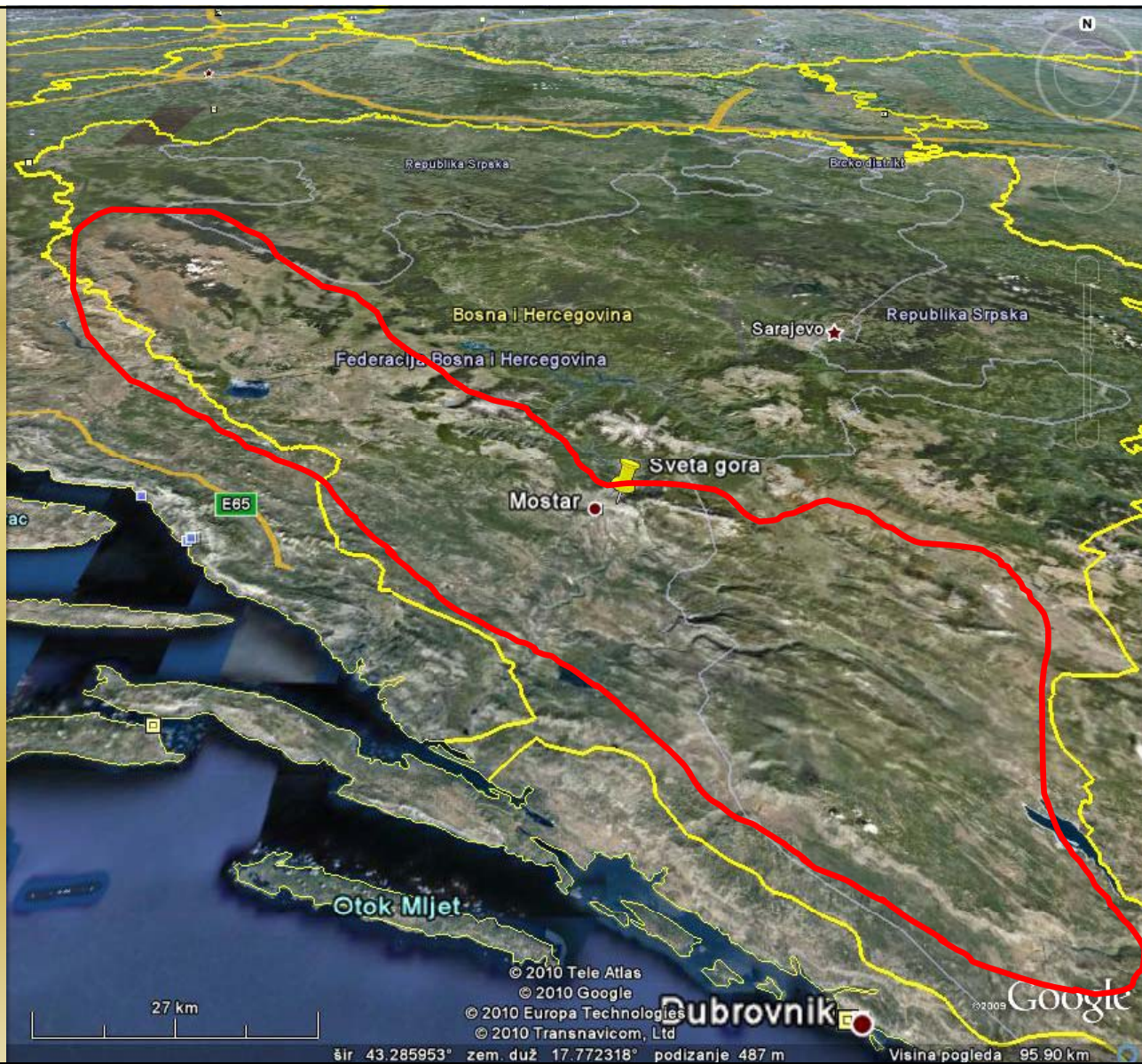


ICE & ROCKS III

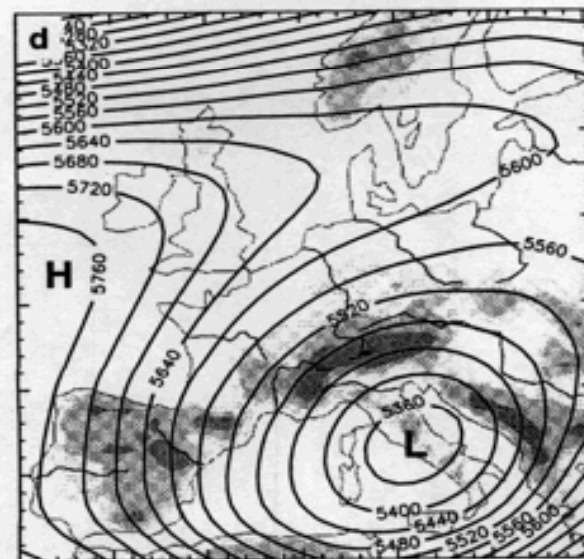
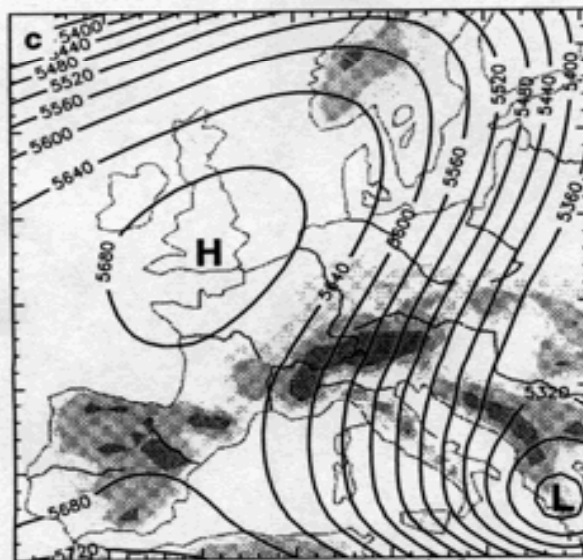
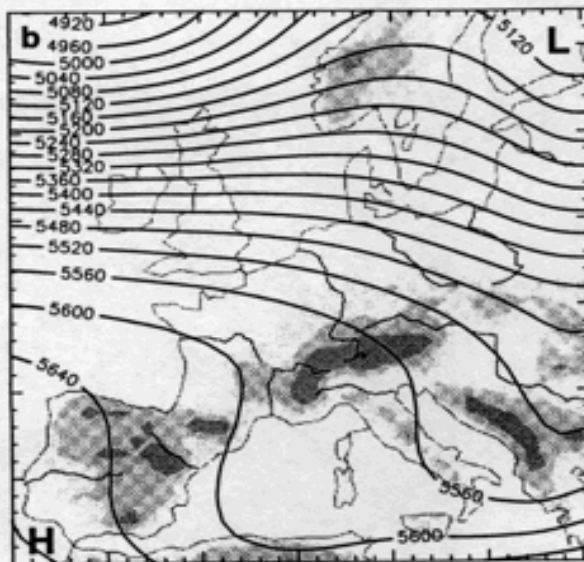
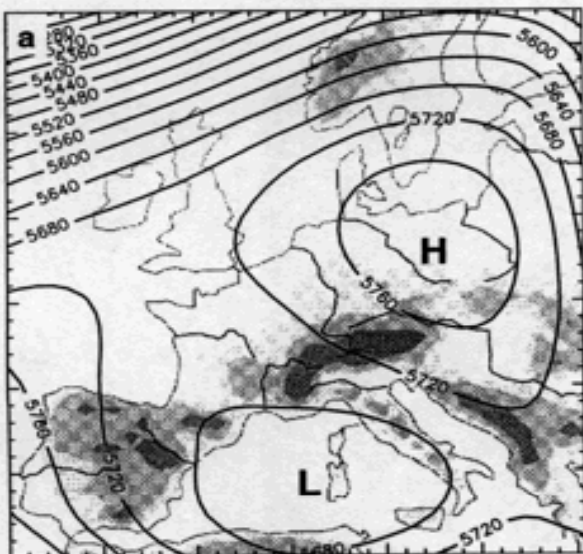
Synoptic pattern of extreme Bura gusts (Case study)

