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Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Dipartimento federale dell'interno DFI  
Ufficio federale di meteorologia e climatologia MeteoSvizzera

# Estate 2012



**Beatrice scaccia Lucifero!**

## Retrospettiva meteoclimatica

Matteo Buzzi (Gianluca Ferri, Mauro Guerini, Martino Buzzi, Giorgio Seiler, Luca Silvanti)





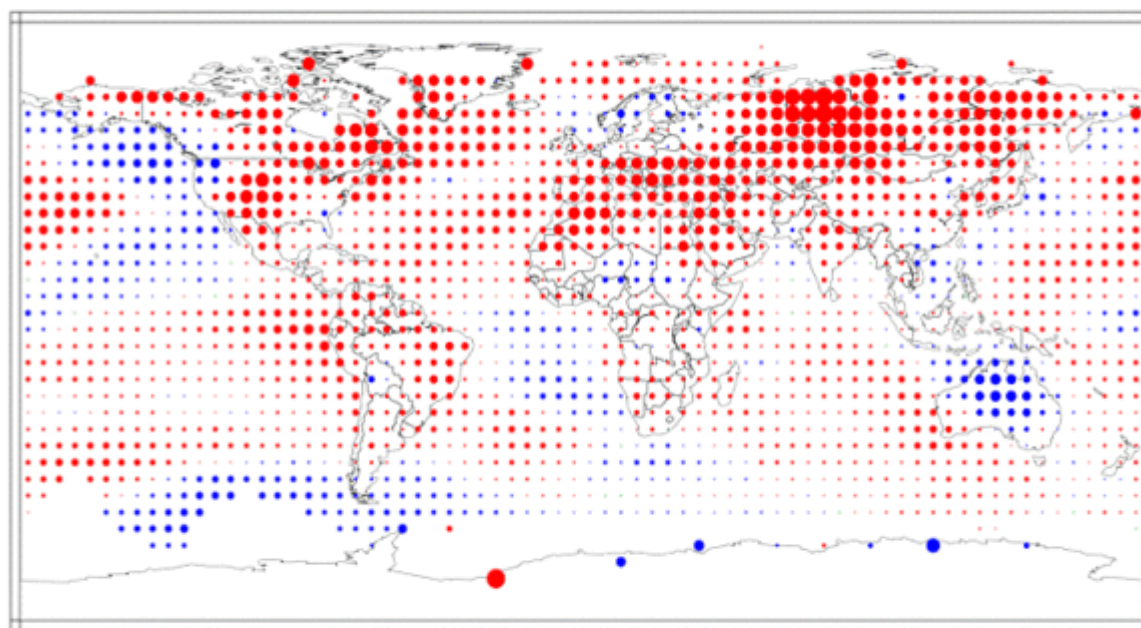


# Temperatura: anomalie globali giugno 2012

## Temperature Anomalies June 2012

(with respect to a 1971-2000 base period)

National Climatic Data Center/NESDIS/NOAA



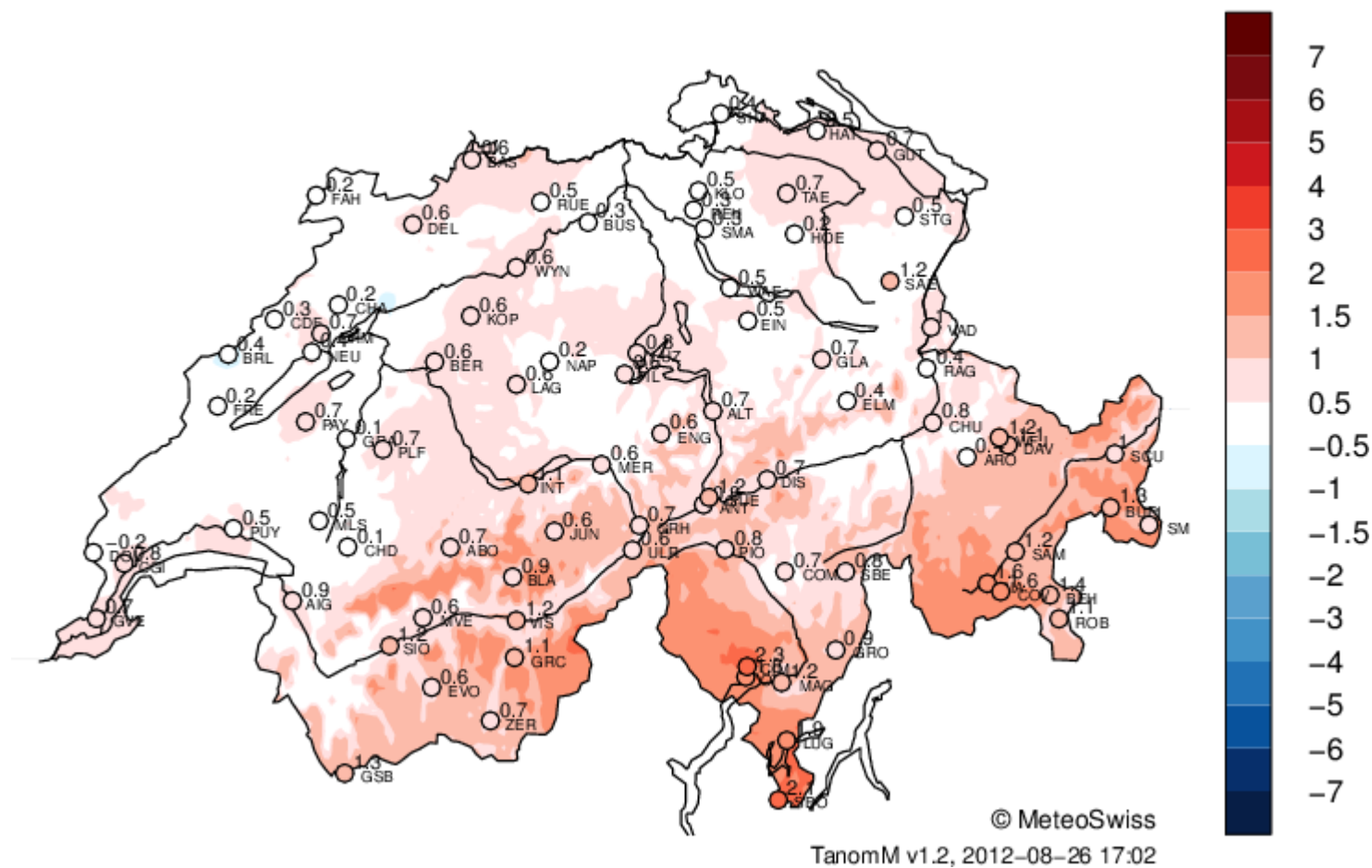
Degrees Celsius

June	Anomaly		Rank (out of 133 years)	Records		
	°C	°F		Year(s)	°C	°F
Global						
Land	+1.07 ± 0.13	+1.93 ± 0.23	1 <sup>st</sup> Warmest	Warmest: 2012	+1.07	+1.93
			133 <sup>rd</sup> Coolest	Coolest: 1907	-0.60	-1.08
Ocean	+0.47 ± 0.04	+0.85 ± 0.07	10 <sup>th</sup> Warmest	Warmest: 1998	+0.59	+1.06
			124 <sup>th</sup> Coolest	Coolest: 1909, 1911	-0.50	-0.90
			Ties: 2011			
Land and Ocean	+0.63 ± 0.07	+1.13 ± 0.13	4 <sup>th</sup> Warmest	Warmest: 2010	+0.67	+1.21
			130 <sup>th</sup> Coolest	Coolest: 1911	-0.44	-0.79



# Temperatura: luglio 2012

Monthly Temperature Anomaly (degC) Jul 2012 (Ref. 1961–1990)



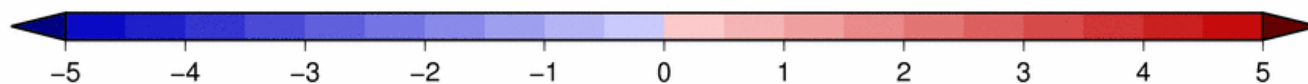
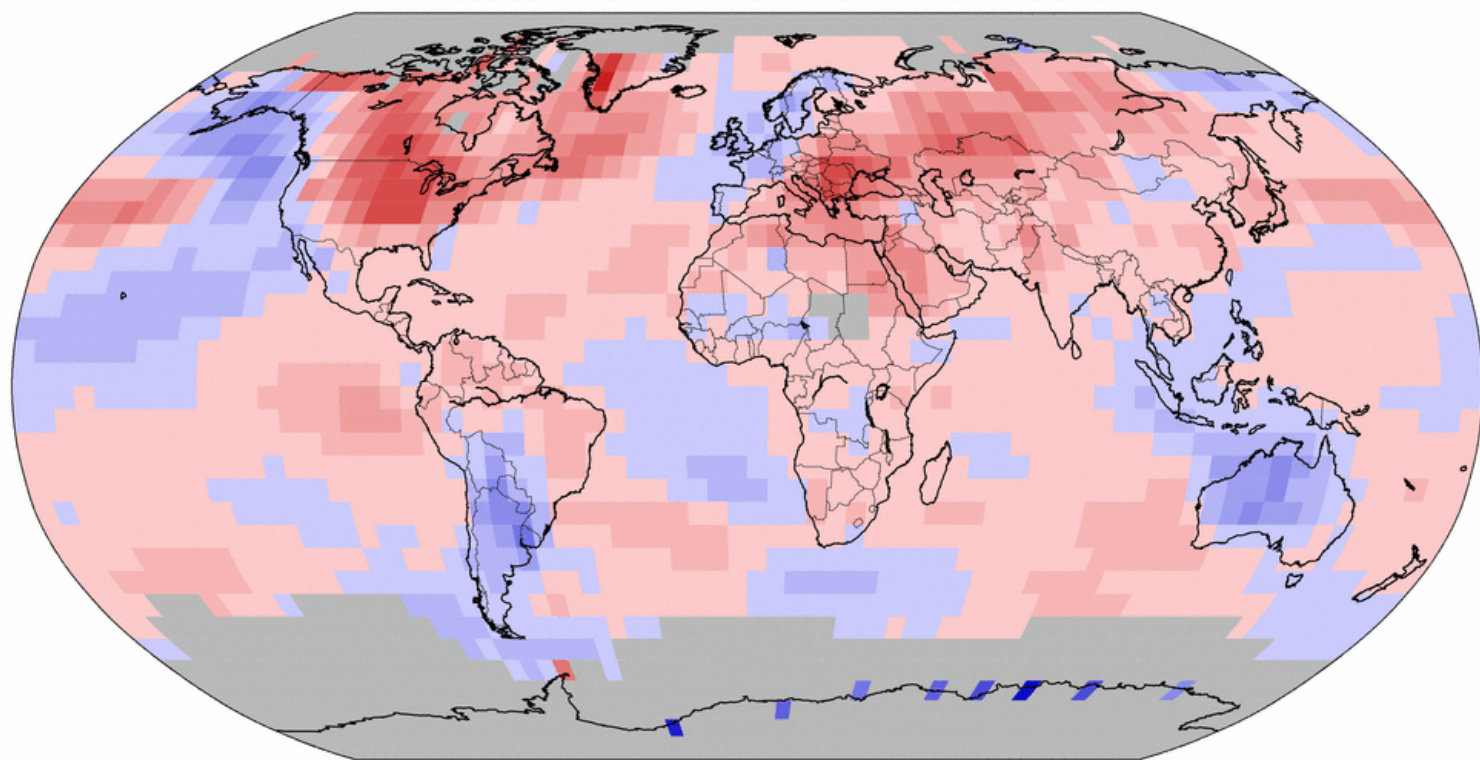


# Temperatura: anomalie globali luglio 2012

## Land & Ocean Temperature Anomalies Jul 2012

(with respect to a 1981–2010 base period)

Data Source: GHCN–M version 3.1.0 & ERSST version 3b



NOAA's National Climatic Data Center

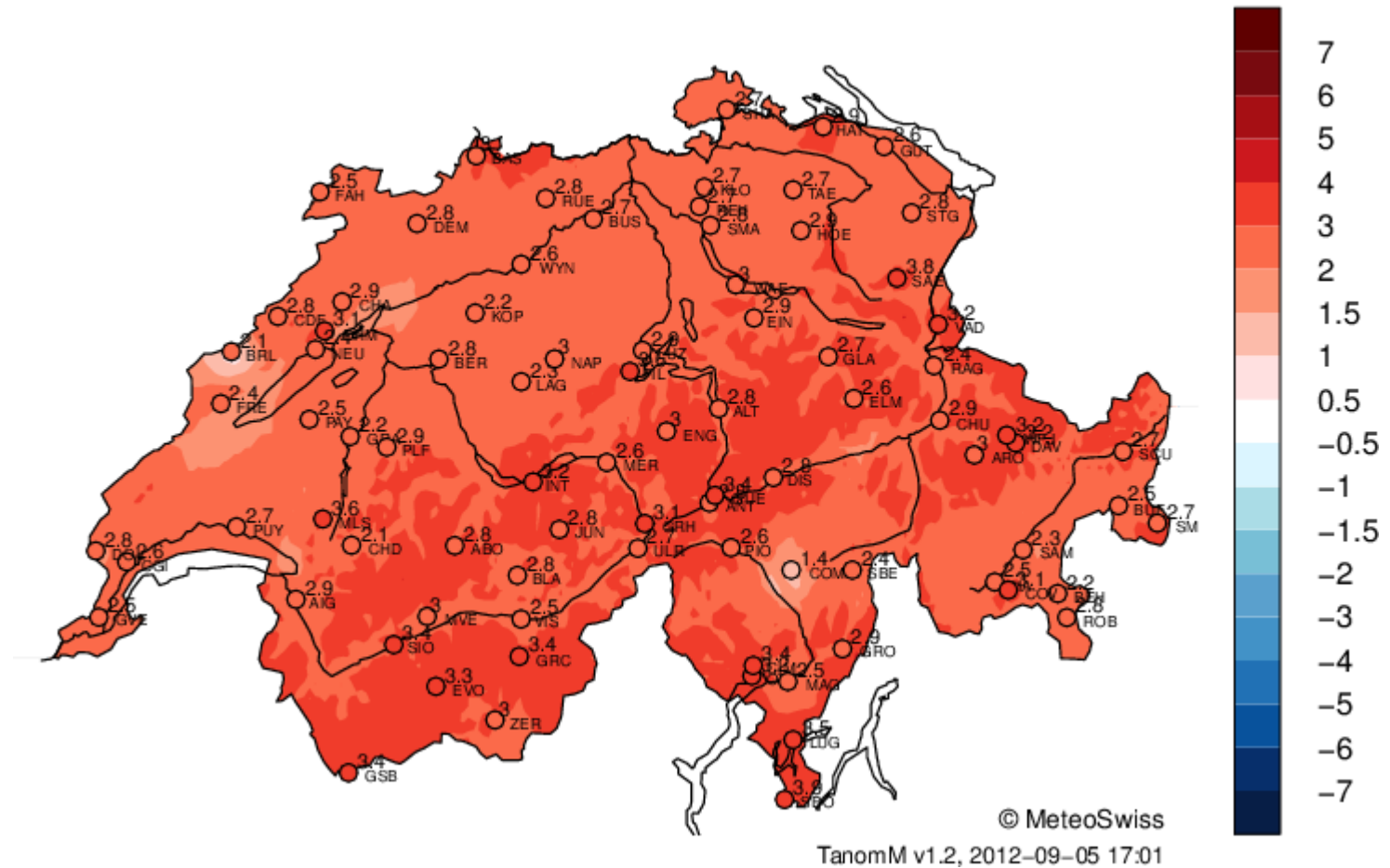
Degrees Celsius

Please Note: Gray areas represent missing data



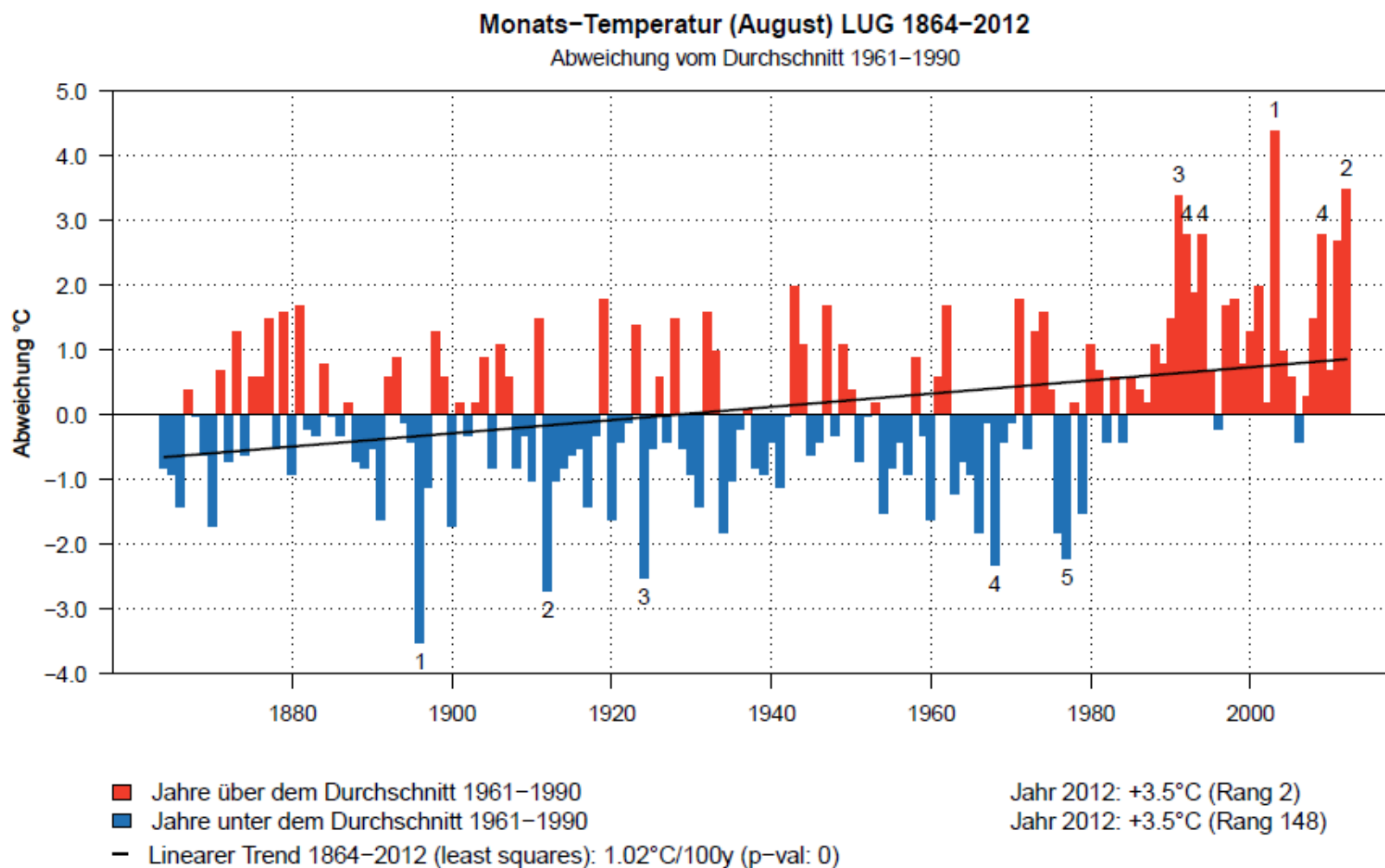
# Temperatura: agosto 2012

Monthly Temperature Anomaly (degC) Aug 2012 (Ref. 1961–1990)





# L'estate in TI 2012 rispetto alle altre



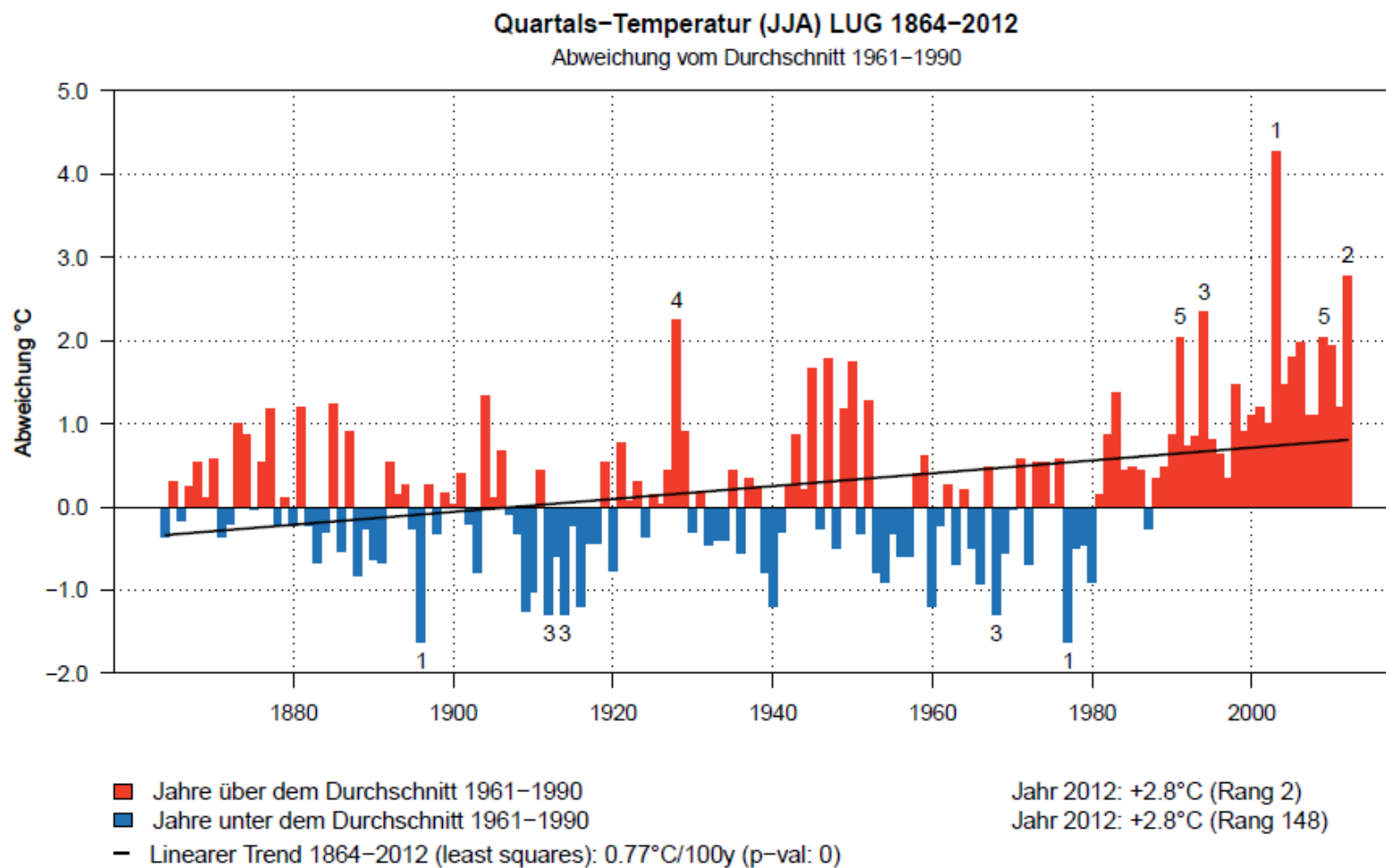




## **Temperatura: anomalie globali agosto 2012**



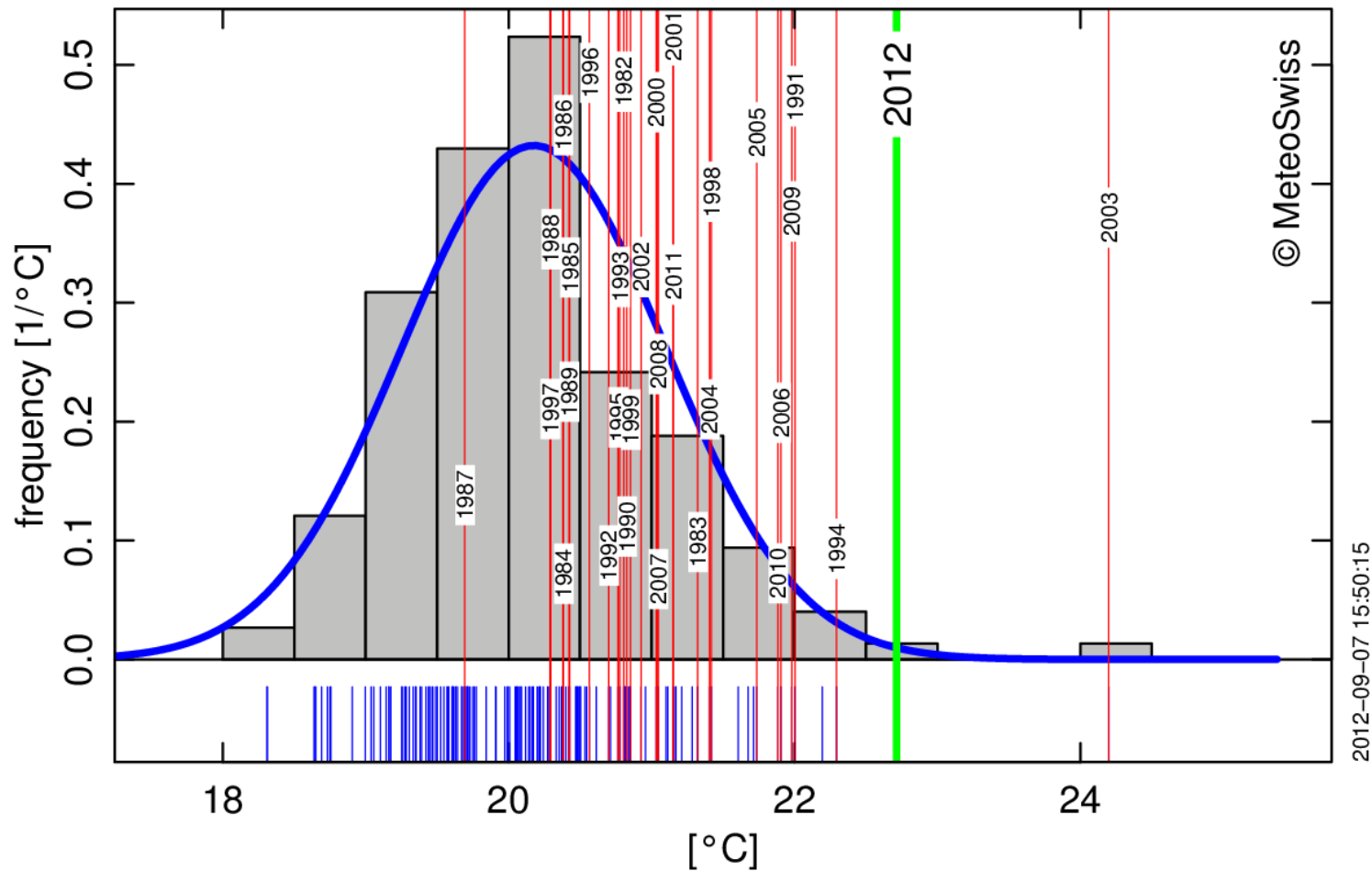
# Estate 2012 in TI rispetto alle altre





# Estate 2012 in TI rispetto alle altre

Air temperature 2 m above ground; homogeneous monthly mean  
Jun / Jul / Aug 1864–2012 (blue) and 1982–2012 (red)



© MeteoSwiss

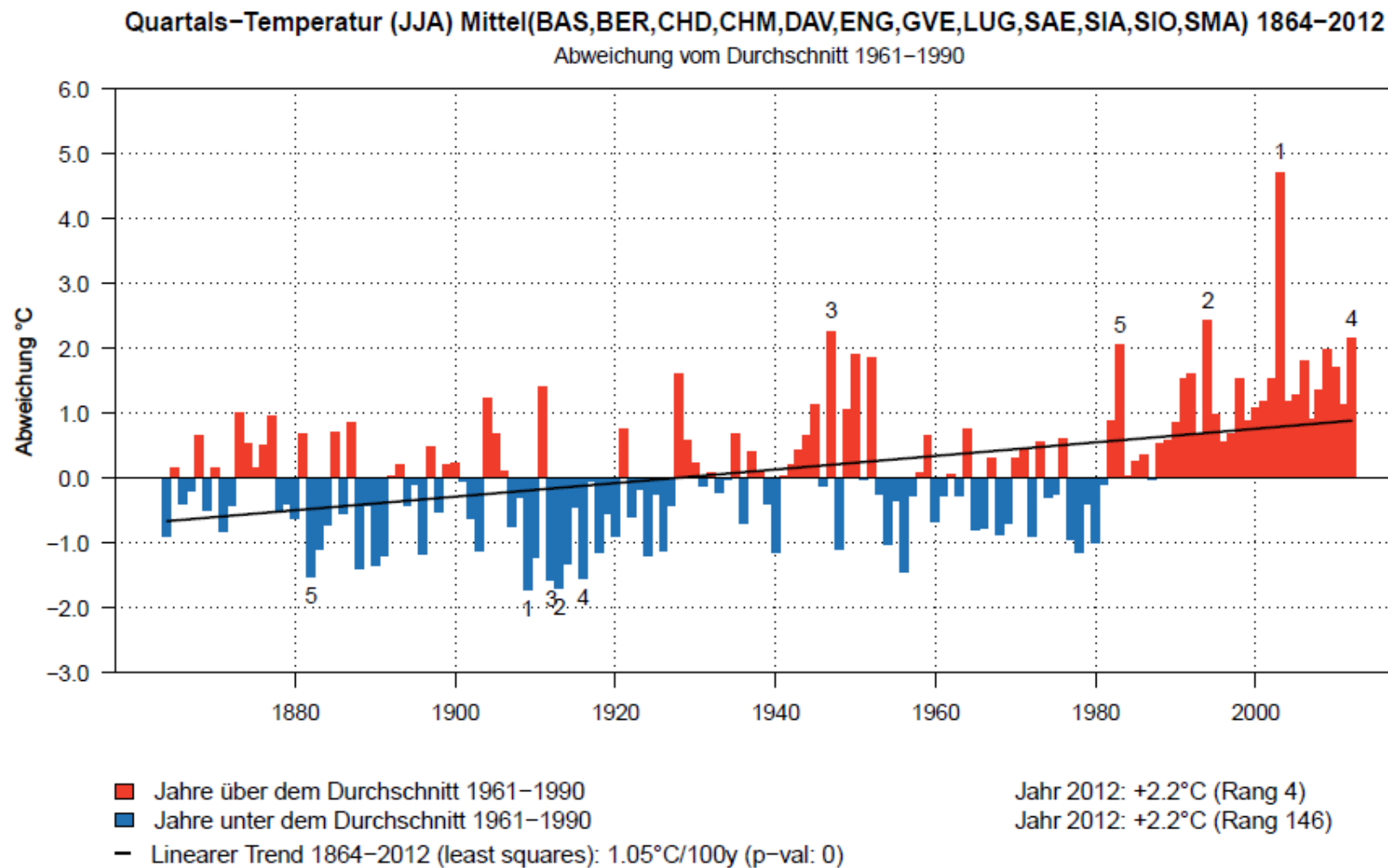
2012-09-07 15:50:15

Lugano

149 non-NA values in station record; 2012: 2 highest



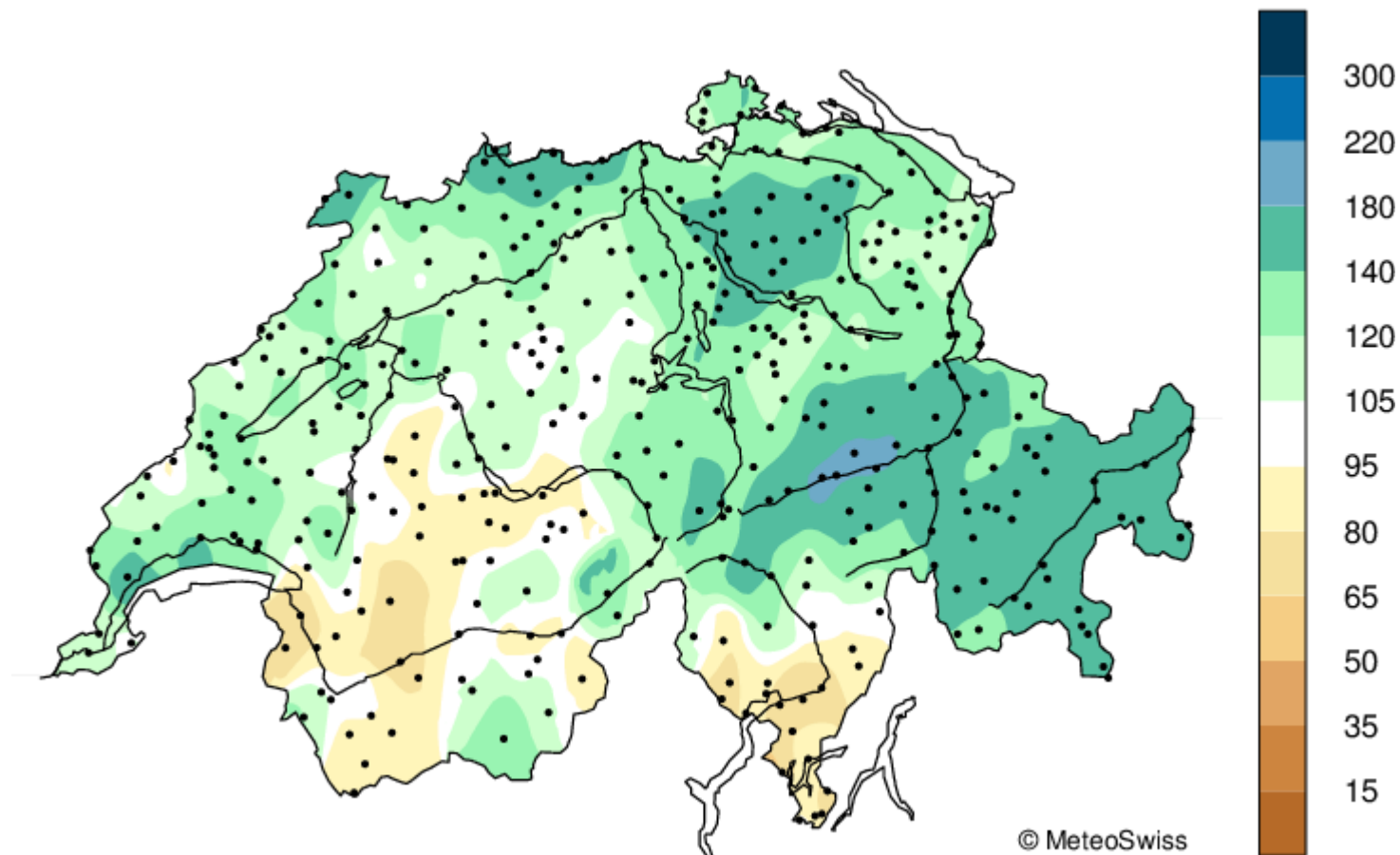
# L'estate in CH 2012 rispetto alle altre





# Precipitazioni: giugno 2012

Monthly Precipitation Anomaly (%) Jun 2012 (Ref. 1961–1990)



© MeteoSwiss

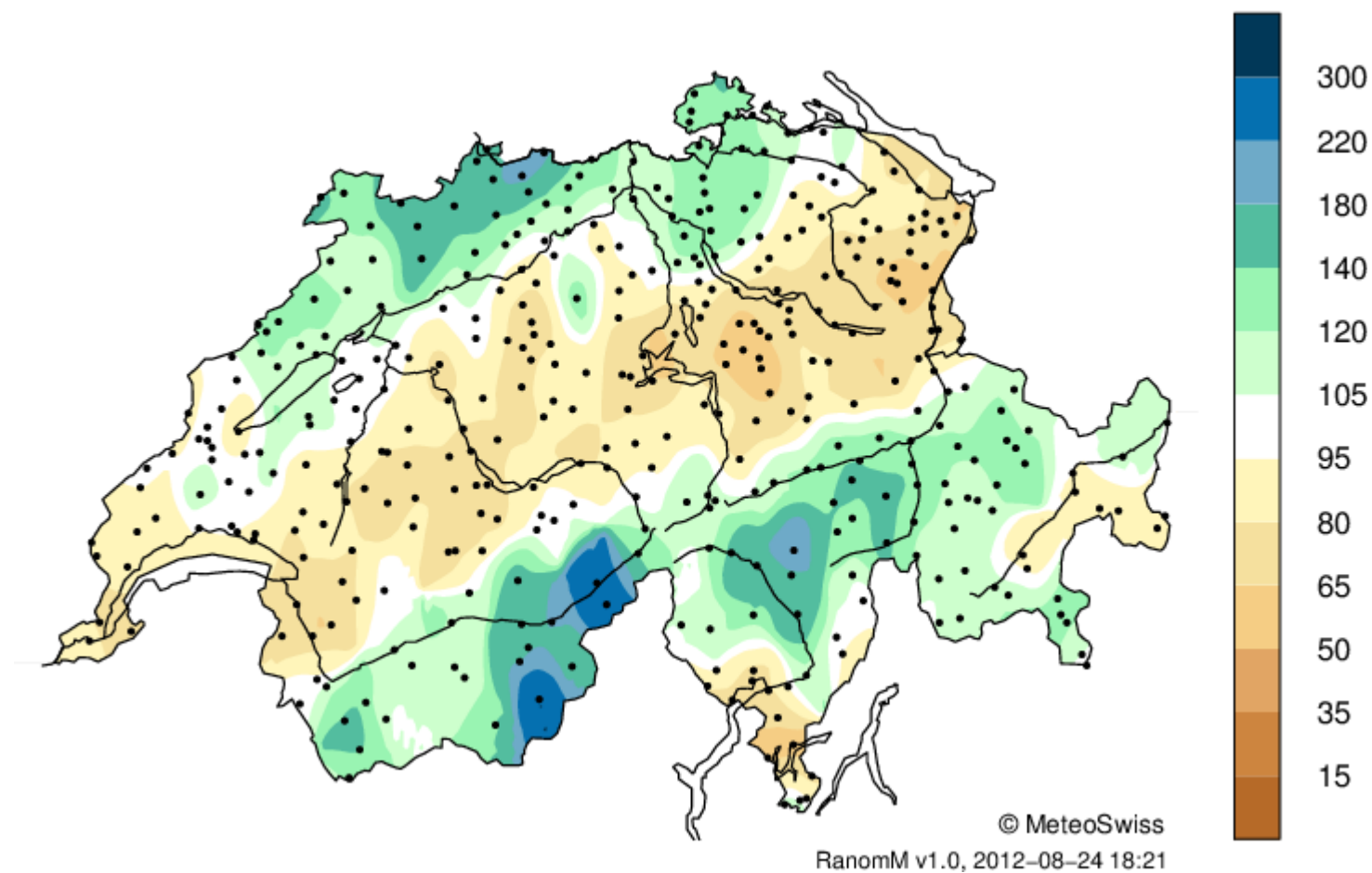
RanomM v1.0, 2012-07-24 18:23





# Precipitazioni: luglio 2012

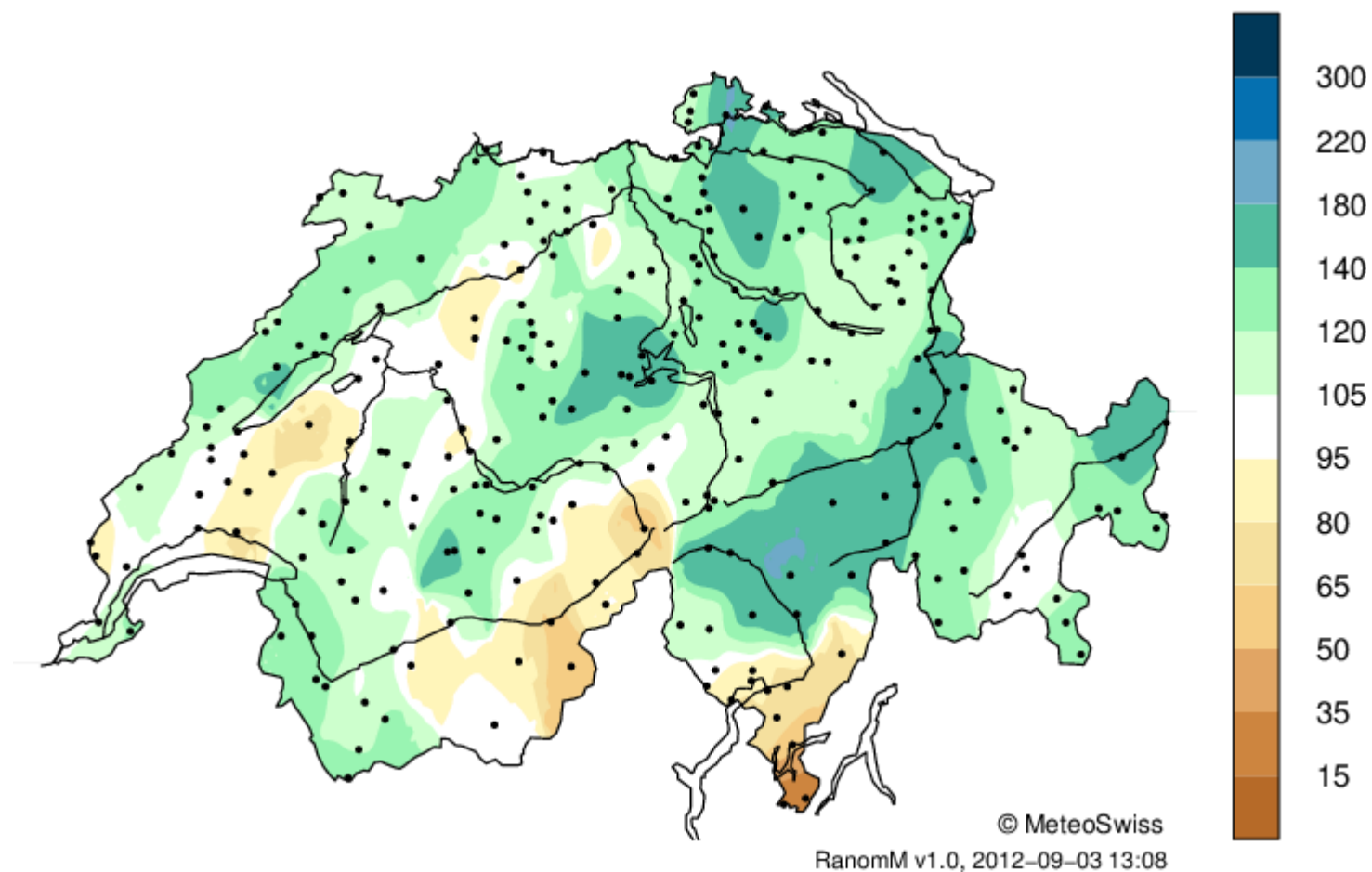
Monthly Precipitation Anomaly (%) Jul 2012 (Ref. 1961–1990)





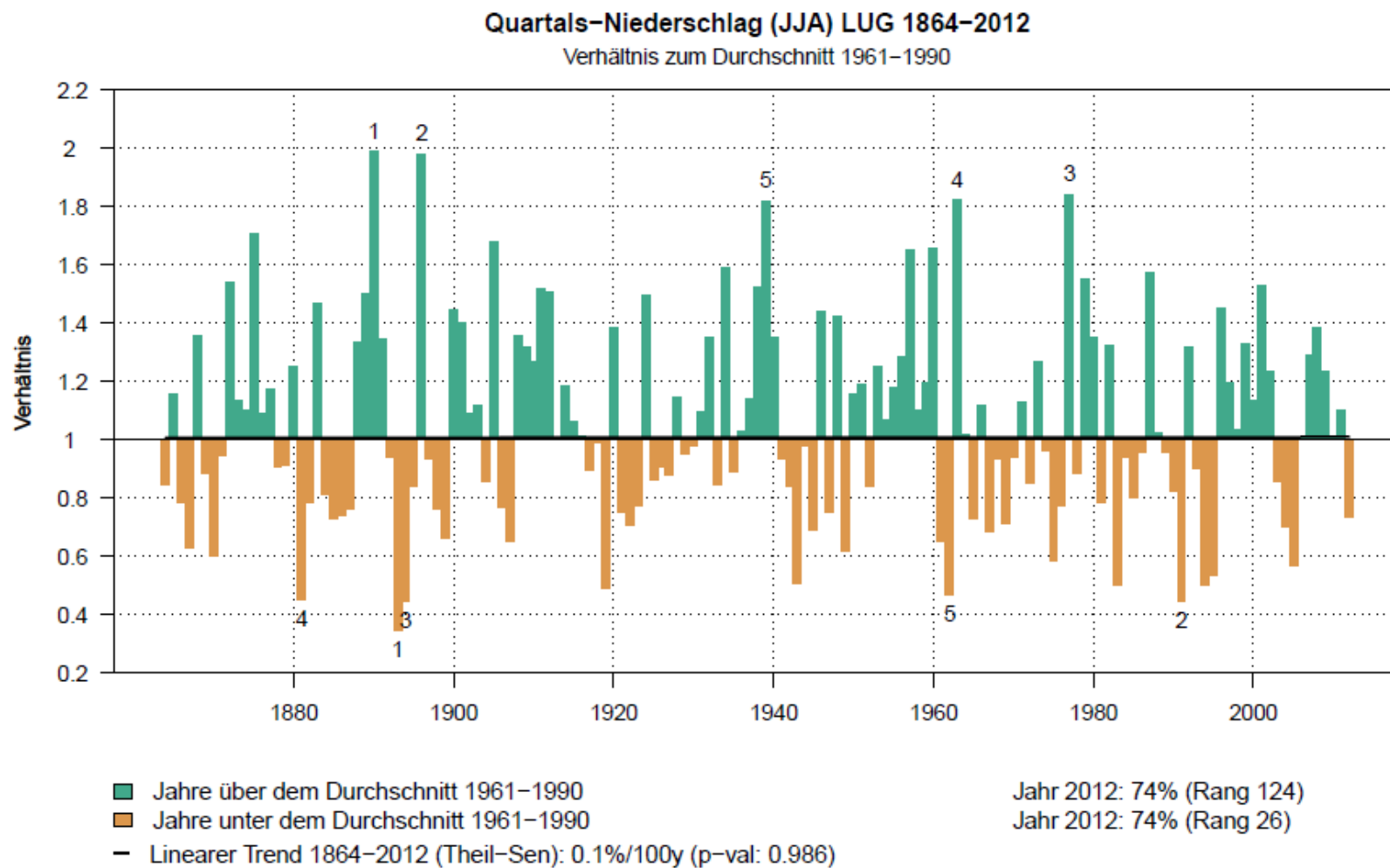
# Precipitazioni agosto 2012

Monthly Precipitation Anomaly (%) Aug 2012 (Ref. 1961–1990)





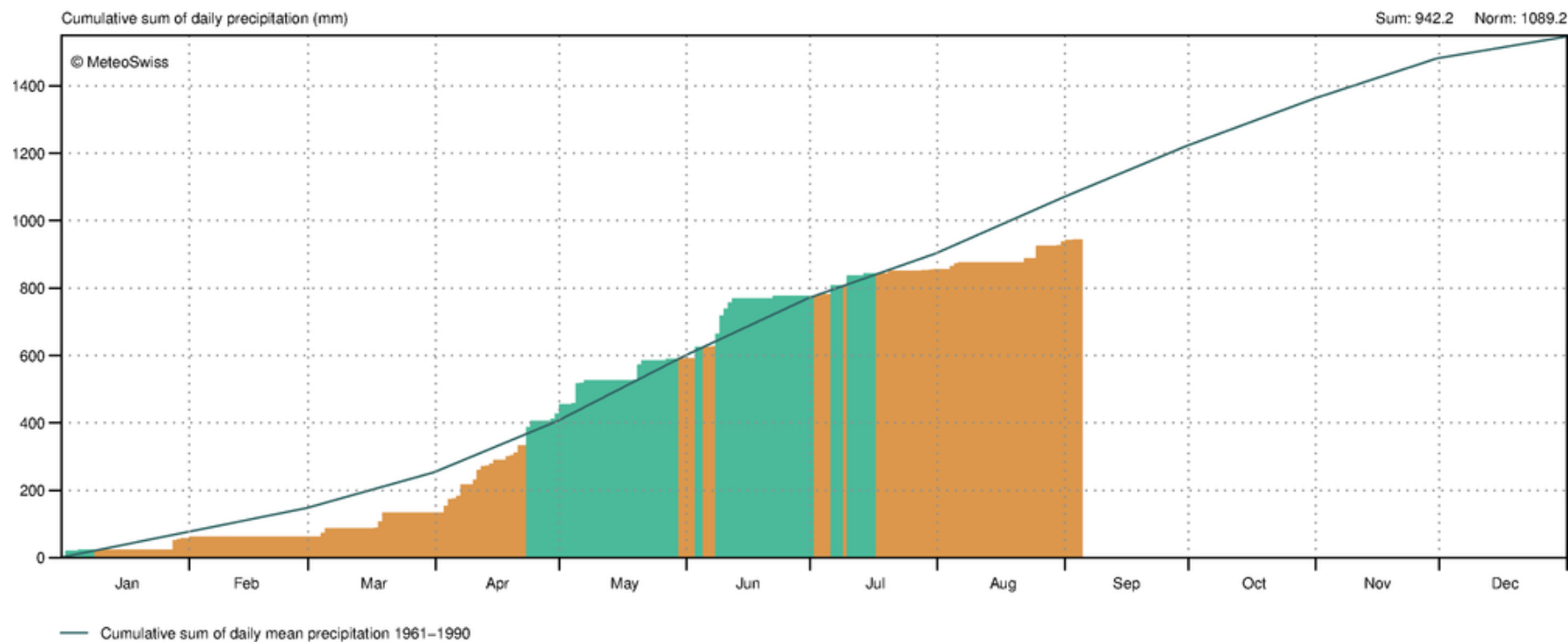
# L'estate 2012 rispetto alle altre





# Somma precipitazioni 2012

Lugano (273 m)  
01.01.2012 – 04.09.2012

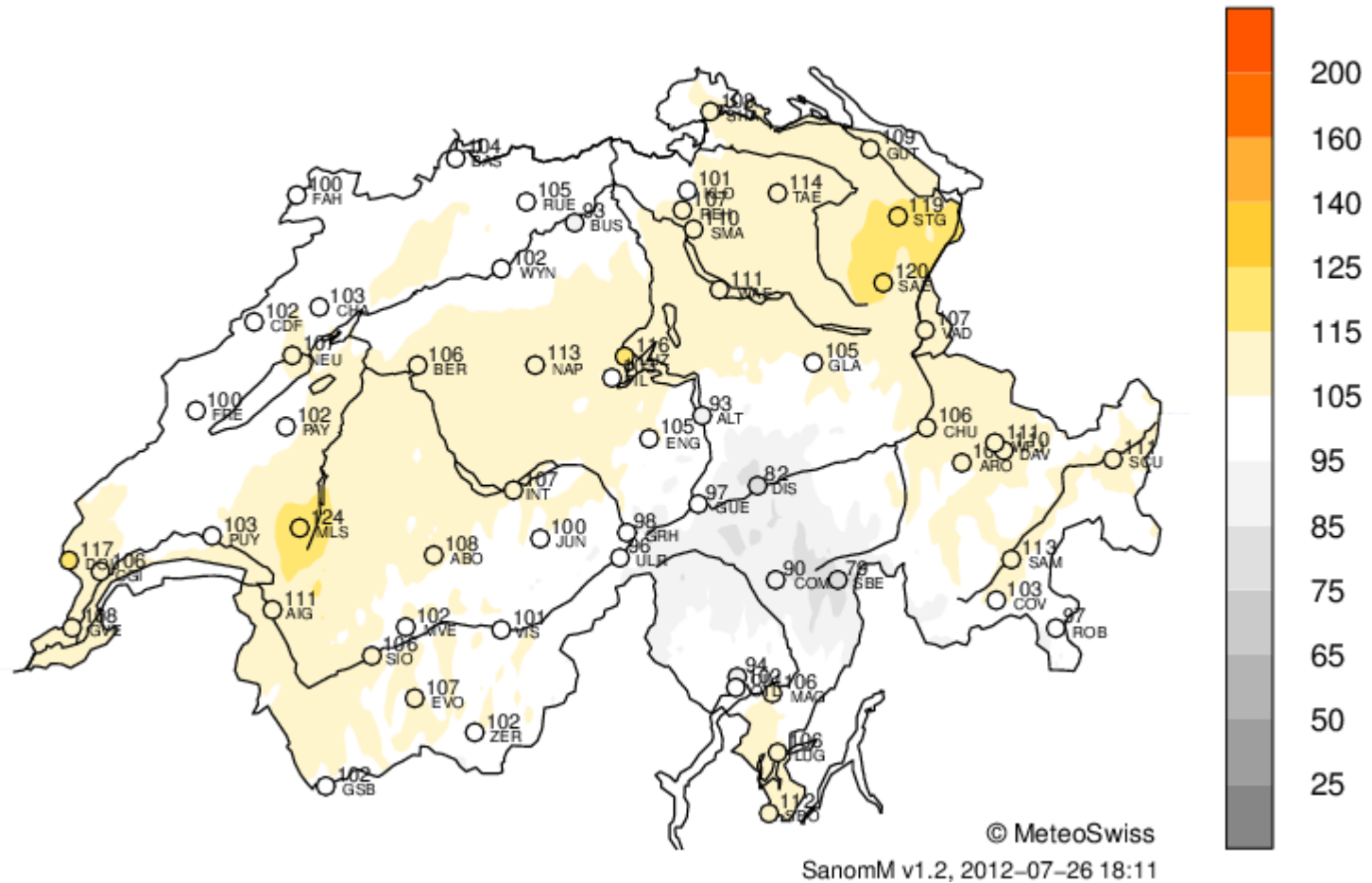


Status: 05.09.2012



# Soleggiamento: anomalia giugno 2012

Monthly Sunshine Duration Anomaly (%) Jun 2012 (Ref. 1961–1990)

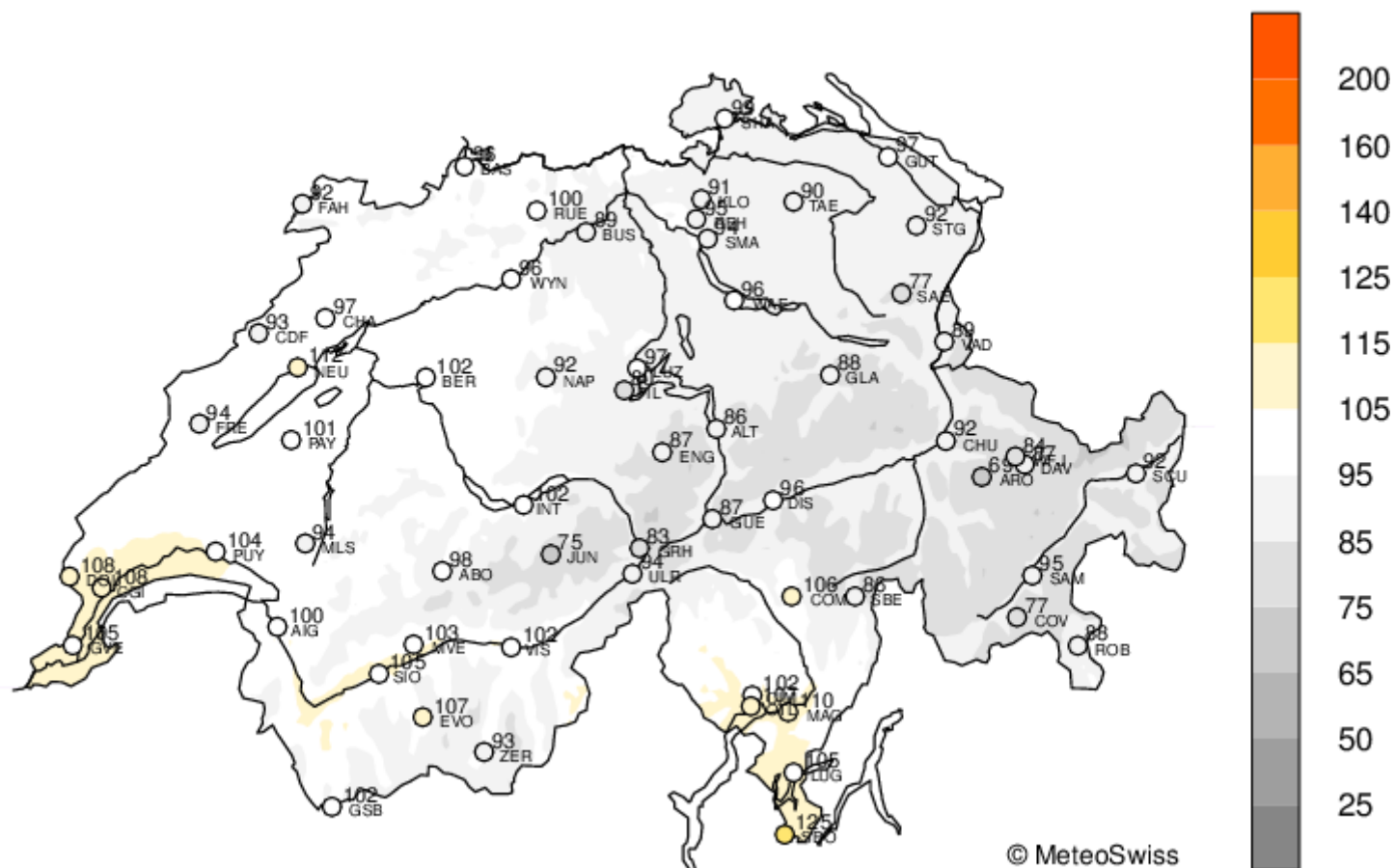






# Soleggiamento: anomalia luglio 2012

Monthly Sunshine Duration Anomaly (%) Jul 2012 (Ref. 1961–1990)



