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Confédération suisse  
Confederazione Svizzera  
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Dipartimento federale dell'interno DFI  
Ufficio federale di meteorologia e climatologia MeteoSvizzera

# Retrospektiva giugno – novembre 2020

Luca Nisi, Luca Panziera

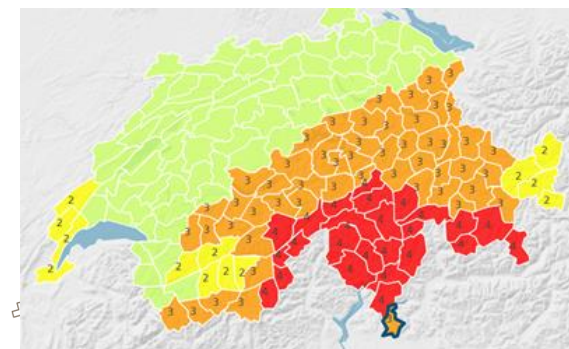
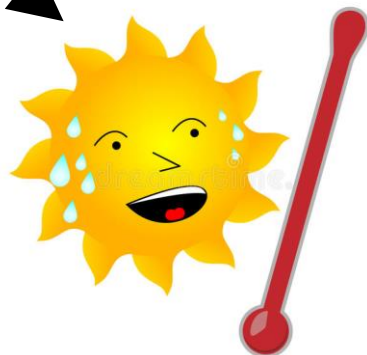
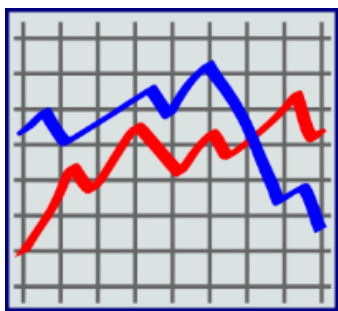
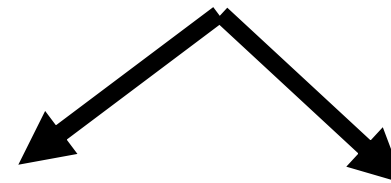
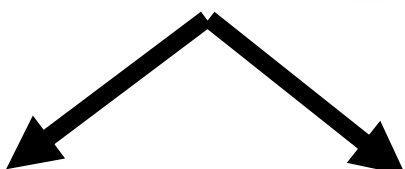
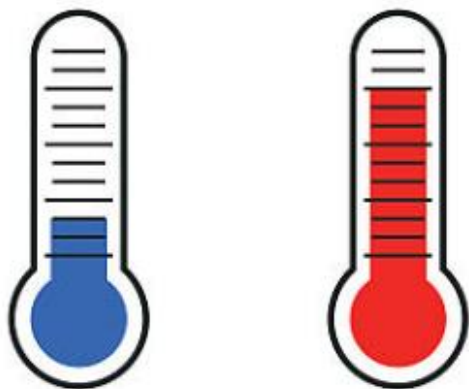
MeteoSvizzera, Centro Regionale Sud, Locarno-Monti

Amici della Meteorologia, 16.11.2020, via «Zoom»



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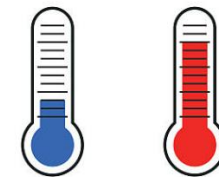


**28-29.08.2020**

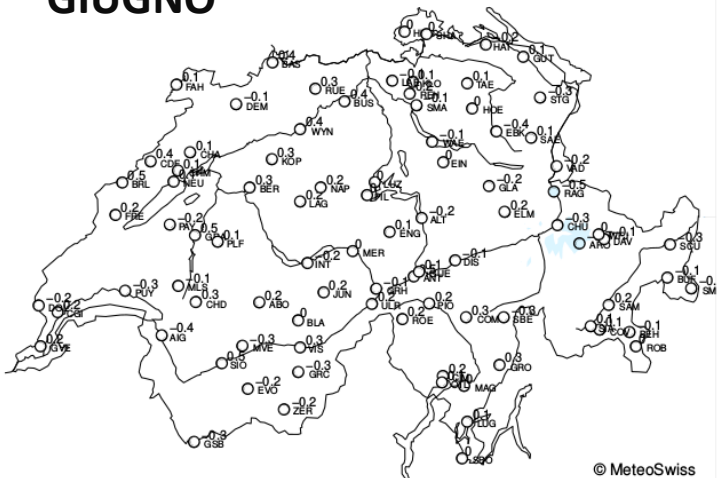
**2-3.10.2020**



# Tempertura media mensile (anomalia)

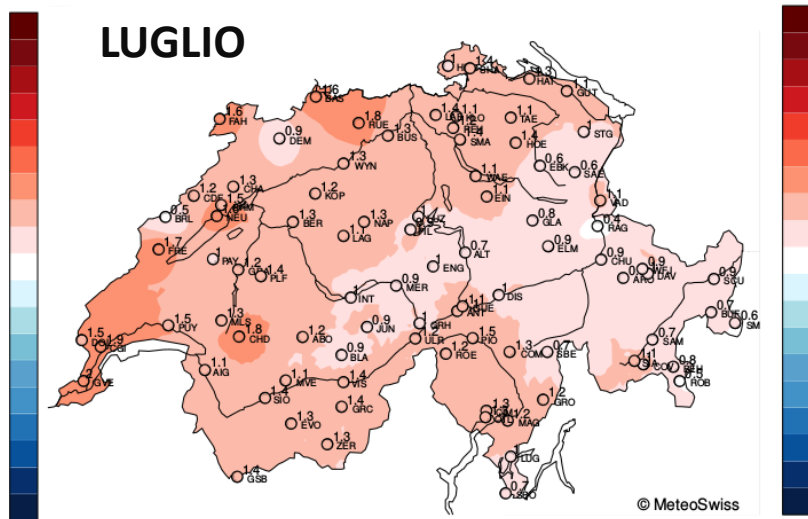


GIUGNO



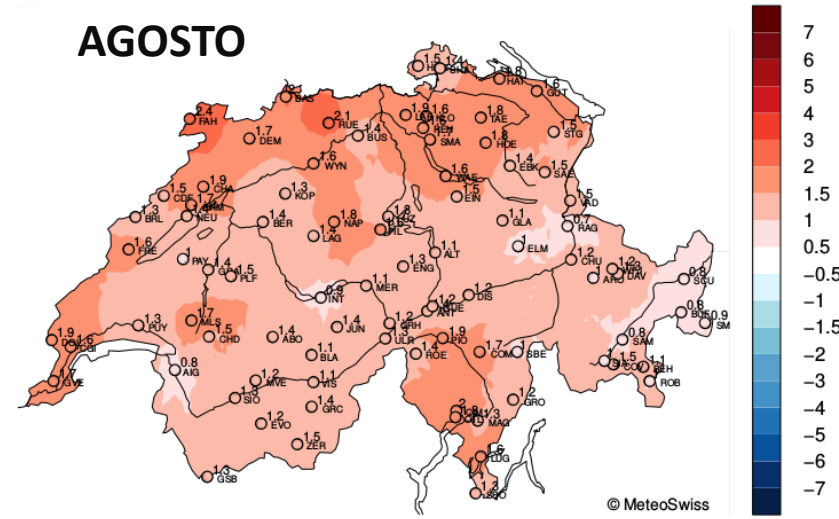
© MeteoSwiss  
TanomM8110 v1.5, 2020-07-26 12:01