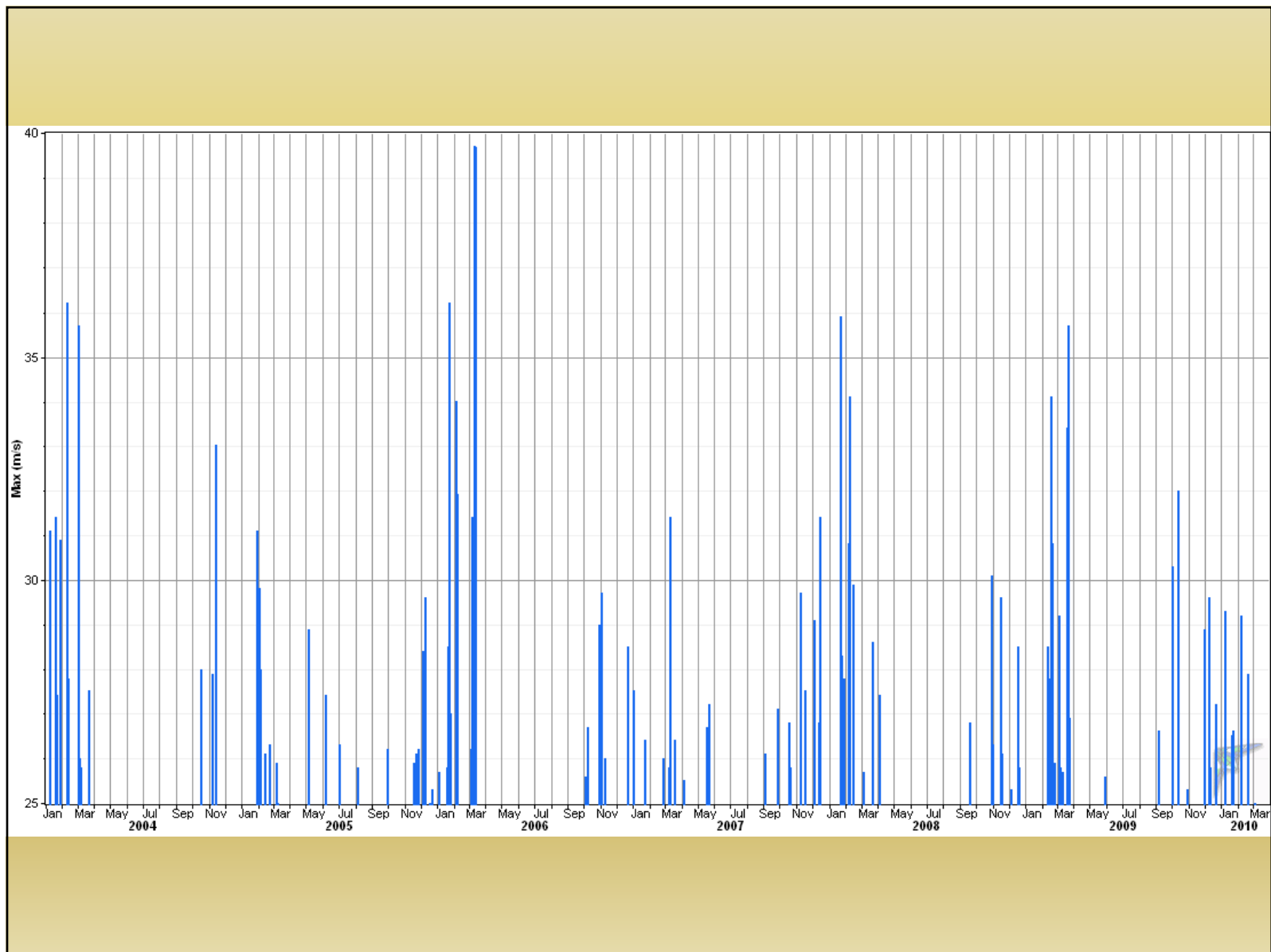
MAIN FEATURES

- COLD & DRY WIND
- MAINLY FROM NE DIRECTION
- KATABATIC WIND
- GUSTY WIND – UP TO 60 m/s
- BLOWS MOSTLY DURING THE WINTER BUT CAN OCCURE IN ANY TIME OF YEAR



