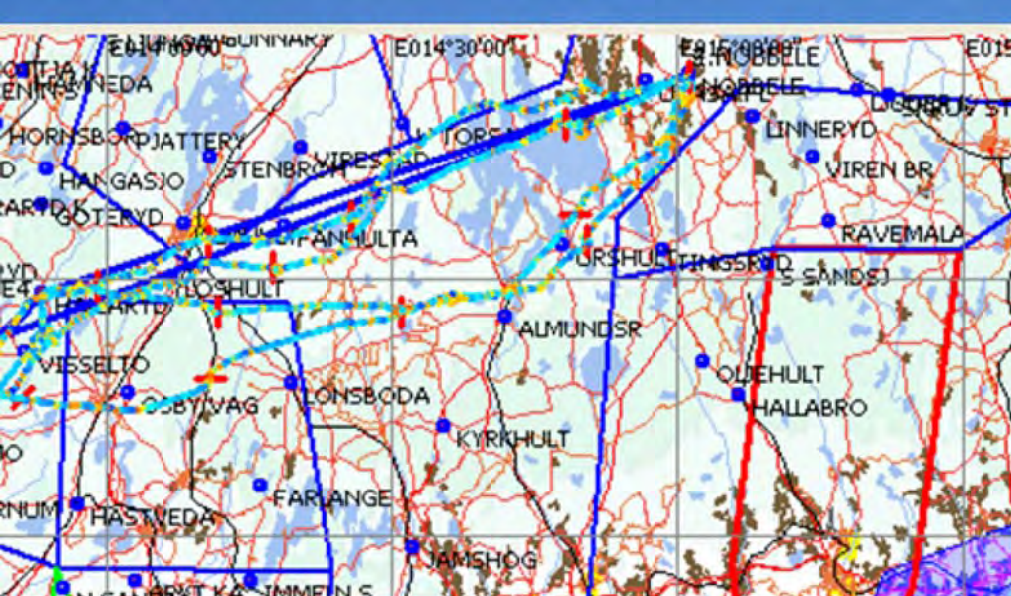
Cloudiness - medium and high clouds only (grey-shading)
 Wind at 1000 m (knots) and air temperature (at 2 m)



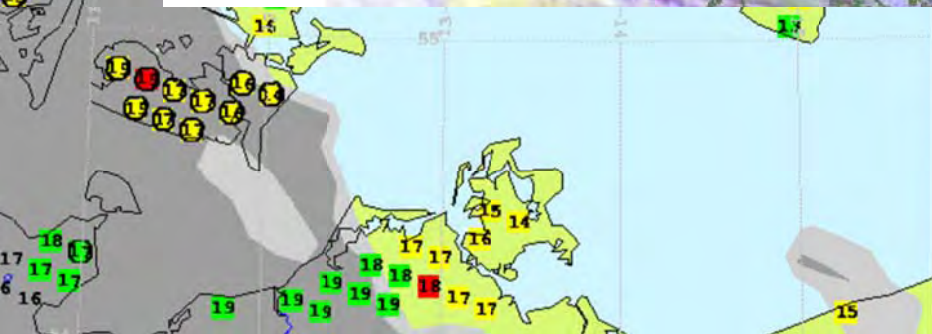
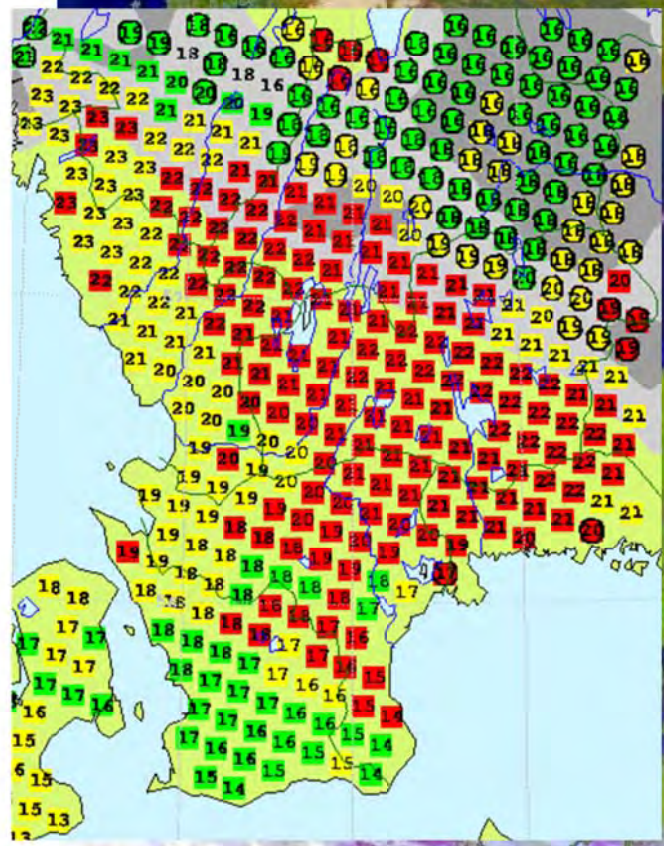
Hennigsche:
 $14 - (-2) * 125 =$
2000 m







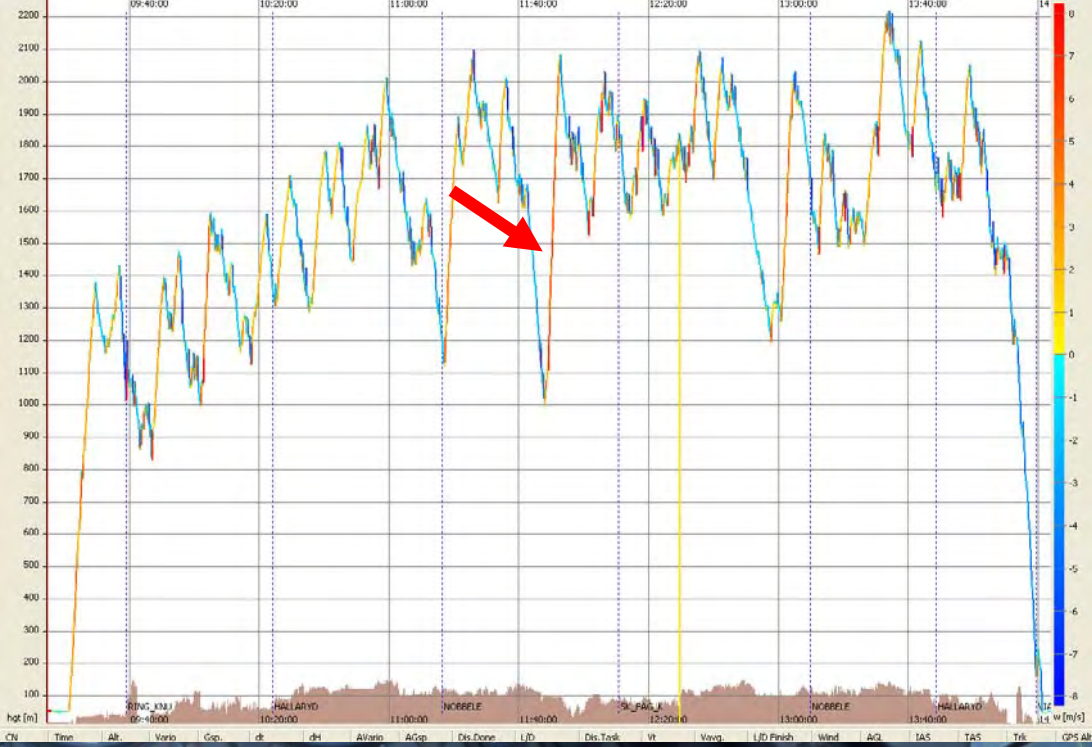
Forecast
valid:

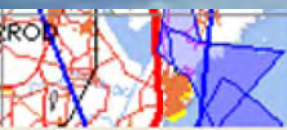
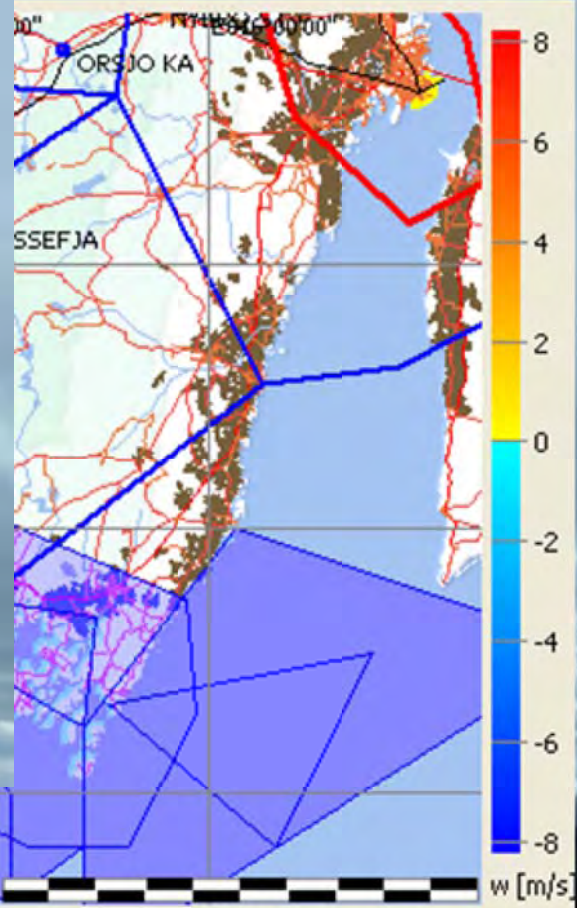
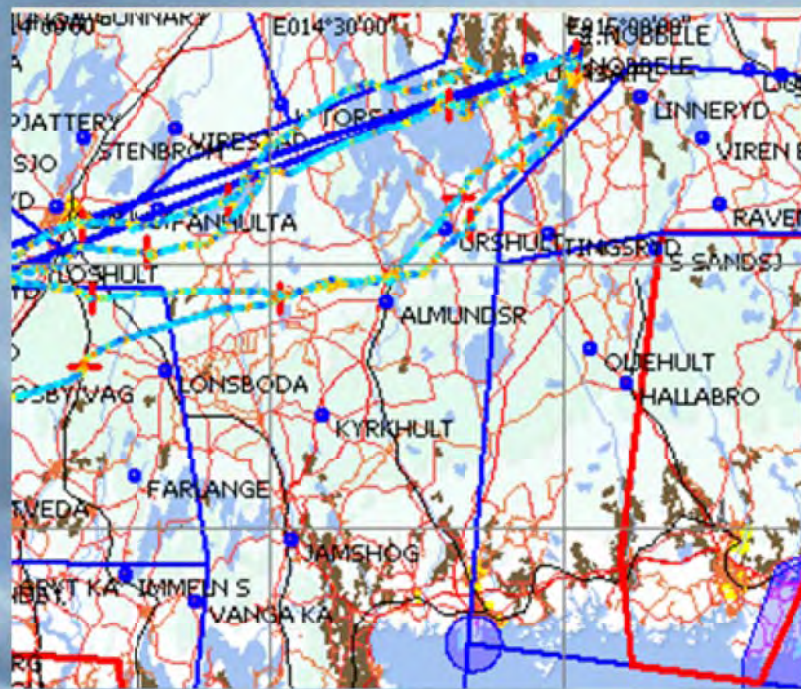