LUGLIO



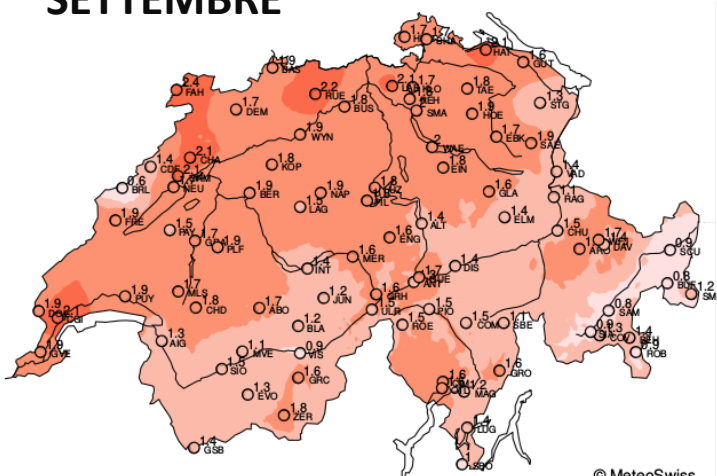
© MeteoSwiss  
TanomM8110 v1.5, 2020-08-26 12:01

AGOSTO



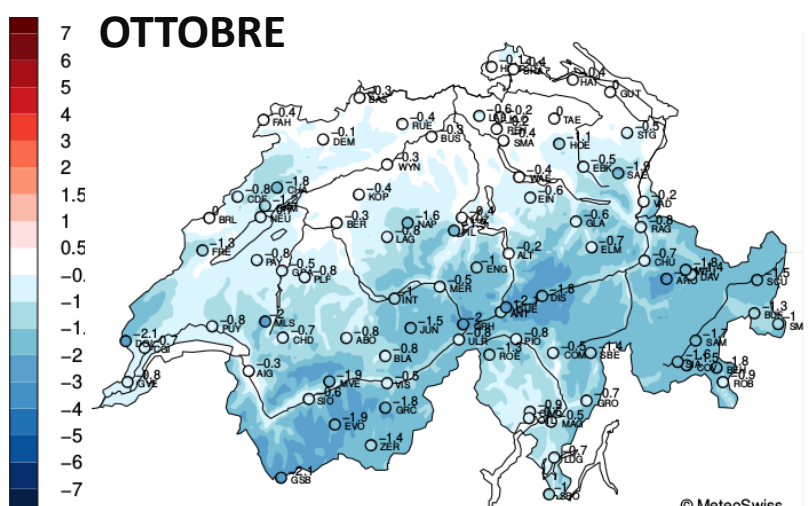
© MeteoSwiss  
TanomM8110 v1.5, 2020-09-26 12:01

SETTEMBRE



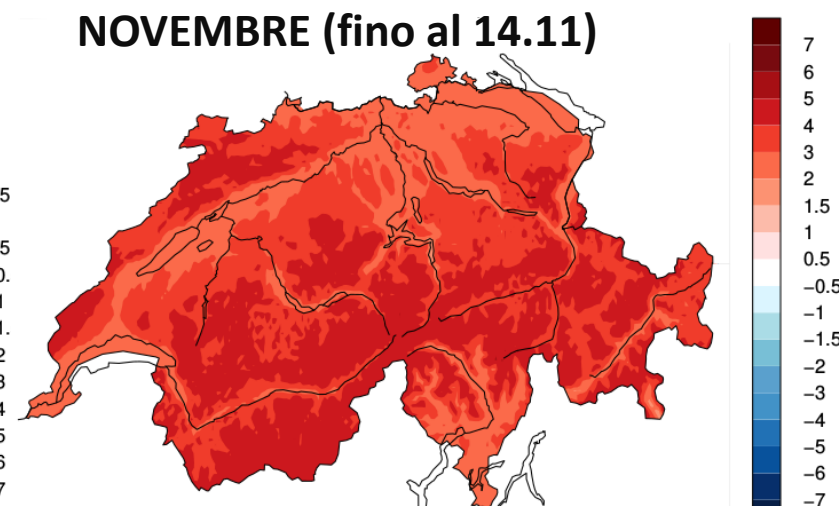
© MeteoSwiss  
TanomM8110 v1.5, 2020-10-26 12:01

OTTOBRE



© MeteoSwiss  
TanomM8110 v1.5, 2020-11-06 12:01

NOVEMBRE (fino al 14.11)

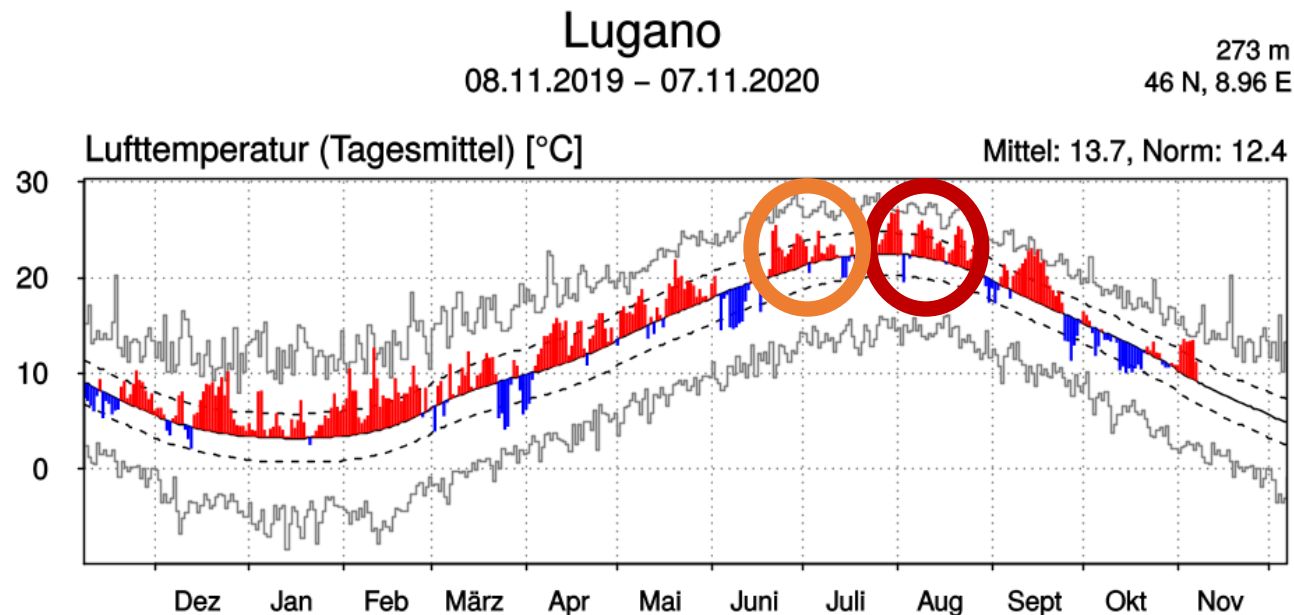


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TanomD8110, gridplot (gridplot, v0.1.2), 2020-11-15 09:02



# Canicola: un'estate non troppo «agitata»

- Luglio: fino a metà luglio  
non particolarmente caldo afoso
- Fine Luglio – inizio agosto  
2 ondate di caldo  
(28.7 – 2.8) e (08.08 – 12.08)  
Da metà agosto, di nuovo più fresco
- 2 allerte a Sud delle Alpi, entrambe di livello 3

