METEOROLOGICAL CONDITIONS IN KORNATI REGION ON AUGUST 30th 2007

Meteorological and Hydrological Service

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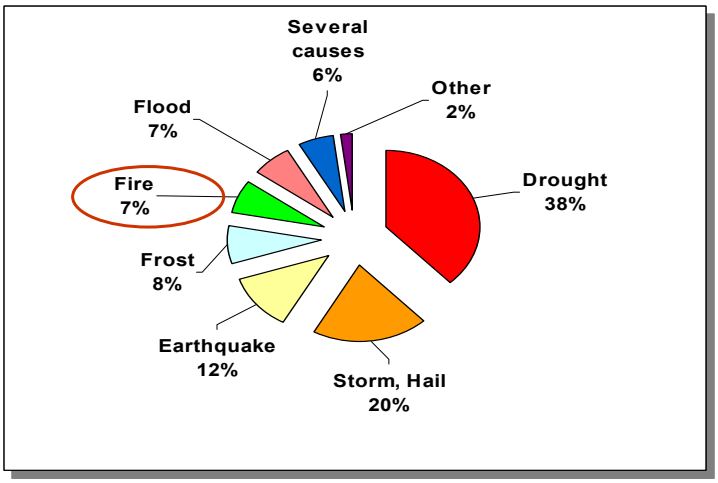
OUTLINE

- Introduction
- Available observational data
- Synoptic overview
- Flow structure
  - analysis
  - numerical simulations (ALADIN/HR, MM5)
- Forest fire index
- Conclusions and recommendation

INTRODUCTION

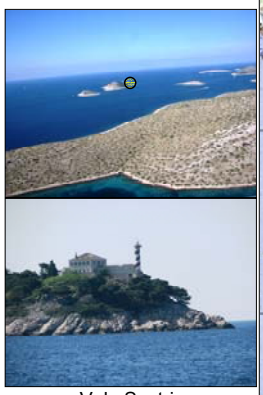
Economic losses (%) caused by different natural hazards in Croatia, 1980 - 2000



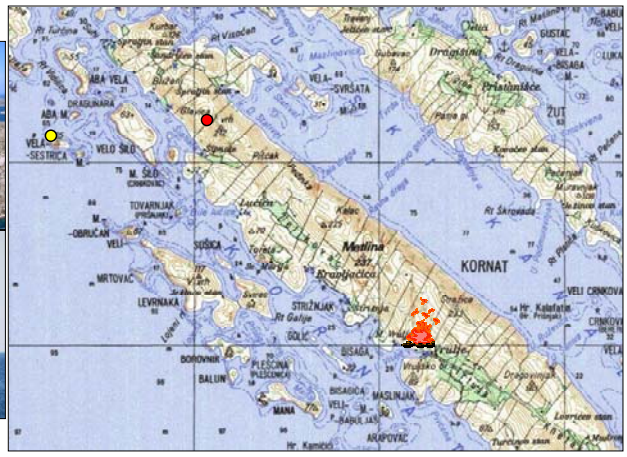
AVAILABLE OBSERVATIONAL DATA

1. Zadar – 10-minute data surface data
2. Zadar airport – radio-sounding data (00 and 12 UTC)
3. Climatological stations (7, 14, 21)