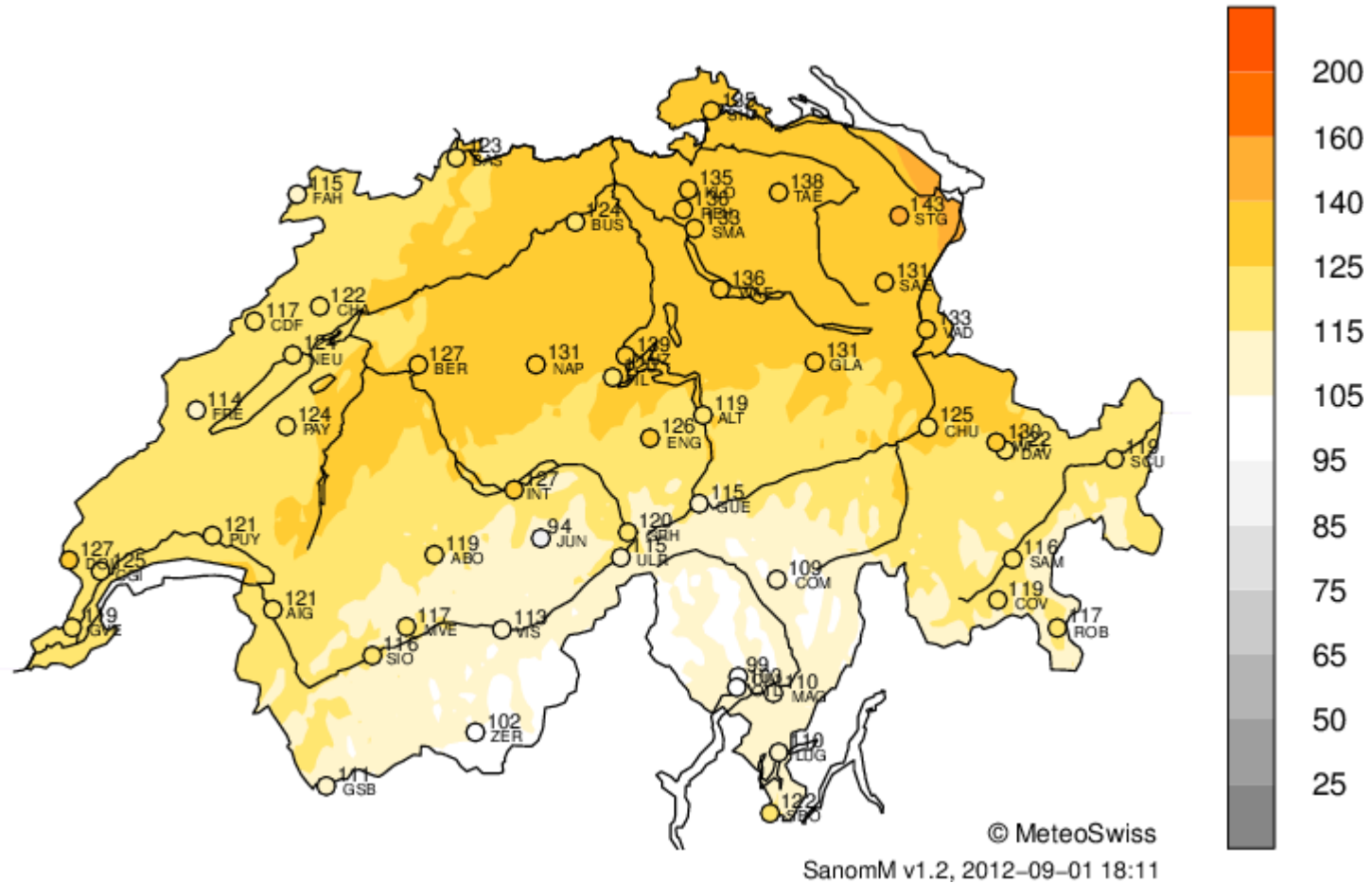
© MeteoSwiss

SanomM v1.2, 2012-08-26 18:11



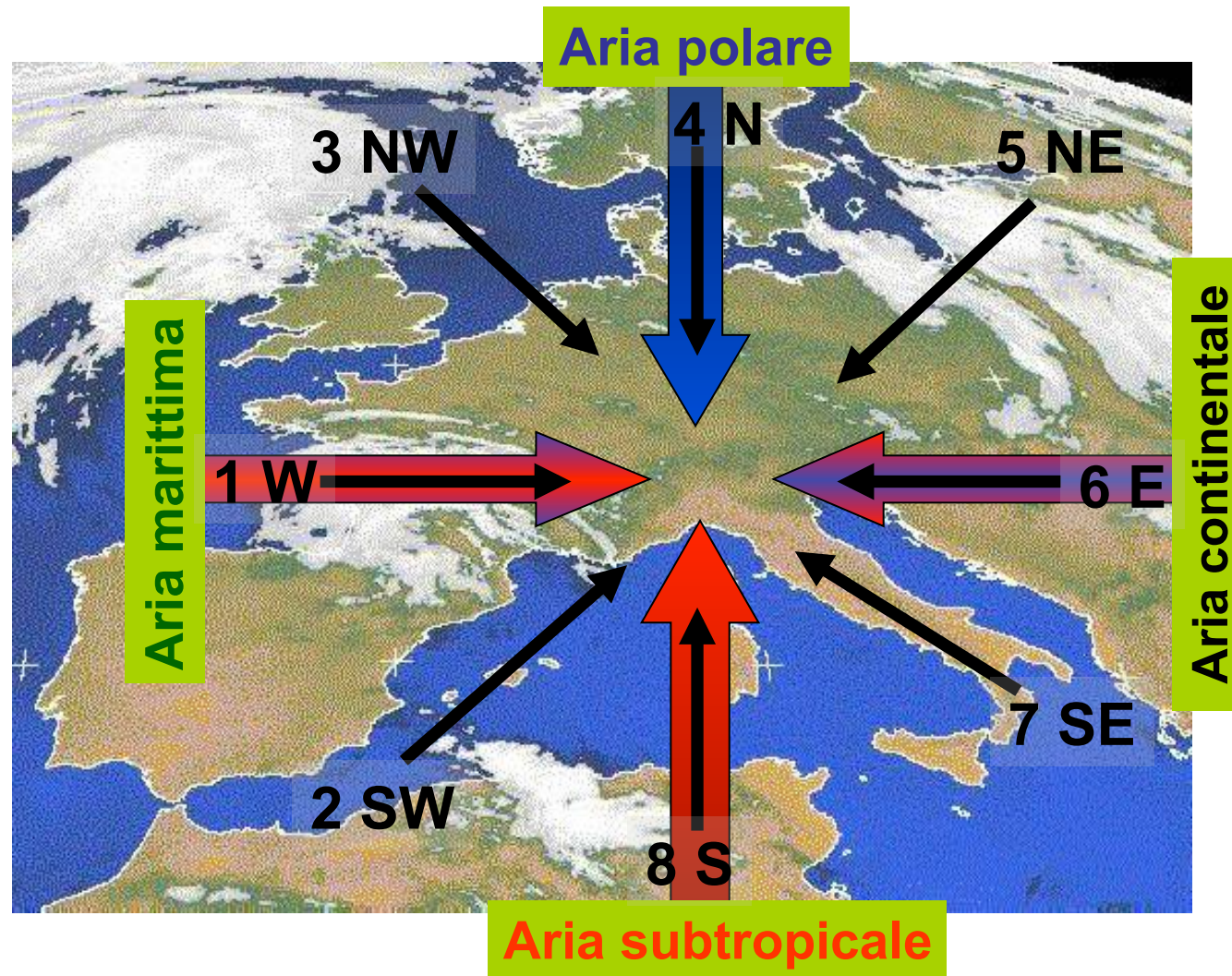
# Soleggiamento: anomalia agosto 2012

Monthly Sunshine Duration Anomaly (%) Aug 2012 (Ref. 1961–1990)



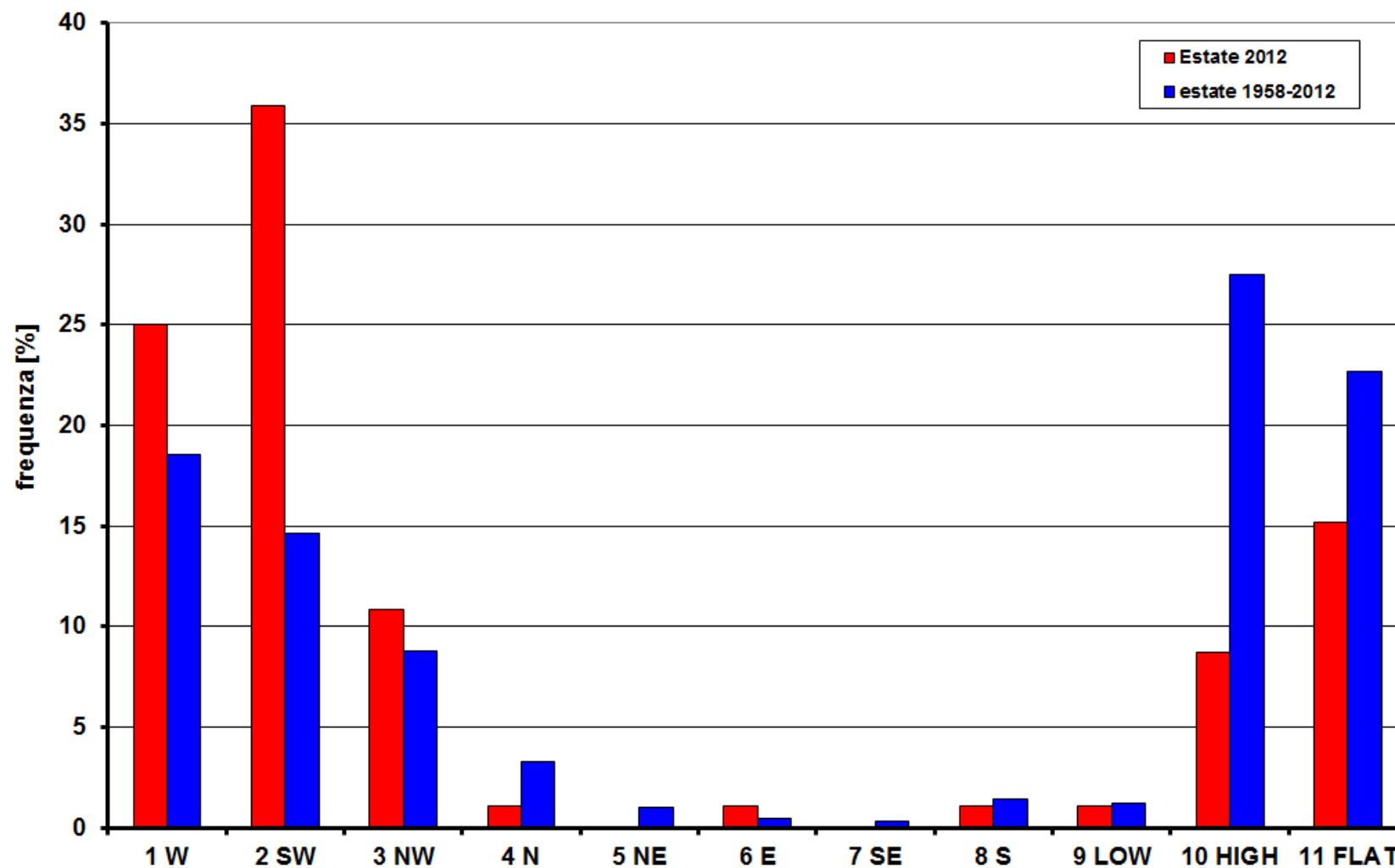


## Masse d'aria diverse, tempo diverso, situazioni diverse



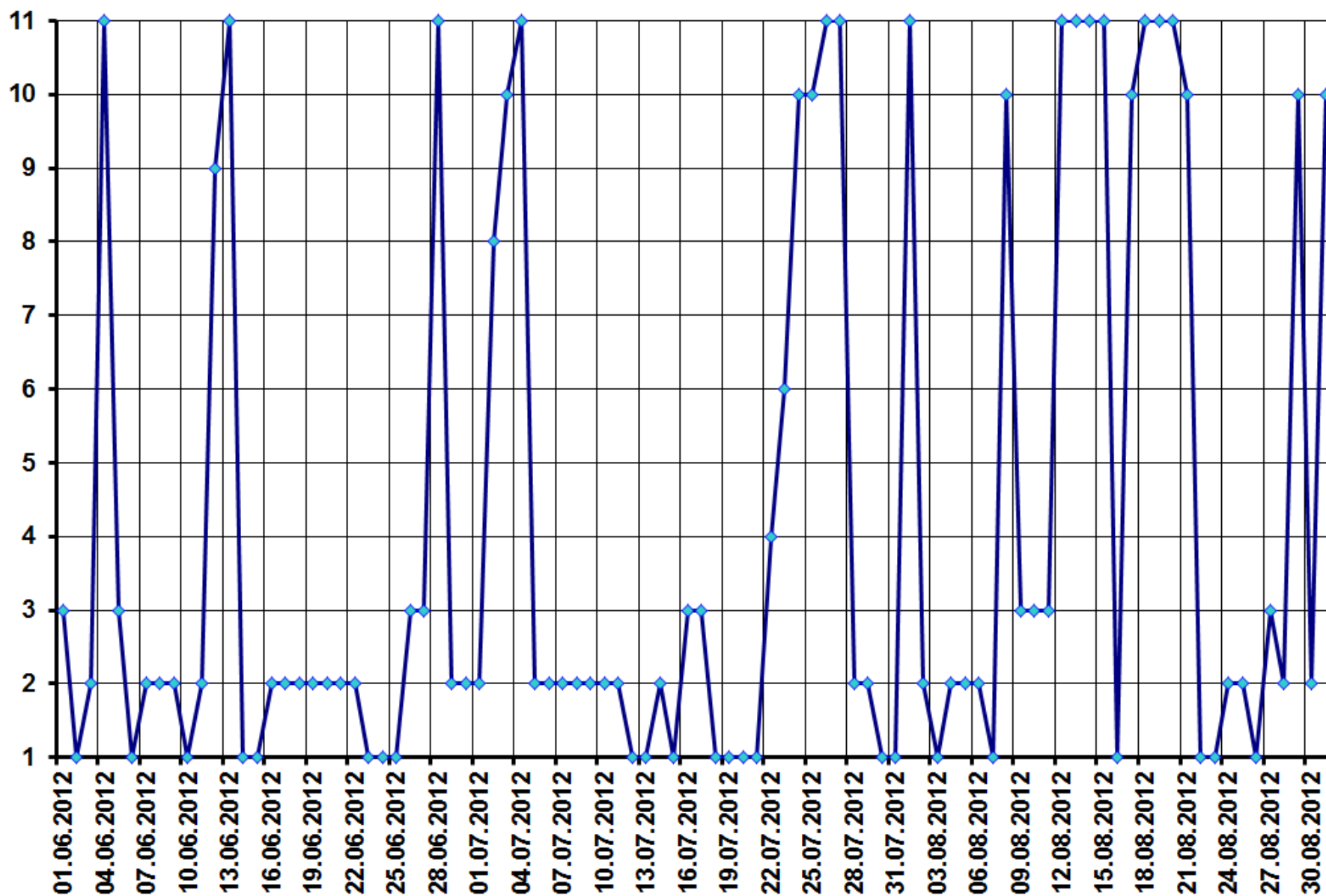


# La distribuzione delle situazioni





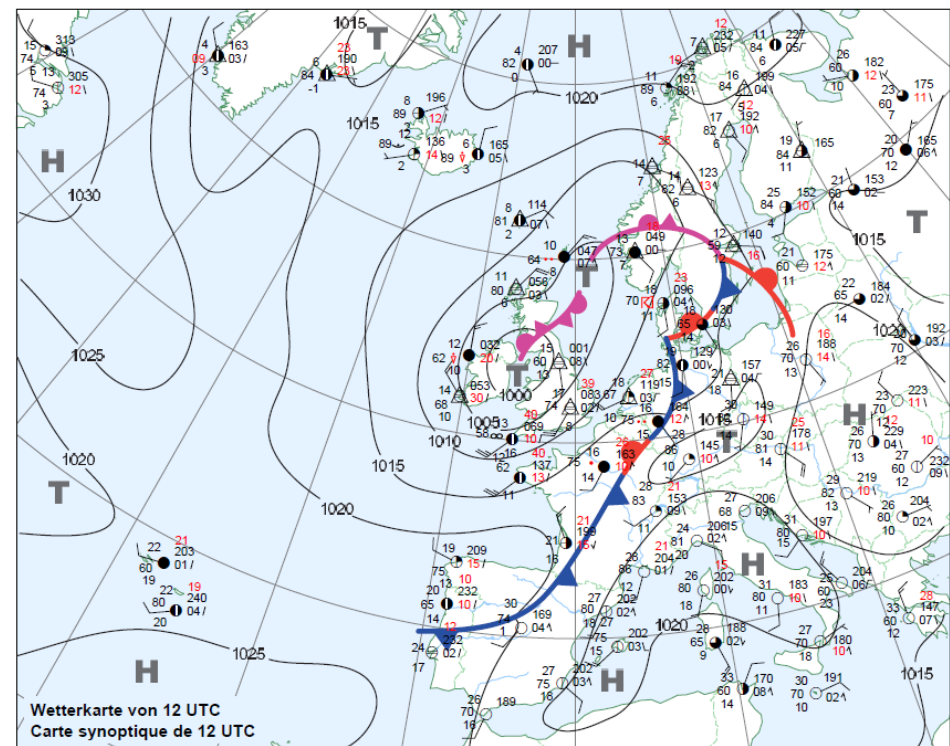
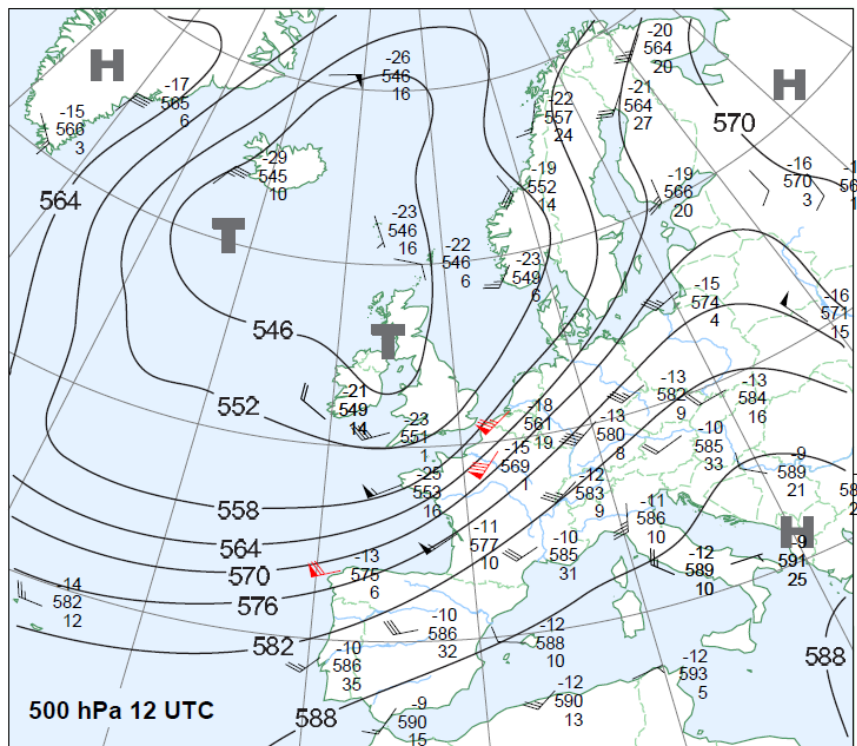
# Sequenza delle situazioni







# SW



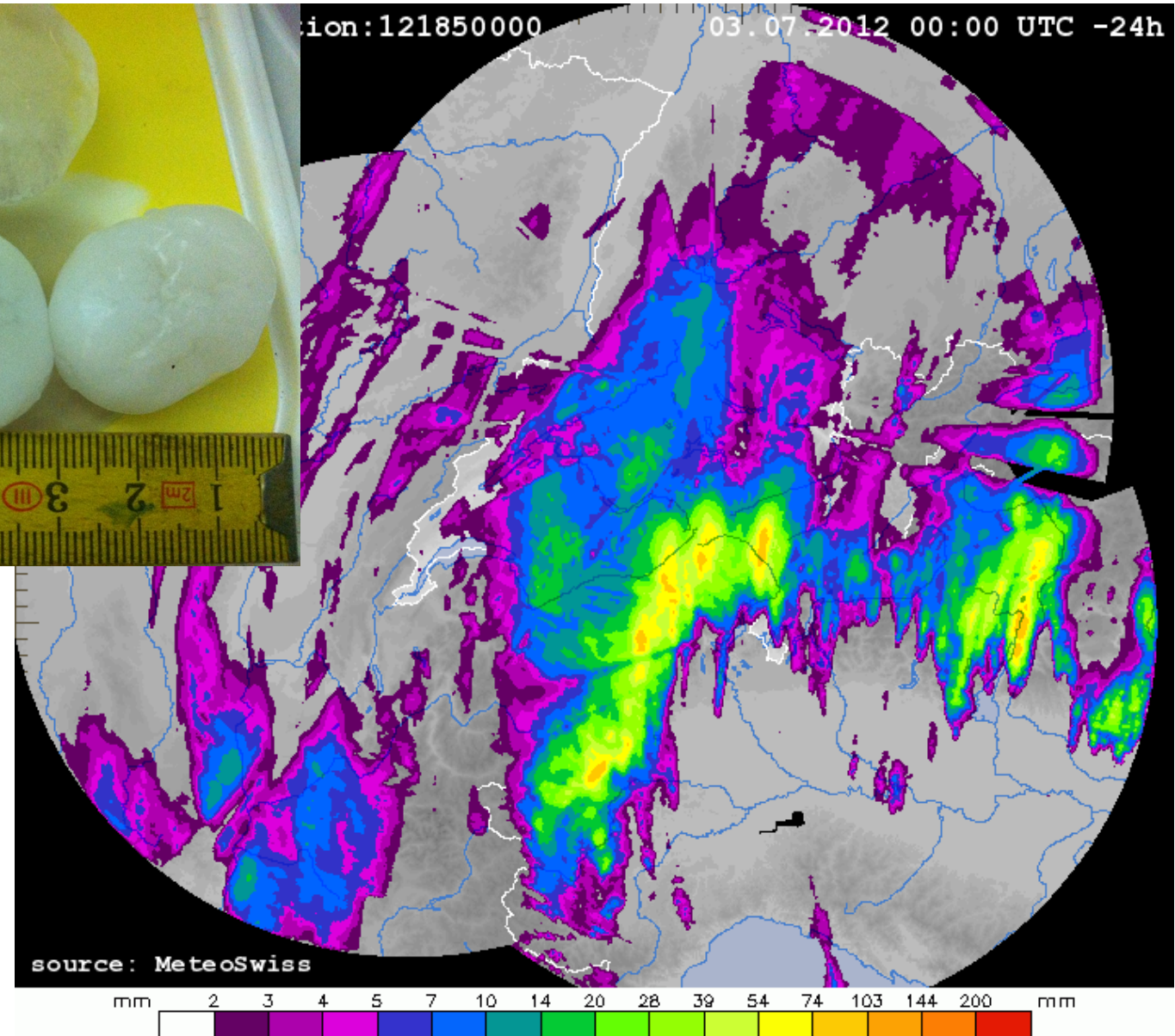


# Casi

- 2.7 forti temporali mobili
- 11.7 violenta grandinata nel Mendrisiotto
- 28.7 frana in valle di Blenio (Martino)
- 30-31.7 Isola di calore (Gianluca)
- 19.8 retour d'est estivo
- 20.8 foschia Alto Adige (Mauro)
- 24-25.8 violenti temporali
- 17-24.8 canicola (Giorgio)



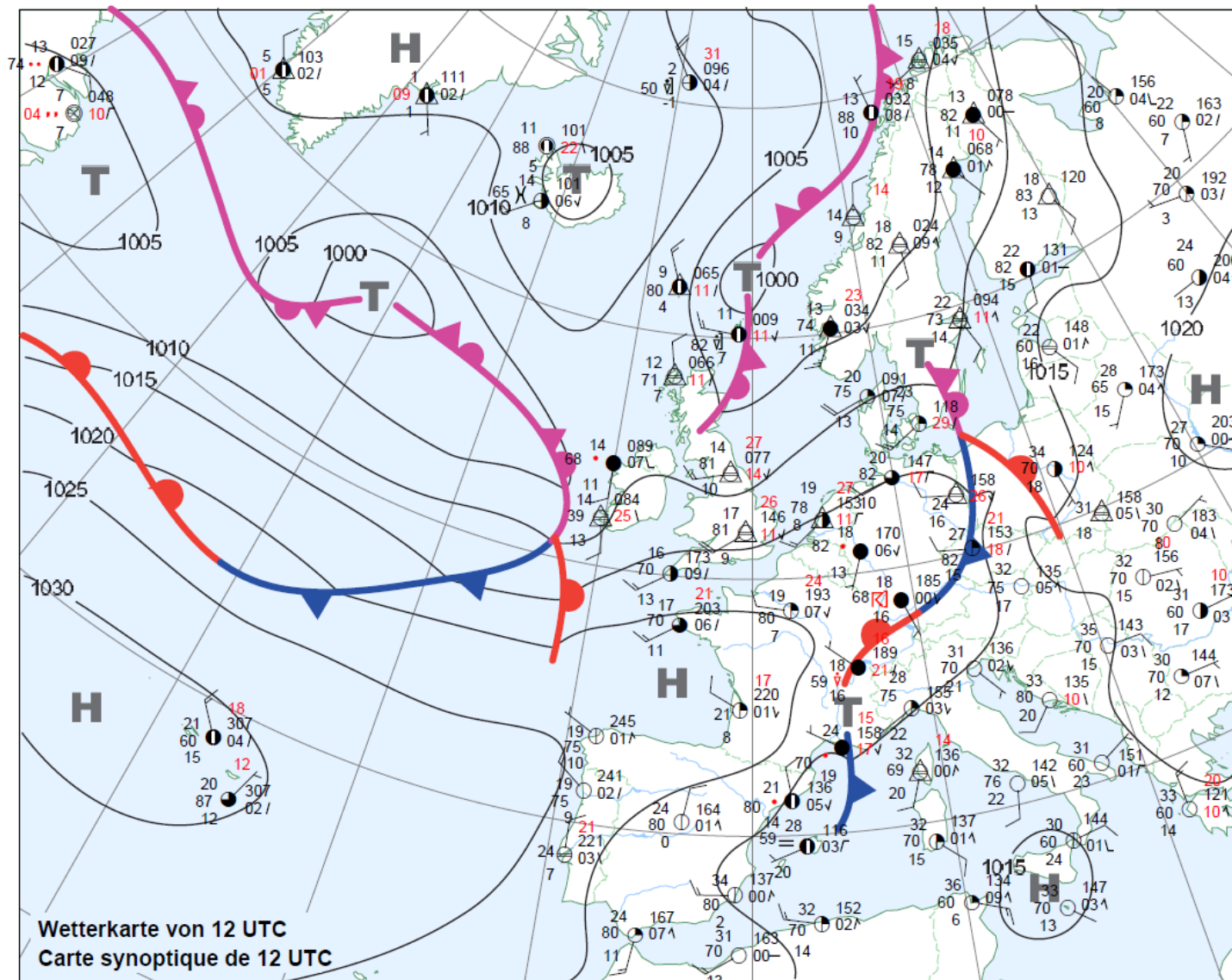
## 2.7.2012: forti temporali mobili







# Situazione al suolo l'1.7 alle 12





## 2.7.2012: Z@500 e T@500 hPa

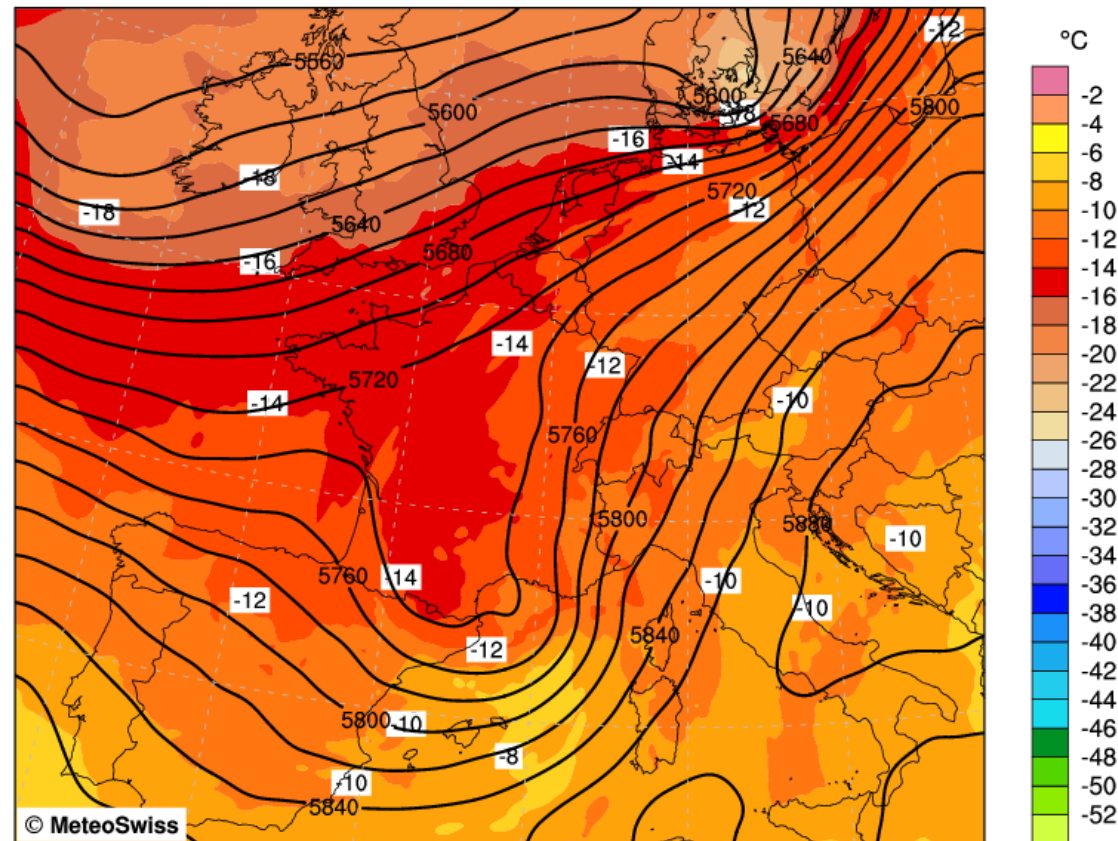
COSMO-7 ANALYSIS

Version: 921

Mon 02 Jul 2012 00UTC

500hPa Geopotential Height and Temperature

02.07.2012 00UTC +00h



Geopotential [gpm], level = 500 hPa

Air Temperature [deg C], level = 500 hPa

Mean: 5790.4 gpm

Mean: -11.8 deg C



## 2.7.2012: Z@500 e T@500 hPa

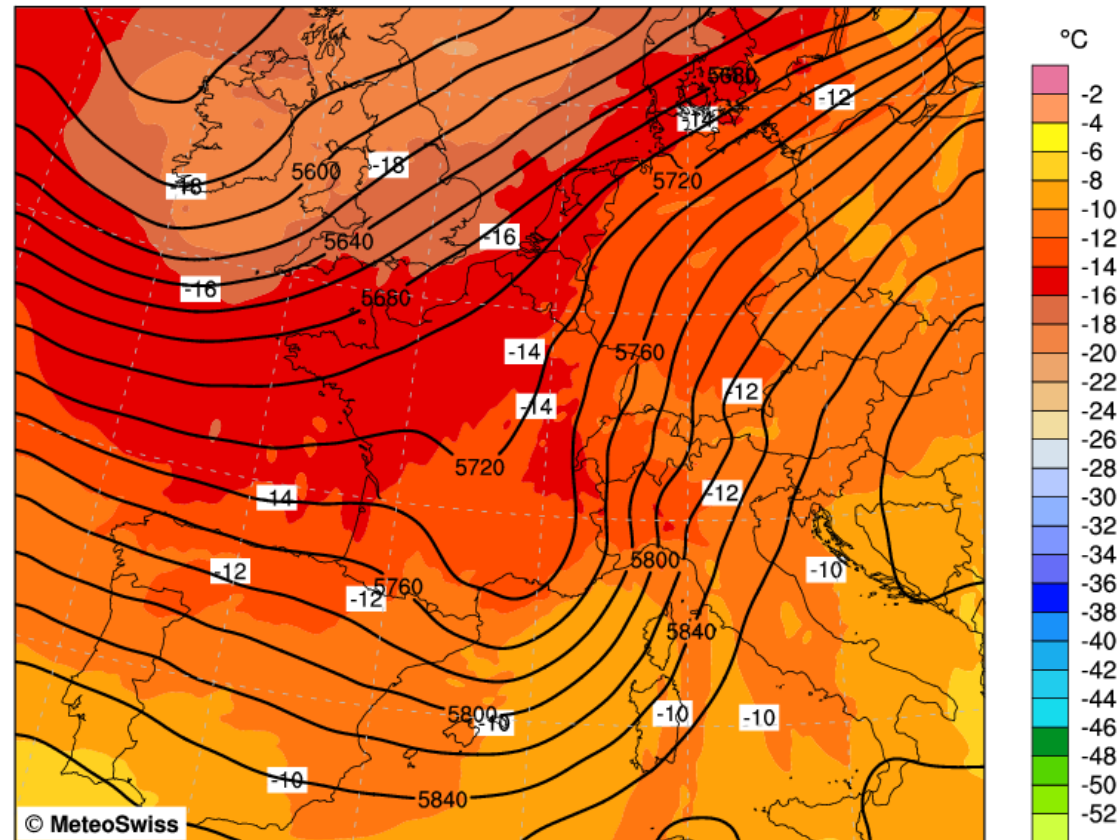
COSMO-7 FORECAST

Version: 921

Mon 02 Jul 2012 06UTC

500hPa Geopotential Height and Temperature

02.07.2012 00UTC +06h



Geopotential [gpm], level = 500 hPa

Air Temperature [deg C], level = 500 hPa

Mean: 5790.6 gpm

Mean: -11.7 deg C



## 2.7.2012: Z@500 e T@500 hPa

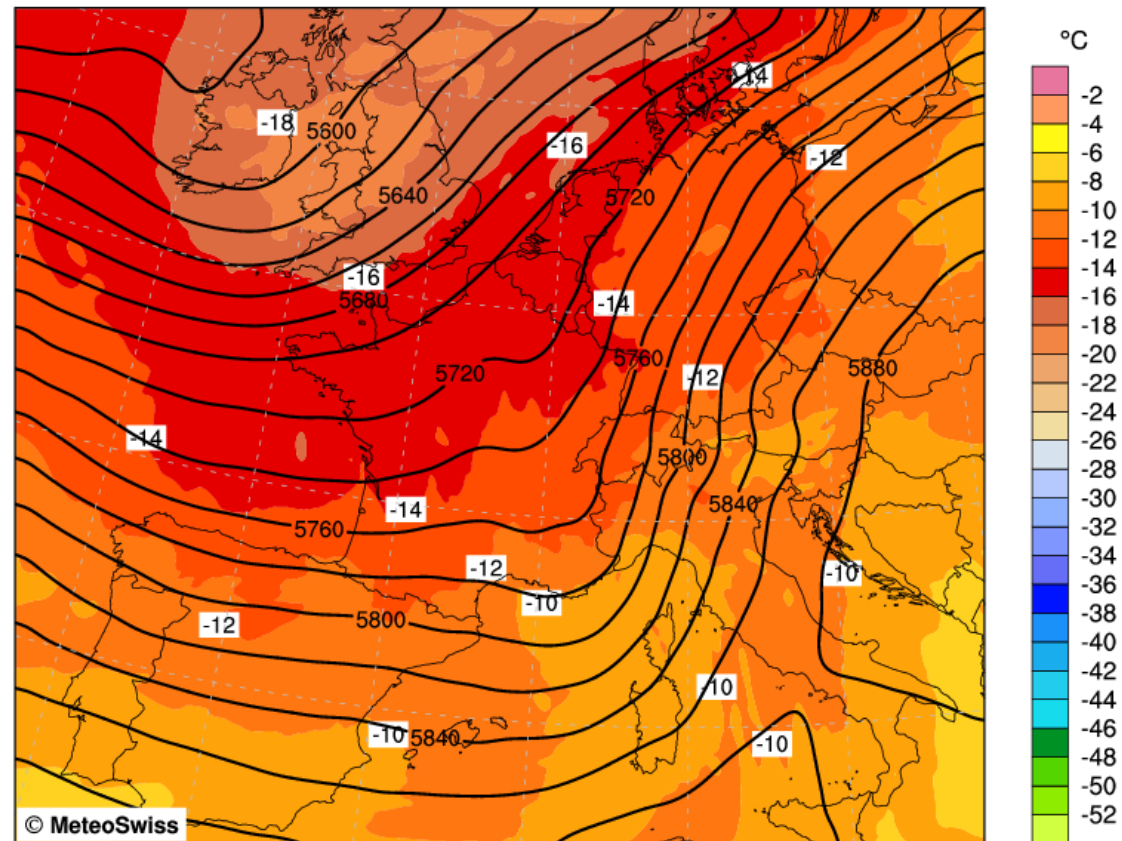
COSMO-7 FORECAST

Version: 921

Mon 02 Jul 2012 12UTC

500hPa Geopotential Height and Temperature

02.07.2012 00UTC +12h



Geopotential [gpm], level = 500 hPa  
Air Temperature [deg C], level = 500 hPa

Mean: 5806.1 gpm  
Mean: -11.6 deg C





# UV4000m T4000m

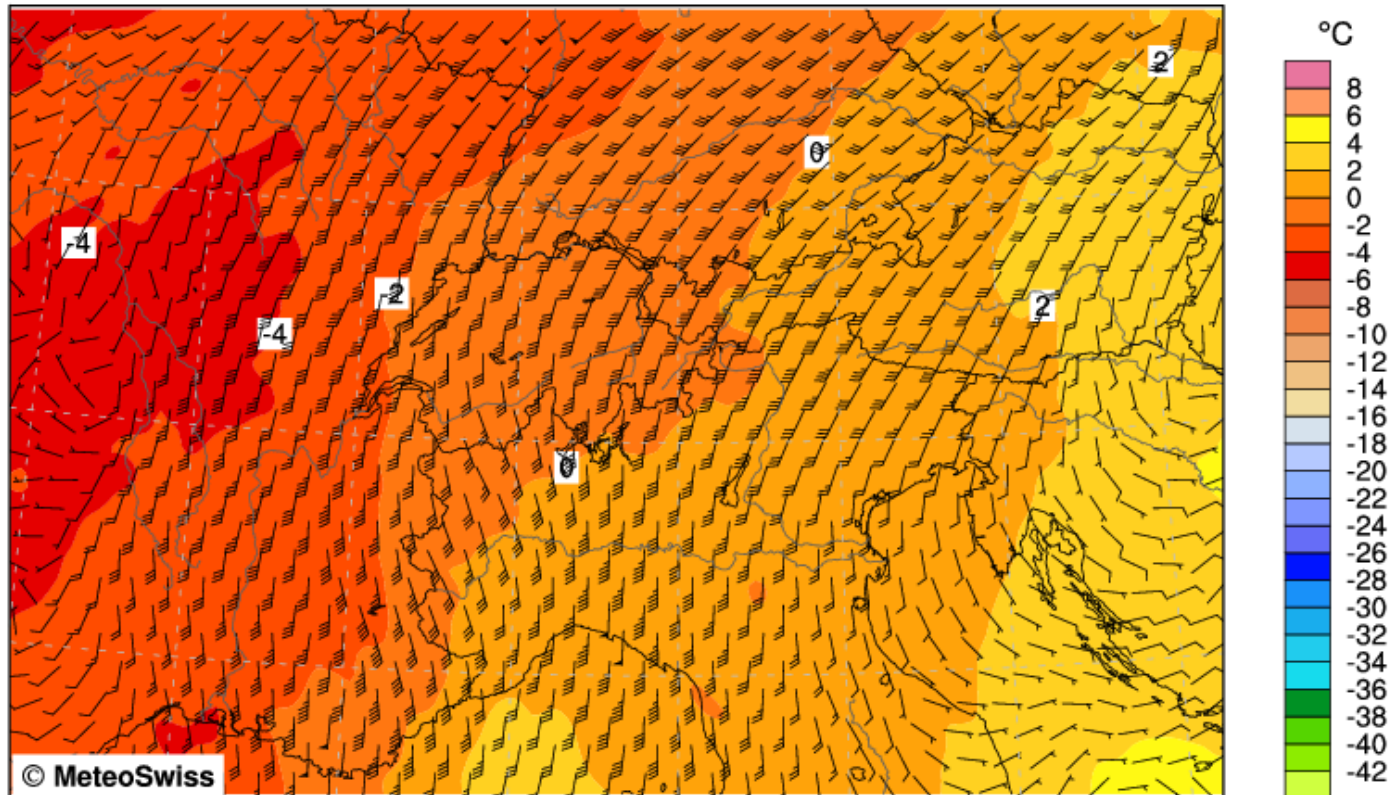
COSMO-7 ANALYSIS

Version: 921

Temperature and Wind Flags at 4km Height

Mon 02 Jul 2012 00UTC

02.07.2012 00UTC +00h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

Mean: -0.3 Min/Max: -5.1/ 5.6 [deg C]  
Mean: 26.0 Max: 55.1 [knots]



# UV4000m T4000m

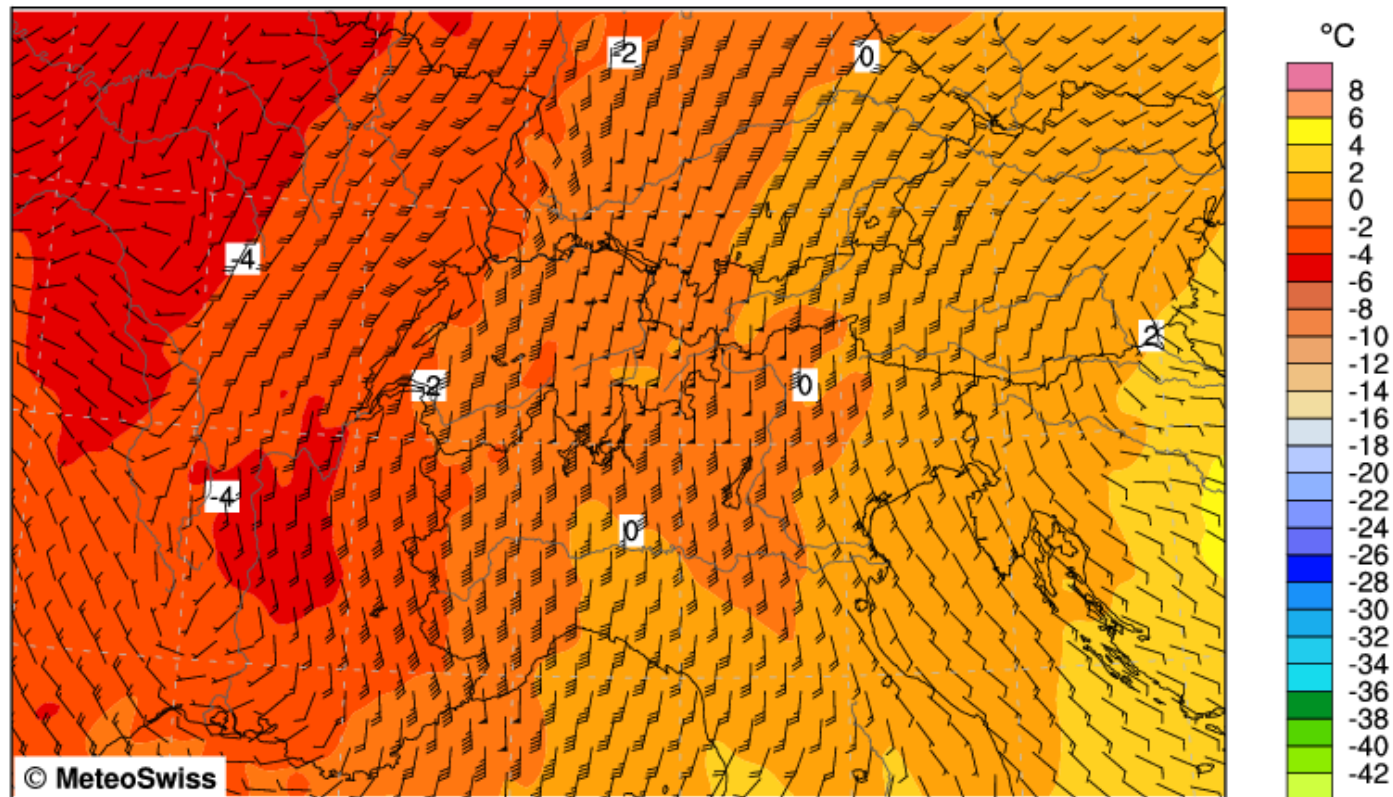
COSMO-7 FORECAST

Version: 921

Mon 02 Jul 2012 06UTC

Temperature and Wind Flags at 4km Height

02.07.2012 00UTC +06h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

Mean: -0.7 Min/Max: -5.6/ 4.4 [deg C]  
Mean: 23.1 Max: 61.4 [knots]



# UV4000m T4000m

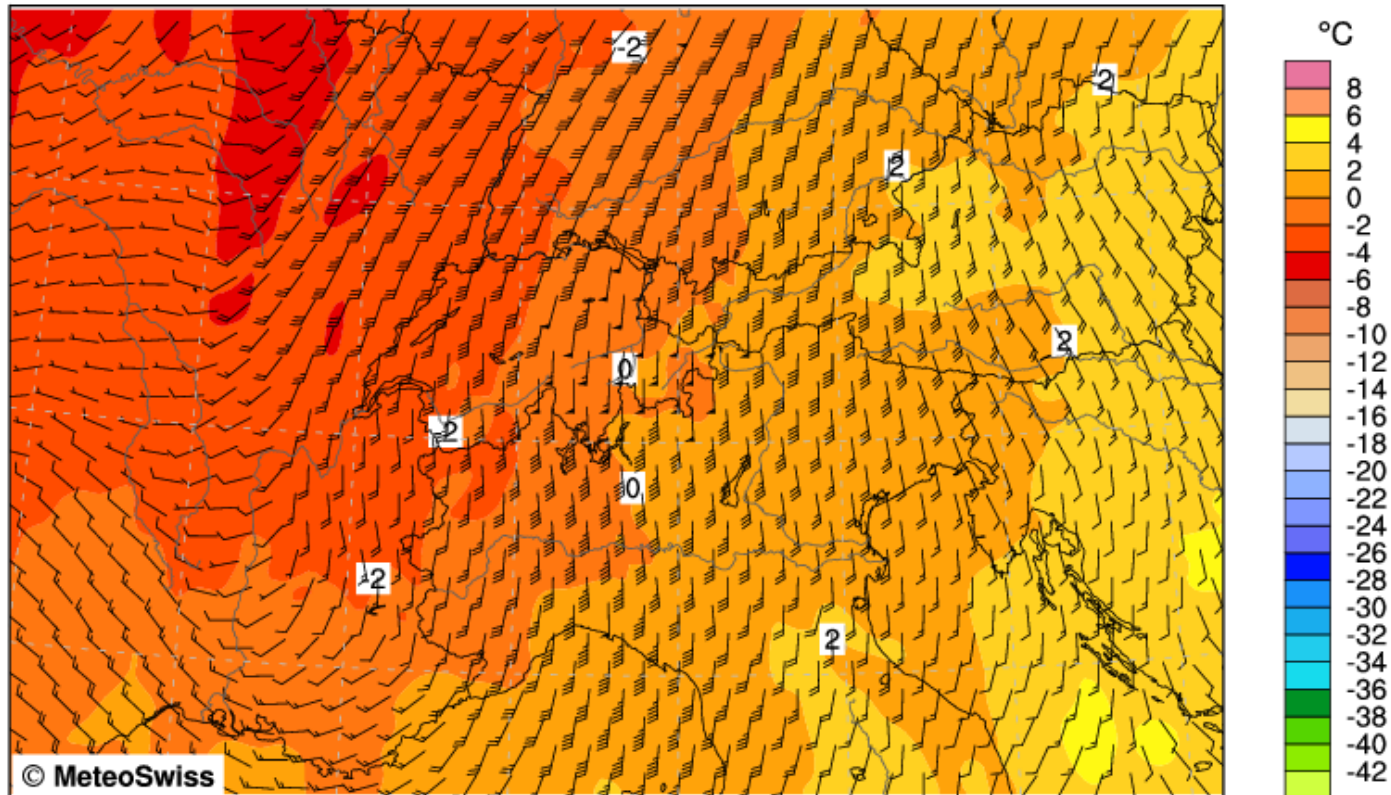
COSMO-7 FORECAST

Version: 921

Mon 02 Jul 2012 12UTC

Temperature and Wind Flags at 4km Height

02.07.2012 00UTC +12h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

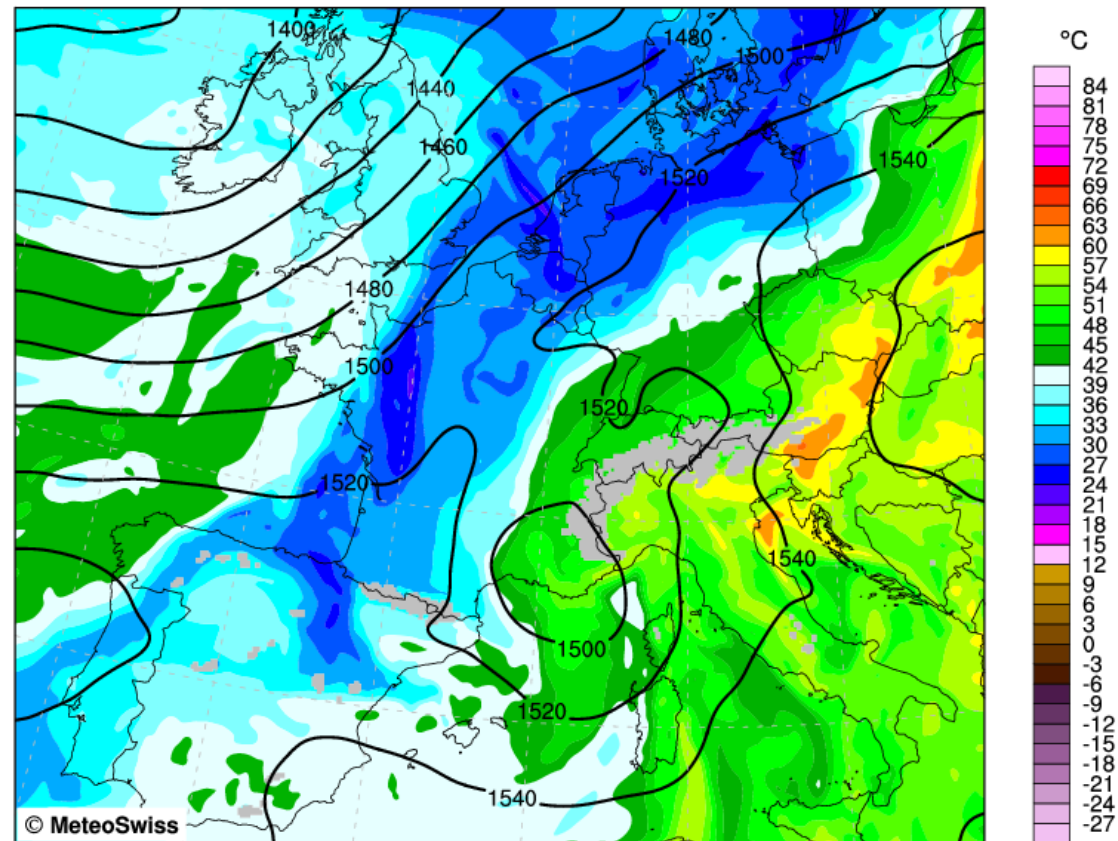
Mean: -0.0 Min/Max: -5.0/ 4.4 [deg C]  
Mean: 23.3 Max: 56.2 [knots]



# thetae

COSMO-7 FORECAST  
850hPa Geopot. and Equivalent Pot. Temperature

Mon 02 Jul 2012 06UTC  
02.07.2012 00UTC +06h



Geopotential [gpm], level = 850 hPa  
Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1527.4 gpm  
Mean: 42.9 °C

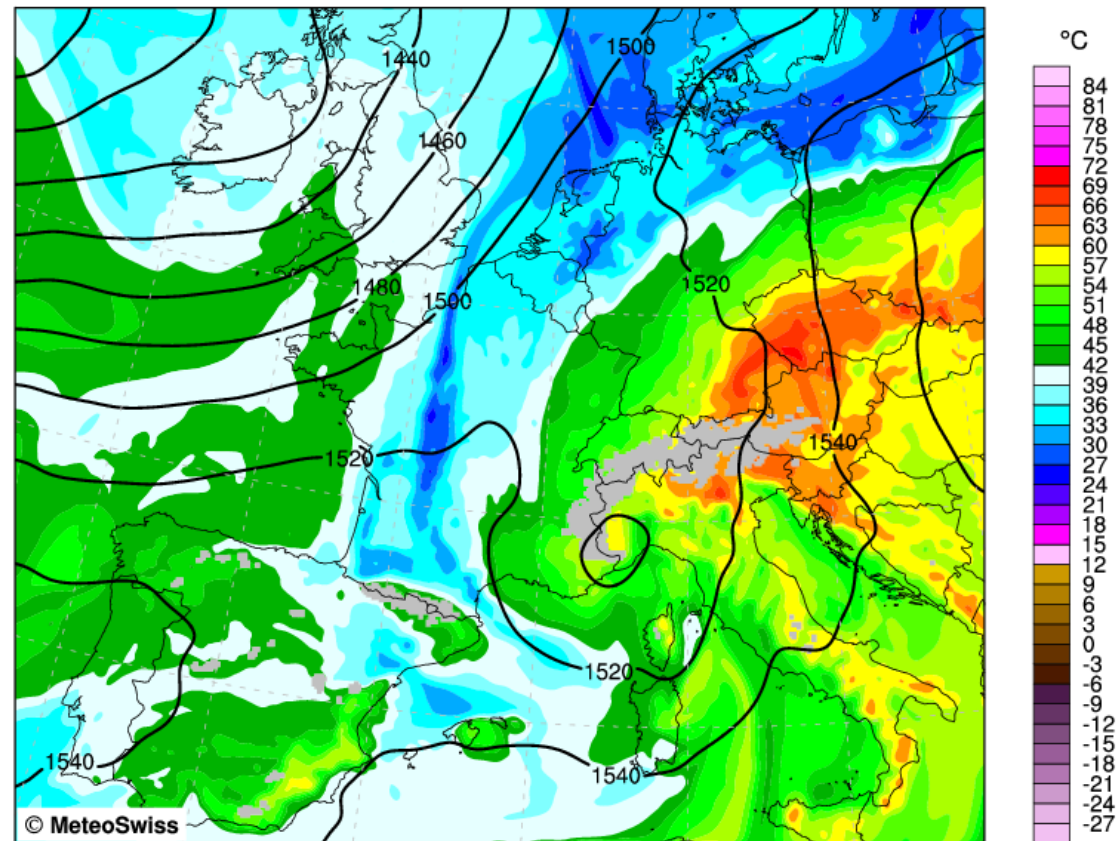




# thetae

COSMO-7 FORECAST  
850hPa Geopot. and Equivalent Pot. Temperature

Mon 02 Jul 2012 15UTC  
02.07.2012 00UTC +15h



Geopotential [gpm], level = 850 hPa  
Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1528.7 gpm  
Mean: 45.3 °C



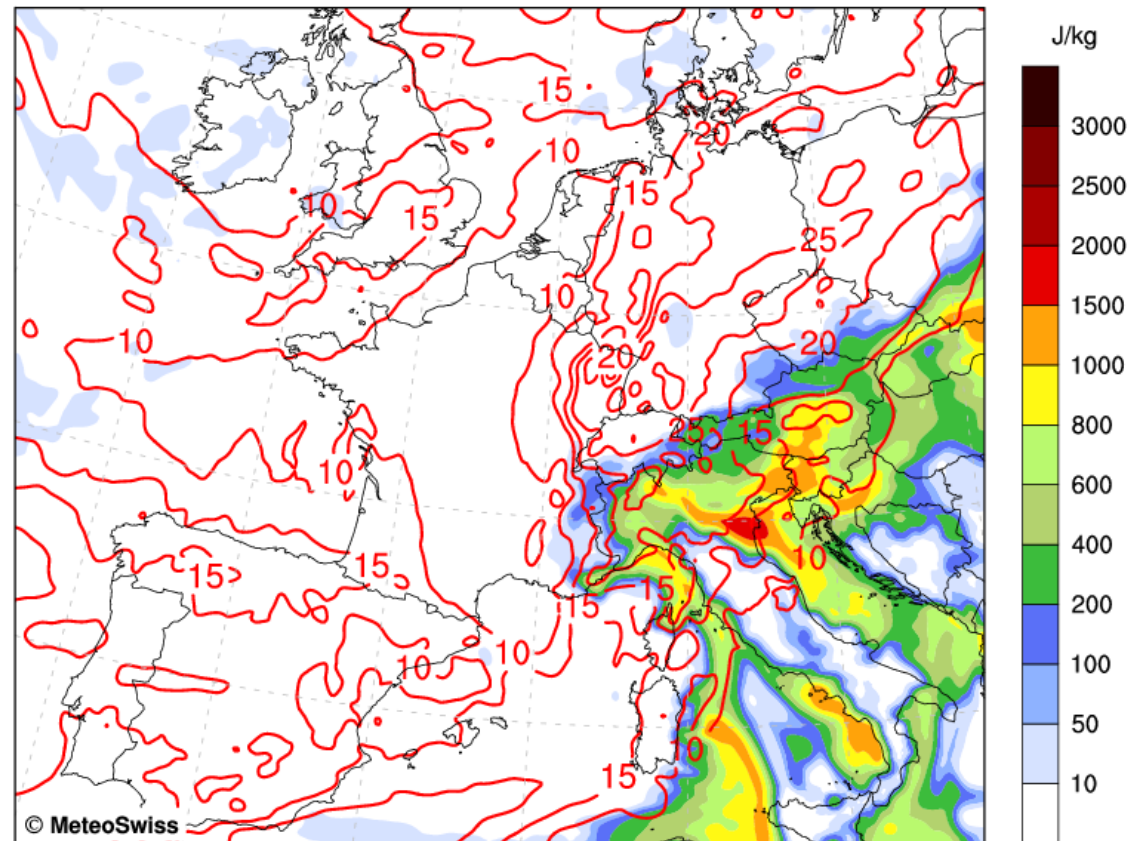
# CAPE e taglio di vento

COSMO-7 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 921

Mon 02 Jul 2012 09UTC

02.07.2012 00UTC +09h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 147.1 J/kg  
Mean: 13.3 m/s

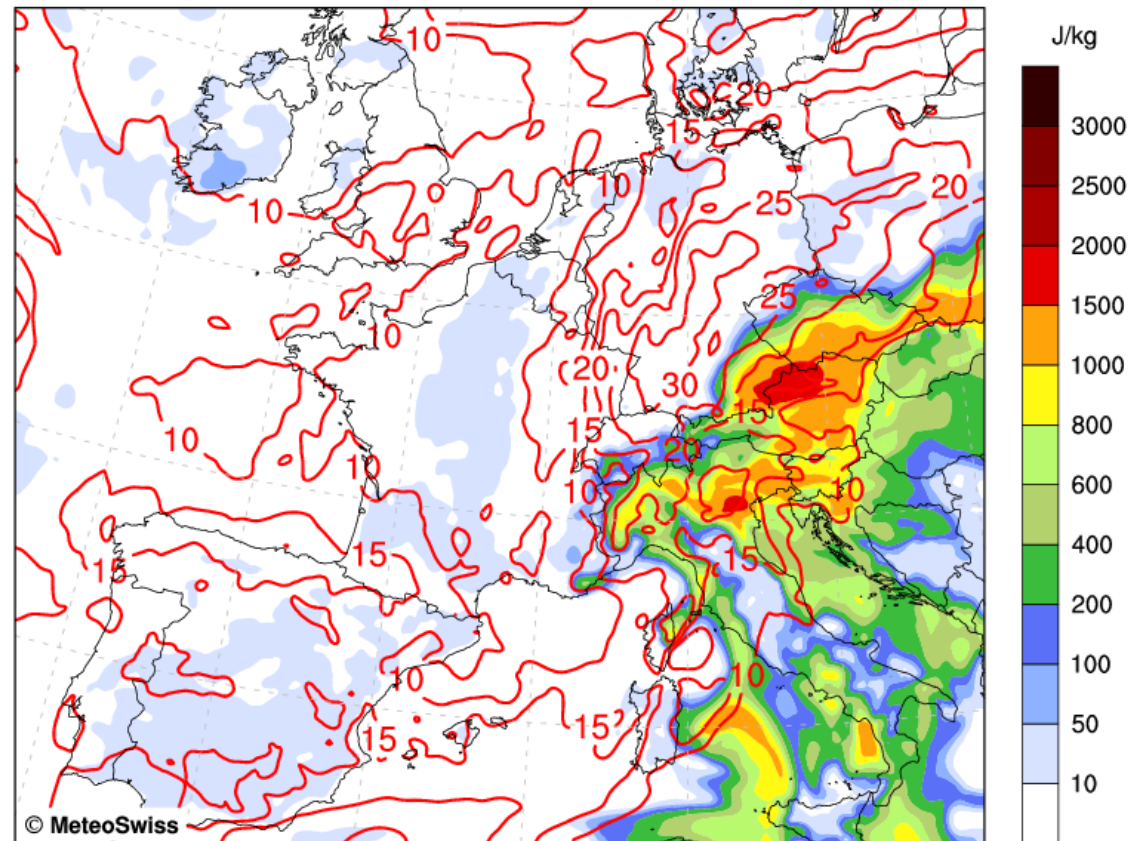


# CAPE e taglio di vento

COSMO-7 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 921

Mon 02 Jul 2012 12UTC  
02.07.2012 00UTC +12h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 180.7 J/kg  
Mean: 12.8 m/s



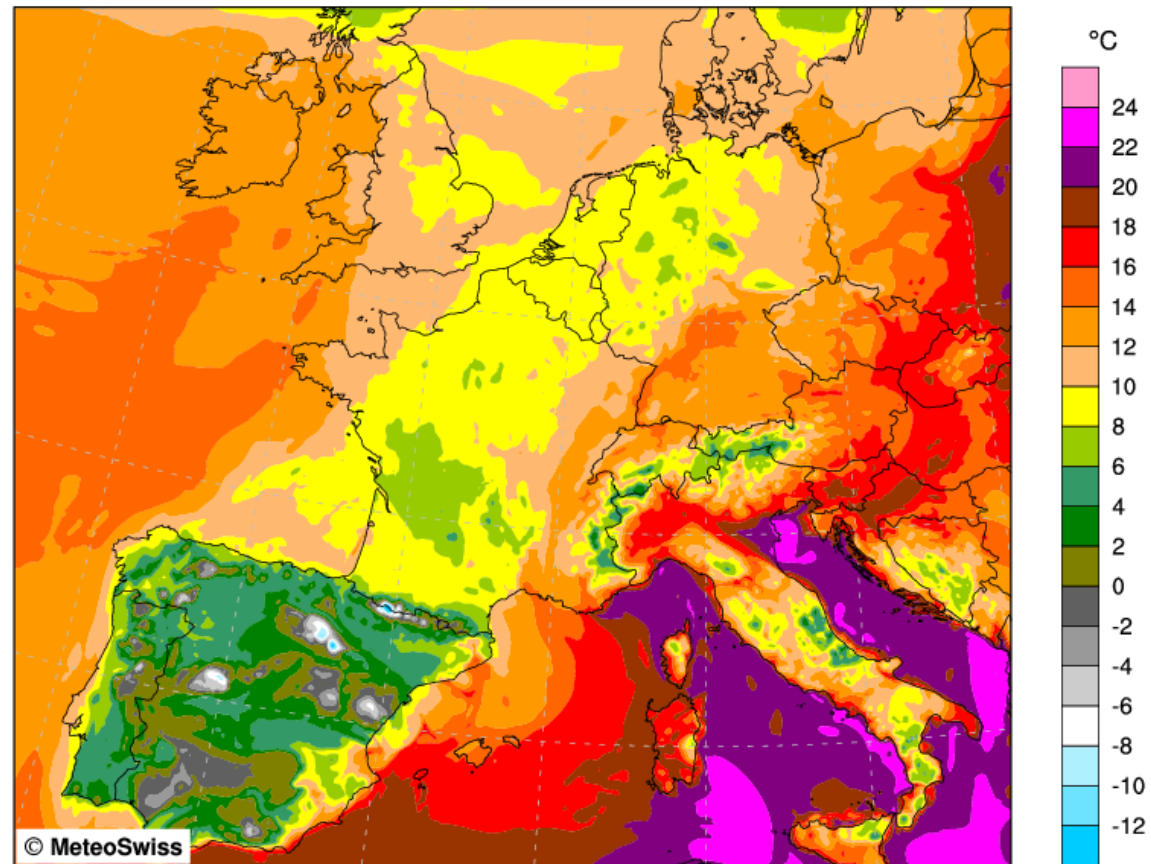


# Punto di rugiada

COSMO-7 FORECAST  
2m Dew Point Temperature

Version: 921

Mon 02 Jul 2012 06UTC  
02.07.2012 00UTC +06h



Dew Point Temperature [deg C]