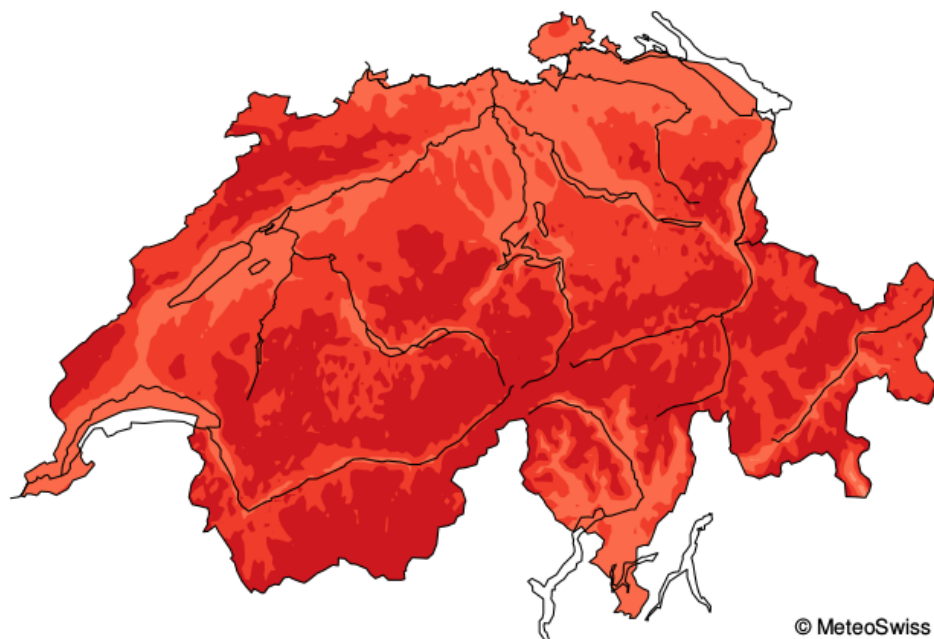


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# Ottobre fresco, novembre caldo

Temperature Anomaly (%) 01.-14.11.2020  
(PRELIMINARY RESULTS)

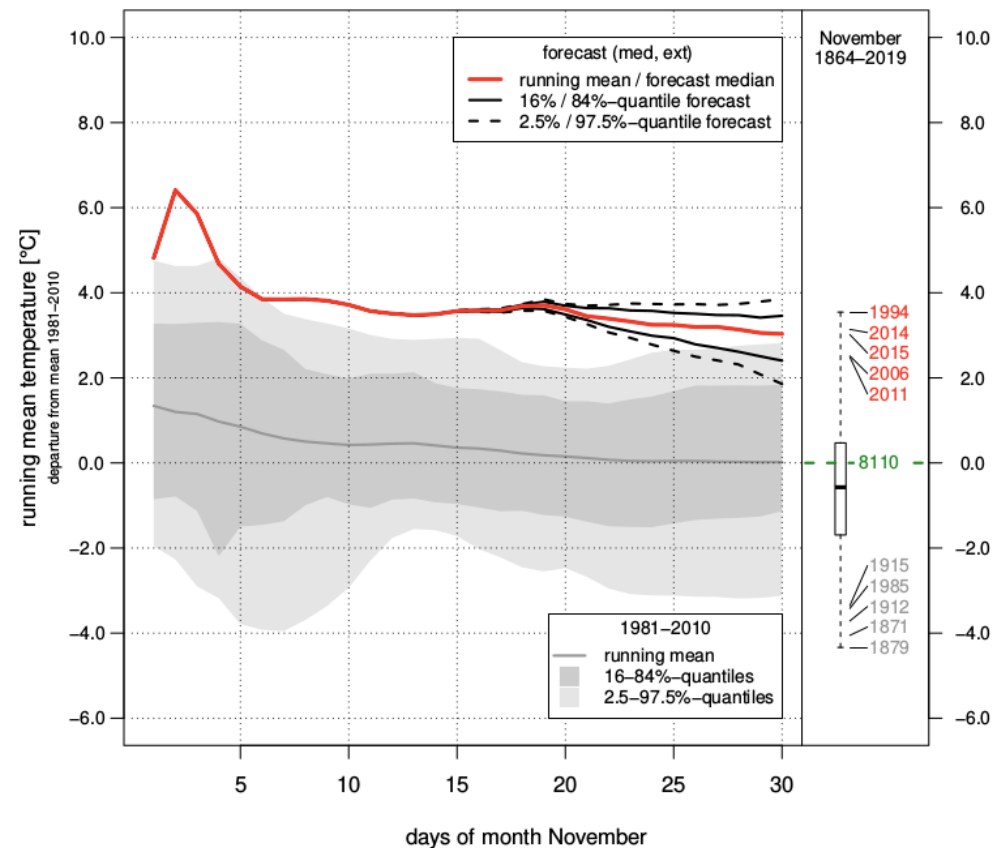


TanomD8110, gridplot (gridplot, v0.1.2), 2020-11-15 09:02

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## Monthly Mean Temperature Outlook

Switzerland: November 2020



### monthly departure outlook

97.5% - q: 3.9°C  
84% - q: 3.5°C  
50% - q: 3.0°C  
16% - q: 2.4°C  
2.5% - q: 1.9°C

rank 1  
rank 2  
rank 4 (of 157)  
rank 6  
rank 11

### probabilities for rank 1 to 5 (high)

rank 1: 10%  
rank 2: 31%  
rank 3: 53%  
rank 4: 80%  
rank 5: 80%

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mmtpred 4.2.3 / 15.11.2020, 06:30 CET

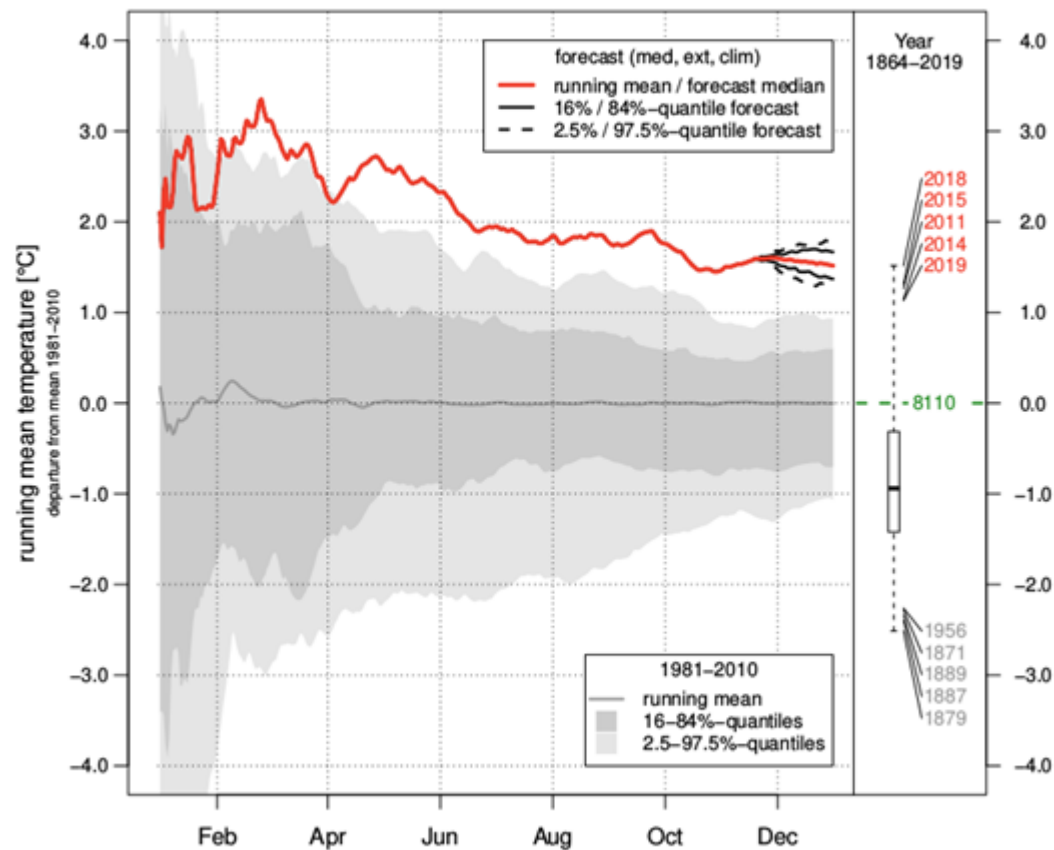




# Temperatura media 2020 (outlook)

## Yearly Mean Temperature Outlook

Switzerland: Year 2020



### yearly departure outlook

97.5% - q:	1.8°C	rank 1
84% - q:	1.7°C	rank 1
50% - q:	1.5°C	rank 2 (of 157)
16% - q:	1.4°C	rank 2
2.5% - q:	1.3°C	rank 3

