

# Flachlandwellen über Brandenburg



Wellentreffen Hannover 4.3.2017  
Herbert Horbrügger

EDBE  
31.5.2015  
Foto HH

# Flachlandwellen über Brandenburg

- Wolkenbeobachtungen

- Wellenflüge am 7.6.2015

- Vergleich verschiedener Flüge

# Wellen Wolken

# Beobachtungen



Berlin

4.6.2015

10:23



Berlin

4.6.2015

10:25



Berlin

4.6.2015

10:28



Berlin

4.6.2015

10:31

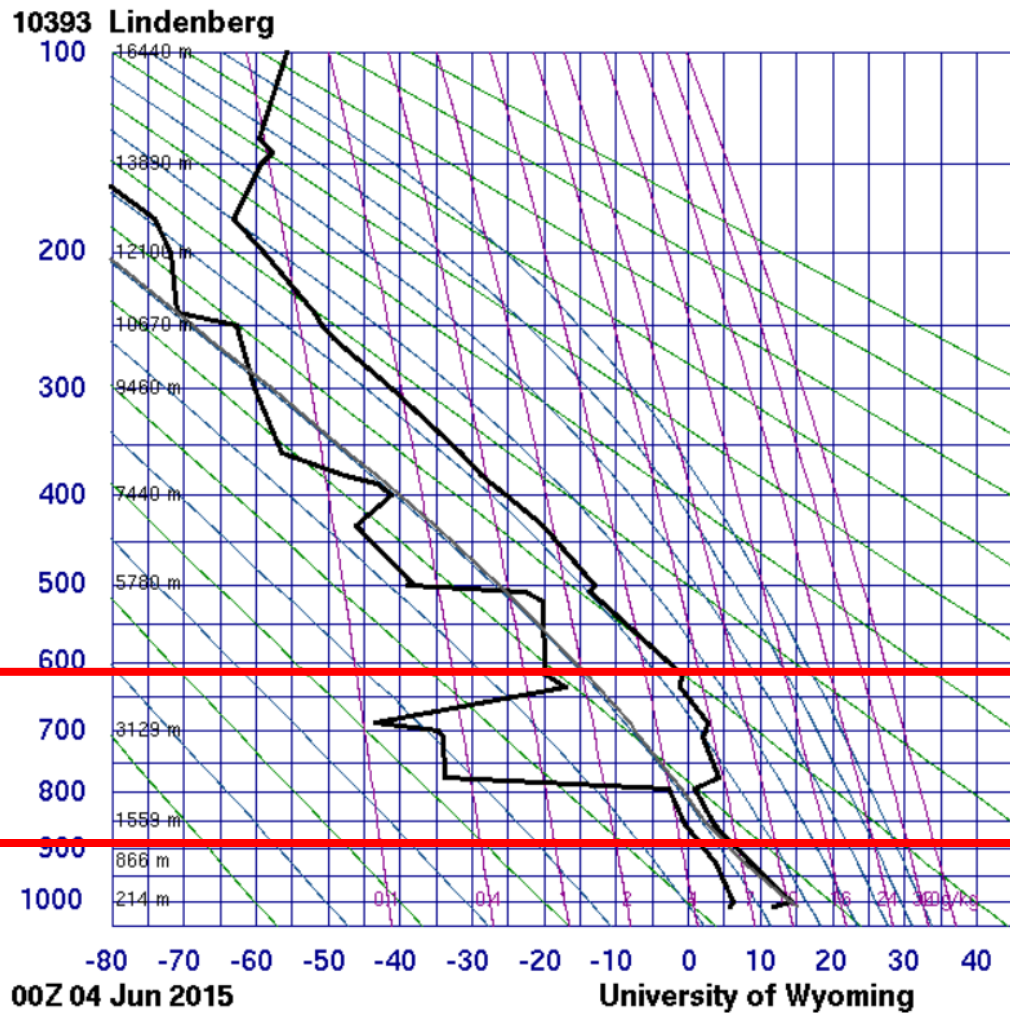


Berlin

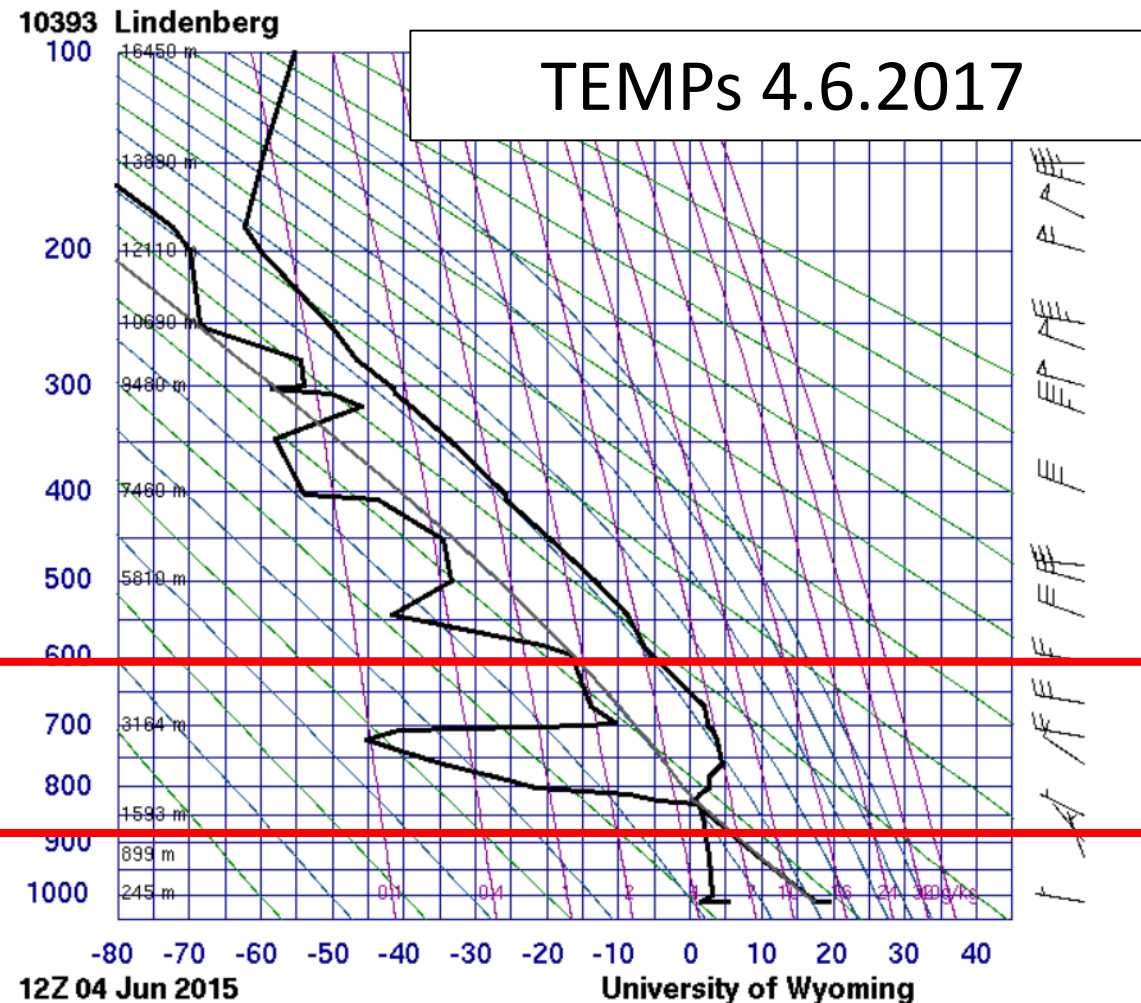
4.6.2015

10:35



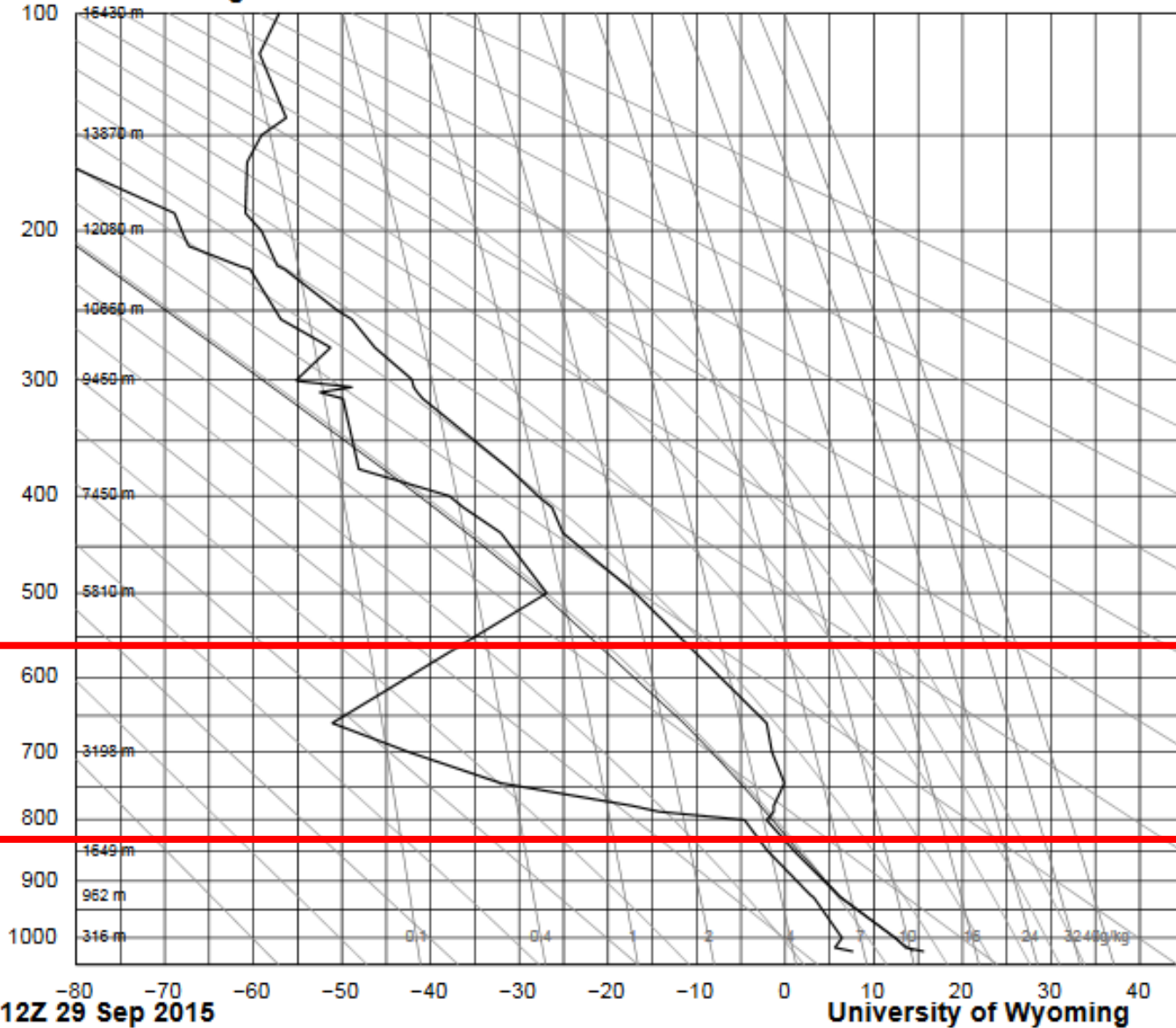


**0 UTC**  
**2000m W 72 km/h**  
**Bodenwind NW 8 km/h**



**12 UTC**  
**3000m W 54 km/h**  
**Bodenwind W 3 km/h**

# 10393 Lindenberg



- SLAT 52.21
- SLON 14.12
- SELV 112.0
- SHOW 13.09
- LIFT 10.57
- LFTV 10.58
- SWET 73.82
- KINX -25.1
- VTOT 17.90
- CTOT 14.90
- TOTL 32.80
- CAPE 14.11
- CAPV 21.27
- CINS -1.71
- CINV -0.28
- EQLV 795.5
- EQTV 792.9
- LFCT 884.3
- LFCV 896.3
- BRCH 0.56
- BRCV 0.85
- LCLT 277.6
- LCLP 906.8
- MLTH 285.5
- MLMR 5.87
- THCK 5494.
- PWAT 13.37

29.9.2015



Zeitraffer  
Video  
Berlin Tegel  
29.9.2015

10:24

ca 7 min



Berlin  
Tegel  
2.6.2015



Berlin  
Tegel  
2.6.2015



Berlin  
Tegel  
2.6.2015

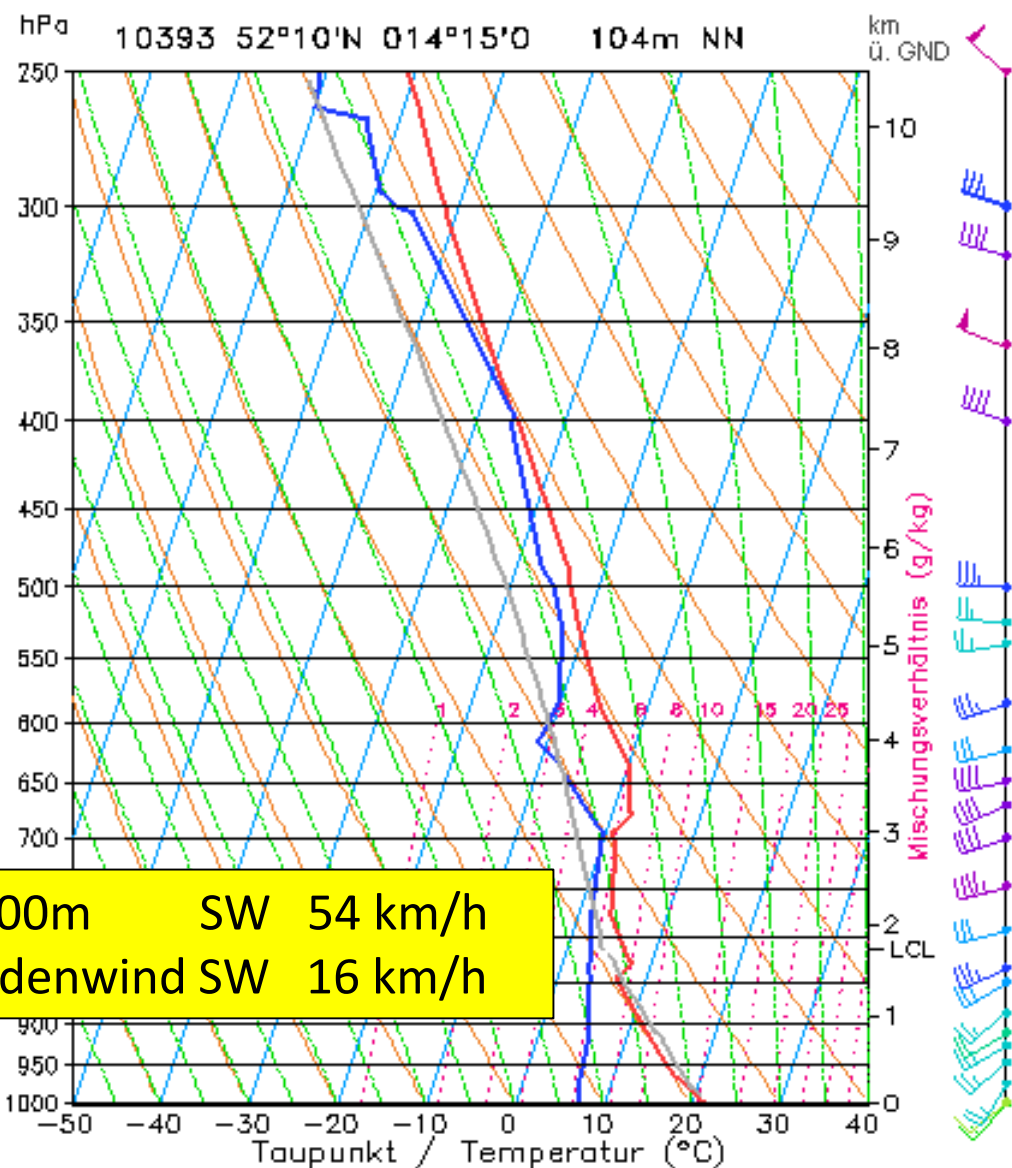
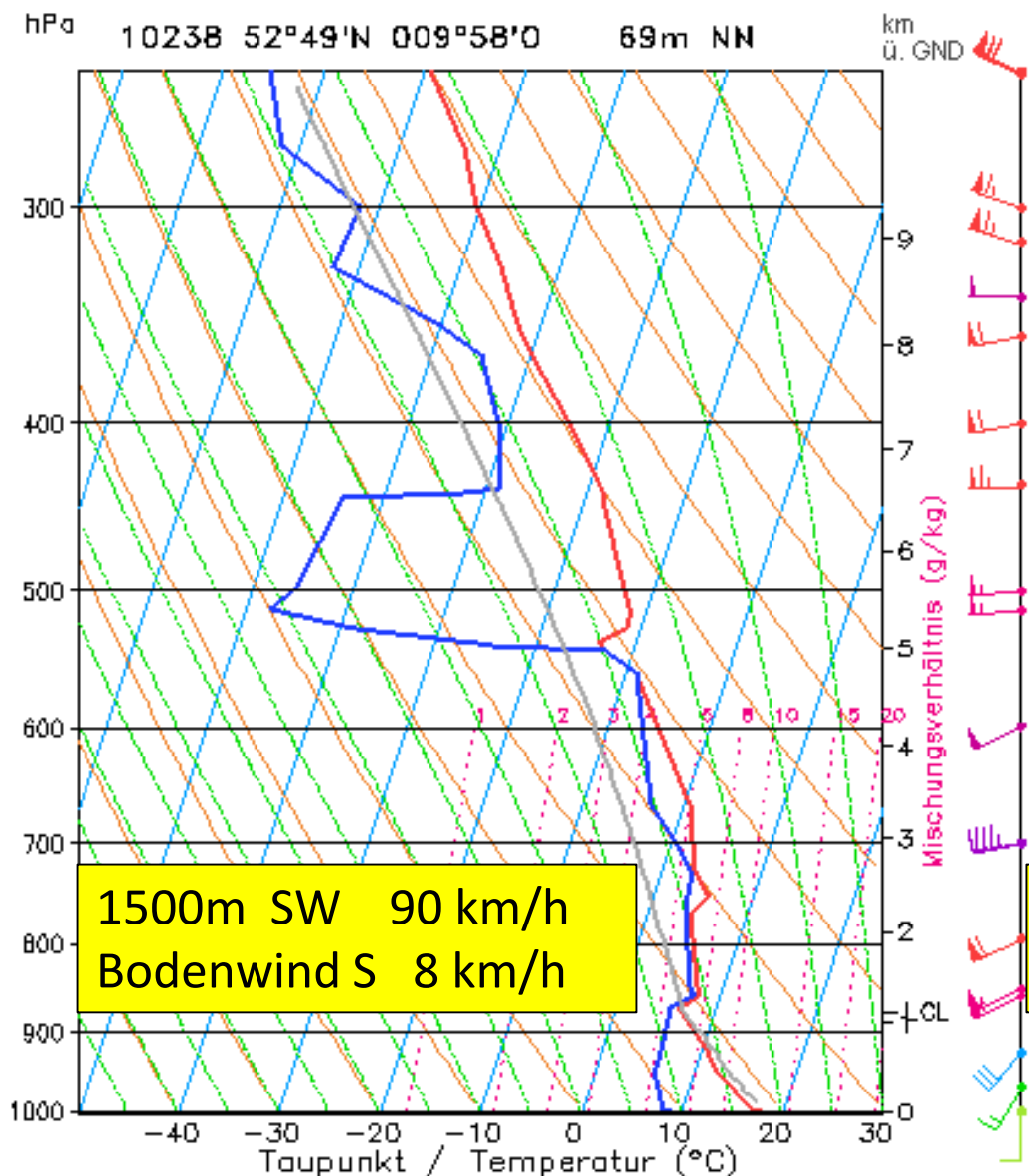
Bergen: Di, 02.06. 12 UTC