šir 43.285953° zem. duž 17.772318° podizanje 487 m



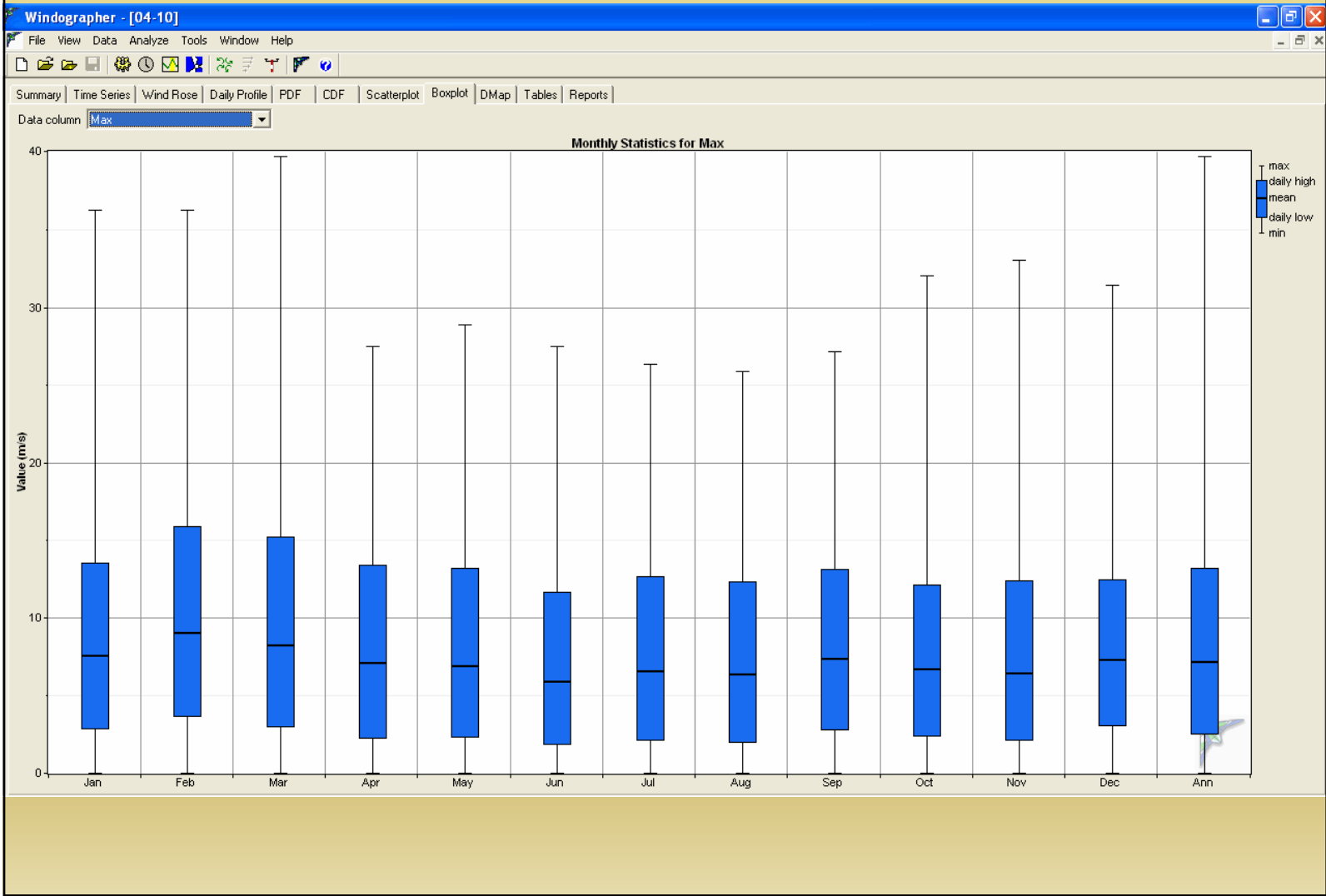


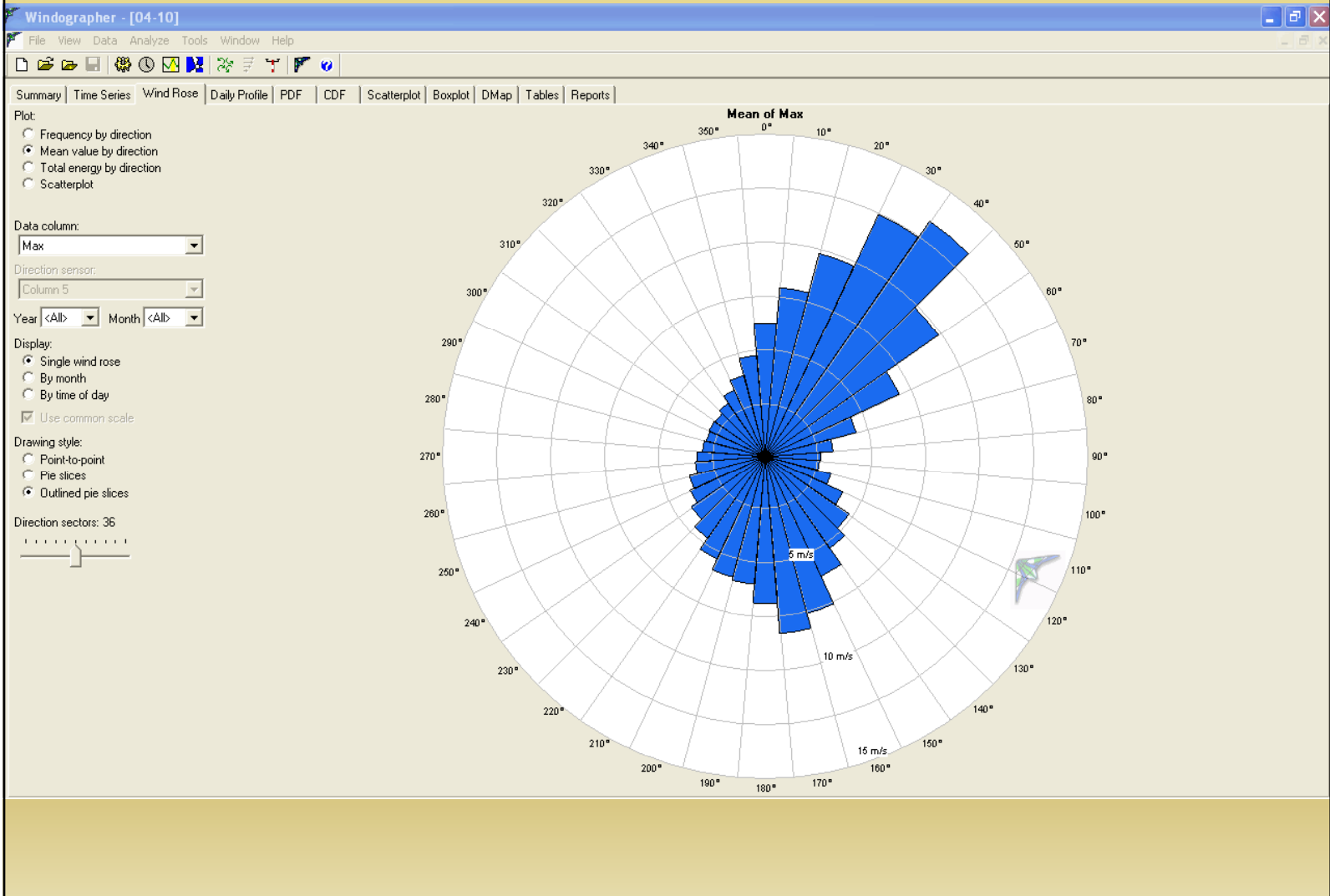
	2004	2005	2006	2007	2008	2009
No. of occurrence	10	16	11	12	9	12
Average Duration (days)	2	1,6	1,8	1,3	1,4	2