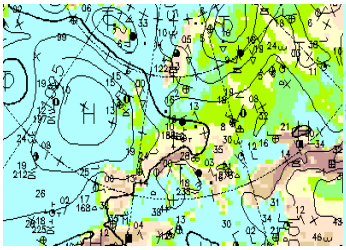
AVAILABLE OBSERVATIONAL DATA

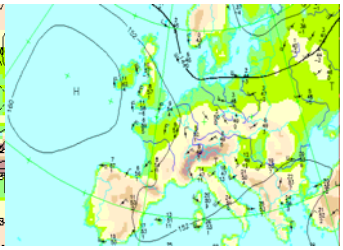


Vela Sestrica

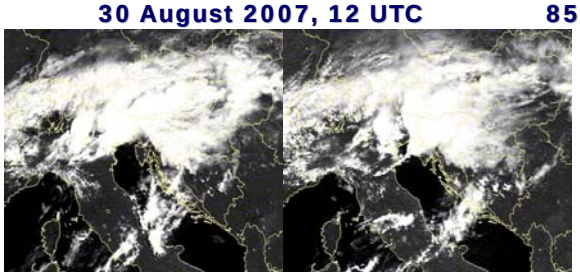


SYNOPTIC OVERVIEW



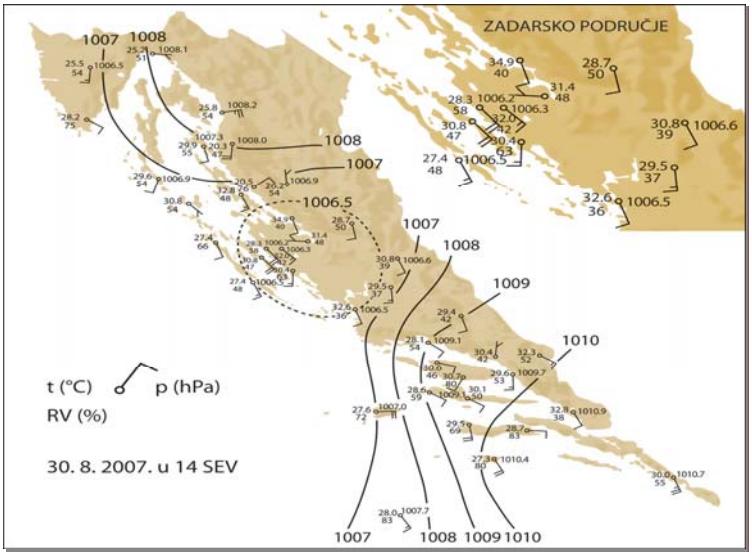


Surface **30 August 2007, 12 UTC** **850 hPa**

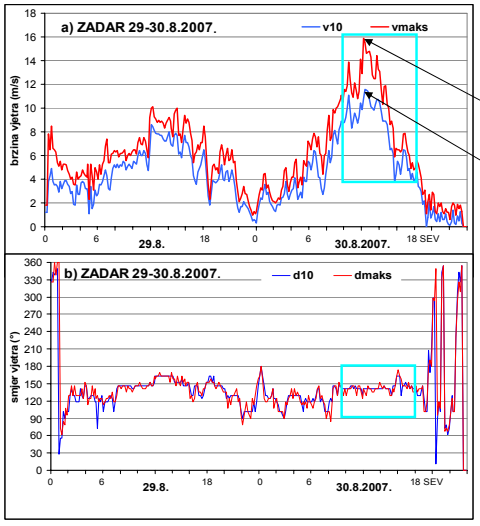


10 UTC Meteosat 8 – high resolution visible 12 UTC

MESOSCALE ANALYSIS



FLOW STRUCTURE - analysis



wind speed (m/s)

max wind gust 15.9 m/s at 13.20 h

10-min mean wind speed 11.6 m/s

wind direction

130 – 140 (°)

FLOW STRUCTURE - analysis

Vela Sestrica – climatological station

Time (h)	T (°C)	Cloudines	Visibility (km)	Wind		Pressure
		1/10	km	direction	speed (Bf)	hPa
4	25.2	4	15	SE	2	1005.0
7	25.8	8	10	SE	3	1004.0
10	**26.8**	**8**	**10**	**SE**	**4**	**1004.8**
13	**27.4**	**8**	**10**	**SE**	**4**	**1003.8**
14	**27.4**	**7**	**10**	**SE**	**4**	**1003.2**
16	**27.2**	**7**	**10**	**SSE**	**4**	**1002.0**
19	26.0	7	10	SE	1	1003.8
21	25.6	5	10	N	1	1004.8