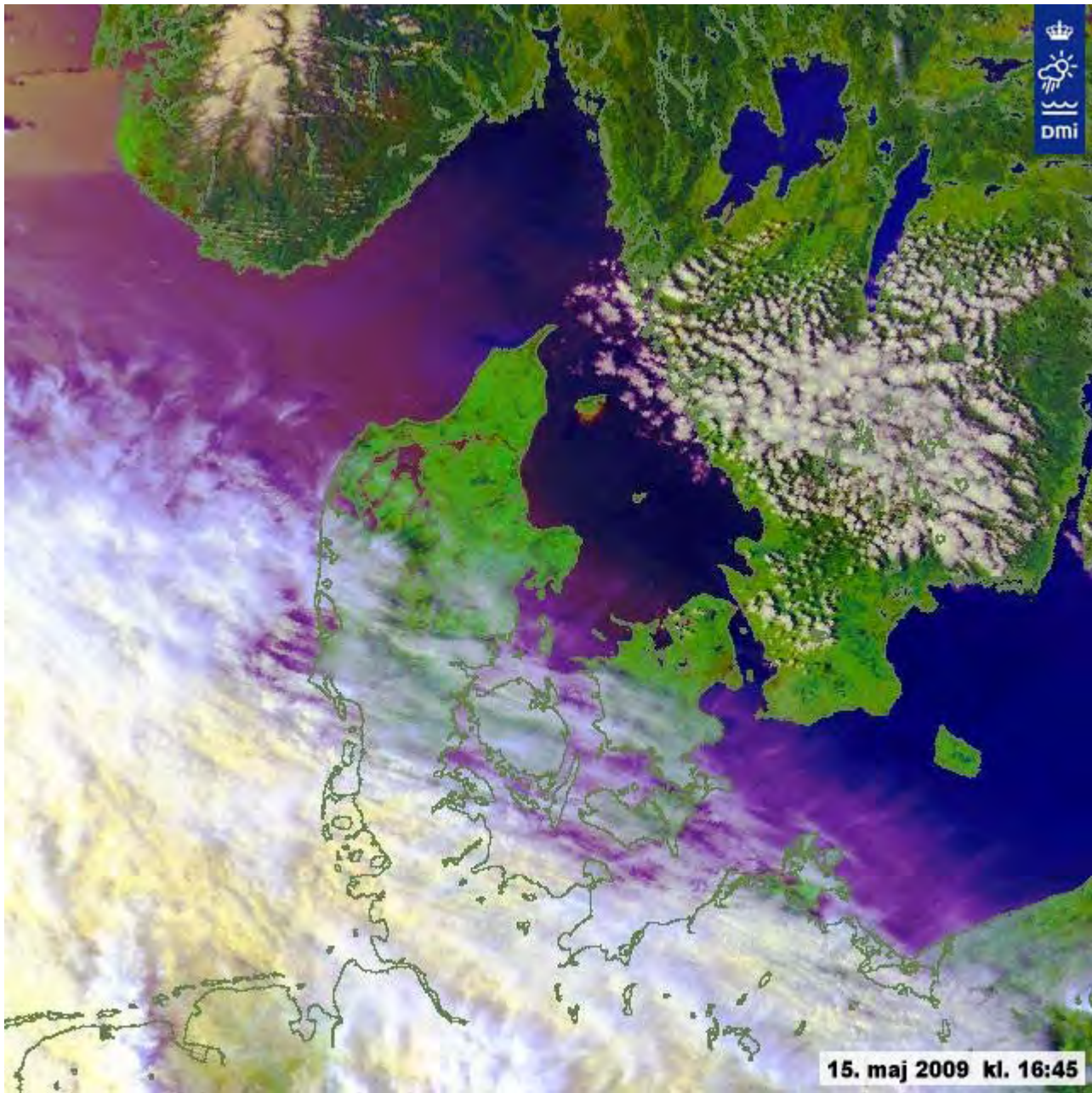
Total cloudcover (grey-shading) and precipitation (symbols)
Top of thermals (dry thermals or Cu-base) in hundreds of meters
Mean rate of climb (colorcoded) ■ ■ ■
1-2 m/s 2-3 m/s >3 m/s