Analyse abrufbar

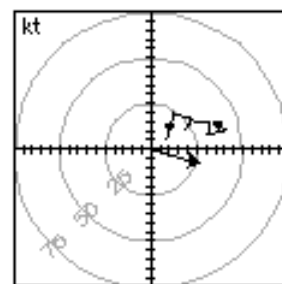
Lindenberg b. Beeskow: Di, 02.06. 12 UTC

Analyse abrufbar

ausgewählt nicht ab



02.06.2015 12UTC



K Index	22
Totals Totals	37
PW (cm)	2.65

Boden	
Temperatur(°C)	21.4
Taupunkt (°C)	7.4
$\theta_e(K)$	313
Lifted Index	8
CAPE (J/kg)	0
CIN (J/kg)	0

Instabiler Wert	
Druck (mb)	773
$\theta_e (K)$	314
Lifted Index	7
CAPE (J/kg)	0
CIN (J/kg)	0

Hodograph	
EH	116
SREH	188
StmDir	286°
StmSpd (kt)	28

wetteronline.de

04.03.2017 Wellentreffen Hannover

- Aufstiegsstrajektorie
- Flachlandwellen
- Taupunkt
- Trockenadiabate
- Isotherme

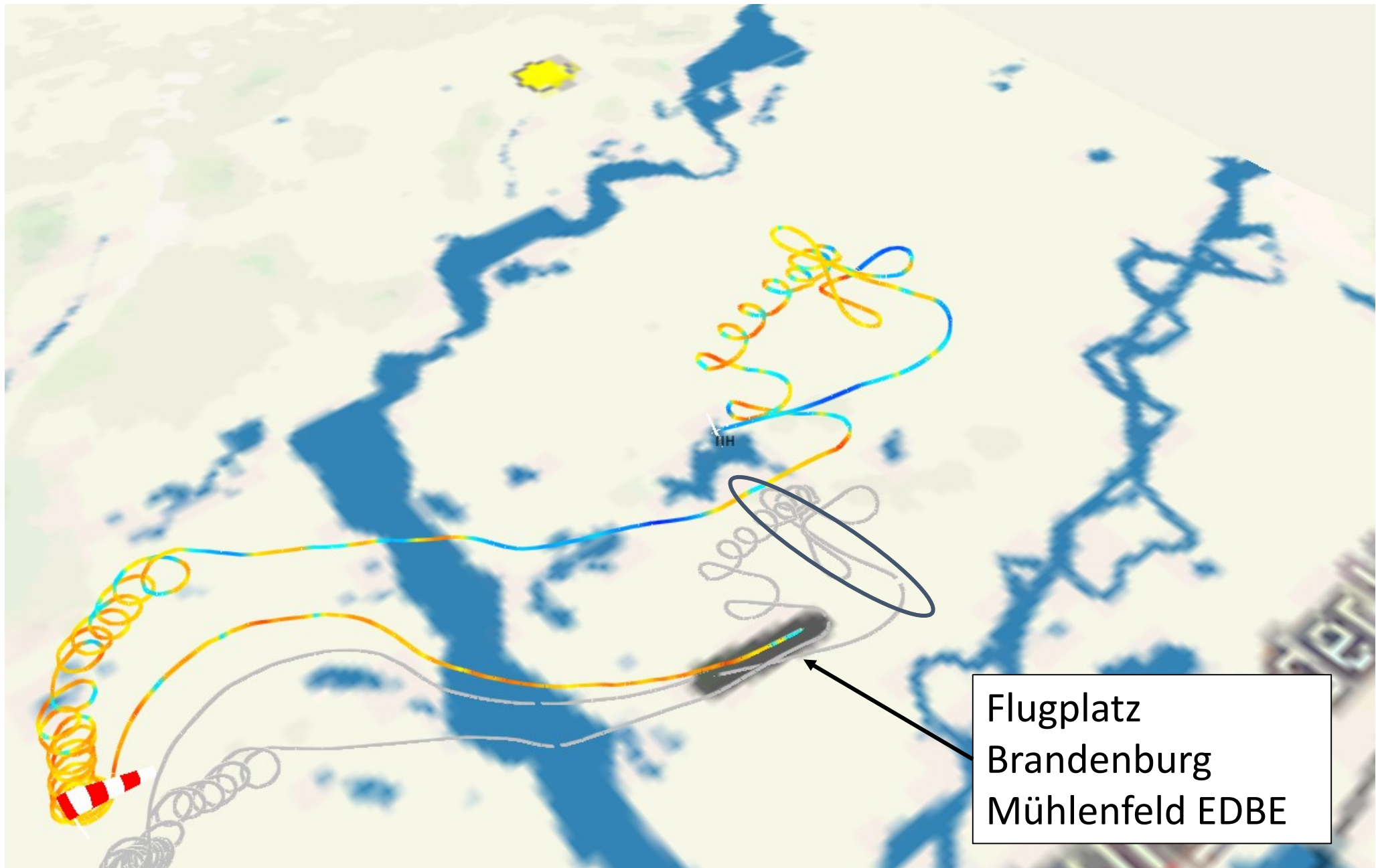
- Temperatur
- Taupunkt
- Aufstiegsstrajektorie
- Trockenadiabate
- Feuchtadiabate
- Isotherme
- Mischungsverhältnis

Herbert Horbrugger

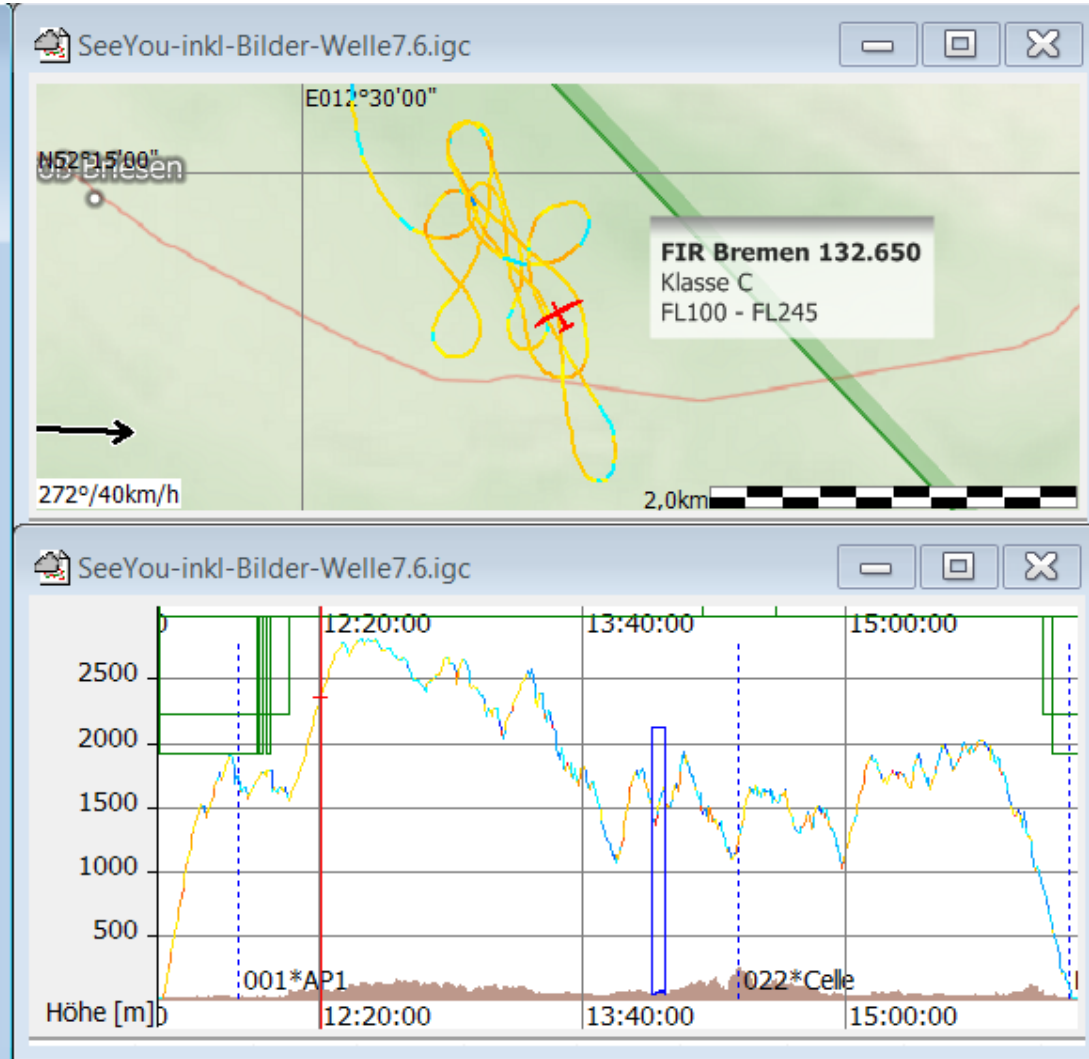
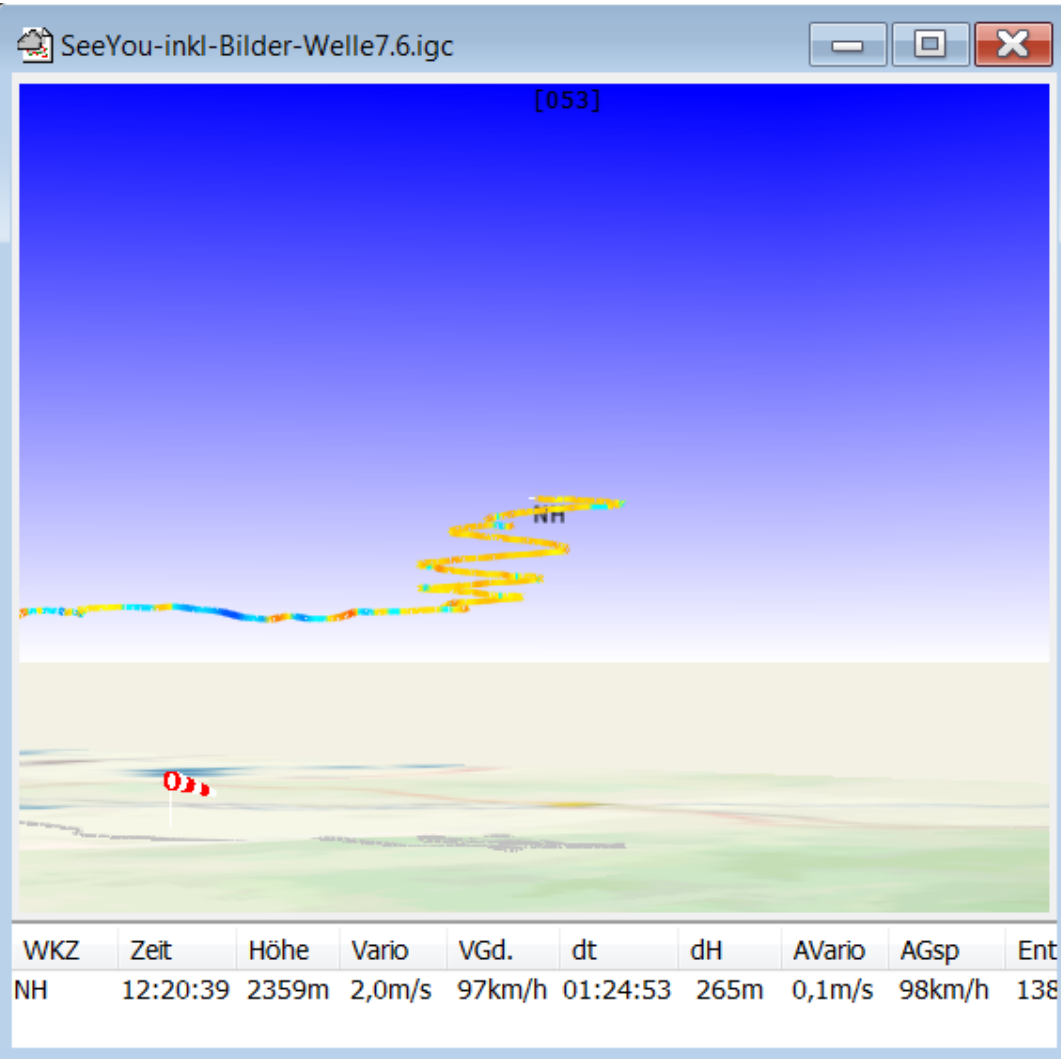
# Wellenflüge über Brandenburg am 7.6.2015