Mean: 13.9 Min/Max: -8.7/ 24.0 [deg C]

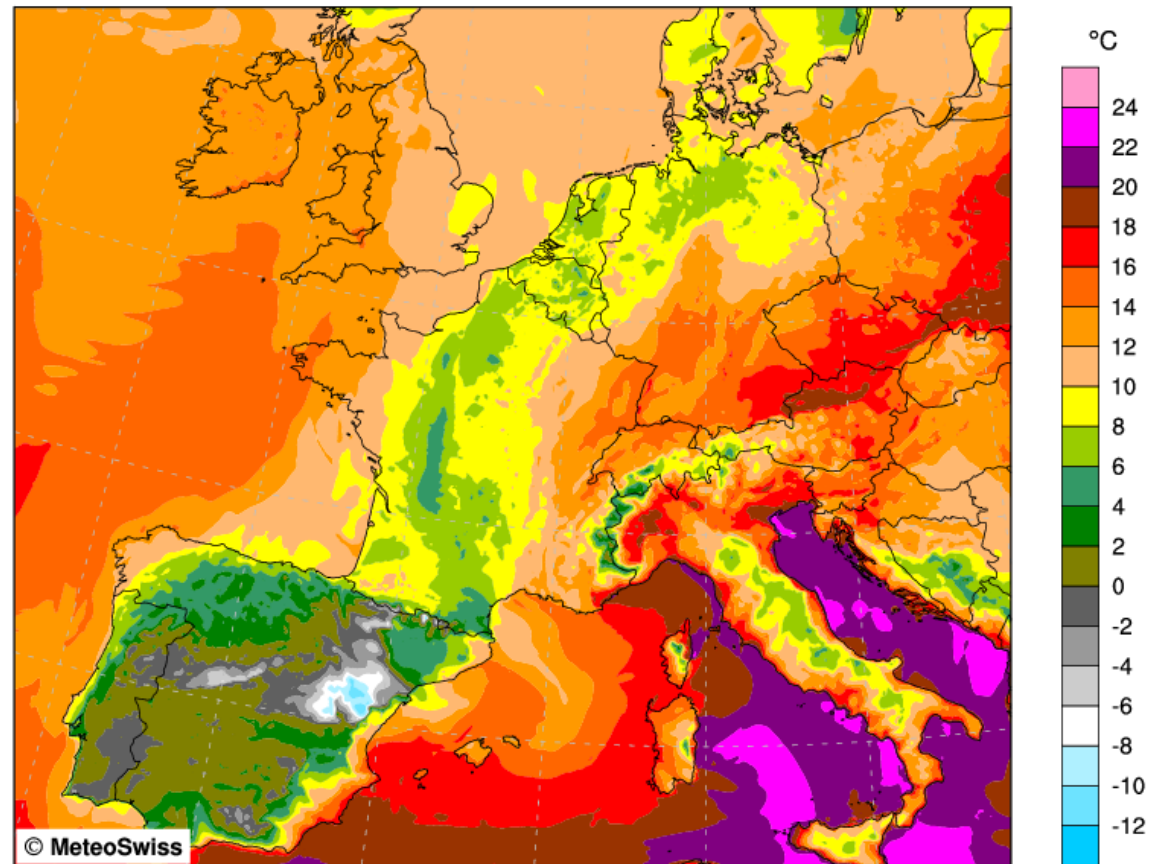


# Punto di rugiada

COSMO-7 FORECAST  
2m Dew Point Temperature

Version: 921

Mon 02 Jul 2012 12UTC  
02.07.2012 00UTC +12h

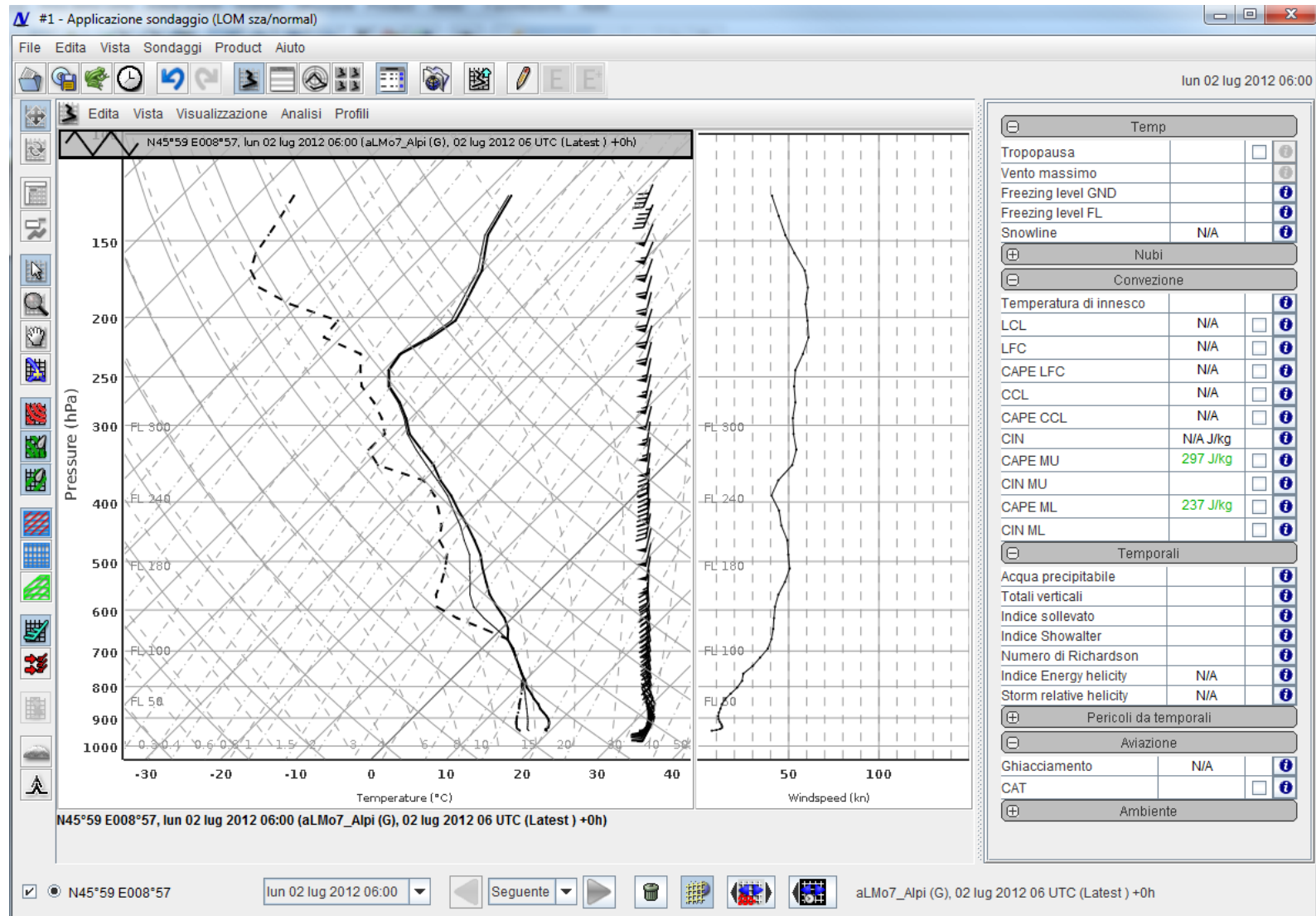


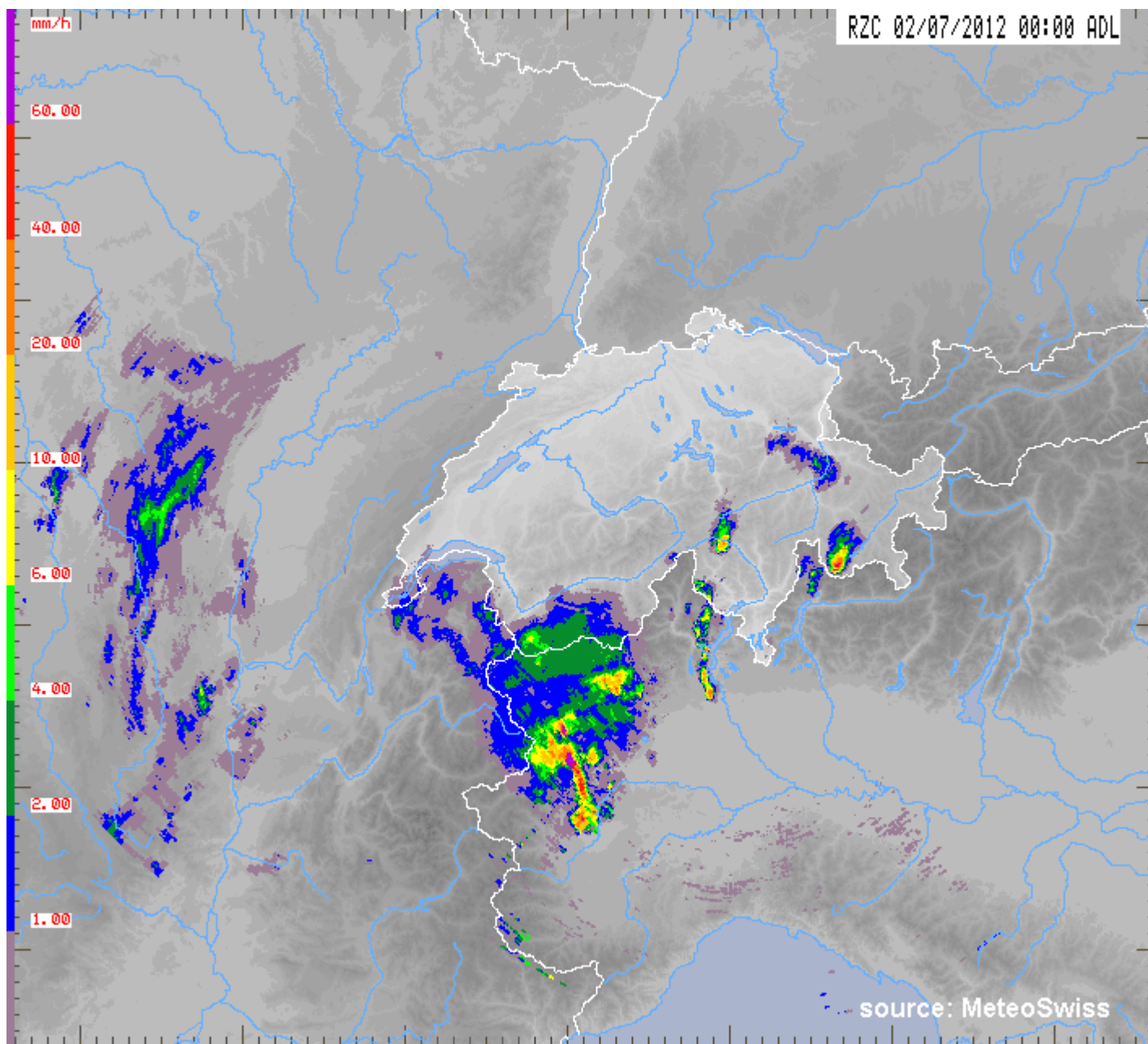
Dew Point Temperature [deg C]

Mean: 13.6 Min/Max: -12.9/ 23.7 [deg C]

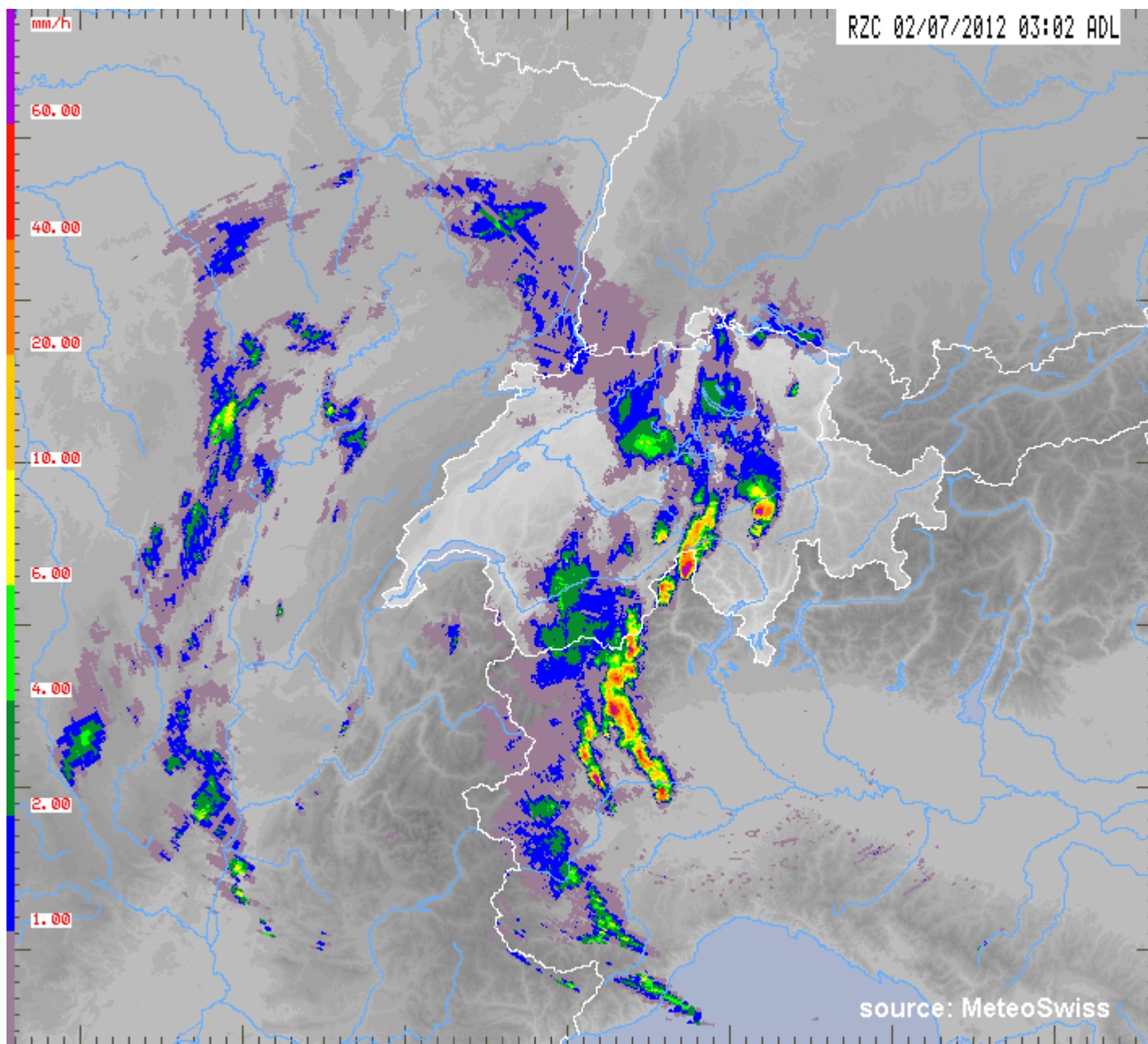


# Pseudo radiosondaggio













# 11.7.2012 violenta grandinata nel Mendrisiotto







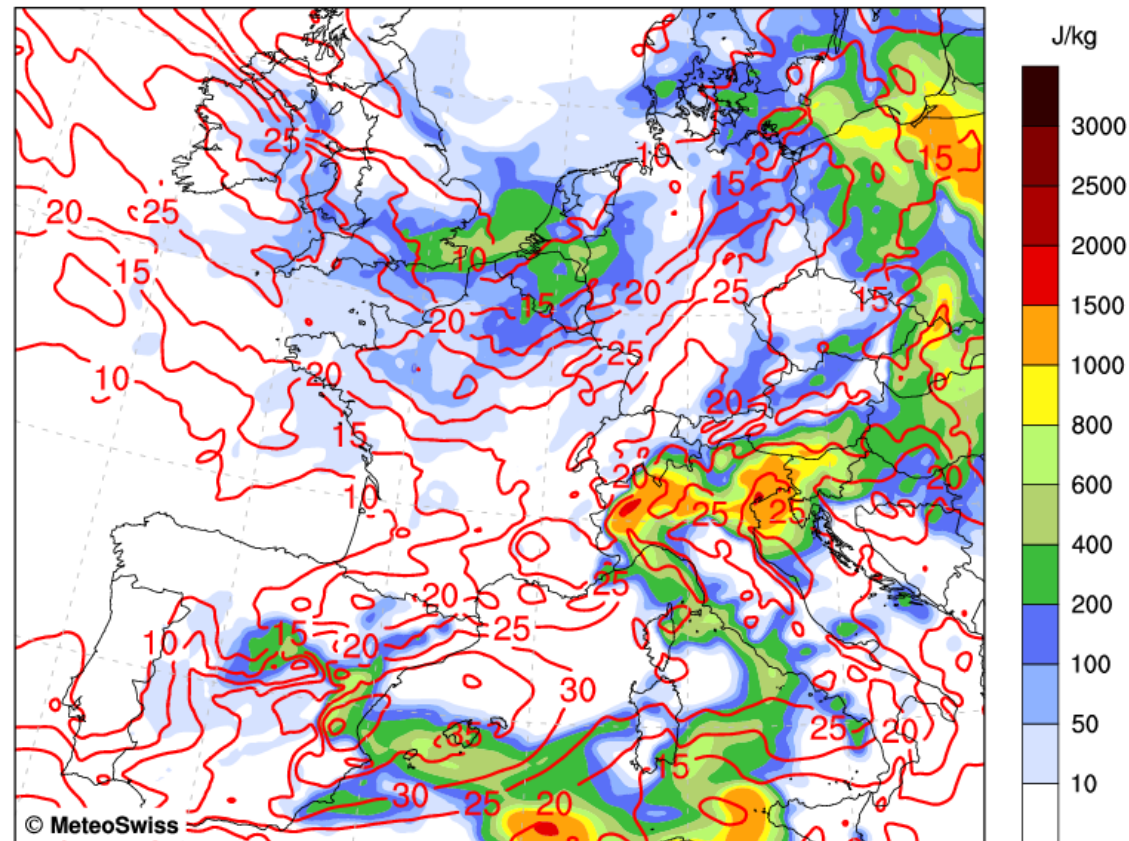
# CAPE e shear ore 20:00

COSMO-7 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 921

Wed 11 Jul 2012 18UTC

11.07.2012 12UTC +06h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 177.8 J/kg  
Mean: 19.2 m/s





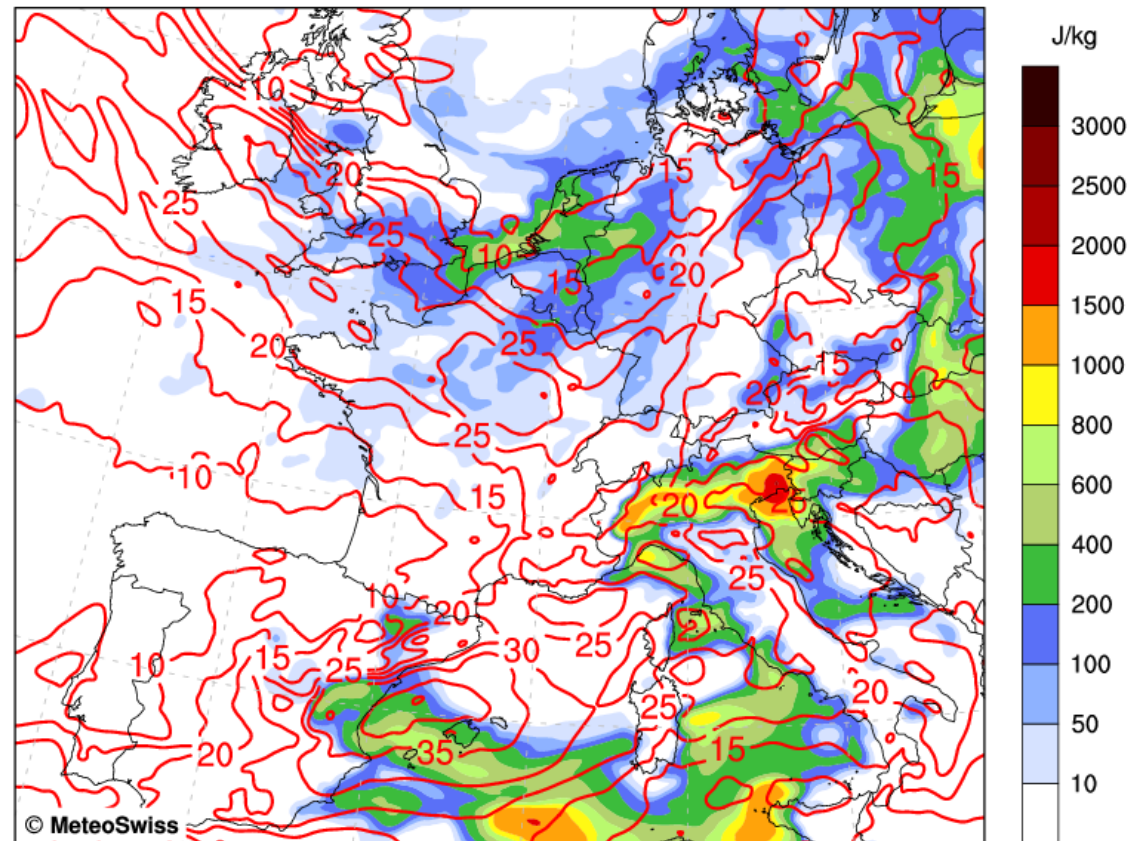
# CAPE e shear ore 23:00

COSMO-7 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 921

Wed 11 Jul 2012 21UTC

11.07.2012 12UTC +09h

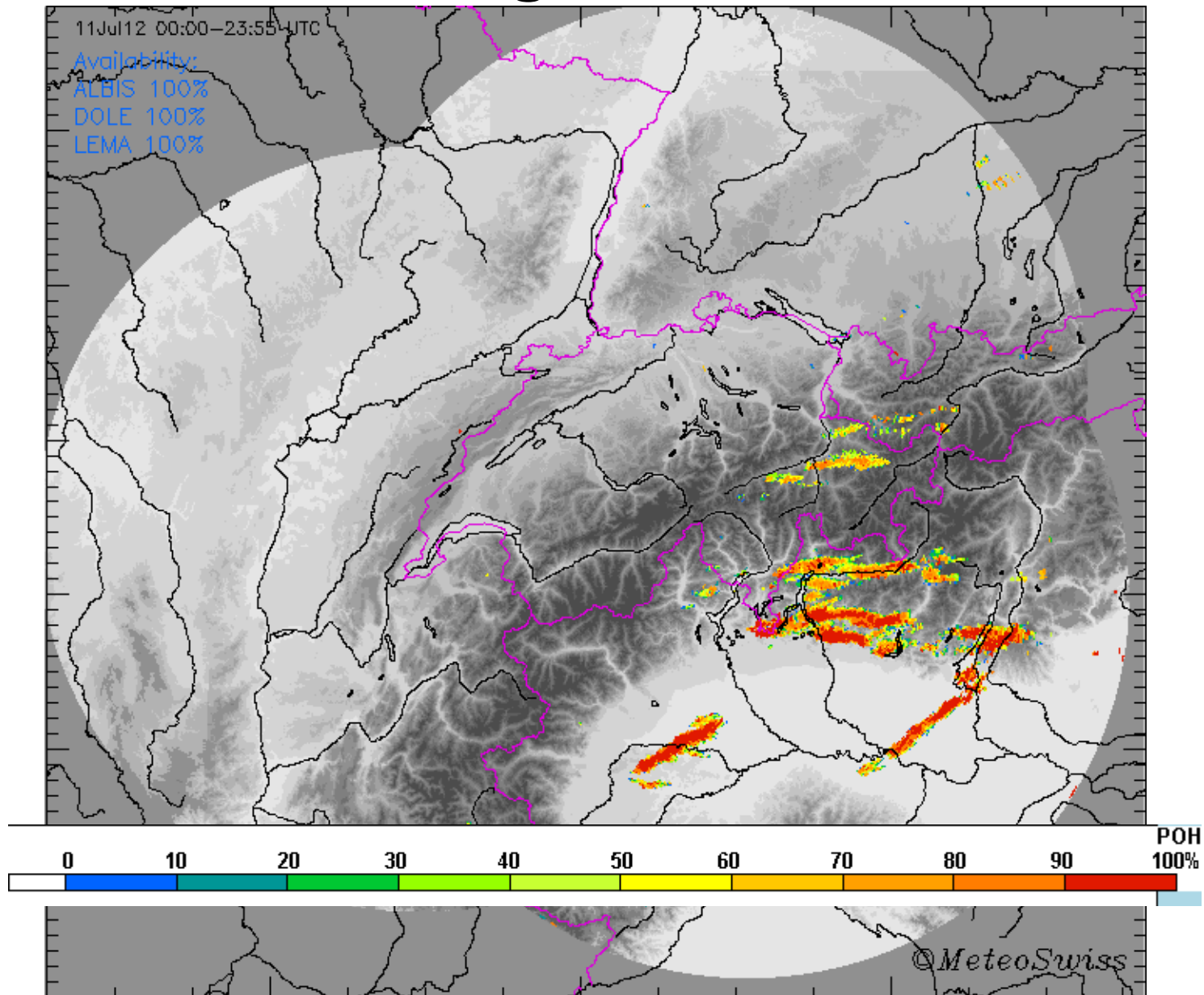


smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 149.6 J/kg  
Mean: 19.1 m/s

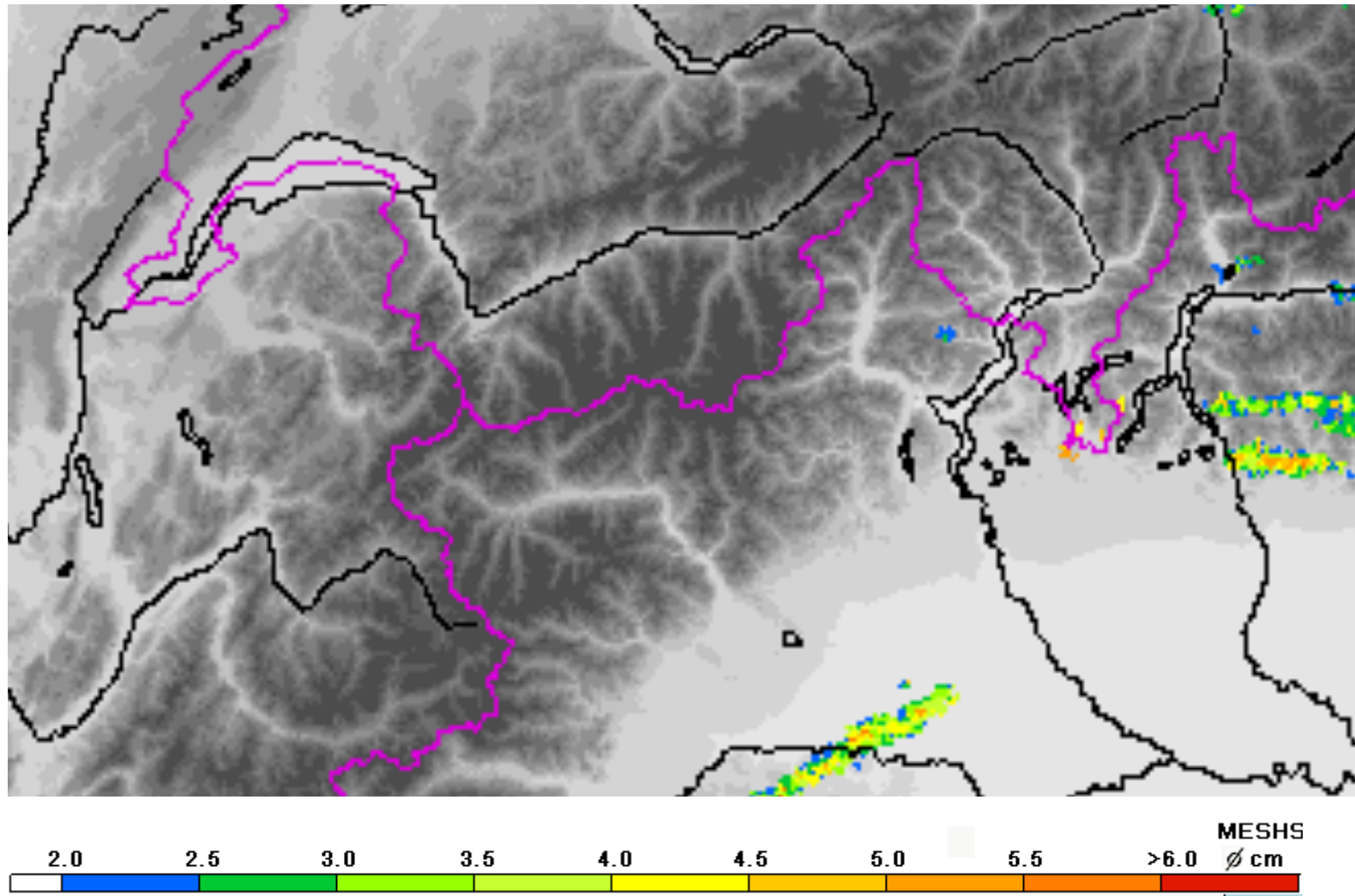


# Probabilità di grandine





# Dimensione della grandine



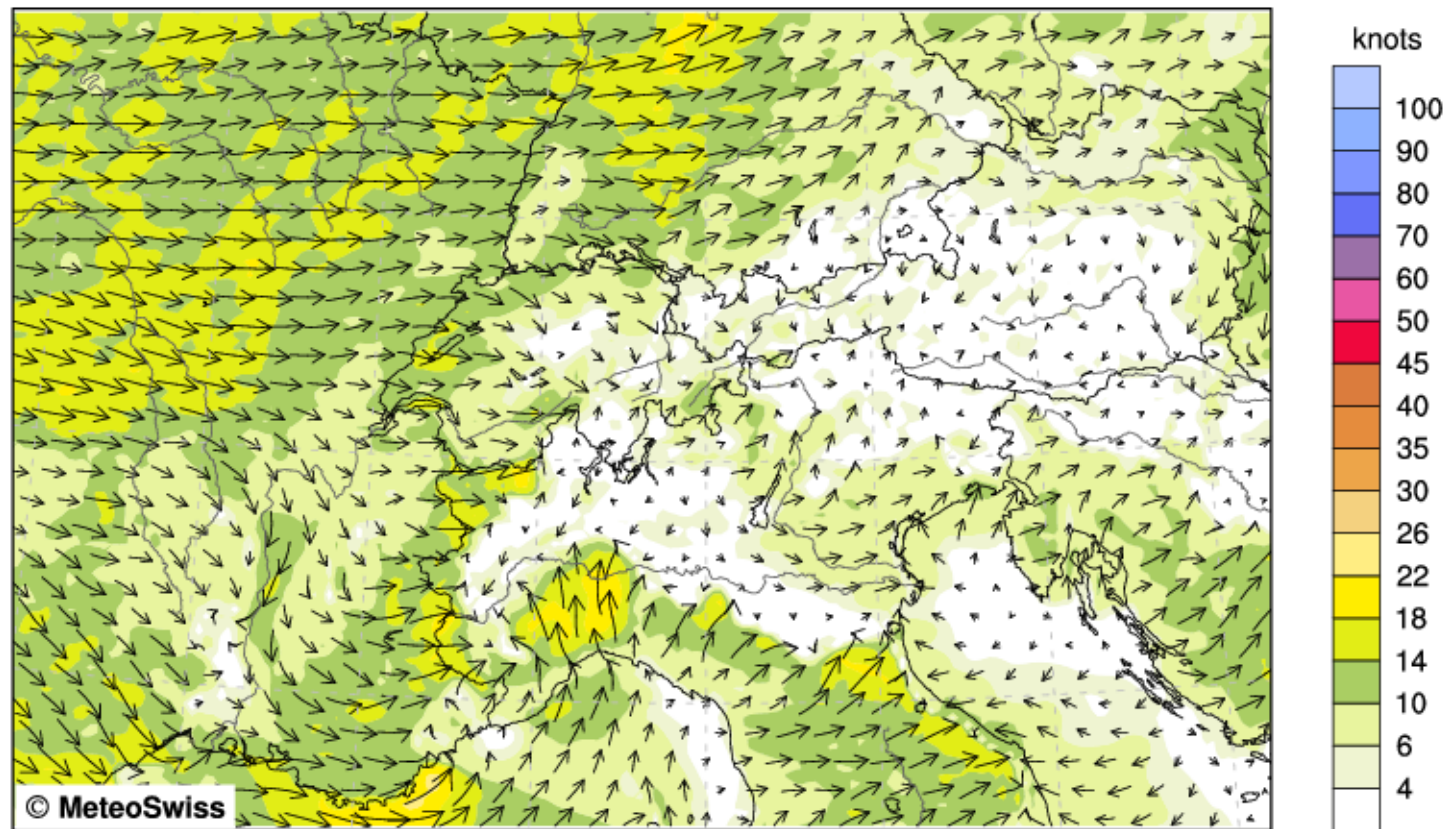


# UV 10m

COSMO-7 FORECAST  
10m Wind Speed

Version: 921

Wed 11 Jul 2012 15UTC  
11.07.2012 12UTC +03h



wind speed [knots]

Mean: 9.0 Max: 23.1 [knots]



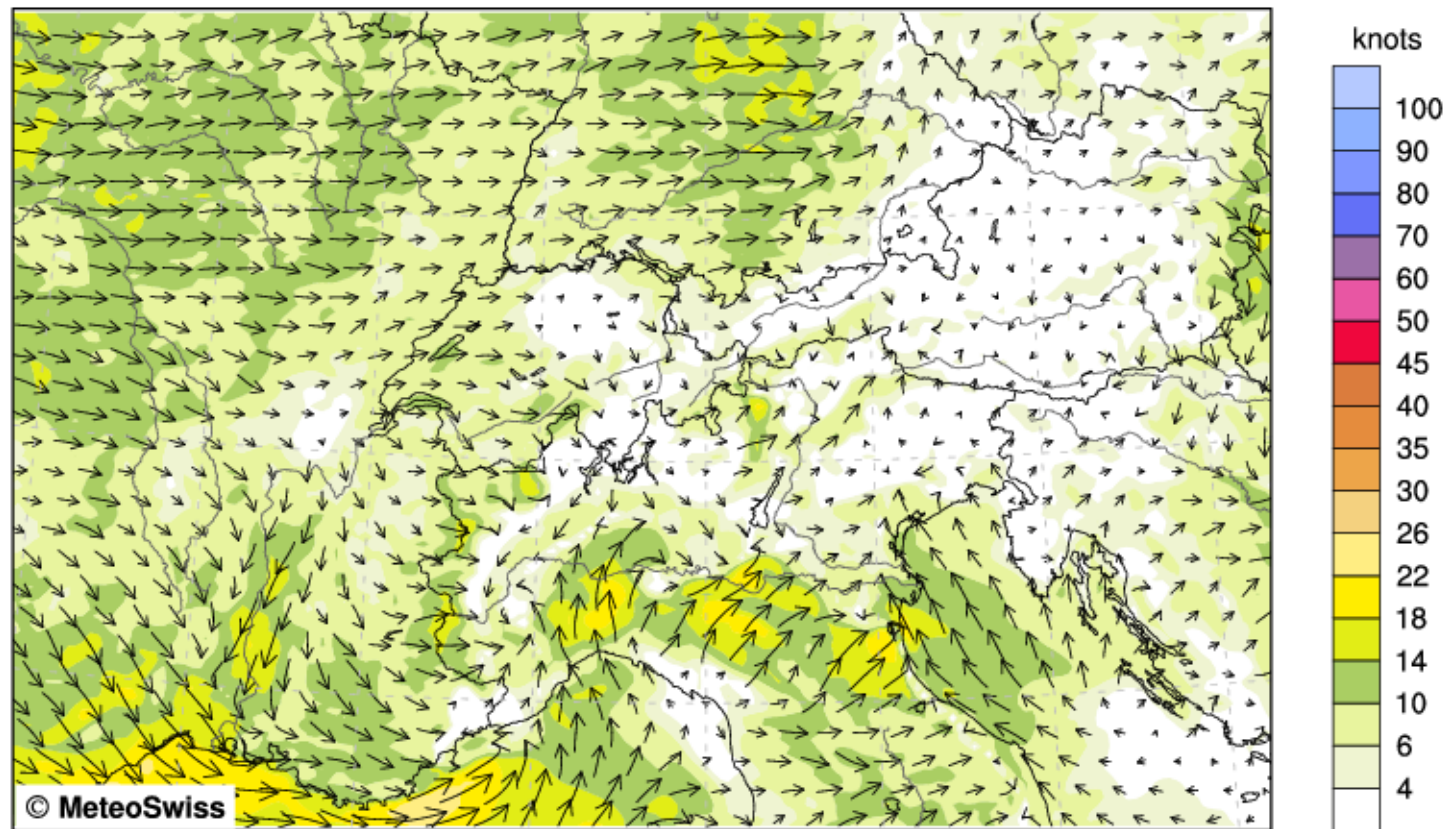


# UV 10m

COSMO-7 FORECAST  
10m Wind Speed

Version: 921

Wed 11 Jul 2012 18UTC  
11.07.2012 12UTC +06h



wind speed [knots]

Mean: 8.1 Max: 25.9 [knots]







# 28.7 frana in valle di Blenio



## Devastante frana in alta Val di Blenio

*La natura si è scatenata sabato in Val Camadra interrompendo la strada. Persone in salvo, ma grossi danni*

«Uno scenario incredibile». Così Mario Giamboni, grande conoscitore della regione, definisce gli effetti della frana che sabato pomeriggio ha devastato la strada consortile della Val Camadra, in alta Val di Blenio, interrompendo il collegamento verso la Greina e isolando così il monte di Dalgra e gli alpeggi della zona. Numerosi pascoli sono stati danneggiati e il ripristino della strada richiederà presumibilmente mesi, mentre le sette persone rimaste bloccate in quota sono state fortunatamente risparmiate dall'impeto della natura e poi recuperate da un elicottero della Rega. L'allarme è scattato intorno alle 16.

Abbiamo contattato Giamboni telefonicamente ieri pomeriggio al rientro da un sopralluogo personale durante il quale, com'è sua consuetudine, ha voluto documentare l'evento naturale, che lo ha impressionato (pubblichiamo una delle sue fotografie qui a fianco). Già segretario comunale di Campo Blenio e Ghrone, oltre che autore di numerose ricerche storiche sull'alta Valle del Sole, ci ha spiegato che quanto accaduto nel corso del weekend non ha precedenti in quel punto. «D'inverno quasi ogni anno scende la valanga, ma di frane di queste dimensioni non se ne erano mai viste, a memoria d'uomo». Il bus turistico delle Autolinee Bleniesi verosimilmente per molto tempo non potrà più effettuare le sue corse turistiche in direzione 'Pian Gialrett', in fondo alla



FOTO MARIO GIAMBONI

La strada consortile verso la Greina è stata spazzata via in questo punto

Val Camadra, sotto la capanna Scaletta. Le conseguenze dello scosciamento – quantificabile in alcune migliaia di metri cubi di materiale – impone infatti importanti lavori su quei 20-30 metri di strada che «sono stati letteralmente spazzati via insieme al 'travacòn».

«Praticamente – prosegue Mario Giamboni – ora si vede la valle laterale Vallagrasca nella sua conformazione originale a 'v', come si presentava prima

della costruzione della strada, negli anni Cinquanta del secolo scorso».

Ma cosa è successo, concretamente? In parole povere, a quota 1'800-2'000 metri, in seguito alle forti precipitazioni, si è creato uno sbarramento naturale formato da acqua e detriti vari che si è ingrossato progressivamente fino a scoppiare. In quel momento, sabato pomeriggio, tutto il materiale accumulatosi è rovinato a valle per centinaia di metri:



FOTO PIRELLA GÖTTSCHE LOWE

Rega, Cas, polizia e pompieri sono intervenuti con base a Campo Blenio

un'ondata alta diversi metri che ha devastato tutto ciò che ha incontrato sul suo cammino, compresa appunto la strada consortile della Val Camadra. Parte del materiale è poi finito nel Brenno, conferendo un colore scurissimo al fiume lungo tutta la Valle del Sole, dove non ci sono tuttavia state conseguenze.

Come detto, tutte le persone rimaste isolate a causa della frana sono state messe in salvo dal Club alpino svizzero

e da un elicottero della Rega. Si tratta di alcuni turisti e del pastore dell'alpe Camadra, in totale sette persone.

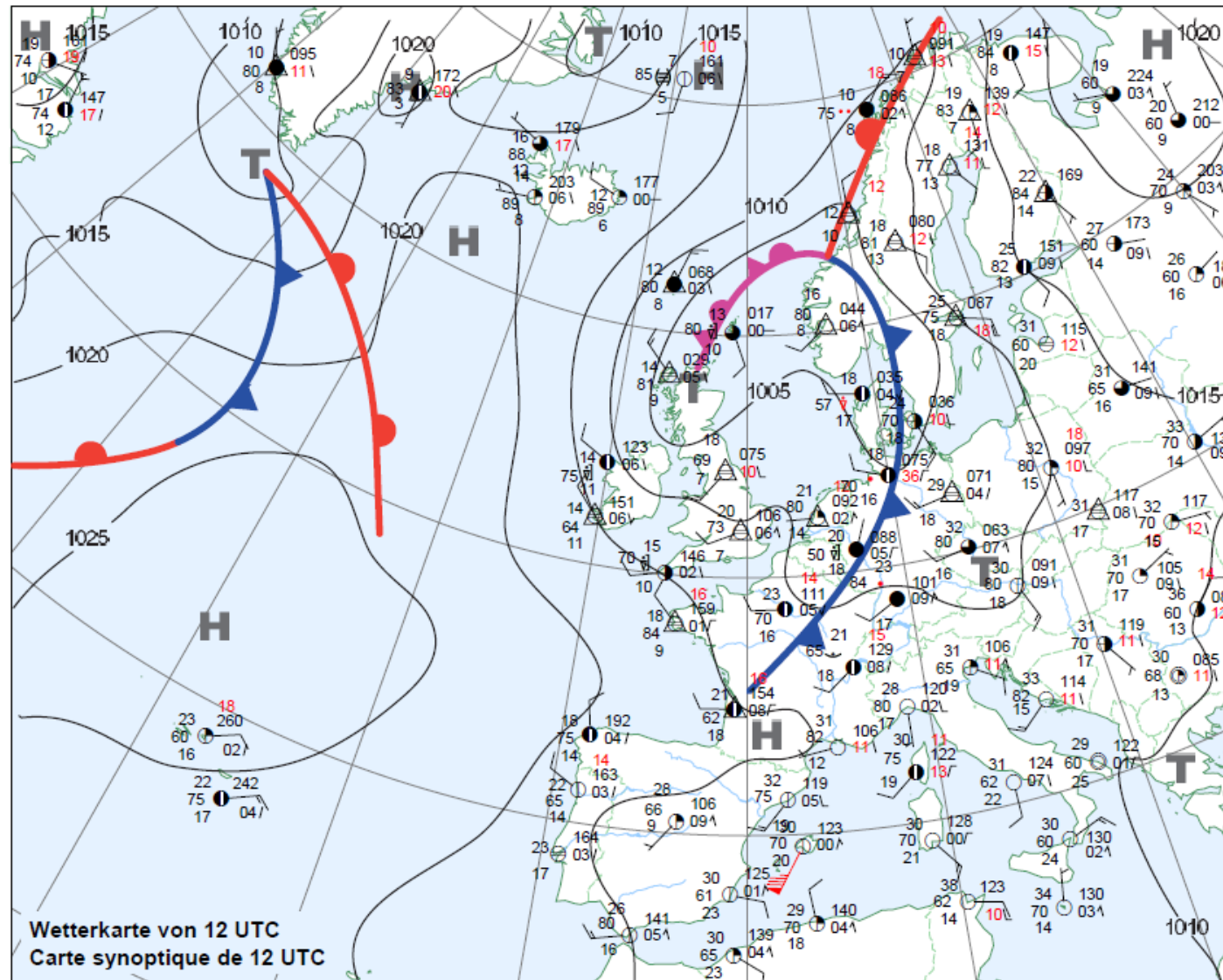
Cinque mucche sono state inghiottite dalle acque del torrente improvvisamente ingrossato: le carcasse saranno recuperate appena possibile. Nella zona della frana oltre a due pattuglie del Reparto mobile della Polizia cantonale sono intervenuti anche 1 pompieri di Olivone.

SIBER



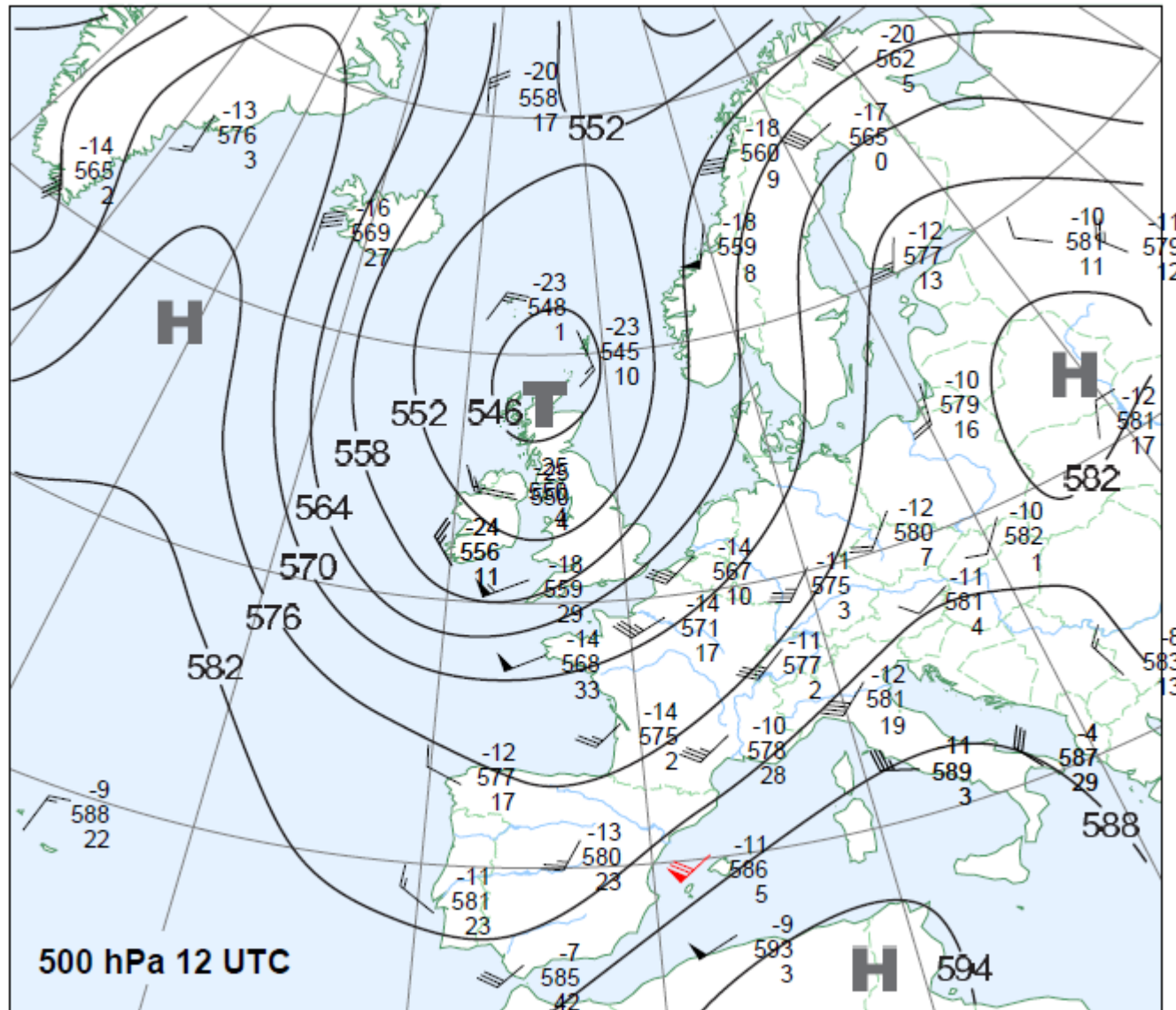


## 28.7 situazione al suolo





# z@500hPa





# UV 500 hPa

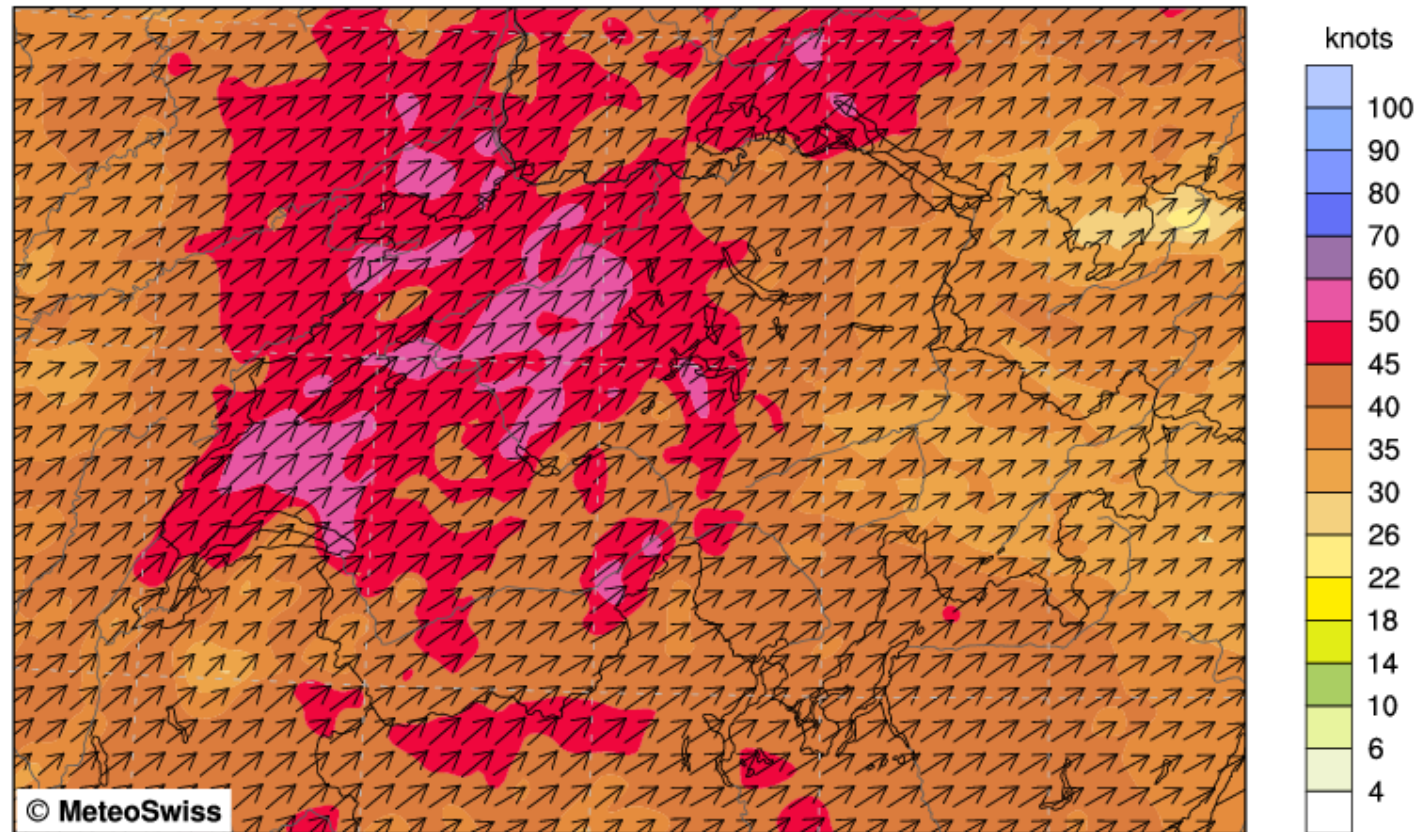
COSMO-2 ANALYSIS

Version: 923

Sat 28 Jul 2012 06UTC

500hPa (5500m) Wind and Windspeed

28.07.2012 06UTC +00h



wind speed [knots], level = 500 hPa

Mean: 42.1 Max: 55.6 [knots]





# UV 500 hPa

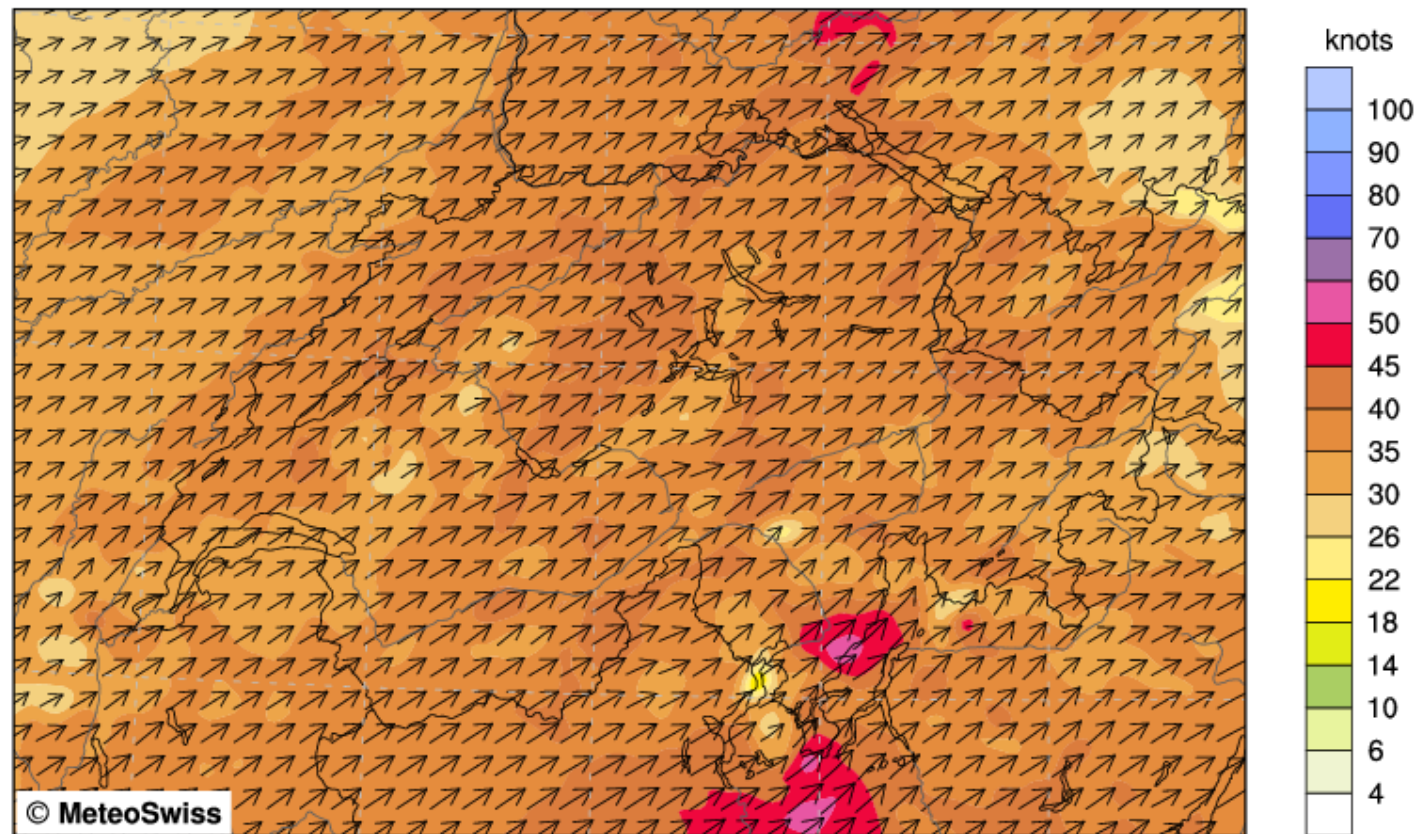
COSMO-2 FORECAST

Version: 923

Sat 28 Jul 2012 09UTC

500hPa (5500m) Wind and Windspeed

28.07.2012 06UTC +03h



wind speed [knots], level = 500 hPa

Mean: 36.5 Max: 51.8 [knots]

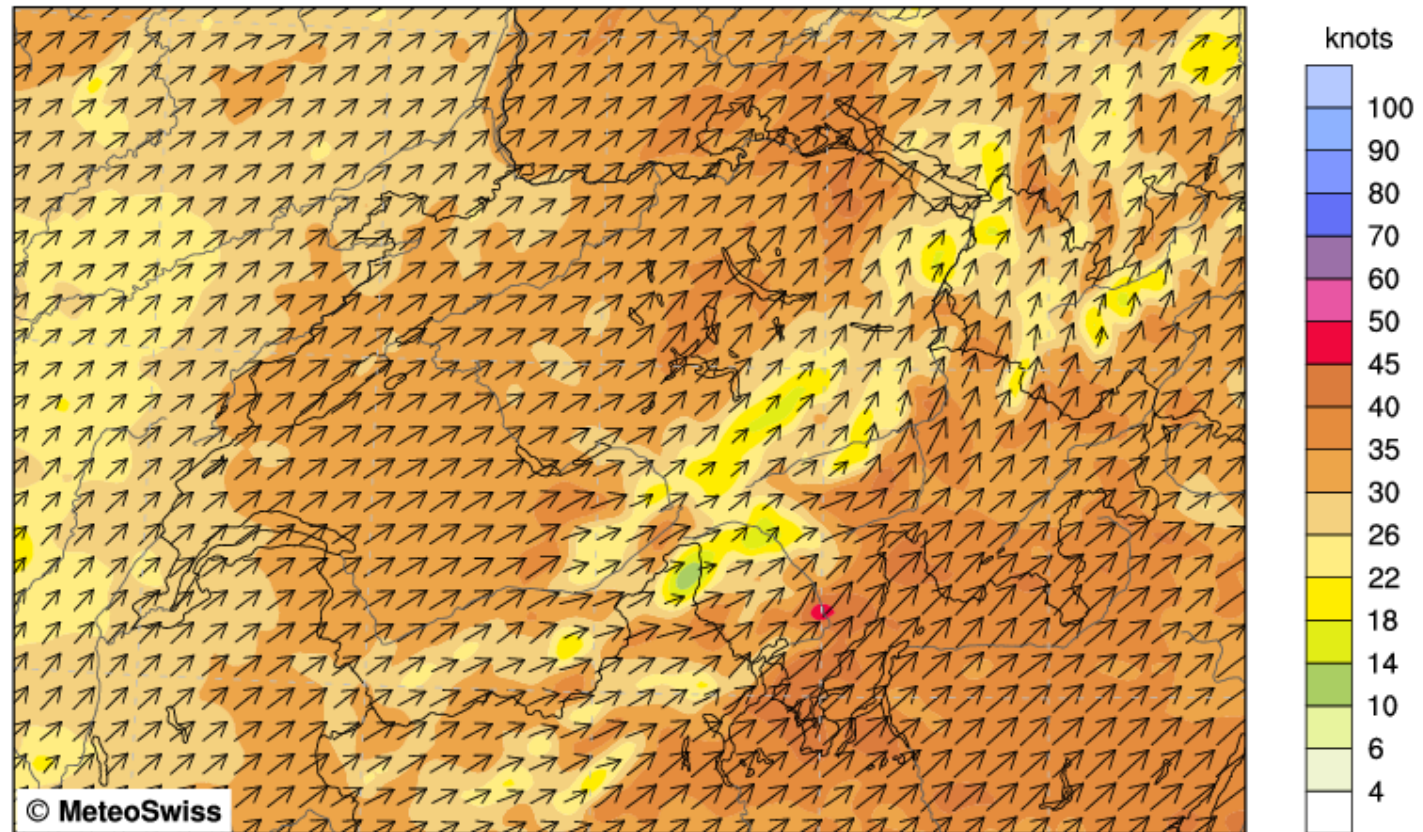


# UV 500 hPa

COSMO-2 FORECAST  
500hPa (5500m) Wind and Windspeed

Version: 923

Sat 28 Jul 2012 15UTC  
28.07.2012 06UTC +09h



wind speed [knots], level = 500 hPa

Mean: 31.1 Max: 47.2 [knots]