Total of 70 cases

Average occurrence = 11,7 t/y

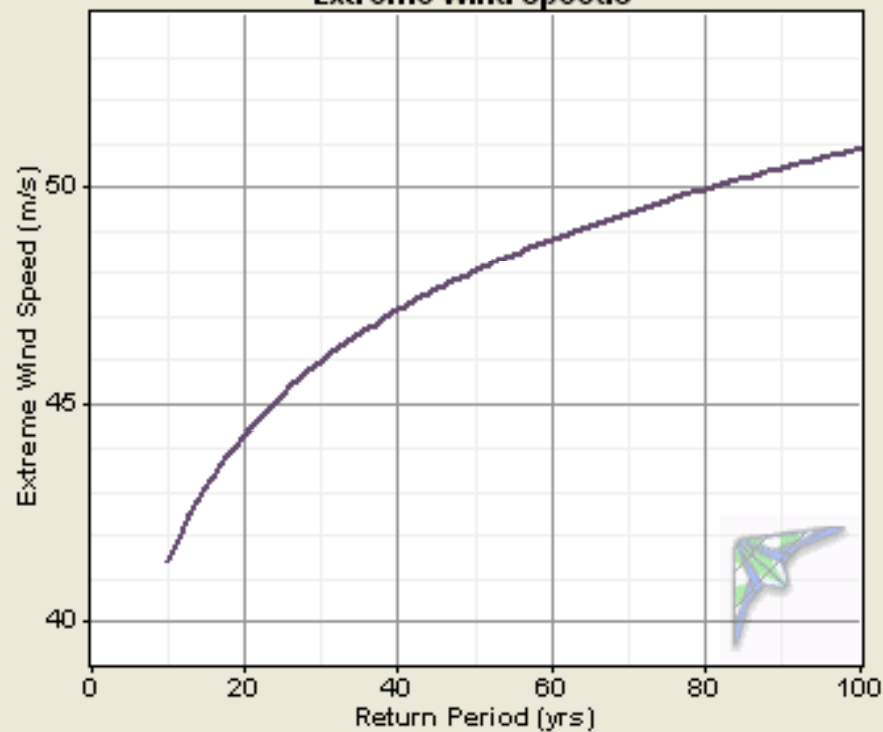
Average duration = 1,7 days





Extreme Wind Speeds

Probability of Exceedence, $1-F(U^*)$