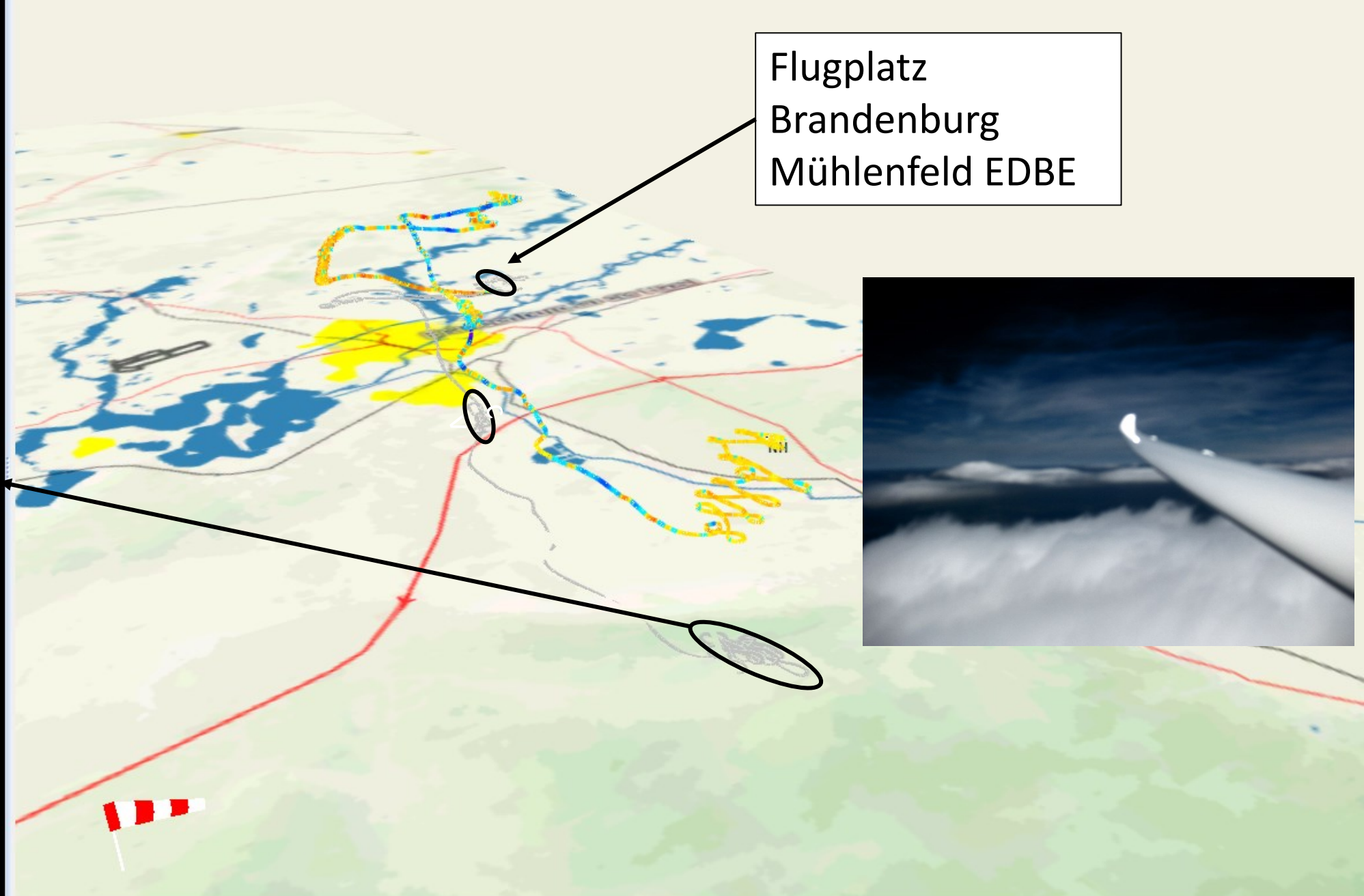






Cockpit





WKZ	Zeit	Höhe	Vario	VGd.	dt	dH	AVario	AGsp	Entf.	Gleitz.	Dist....	Vt	Vm	L/D ...	Wind	AGL	IAS	TAS	Trk	GP
NH	12:25:47	2725m	0,8m/s	76km/h	01:24:53	265m	0,1m/s	98km/h	138,1kn-521		8,7km	13,1km/17,3km/81			272°/402647m		84,9km/97,2km/h	342°		278

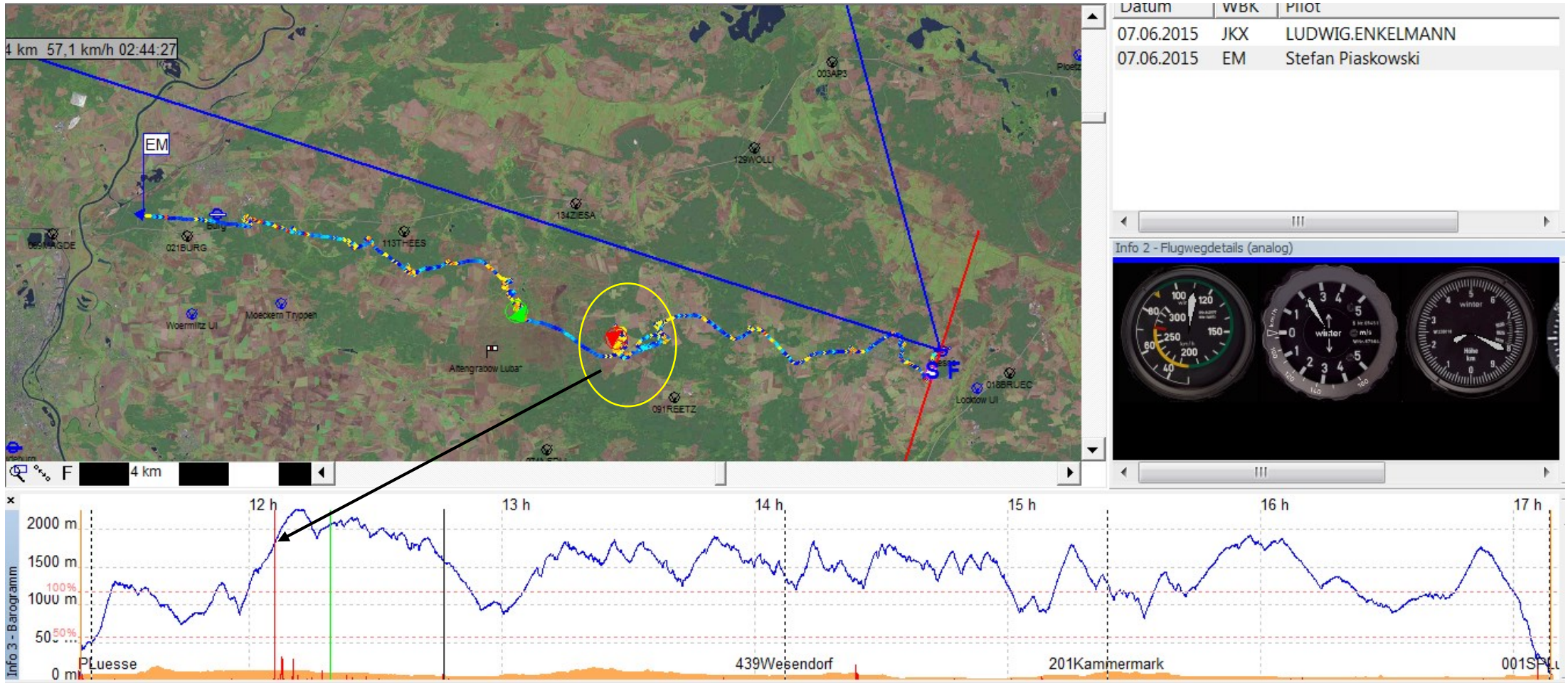
# Wellenflüge am 7.6. 2015 in der Brandenburger Region

Brandenburg	Ete Schöbe	B8
	Martin Vater	BC
	Herbert Horbrügger	NH
Lüsse	Stefan Piaskowski	EM
Eggersdorf	Ludwig Enkelmann	JKX