### probabilities for rank 1 to 5 (high)

rank 1:	50%
rank 2:	93%
rank 3:	97%
rank 4:	>98%
rank 5:	>98%

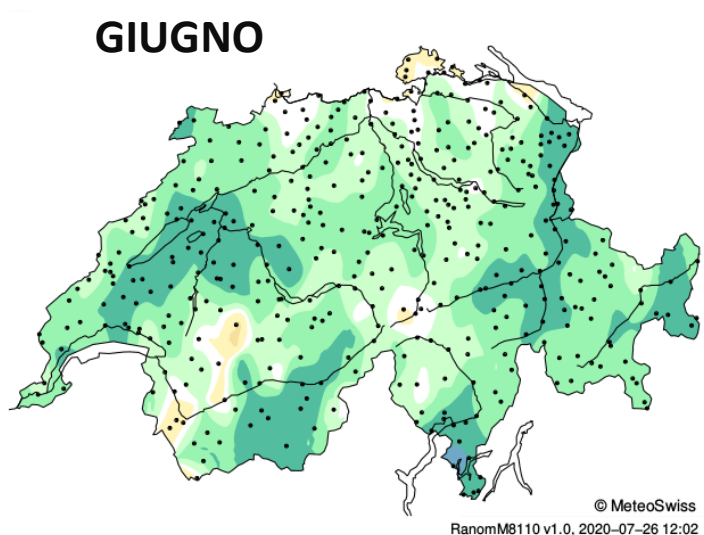
**MeteoSvizzer**



# Precipitazioni mensili (anomalia)

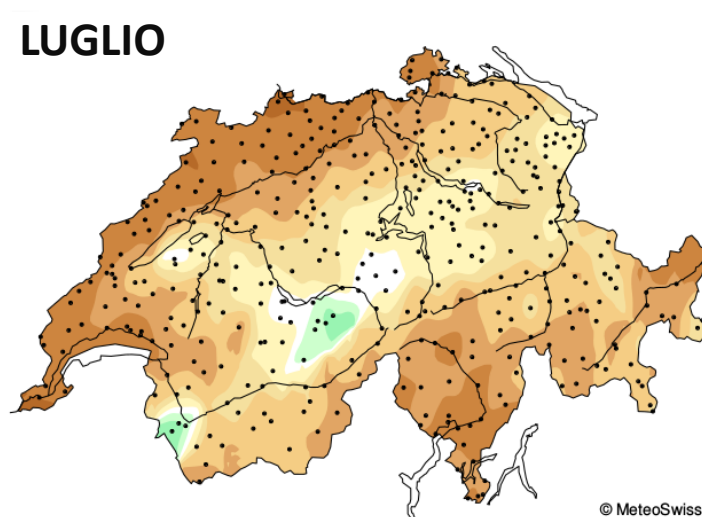


GIUGNO



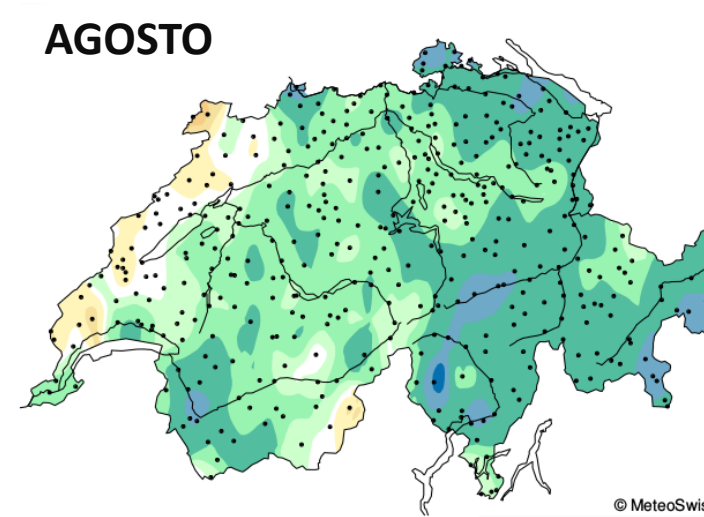
© MeteoSwiss  
RanomM8110 v1.0, 2020-07-26 12:02

LUGLIO



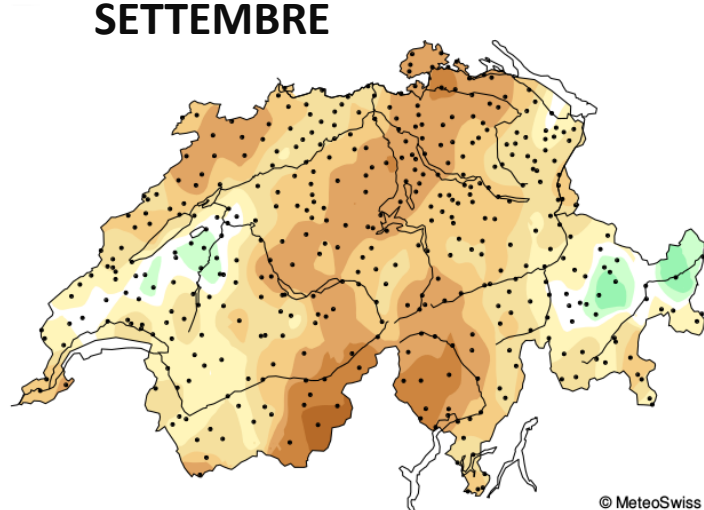
© MeteoSwiss  
RanomM8110 v1.0, 2020-08-26 12:02

AGOSTO



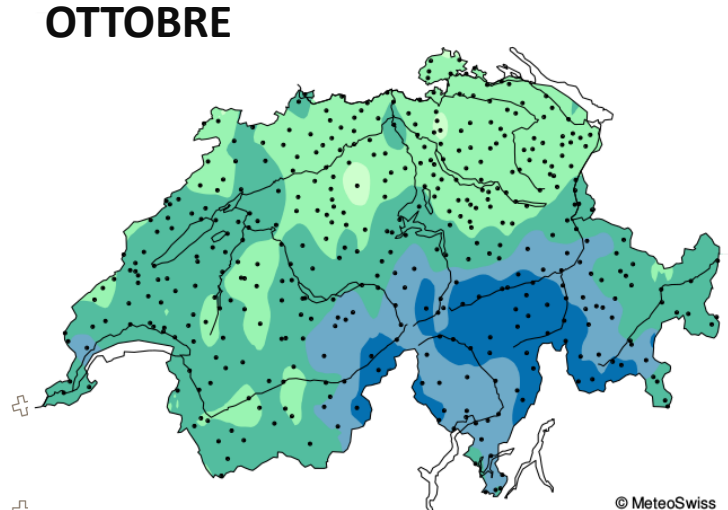
© MeteoSwiss  
RanomM8110 v1.0, 2020-09-26 12:02

SETTEMBRE



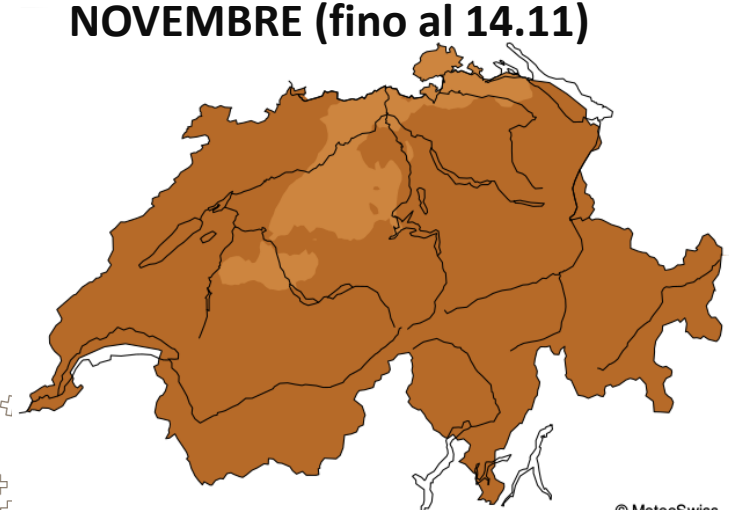
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RanomM8110 v1.0, 2020-10-26 12:02