15. maj 2009 kl. 14:15

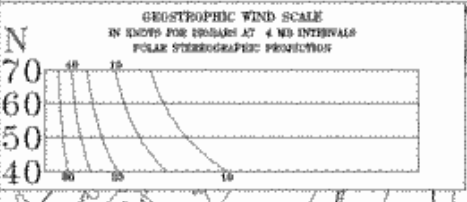








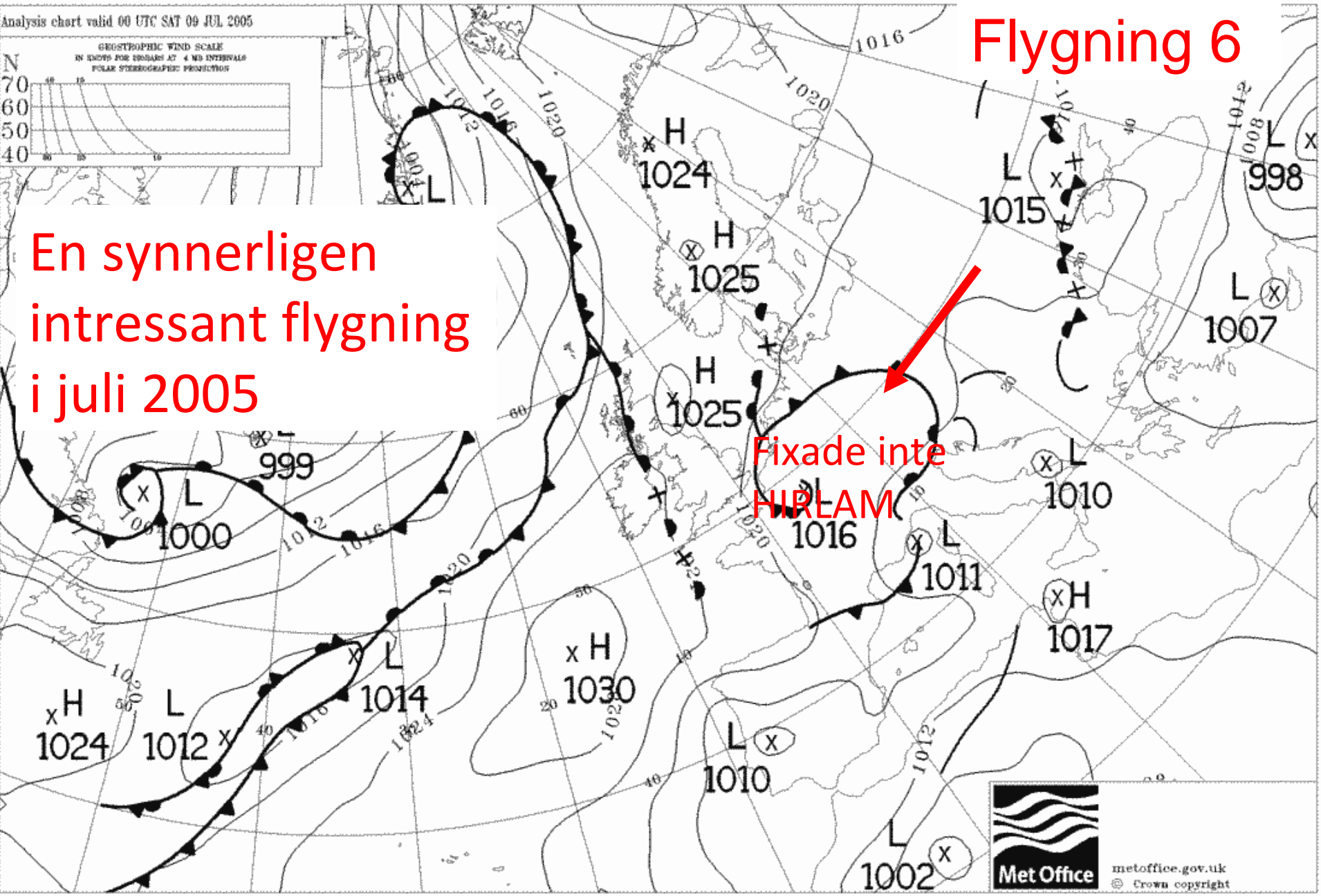




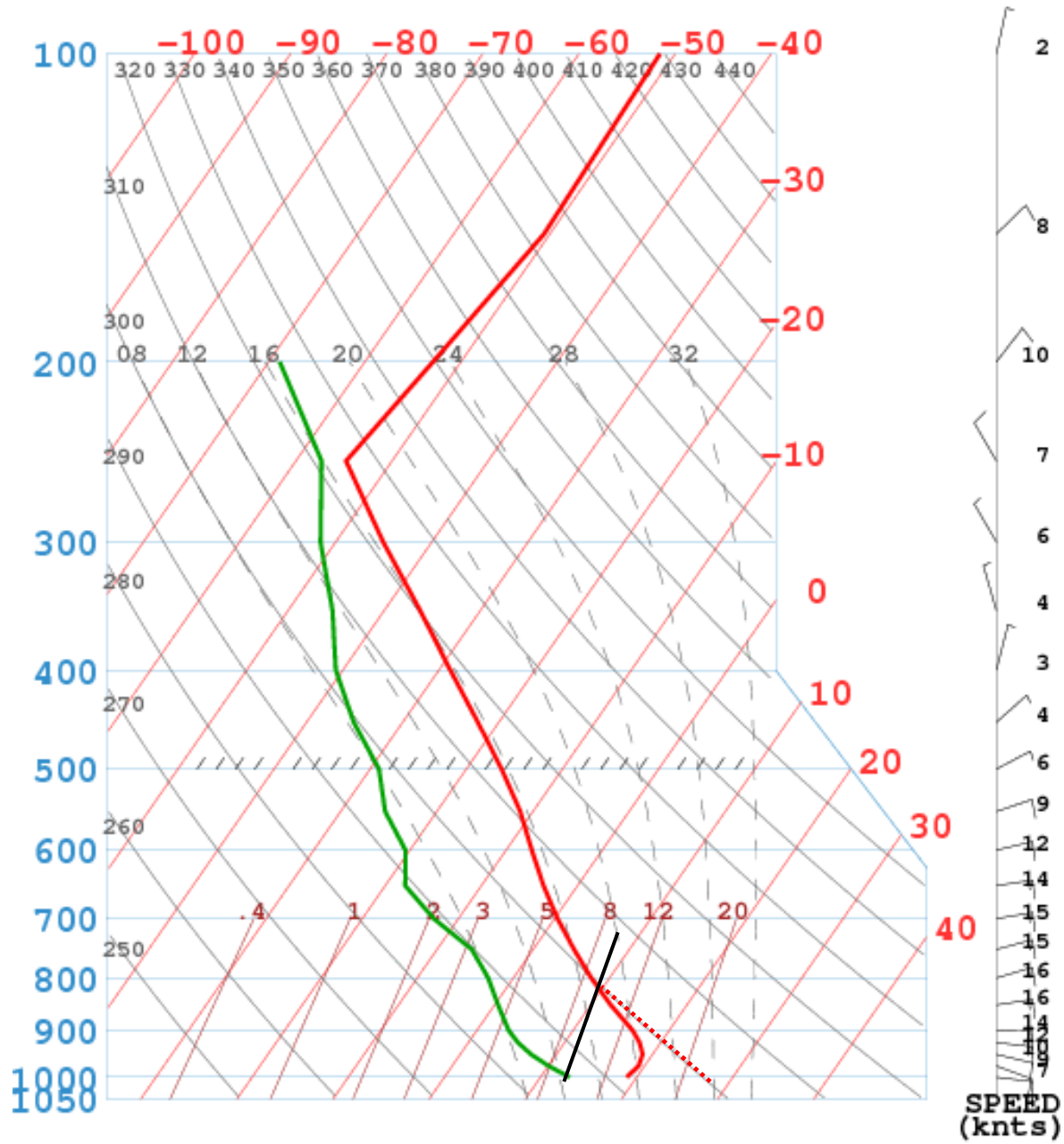
Flygning 6

En synnerligen
intressant flygning
i juli 2005

Fixade inte
HIRLAM

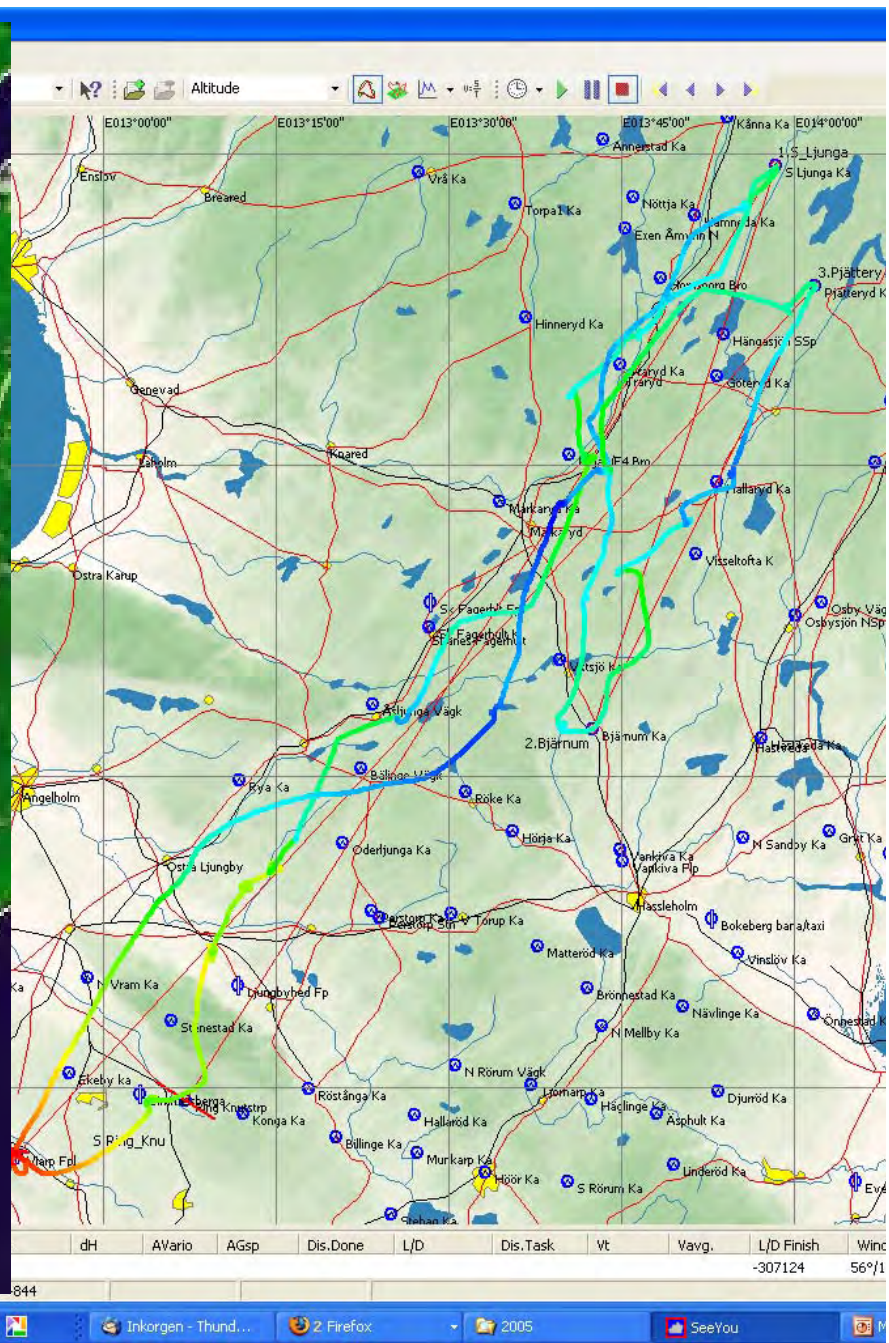


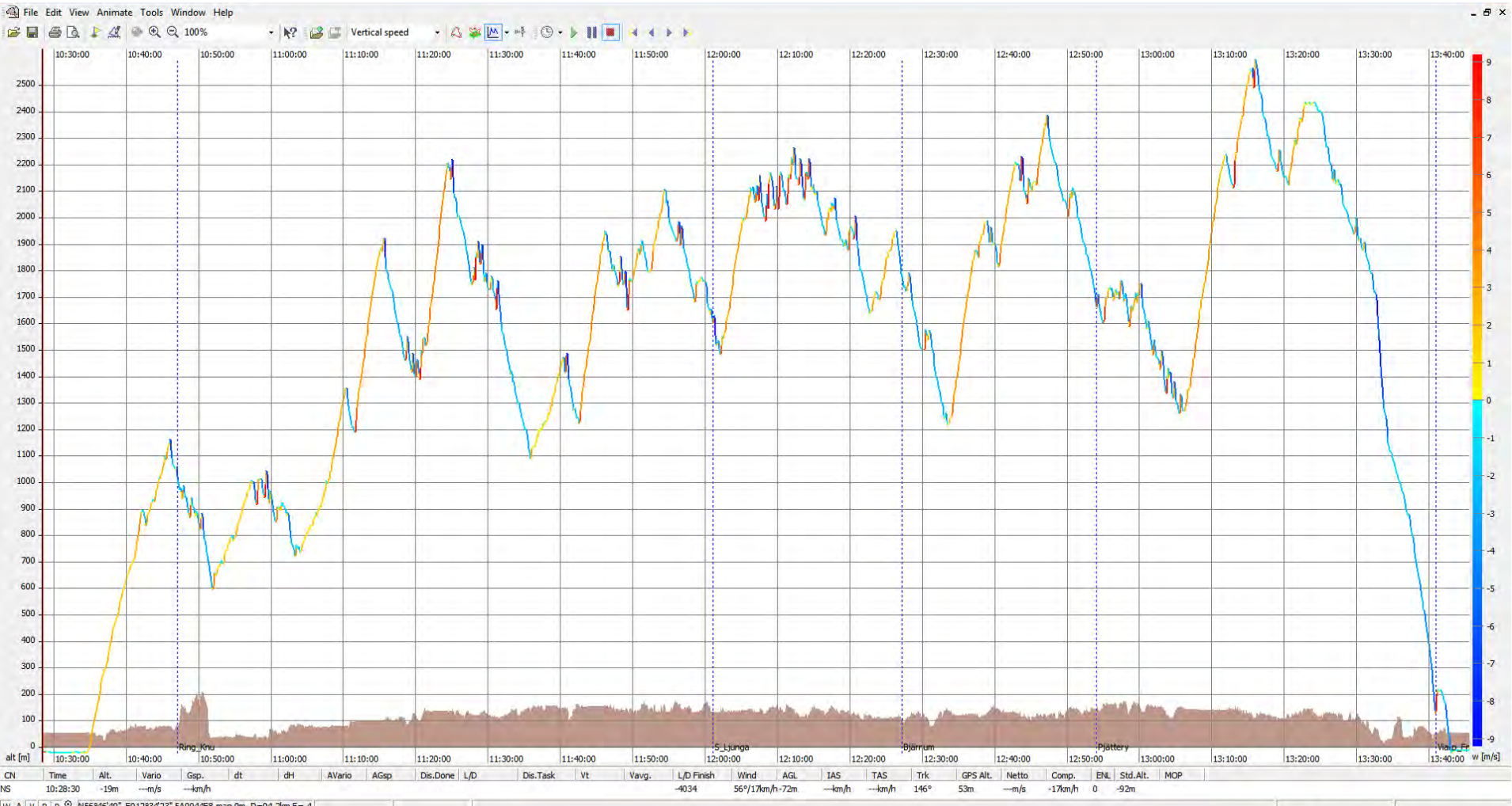
gdas1.jul05.w2



56.15 13.88 07/09/2005 00Z + 0hr

KI 1330





KI 1244

Våg?



KI 1434



KI 1515



KI 1525



- 1 Föreläsa
- 2 Sittposition
- 3 Fästbändningsremmar
- 4 Kodkontroll
- 5 Bromskontroll
- 6 Klaffkontroll
- 7 Trimkontroll
- 8 Höjdindikare
- 9 Radio
- 10 Självtut av
- 11 Nuv läst



1. Tripsel
2. Ölstand
3. Füllstandsgrenzen
4. Ruckstand
5. Druckstand
6. Luftdruck
7. Tankstand
8. Höhenwert
9. Radio
10. Quertend an
11. Ausfall
12. LADROTT