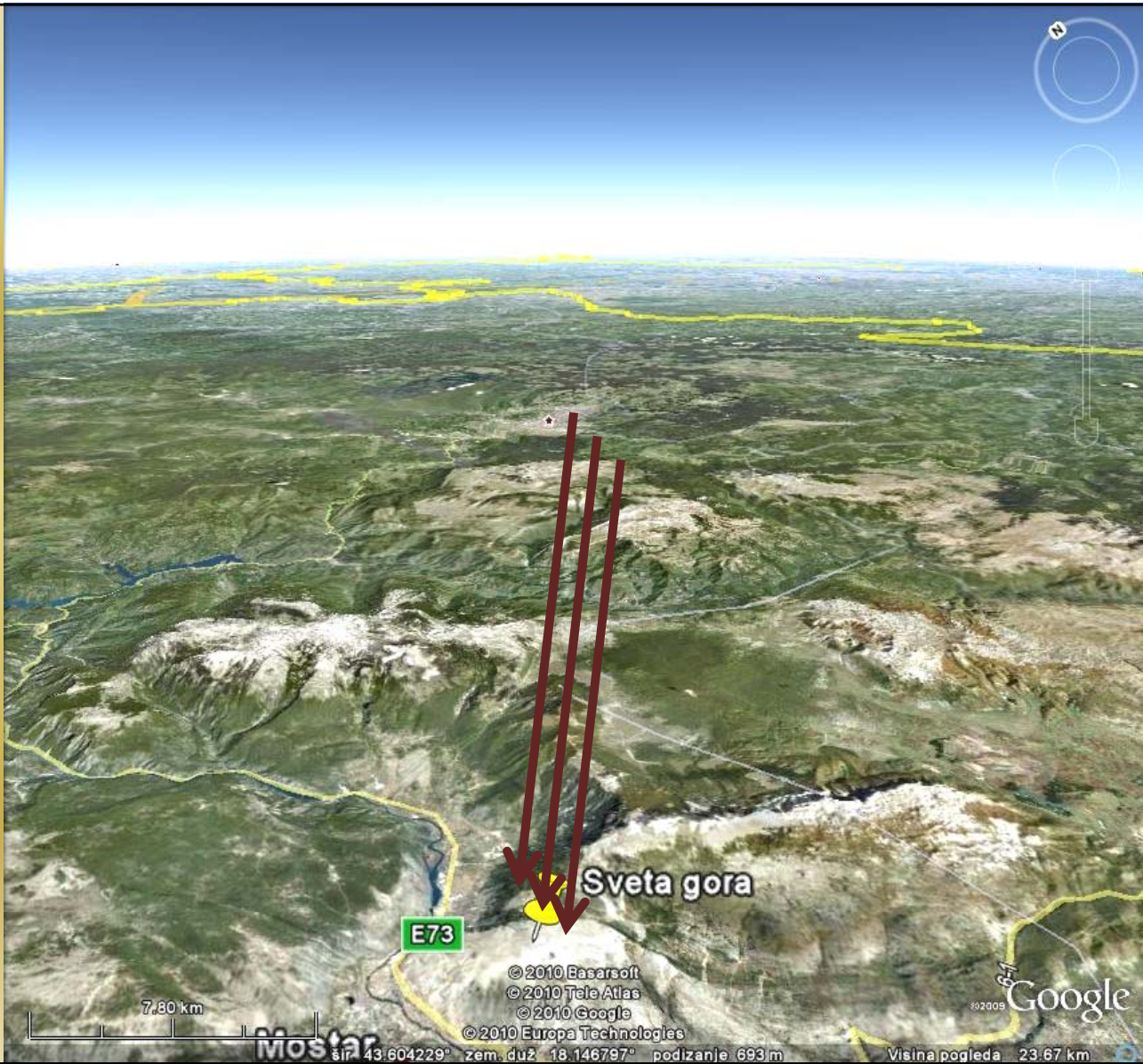
10-min means

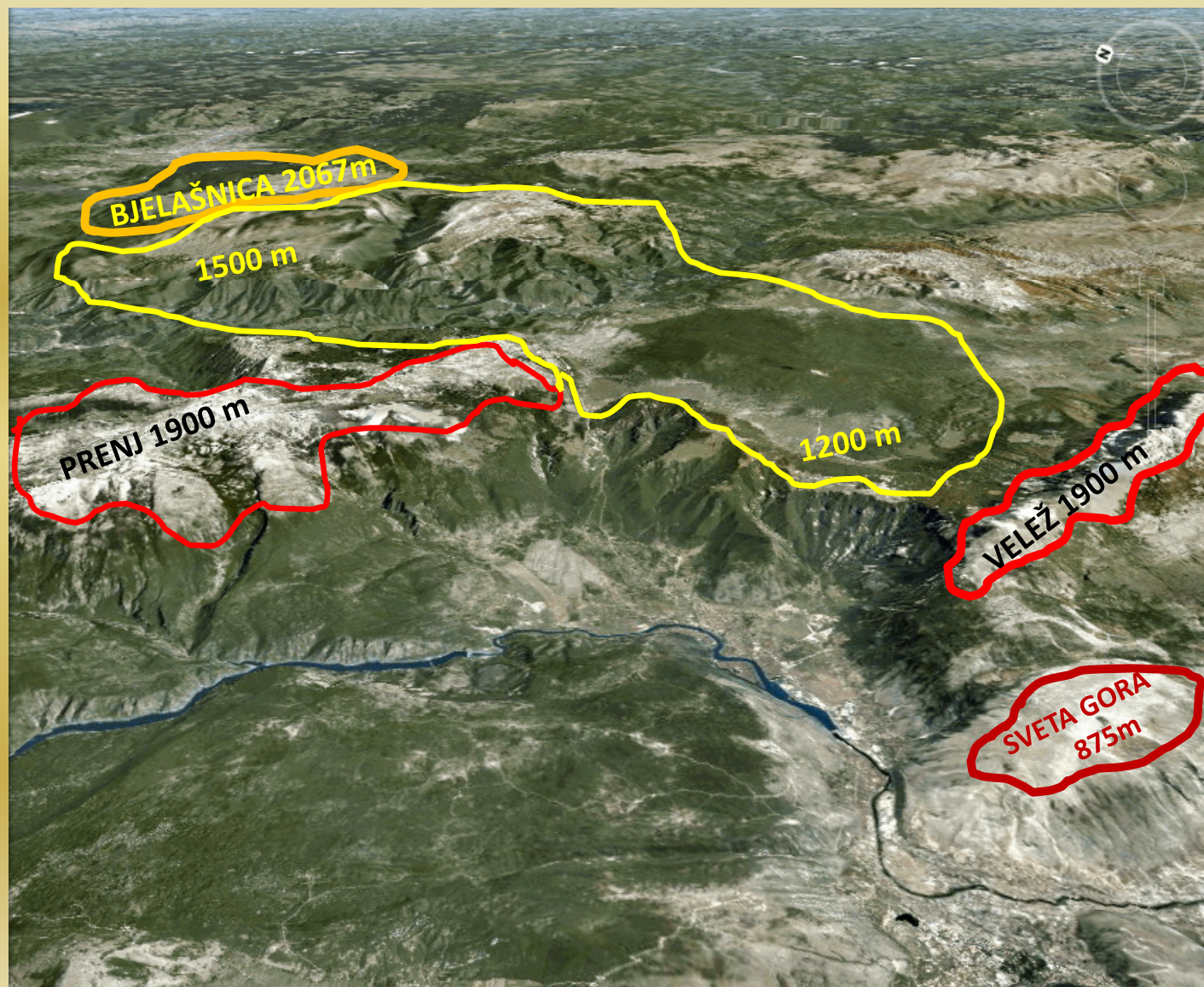
t Gumbel

Gumbel

Period (yr)	10-min means	Gusts
20	44.3	
25	45.2	
50	48.0	
100	50.9	

23





BJELAŠNICA 2067m