# UV 4000m

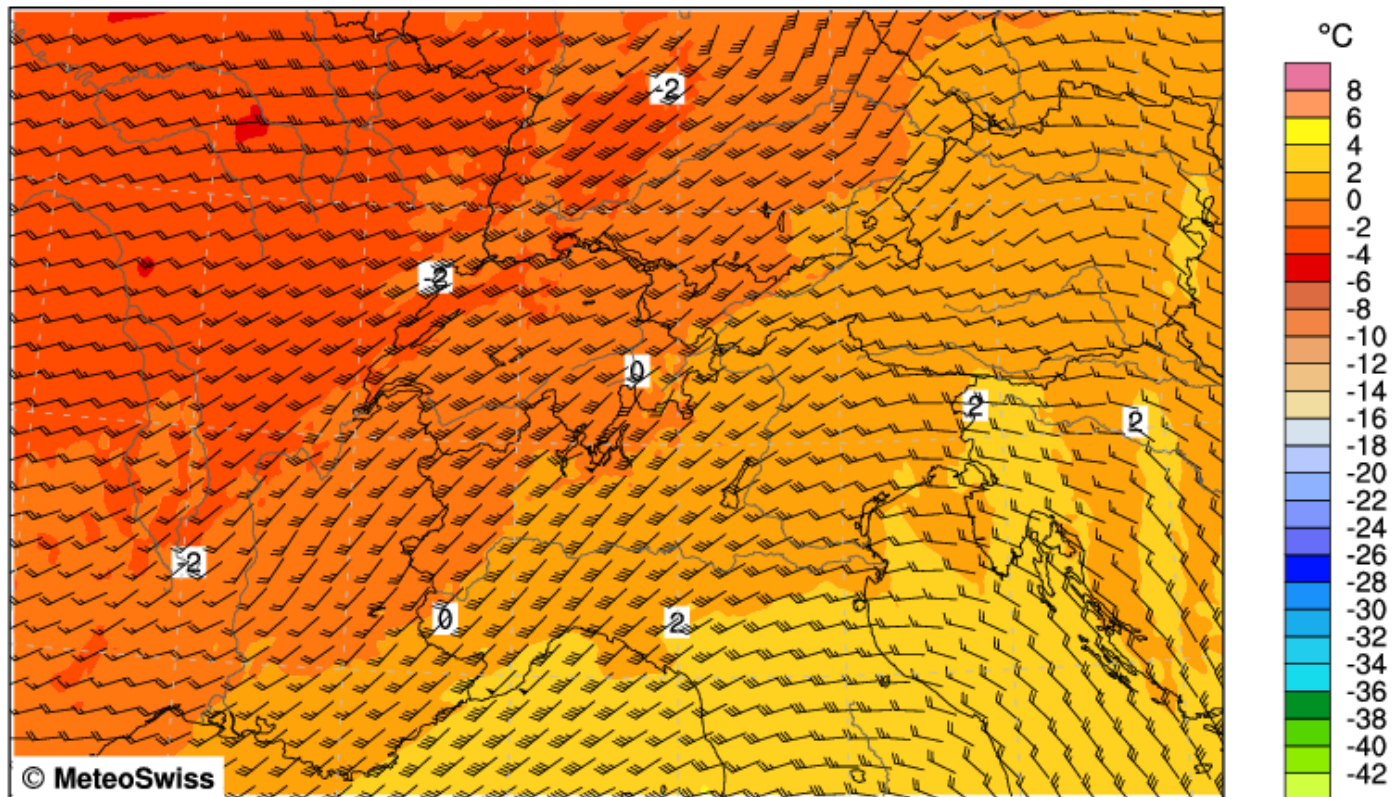
COSMO-2 FORECAST

Version: 923

Sat 28 Jul 2012 09UTC

Temperature and Wind Flags at 4km Height

28.07.2012 06UTC +03h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

Mean: -0.0 Min/Max: -4.3/ 4.0 [deg C]  
Mean: 26.0 Max: 54.7 [knots]



# UV 4000m

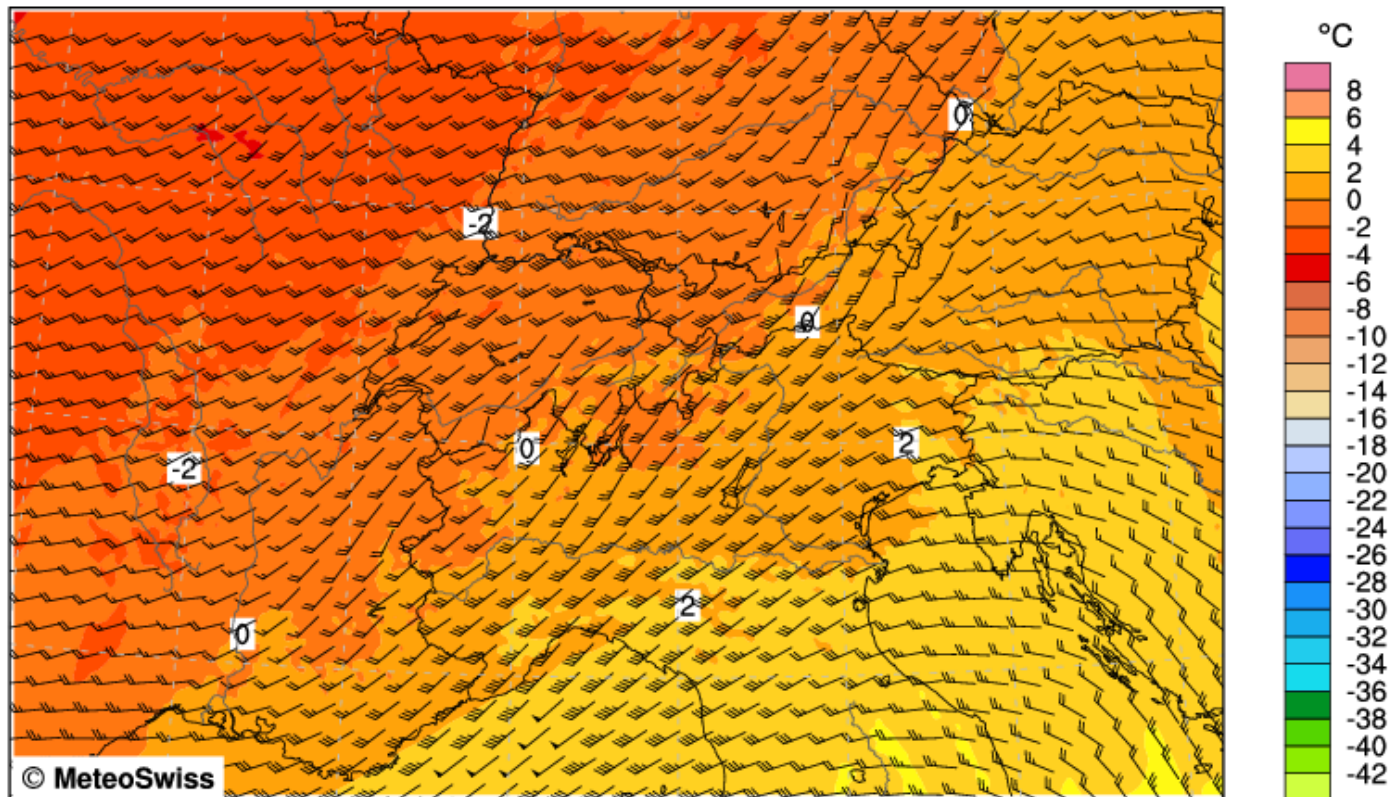
COSMO-2 FORECAST

Version: 923

Sat 28 Jul 2012 12UTC

Temperature and Wind Flags at 4km Height

28.07.2012 06UTC +06h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

Mean: 0.2 Min/Max: -4.2/ 4.4 [deg C]  
Mean: 25.5 Max: 51.7 [knots]



# UV 4000m

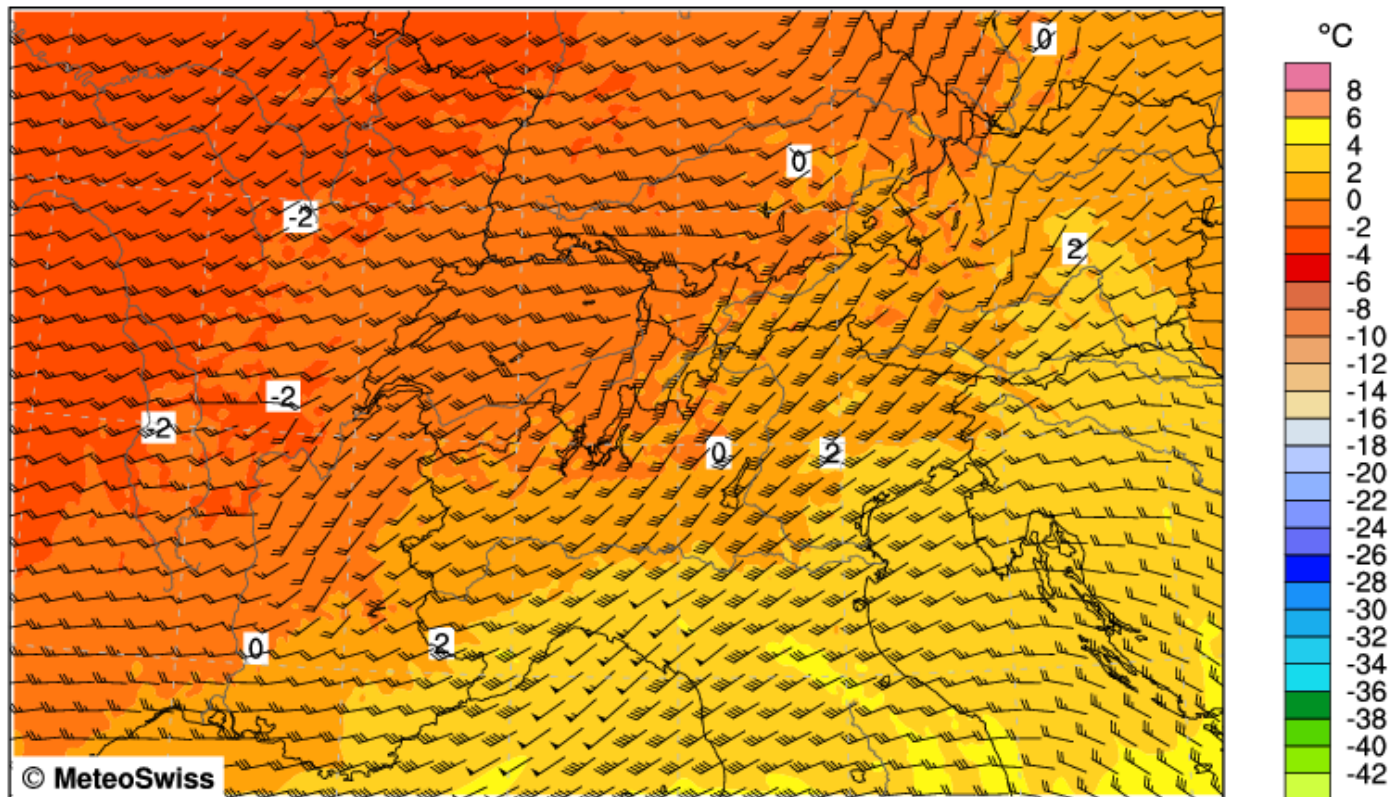
COSMO-2 FORECAST

Version: 923

Temperature and Wind Flags at 4km Height

Sat 28 Jul 2012 15UTC

28.07.2012 06UTC +09h



Air Temperature [deg C], level = 4000 m  
wind speed [knots], level = 4000 m

Mean: 0.5 Min/Max: -4.0/ 5.0 [deg C]  
Mean: 26.2 Max: 59.5 [knots]



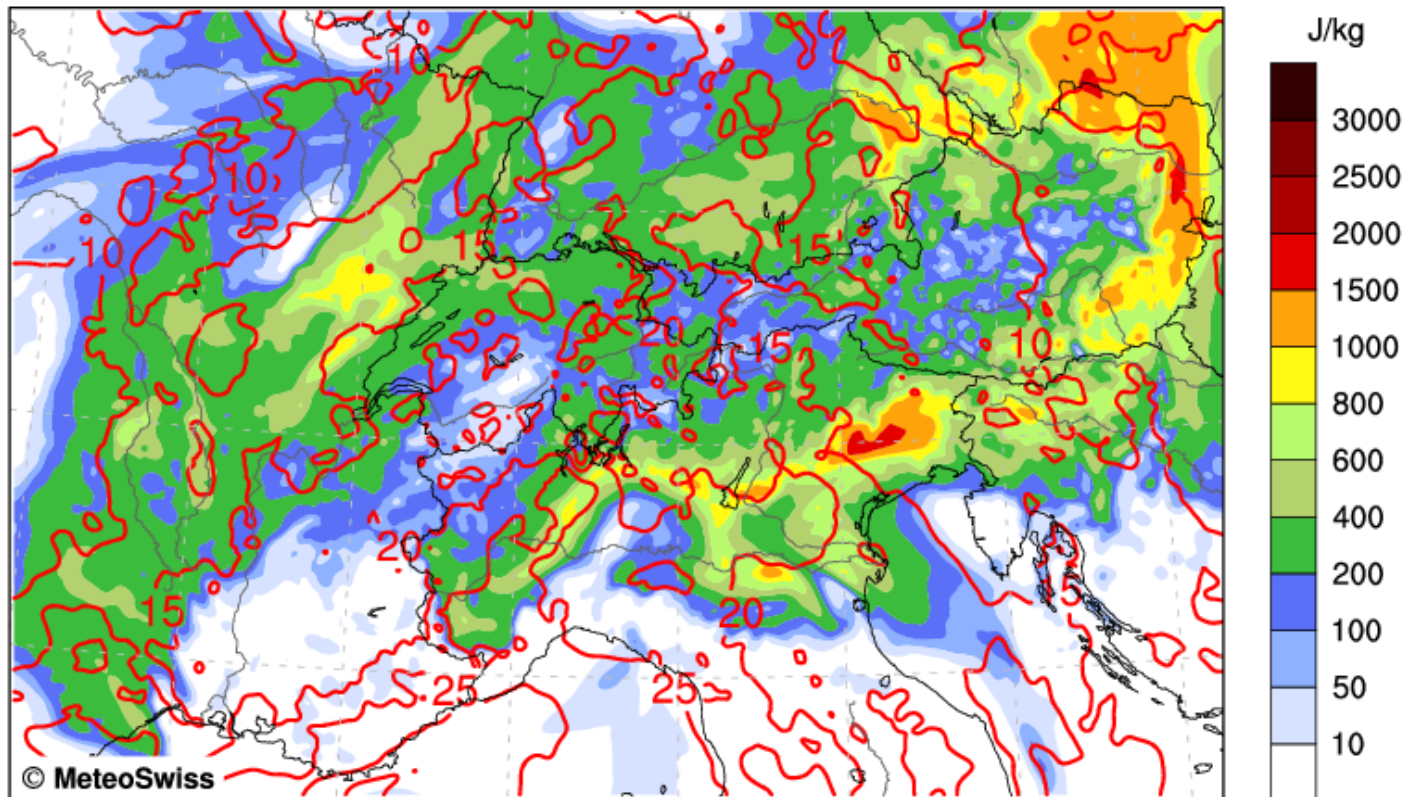


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 923

Sat 28 Jul 2012 09UTC  
28.07.2012 06UTC +03h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

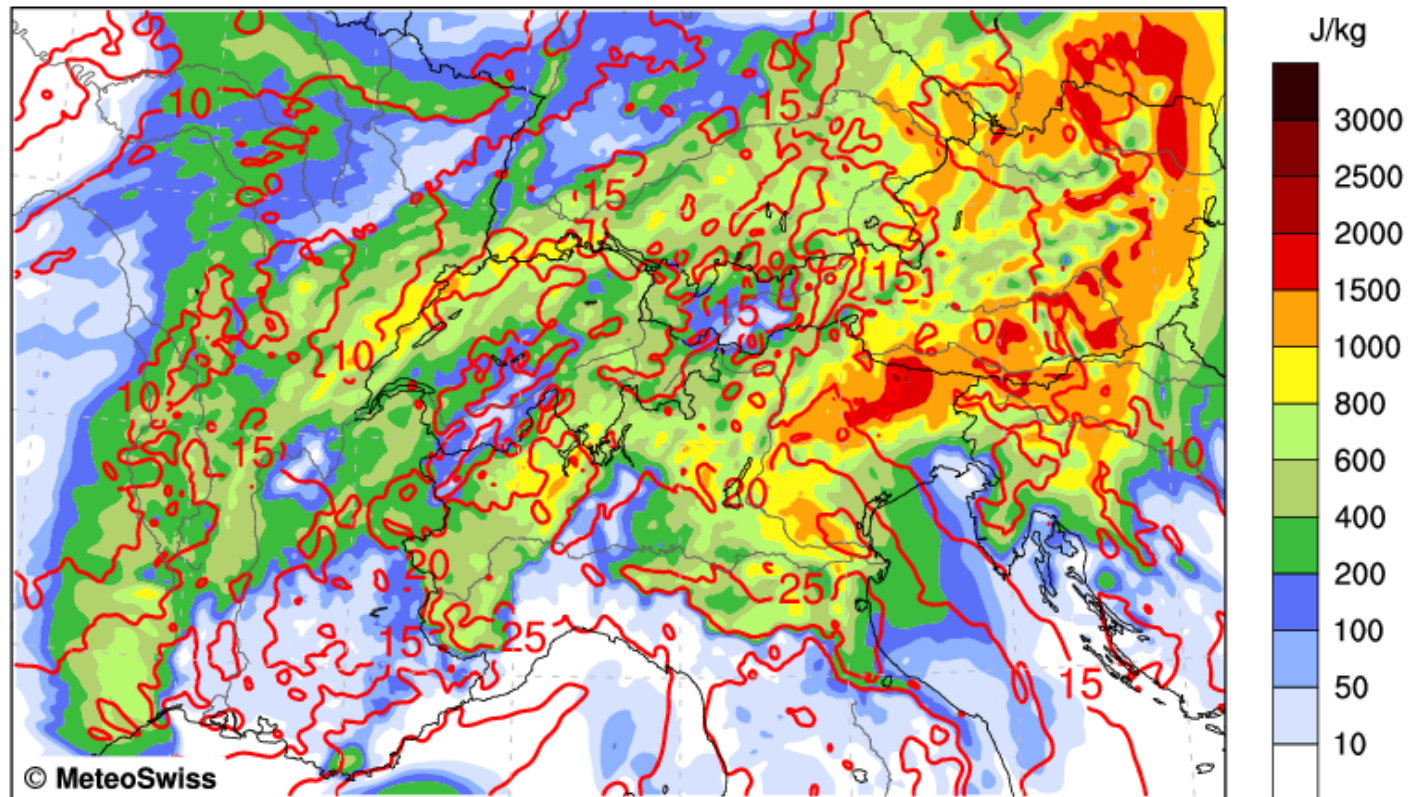


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 923

Sat 28 Jul 2012 12UTC  
28.07.2012 06UTC +06h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]



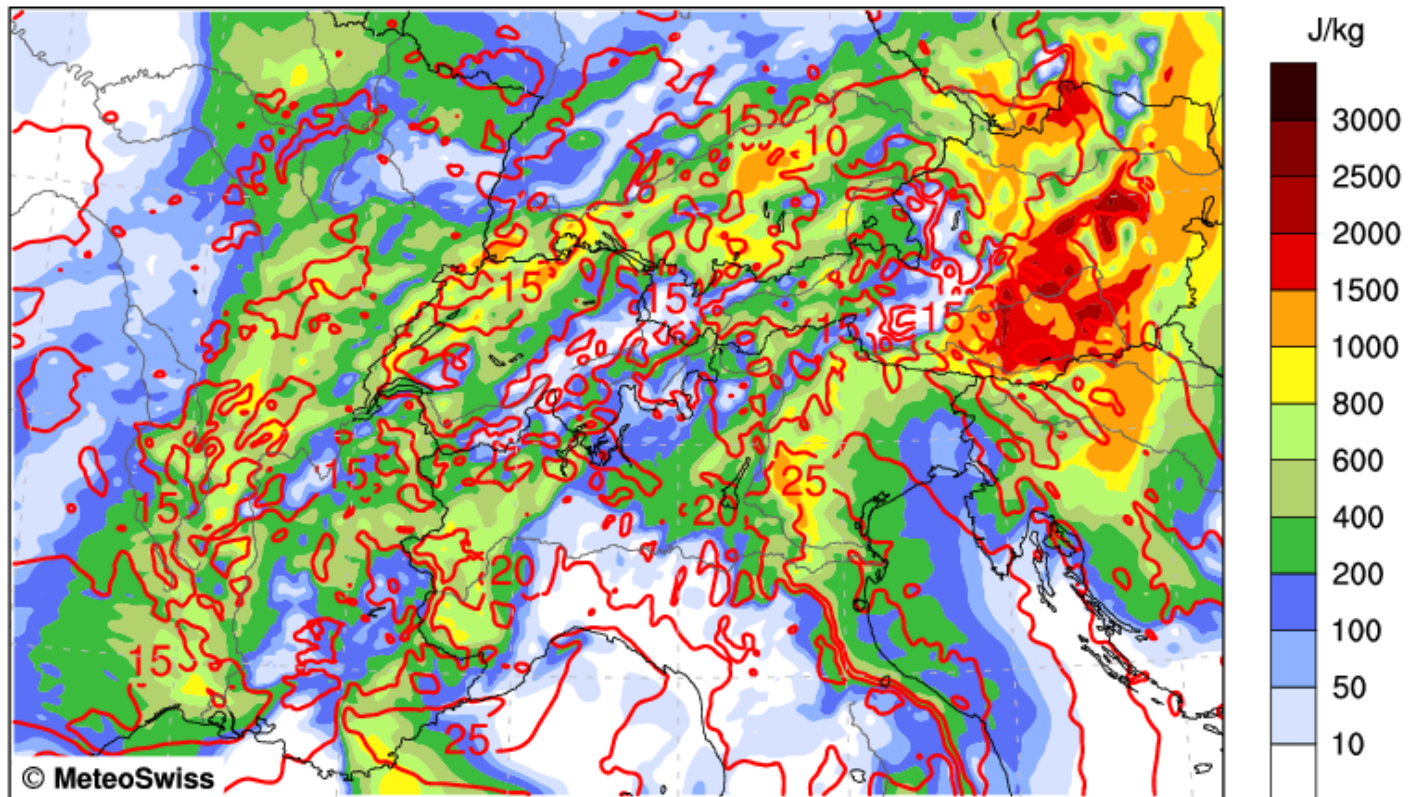


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 923

Sat 28 Jul 2012 15UTC  
28.07.2012 06UTC +09h





# CIN

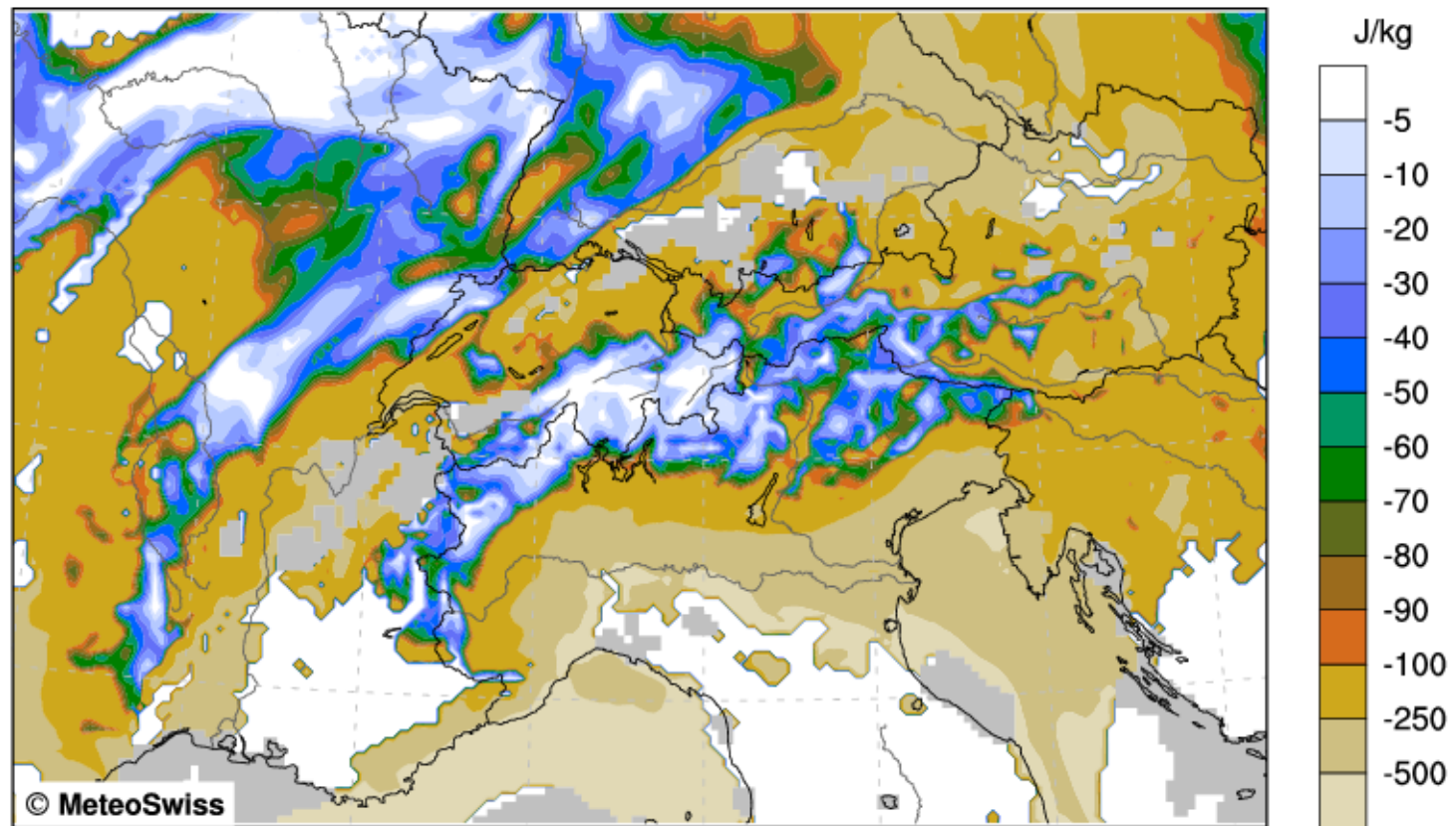
COSMO-7 FORECAST

Version: 923

Sat 28 Jul 2012 09UTC

Mean Layer Parcel Convective Inhibition

27.07.2012 12UTC +21h



Convective Inhibition of Mean Surface Layer Parcel [J/kg]

Mean: -165.9 J/kg



# CIN

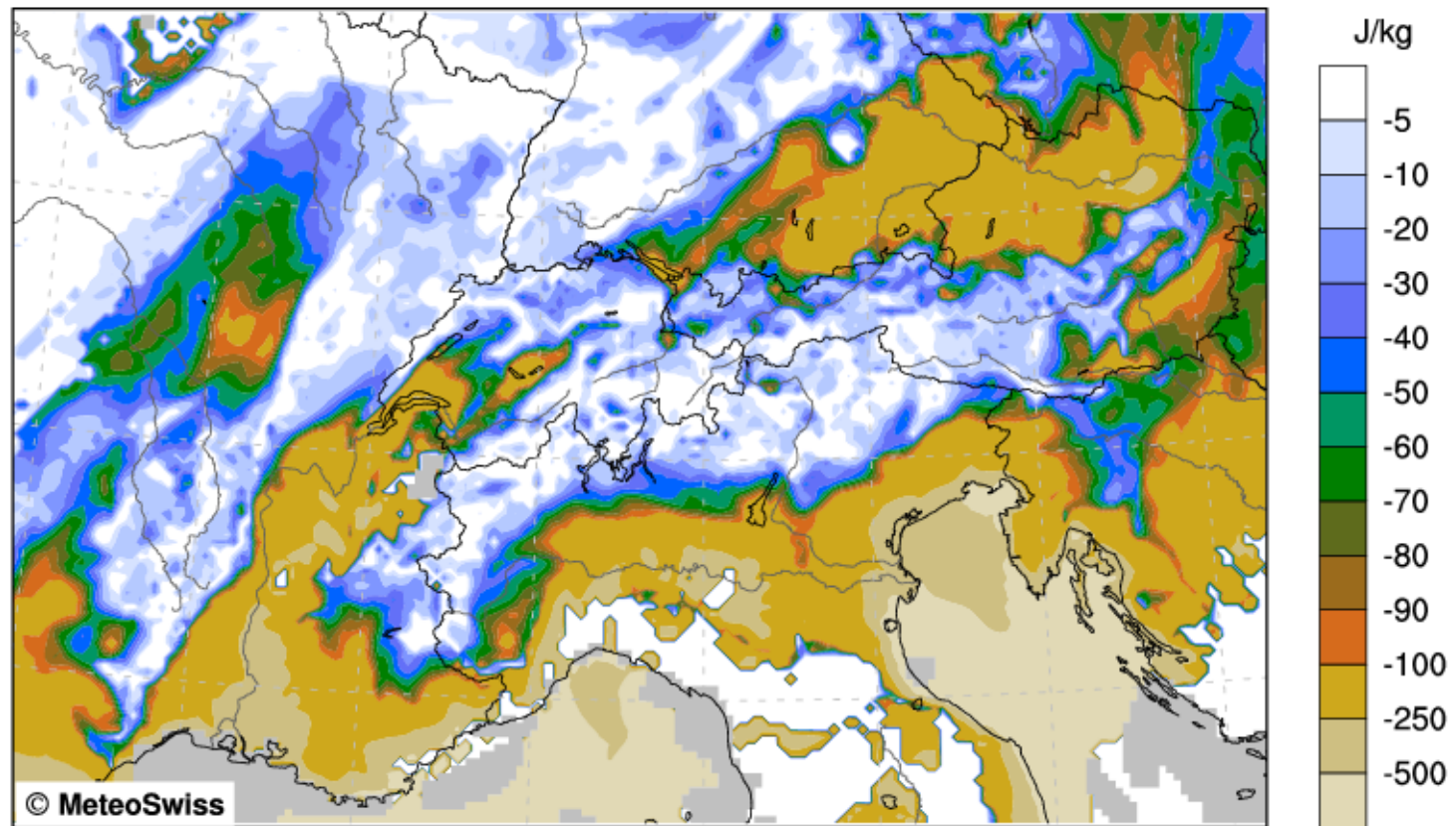
COSMO-7 FORECAST

Version: 923

Sat 28 Jul 2012 12UTC

Mean Layer Parcel Convective Inhibition

27.07.2012 12UTC +24h



Convective Inhibition of Mean Surface Layer Parcel [J/kg]

Mean: -126.0 J/kg



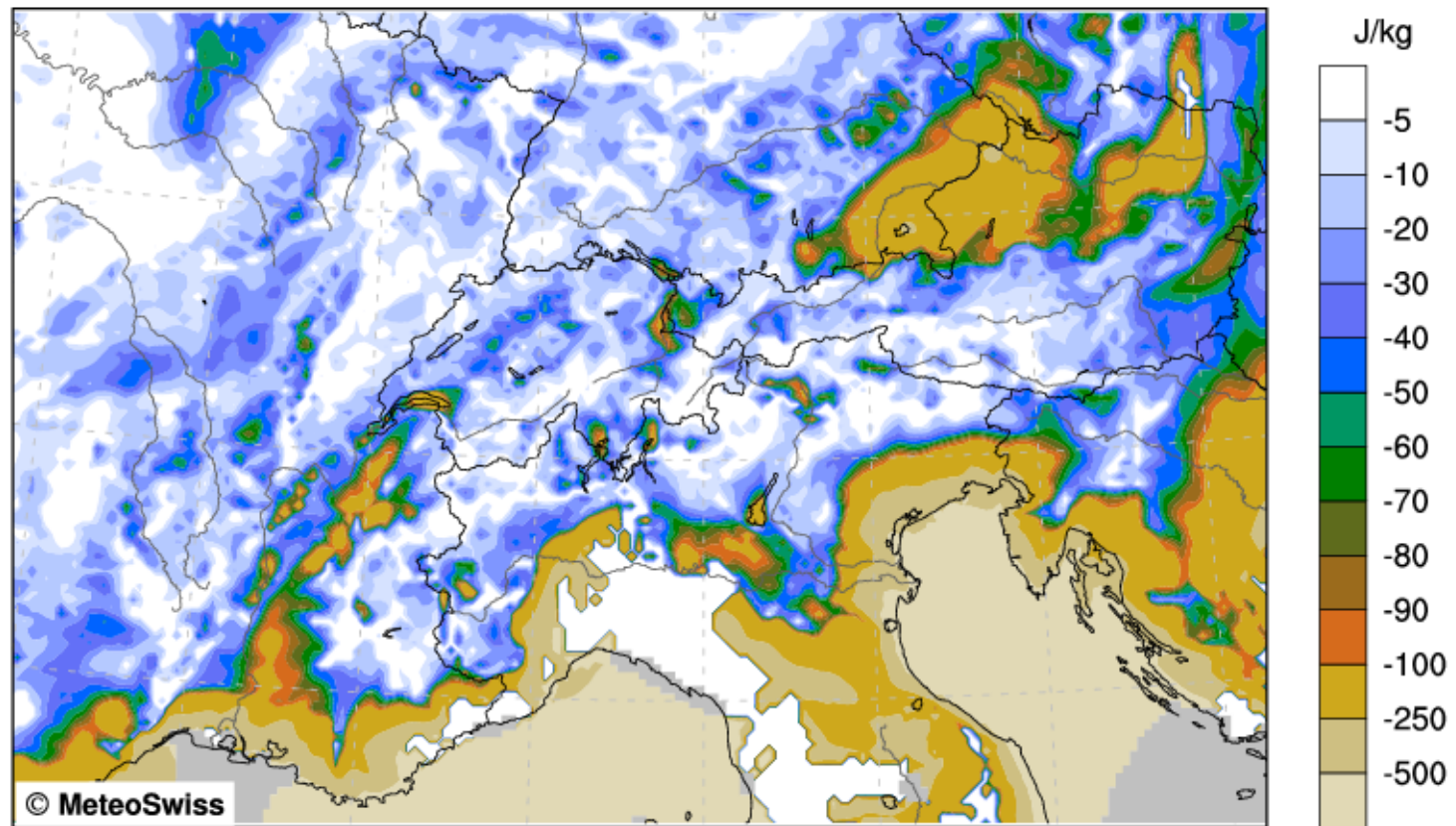


# CIN

COSMO-7 FORECAST  
Mean Layer Parcel Convective Inhibition

Version: 923

Sat 28 Jul 2012 15UTC  
27.07.2012 12UTC +27h



Convective Inhibition of Mean Surface Layer Parcel [J/kg]

Mean: -132.0 J/kg



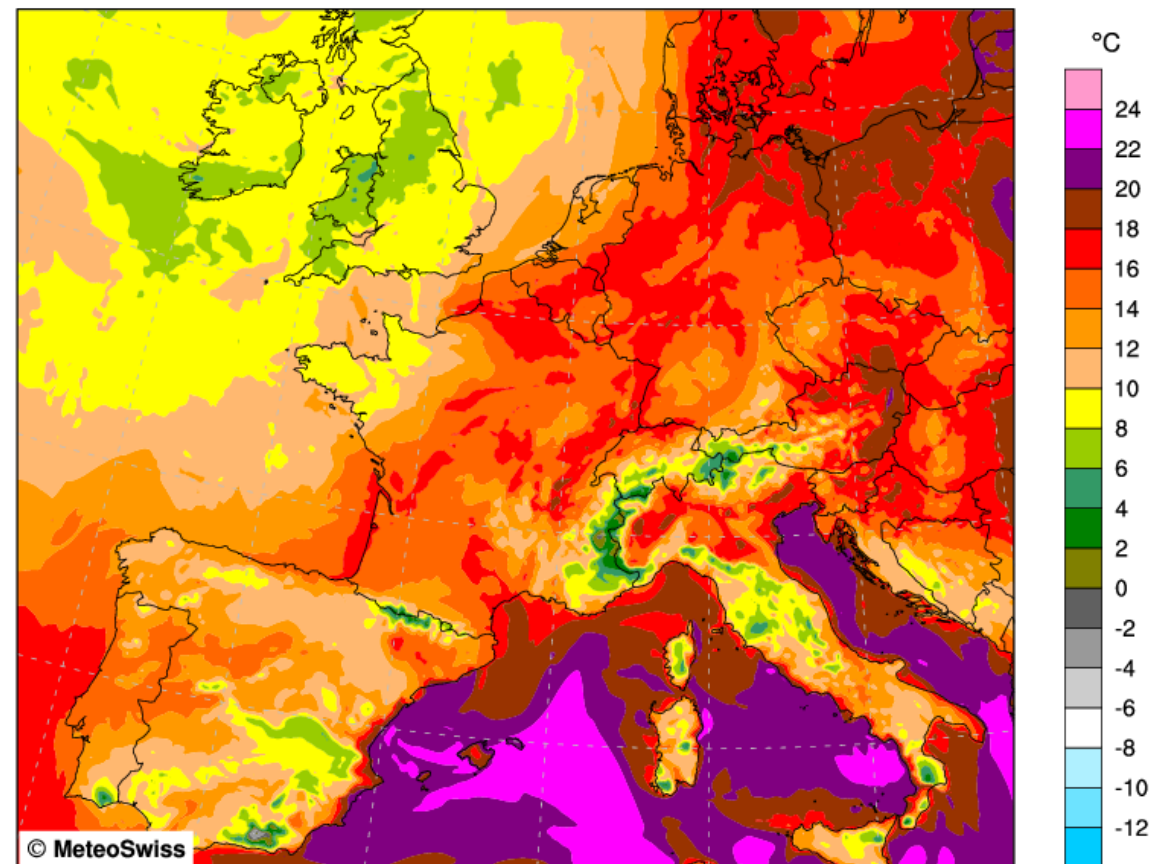


# Punto di rugiada

COSMO-7 FORECAST  
2m Dew Point Temperature

Version: 923

Sat 28 Jul 2012 09UTC  
28.07.2012 06UTC +03h



Dew Point Temperature [deg C]

Mean: 16.2 Min/Max: -0.7/ 23.6 [deg C]

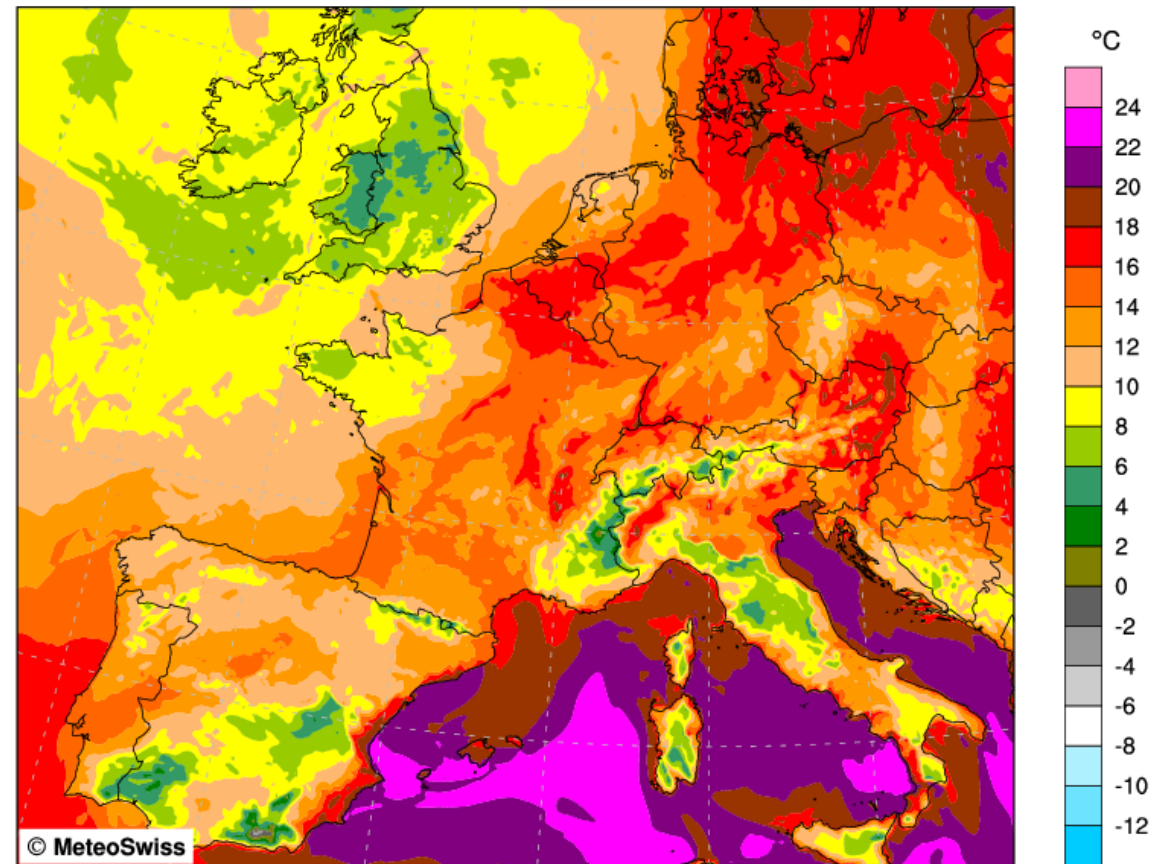


# Punto di rugiada

COSMO-7 FORECAST  
2m Dew Point Temperature

Version: 923

Sat 28 Jul 2012 12UTC  
28.07.2012 06UTC +06h

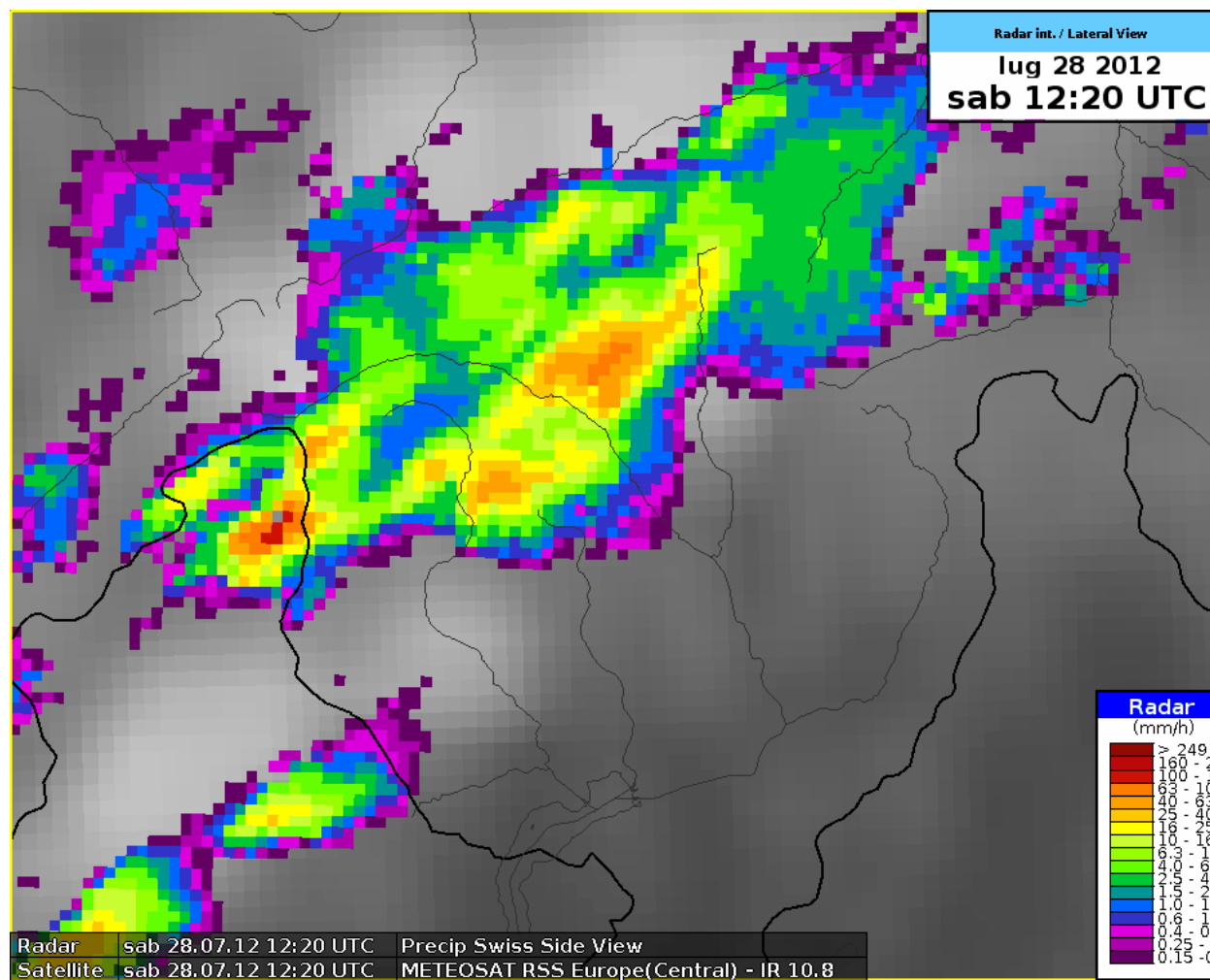


Dew Point Temperature [deg C]

Mean: 15.8 Min/Max: 1.4/ 23.7 [deg C]