KI 1625



3 TIMERS LYNNEDSLAG

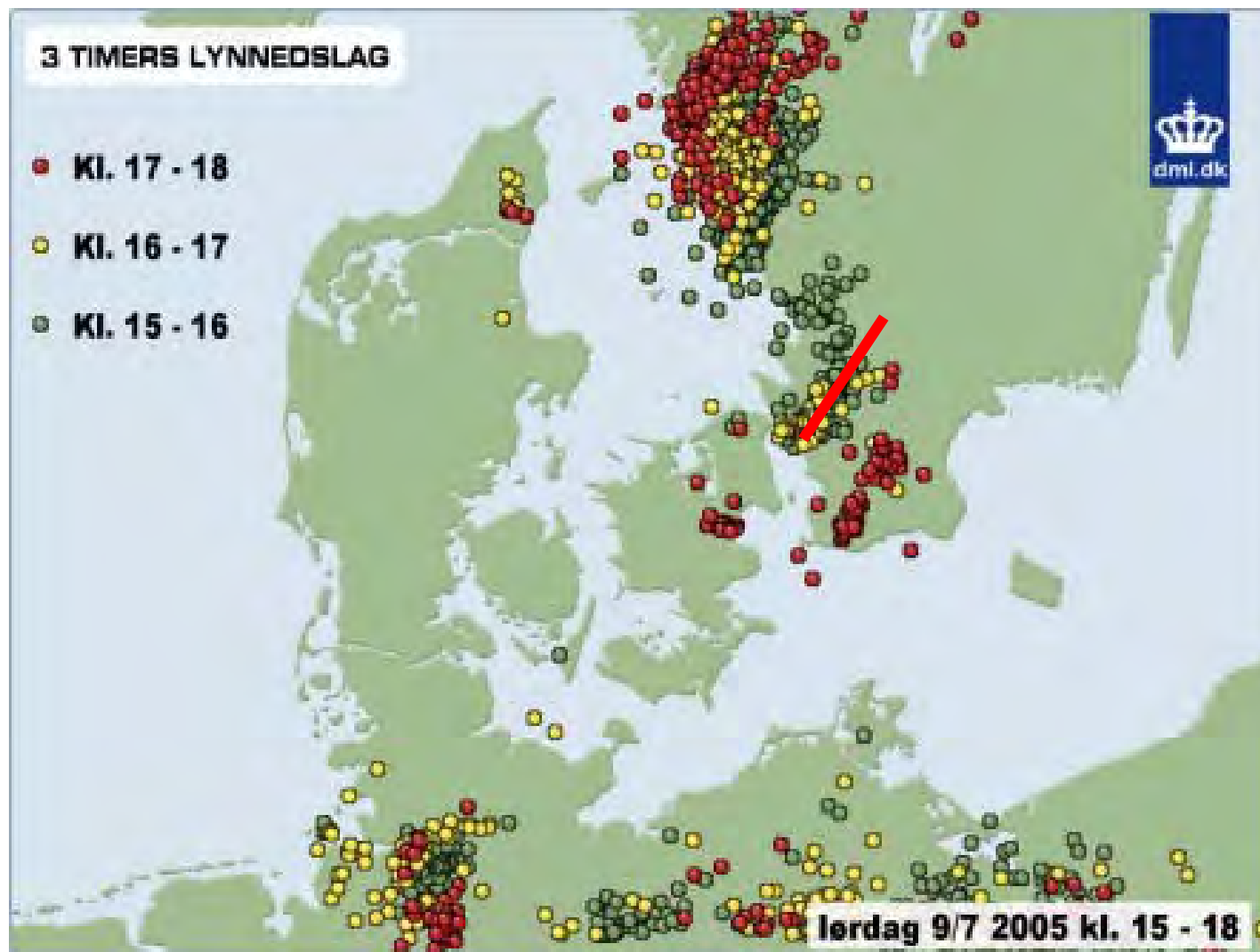
● KL. 17 - 18

● KL. 16 - 17

● KL. 15 - 16

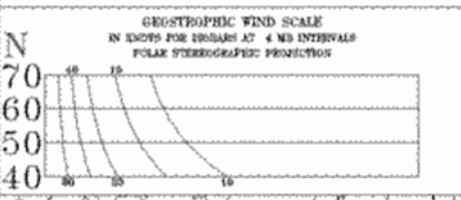


dmi.dk



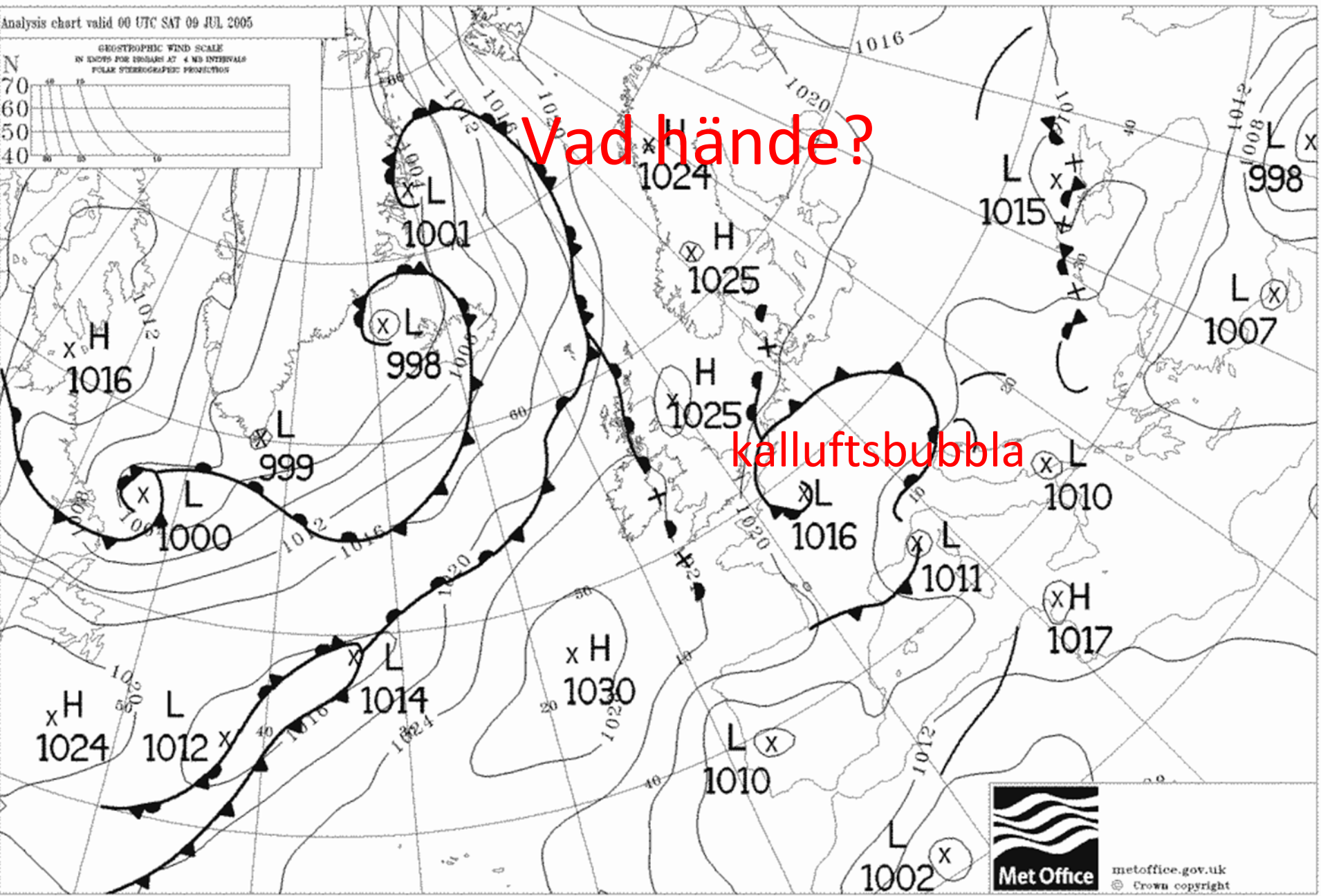
lørdag 9/7 2005 kl. 15 - 18

Analysis chart valid 00 UTC SAT 09 JUL 2005



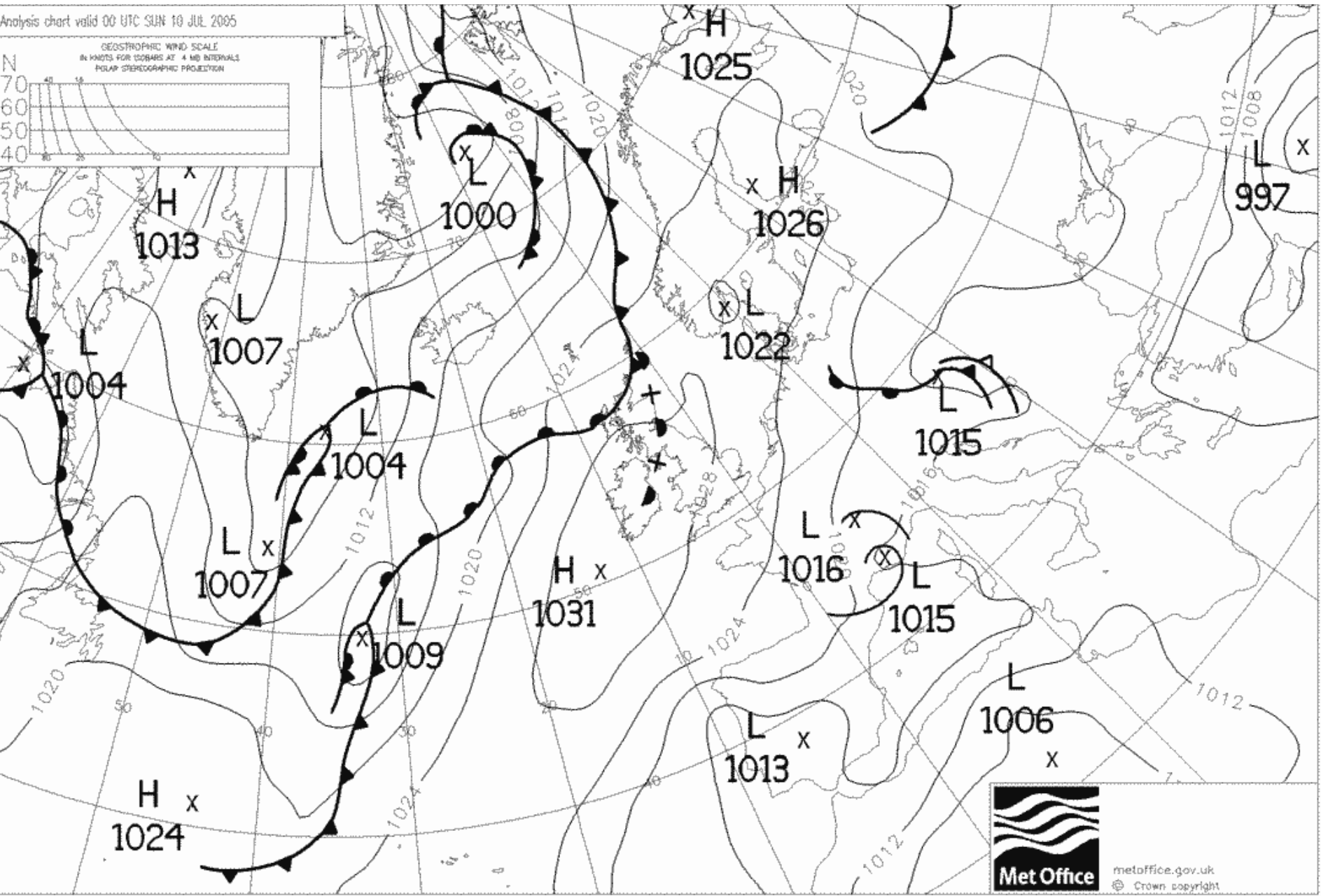
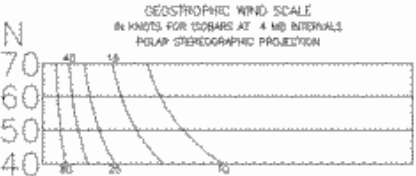
Vad hände?

kallluftsbubbla



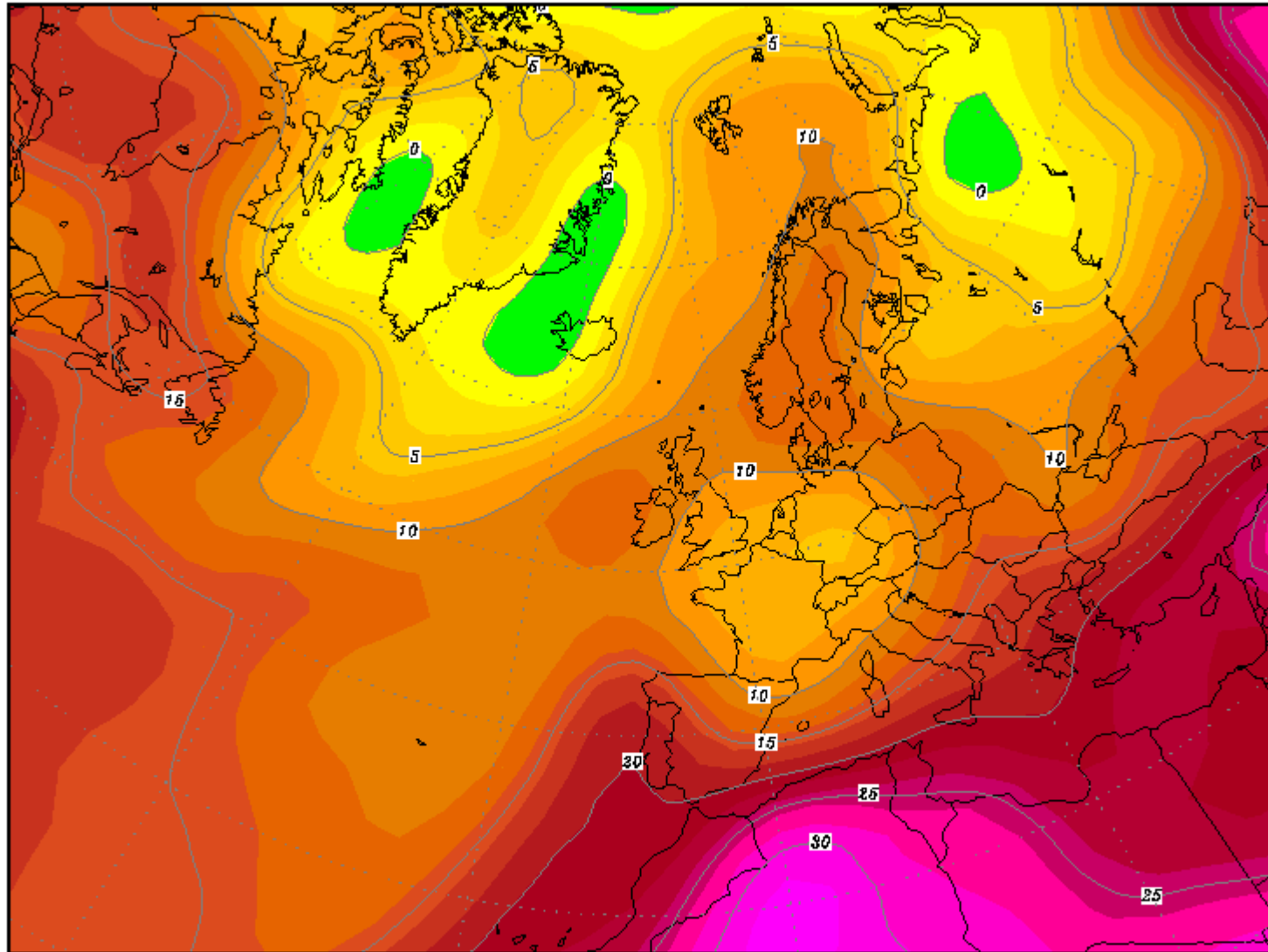
metoffice.gov.uk
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Analysis chart valid 00 UTC SUN 10 JUL 2005



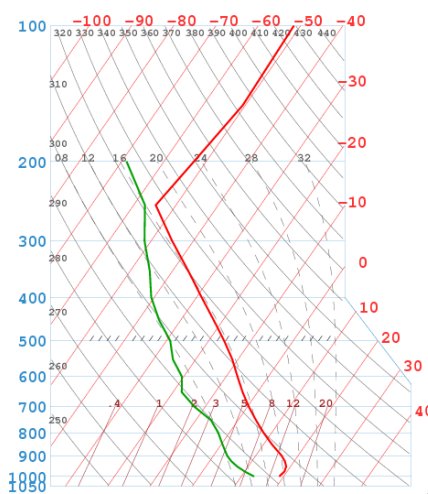
metoffice.gov.uk
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850 hPa Temperatur (Grad C)