1500 m

PRENJ 1900 m

1200 m

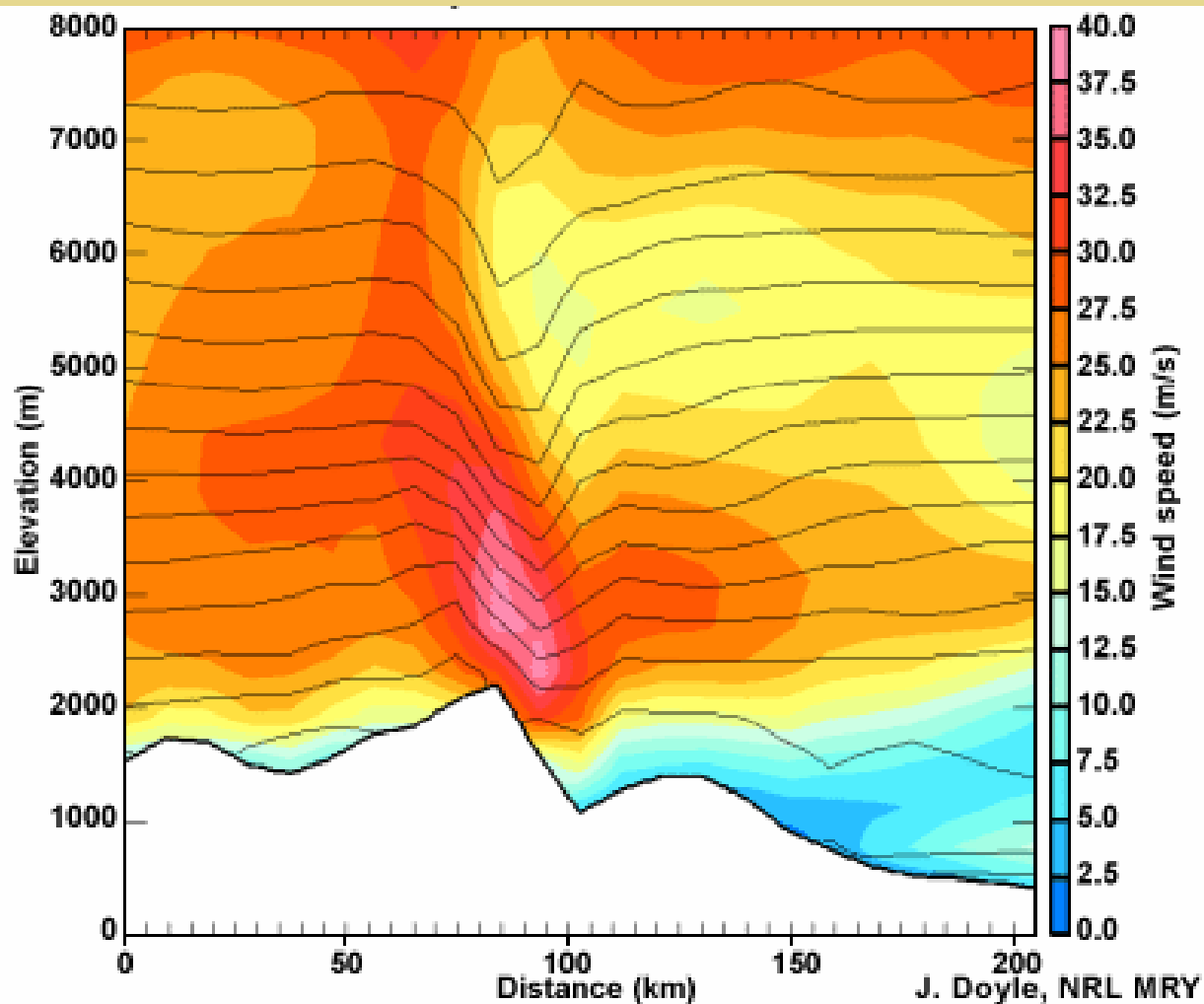
VELEŽ 1900 m

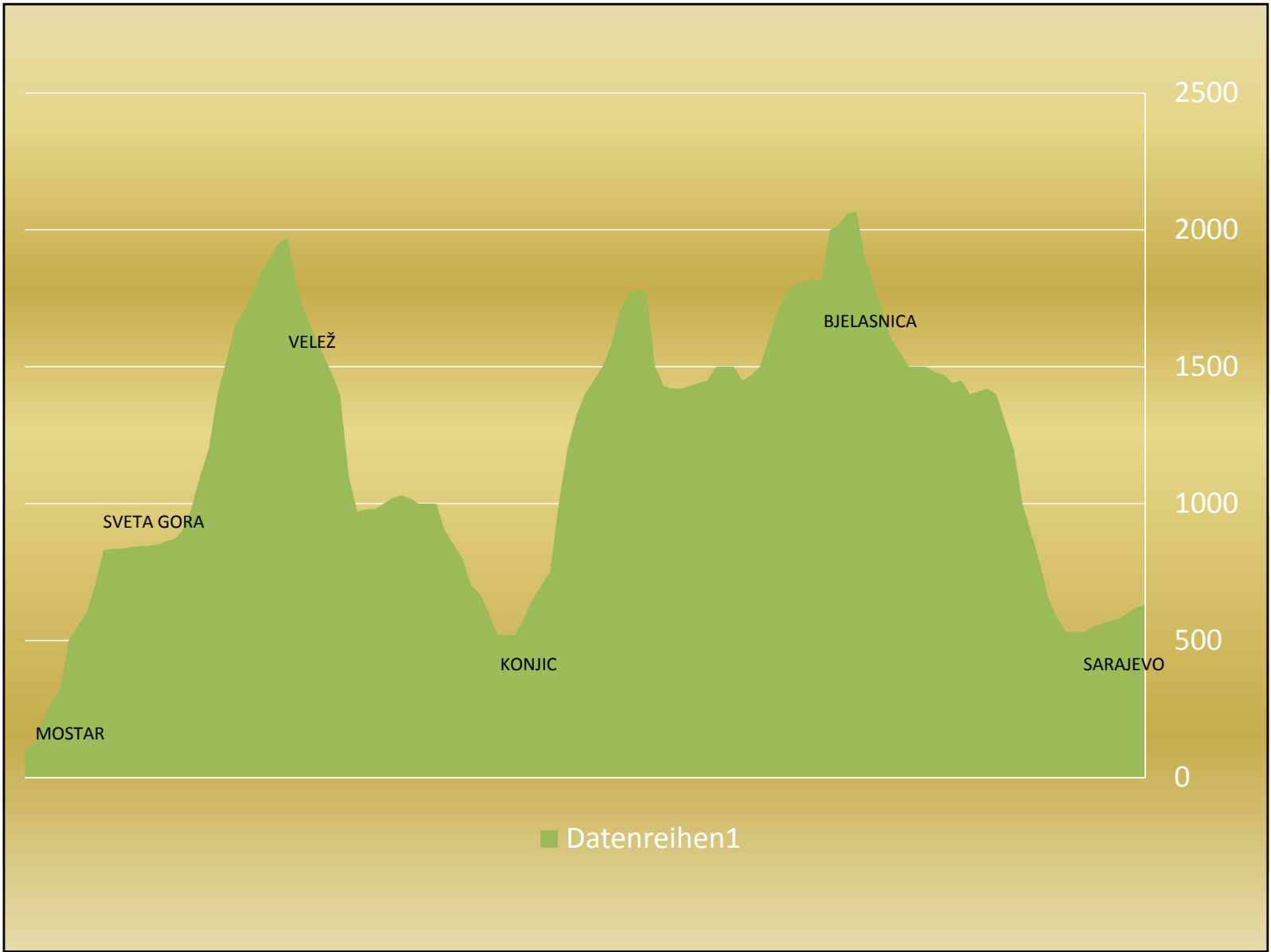
SVETA GORA
875m

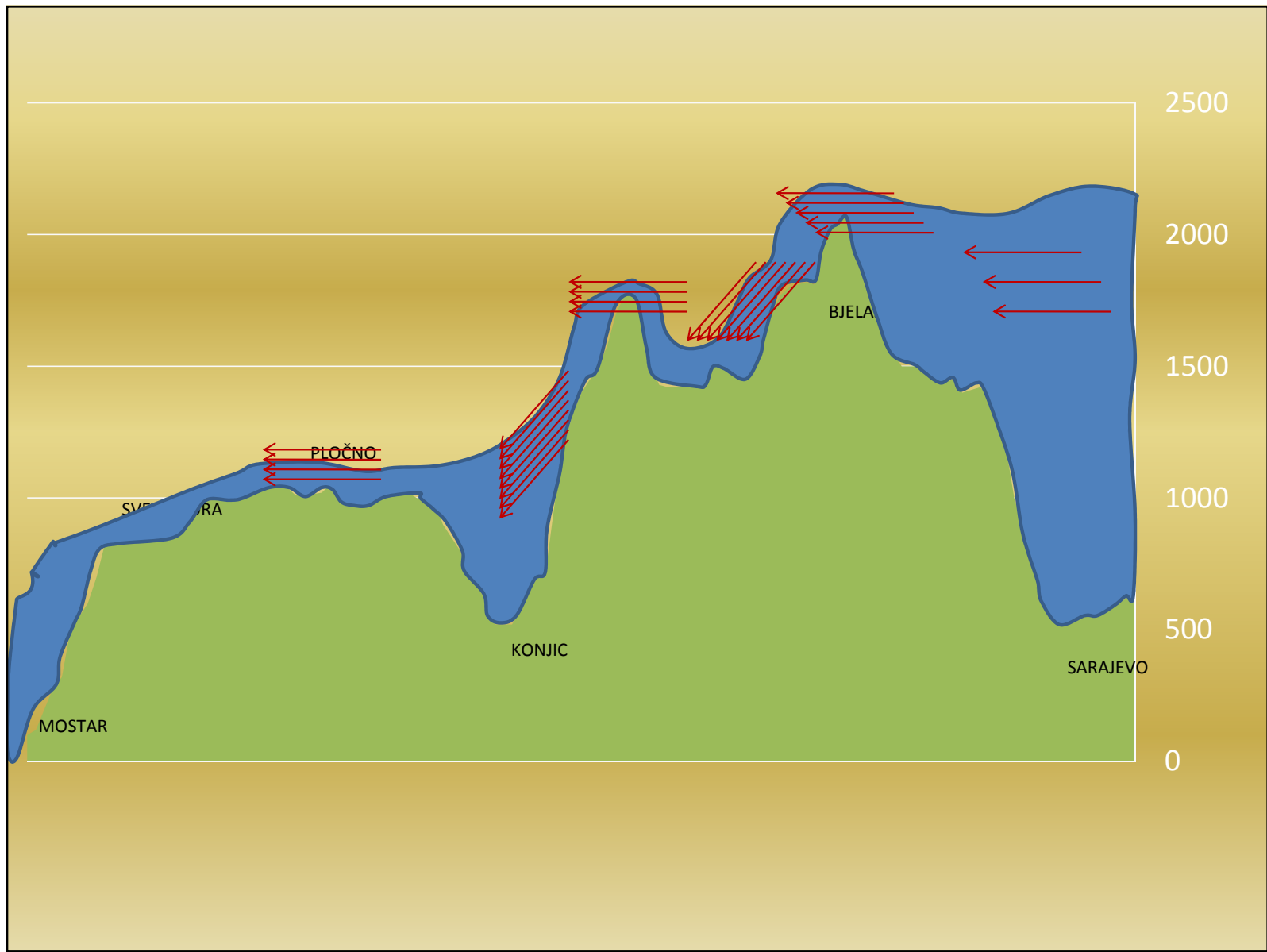
HYDRAULIC REGIME