7.6.2015  
Etes Video

# Region Fläming EM Stefan Piaskowski



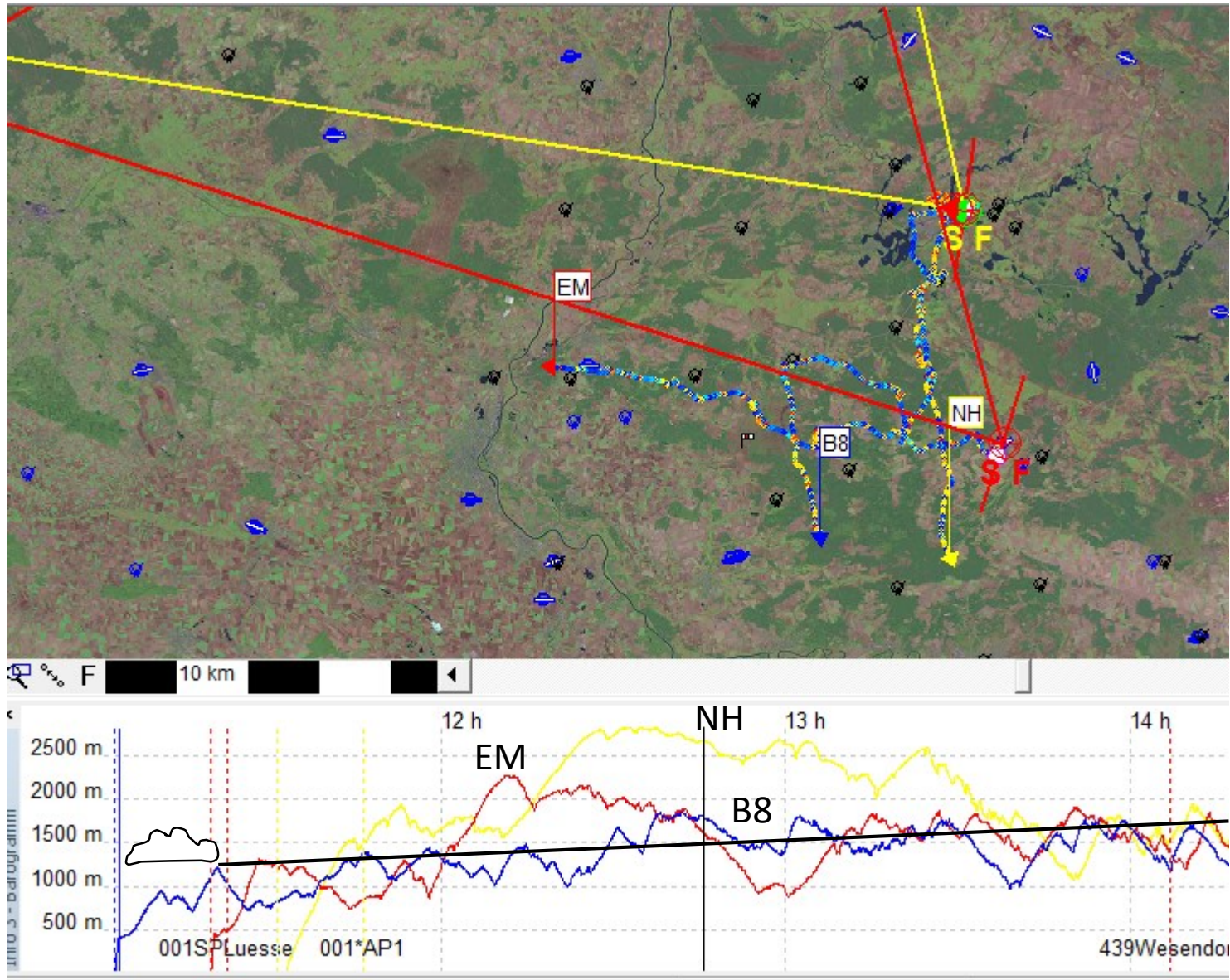
14:00

MEZ



EM,  
14:10







BC, Martin

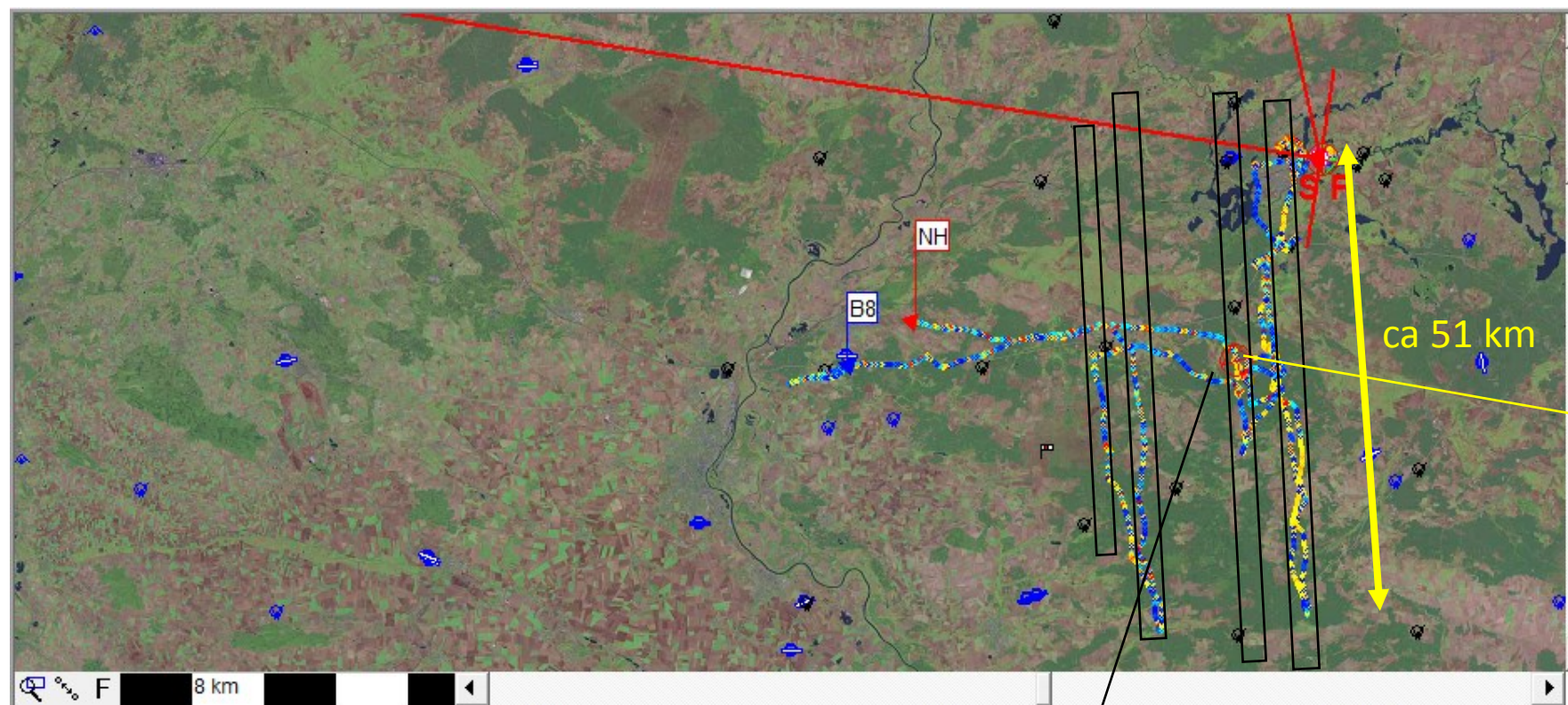


NH

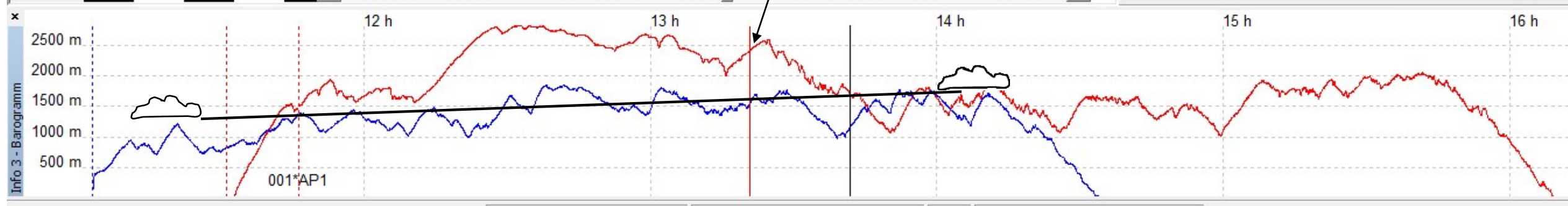




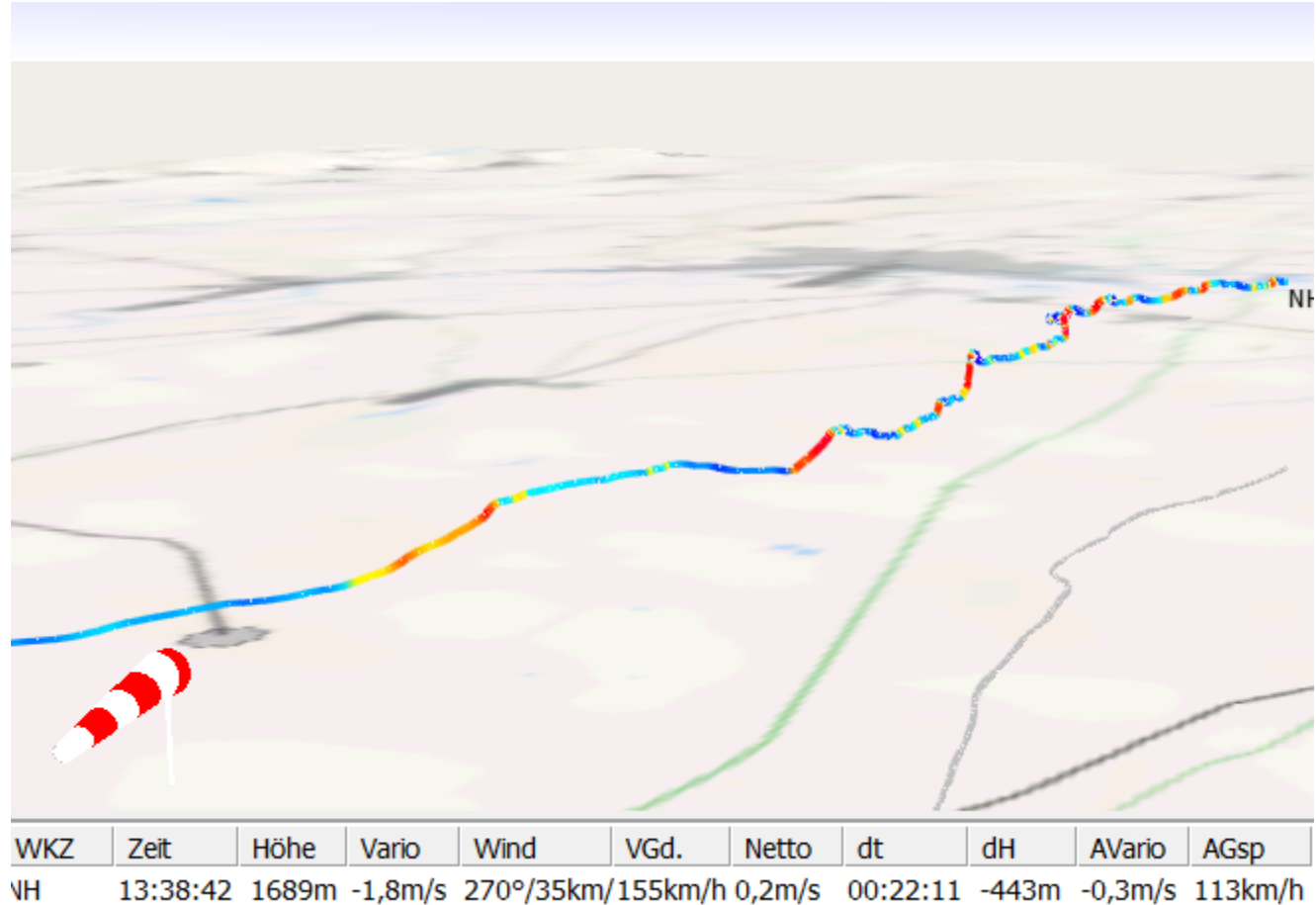
NH, Blick nach  
Norden  
Richtung EDBE



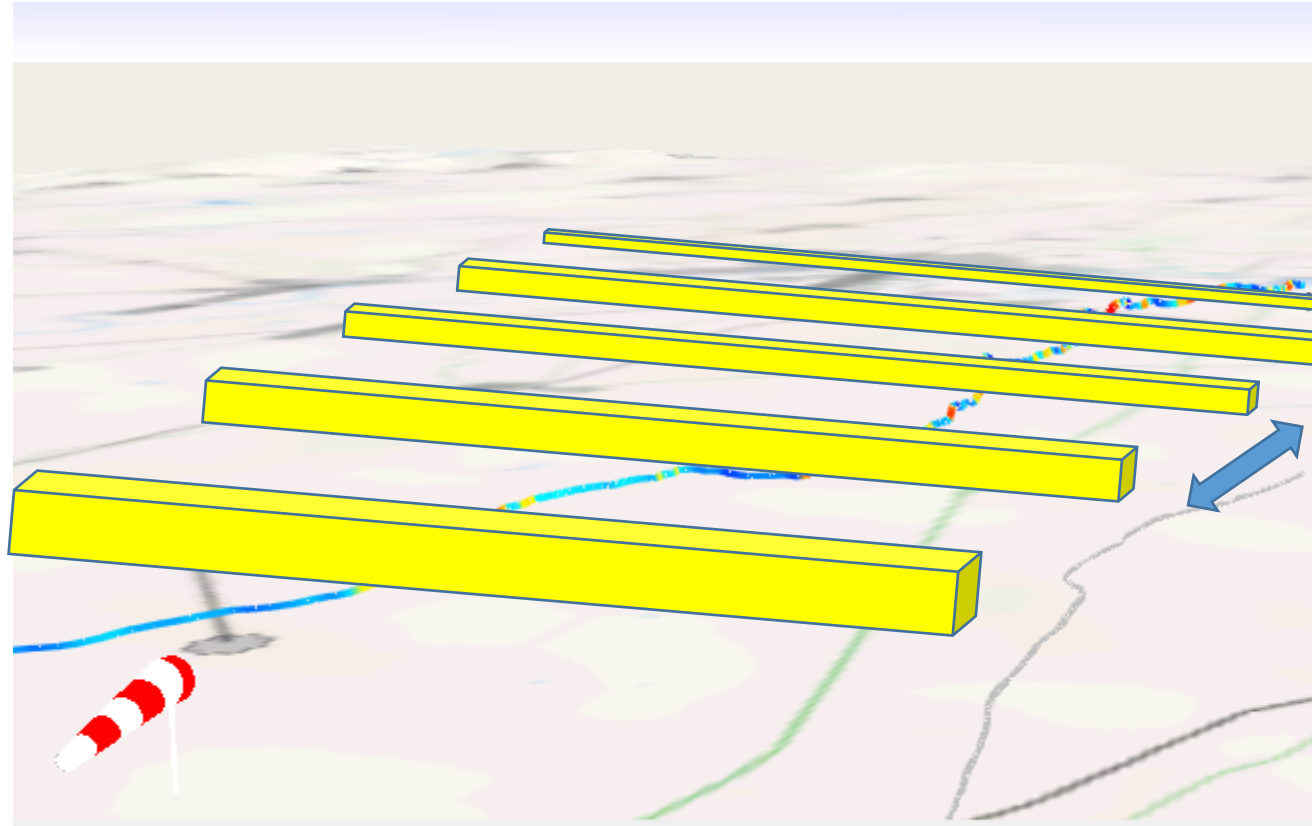
Datum	WBK	Pilot
07.06.2015	NH	HERBERT HORBRUEGGER
07.06.2015	B8	FK Brandenburg



# Vorflug on Top gegen den Wind



# Vorflug on Top gegen den Wind kreuzen der Wellengebiete



Wellenabstand  
ca 3,6-3,8 km

WKZ	Zeit	Höhe	Vario	Wind	VGd.	Netto	dt	dH	AVario	AGsp
VH	13:38:42	1689m	-1,8m/s	270°/35km/155km/h	0,2m/s	00:22:11	-443m	-0,3m/s	113km/h	



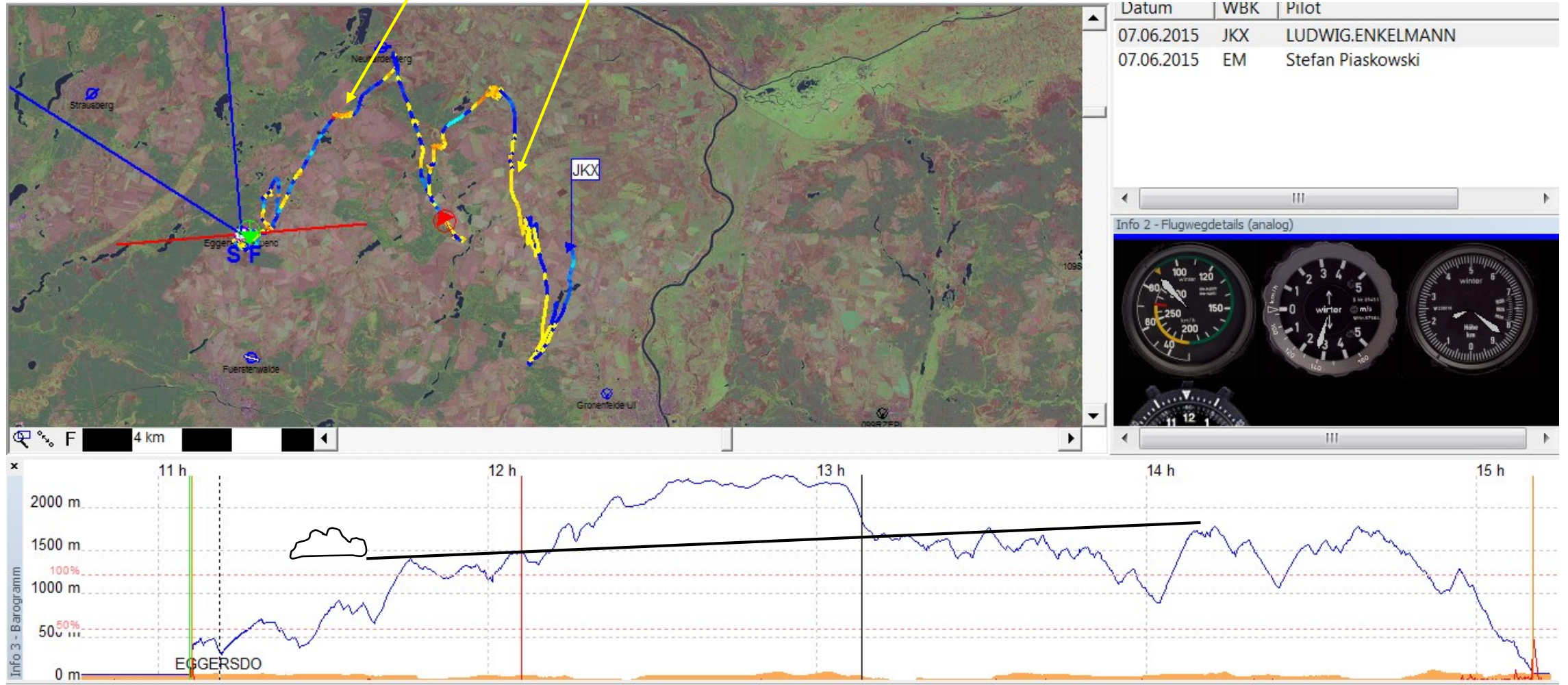
Flugauswertung 7.6.2015

Region Eggersdorf

JKX Ludwig Enkelmann

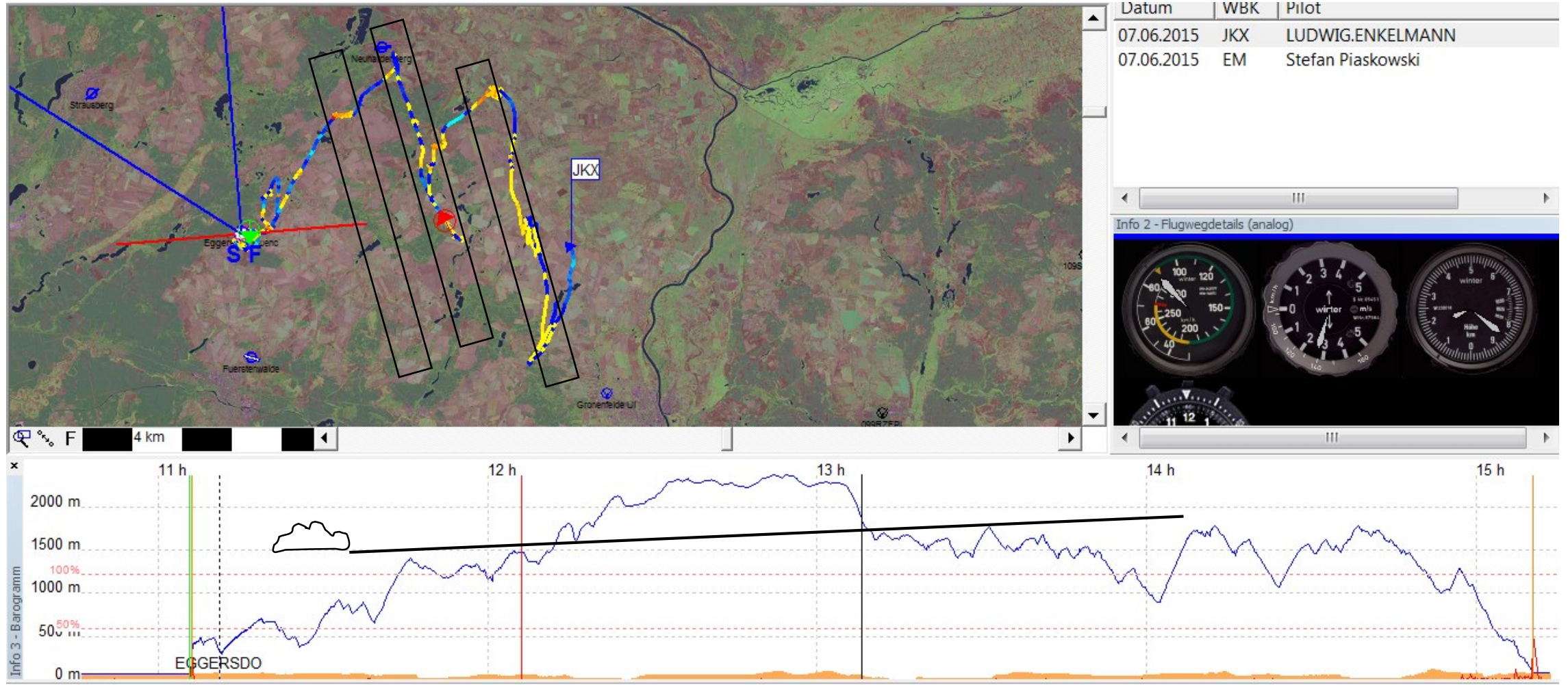
# Region Eggersdorf

Thermik und Wellen Aufwindgebiete



# Region Eggersdorf

## Wellen Aufwindgebiete

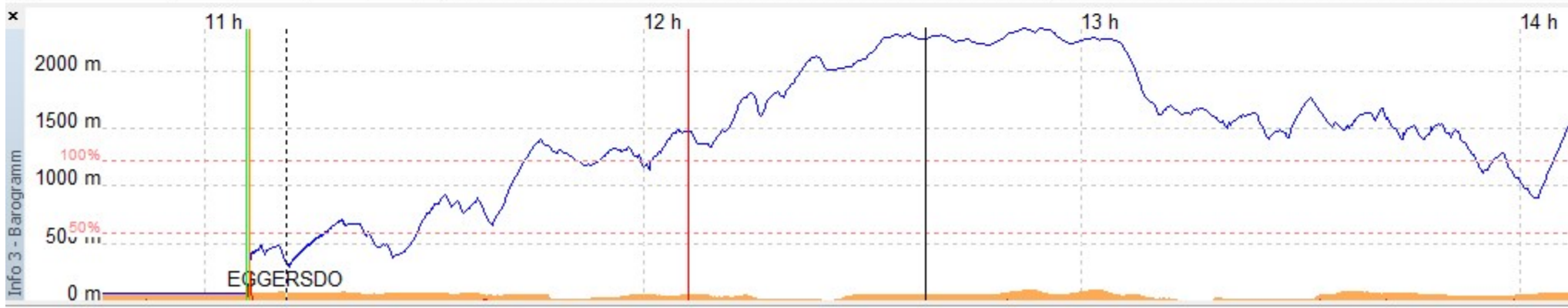
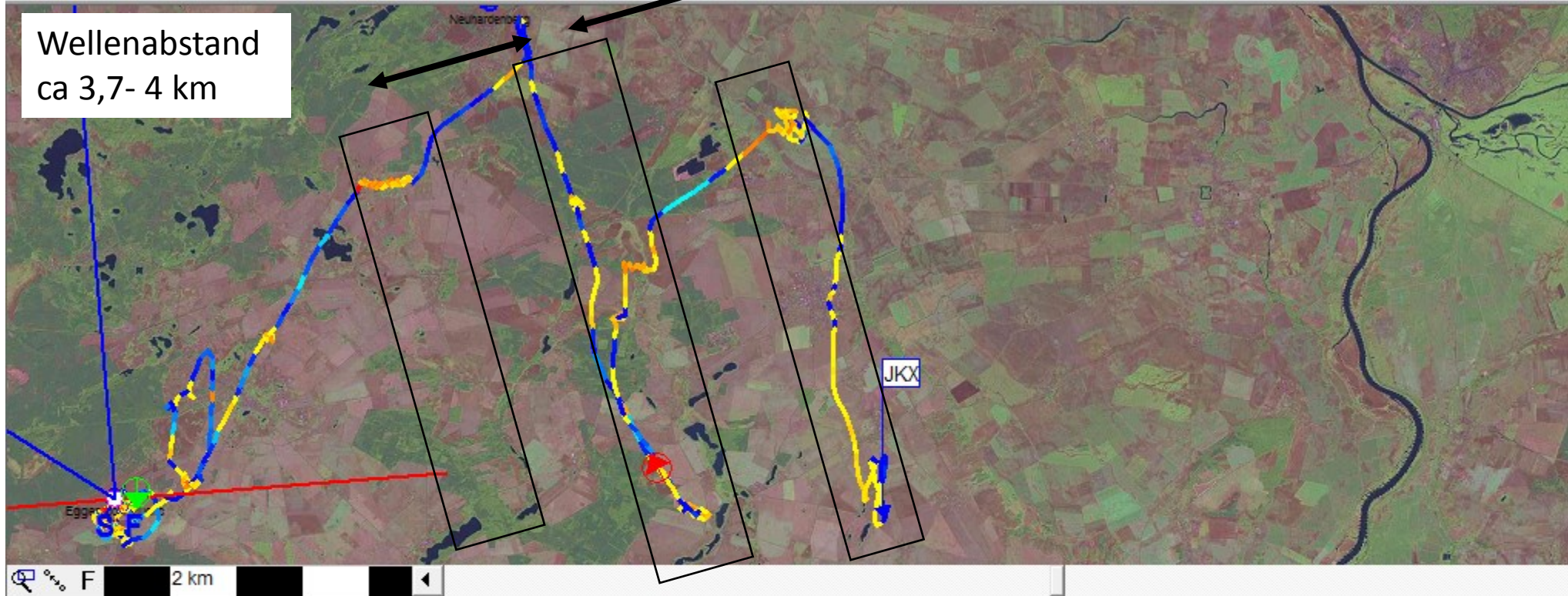