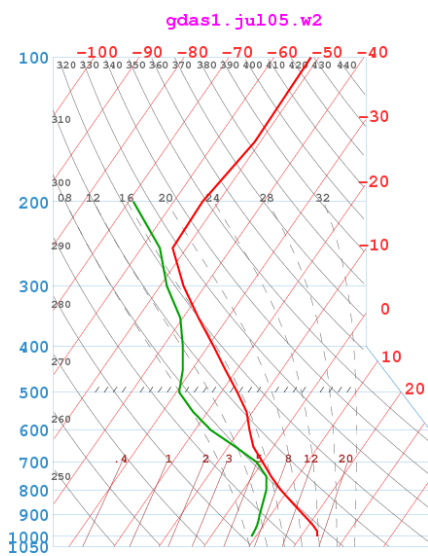


Daten: Reanalysis des NCEP
(C) Wetterzentrale
www.wetterzentrale.de

gdas1.jul05.w2



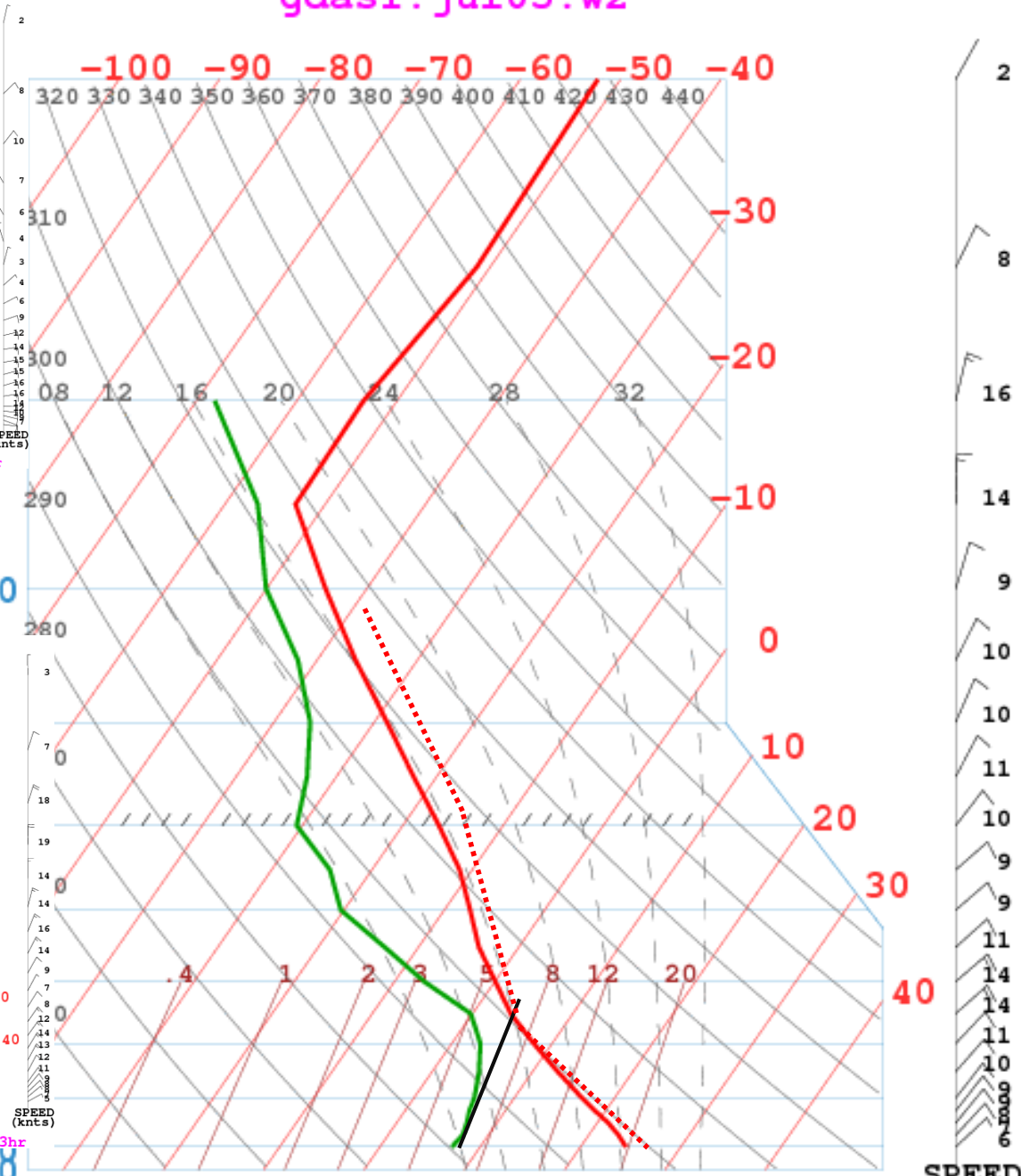
56.15 13.88 07/09/2005 00Z + 0hr



56.15 13.88 07/09/2005 15Z + 3hr

1858

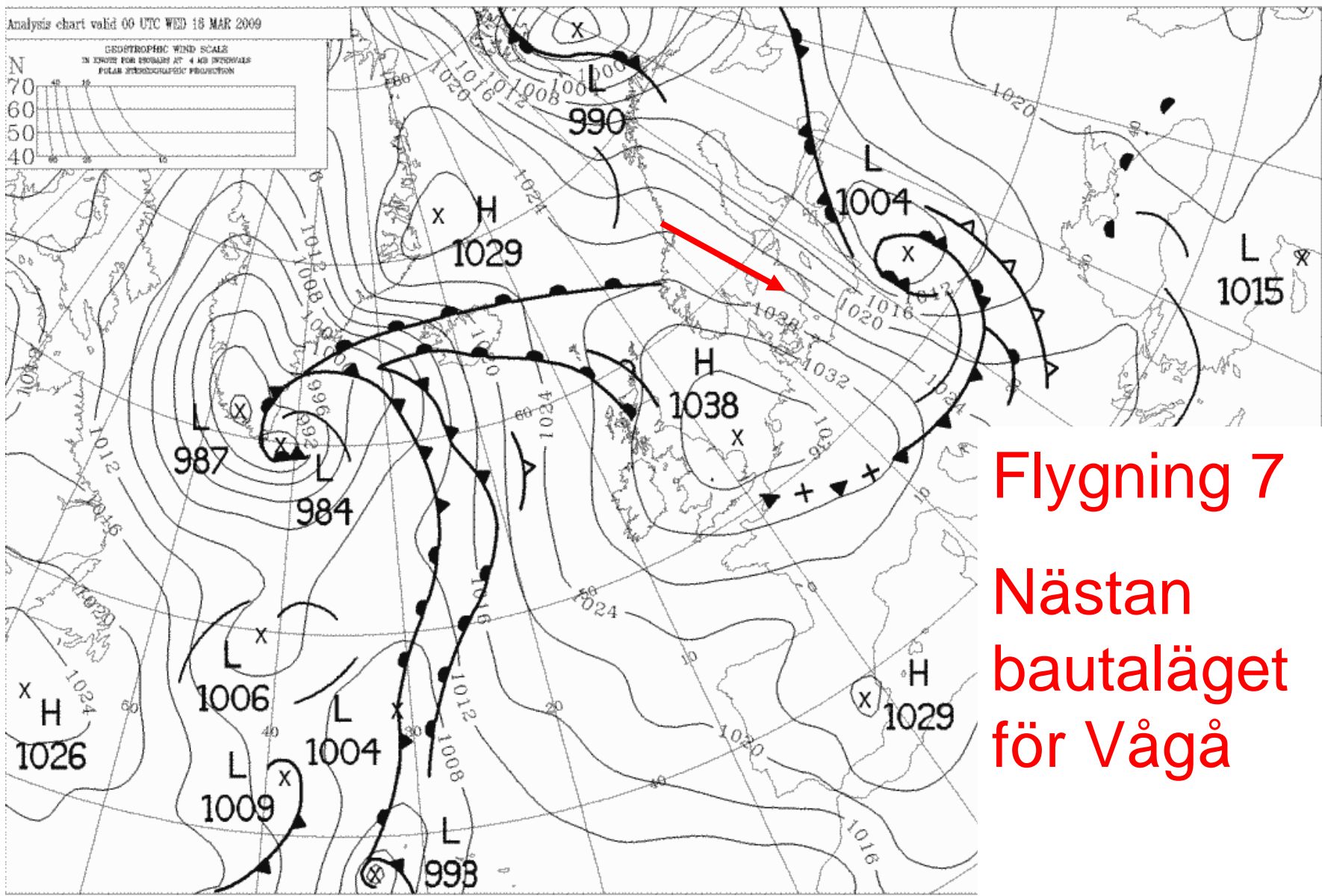
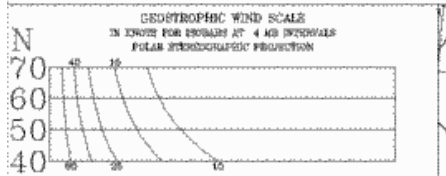
gdas1.jul05.w2



56.15 13.88 07/09/2005 12Z + 0hr

SPEED (knts)

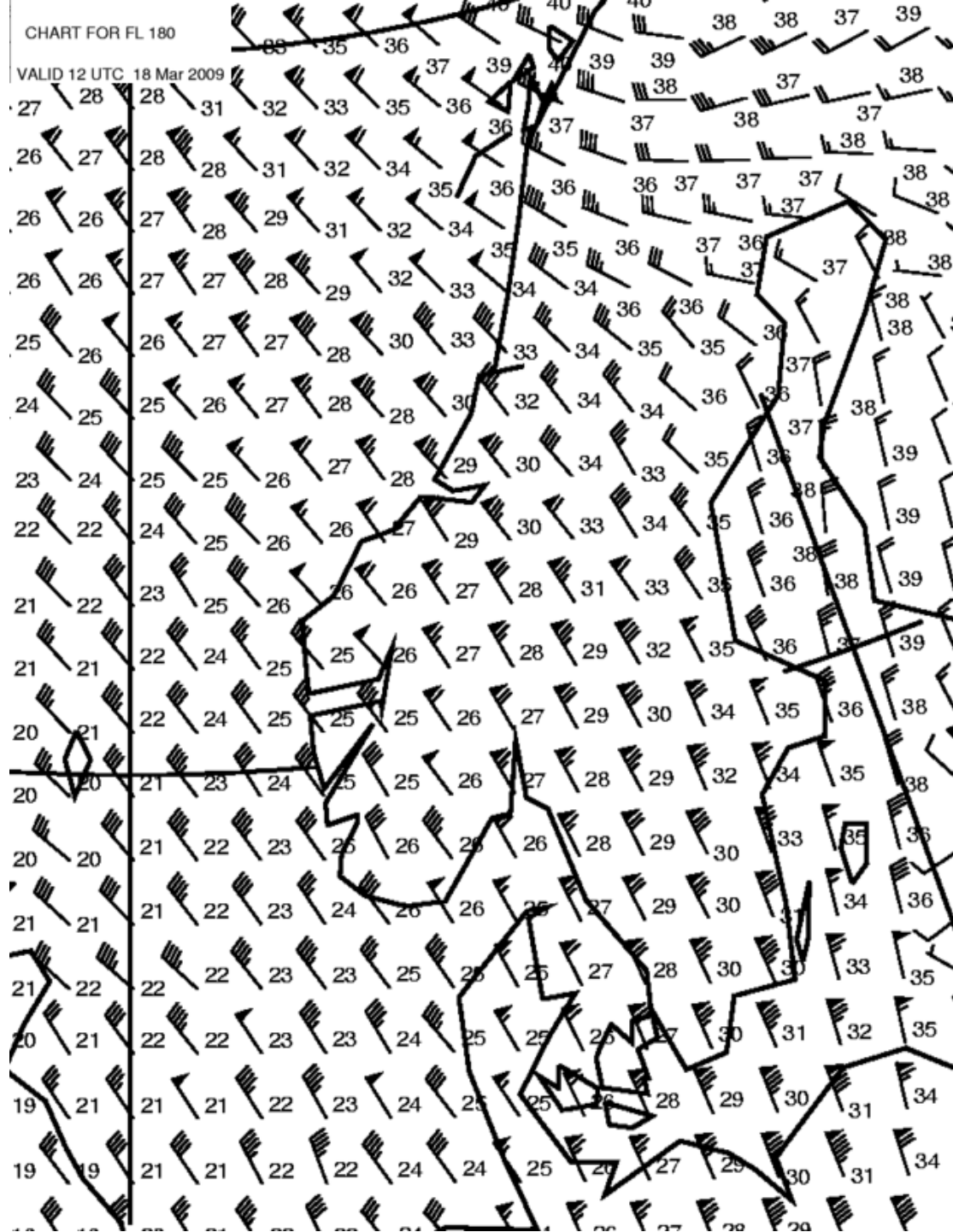
Analysis chart valid 00 UTC WED 18 MAR 2009



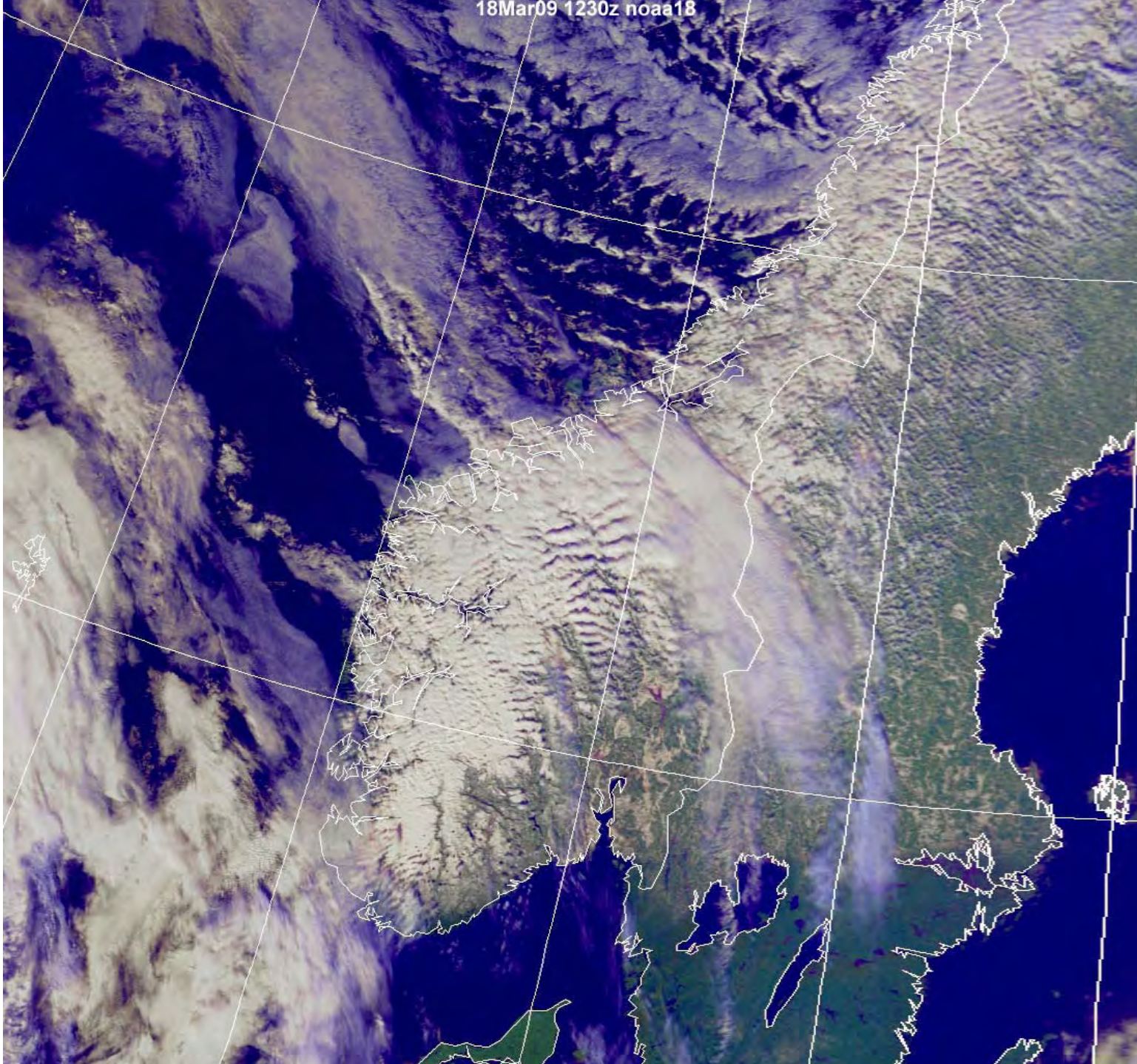
Flygning 7
Nästan
bautaläget
för Vågå

CHART FOR FL 180

VALID 12 UTC 18 Mar 2009



18Mar09 1230z noaa18





CN	Time	Alt.	Vario	Gsp.	dt	dH	AVario	AGsp	Dis.Done	L/D	Dis.Task	Vt	Vavg.	L/D Finish	Wind	AGL	IAS	TAS	Trk	GPS Alt.
RD	12:11:39	282m	---m/s	---km/h											---°/---km/h-88m		---km/h	---km/h	146°	351m