OTTOBRE



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RanomM8110 v1.0, 2020-11-06 12:02

NOVEMBRE (fino al 14.11)

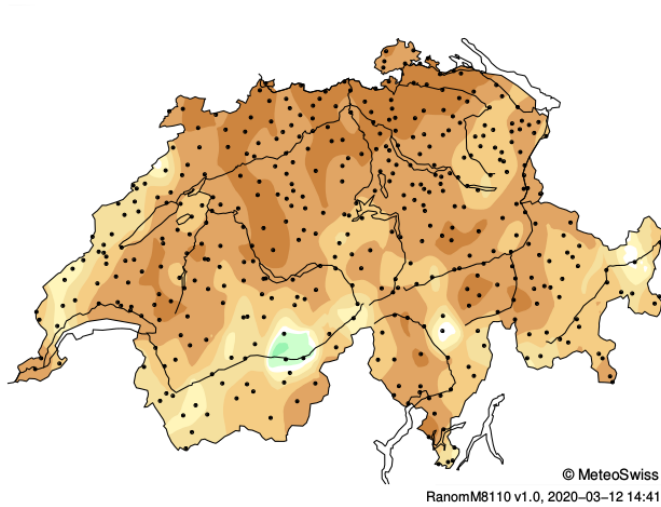


© MeteoSwiss  
RprelimD/RnomM8110, gridplot (gridplot, v0.1.2), 2020-11-15 09:03

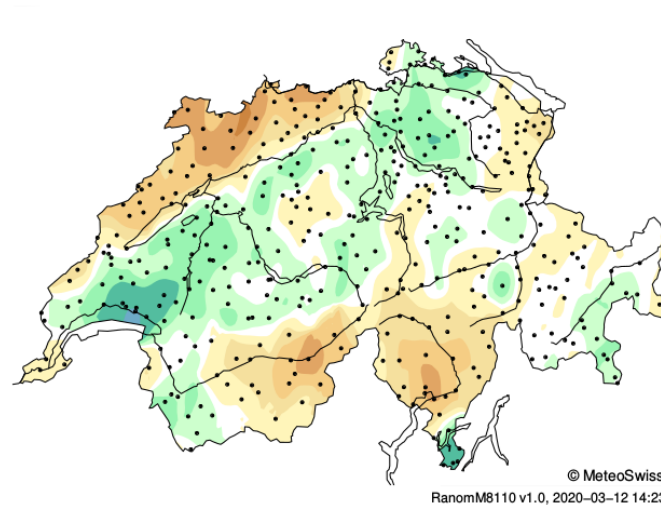


# Mese di luglio, 2015 - 2020

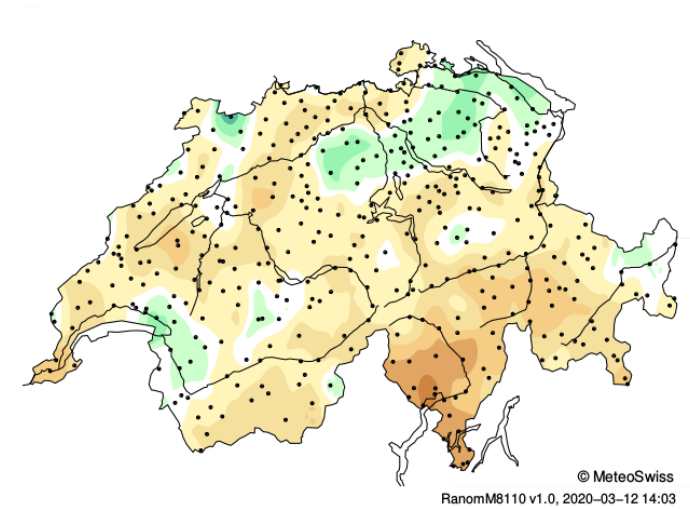
Monthly Precipitation Anomaly (%) Jul 2015 (Ref. 1981–2010)



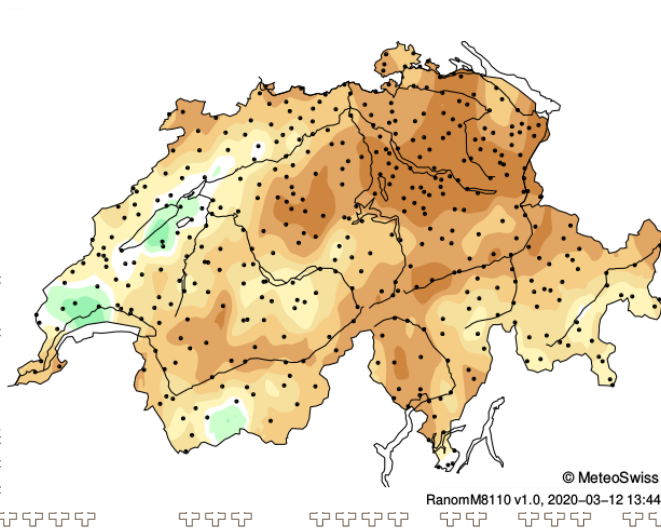
Monthly Precipitation Anomaly (%) Jul 2016 (Ref. 1981–2010)



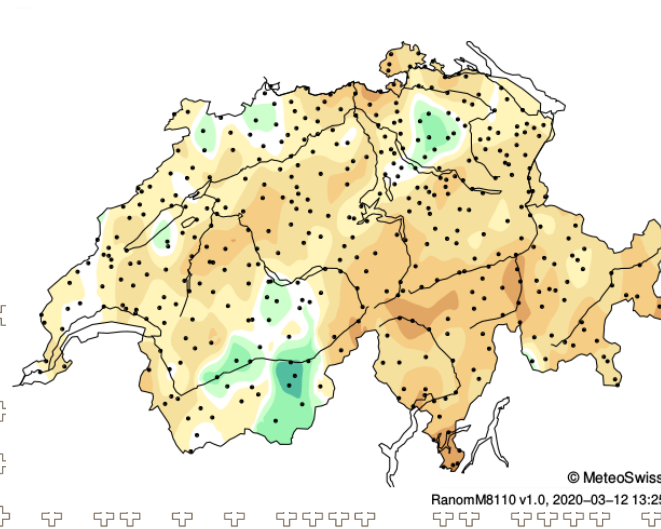
Monthly Precipitation Anomaly (%) Jul 2017 (Ref. 1981–2010)



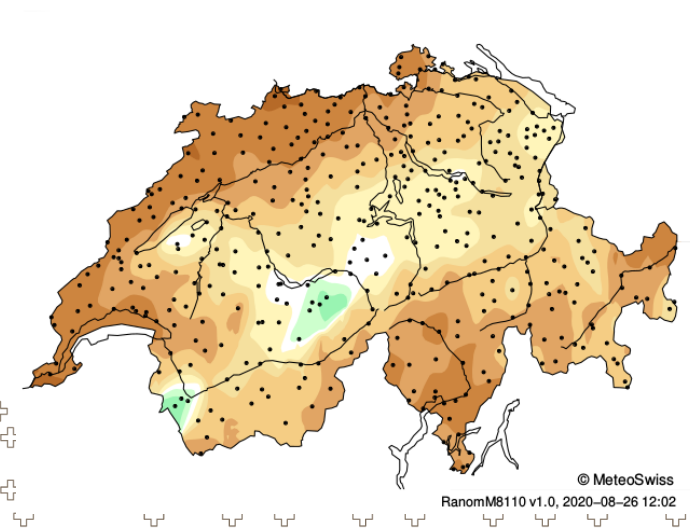
Monthly Precipitation Anomaly (%) Jul 2018 (Ref. 1981–2010)