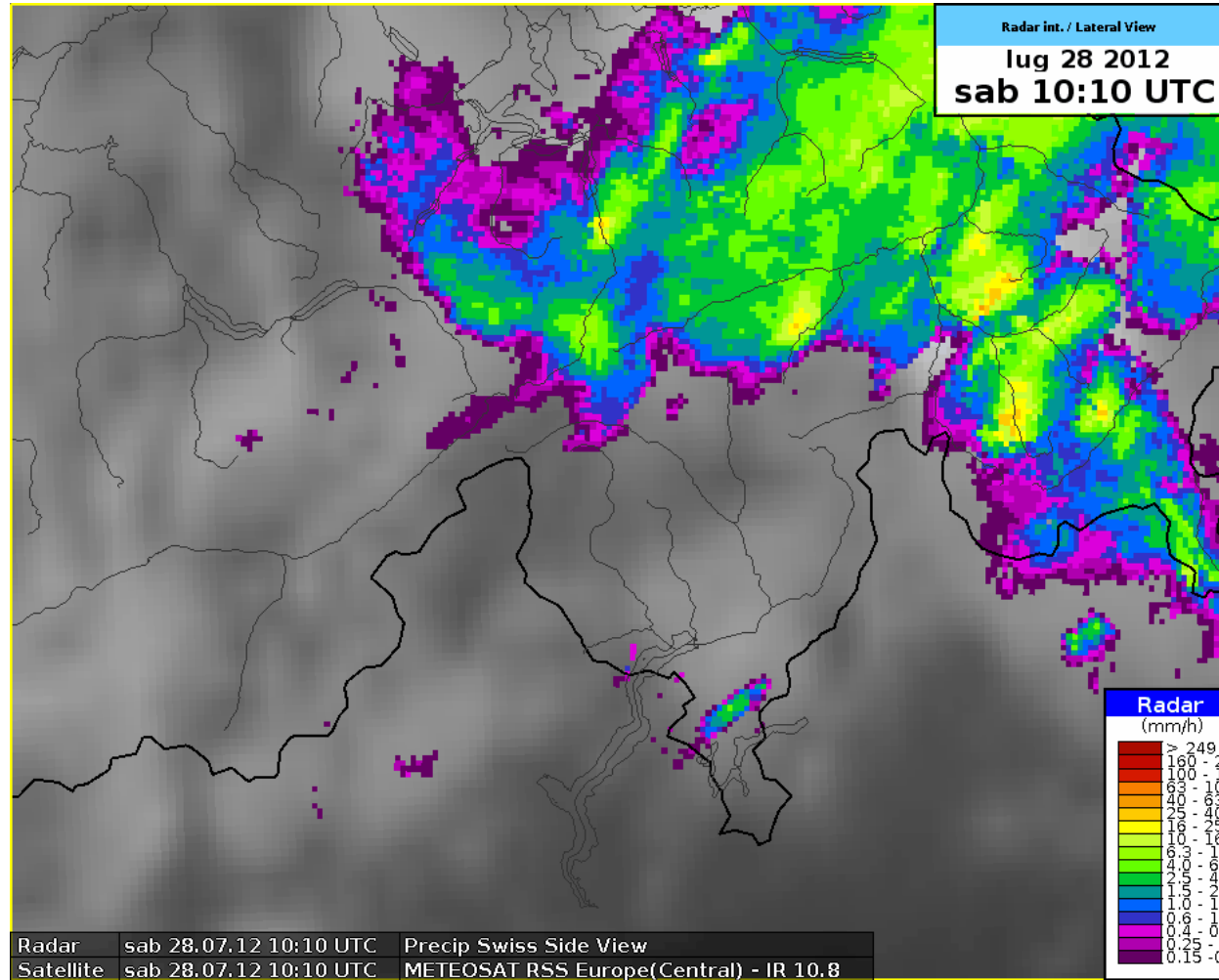


## 28.7 animazione radar





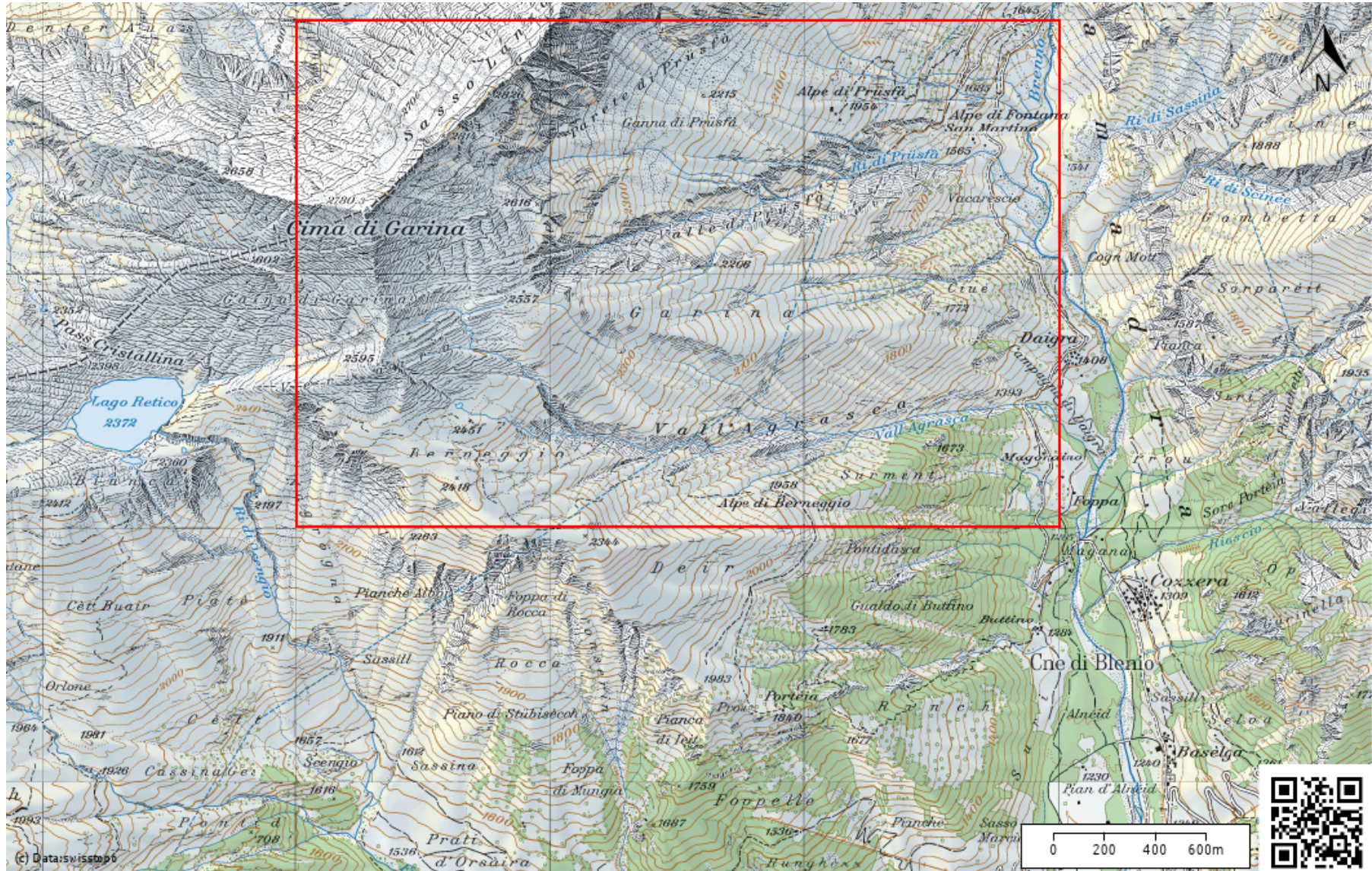
## 28.7 animazione radar







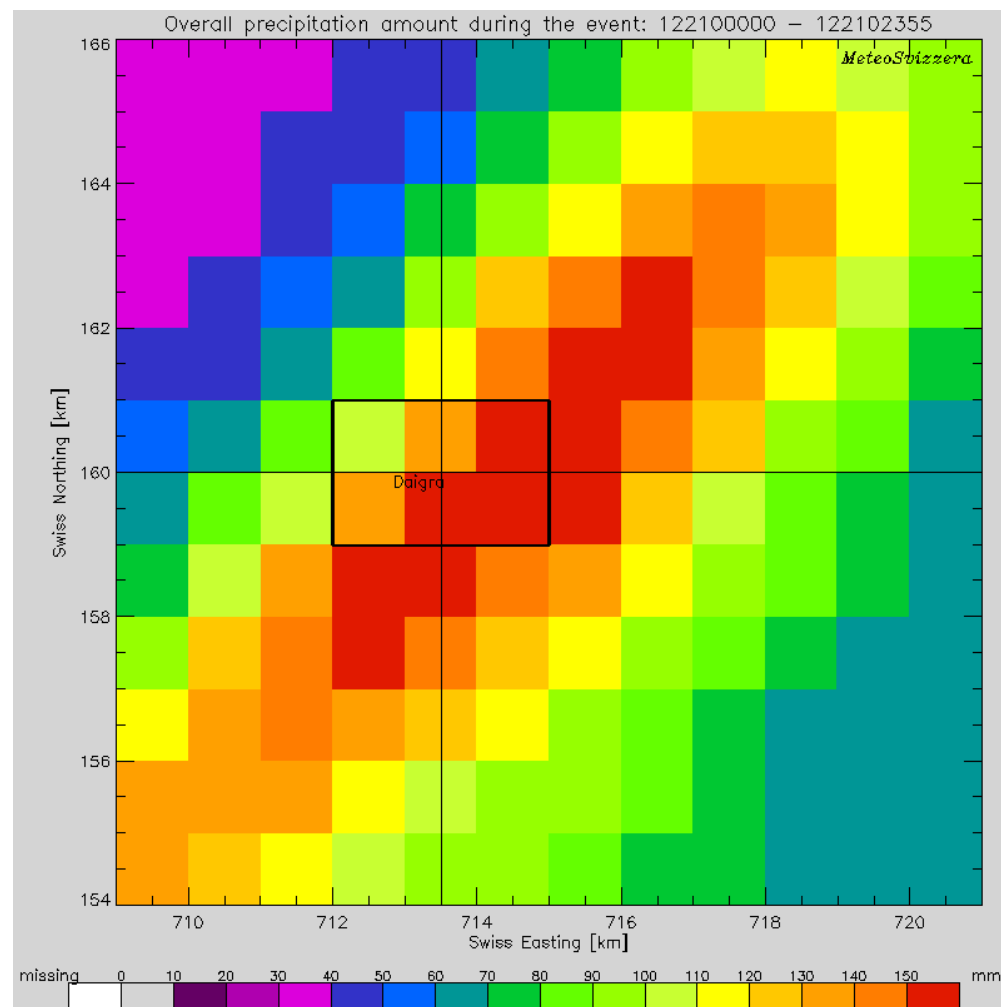
## 28.7 La zona





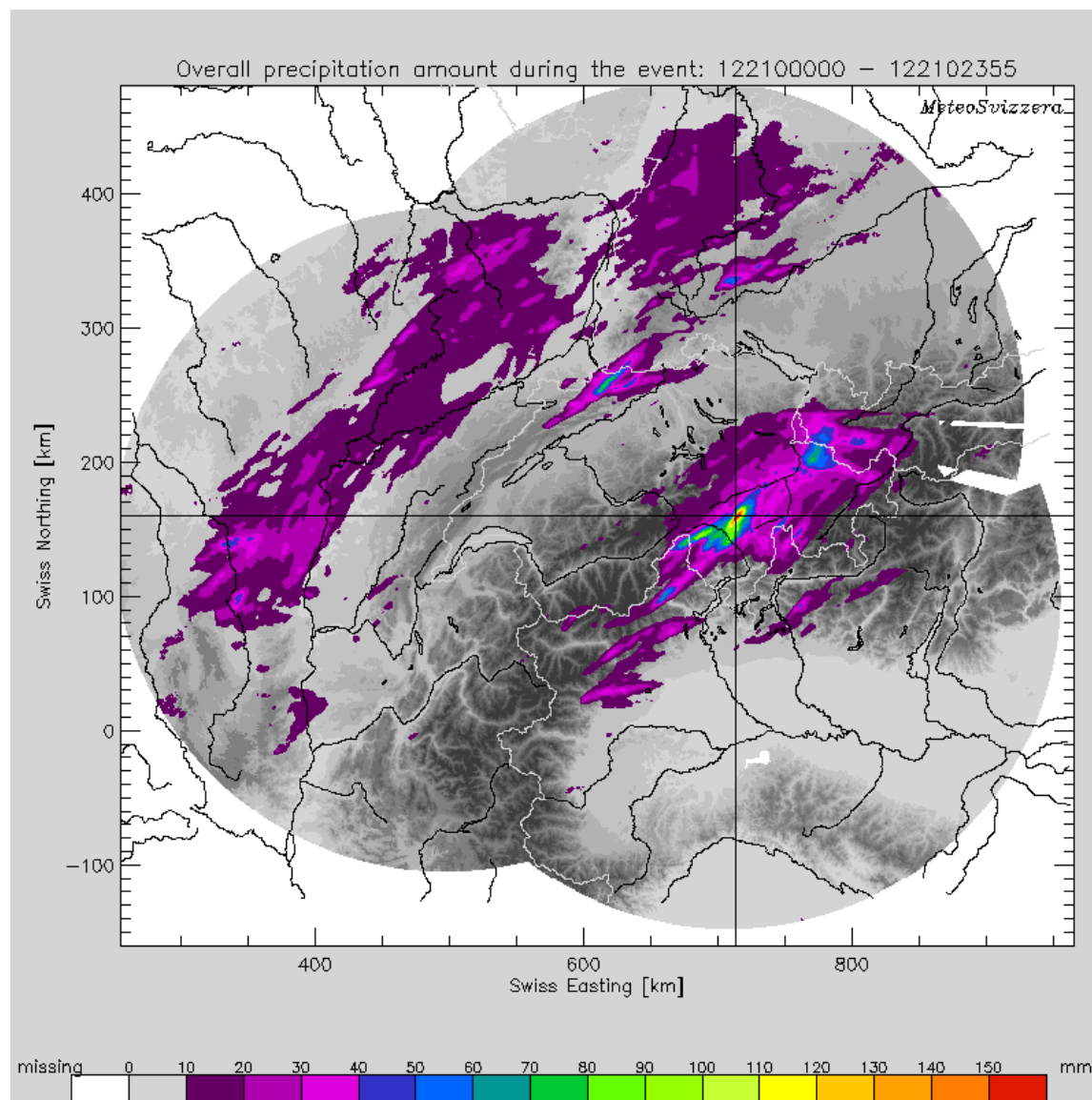


# Radar: accumuli totali



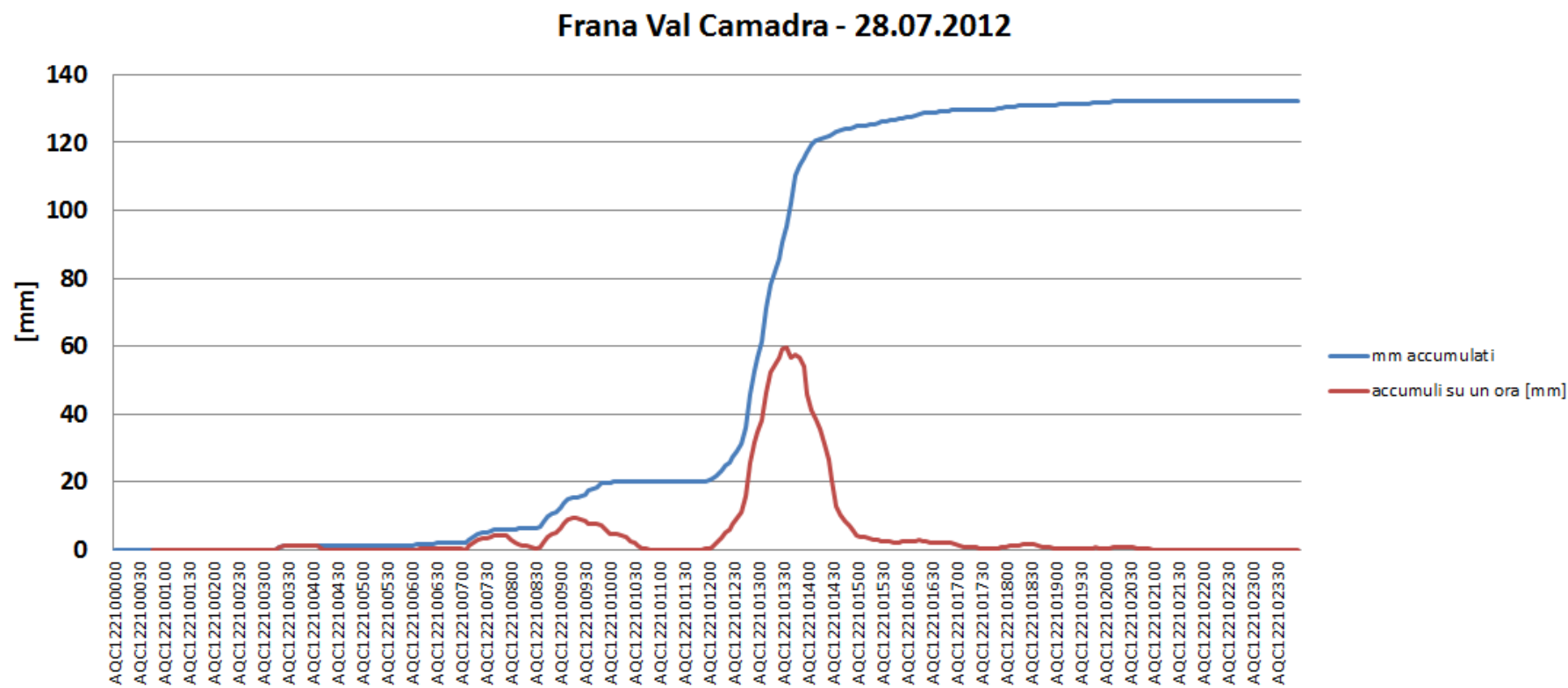


# Radar: accumuli totali





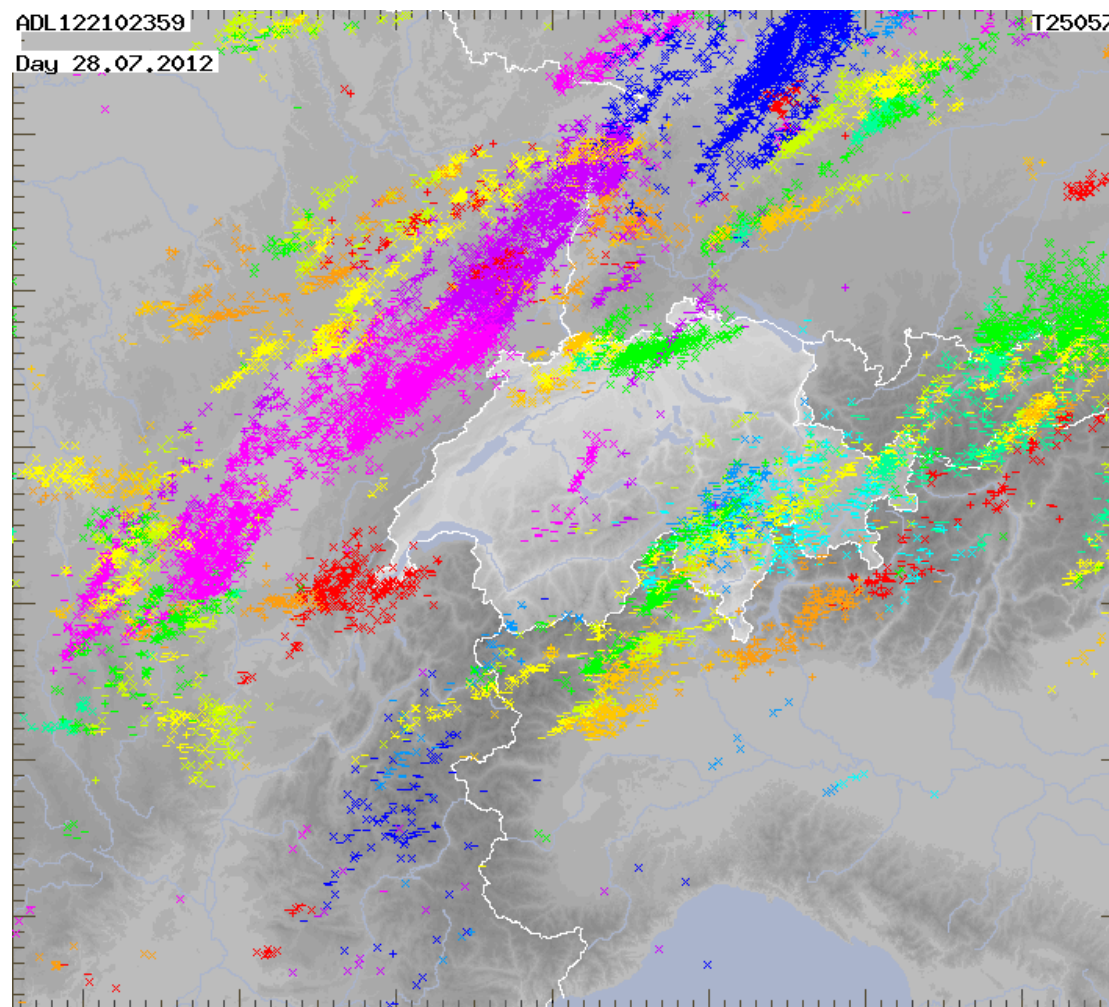
# Radar: accumuli totali





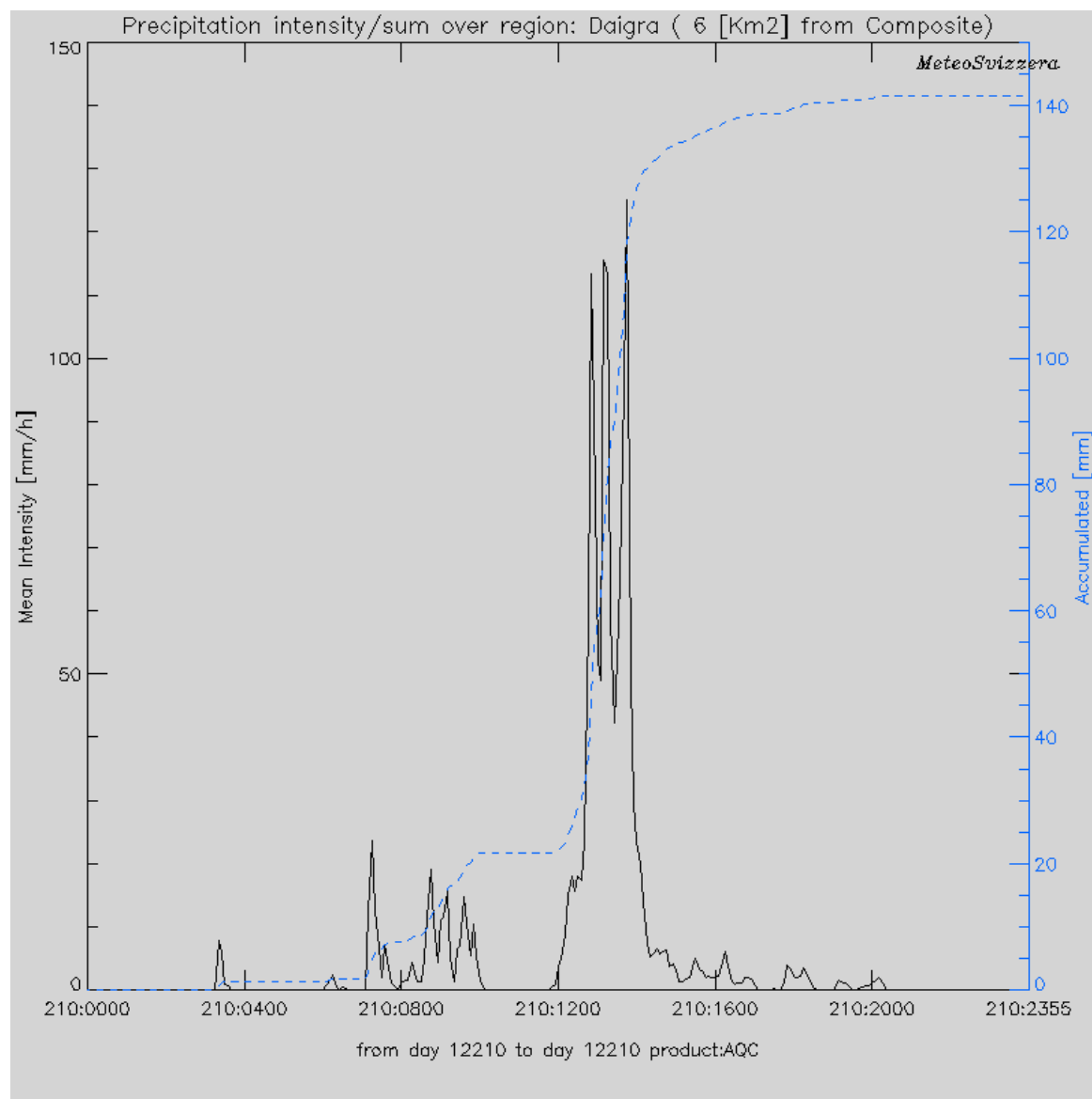


# fulmini



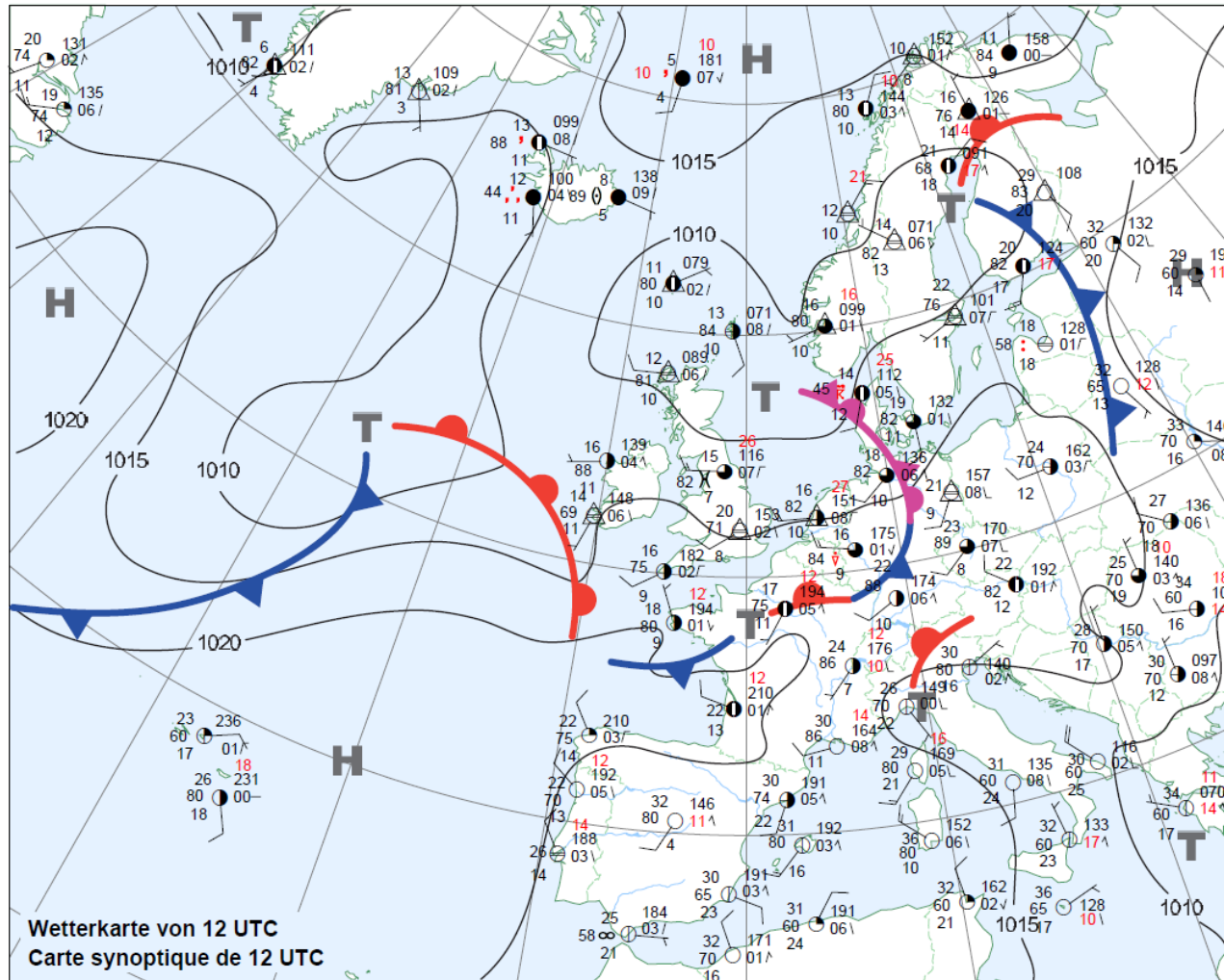


# Radar: accumuli totali





## 30-31.7 situazione al suolo

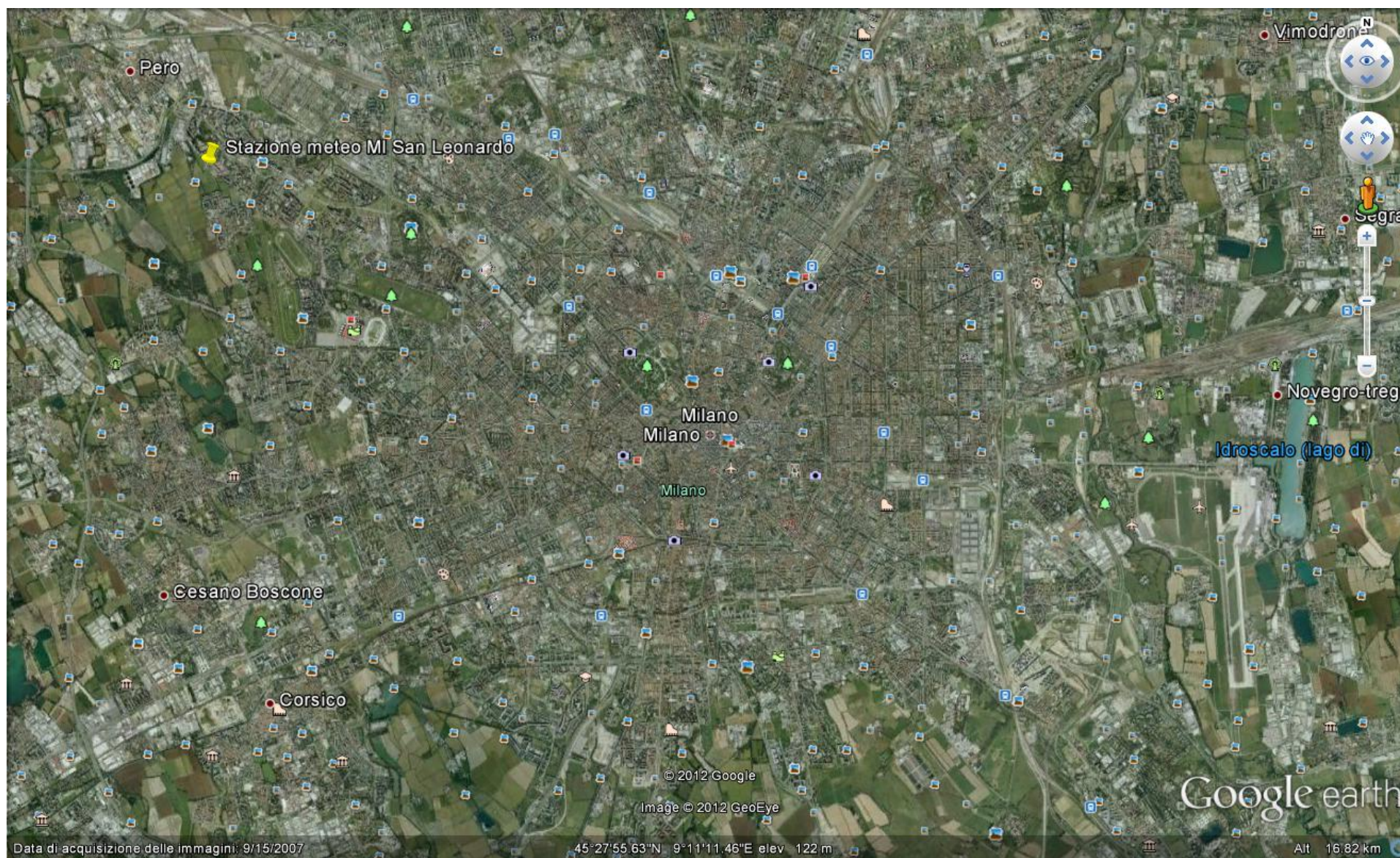


Gianluca Ferri





## 30-31.7 Ubicazione stazione meteo

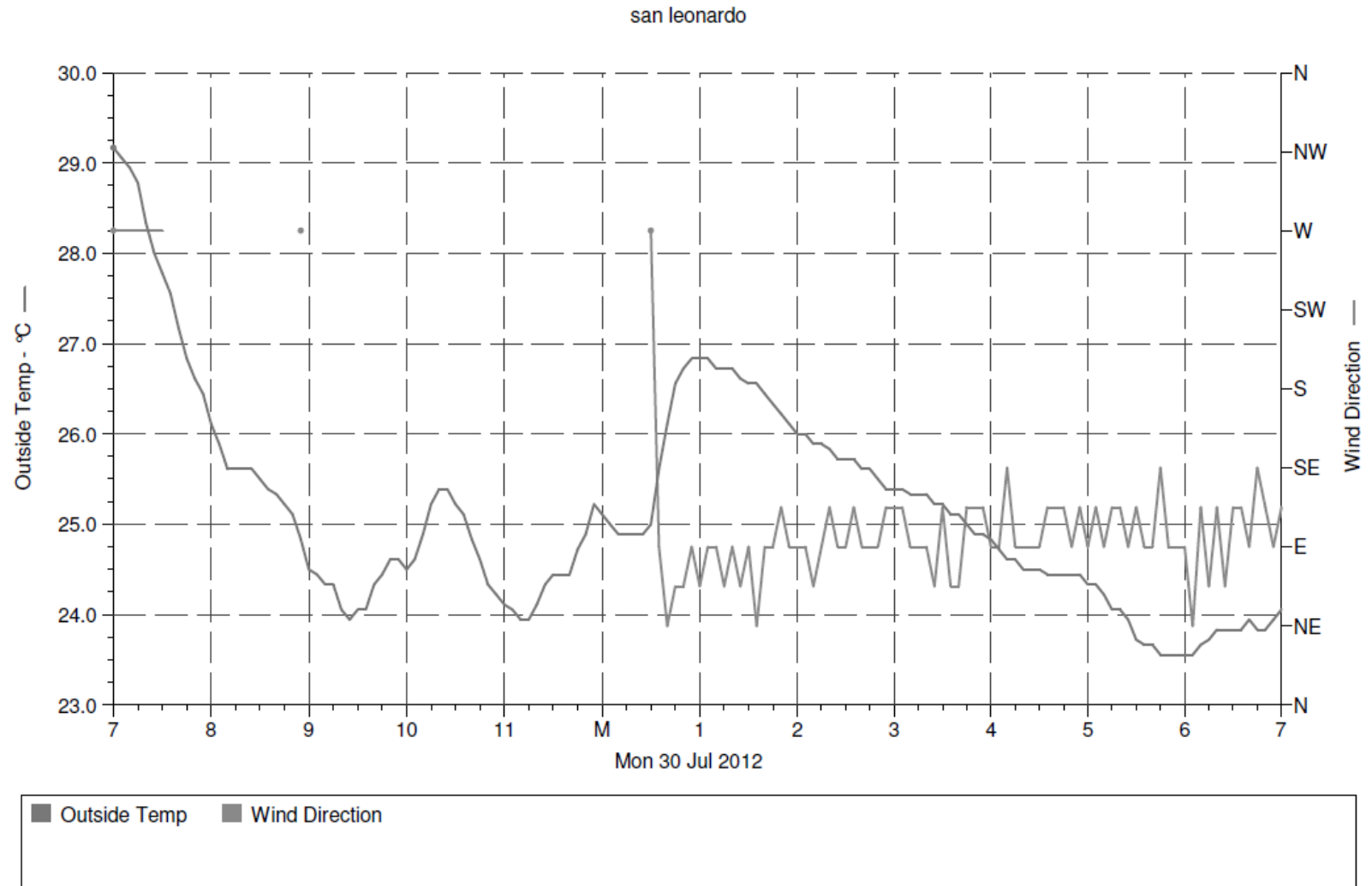


Gianluca Ferri





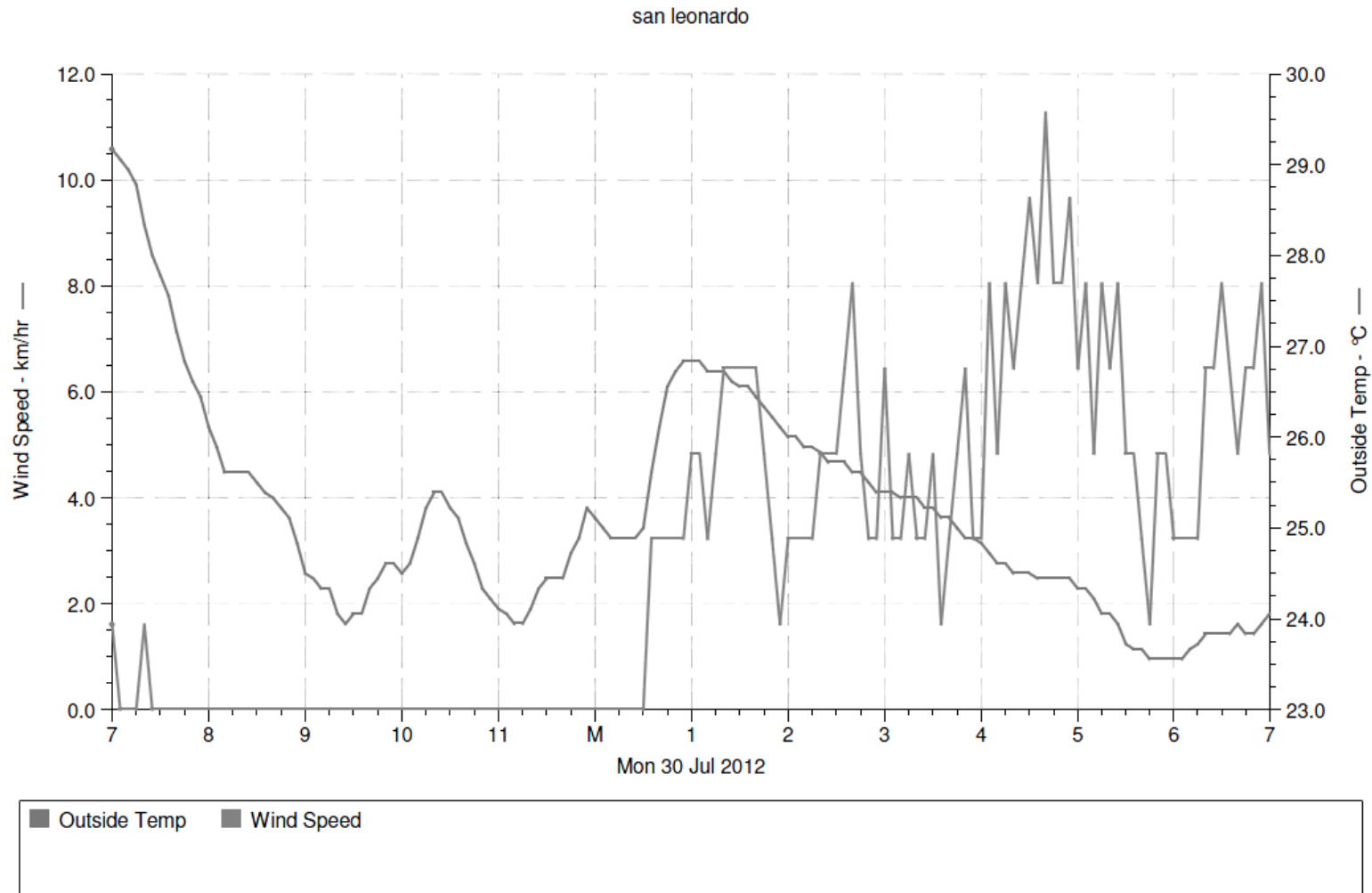
# 30-31.7



Gianluca Ferri



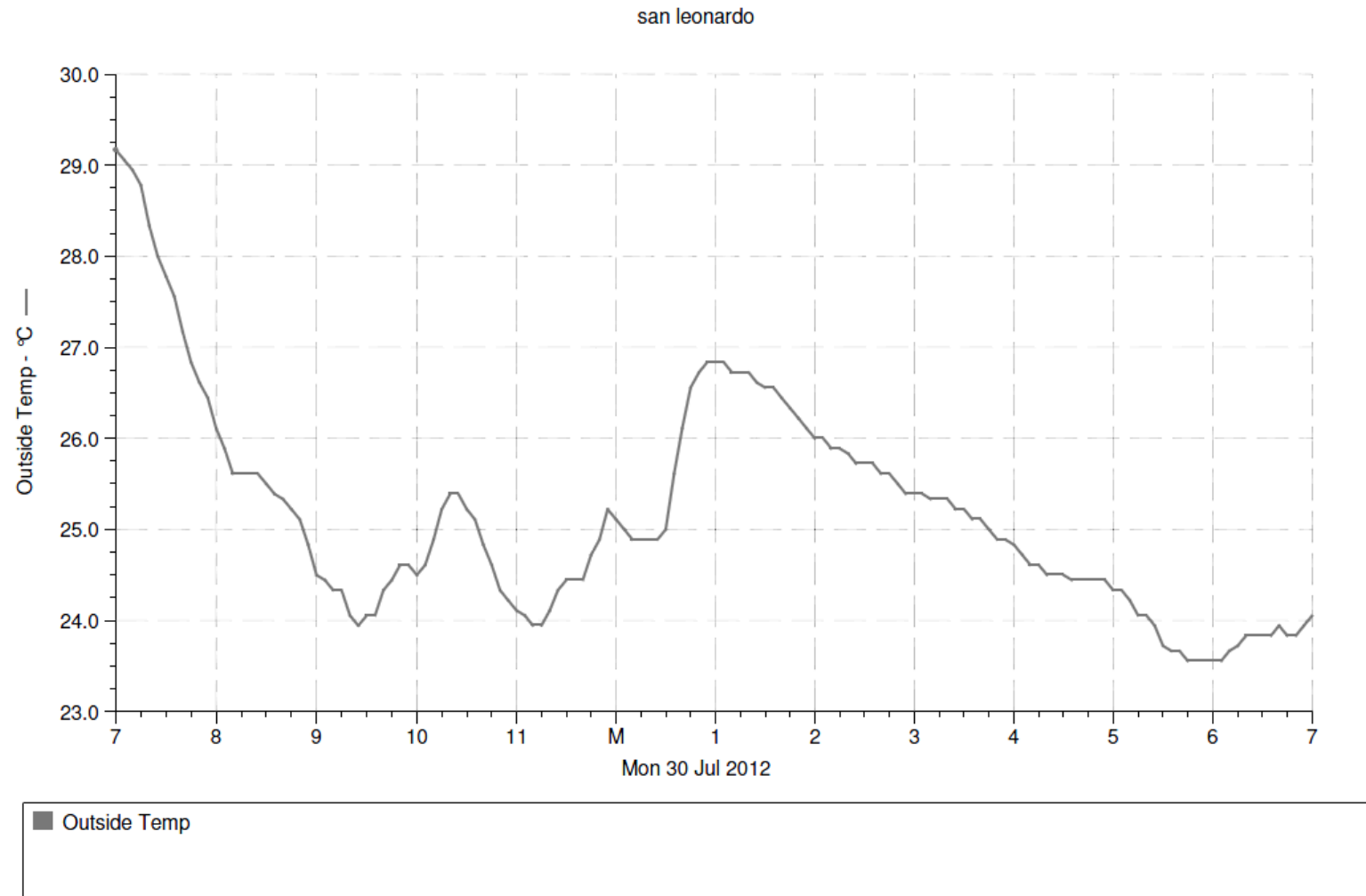
# 30-31.7



Gianluca Ferri



# 30-31.7



Gianluca Ferri



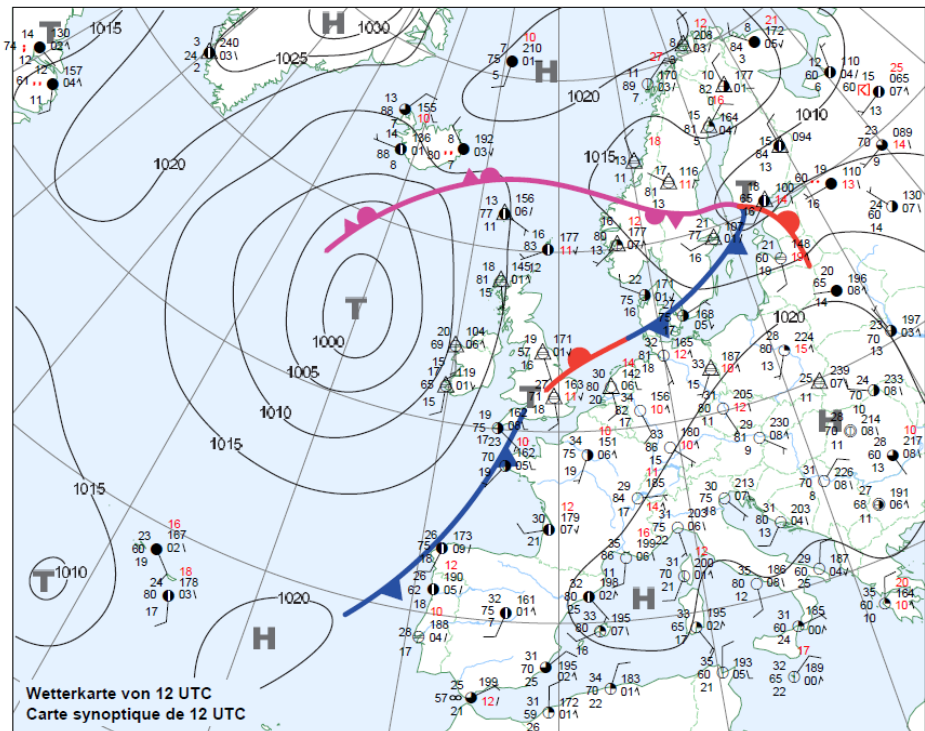
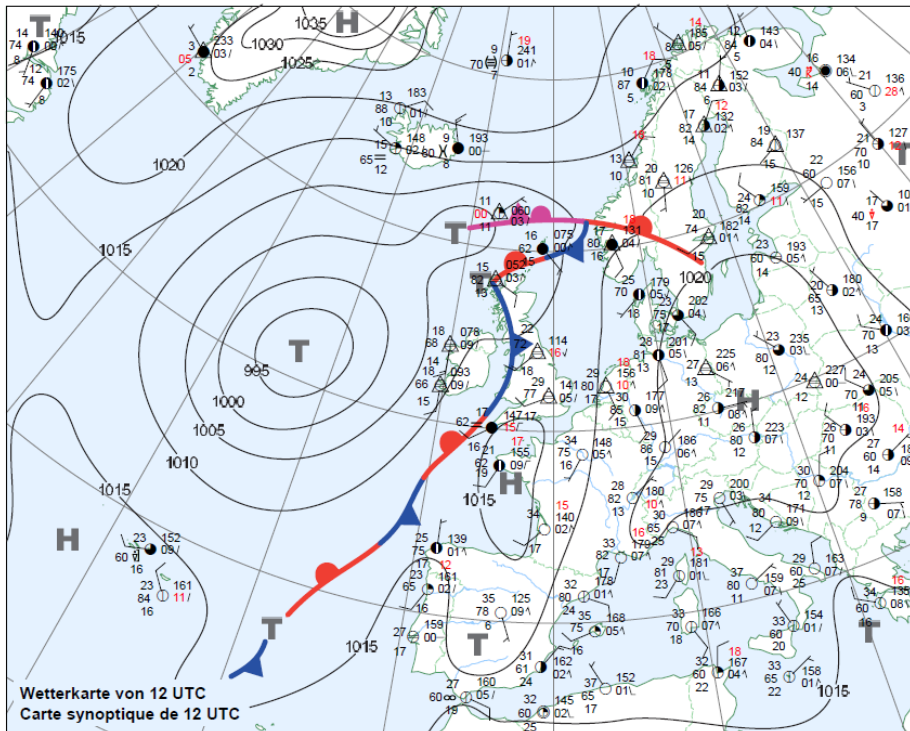
## 19.8 Retour d'est estivo





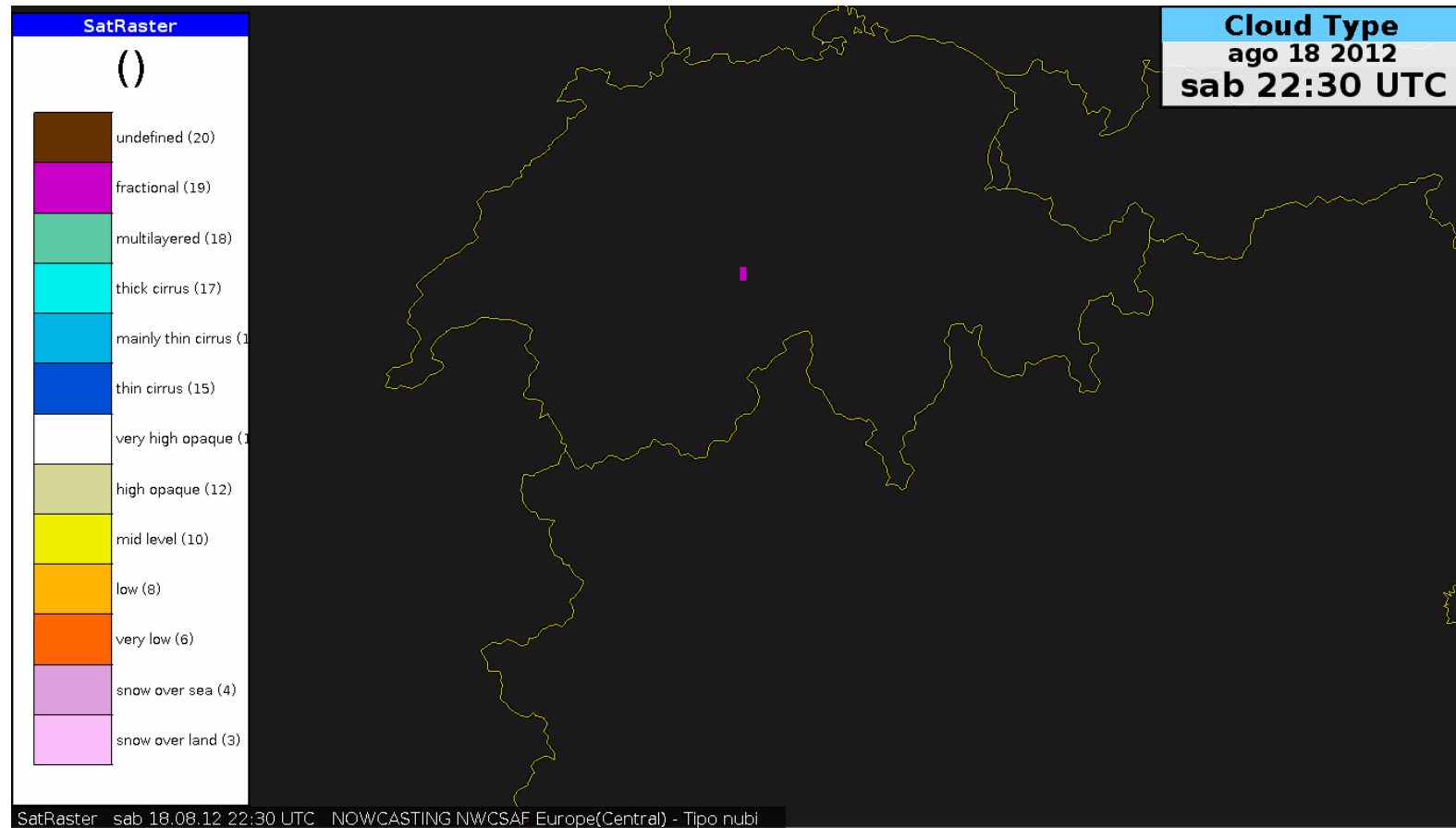


# Situazione al suolo: 18 e 19 ore 12 UTC



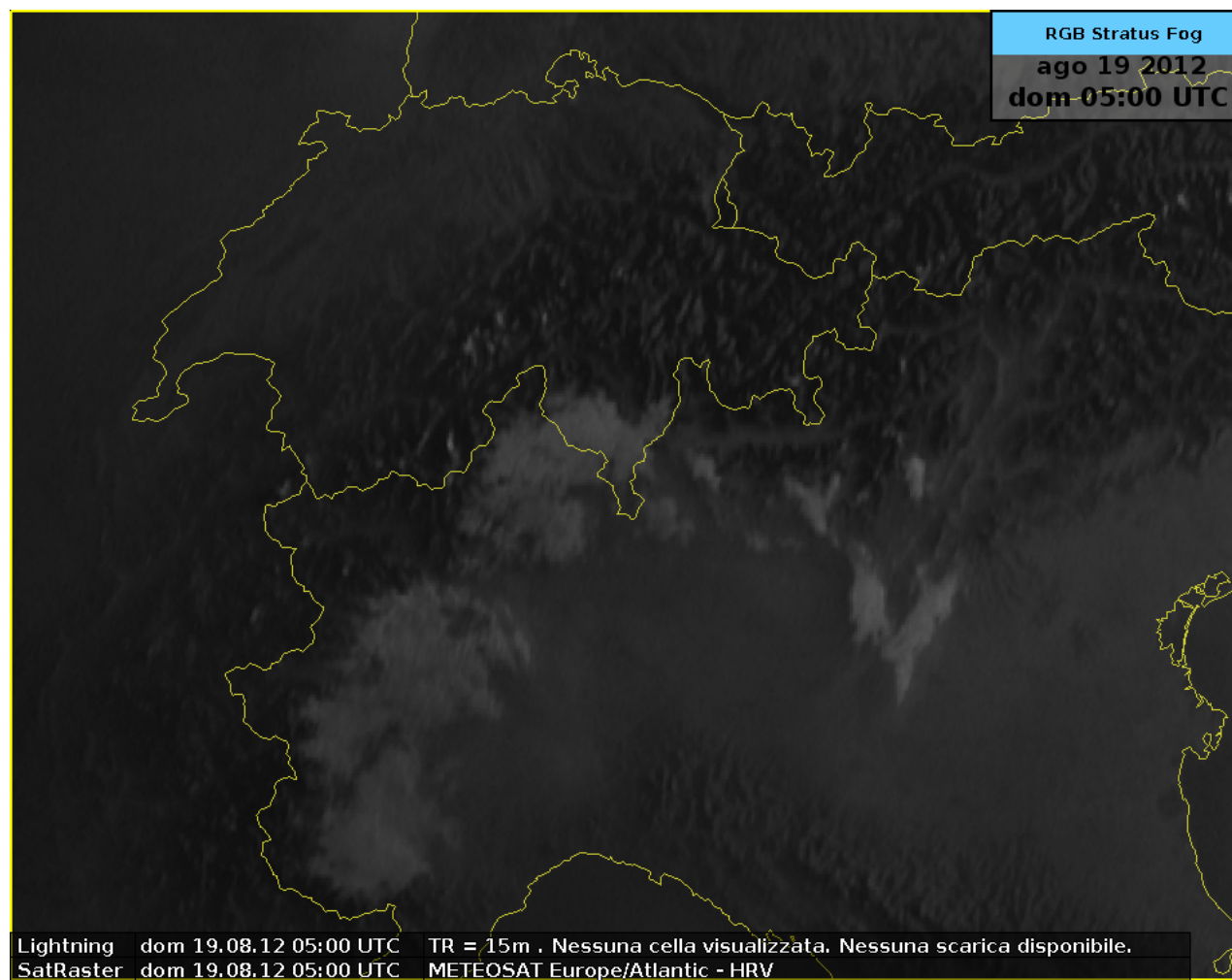


## 19.8 Retour d'est estivo





## 19.8 Retour d'est estivo





# Pressione a livello del mare

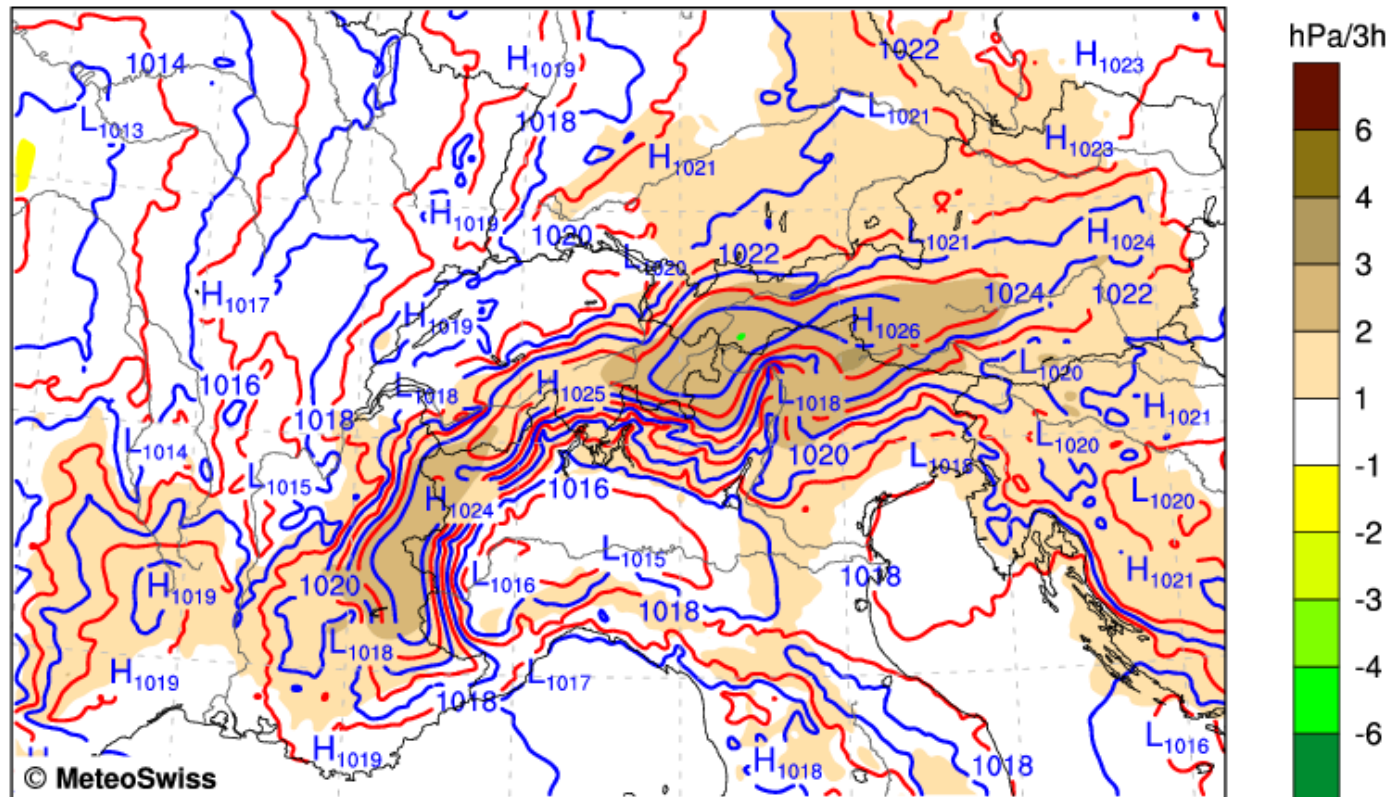
COSMO-2 FORECAST

Version: 925

Sat 18 Aug 2012 18UTC

Sea Surface Pressure and Tendency

18.08.2012 09UTC +09h



Air Pressure at Sea Level [hPa]

3h Sea Surface Pressure Tendency [hPa]

Mean: 1018.8 hPa

Mean: 1.0 hPa





# Pressione a livello del mare

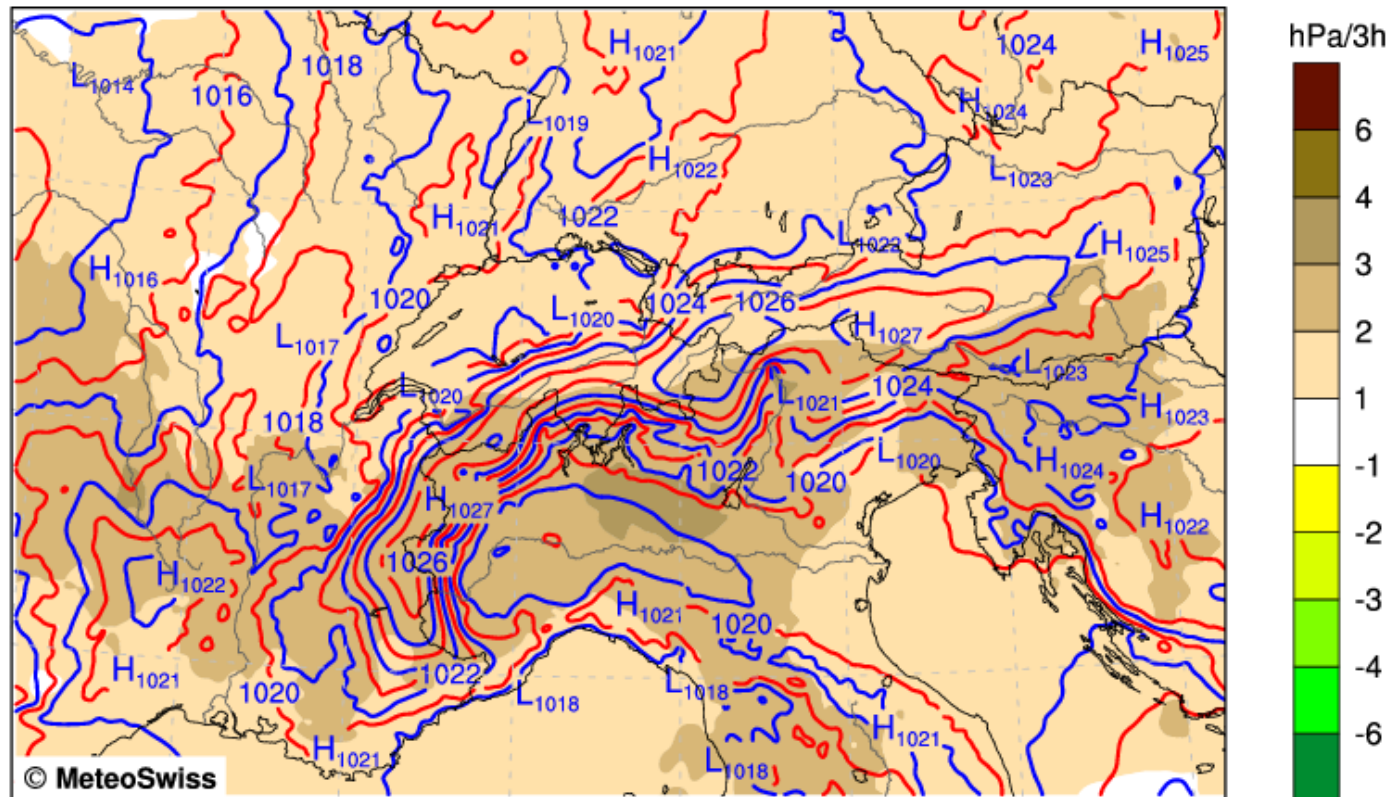
COSMO-2 FORECAST

Version: 925

Sat 18 Aug 2012 21UTC

Sea Surface Pressure and Tendency

18.08.2012 09UTC +12h



Air Pressure at Sea Level [hPa]

3h Sea Surface Pressure Tendency [hPa]

Mean: 1020.6 hPa

Mean: 1.8 hPa



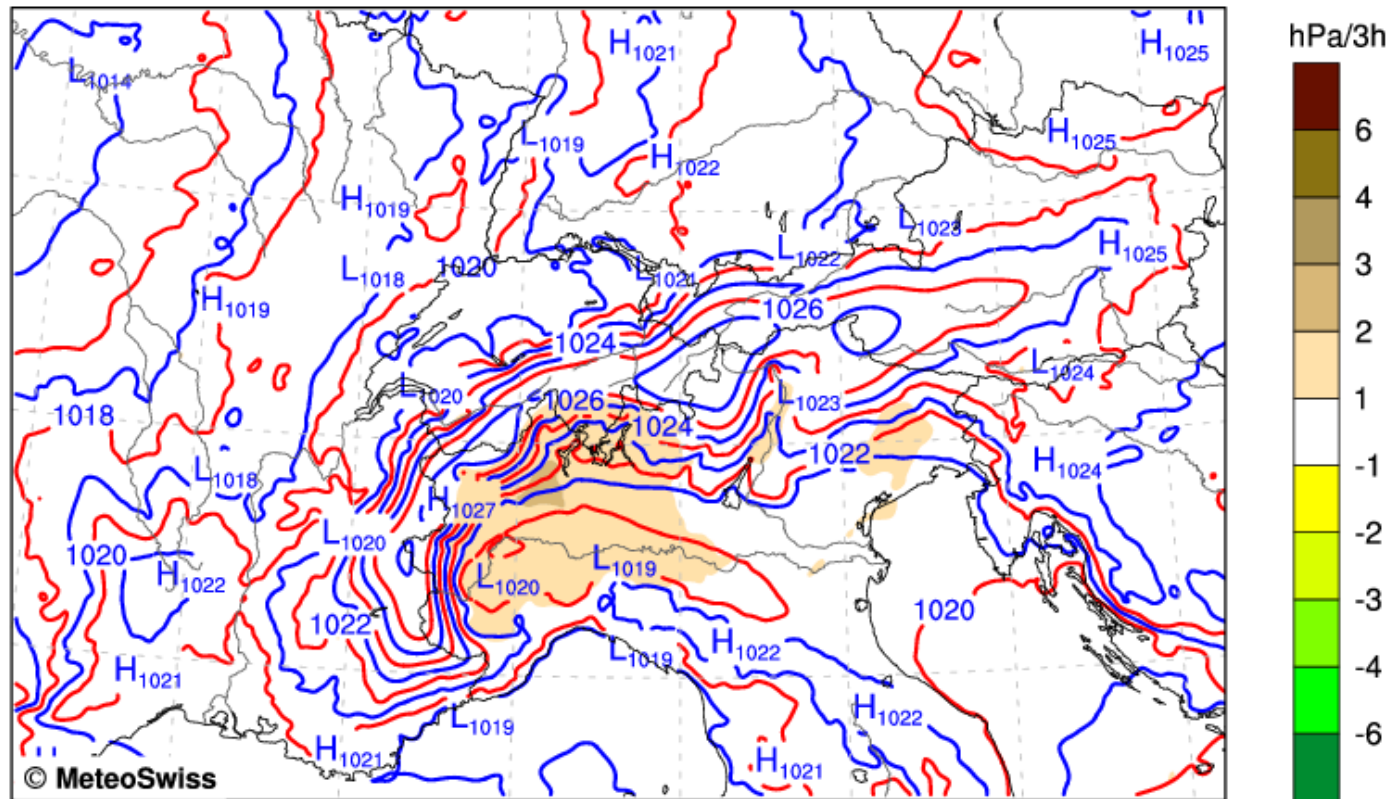
# Pressione a livello del mare

COSMO-2 FORECAST  
Sea Surface Pressure and Tendency

Version: 925

Sun 19 Aug 2012 00UTC

18.08.2012 09UTC +15h



Air Pressure at Sea Level [hPa]  
3h Sea Surface Pressure Tendency [hPa]

Mean: 1021.0 hPa  
Mean: 0.4 hPa



# Pressione a livello del mare

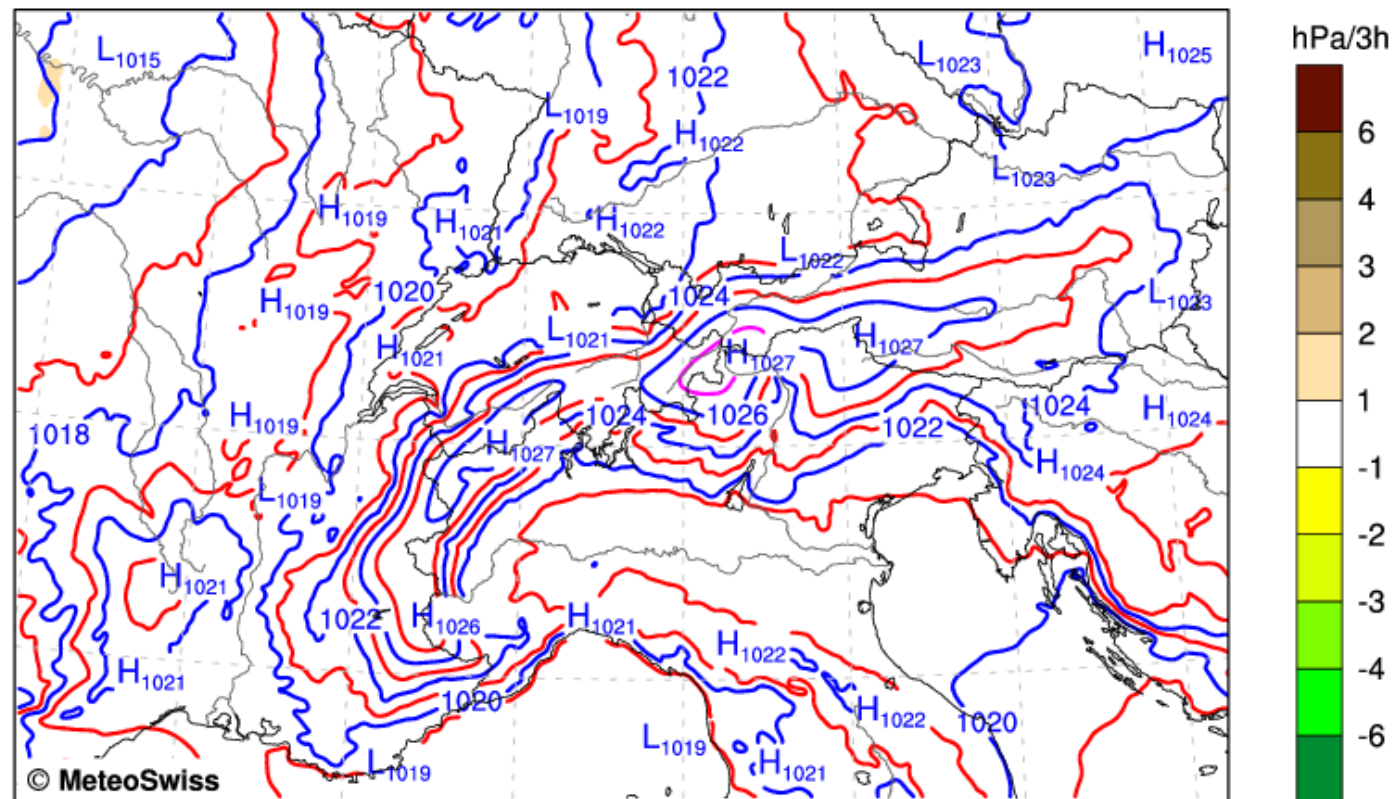
COSMO-2 FORECAST

Version: 925

Sun 19 Aug 2012 03UTC

Sea Surface Pressure and Tendency

18.08.2012 21UTC +06h



Air Pressure at Sea Level [hPa]

3h Sea Surface Pressure Tendency [hPa]

Mean: 1021.1 hPa

Mean: 0.1 hPa



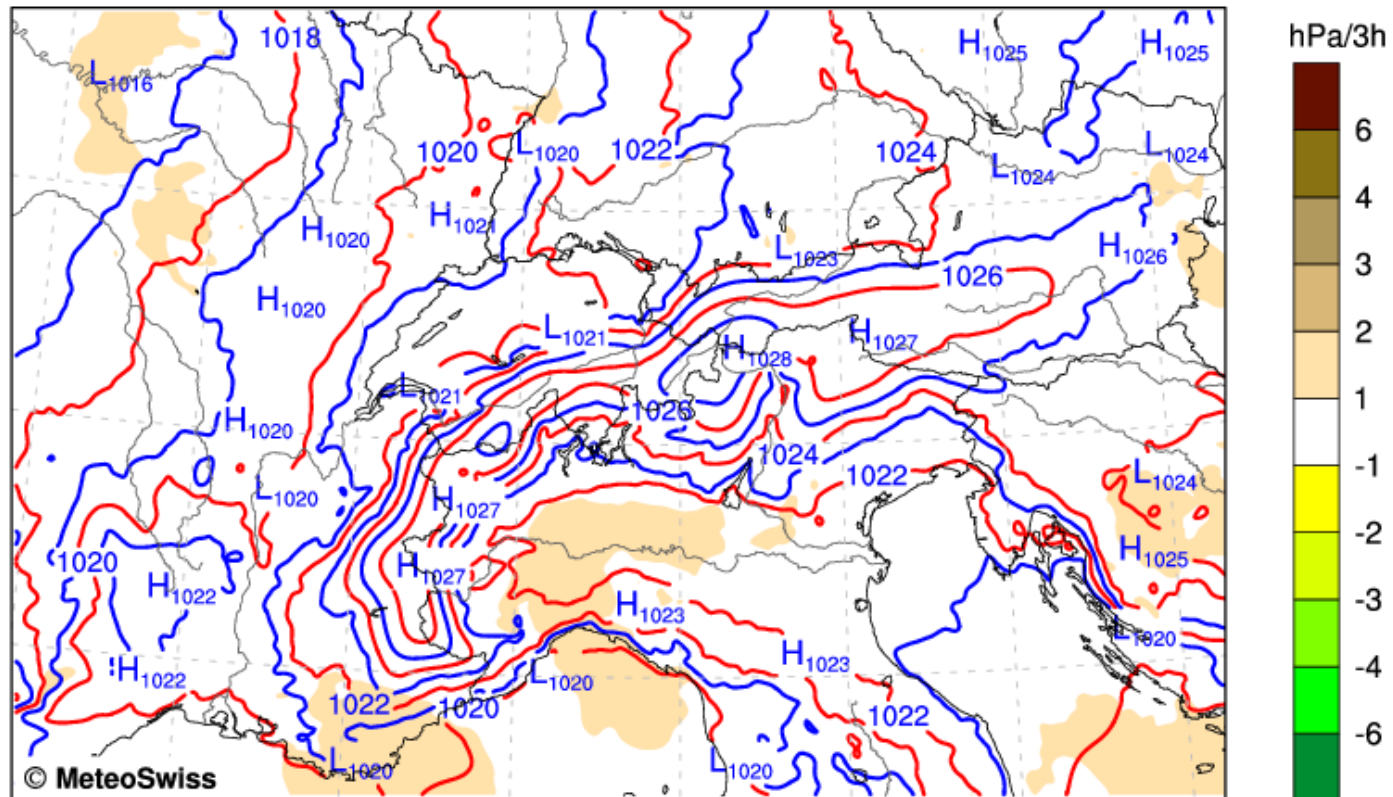
# Pressione a livello del mare

COSMO-2 FORECAST  
Sea Surface Pressure and Tendency

Version: 925

Sun 19 Aug 2012 06UTC

18.08.2012 21UTC +09h



Air Pressure at Sea Level [hPa]  
3h Sea Surface Pressure Tendency [hPa]