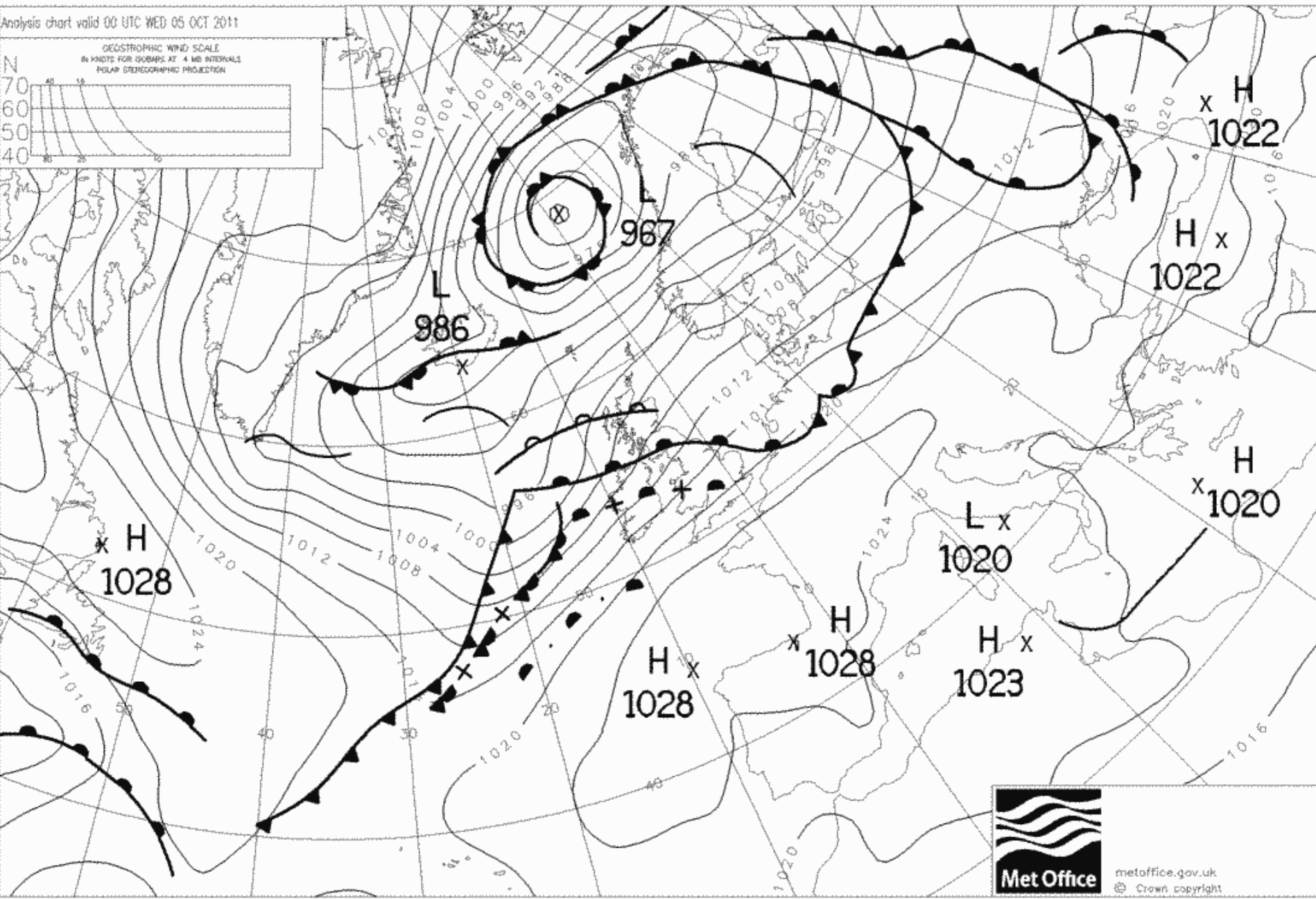
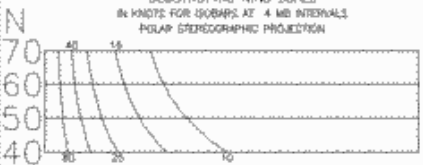




Vågtroll i äkta fransk böljebasker



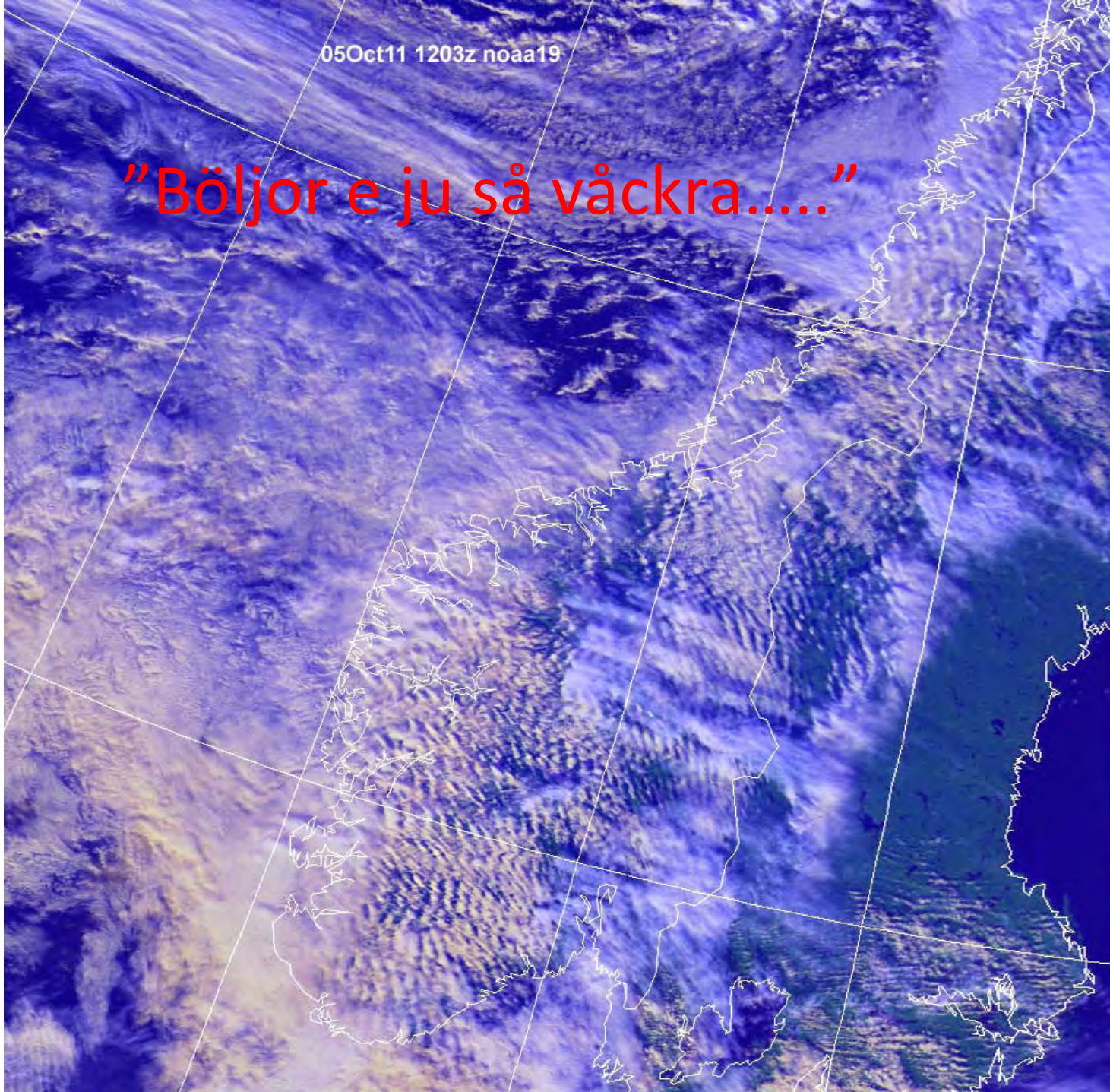
GEOSTROPHIC WIND SCALE
IN KNOTS FOR ISOBARS AT 4 MB INTERVALS
POLAR STEREOGRAPHIC PROJECTION

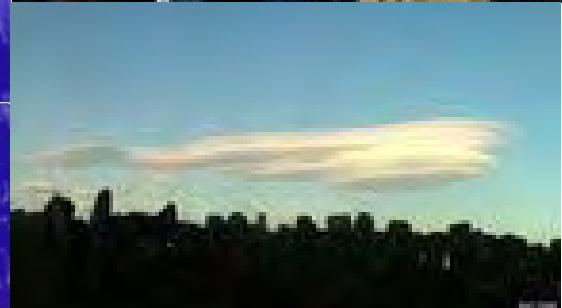
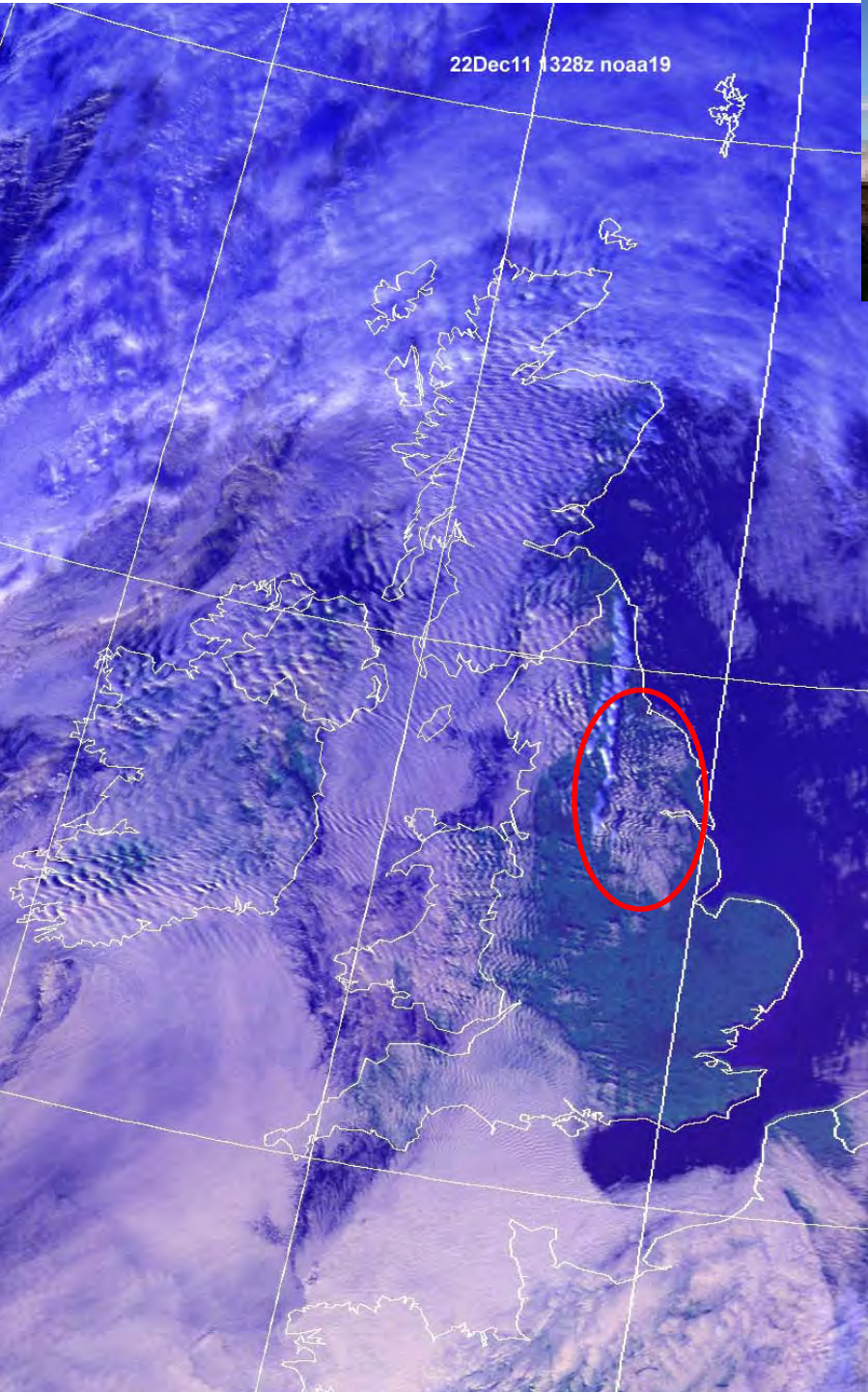