Monthly Precipitation Anomaly (%) Jul 2019 (Ref. 1981–2010)



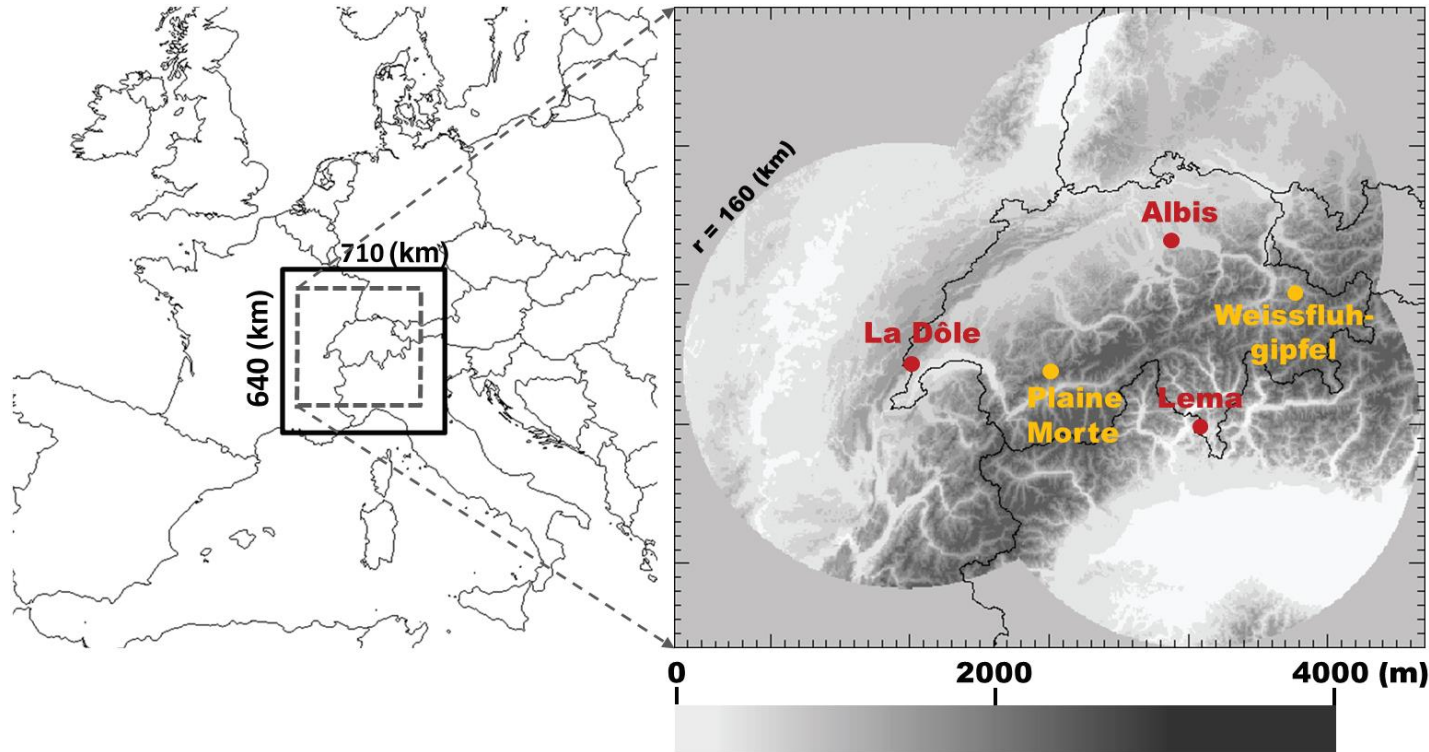
Monthly Precipitation Anomaly (%) Jul 2020 (Ref. 1981–2010)







# Attività temporalesca estate 2020



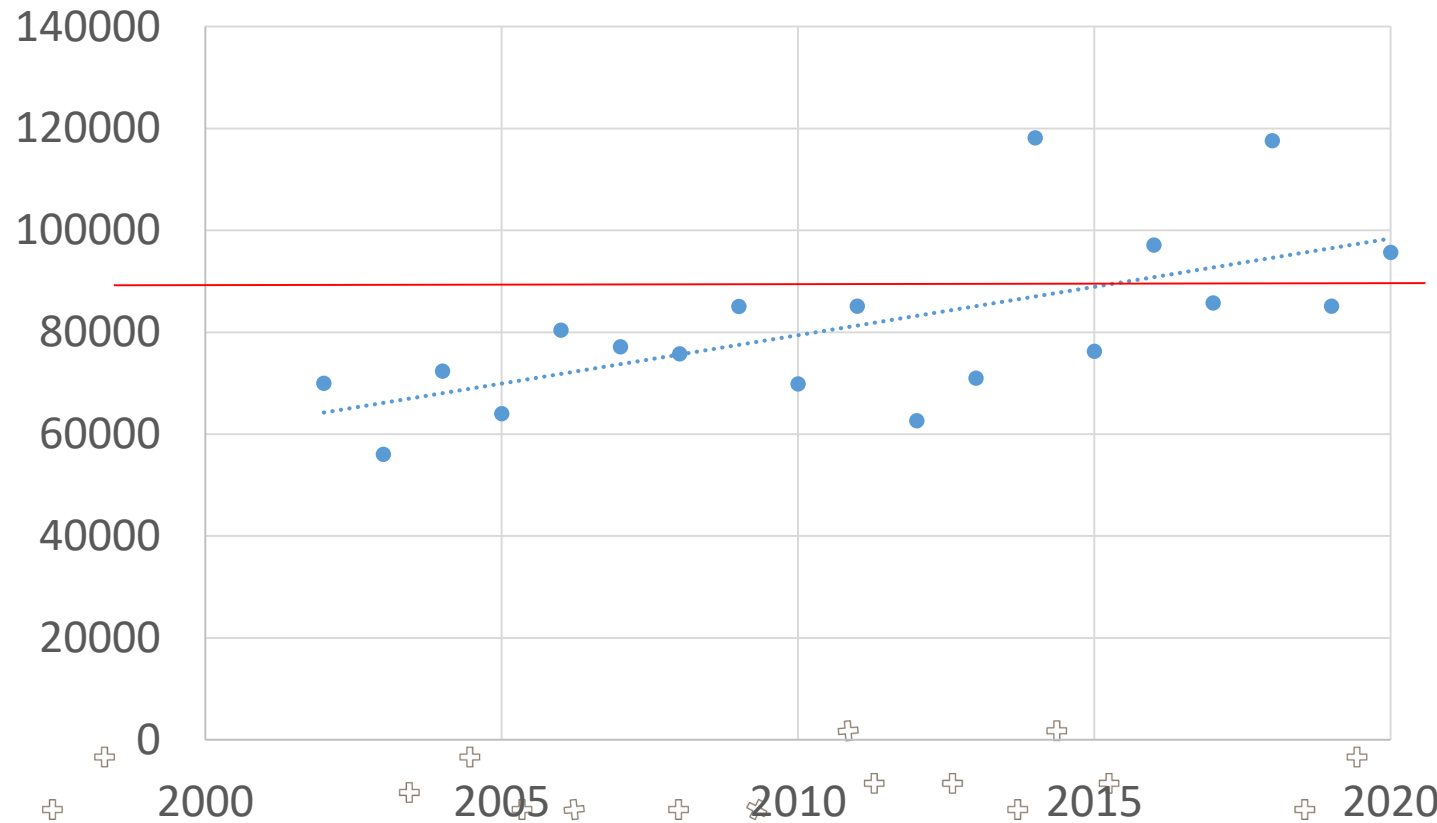
[http://www.tencia.ch/data/doc/2018\\_Nisi\\_etal\\_QJRM5\\_15-YearHailStreakClimatologyForTheAlpineRegion.pdf](http://www.tencia.ch/data/doc/2018_Nisi_etal_QJRM5_15-YearHailStreakClimatologyForTheAlpineRegion.pdf)