# Region Eggersdorf

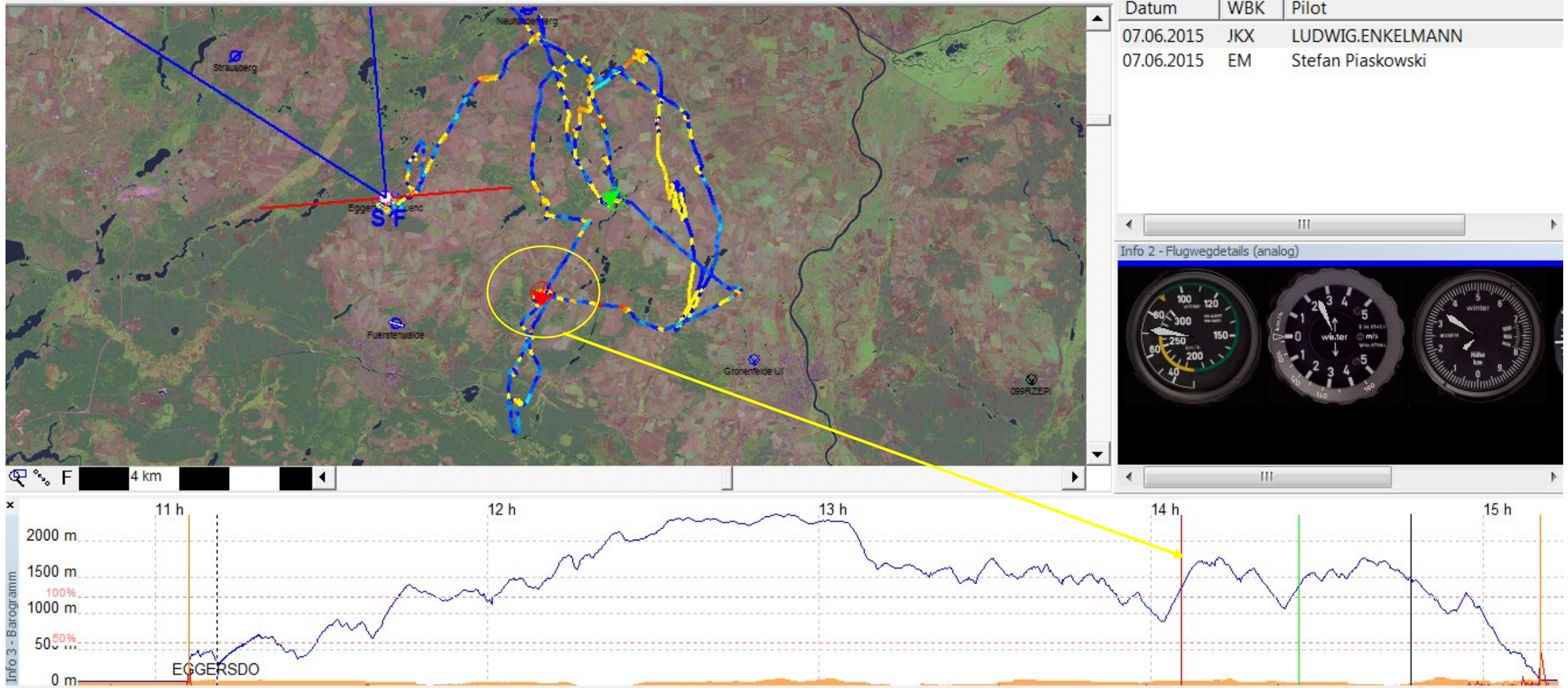
07.06.2015

JKX

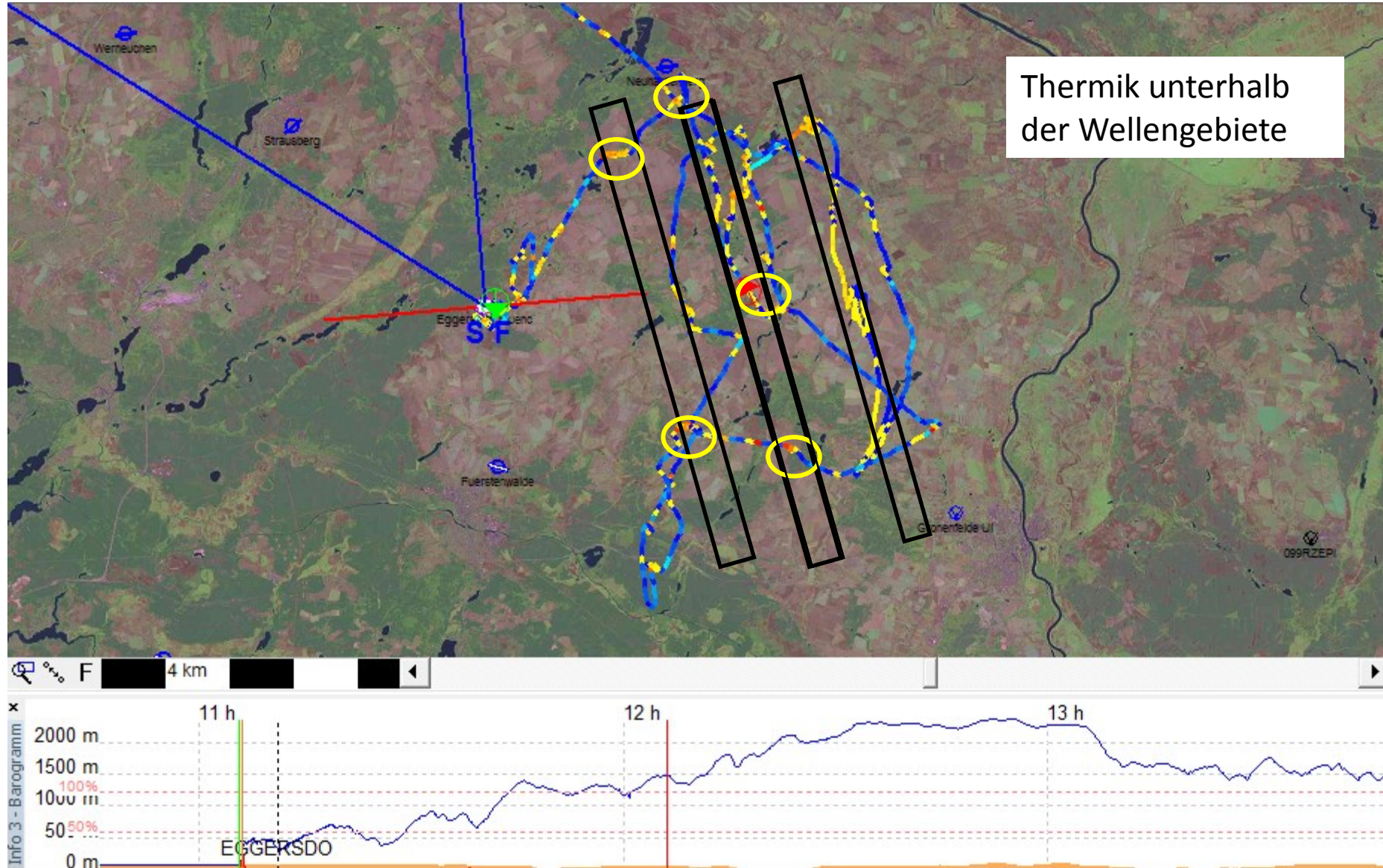
LUDWIG.ENKELMANN



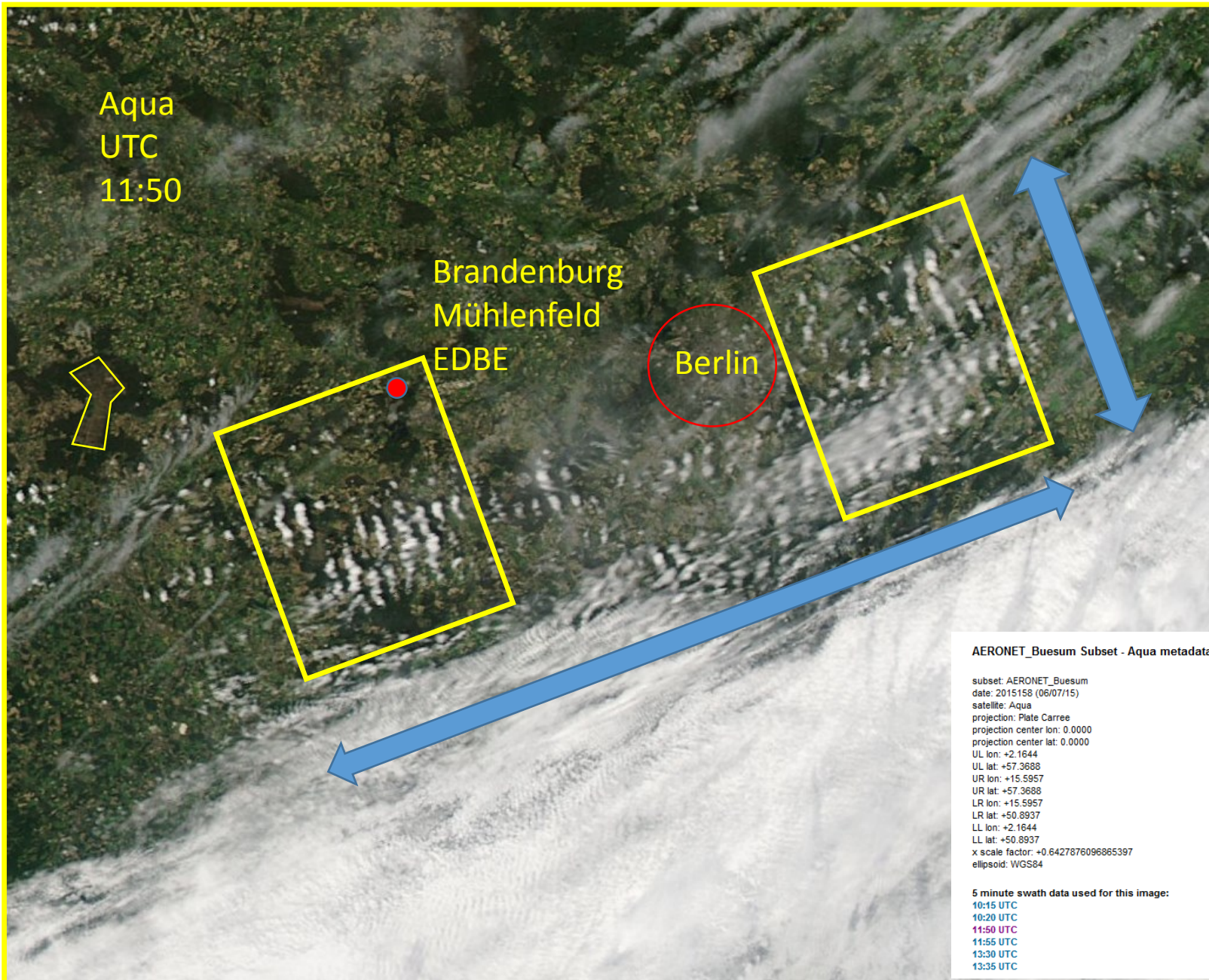
# Region Eggersdorf



# Region Eggersdorf



# Wetter am 7.6.2015



Wellengebiet

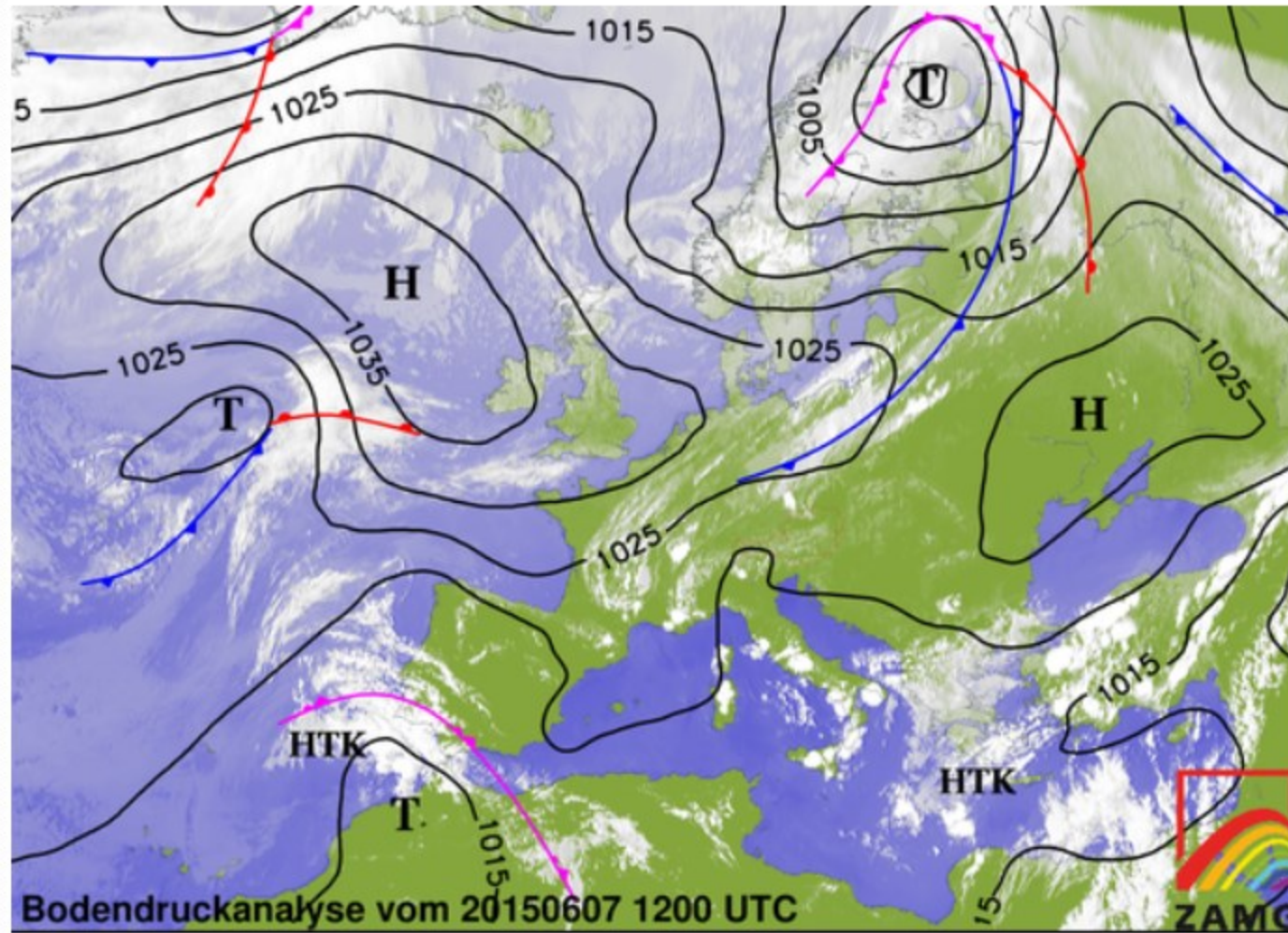
ca 150km\* 50km

Ca 7500km<sup>2</sup>



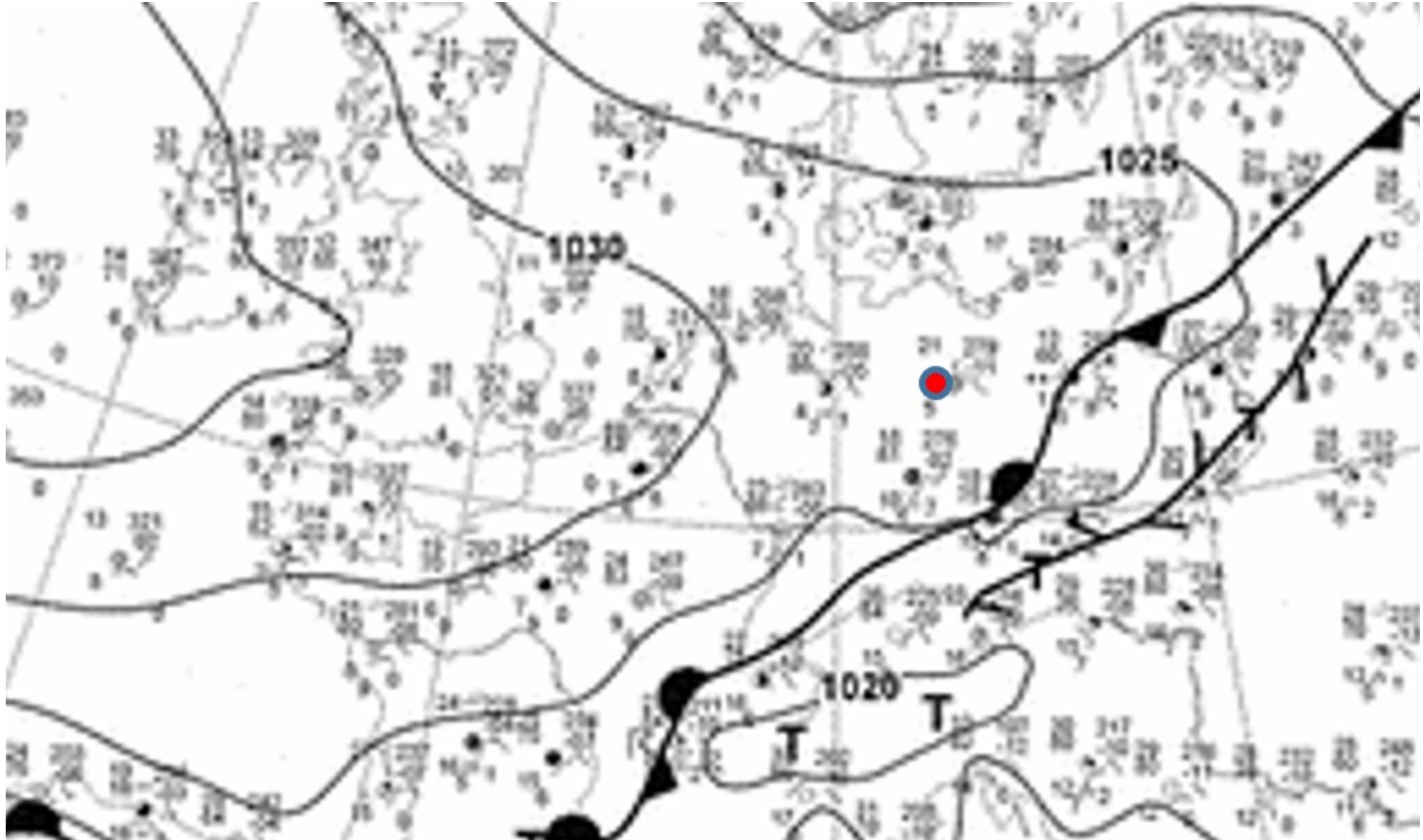
Wetterlage vom 07. Juni 2015, 12 UTC

zur Wetterkarte mit Stationseintra