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05Oct11 1203z noaa19

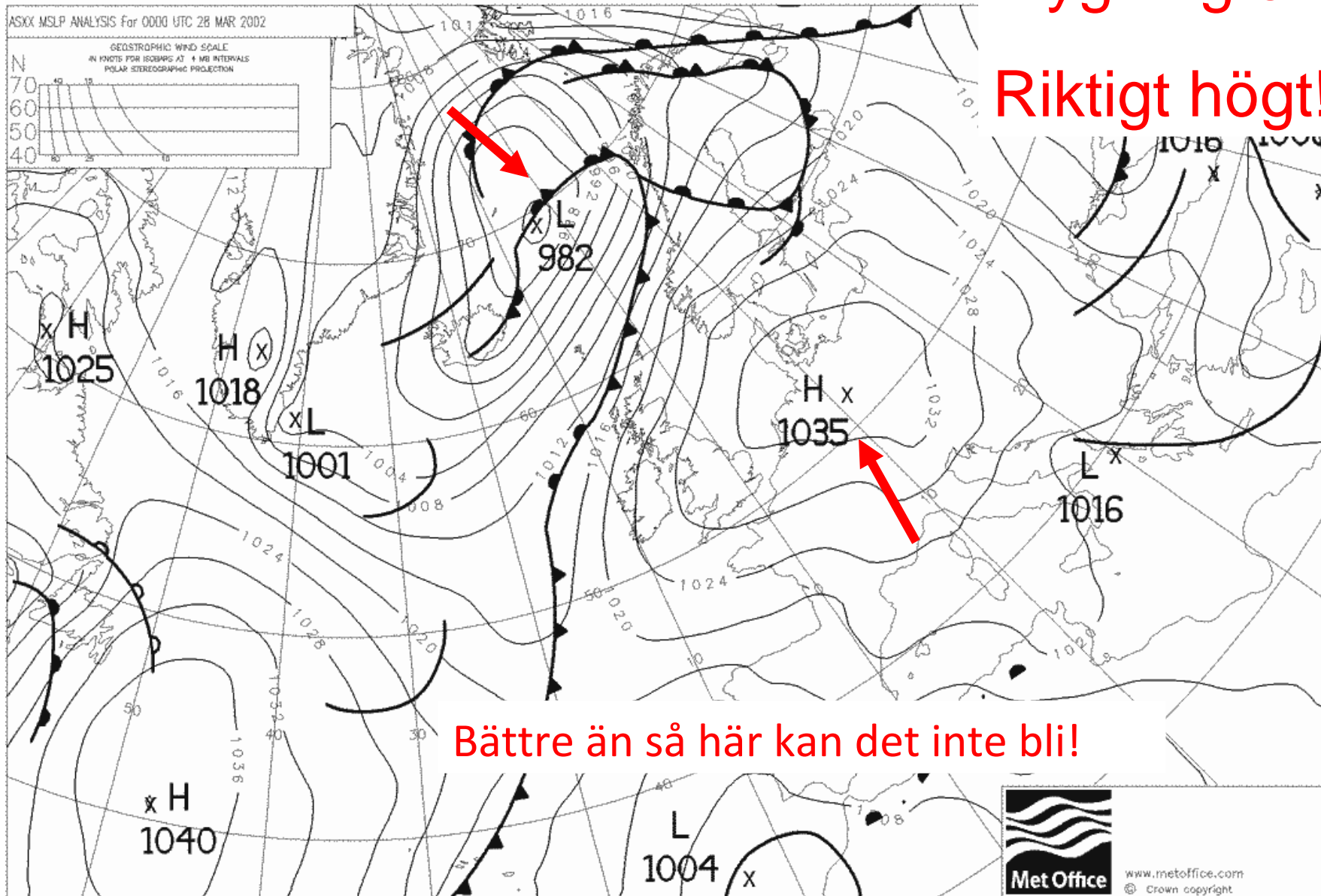
”Böljor e ju så vackra....”





Flygning 8

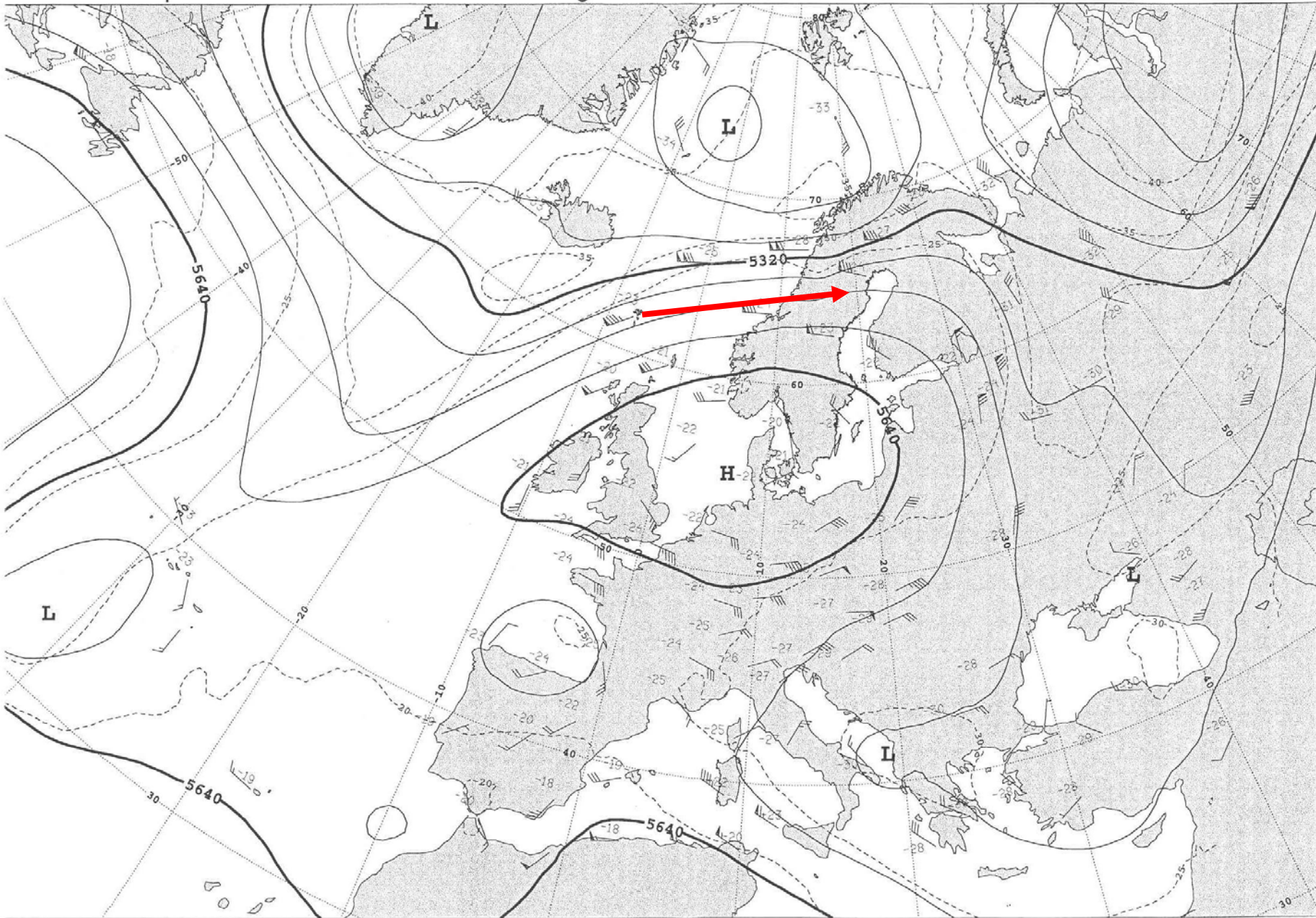
Riktigt högt!