**MeteoSvizzera**



# Attività temporalesca estate 2020

## Numero di celle convettive



Media (81'316)

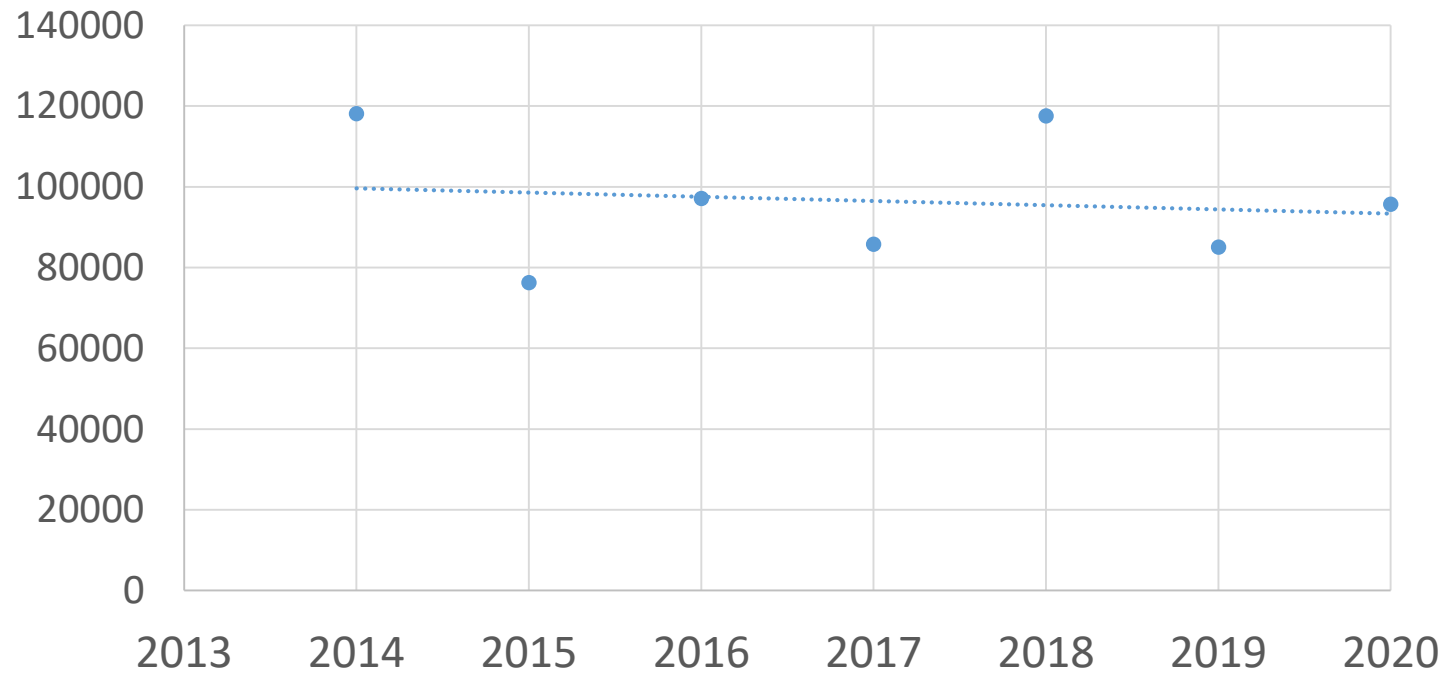
Trend lineare  
2002-2020

**MeteoSvizzera**



# Attività temporalesca estate 2020

## Numero di celle convettive



Media (96'523)

Trend lineare  
2014-2020

**MeteoSvizzera**



# Nuovo studio sul ciclo diurno dei temporali grandinigeni nelle Alpi

Received: 3 April 2020 | Revised: 3 August 2020 | Accepted: 7 August 2020

DOI: 10.1002/qj.3897

Quarterly Journal of the  
Royal Meteorological Society

## RESEARCH ARTICLE

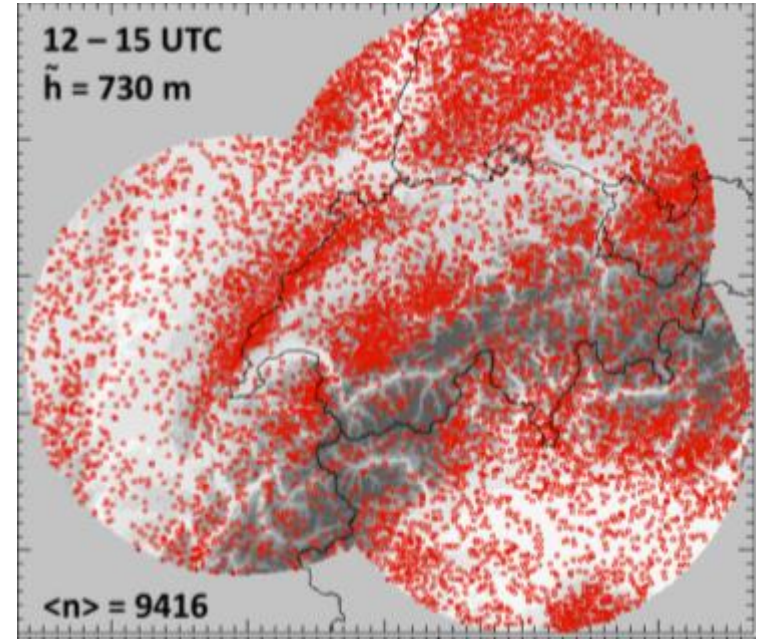
### Hailstorms in the Alpine region: Diurnal cycle, 4D-characteristics, and the nowcasting potential of lightning properties

L. Nisi<sup>1</sup> | A. Hering<sup>1</sup> | U. Germann<sup>1</sup> | K. Schroeer<sup>1</sup> | H. Barras<sup>1,2,3,4</sup> | M. Kunz<sup>5</sup> | O. Martius<sup>2,3,4</sup>

<sup>1</sup>Federal Office of Climatology and Meteorology MeteoSwiss, Zürich, Switzerland

#### Abstract

Nowcasting of hailstorms still poses a major challenge to weather services, because of the limited availability of reliable large datasets and the short



[http://www.tencia.ch/data/doc/2020\\_Nisi\\_et al\\_QJ RMS\\_Hailstorms\\_in\\_the\\_Alpine\\_region\\_Diurnal\\_cycle\\_4D\\_characteristics\\_and\\_the\\_nowcasting\\_potential\\_of\\_lightning\\_properties.pdf](http://www.tencia.ch/data/doc/2020_Nisi_et al_QJ RMS_Hailstorms_in_the_Alpine_region_Diurnal_cycle_4D_characteristics_and_the_nowcasting_potential_of_lightning_properties.pdf)

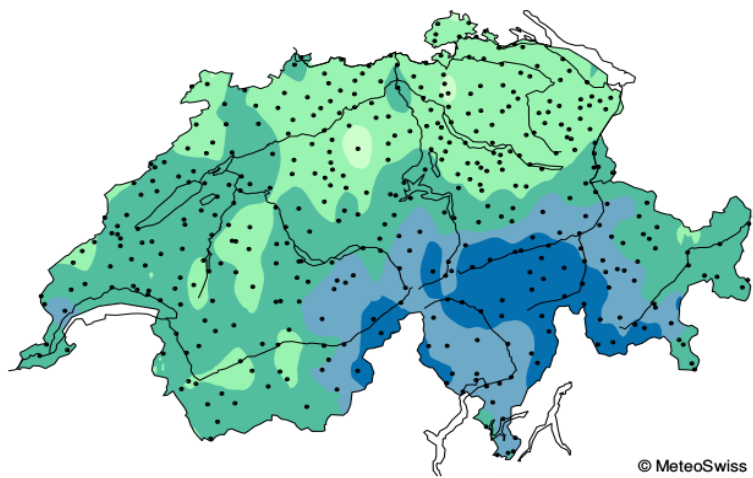
**MeteoSvizzera**





# Precipitazioni concentrate in pochi eventi

Monthly Precipitation Anomaly (%) Oct 2020 (Ref. 1981–2010)