FLOW STRUCTURE – numerical simulations

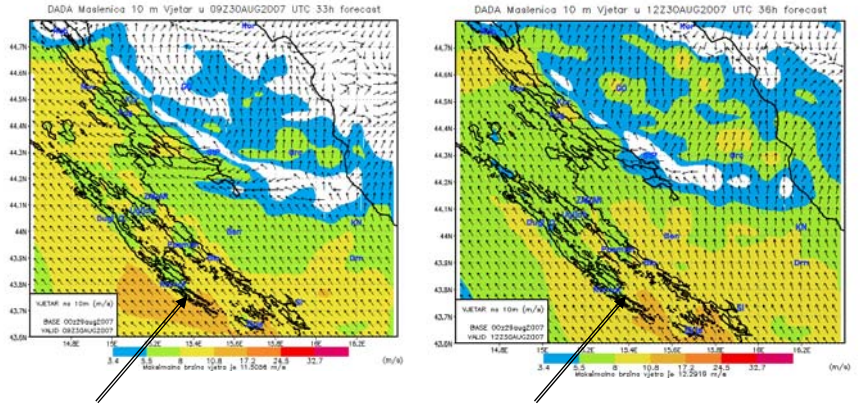
ALADIN/HR

FLOW STRUCTURE – numerical simulations

ALADIN/HR

30 August 2007

9 UTC **12 UTC**



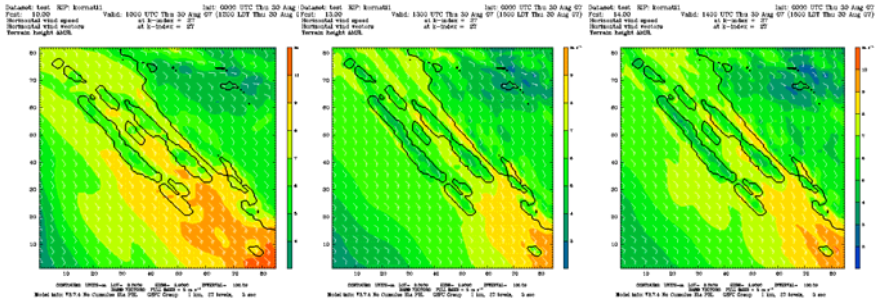
FLOW STRUCTURE – numerical simulations

MM5

Δx = 1km

30 August 2007 - 10 m wind

12h **15h** **16h**

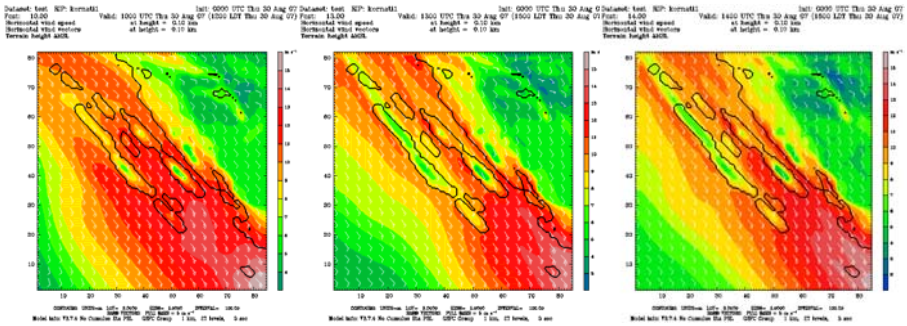


FLOW STRUCTURE – numerical simulations

MM5
Δx = 1km

30 August 2007 - 100 m wind

12h **15h** **16h**

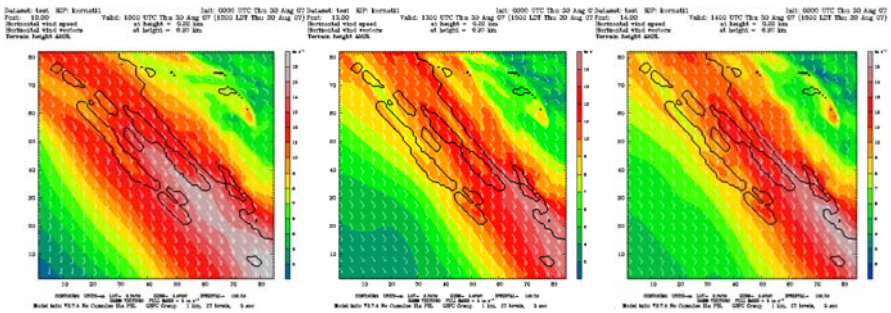


FLOW STRUCTURE – numerical simulations

MM5
Δx = 1km

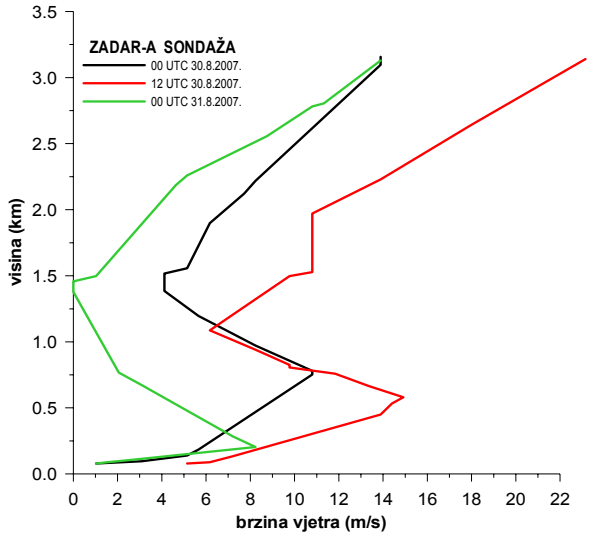
30 August 2007 - 200 m wind

12h **15h** **16h**



max wind speed ~ 15 m/s

VERTICAL FLOW STRUCTURE