HYDRAULIC JUMP

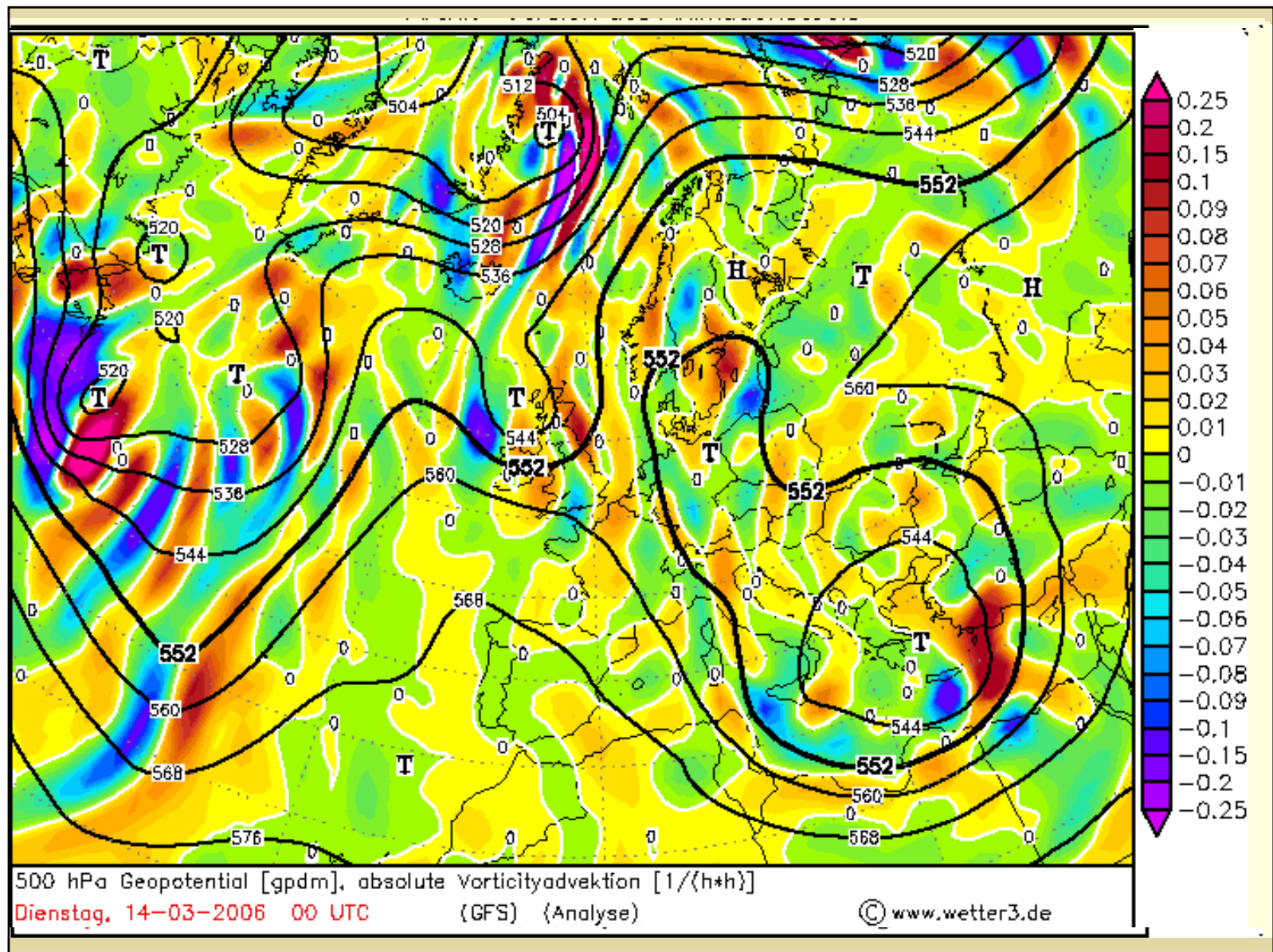


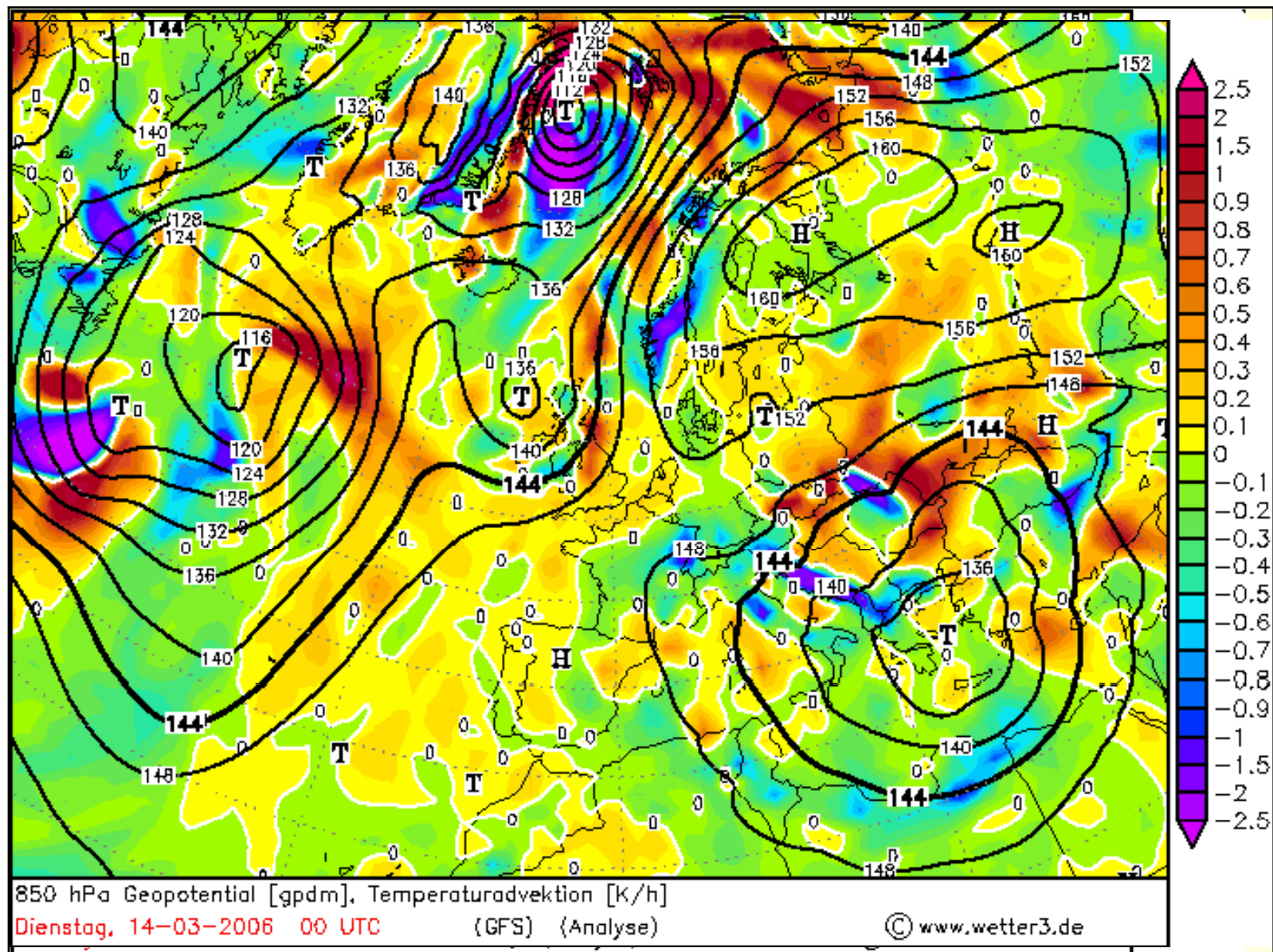




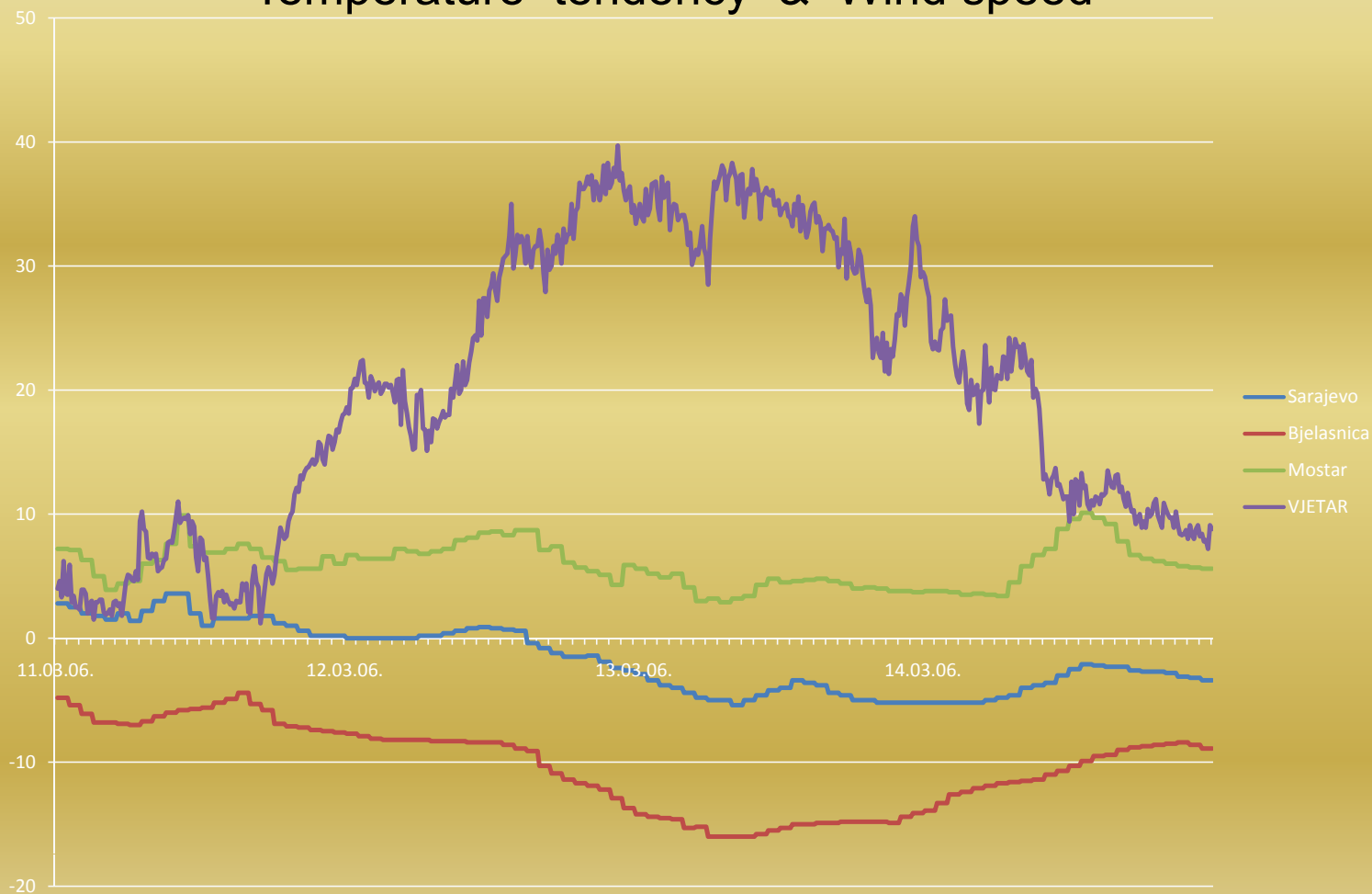
12.03.2006. $V_{max} = 38,3 \text{ m/s}$