Mean: 1021.8 hPa  
Mean: 0.7 hPa





# UV 1000m

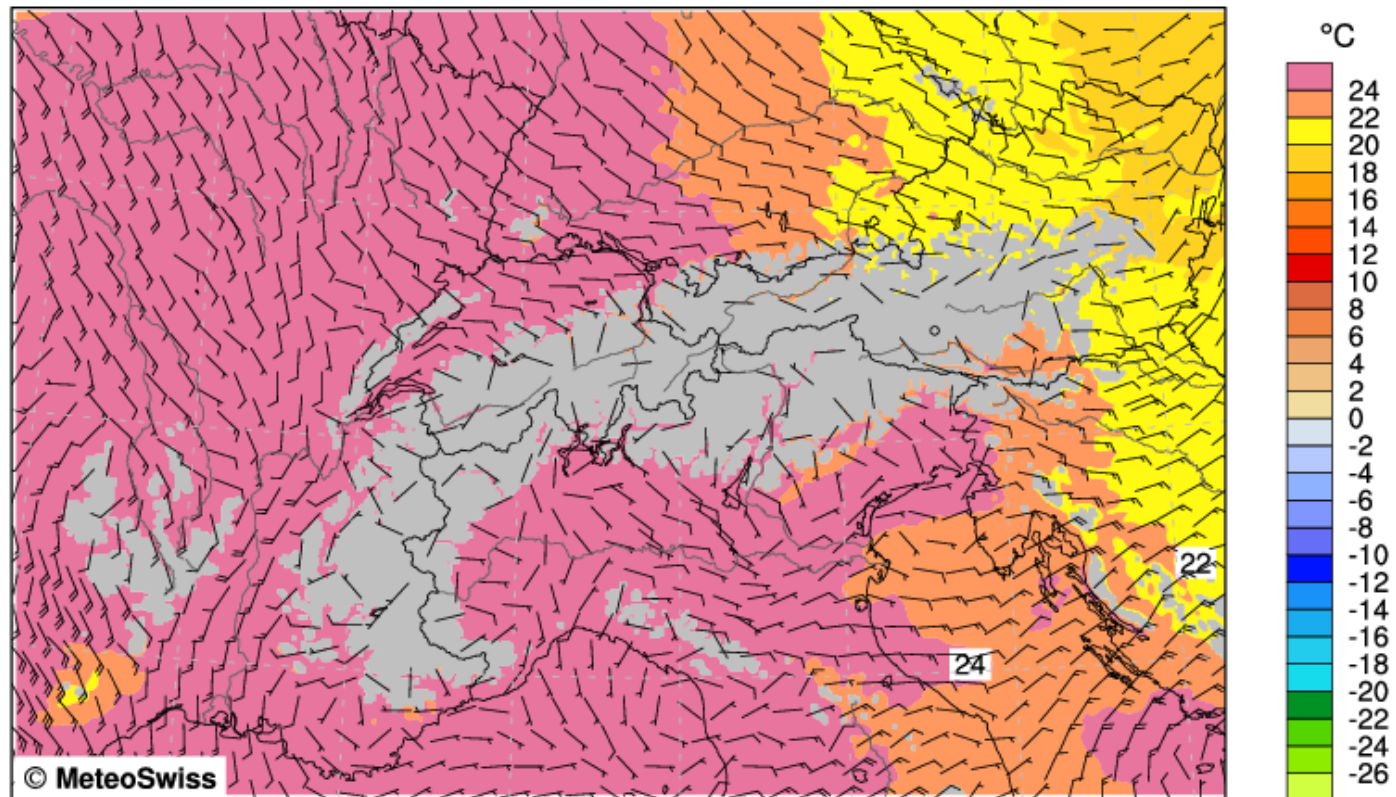
COSMO-2 FORECAST

Version: 925

Sat 18 Aug 2012 18UTC

Temperature and Wind Flags at 1km Height

18.08.2012 09UTC +09h



Air Temperature [deg C], level = 1000 m  
wind speed [knots], level = 1000 m

Mean: 25.1 Min/Max: 17.7/ 32.7 [deg C]  
Mean: 9.4 Max: 31.8 [knots]



# UV 1000m

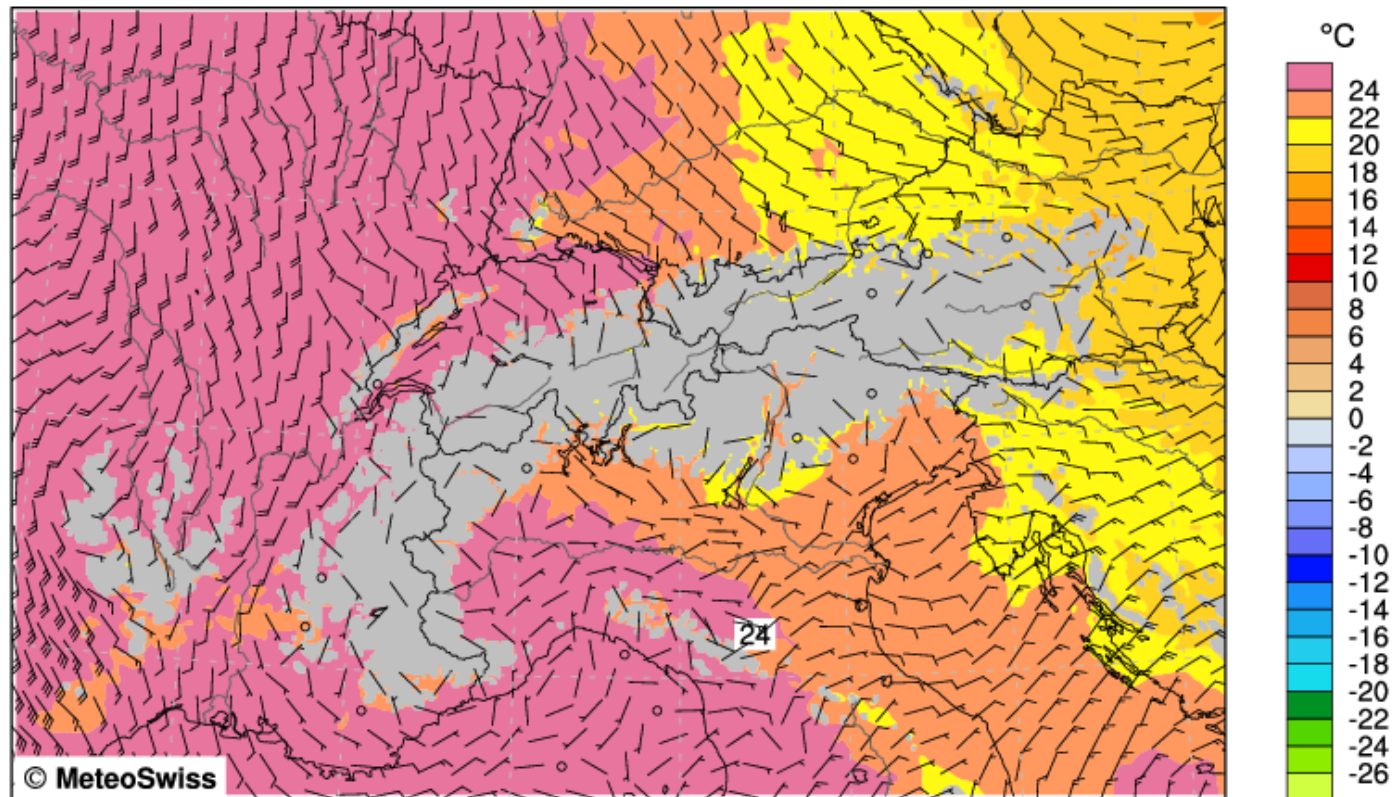
COSMO-2 ANALYSIS

Version: 925

Sat 18 Aug 2012 21UTC

Temperature and Wind Flags at 1km Height

18.08.2012 21UTC +00h



Air Temperature [deg C], level = 1000 m  
wind speed [knots], level = 1000 m

Mean: 24.0 Min/Max: 16.1/ 31.7 [deg C]  
Mean: 9.6 Max: 35.5 [knots]



# UV 1000m

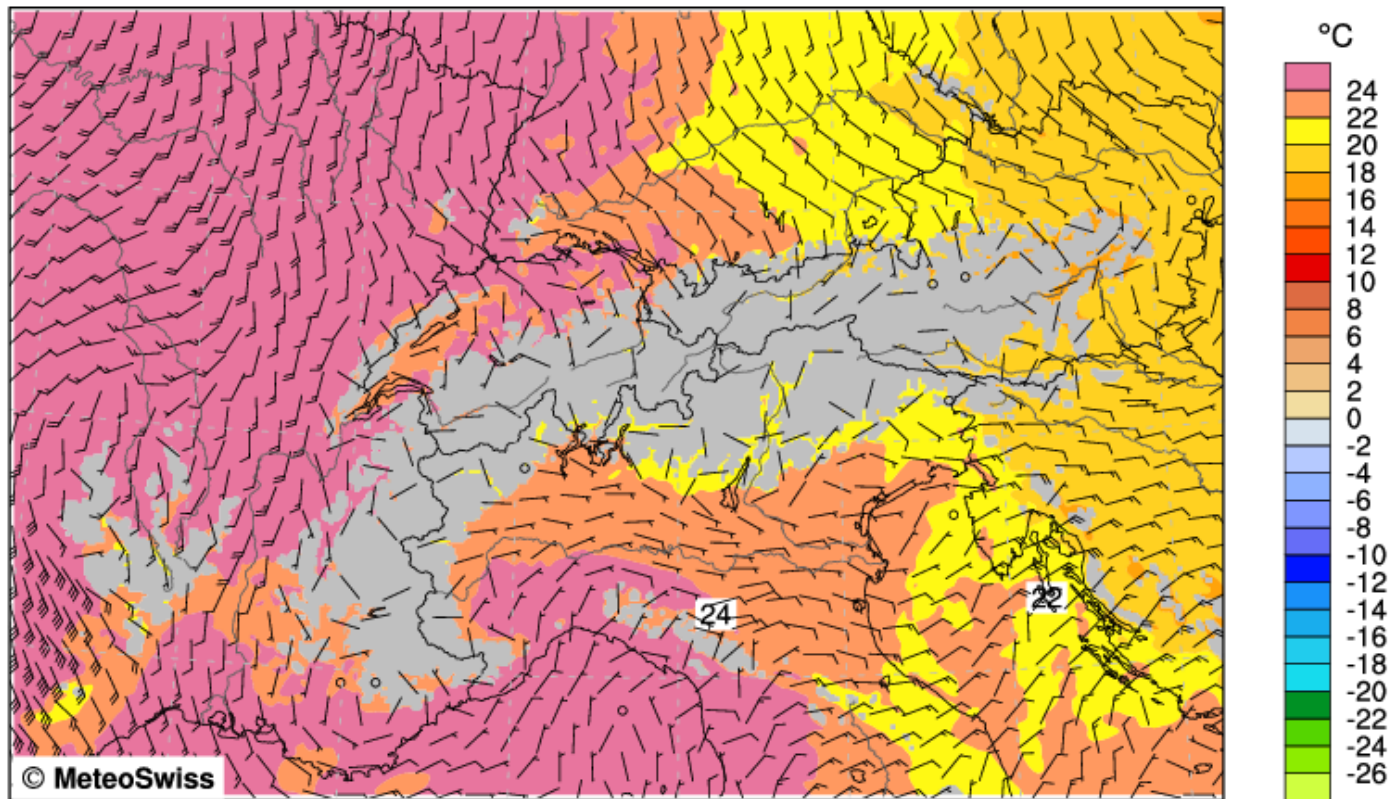
COSMO-2 FORECAST

Version: 925

Sun 19 Aug 2012 00UTC

Temperature and Wind Flags at 1km Height

18.08.2012 21UTC +03h



Air Temperature [deg C], level = 1000 m  
wind speed [knots], level = 1000 m

Mean: 23.5 Min/Max: 15.5/ 31.1 [deg C]  
Mean: 10.2 Max: 39.3 [knots]





# UV 1000m

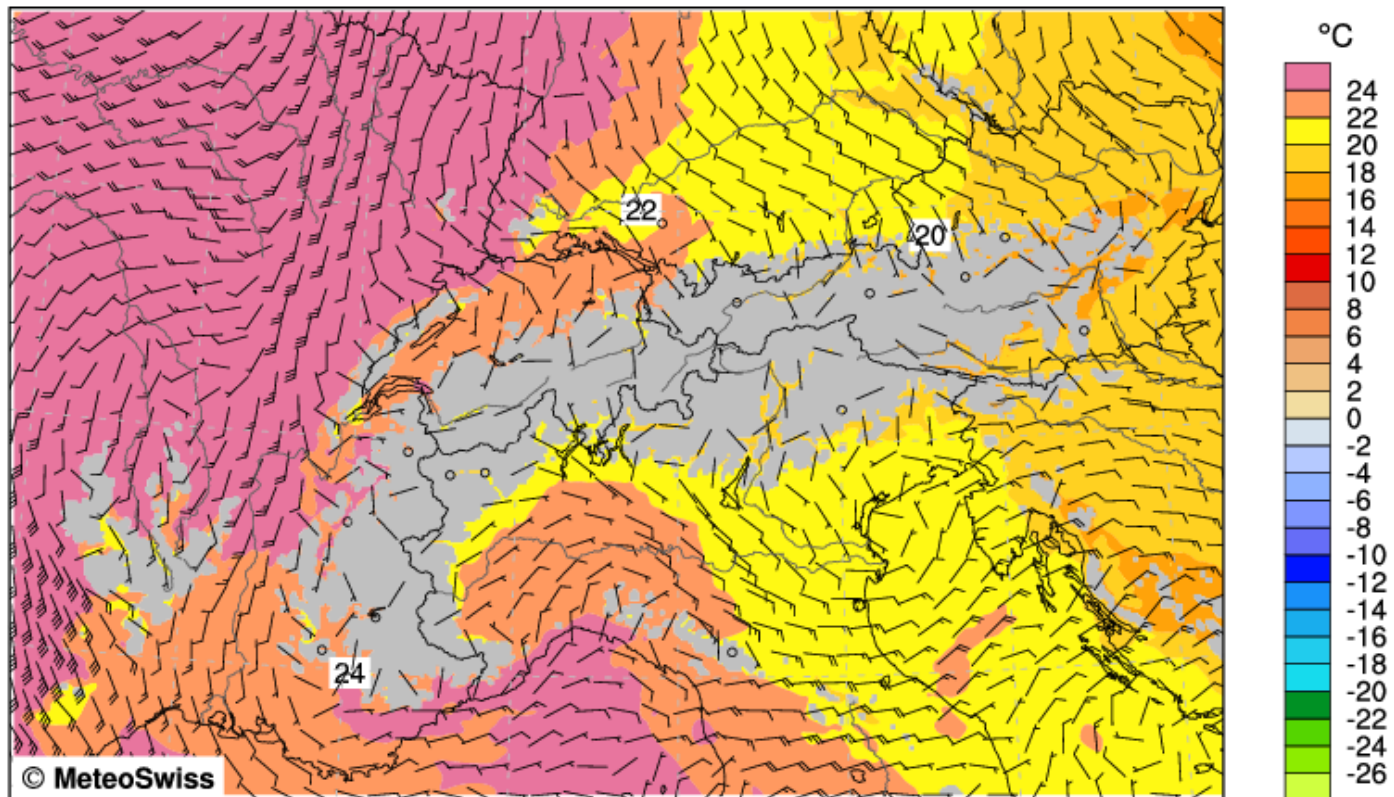
COSMO-2 ANALYSIS

Version: 925

Sun 19 Aug 2012 03UTC

Temperature and Wind Flags at 1km Height

19.08.2012 03UTC +00h



Air Temperature [deg C], level = 1000 m  
wind speed [knots], level = 1000 m

Mean: 22.8 Min/Max: 15.0/ 30.3 [deg C]  
Mean: 10.5 Max: 41.4 [knots]





# UV 1000m

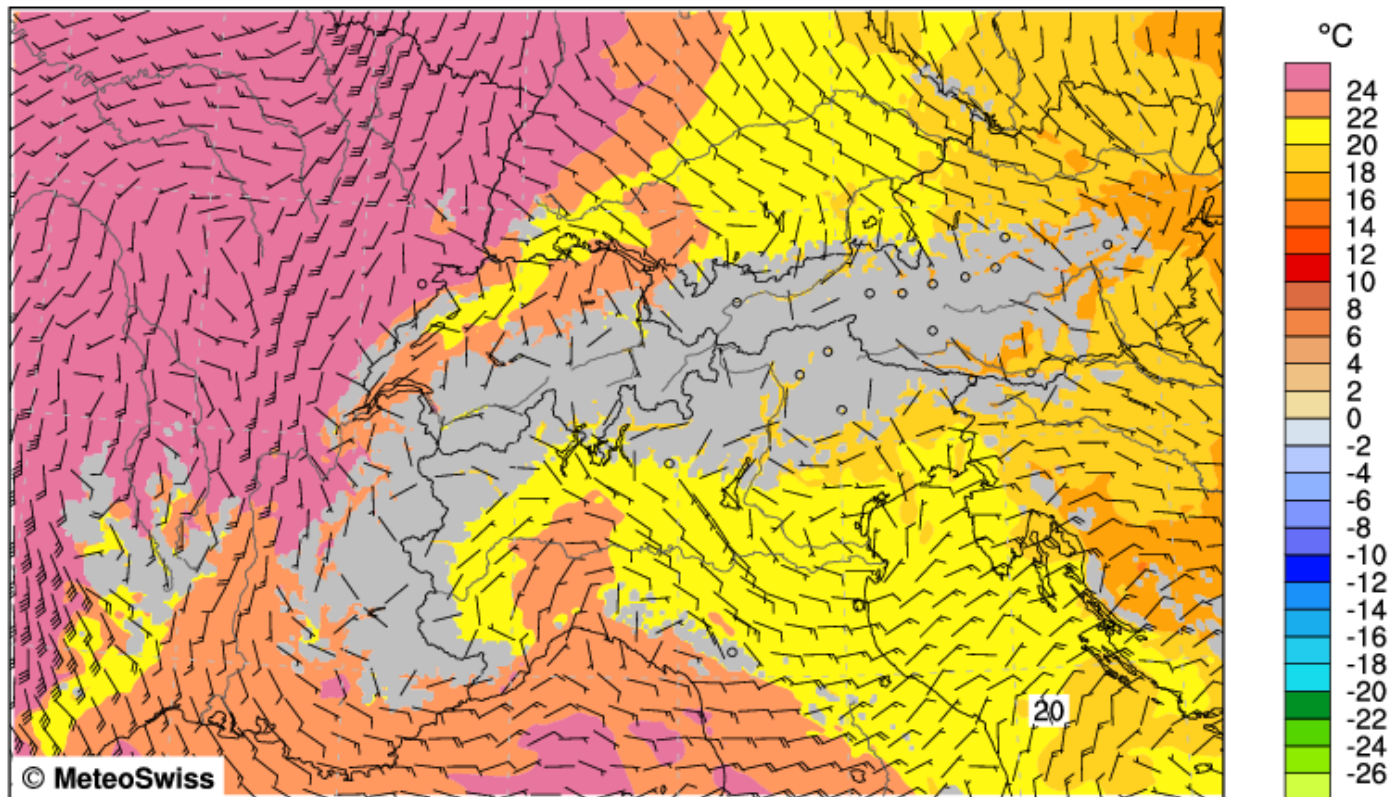
COSMO-2 FORECAST

Version: 925

Sun 19 Aug 2012 06UTC

Temperature and Wind Flags at 1km Height

19.08.2012 03UTC +03h



Air Temperature [deg C], level = 1000 m  
wind speed [knots], level = 1000 m

Mean: 22.4 Min/Max: 14.8/ 29.8 [deg C]  
Mean: 9.6 Max: 40.5 [knots]

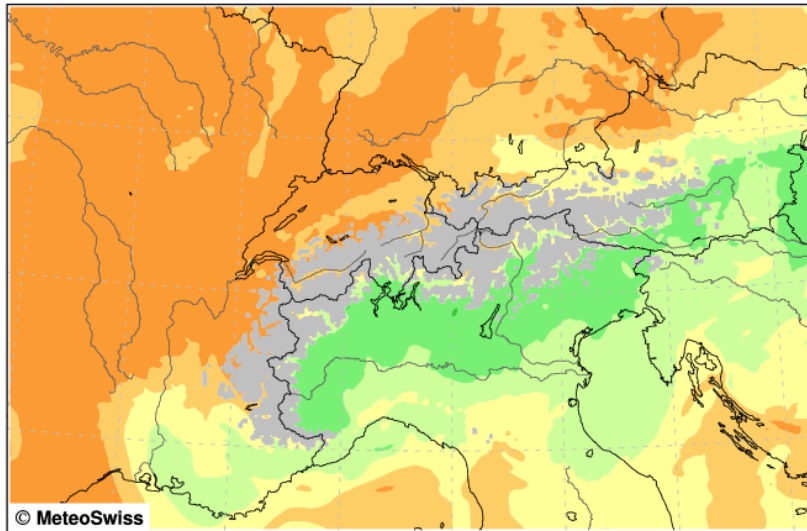


# Umidità @800 @850 hPa

COSMO-2 FORECAST  
850hPa Relative Humidity

Version: 925

Sun 19 Aug 2012 06UTC  
19.08.2012 03UTC +03h

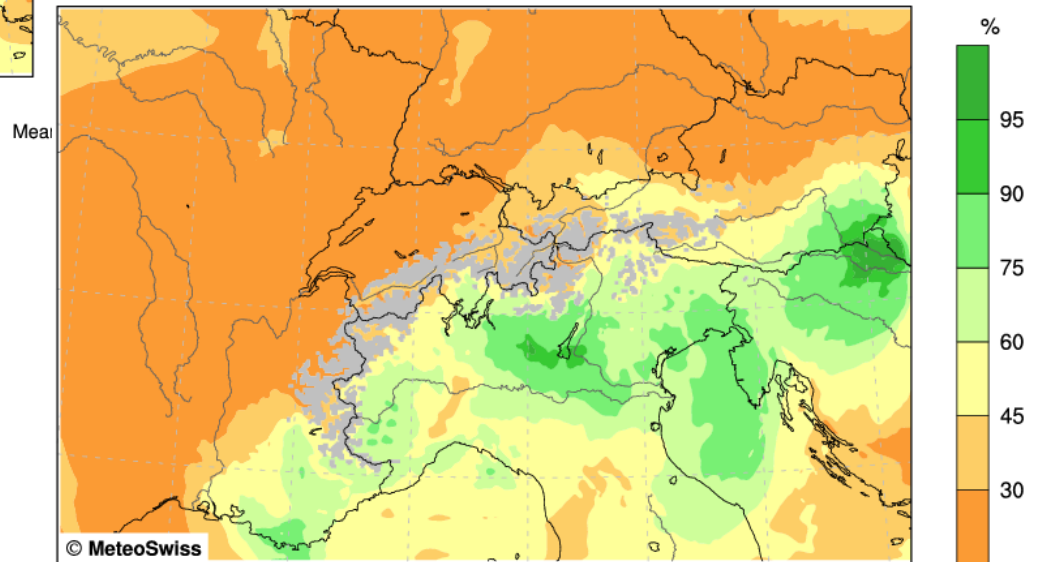


Relative Humidity [%], level = 850 hPa

COSMO-2 FORECAST  
800hPa Relative Humidity

Version: 925

Sun 19 Aug 2012 06UTC  
19.08.2012 03UTC +03h

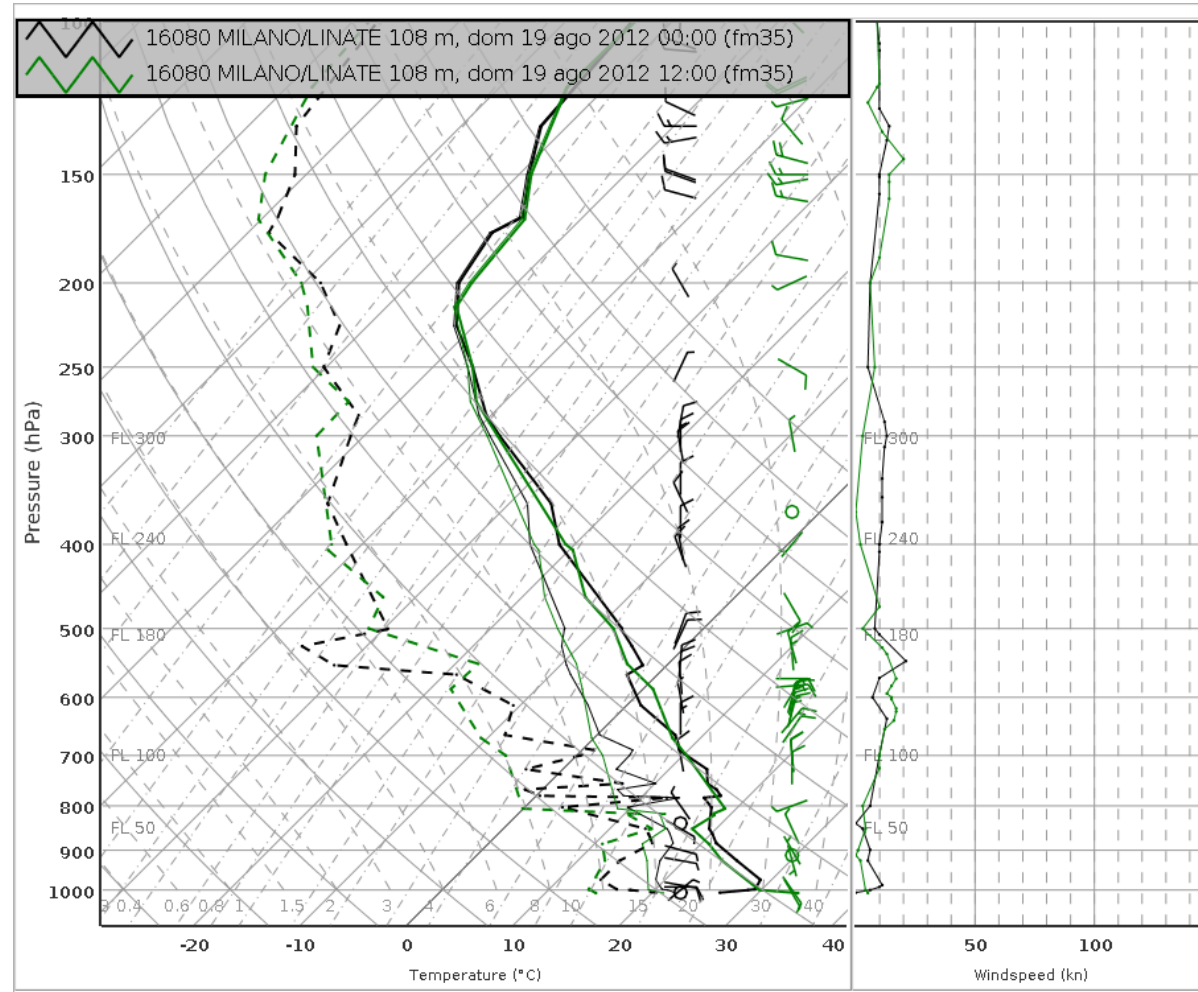


Relative Humidity [%], level = 800 hPa

Mean: 40.8 %

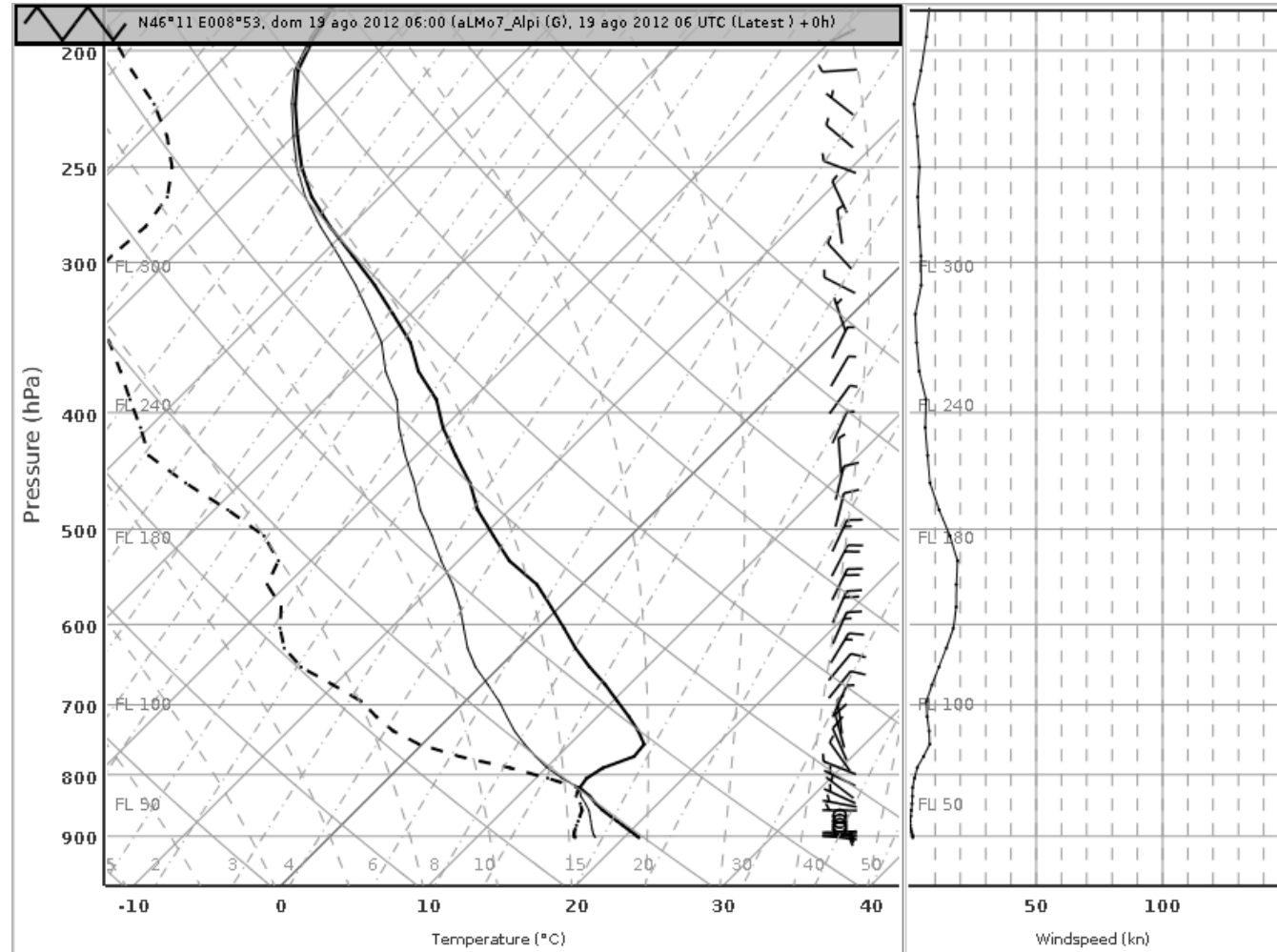


# Radiosondaggio





# Pseudosondaggio







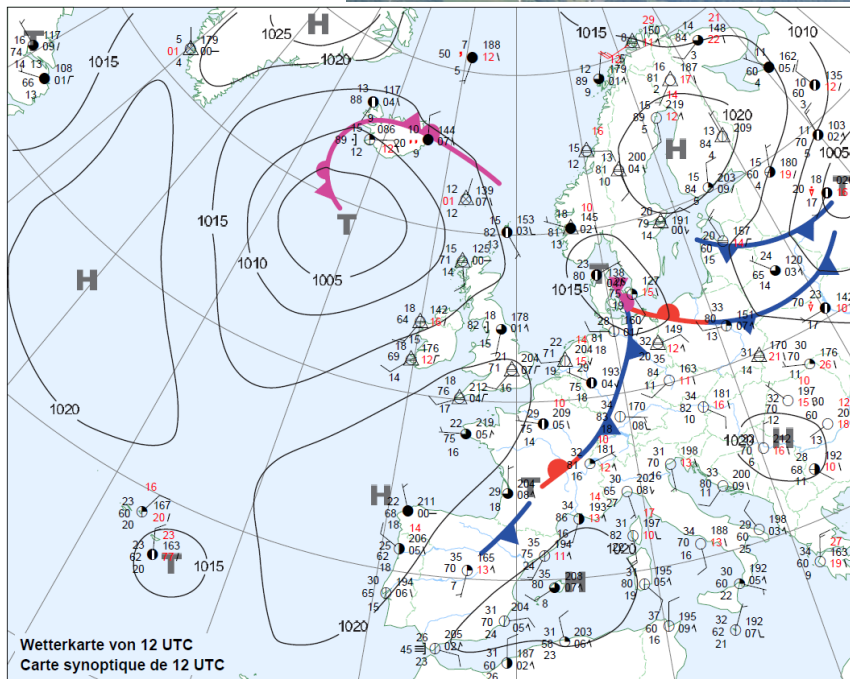
## **20 agosto: foschia, Alto Adige, Val Aurina**



Mauro Guerini



# 20 agosto: foschia, Alto Adige, Val Aurina



Mauro Guerini





# 24-25.8 violenti temporali, Bregaglia e Locarno

BREGAGLIA

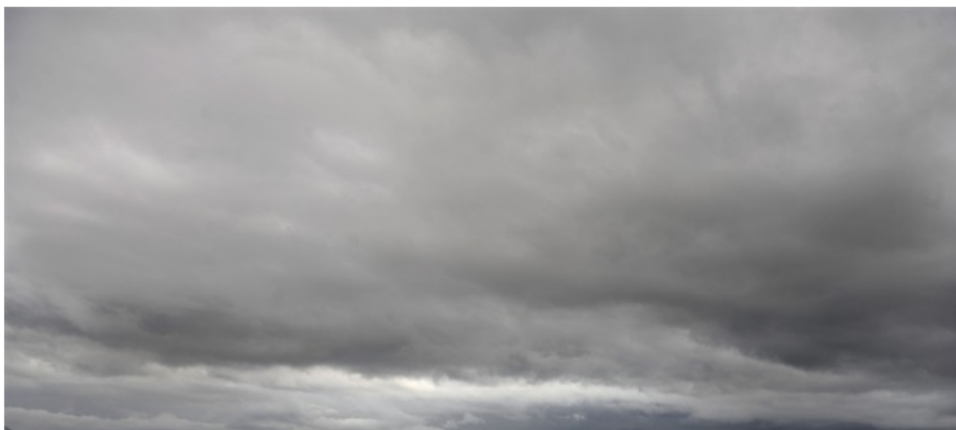
Campeggio evacuato a causa del maltempo

Articolo

Blog 790

Mappa

A- A+



Ti-Press (archivio)

BREGAGLIA - A causa delle forti precipitazioni di ieri sera il campeggio di Bondo nel comune di Bregaglia è stato evacuato. Fortunatamente nessuna persona ha riportato ferite.

Il fiume Bondasca in serata si è ingrossato portando a valle una grossa quantità di detriti. Per garantire la sicurezza agli occupanti del campeggio di Bondo e alcune case situate nelle vicinanze si è dovuto procedere all'evacuazione.

Le circa 40 persone sono state sistemate presso l'ospedale di Spino. Una parte del campeggio è stato allagato ed una casa leggermente danneggiata.

All'intervento, oltre alle autorità comunali ed agli organi forestali, hanno partecipato 28 militi del corpo pompieri.

Questa mattina l'allarme è rientrato e l'evacuazione è stata revocata. Al momento sono in corso le opere di sgombero del materiale sassoso e melmoso dal letto del fiume.





## 24-25.8 violenti temporali, Agno







# 24-25.8 violenti temporali, Verbania

## LA STAMPA.it VERBANO CUSIO C

EDIZIONI LOCALI: TORINO - CUNEO - AOSTA - ASTI - NOVARA - VCO - VERCELLI - BIELLA - ALESSANDRIA - SAVON

ATTUALITÀ | OPINIONI | ECONOMIA | SPORT | TORINO | CULTURA | SPETTACOLI | MOTORI | DONNA | CUCI  
HOME | POLITICA | ESTERI | CRONACHE | COSTUME | TECNOLOGIA | SCIENZA | AMBIENTE | LAZAMPA

Consiglia 9 Tweet 1 +1 3

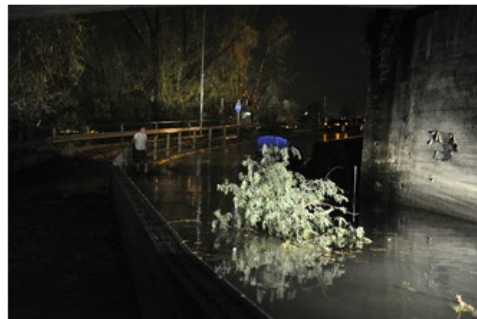
VERBANIA  
26.08.2012 -

### Verbania, è il giorno della conta dei danni

Due i feriti ricoverati per la violenta tromba d'aria

Sono due i feriti ricoverati in seguito della violenta tromba d'aria che ieri sera verso le 20 si è abbattuta sul Verbano, colpendo in particolare Verbania e Baveno. Al Dea del Castelli una persona è con un braccio fratturato ed un'altra, trasportata poi all'ospedale di Novara, ha due vertebre rotte.

Intanto prosegue la conta dei danni. con



Cronaca

La città messa in ginocchio da un tremendo acquazzone

### Verbania, nubifragio provoca danni e feriti

Bufera su una gara di canoa in Sardegna

Verbania - Il territorio di Verbania è stato colpito da un tremendo nubifragio, che ha provocato numerosi danni e il ferimento di due persone. Ci sono allagamenti (in particolare nella frazione Int cadute di alberi, scoperchiature di tetti, blackou due donne sono rimaste ferite. Il Comune attivato la sala operativa della protezione civile e raccomandato alla popolazione di non uscire di

10:54 | Posted by Rino Perla

### Verbania messa in ginocchio da un tremendo diluvio: danni e feriti



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minuto su  
la Politica  
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LA NEWS DEL GIORNO | CANALE: Economia 10:32 - Roma, 27 ago 2012

T

### Tromba d'aria a Verbania, si contano i danni. Due feriti

Due persone con fratture non gravi, ricoverate ieri subito dopo il nubifragio

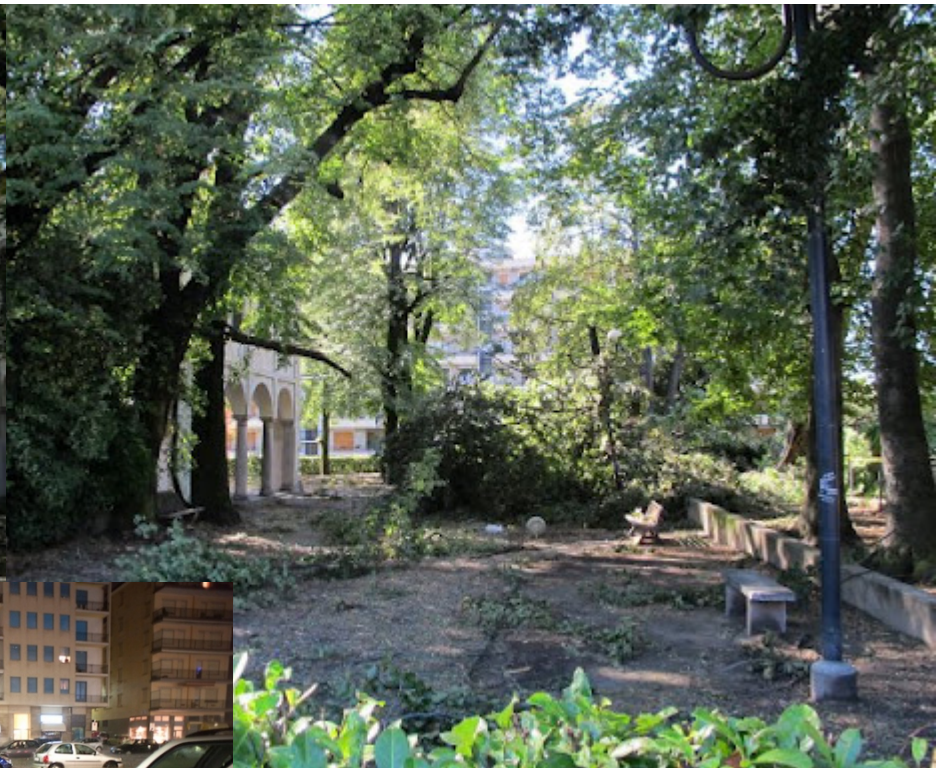


Verbania è stata colpita da un tremendo diluvio, che ha provocato numerosi danni e il ferimento di due persone. Tra gli allagamenti, cadute di alberi, scoperchiature di tetti











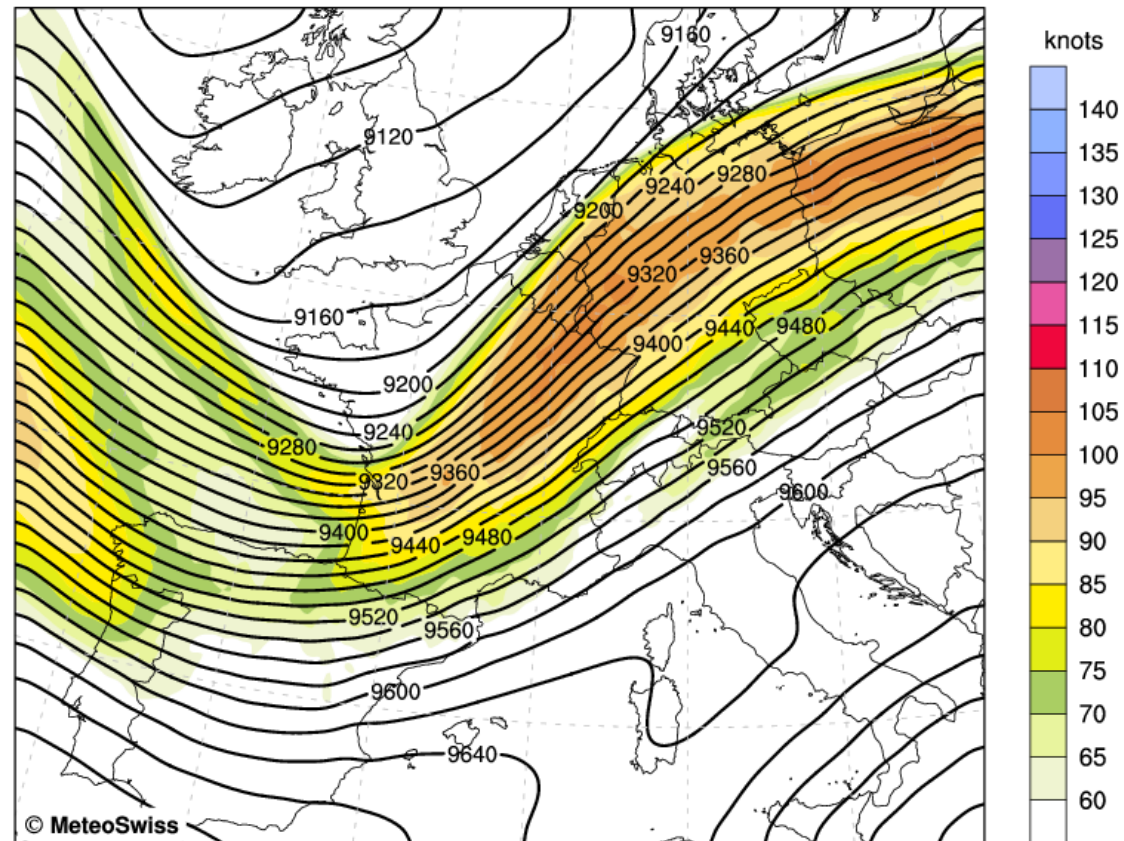


# UV@300hPa

COSMO-7 FORECAST  
300hPa Windspeed and Geopotential

Version: 925

Sat 25 Aug 2012 15UTC  
25.08.2012 00UTC +15h



wind speed [knots], level = 300 hPa  
Geopotential [gpm], level = 300 hPa

Mean: 51.2 Max: 105.7 [knots]  
Mean: 9465.2 gpm



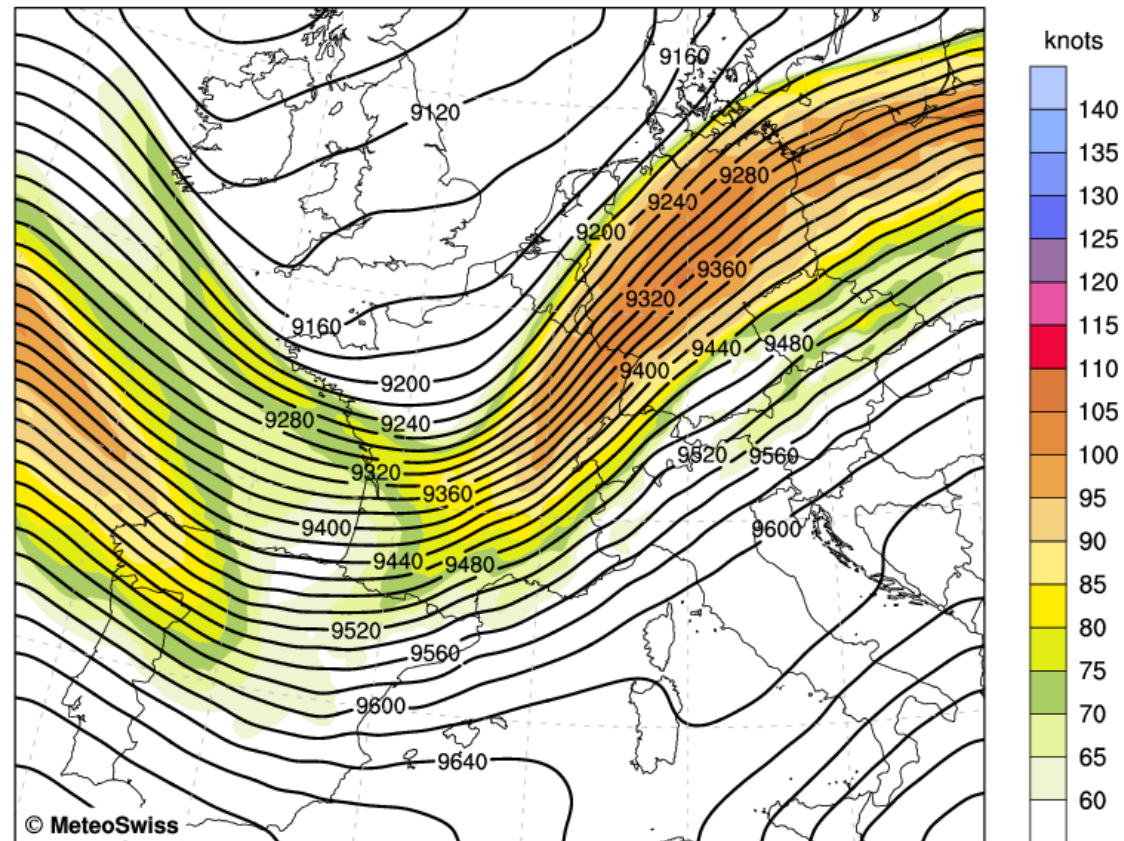


# UV@300hPa

COSMO-7 FORECAST  
300hPa Windspeed and Geopotential

Version: 925

Sat 25 Aug 2012 18UTC  
25.08.2012 00UTC +18h



wind speed [knots], level = 300 hPa  
Geopotential [gpm], level = 300 hPa

Mean: 50.8 Max: 106.0 [knots]  
Mean: 9457.0 gpm



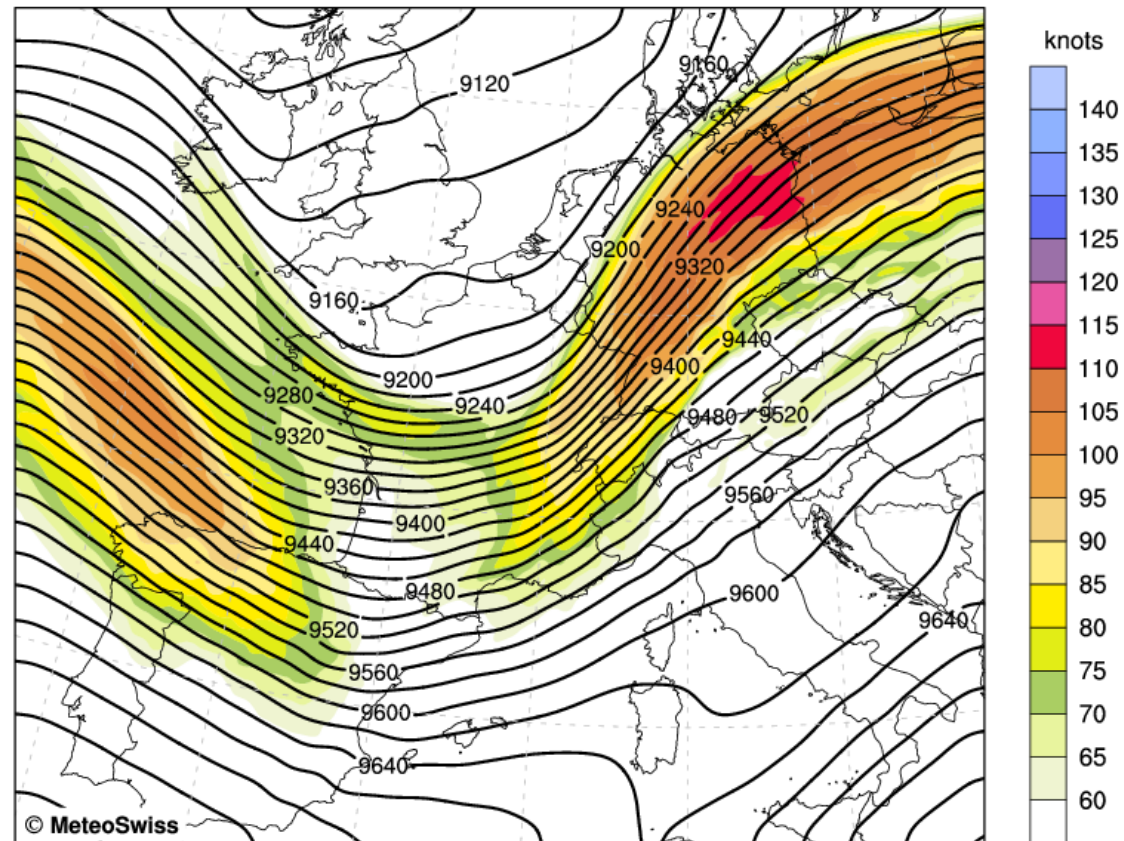
# UV@300hPa

COSMO-7 FORECAST  
300hPa Windspeed and Geopotential

Version: 925

Sat 25 Aug 2012 21UTC

25.08.2012 00UTC +21h



wind speed [knots], level = 300 hPa  
Geopotential [gpm], level = 300 hPa

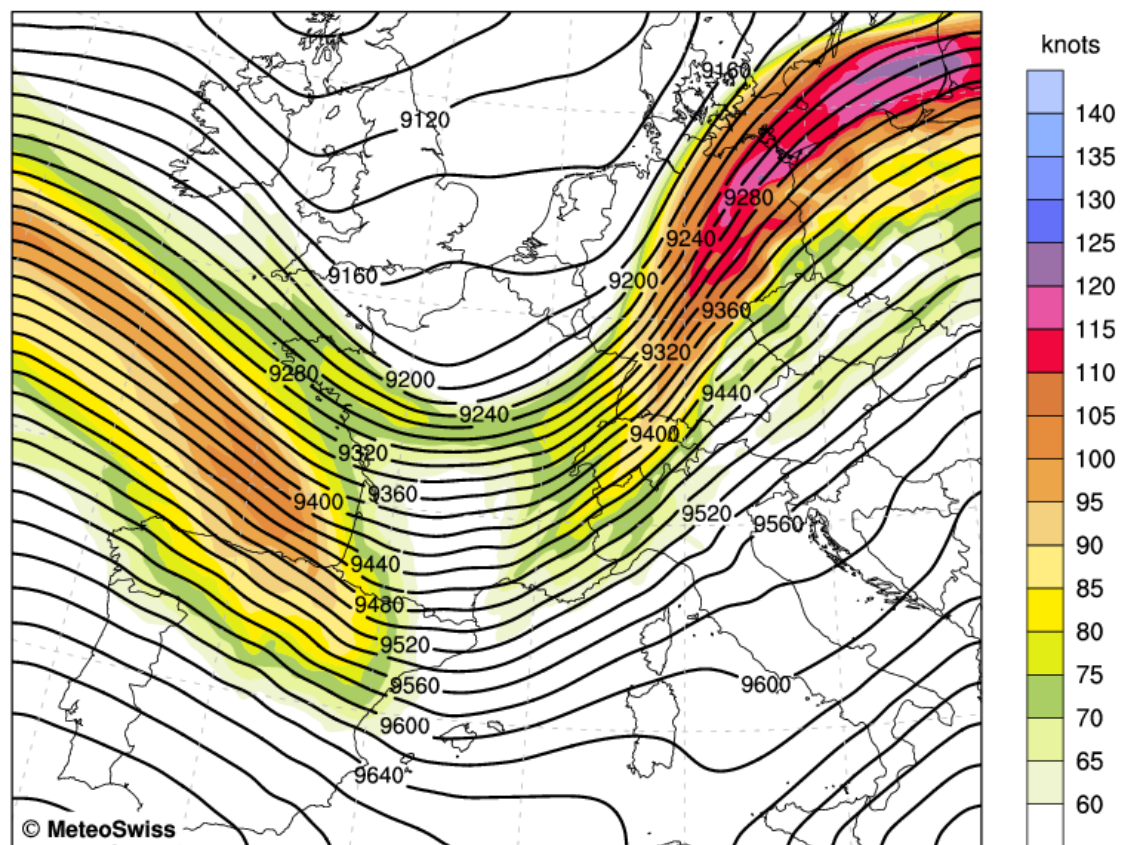
Mean: 50.9 Max: 113.8 [knots]  
Mean: 9450.3 gpm