Kartenarchiv

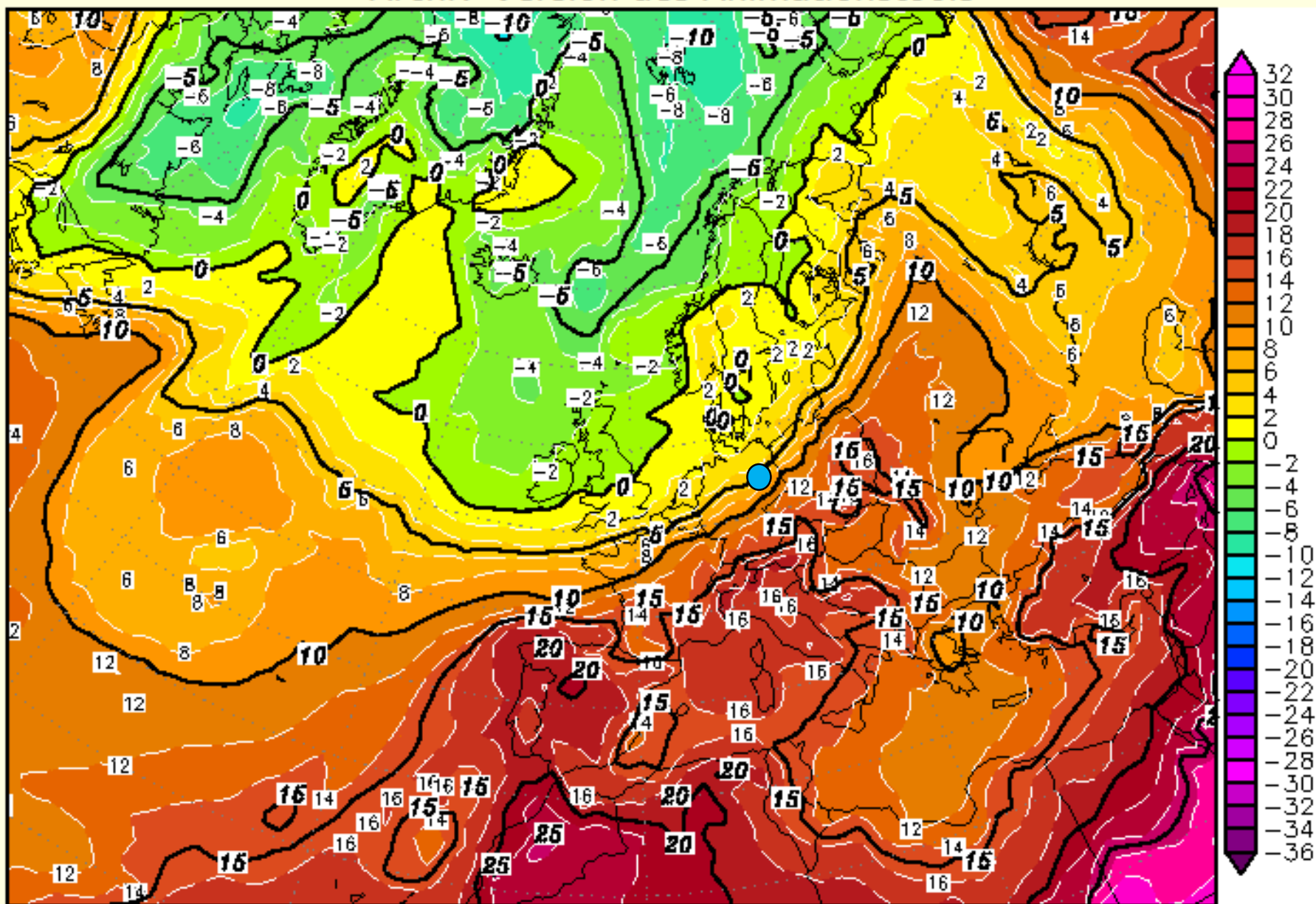
07. Juni 2015 12 UTC Karte abrufen



Sonntag, 07-06-2015 12 UTC

(C) 2015 Deutscher Wetterdienst

# Archiv-Version des Animationstools



850 hPa Temperatur [Grad C]

04.03.2017 Wellentreffen Hannover

Flachlandwellen

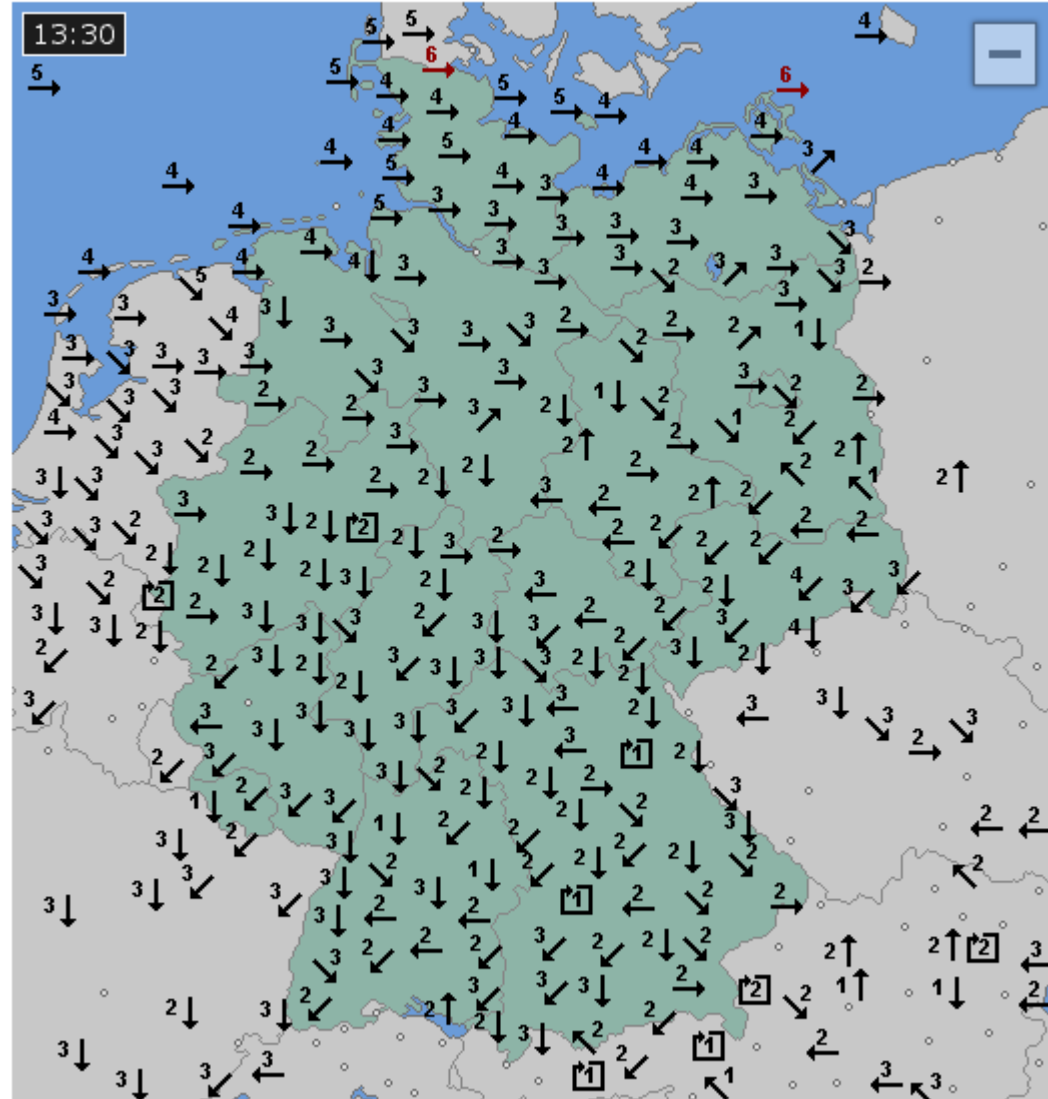
(Analyse)

Herbert Horbrügger

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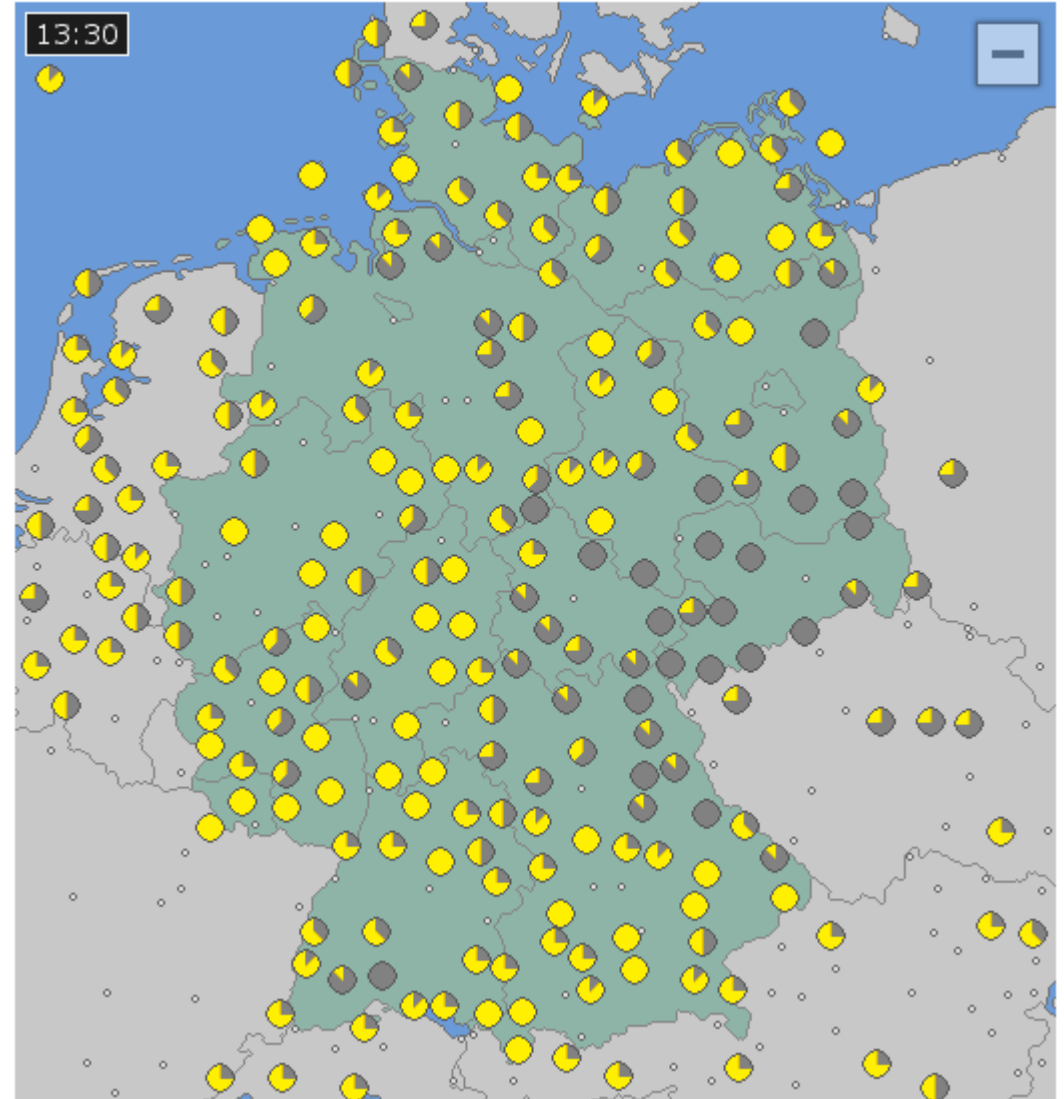
Sonntag, 07.06.2015 13:30 MESZ