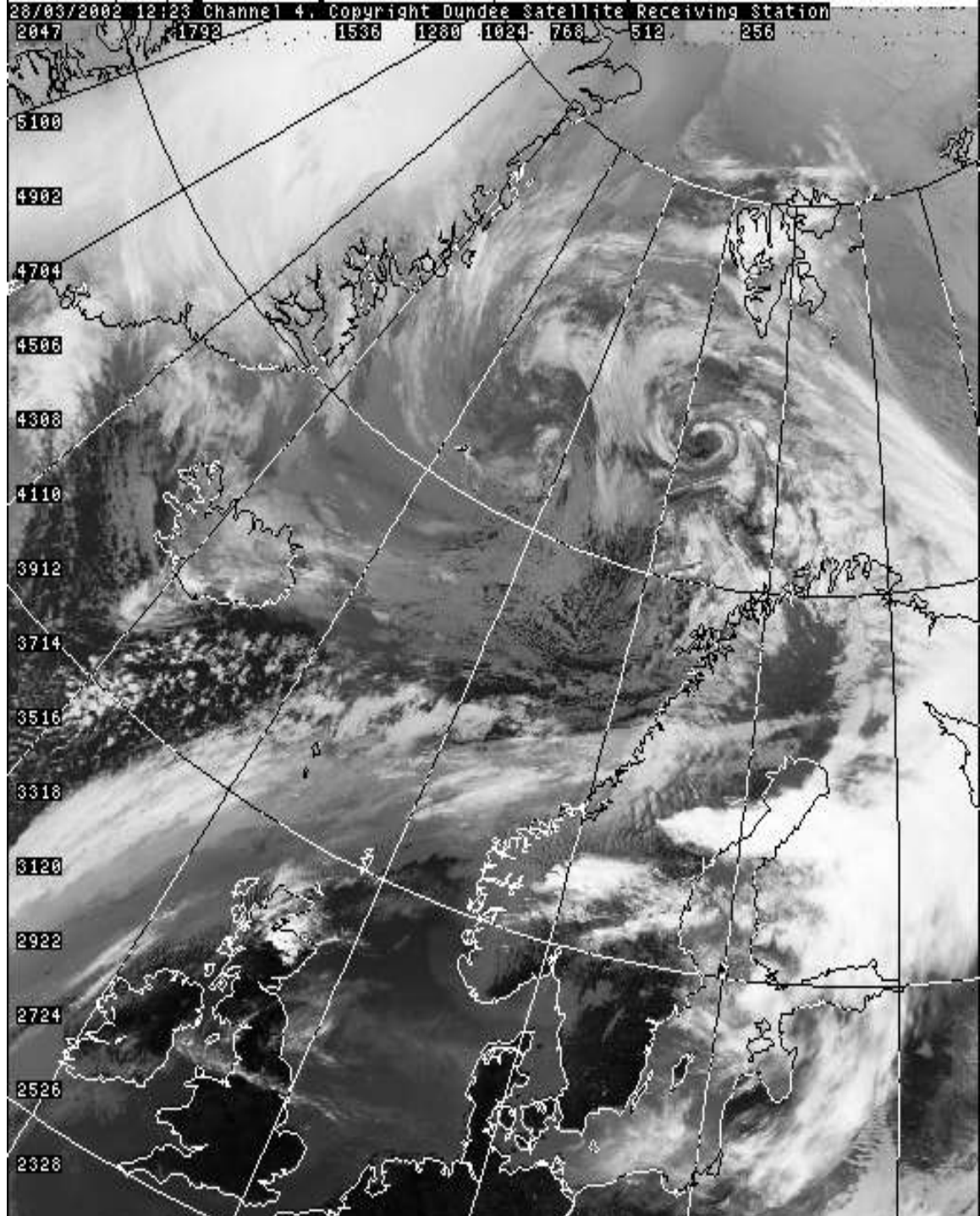


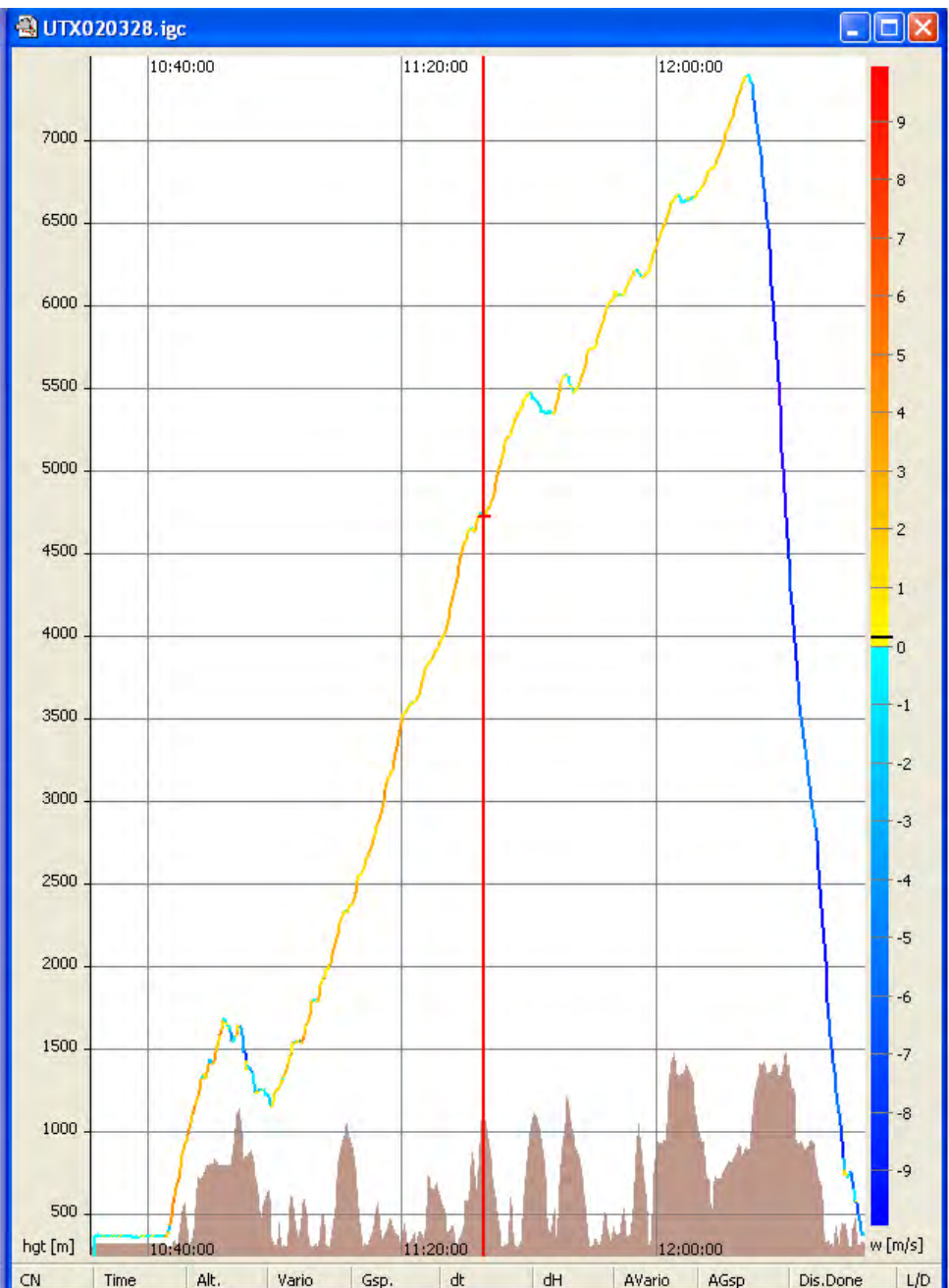
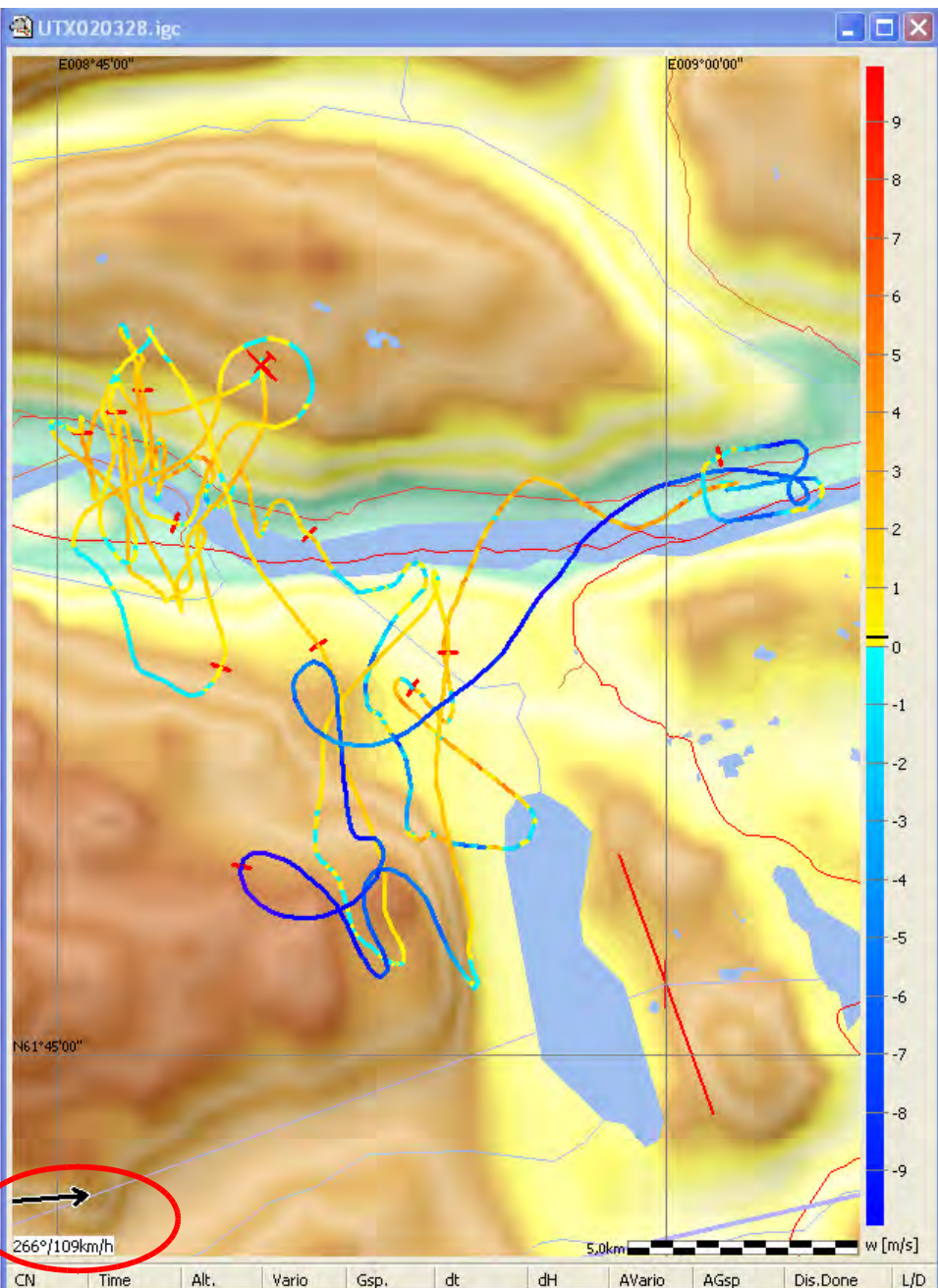
Bättre än så här kan det inte bli!

GeoPot/Temp 500 hPa

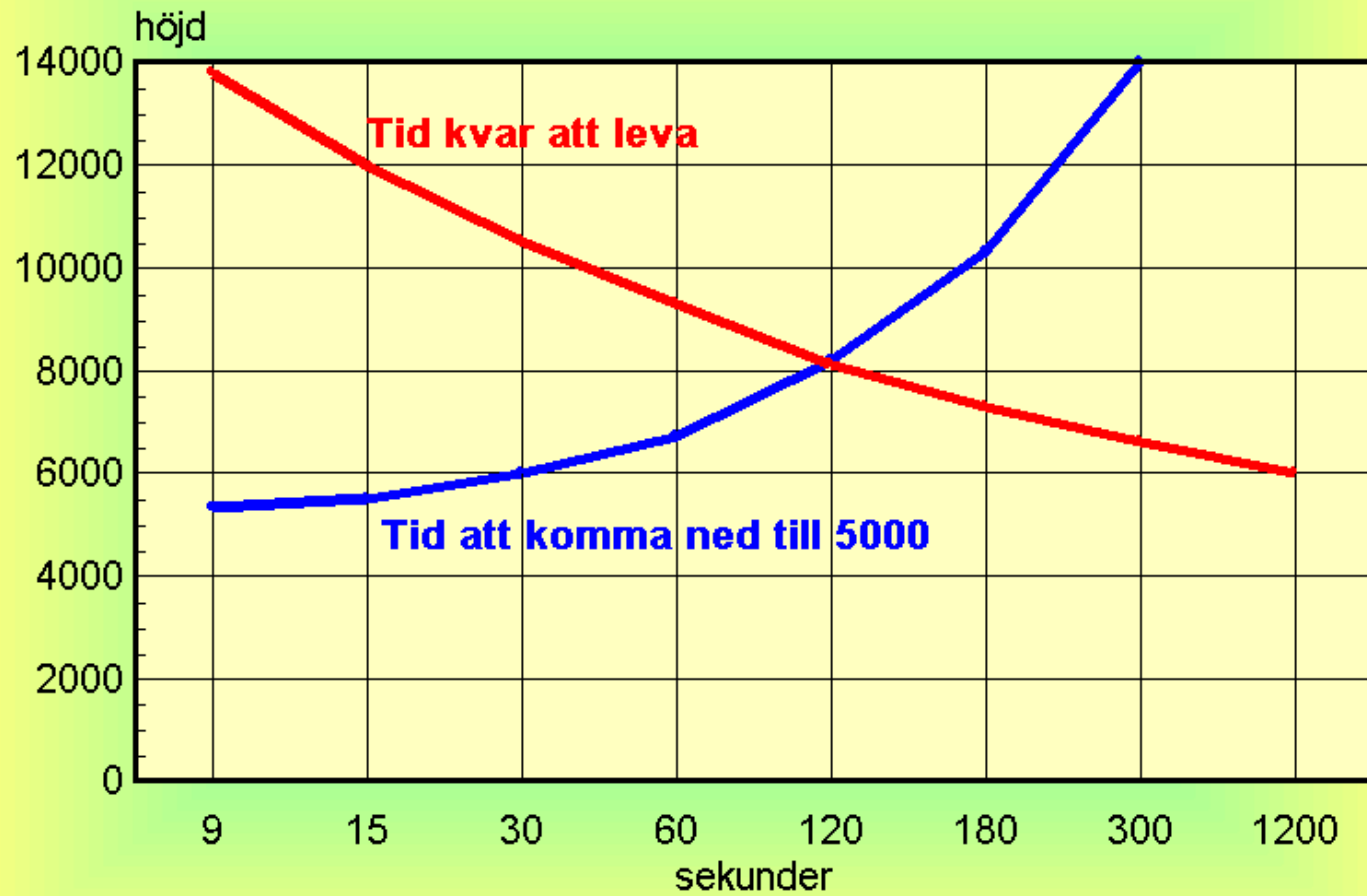
Torsdag 28 mars 2002 12UTC







O2 haveri!



Date: Thursday, March 23, 2002

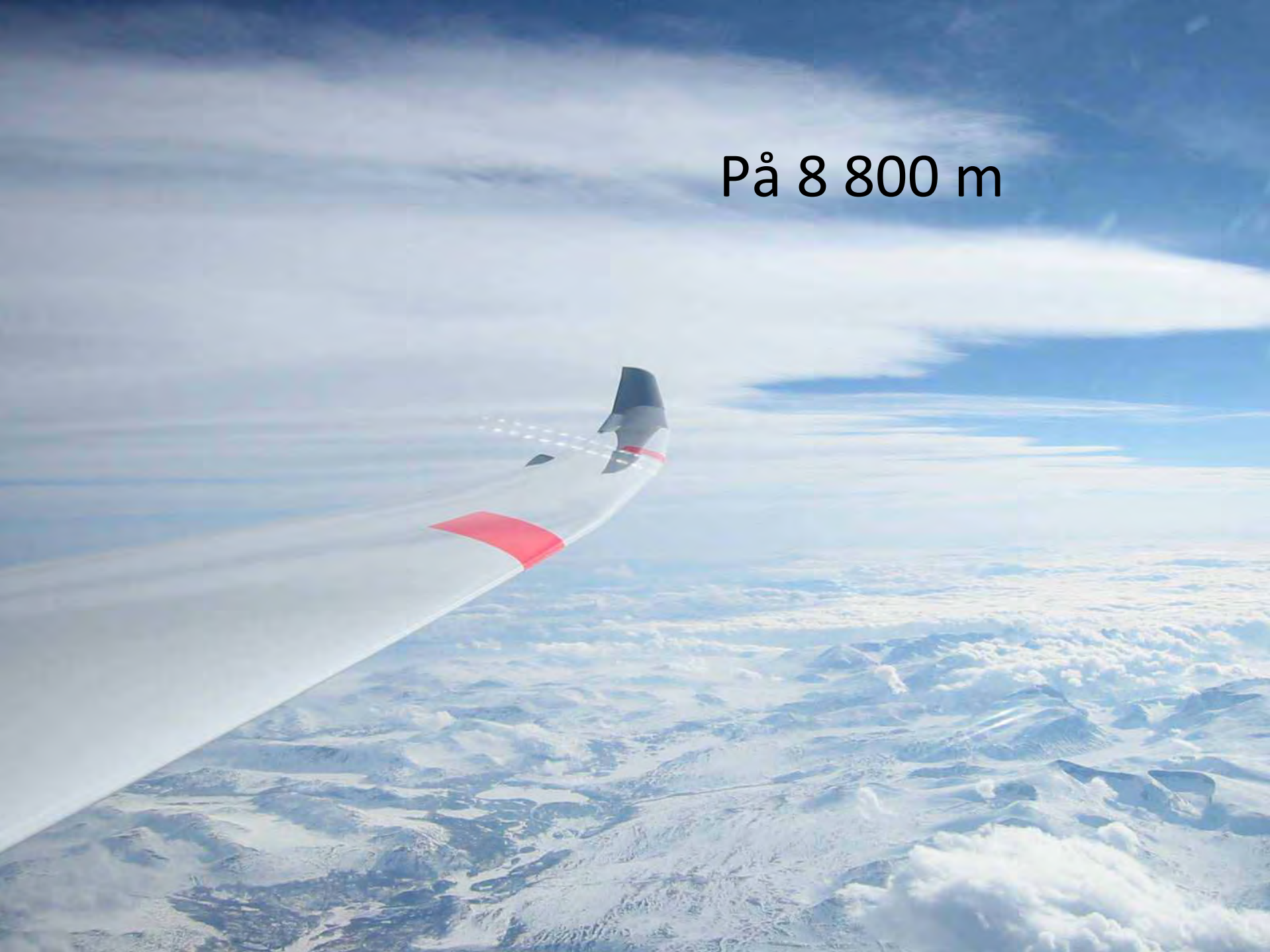
Pilot: Ur

Glider: Ur



Seriöst självmordsförsök?

På 8 800 m



Sammanfattning

- HIRLAM är enklast att använda – men använd hjärnan!
- Topmeteo är värd varenda € - för finsmakaren
- RASP Blipmaps – fin temp
- Kolla tempur – det kan löna sig
- S/NLF har en bra väderportal nlf.no/seilfly/seilflyvejret
- Fota när du flyger
- Spara satellitbilder, tempur, analyskartor etc