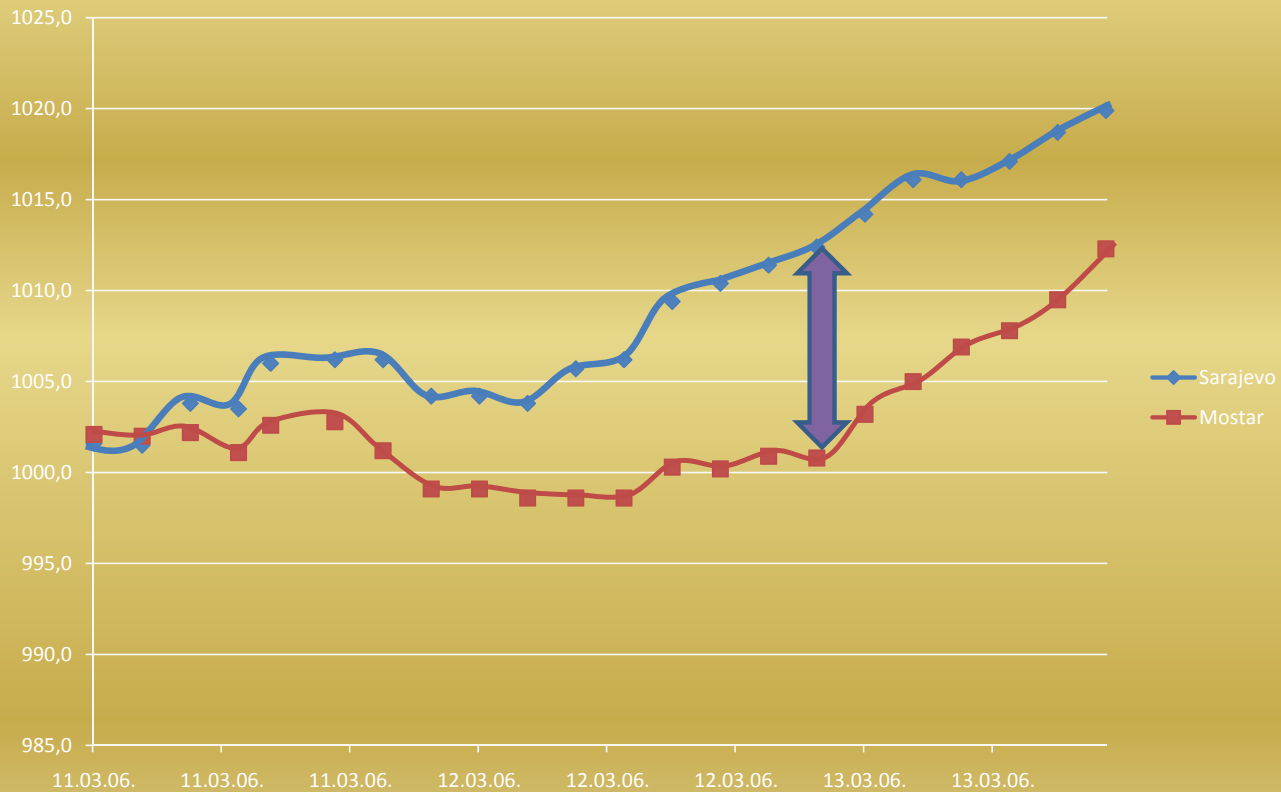


Temperature tendency & Wind speed

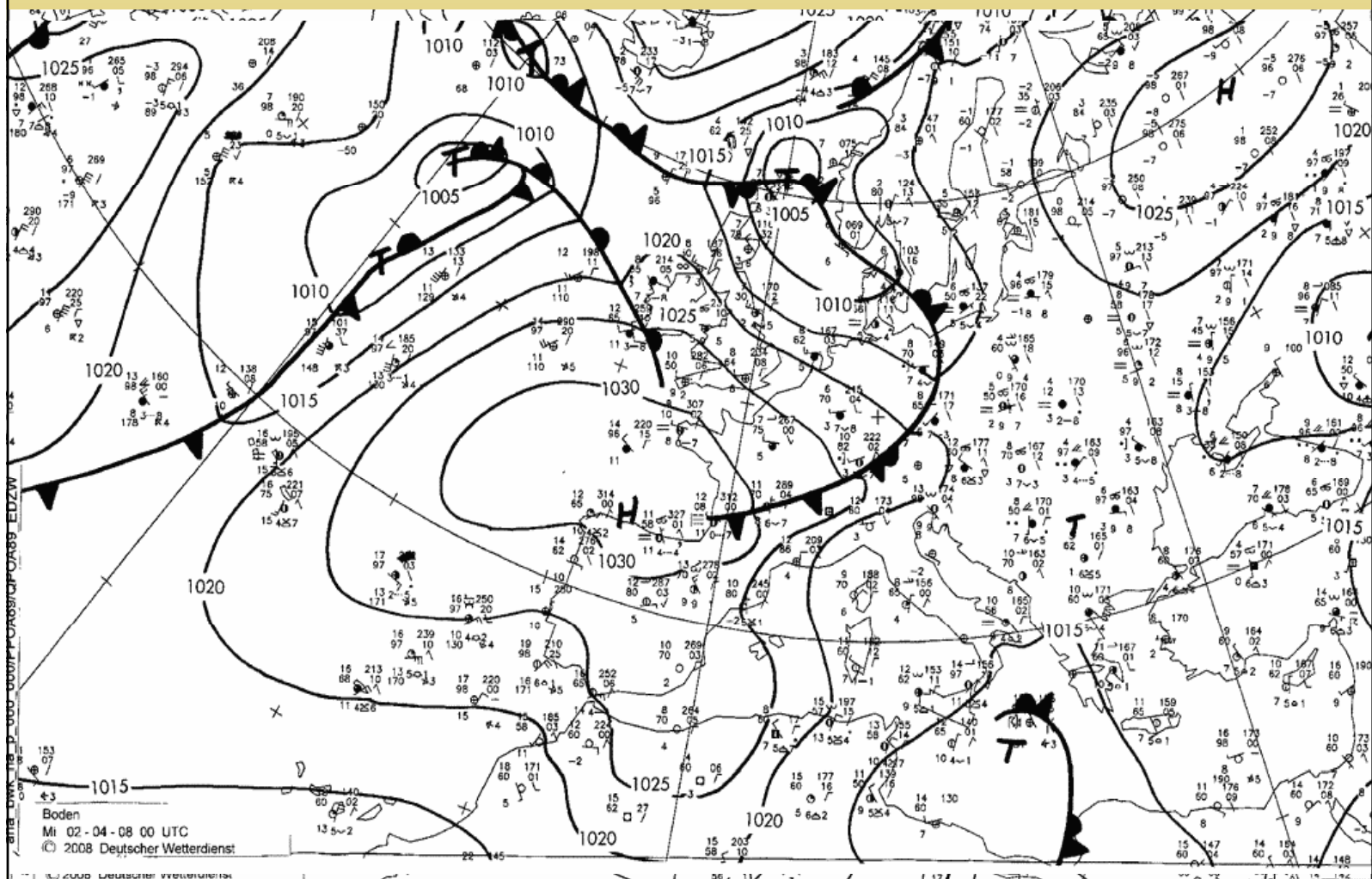


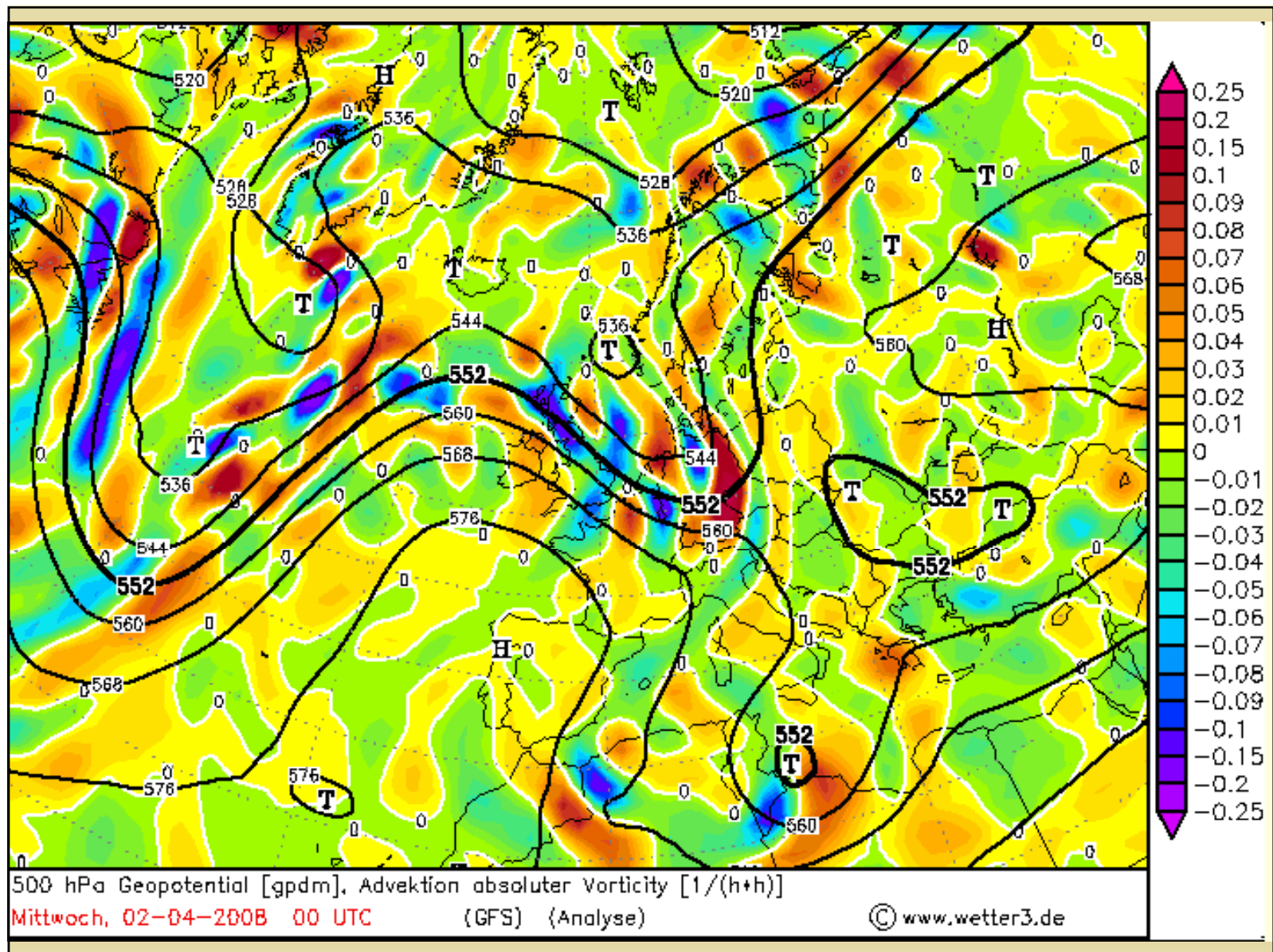
Pressure gradient

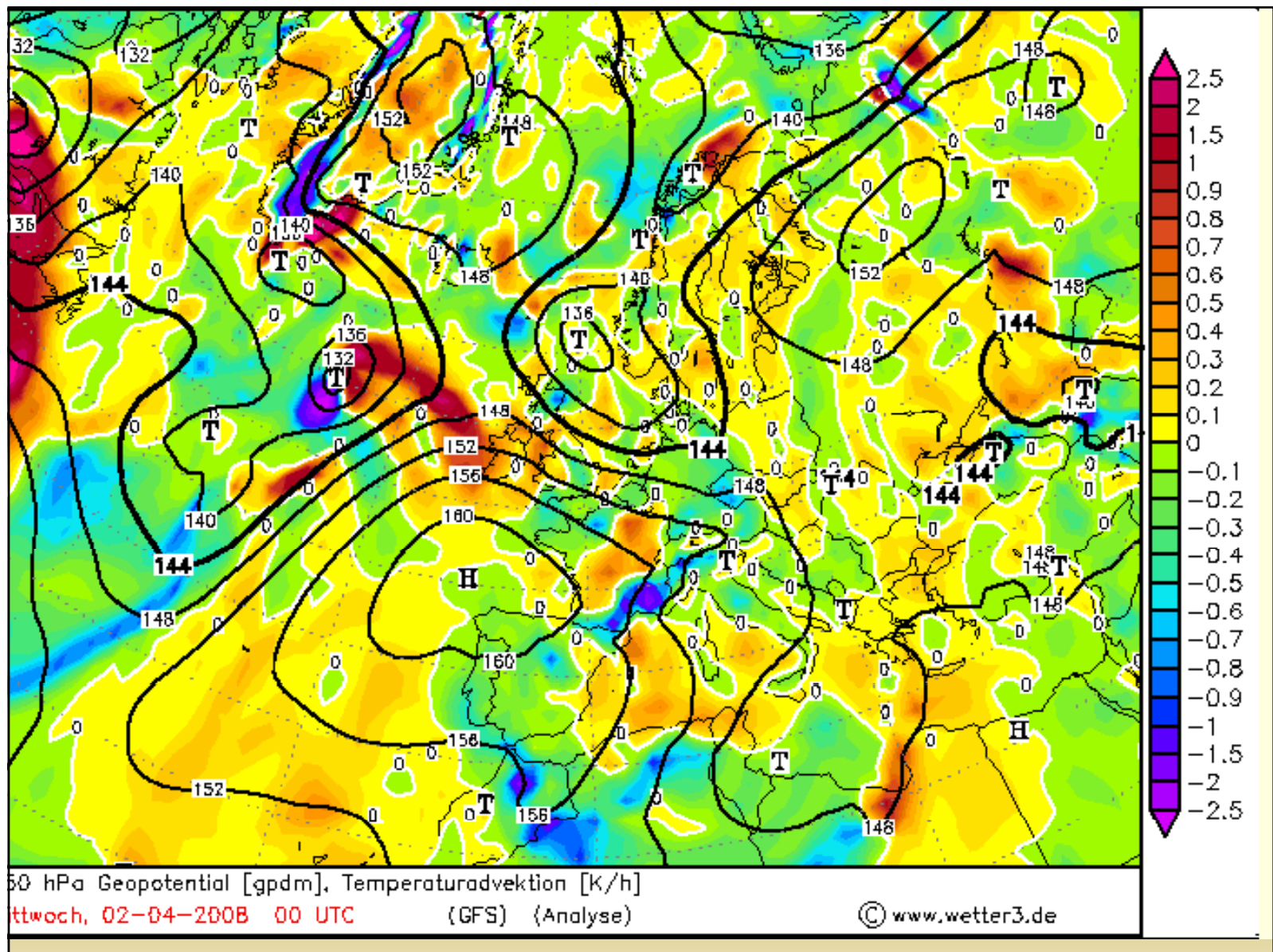
dP= 11.0 hPa / 67 km



01.04.2008. $V_{max} = 13,7 \text{ m/s}$







CONCLUSIONS:

- EXTREME BURA GUSTS OCCURES IN A SPECIFIC SYNOPTIC PATTERN; ALWAYS IN CYCLONIC CIRCULATION
- EXISTANCE OF ANTICYCLON OVER THE EUROPEAN LAND AND CYCLON OVER THE MEDITERRANIAN SEE IS NECESSERY CONDITION
- NO STRONG RELATION BETWEEN PRESSURE GRADIENT AT SYNOPTIC, EVEN MESOSCALE WITH WIND SPEED – PRESSURE GRADIENT AT MICROSCALE IS DRIVING FORCE
- STRONG PVA OVER THE REGION - CONDITION FOR EXTREME BURA GUSTS

THANK YOU
FOR YOUR ATTENTION !!!