### Aktuelle Windstärke (Beaufort) und Windrichtung

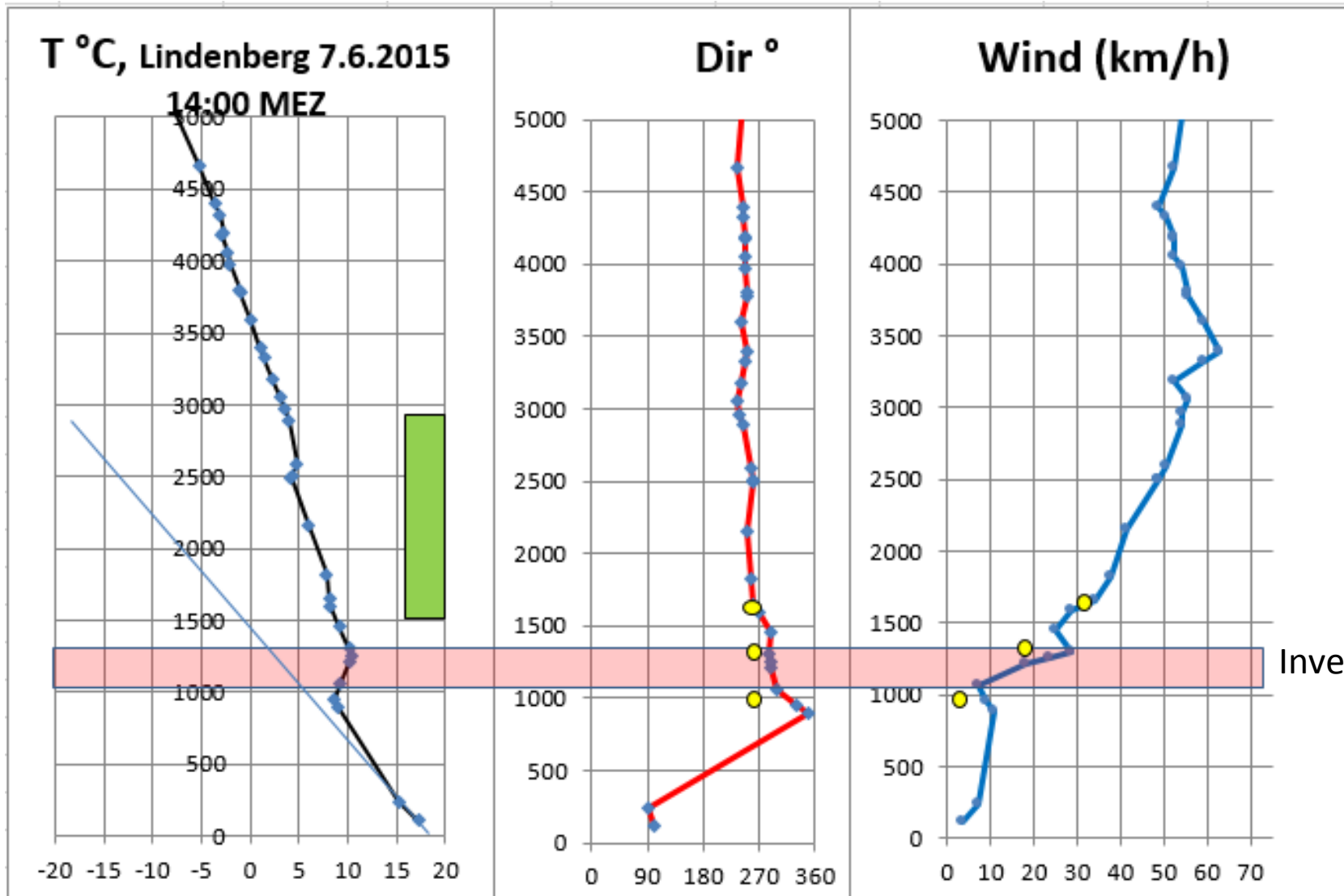


Sonntag, 07.06.2015 13:30 MESZ

### Aktueller Bedeckungsgrad (Achtel)



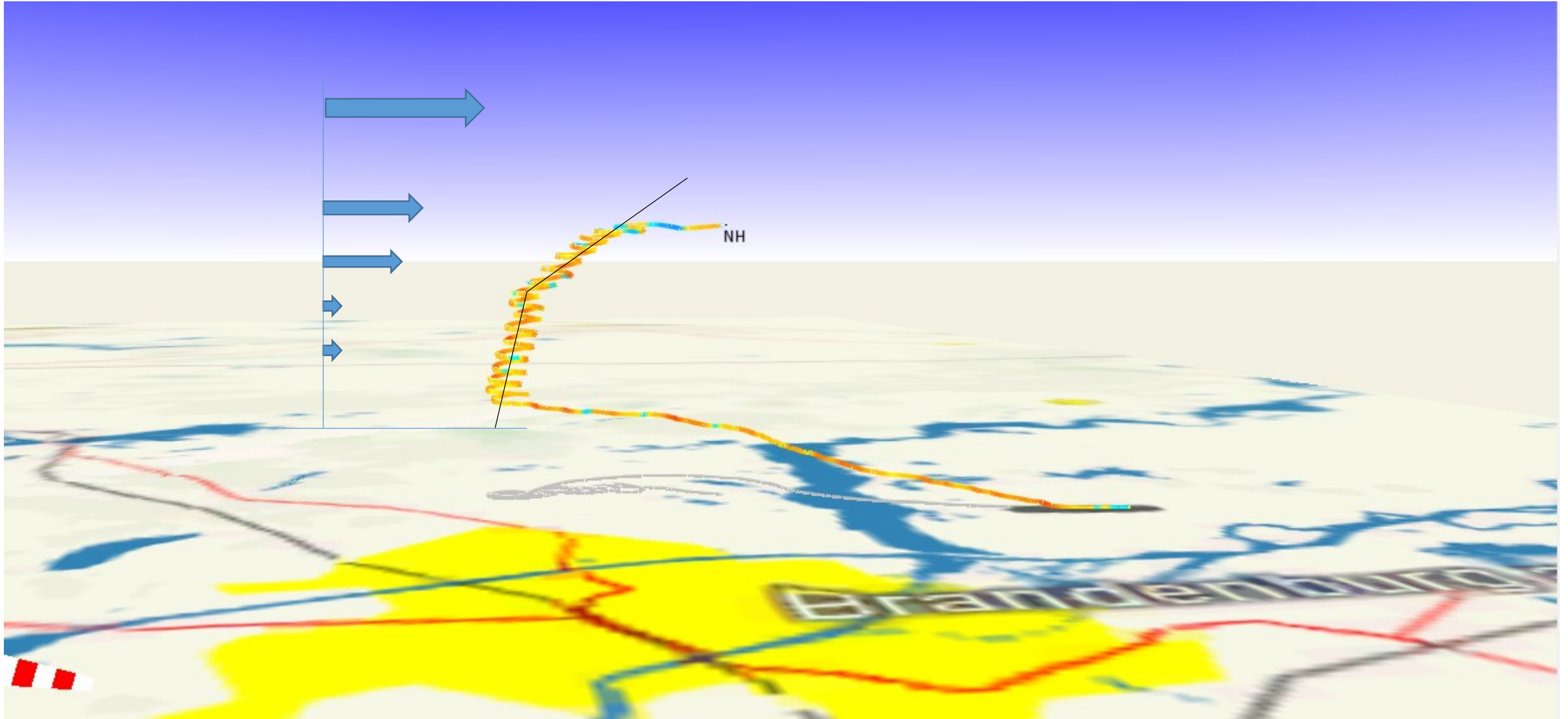
# TEMP Lindenberg 7.6.2015



Welle



Messwerte ED  
BE aus NH IGC  
File



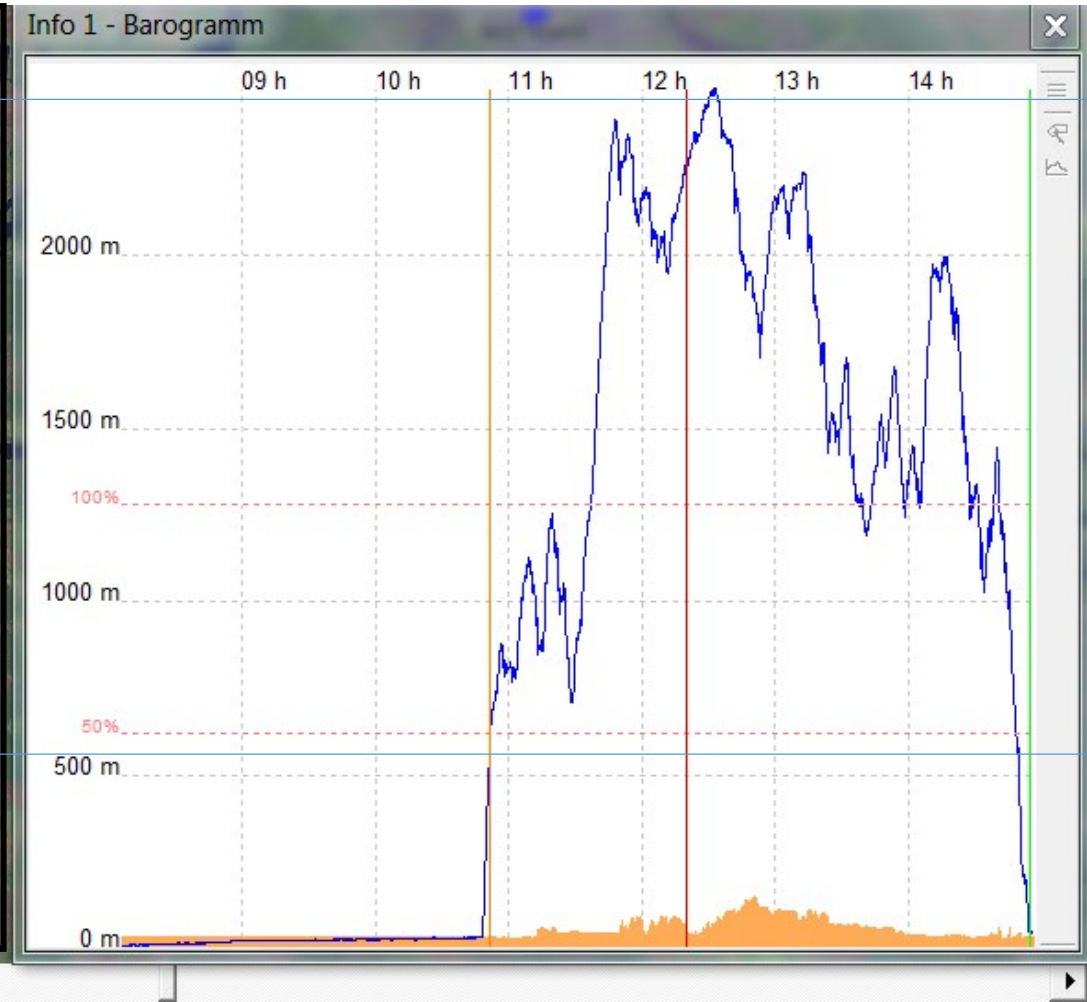
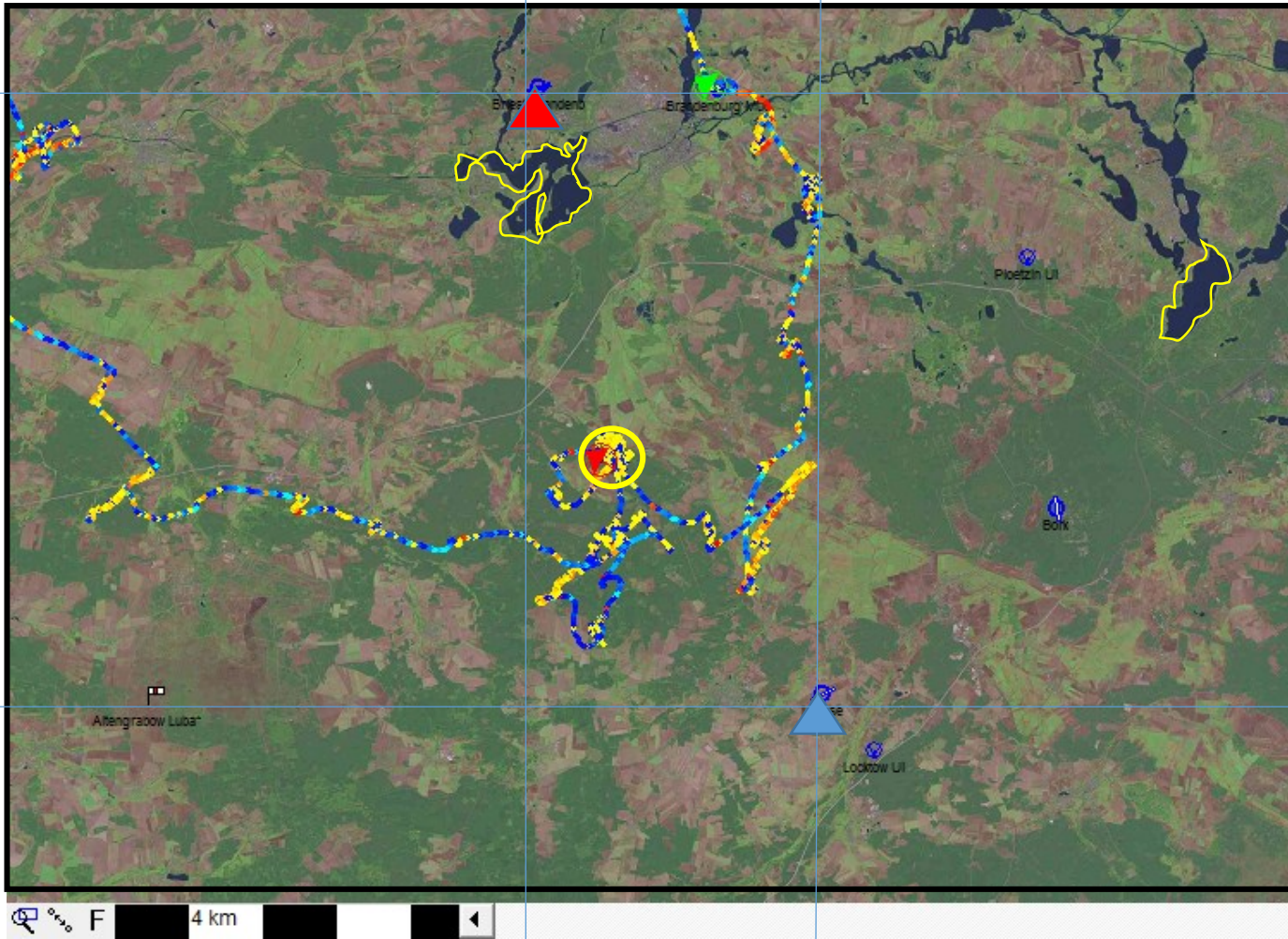