COSMO-7 FORECAST  
300hPa Windspeed and Geopotential

Version: 925

Sun 26 Aug 2012 00UTC  
25.08.2012 00UTC +24h



wind speed [knots], level = 300 hPa  
Geopotential [gpm], level = 300 hPa

Mean: 52.1 Max: 124.8 [knots]  
Mean: 9433.3 gpm





# Z@50hPa T@500hPa

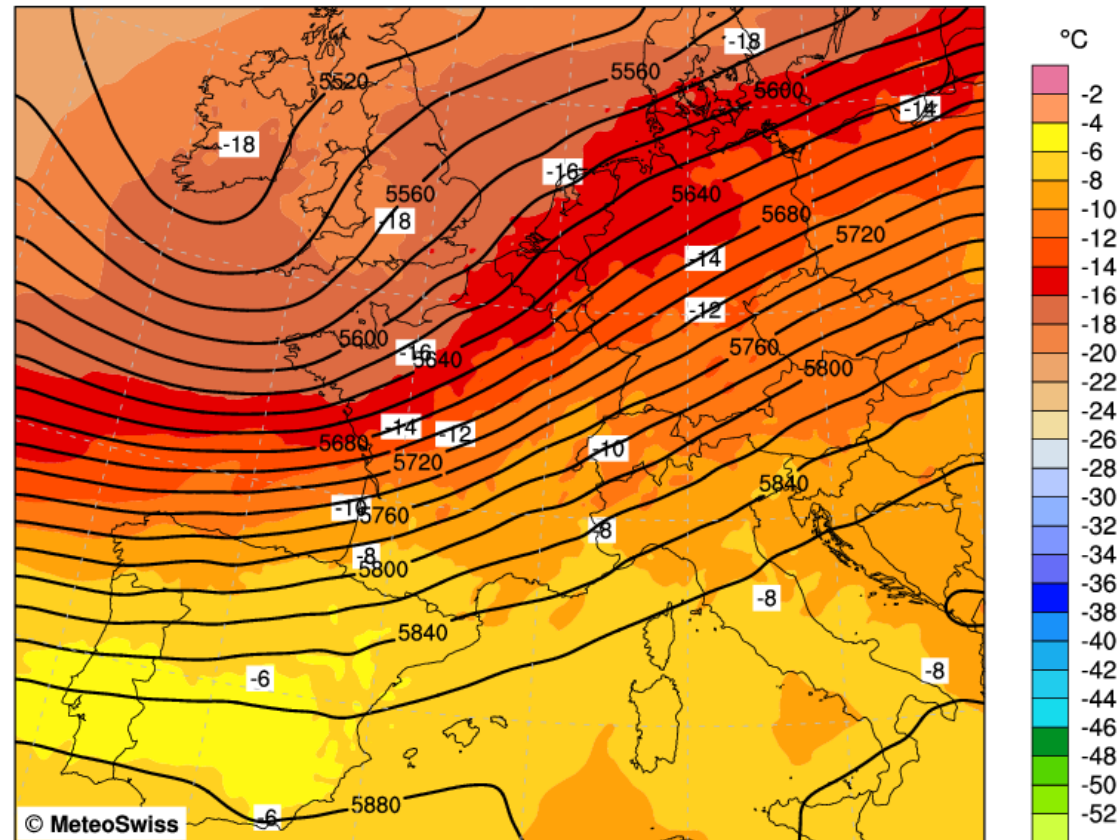
COSMO-7 FORECAST

Version: 925

Fri 24 Aug 2012 18UTC

500hPa Geopotential Height and Temperature

24.08.2012 12UTC +06h



Geopotential [gpm], level = 500 hPa  
Air Temperature [deg C], level = 500 hPa

Mean: 5766.6 gpm  
Mean: -10.8 deg C



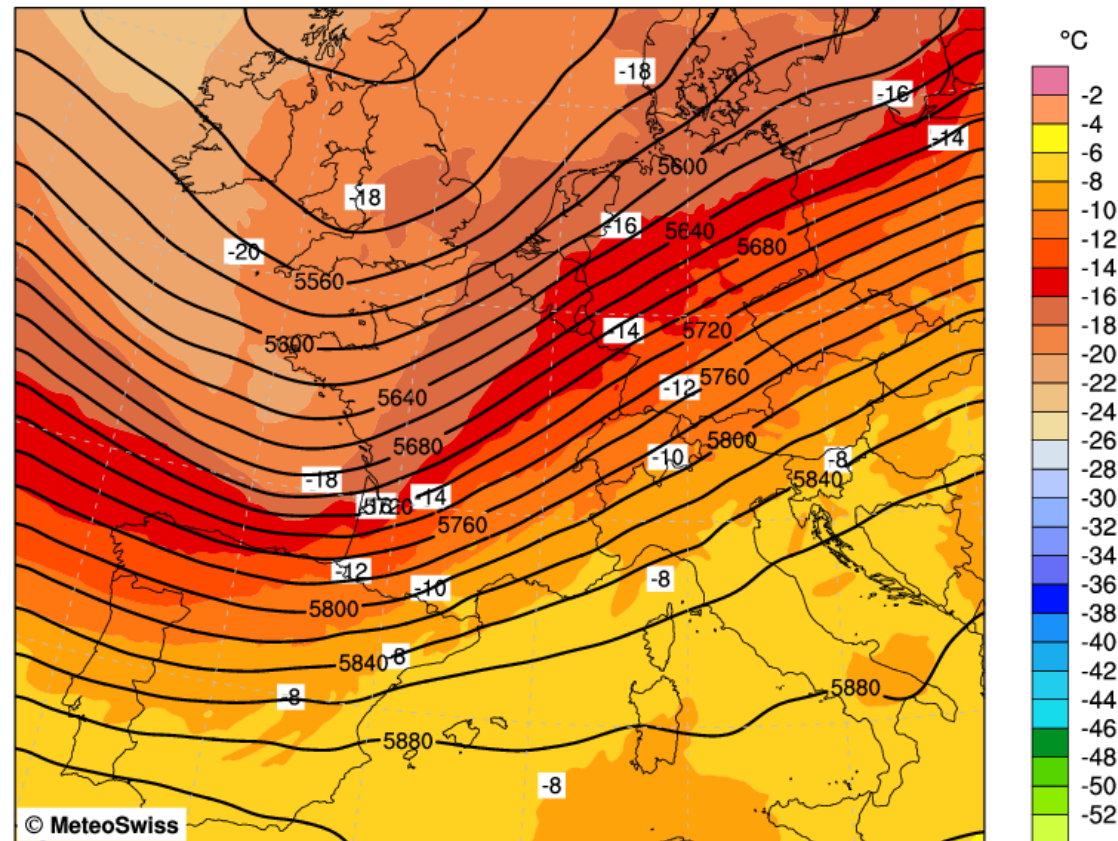
# Z@50hPa T@500hPa

COSMO-7 FORECAST  
500hPa Geopotential Height and Temperature

Version: 925

Sat 25 Aug 2012 12UTC

25.08.2012 00UTC +12h



Geopotential [gpm], level = 500 hPa  
Air Temperature [deg C], level = 500 hPa

Mean: 5759.5 gpm  
Mean: -11.3 deg C



# Z@50hPa T@500hPa

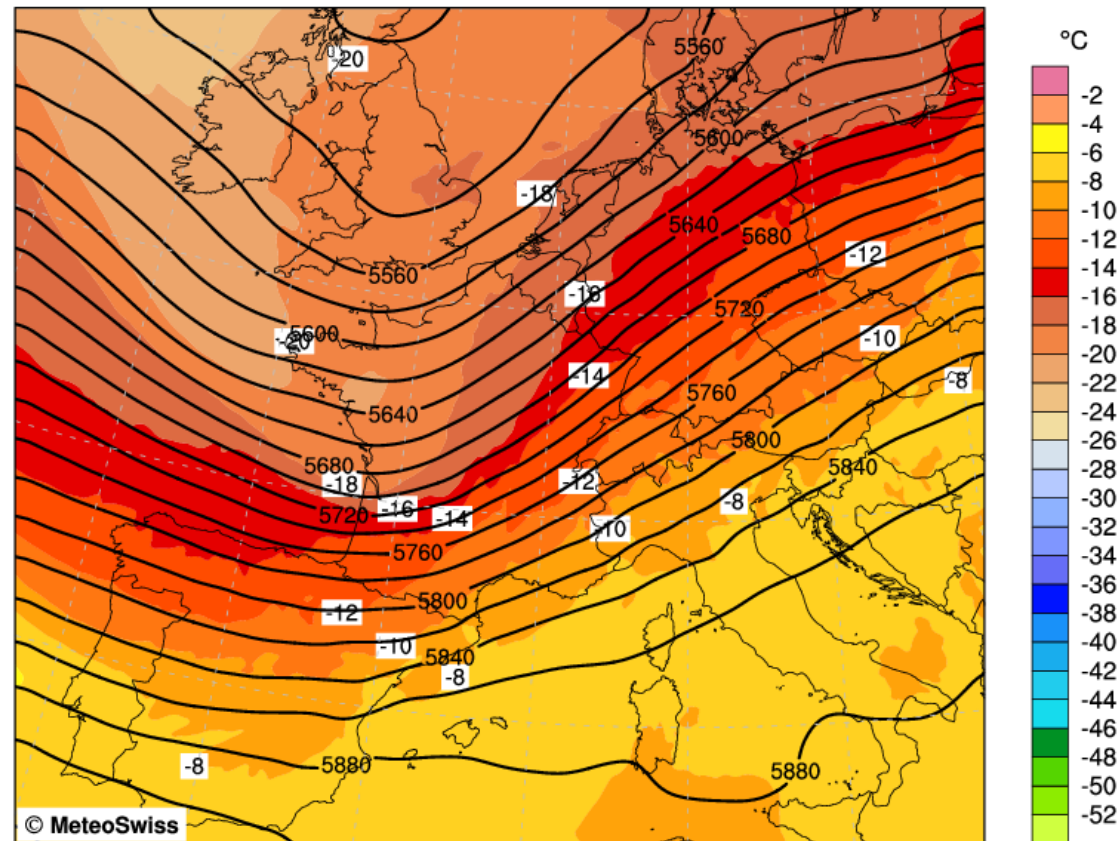
COSMO-7 FORECAST

Version: 925

Sat 25 Aug 2012 15UTC

500hPa Geopotential Height and Temperature

25.08.2012 00UTC +15h



Geopotential [gpm], level = 500 hPa

Air Temperature [deg C], level = 500 hPa

Mean: 5755.8 gpm

Mean: -11.5 deg C





# Z@50hPa T@500hPa

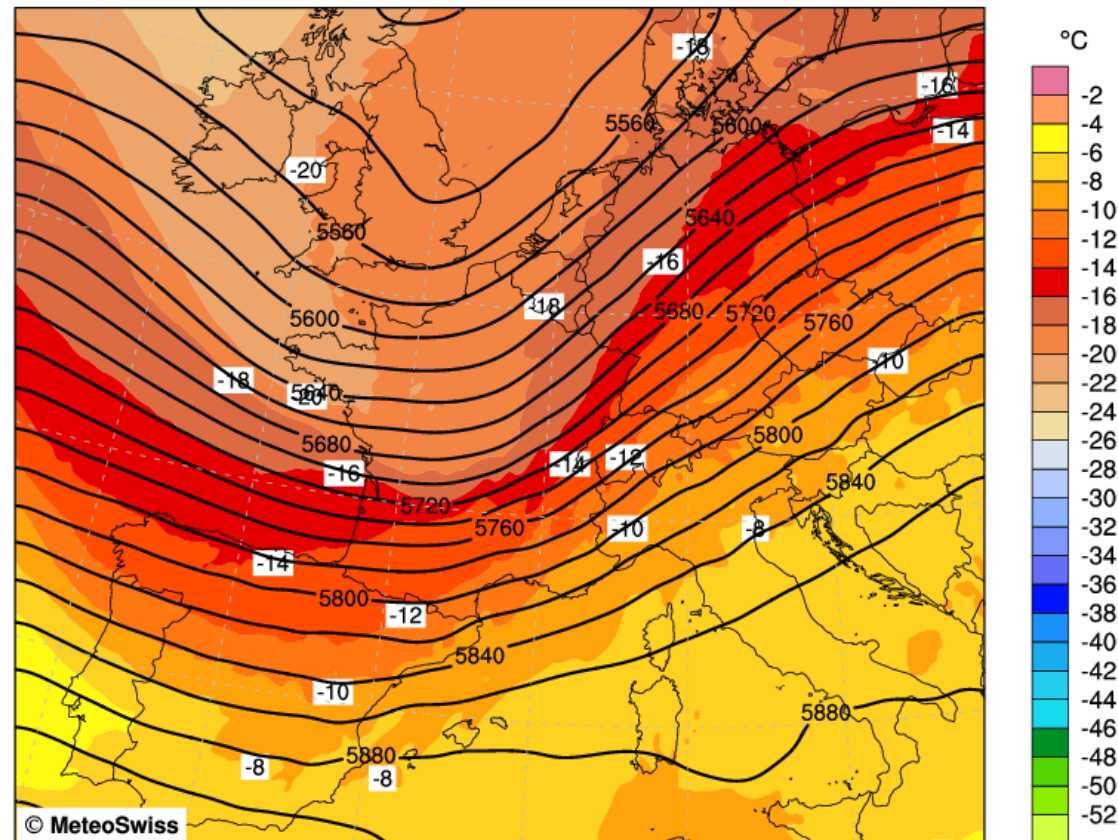
COSMO-7 FORECAST

Version: 925

Sat 25 Aug 2012 18UTC

500hPa Geopotential Height and Temperature

25.08.2012 00UTC +18h



Geopotential [gpm], level = 500 hPa  
Air Temperature [deg C], level = 500 hPa

Mean: 5753.7 gpm  
Mean: -11.9 deg C



# Z@50hPa T@500hPa

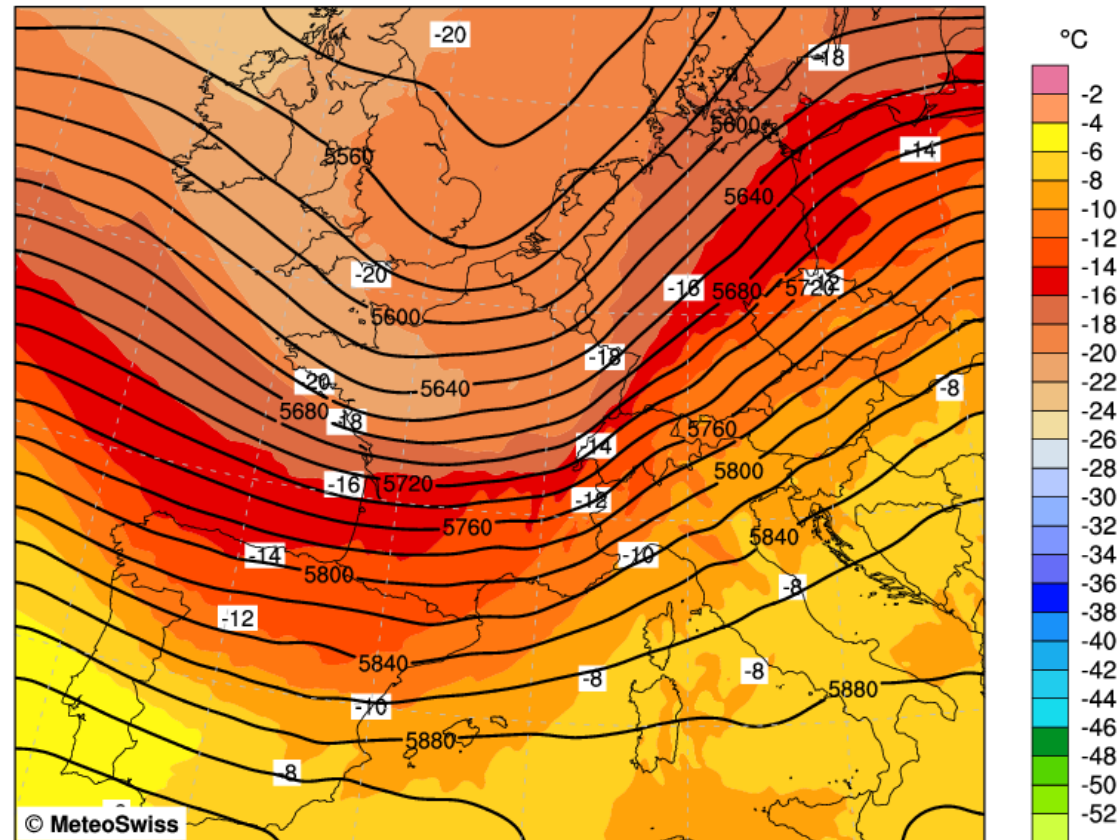
COSMO-7 FORECAST

Version: 925

Sat 25 Aug 2012 21UTC

500hPa Geopotential Height and Temperature

25.08.2012 00UTC +21h



Geopotential [gpm], level = 500 hPa

Air Temperature [deg C], level = 500 hPa

Mean: 5753.0 gpm

Mean: -12.3 deg C



# Z@50hPa T@500hPa

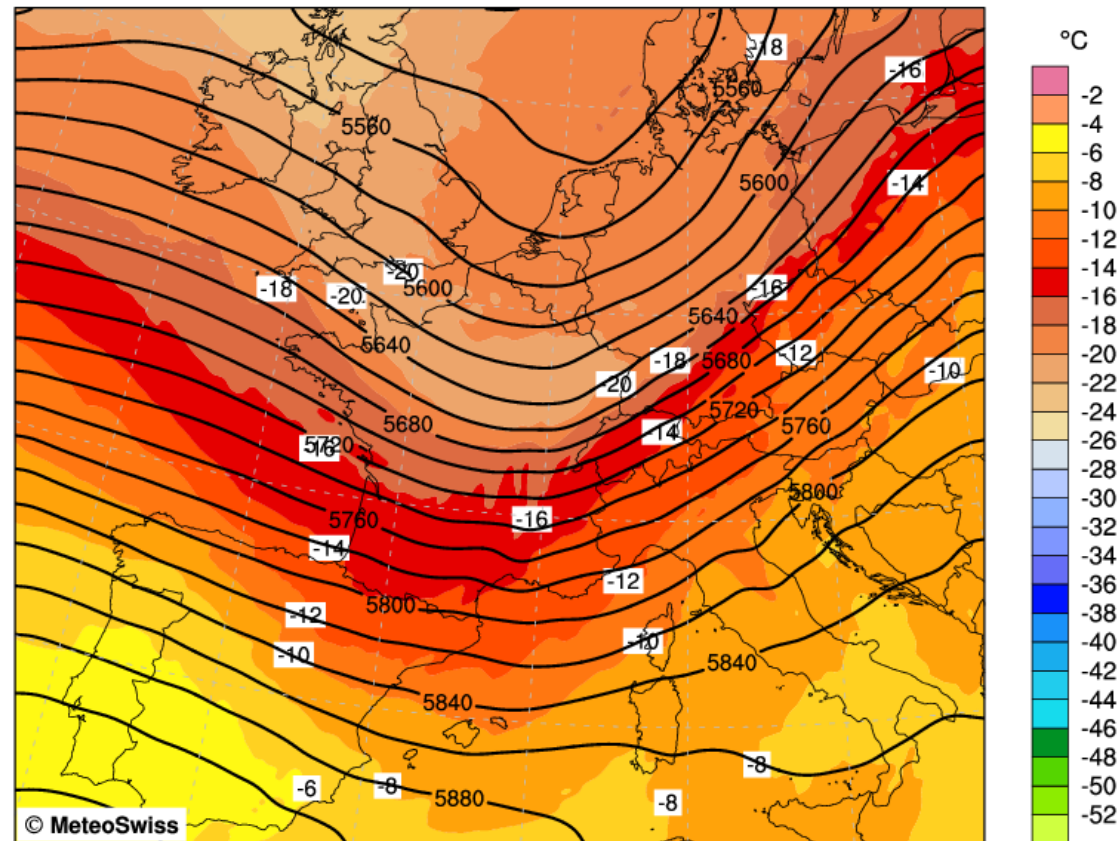
COSMO-7 FORECAST

Version: 925

Sun 26 Aug 2012 03UTC

500hPa Geopotential Height and Temperature

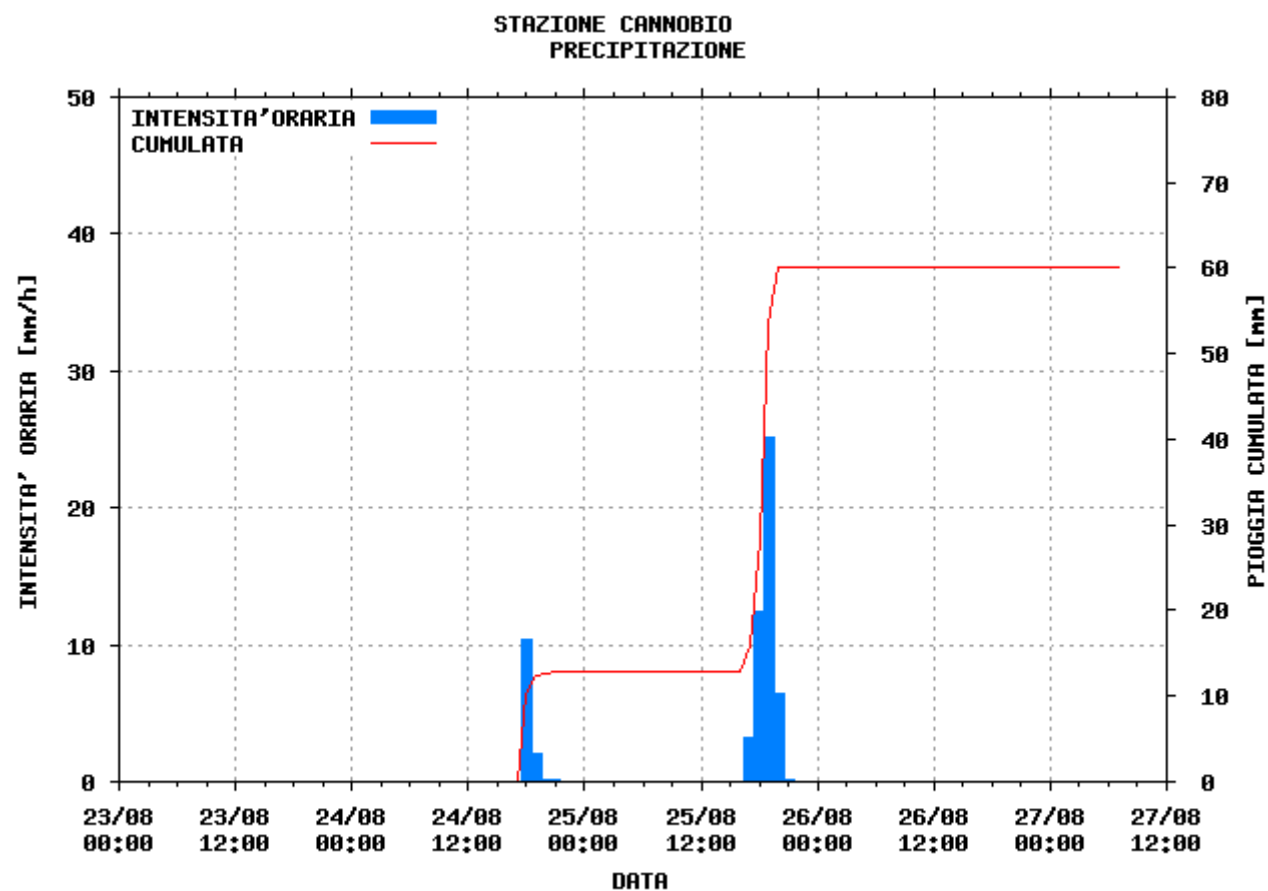
25.08.2012 00UTC +27h



Geopotential [gpm], level = 500 hPa  
Air Temperature [deg C], level = 500 hPa

Mean: 5729.0 gpm  
Mean: -13.4 deg C



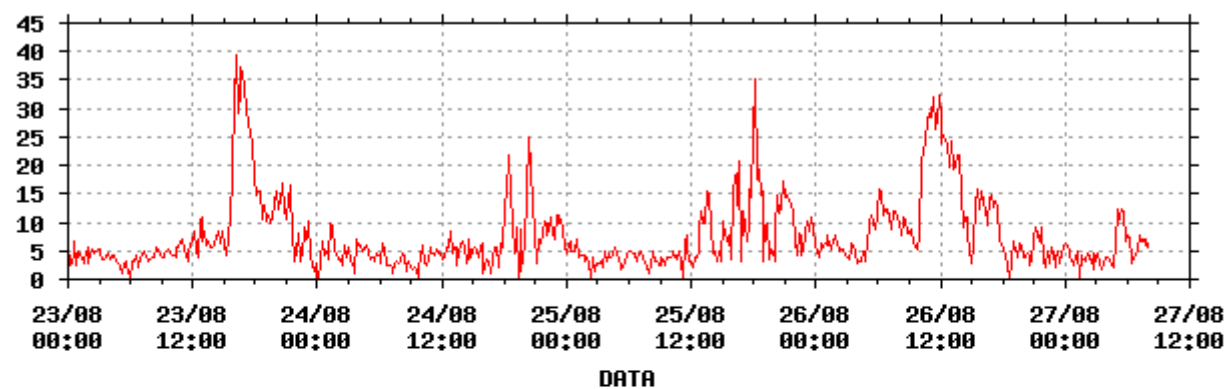


aggiornamento: 27.08.2012 08:44 UTC

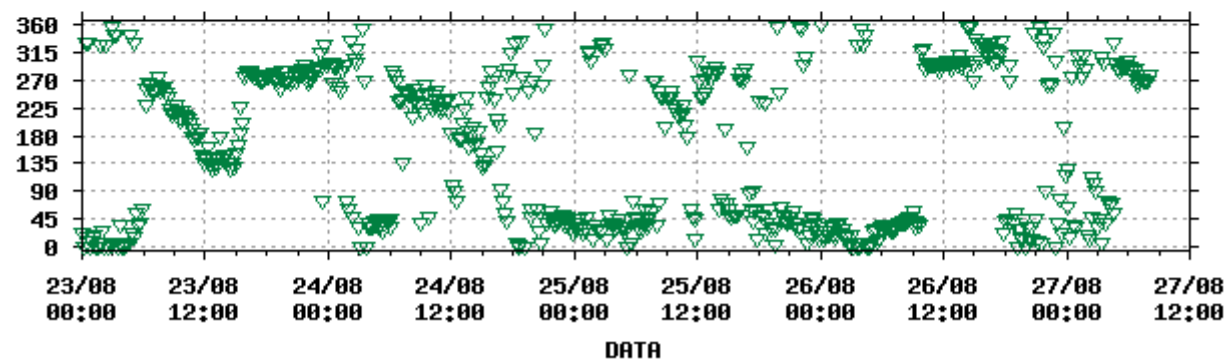
copyright (c) 2006 ARPA Piemonte



STAZIONE PALLANZA  
VELOCITA' DEL VENTO [km/h]



DIREZIONE DEL VENTO [gradi]



aggiornamento: 27.08.2012 08:50 UTC

copyright (c) 2006 ARPA Piemonte



# Temperatura potenziale equivalente

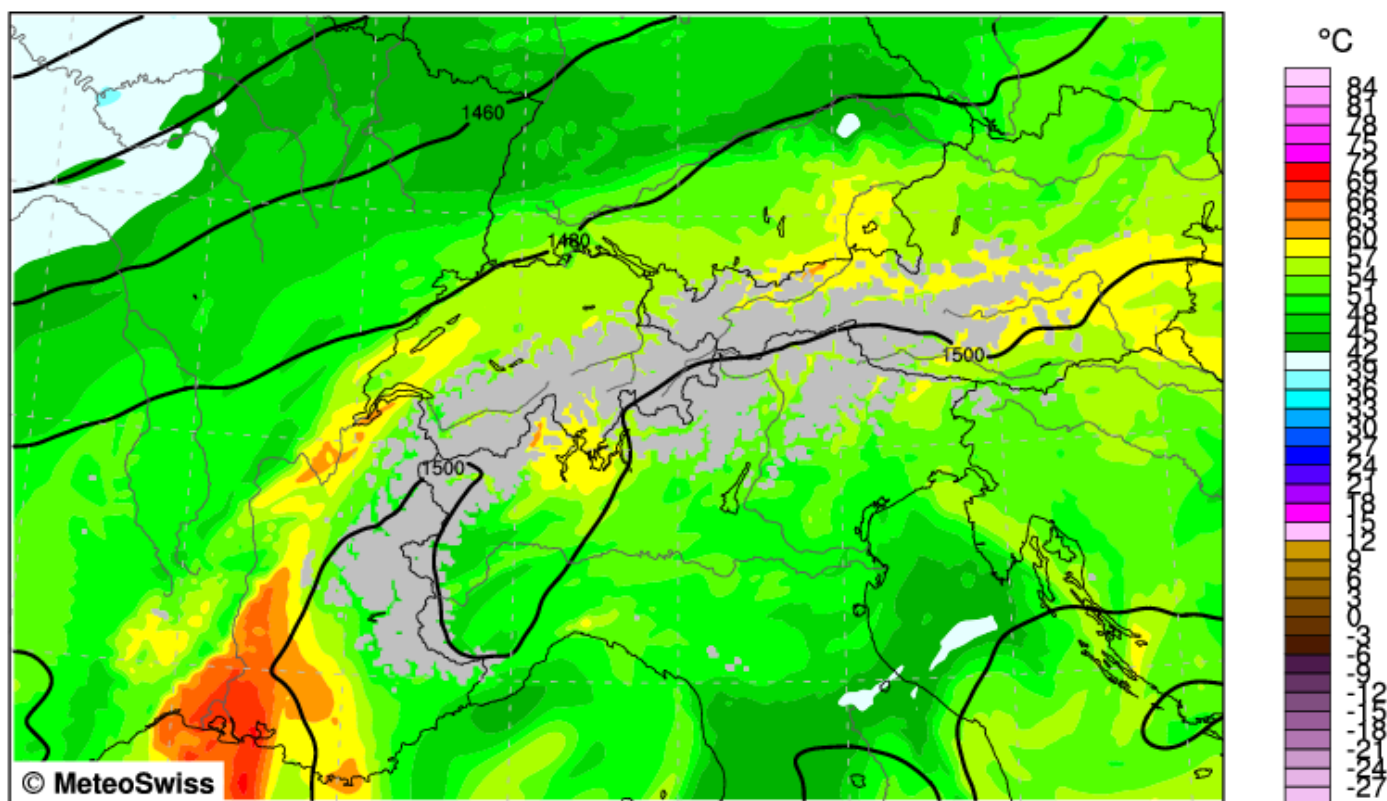
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 03UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +03h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1492.7 gpm

Mean: 50.7 °C





# Temperatura potenziale equivalente

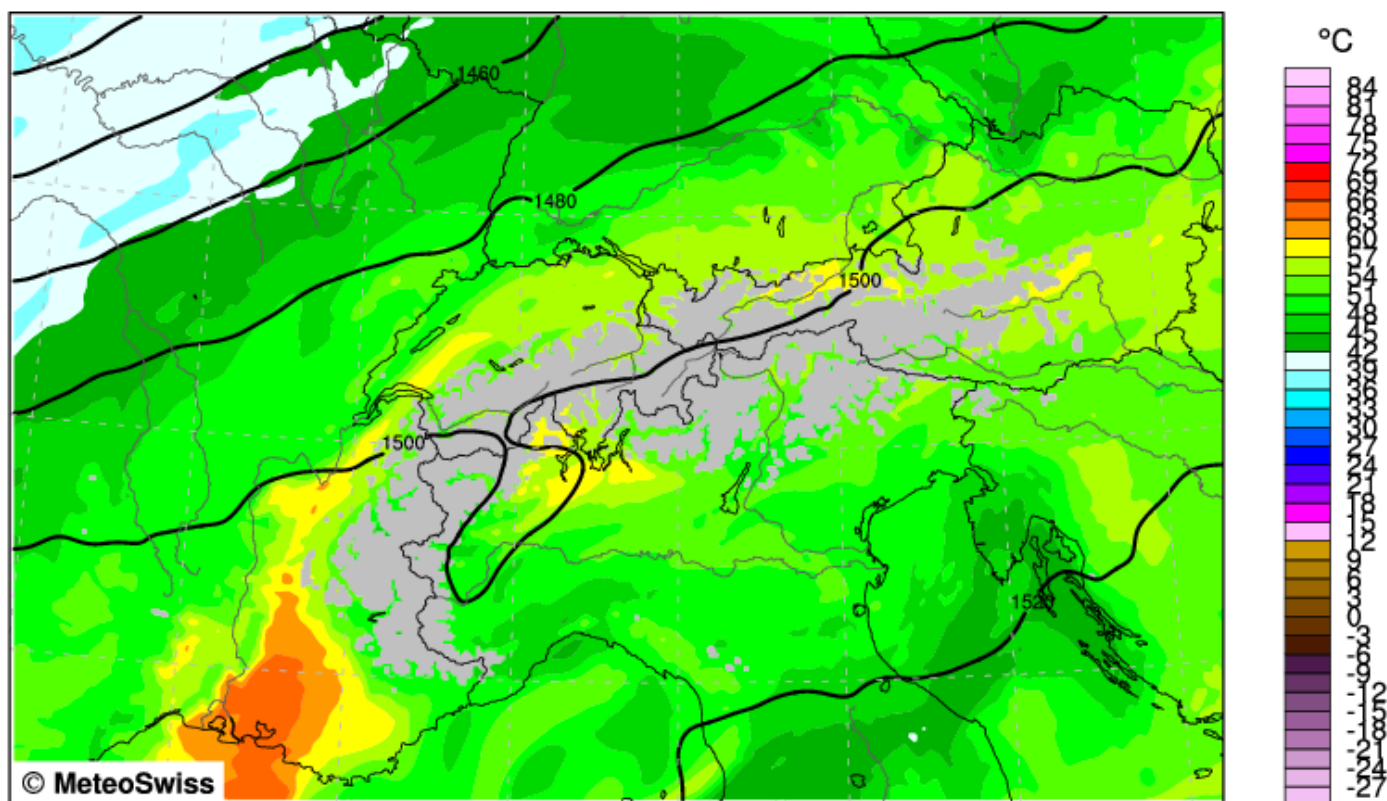
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 06UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +06h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1497.3 gpm

Mean: 49.7 °C



# Temperatura potenziale equivalente

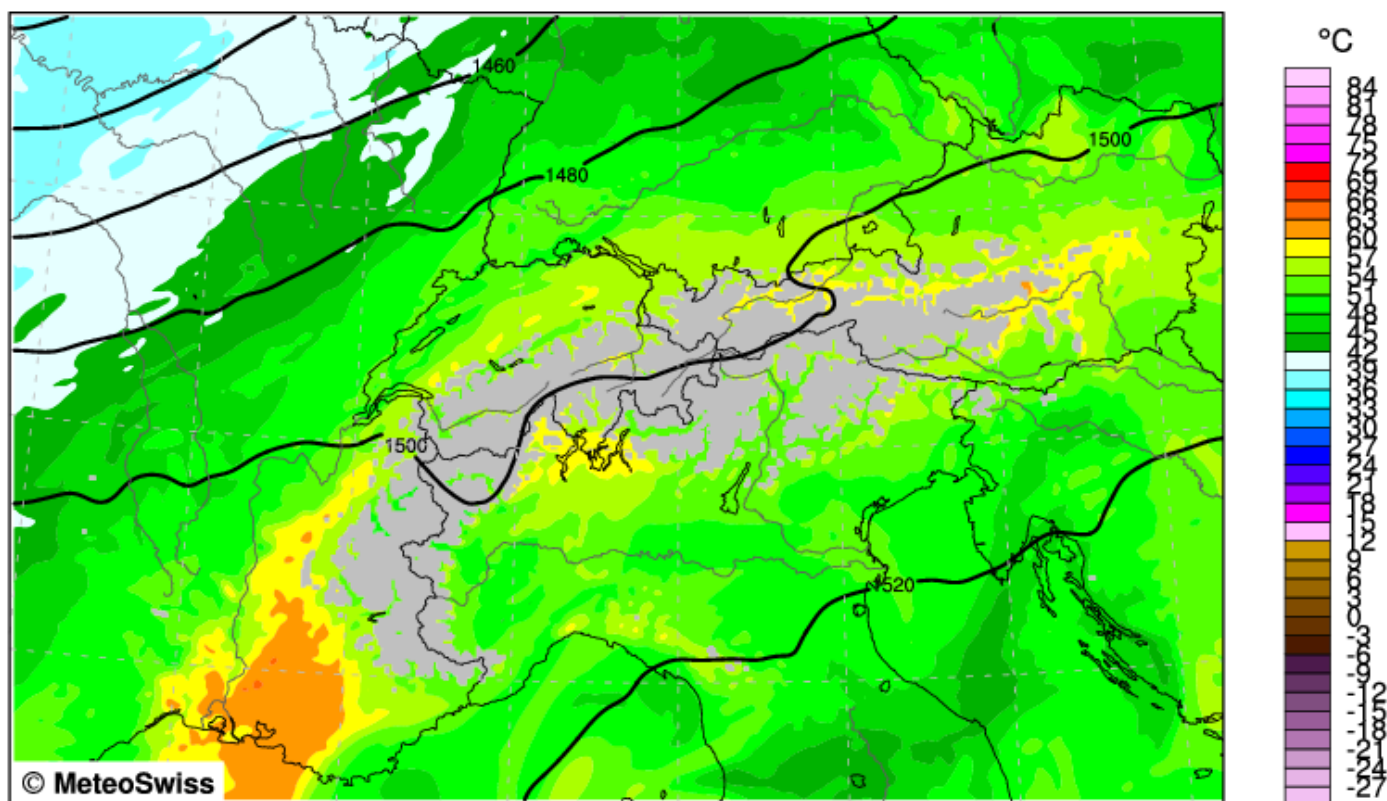
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 09UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +09h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1500.3 gpm

Mean: 49.7 °C



# Temperatura potenziale equivalente

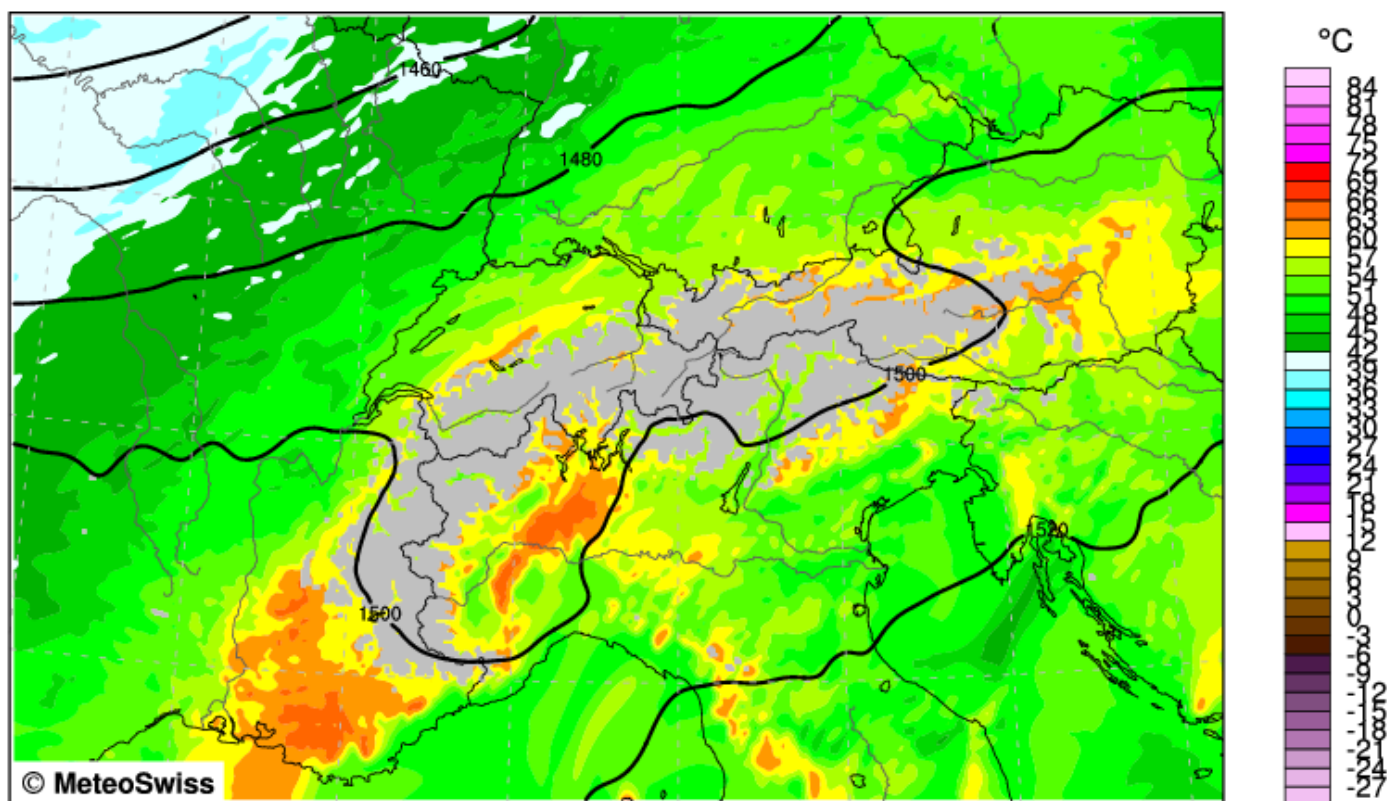
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 12UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +12h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1499.9 gpm

Mean: 51.2 °C





# Temperatura potenziale equivalente

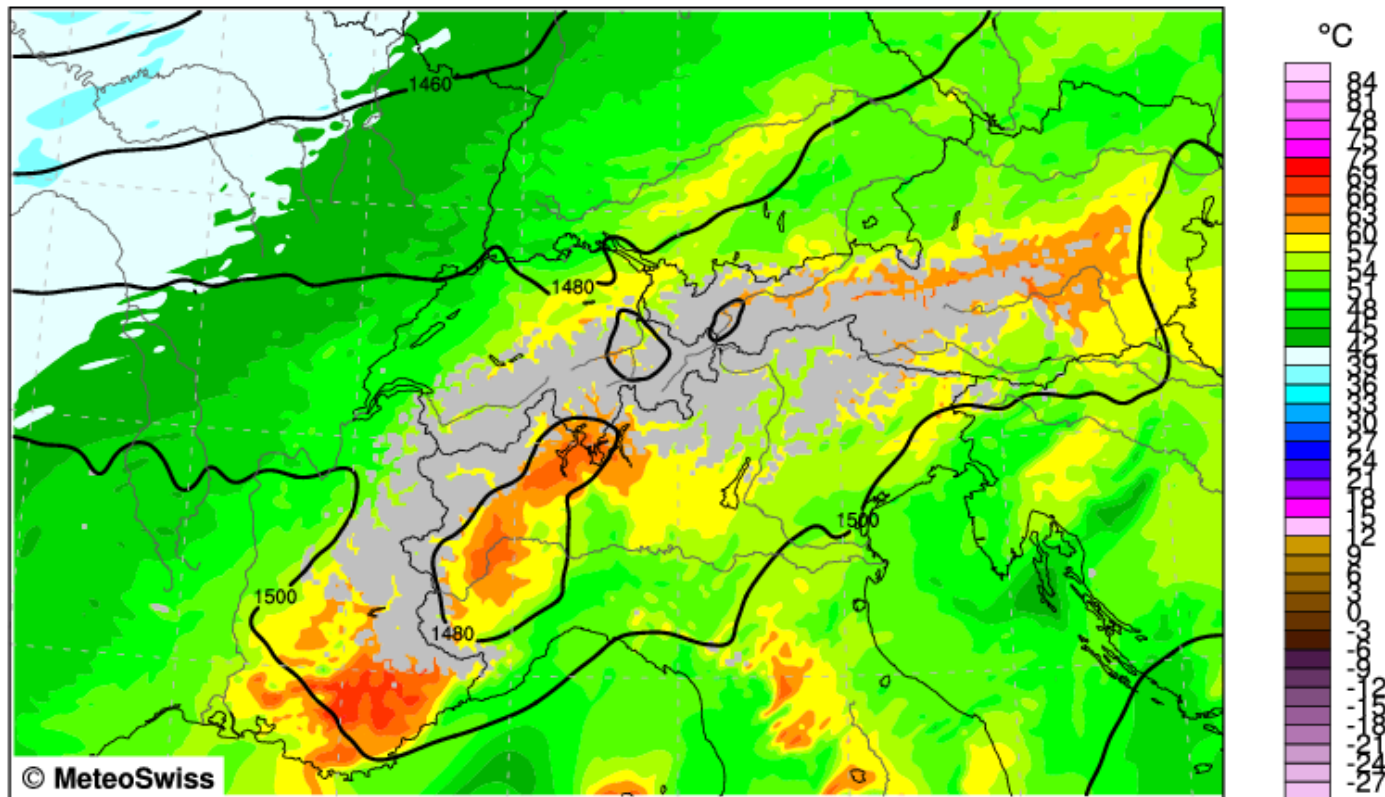
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 15UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +15h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1491.9 gpm

Mean: 51.2 °C



# Temperatura potenziale equivalente

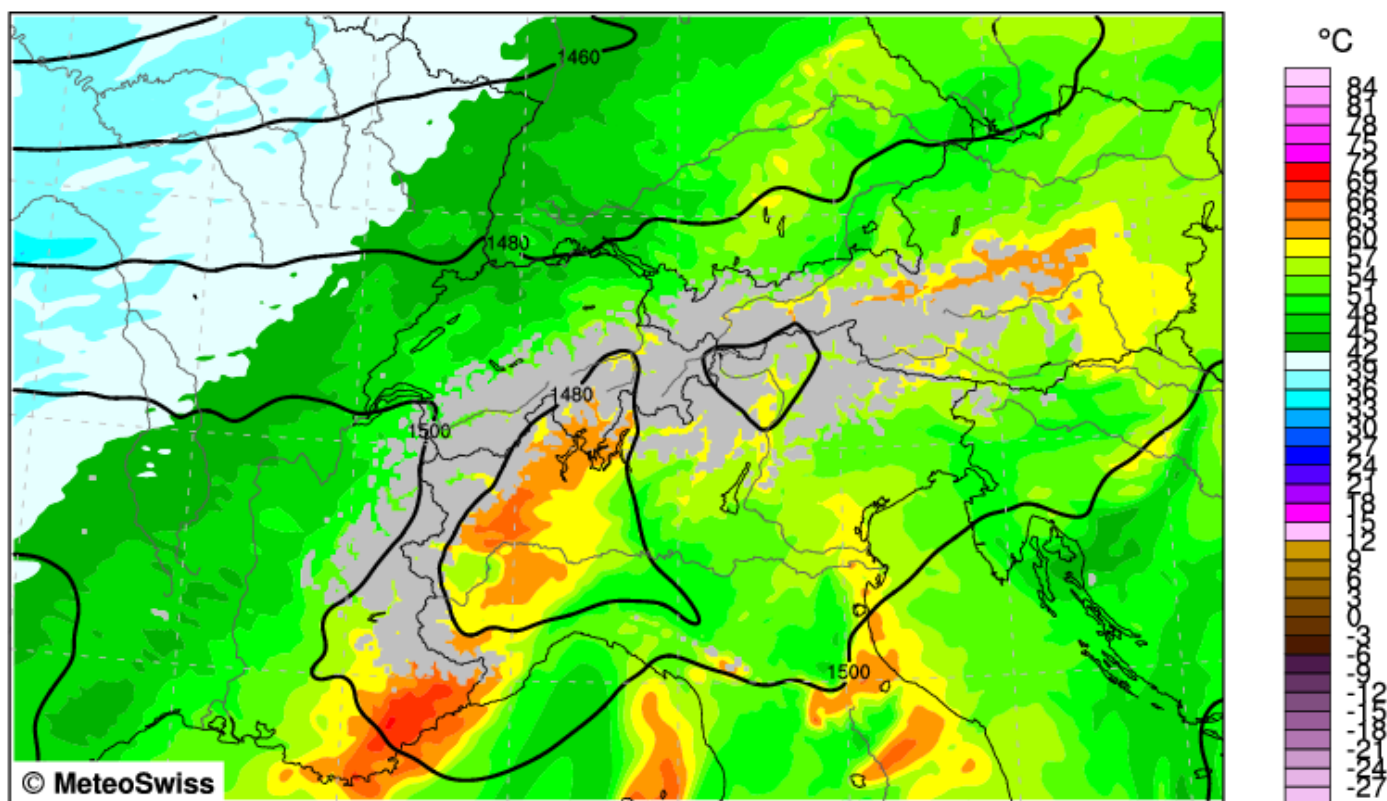
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 18UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +18h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1490.4 gpm

Mean: 49.7 °C



# Temperatura potenziale equivalente

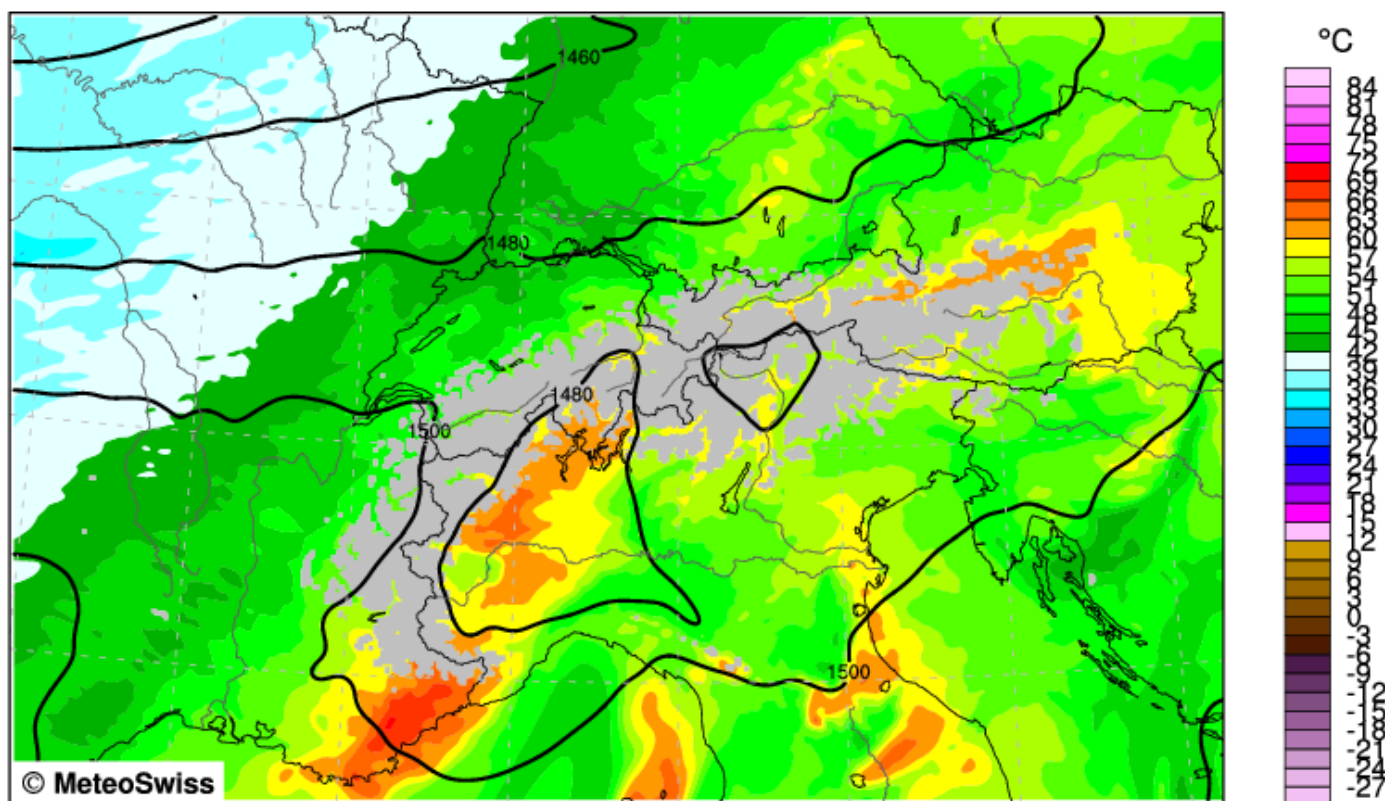
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 18UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +18h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1490.4 gpm

Mean: 49.7 °C



# Temperatura potenziale equivalente

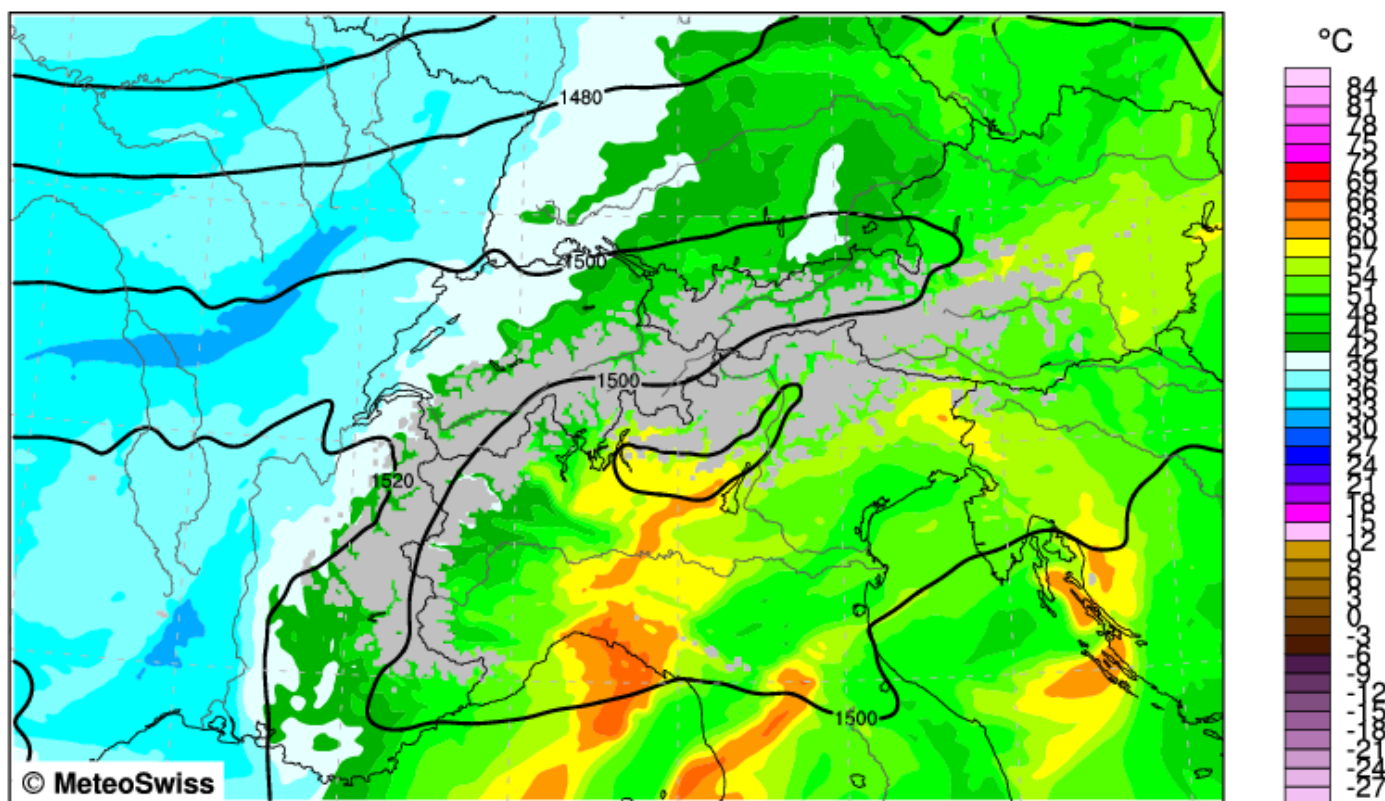
COSMO-2 FORECAST

Version: 925

Sun 26 Aug 2012 00UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +24h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1498.3 gpm

Mean: 45.7 °C





# Temperatura potenziale equivalente

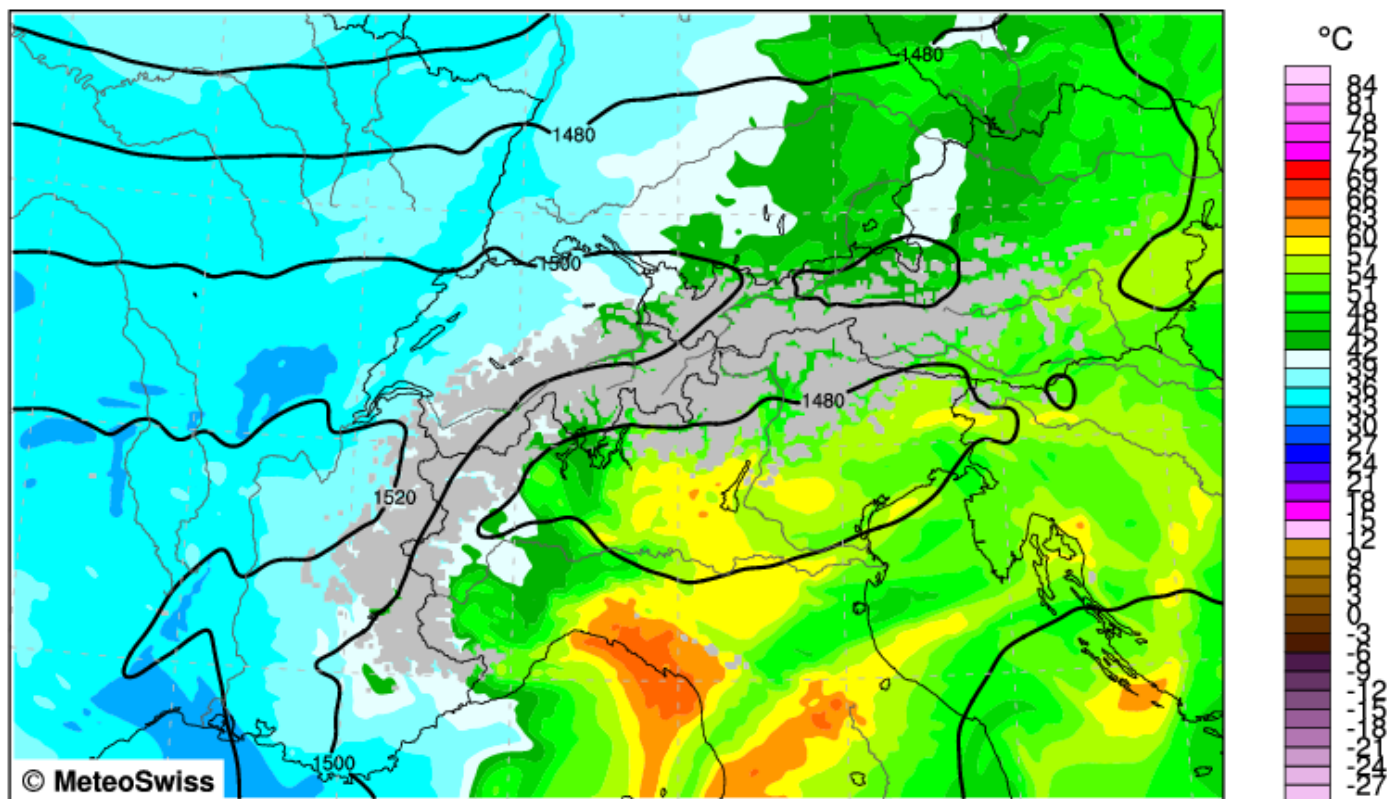
COSMO-2 FORECAST

Version: 925

Sun 26 Aug 2012 03UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +27h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1494.1 gpm

Mean: 44.2 °C



# Temperatura potenziale equivalente

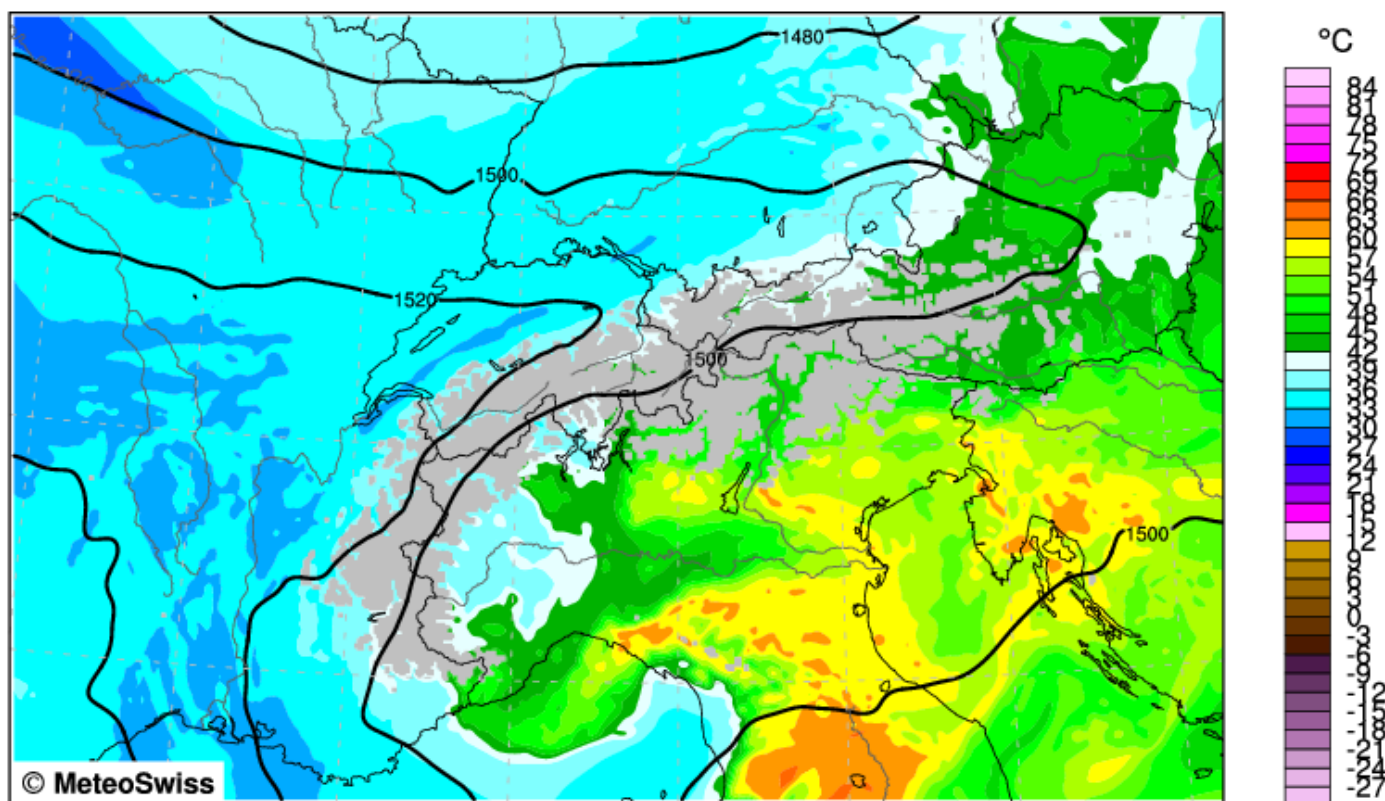
COSMO-2 FORECAST

Version: 925

Sun 26 Aug 2012 09UTC

850hPa Geopot. and Equivalent Pot. Temperature

25.08.2012 00UTC +33h



Geopotential [gpm], level = 850 hPa

Equivalent Potential Temperature [deg C], level = 850 hPa

Mean: 1503.8 gpm

Mean: 41.9 °C

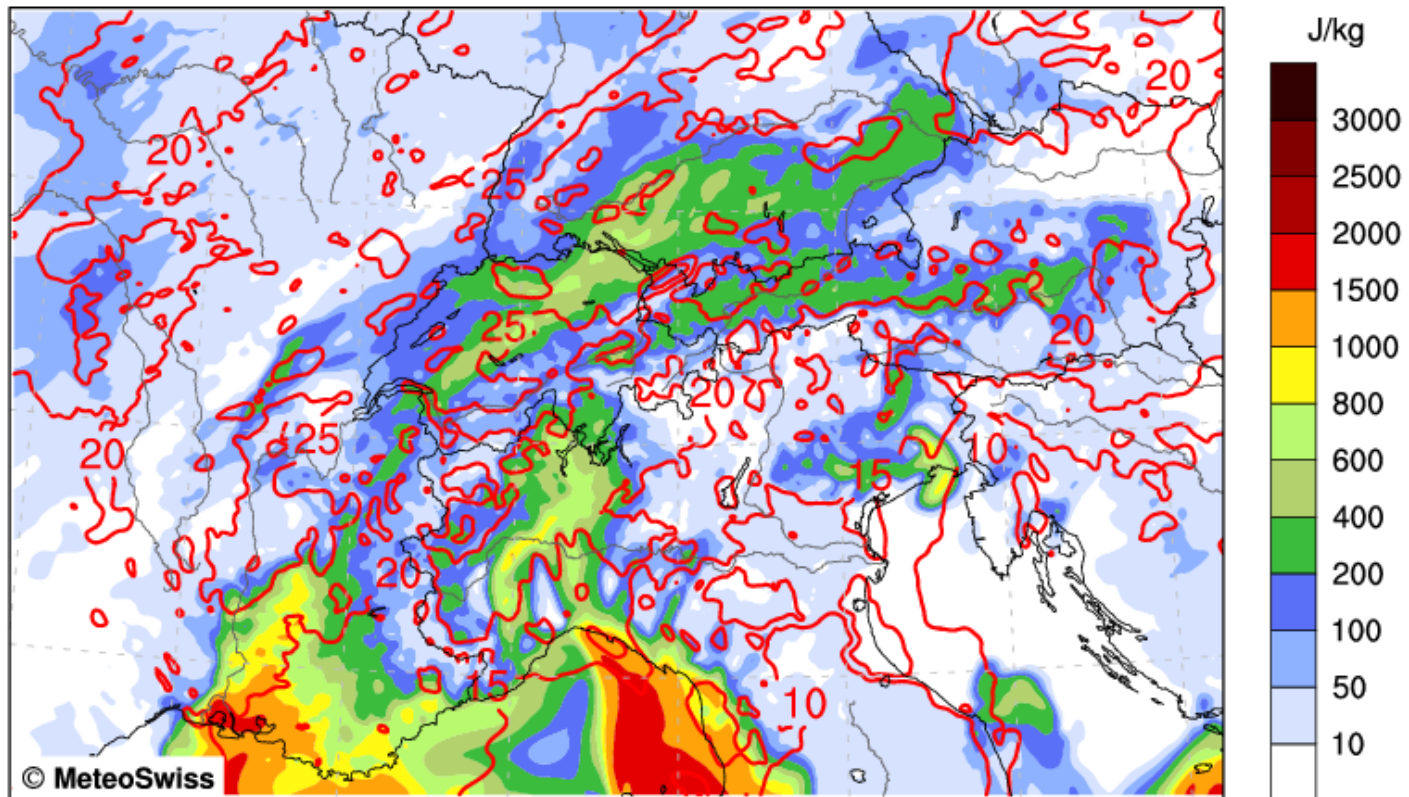


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 925

Sat 25 Aug 2012 12UTC  
25.08.2012 00UTC +12h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 158.2 J/kg  
Mean: 18.4 m/s