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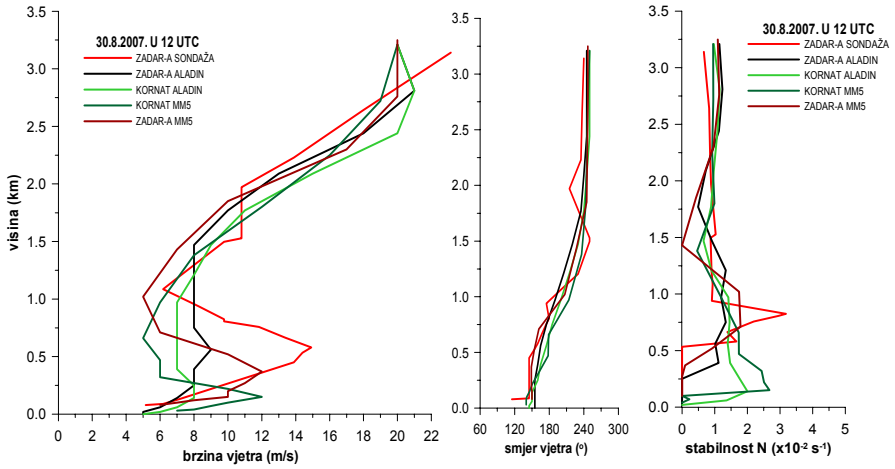
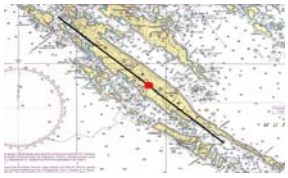
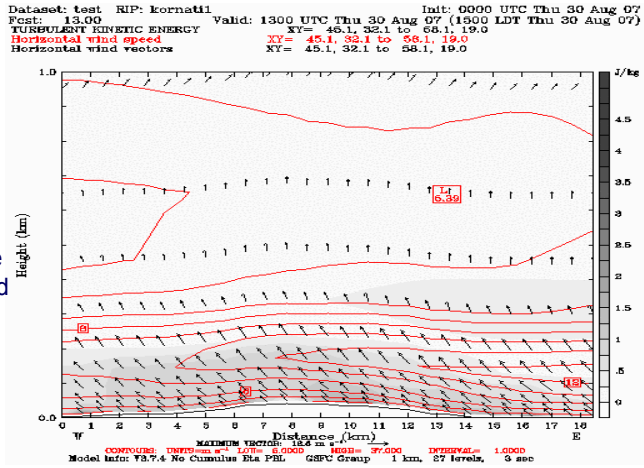


VERTICAL FLOW STRUCTURE

Space cross-section, 15h



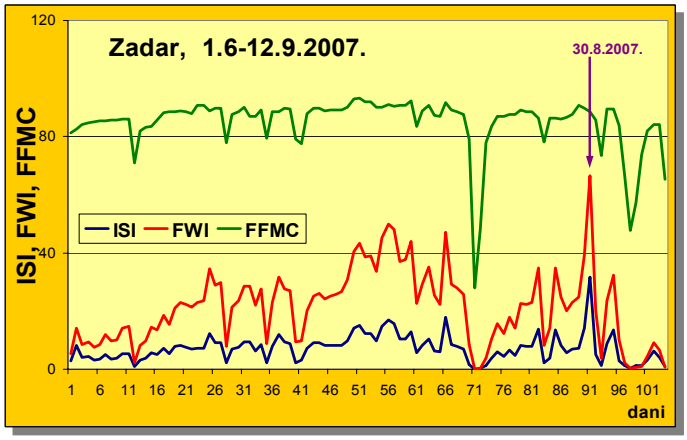
TKE ≥ 1 J/kg bellow the layer of max wind speed (150 – 200 m)



FOREST FIRE INDEX

Canadian Forest Fire Weather Index System (*Fire Weather Index*, FWI)

FFMC (*Fine Fuel Moisture Code*)



SUMMARY

- strong *jugo* wind (SE) – max surface wind gust ~16 m/s
- LLJ ~16 m/s in the layer between 100 – 750 m
- unstable surface layer (up to 800 m)
- TKE below the LLJ show the possibility of turbulence
- the highest FWI during the summer season 2007