7.6.2015  
Kelvin Helmholtz  
Wolken Strukturen

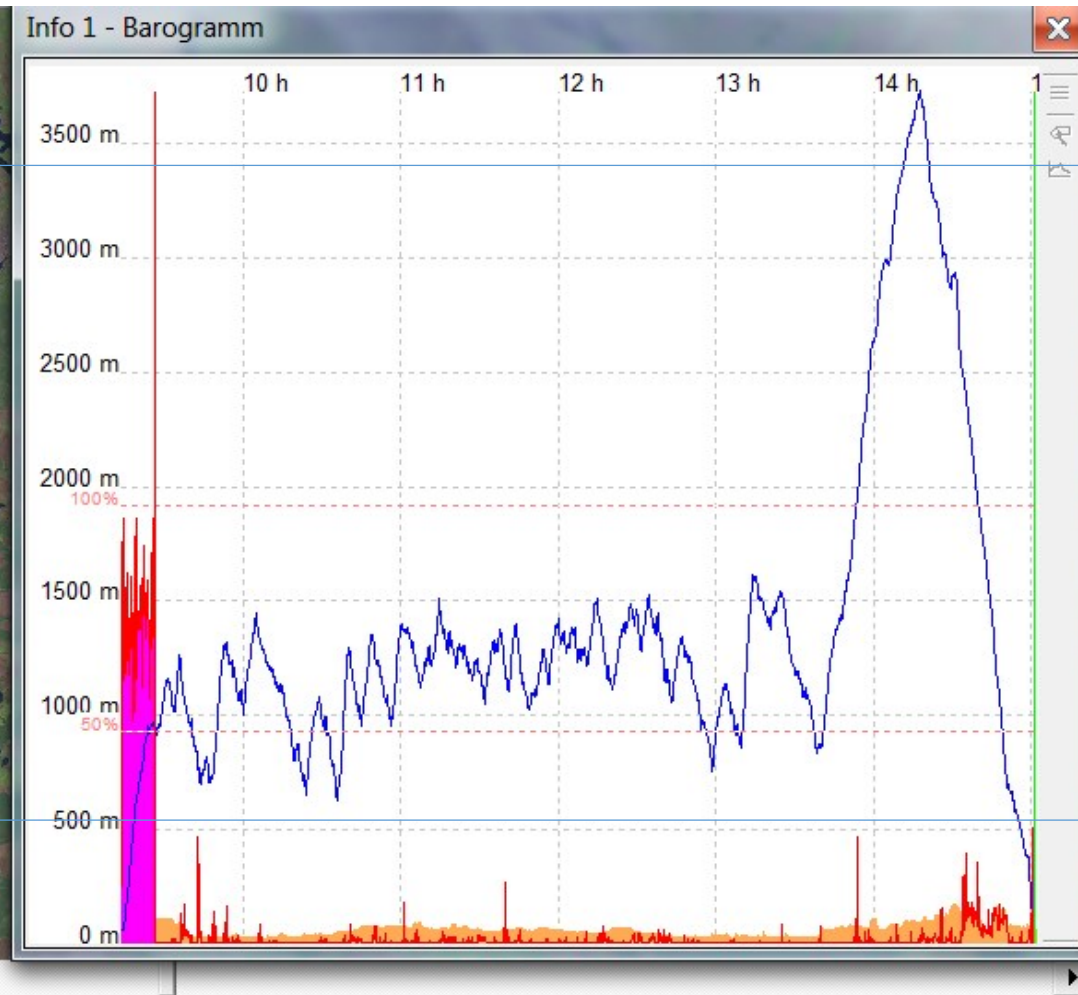
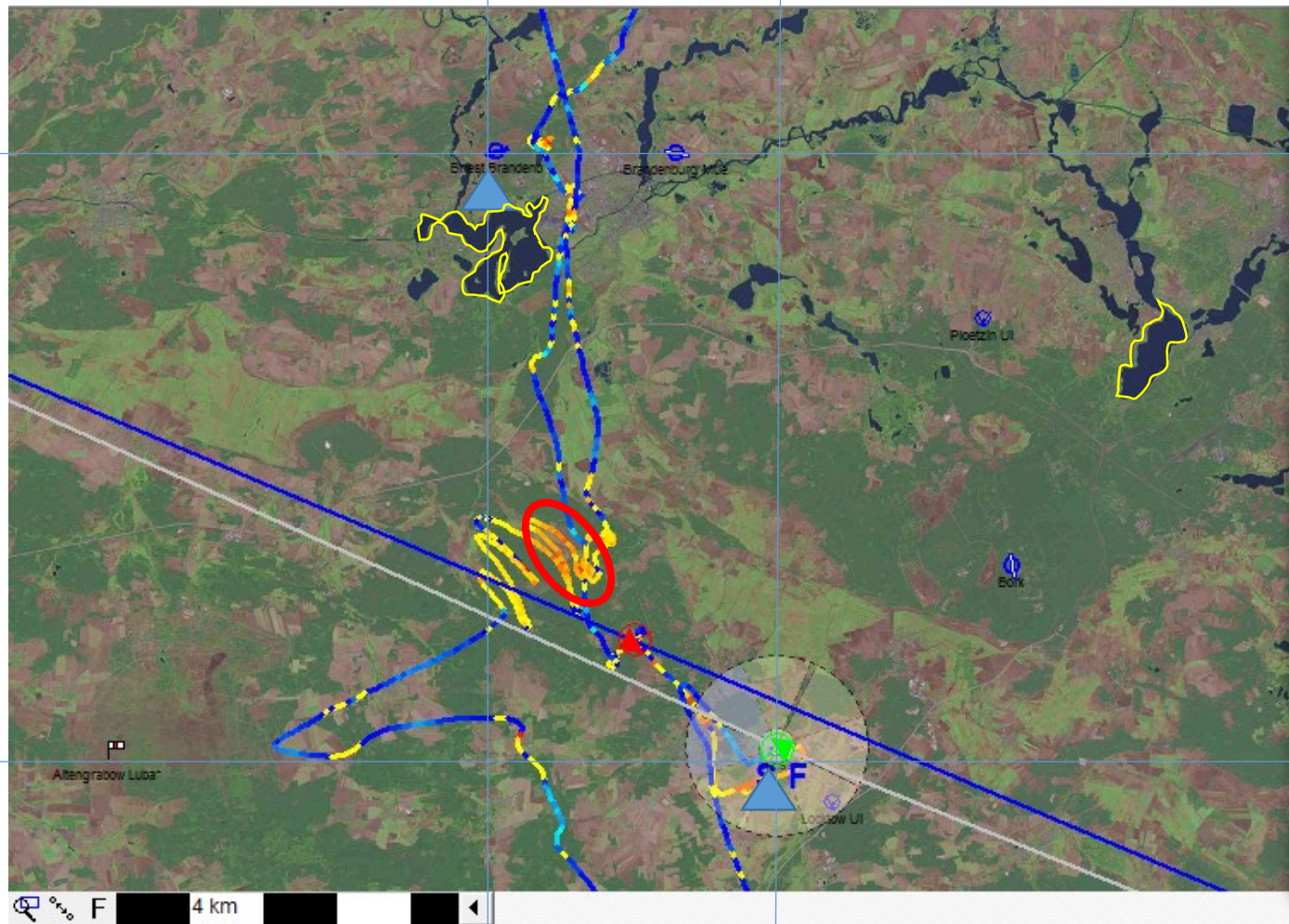
# Vergleich von Wellenflügen bei W- SW-Lagen



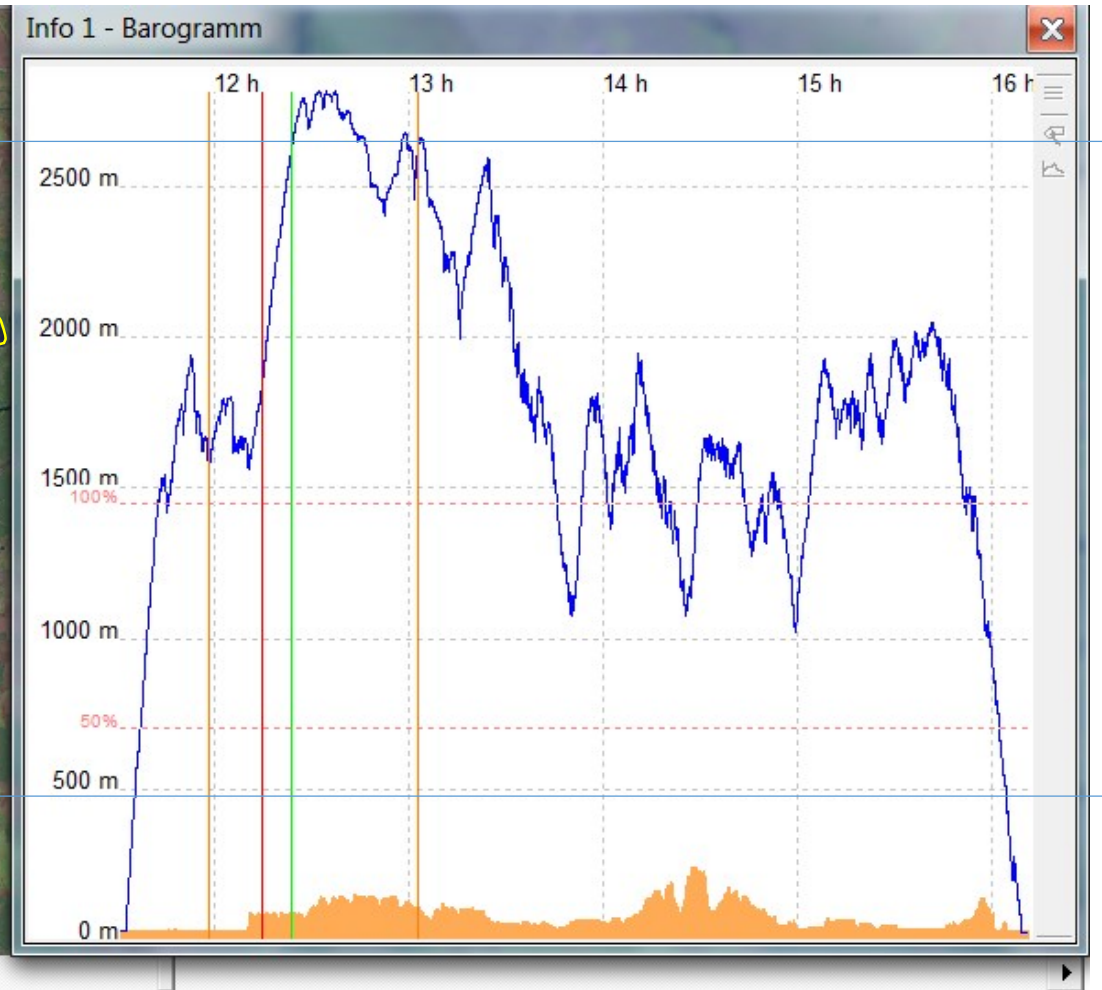
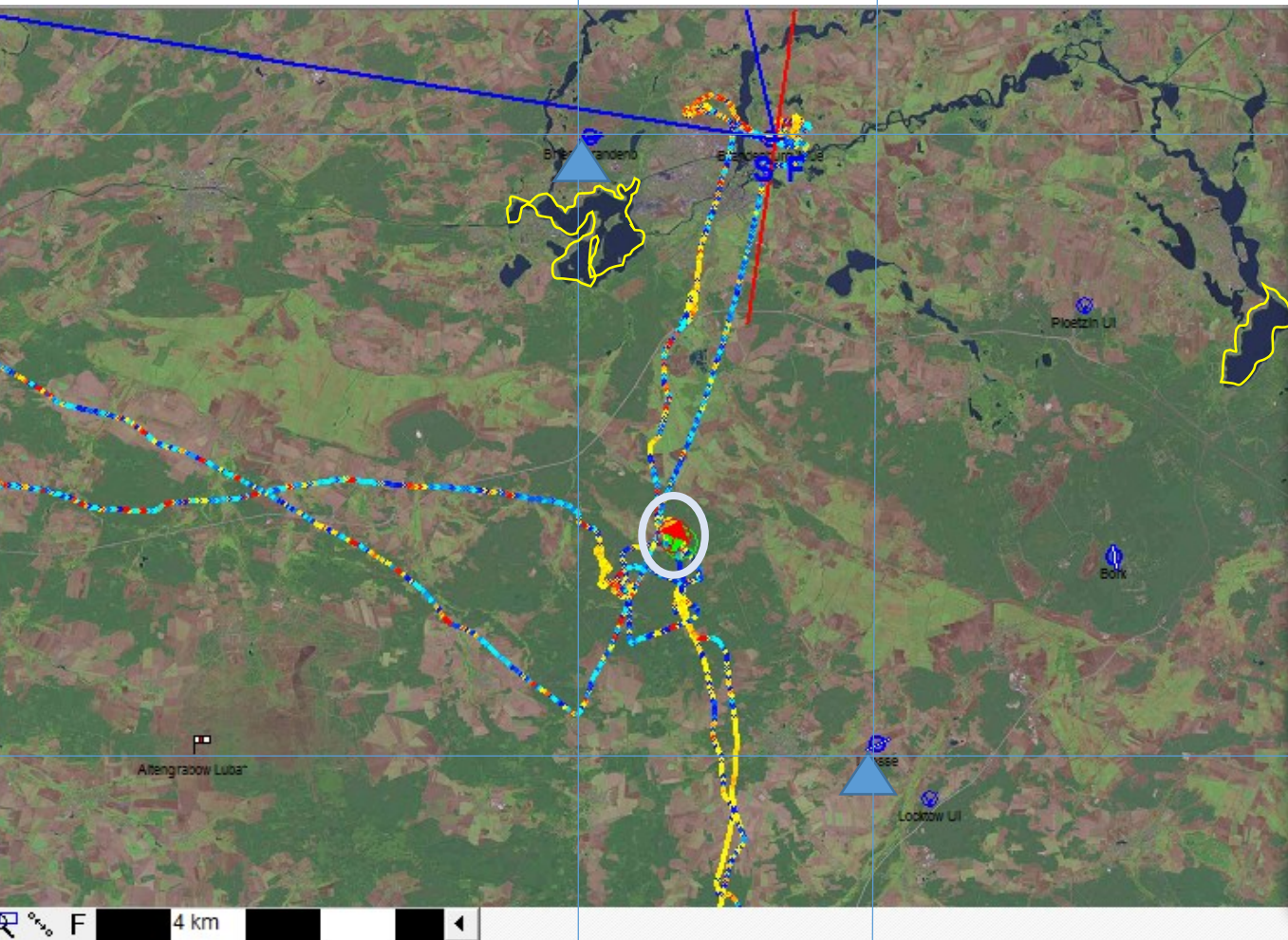
22.6.2008 NH



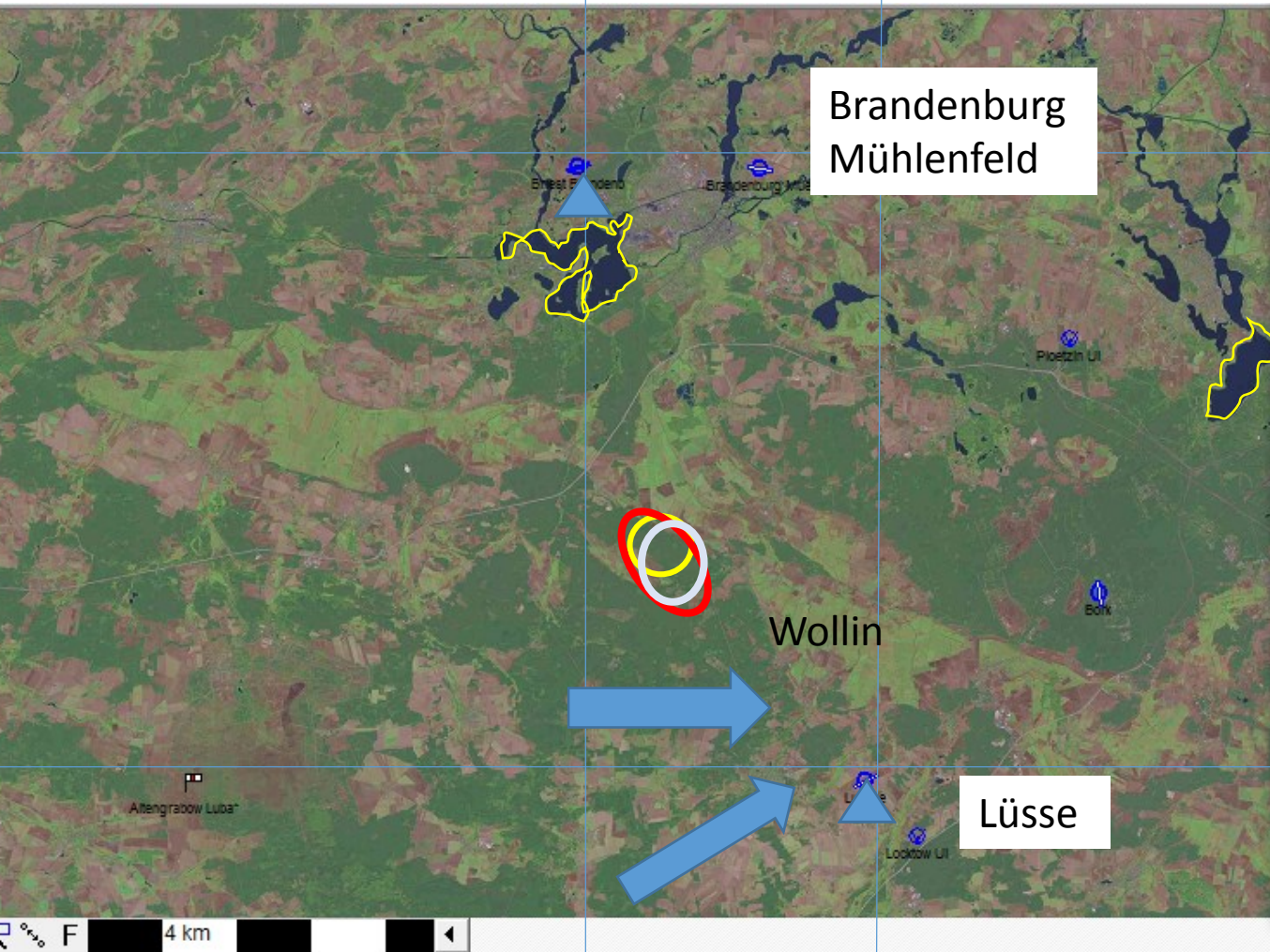
# 19.6.2012 KMKW



7.6.2015 NH



# Auftreten erfolgener Wellen bei W- SW- Scherwindlagen



22.6.2008 NH 2500m

19.6.2012 KMKW 3700m

7.6.2015 NH 2800m

A high-altitude aerial photograph showing a vast field of white, fluffy clouds below a clear blue sky. The view is from the perspective of someone looking out of an aircraft window, with the top of the aircraft's fuselage and a small red vertical marker visible in the lower center. The clouds are arranged in a regular, grid-like pattern, characteristic of a wave field.

... wir forschen weiter,  
die nächsten Wellen kommen bestimmt