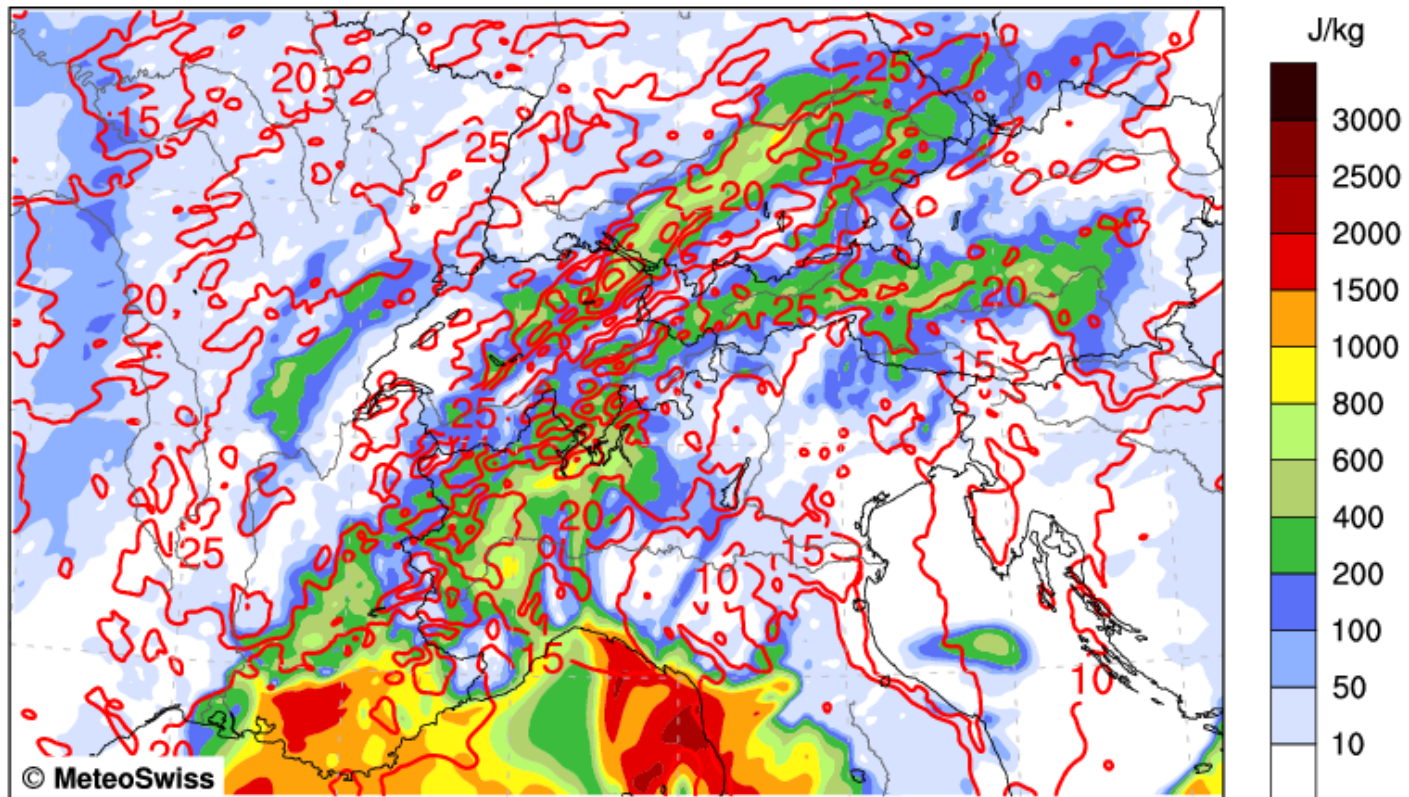


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 925

Sat 25 Aug 2012 15UTC  
25.08.2012 00UTC +15h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 168.9 J/kg  
Mean: 19.0 m/s



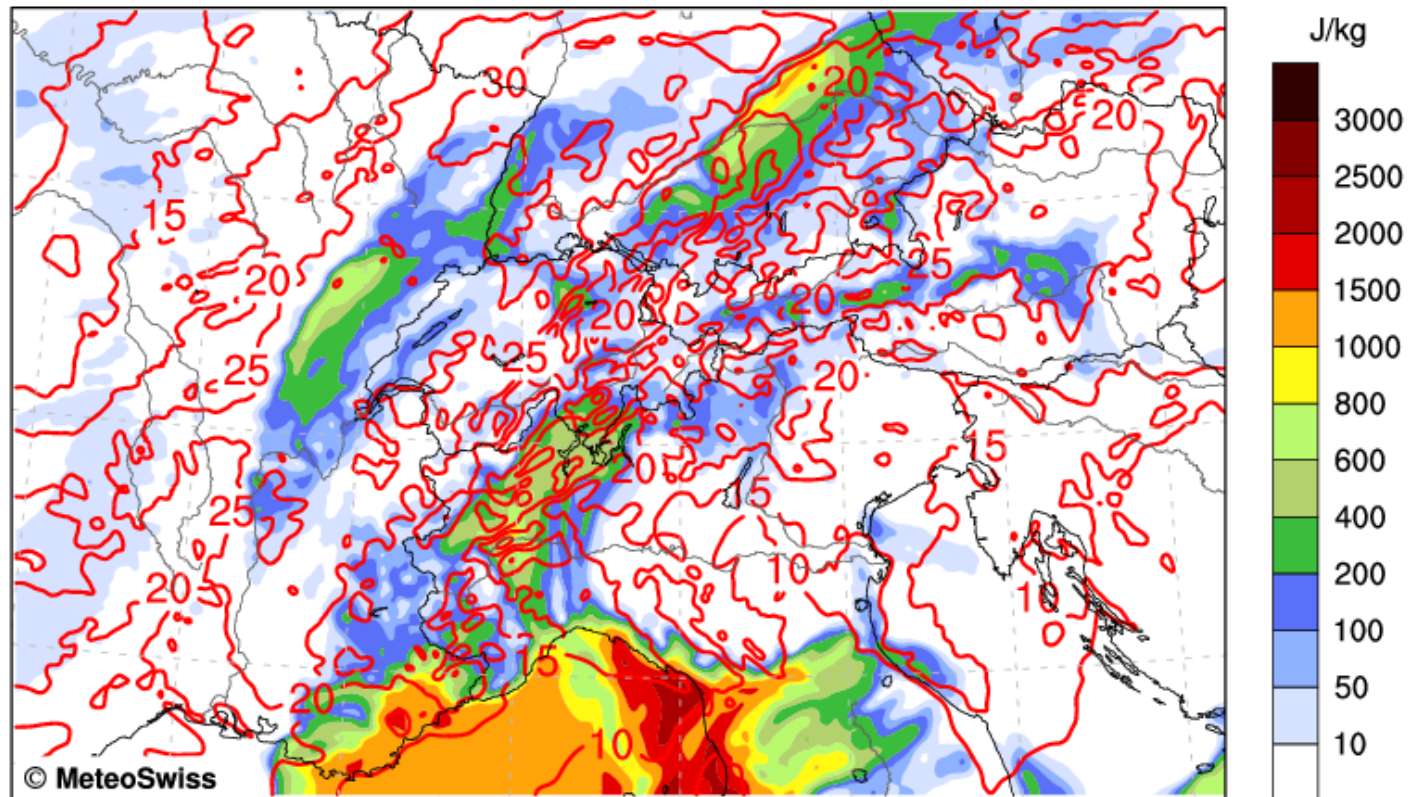


# CAPE e wind shear

COSMO-2 FORECAST  
Wind Shear (red) and CAPE\_ML

Version: 925

Sat 25 Aug 2012 18UTC  
25.08.2012 00UTC +18h



smoothed cape of mean surface layer parcel [J/kg]  
Wind Shear Between Surface and 6km ASL [m/s]

Mean: 136.3 J/kg  
Mean: 19.0 m/s



# UV 800m

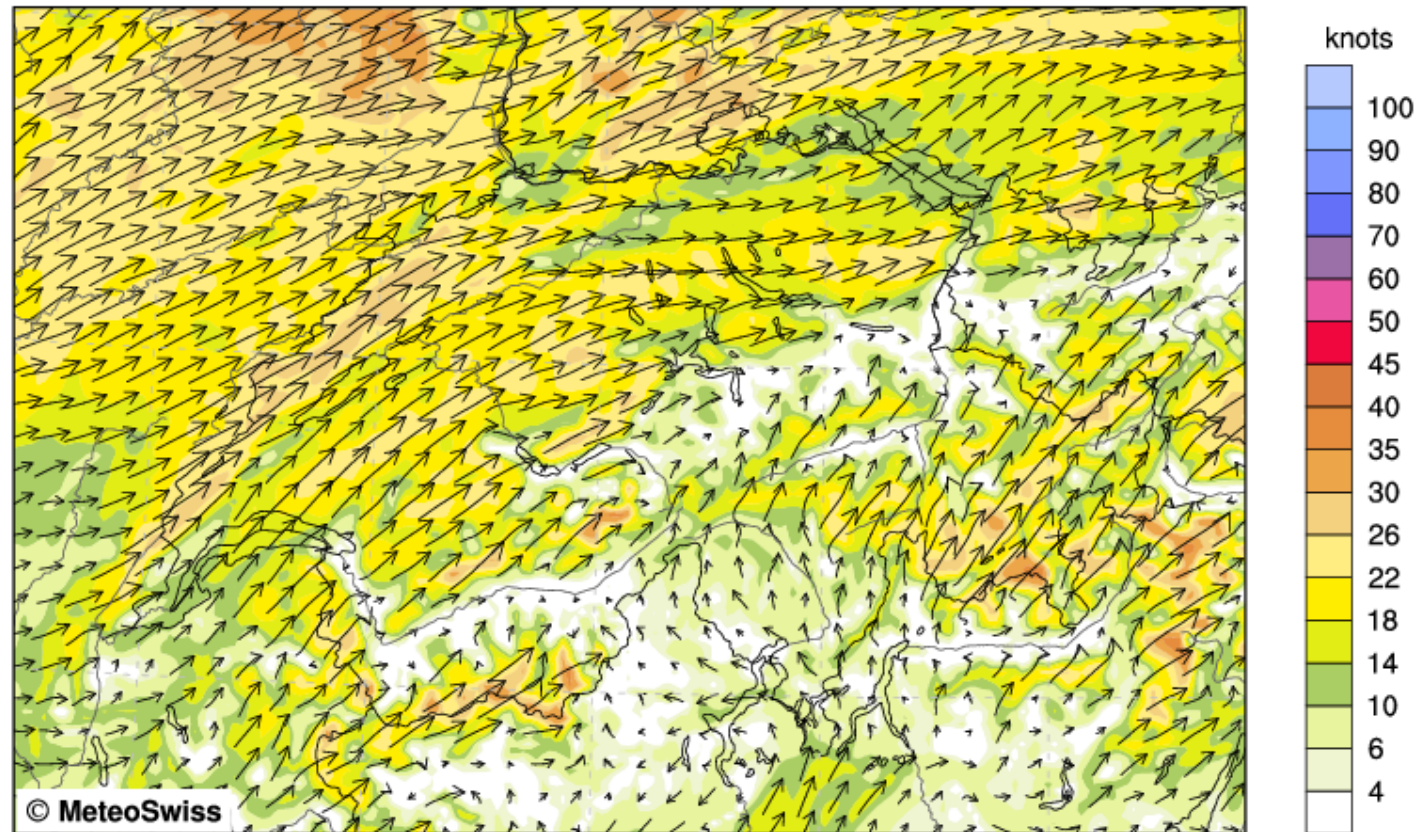
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 09UTC

Wind on Level 50 (800m above Ground)

25.08.2012 00UTC +09h



wind speed [knots], k = 50

Mean: 15.4 Max: 37.6 [knots]





# UV 800m

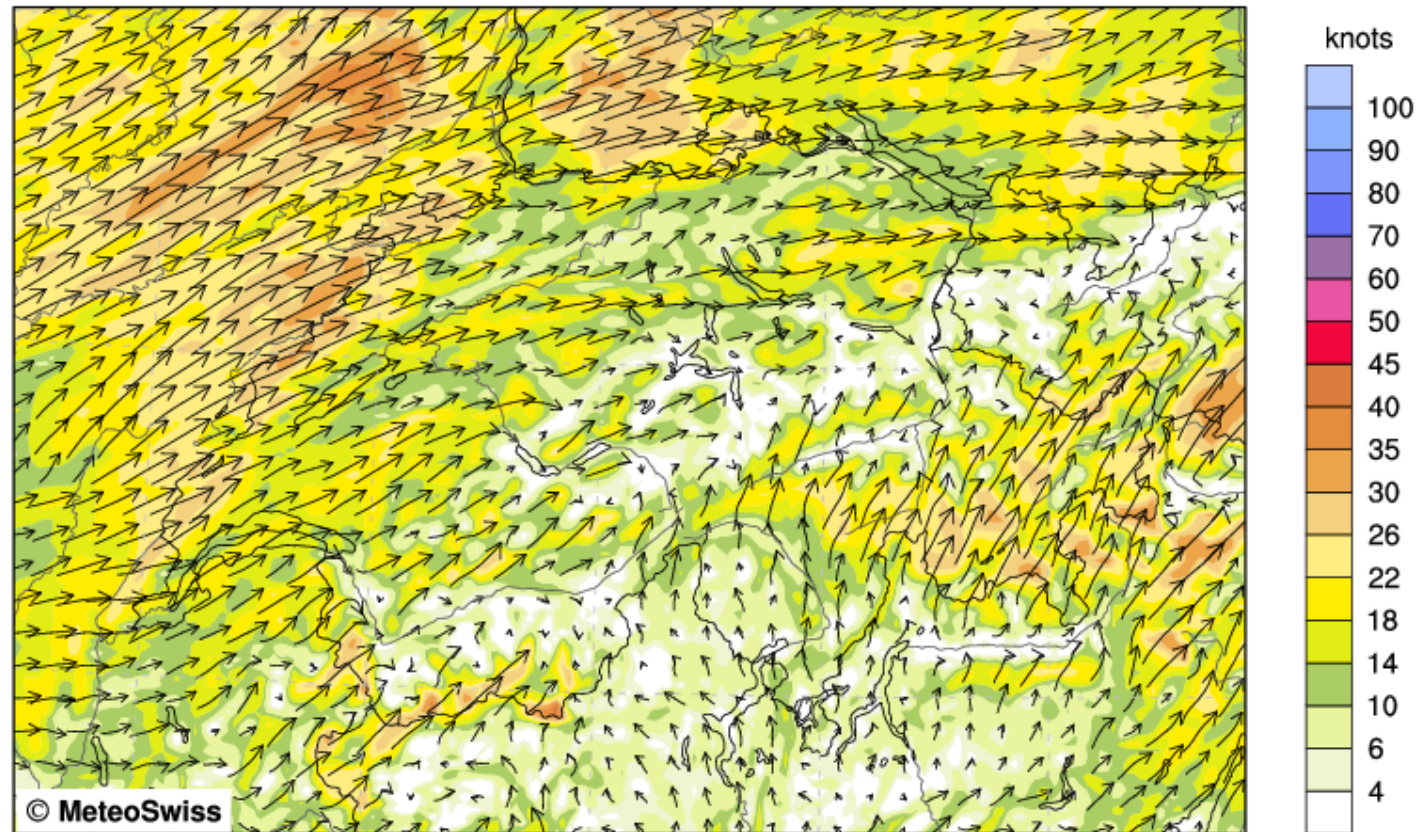
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 12UTC

Wind on Level 50 (800m above Ground)

25.08.2012 00UTC +12h



wind speed [knots], k = 50

Mean: 15.2 Max: 43.0 [knots]



# UV 800m

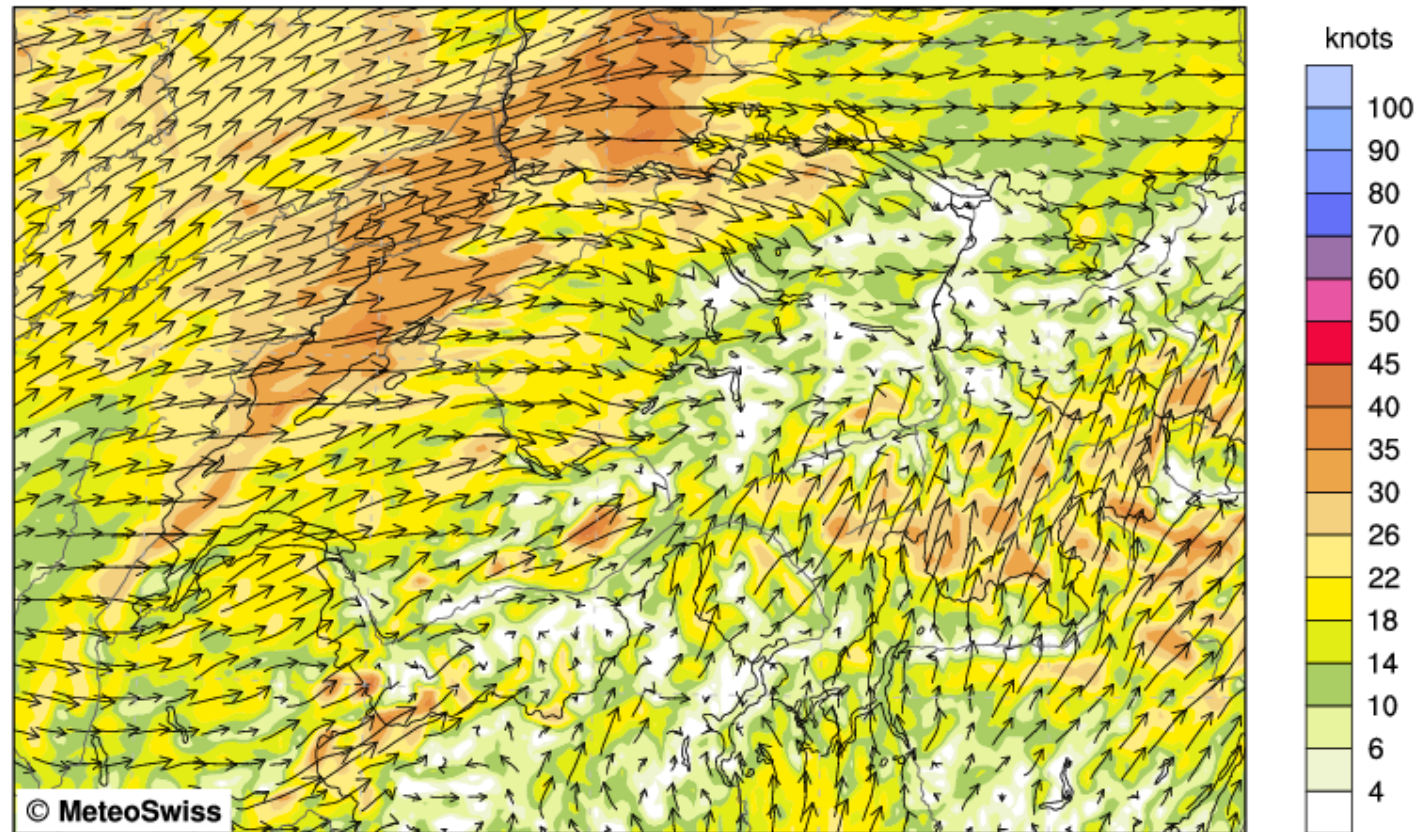
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 15UTC

Wind on Level 50 (800m above Ground)

25.08.2012 00UTC +15h



wind speed [knots], k = 50

Mean: 17.6 Max: 44.4 [knots]





# UV 800m

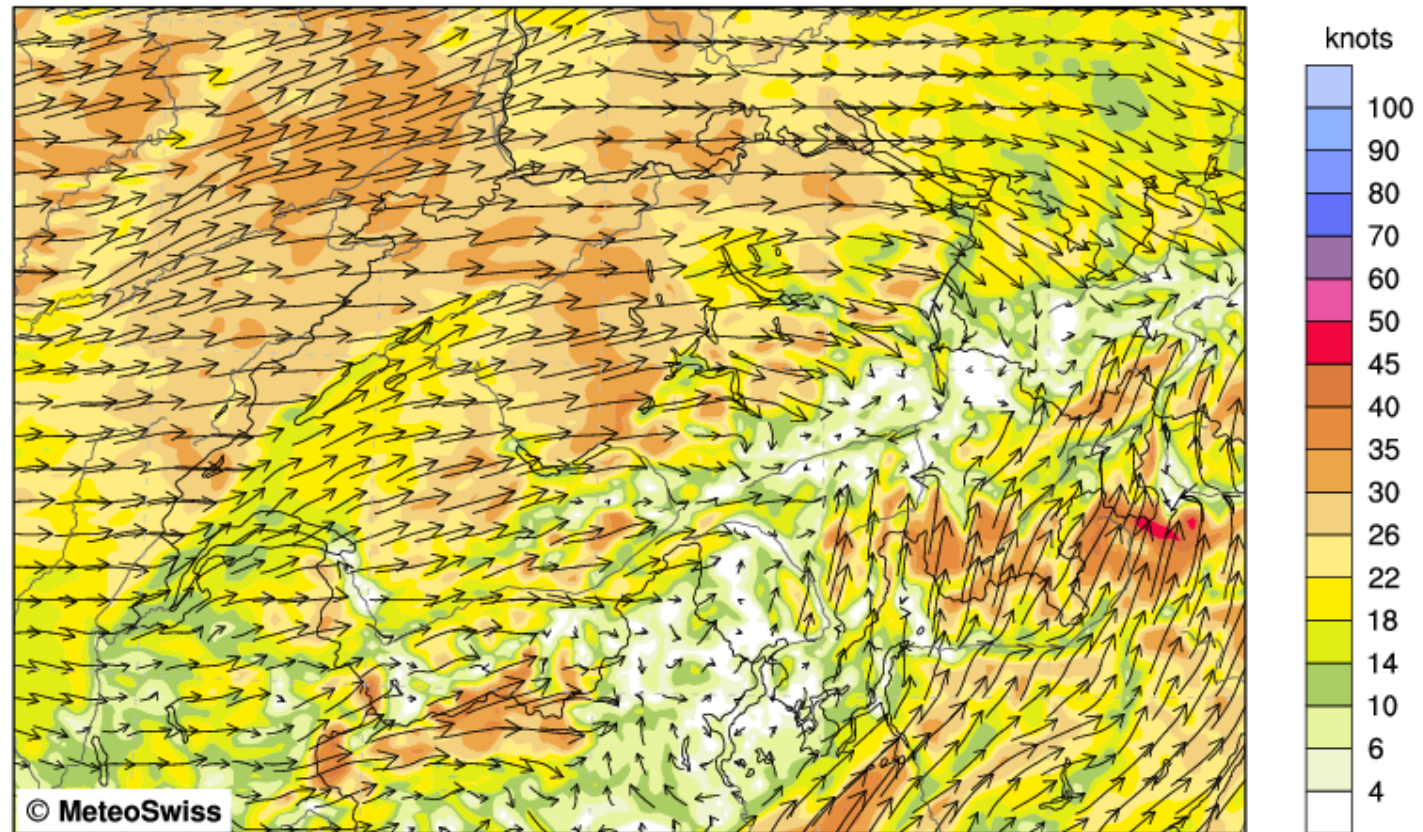
COSMO-2 FORECAST

Version: 925

Sat 25 Aug 2012 18UTC

Wind on Level 50 (800m above Ground)

25.08.2012 00UTC +18h



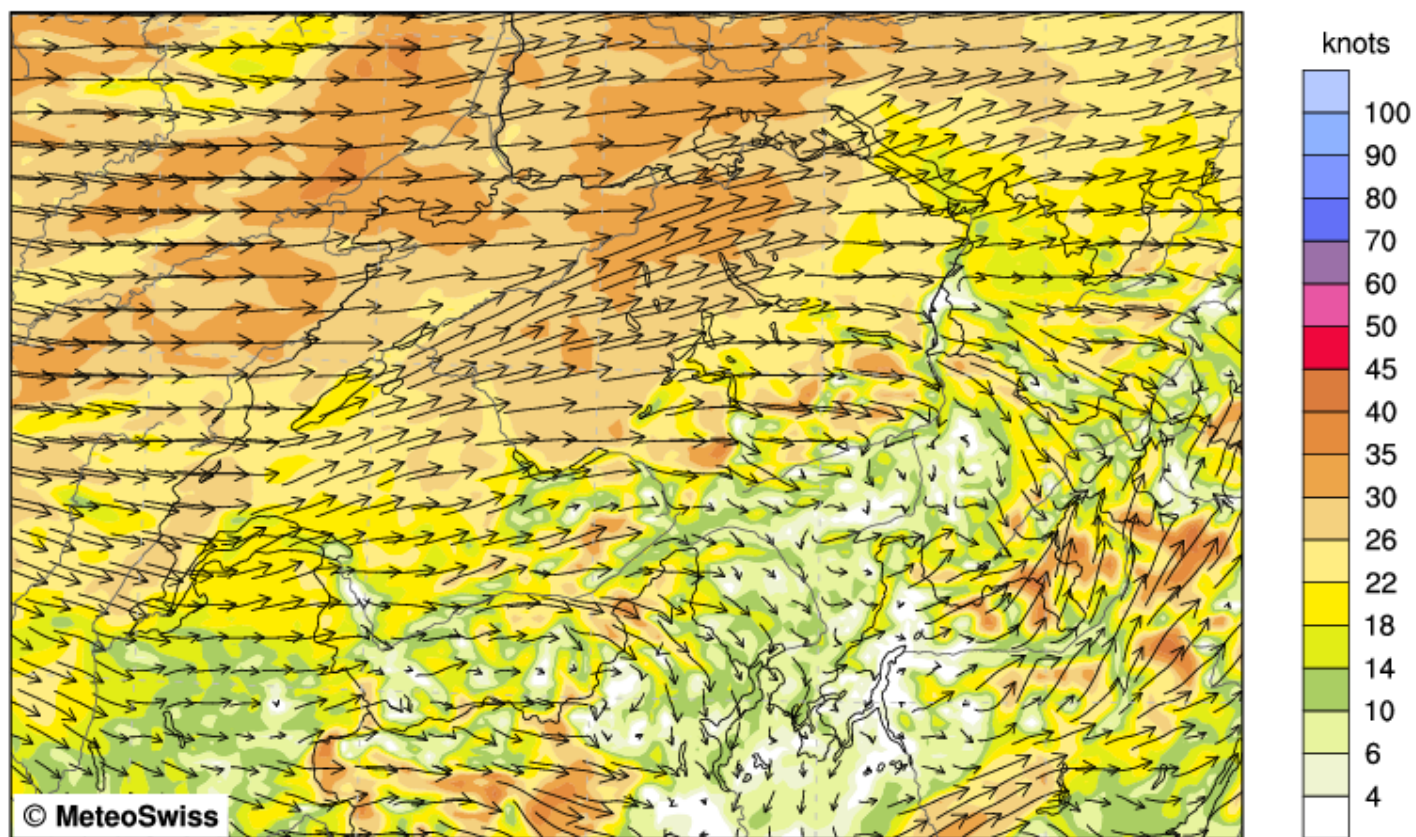
wind speed [knots], k = 50

Mean: 20.8 Max: 48.6 [knots]



COSMO-2 FORECAST  
Wind on Level 50 (800m above Ground)

Sat 25 Aug 2012 21UTC  
25.08.2012 00UTC +21h



wind speed [knots], k = 50

Mean: 21.2 Max: 44.6 [knots]





# UV 800m

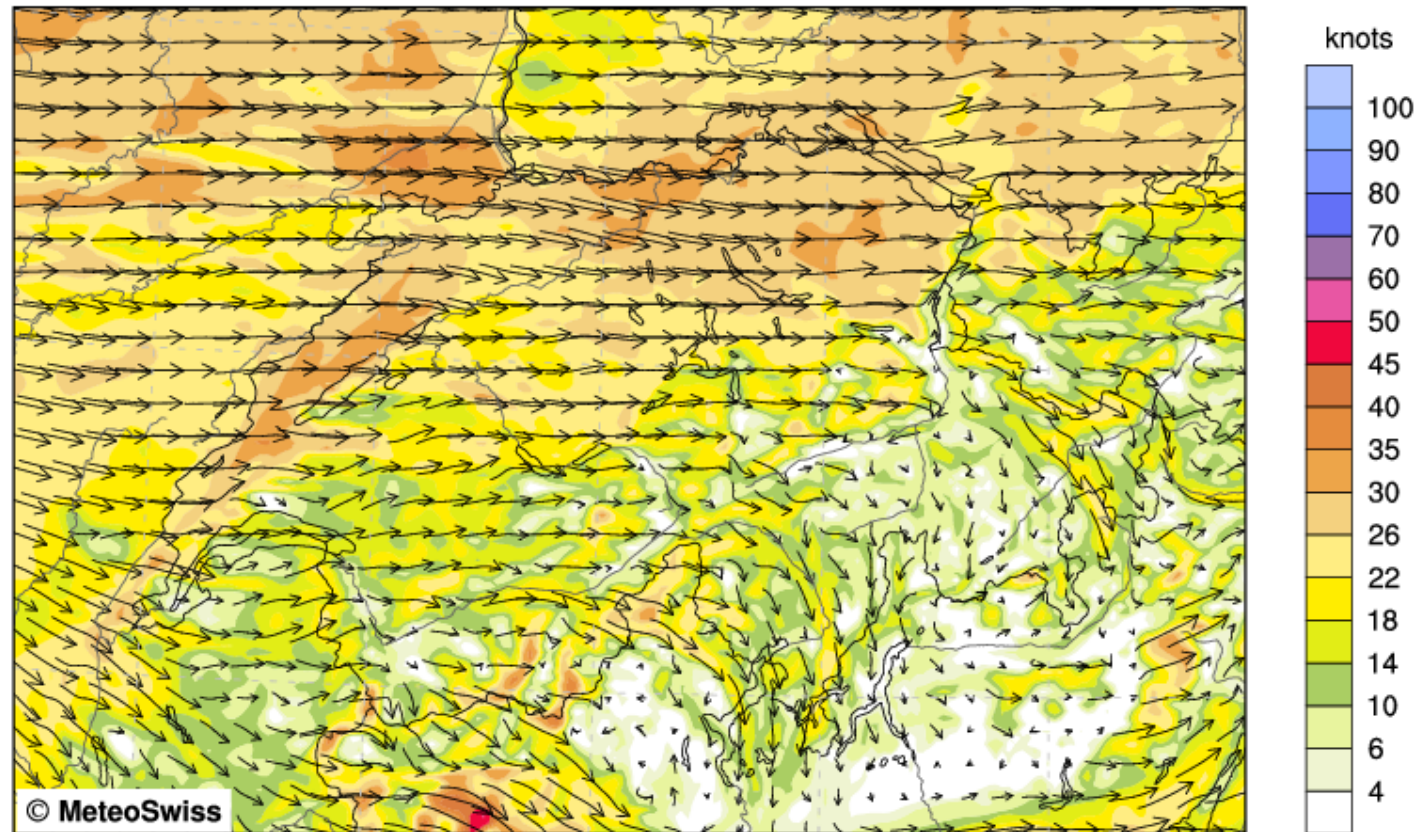
COSMO-2 FORECAST

Version: 925

Sun 26 Aug 2012 00UTC

Wind on Level 50 (800m above Ground)

25.08.2012 00UTC +24h



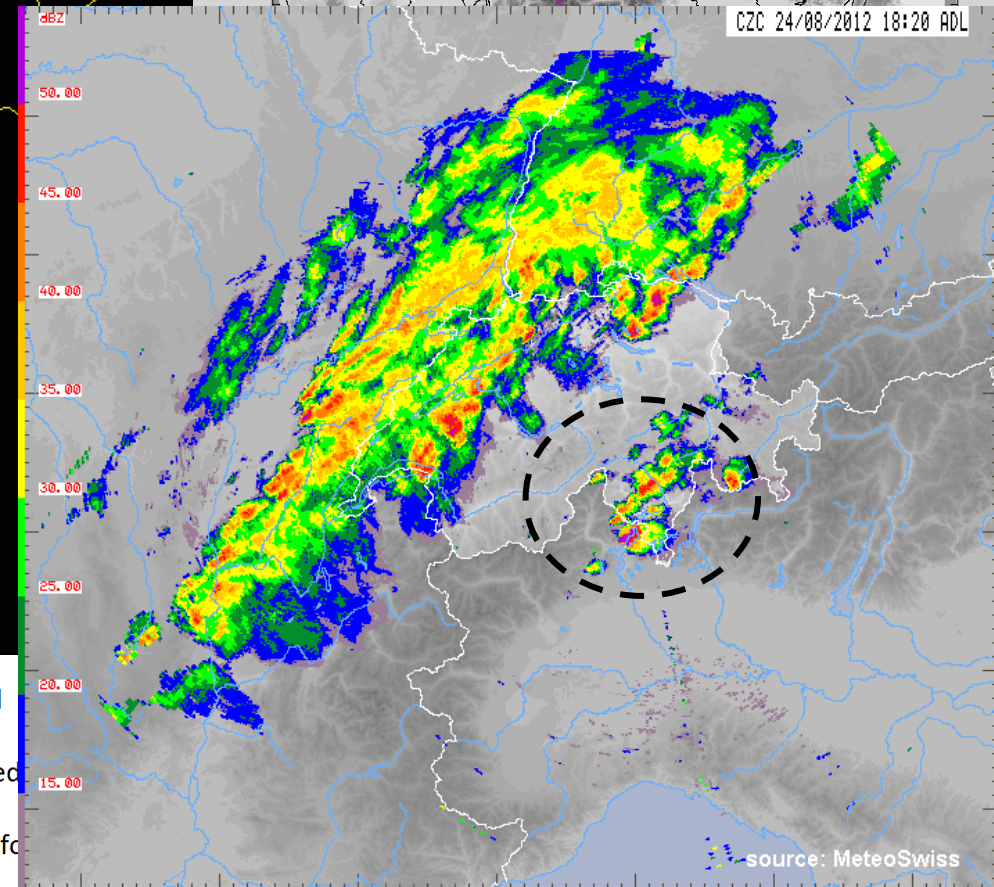
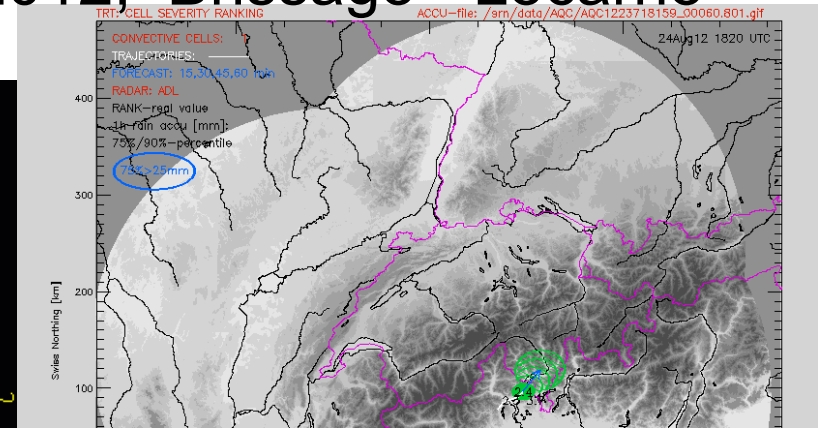
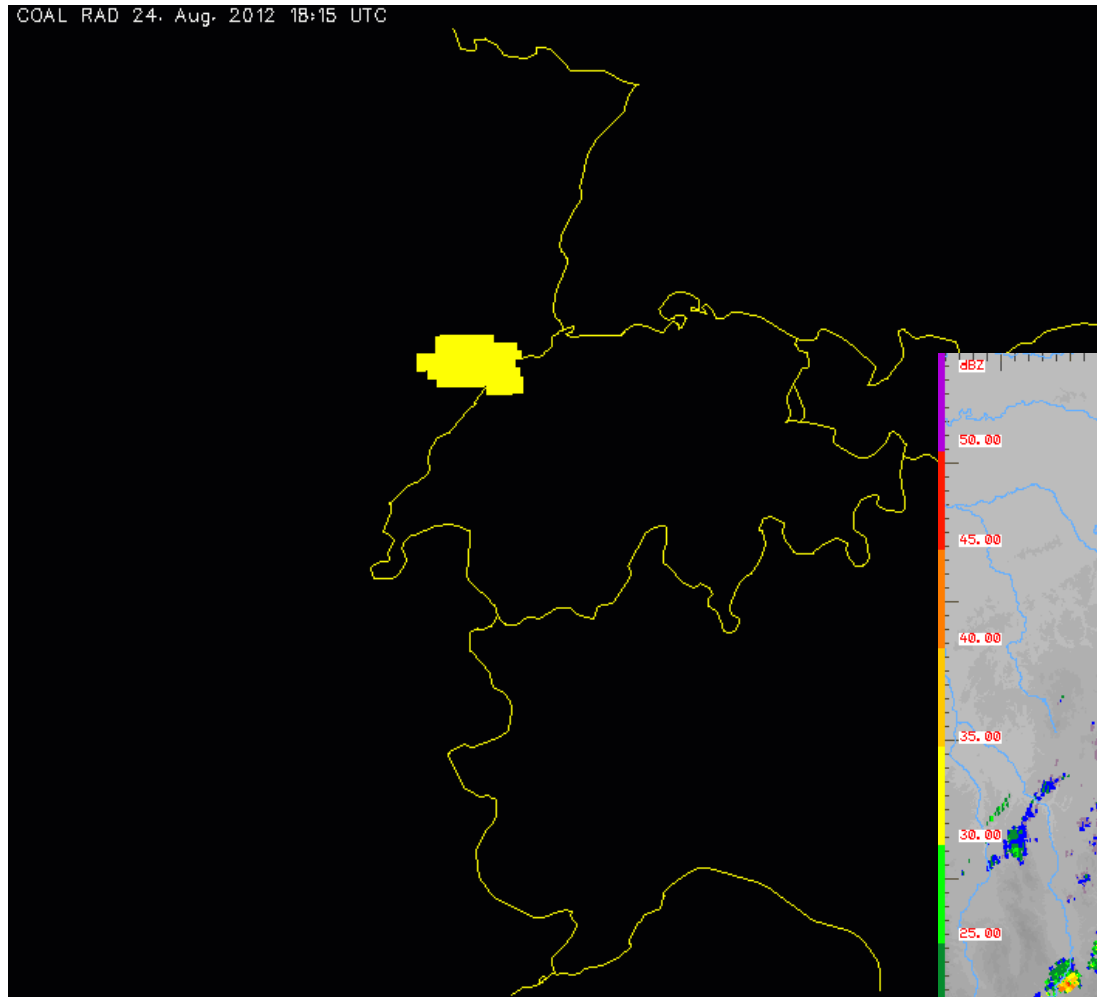
wind speed [knots], k = 50




Mean: 19.0 Max: 50.2 [knots]





# Radar/COALITION/TRT 24.08.2012, Brissago - Locarno



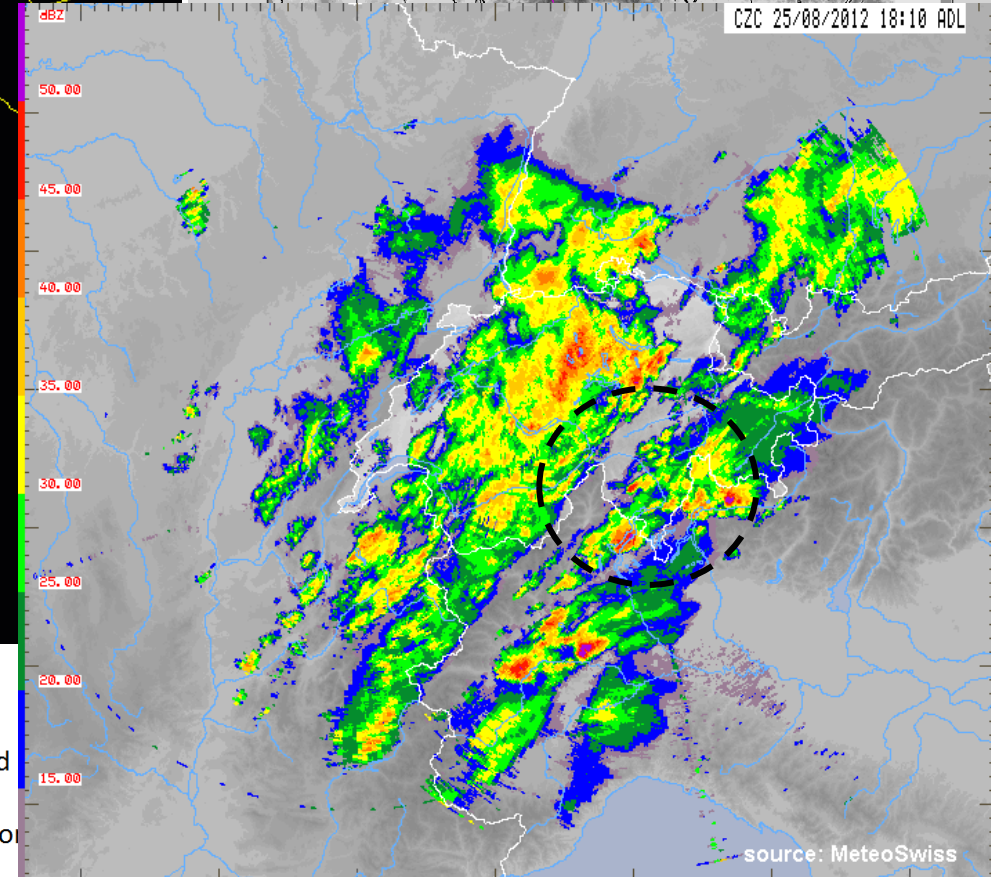
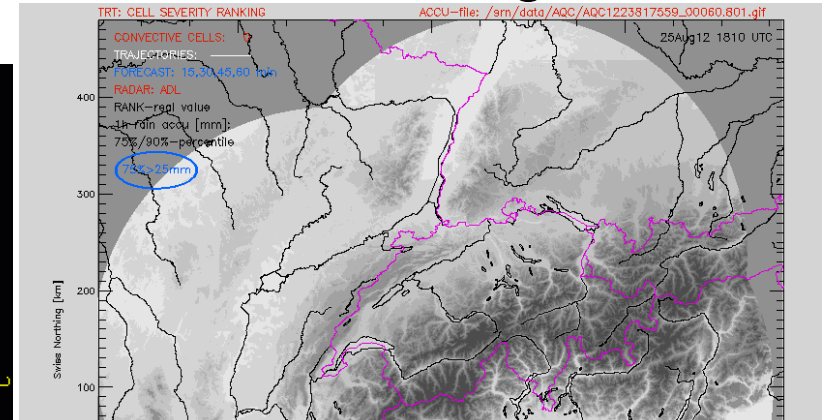
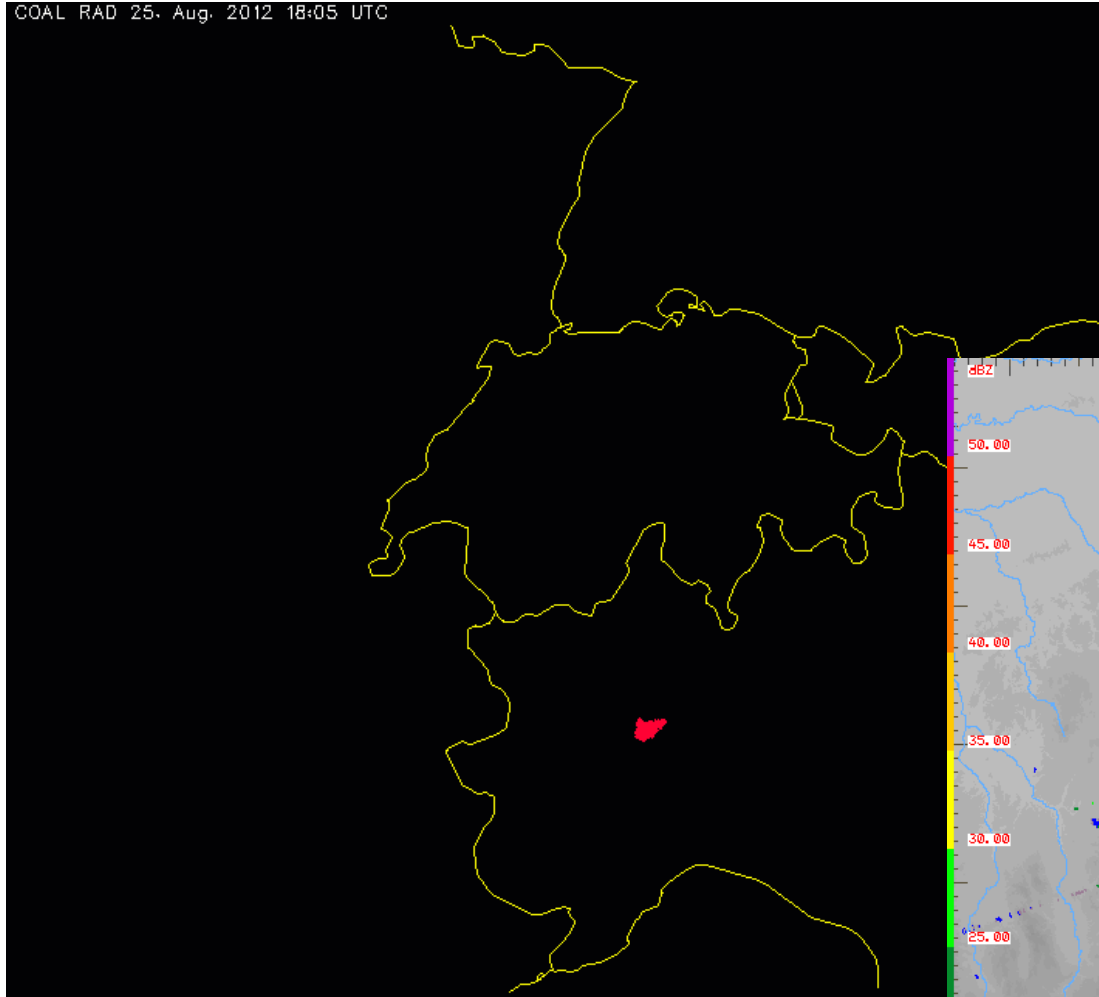
-  strong cloud top cooling in the next 15 min forecasted
-  convection intensification in the next 30 min forecasted
-  development of severe convection in the next 30 min forecasted

source: MeteoSwiss

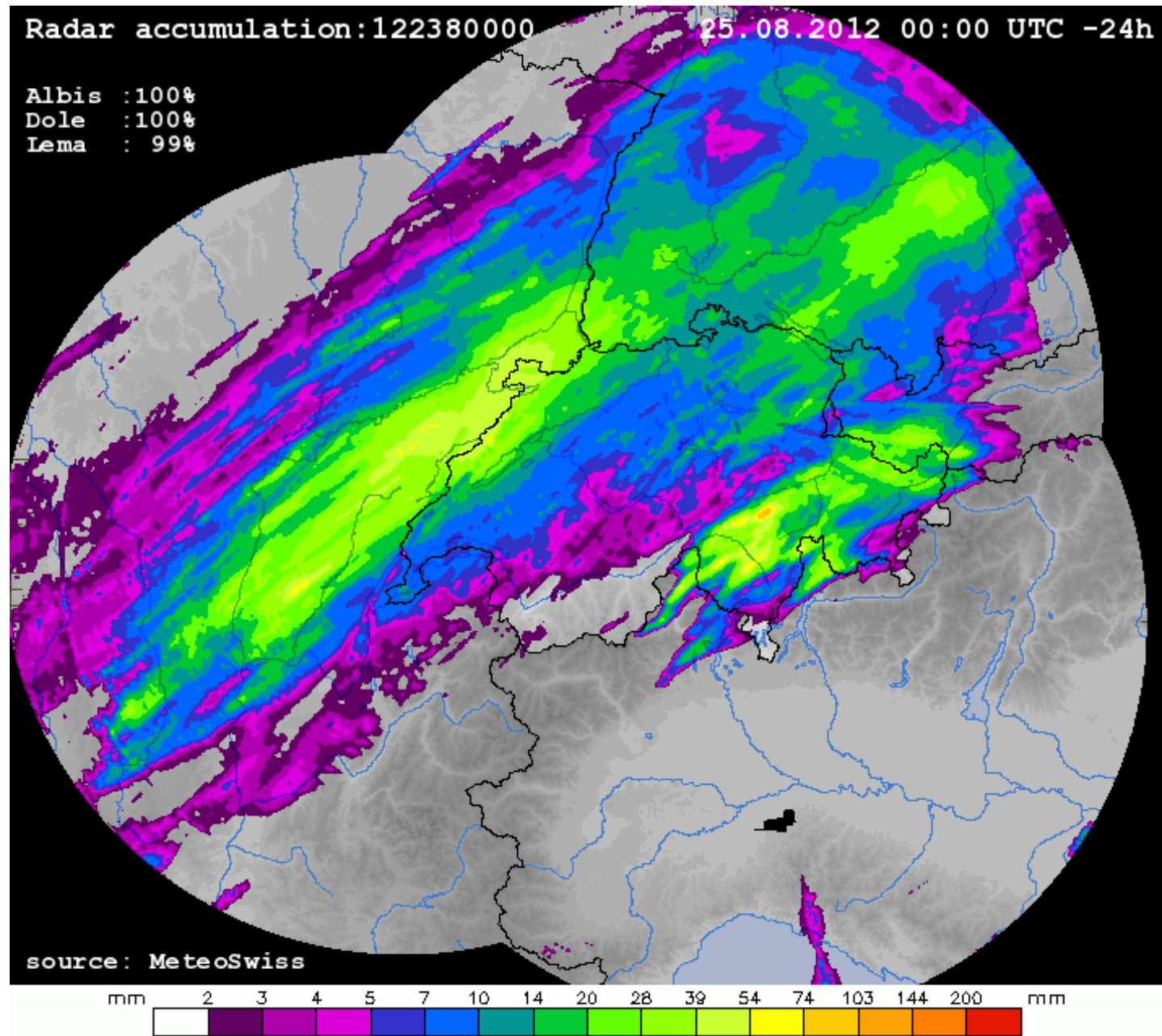


# Radar/COALITION/TRT 25.08.2012, Verbania - Agno

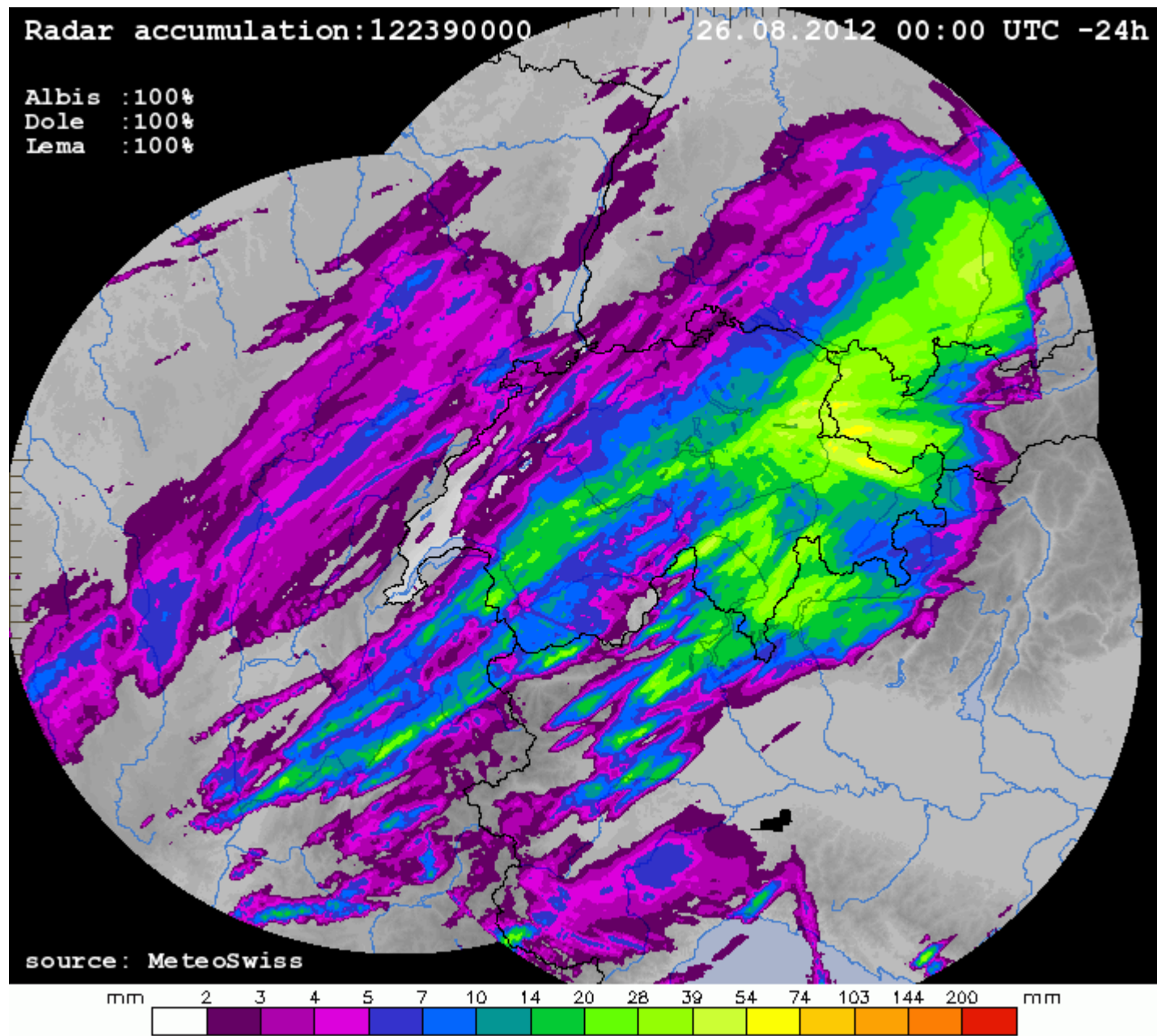
COAL RAD 25. Aug. 2012 18:05 UTC



- strong cloud top cooling in the next 15 min forecasted
- convection intensification in the next 30 min forecasted
- development of severe convection in the next 30 min forecasted

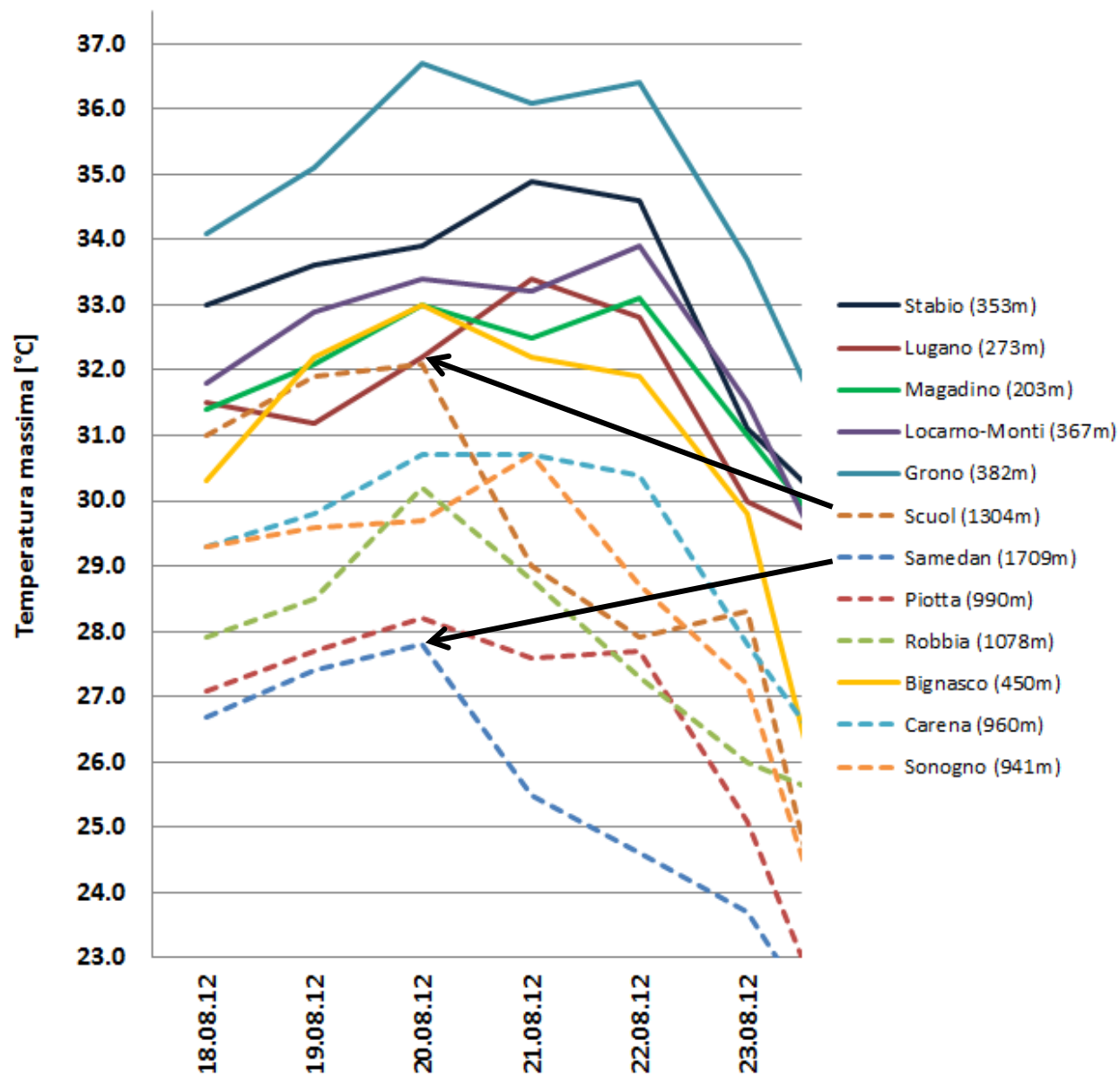






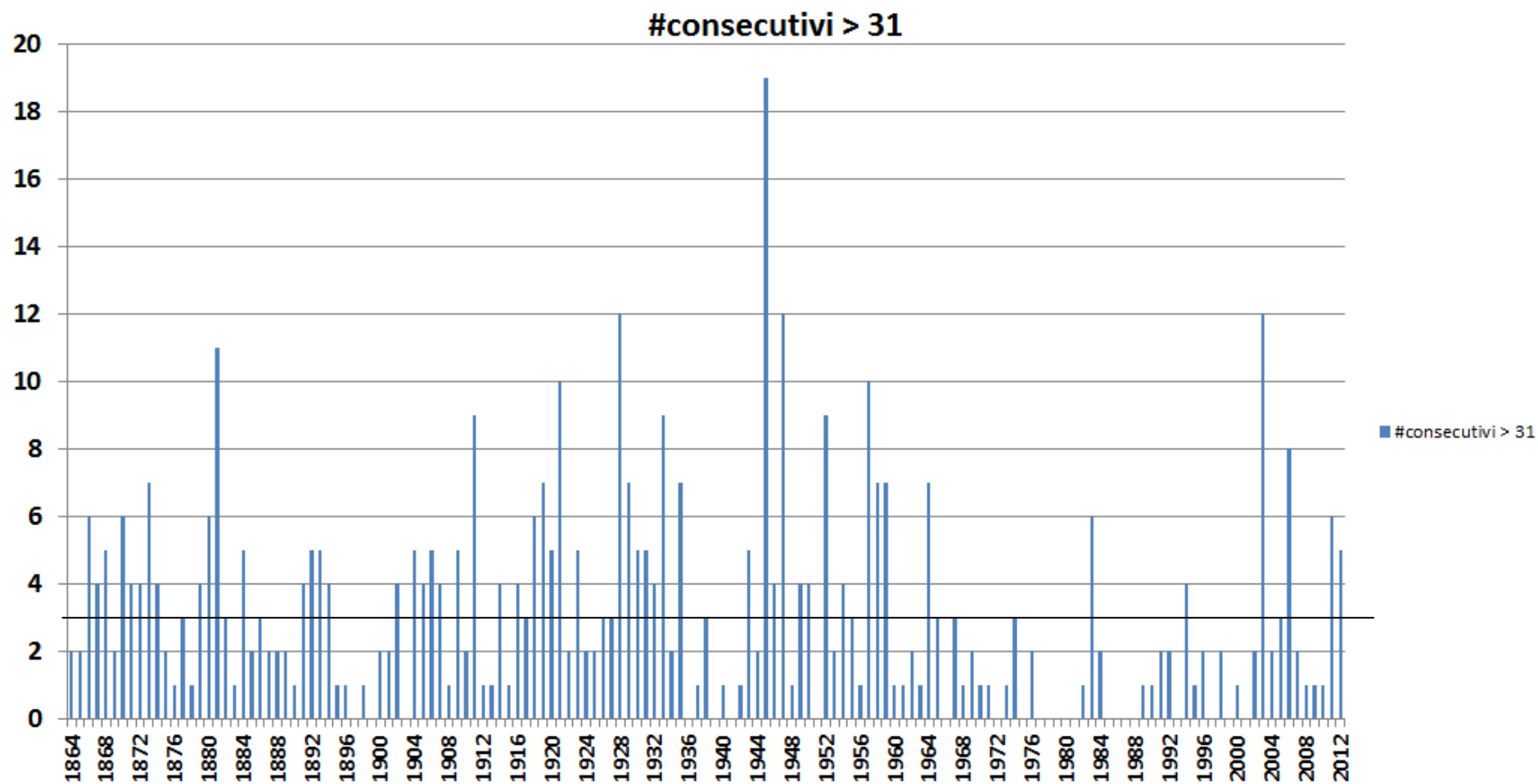


# 18-24.8 canicola





# Lugano, numero giorni $T_{max} > 31$







Luca Silvanti