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RanomM8110 v1.0, 2020-11-06 12:02

28-30 agosto 2020

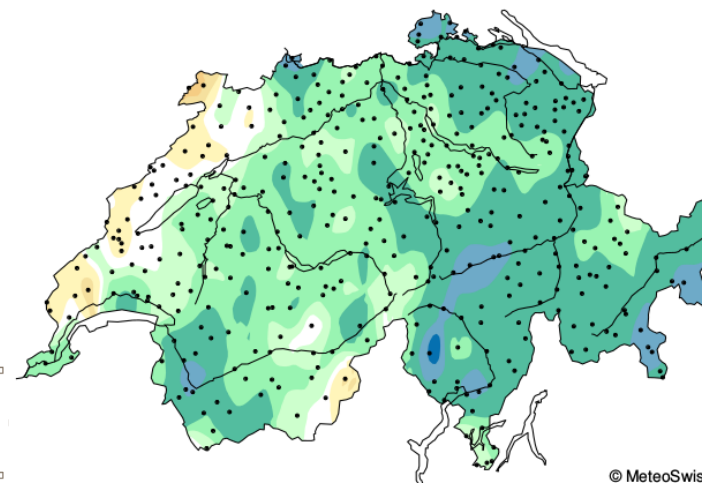
MeteoSvizzera

Alpensüdseite

	DIS	SBE	PIO	OTL	MAG	LUG	SBO	ROB
10.5	0.5	2.4	0.0	11.2	0.0	0.0	0.0	
7.8	10.2	14.7	1.6	0.6	0.5	6.7	14.6	
16.7	11.9	0.6	4.4	4.0	21.2	20.5	20.5	
4.7	3.4	2.1	0.0	0.0	0.0	0.0	2.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	
1.4	7.1	2.6	0.0	1.1	0.0	0.7	0.5	
0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	
0.7	26.3	1.3	0.6	24.9	31.0	0.9	0.5	
1.3	5.7	3.0	0.5	8.5	2.0	22.5	4.8	
8.4	2.4	3.3	7.1	14.9	0.1	0.4	1.2	
0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	
0.0	0.1	0.2	29.1	13.5	9.7	15.6	0.0	
25.0	36.6	32.1	15.7	40.5	8.5	4.5	12.5	
1.3	2.2	0.1	0.0	0.0	0.0	0.0	0.2	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2.0	4.6	4.5	11.8	17.9	0.0	0.0	1.4	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
32.0	47.4	14.4	86.0	138.5	102.7	28.0	44.1	
89.8	110.7	104.1	146.8	103.8	14.4	15.6	80.9	
46.2	37.6	92.2	28.2	9.6	10.2	15.8	30.4	
0.3	0.1	0.0	0.1	0.0	0.0	1.4	2.0	
248	306	278	332	389	200	134	224	

2-3 ottobre 2020

Monthly Precipitation Anomaly (%) Aug 2020 (Ref. 1981–2010)



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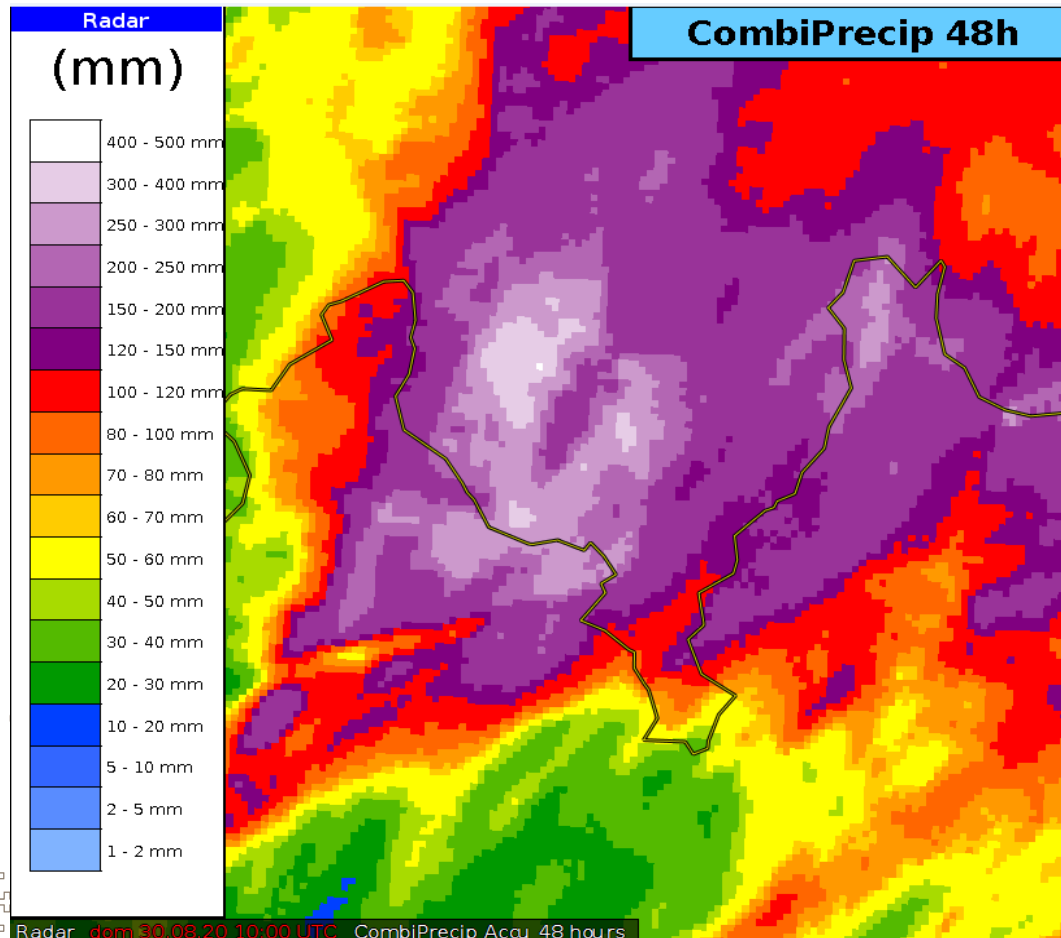
Alpensüdseite

	DIS	SBE	PIO	OTL	MAG	LUG	SBO	ROB
0.6	1.6	4.0	4.8	3.8	0.0	0.0	0.0	
84.9	99.6	123.7	159.1	106.8	107.1	97.0	36.3	
59.2	70.5	87.4	59.5	46.3	46.1	42.0	49.6	
36.7	37.6	47.1	53.0	49.3	27.7	30.6	14.6	
2.2	6.0	4.2	2.1	4.7	4.8	1.8	4.4	
3.8	9.9	10.4	1.6	1.7	1.0	1.2	3.4	
2.2	0.7	0.4	0.0	0.1	0.0	0.1	2.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1.3	2.3	0.0	0.2	0.5	2.2	0.3	0.1	
1.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7.1	0.9	0.9	2.8	1.3	3.4	8.2	0.0	
0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1.7	9.3	7.7	5.3	3.4	0.9	3.6	0.2	
6.4	44.5	29.8	34.7	31.5	29.4	28.7	29.7	
2.7	1.9	0.1	0.1	0.2	0.0	0.1	1.9	
0.0	2.3	1.2	1.2	0.5	2.4	3.3	0.3	
43.1	76.2	44.6	46.0	79.4	60.0	59.2	58.0	
1.8	1.2	0.0	0.5	1.7	2.8	11.1	0.4	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
257	366	362	371	331	288	288	201	

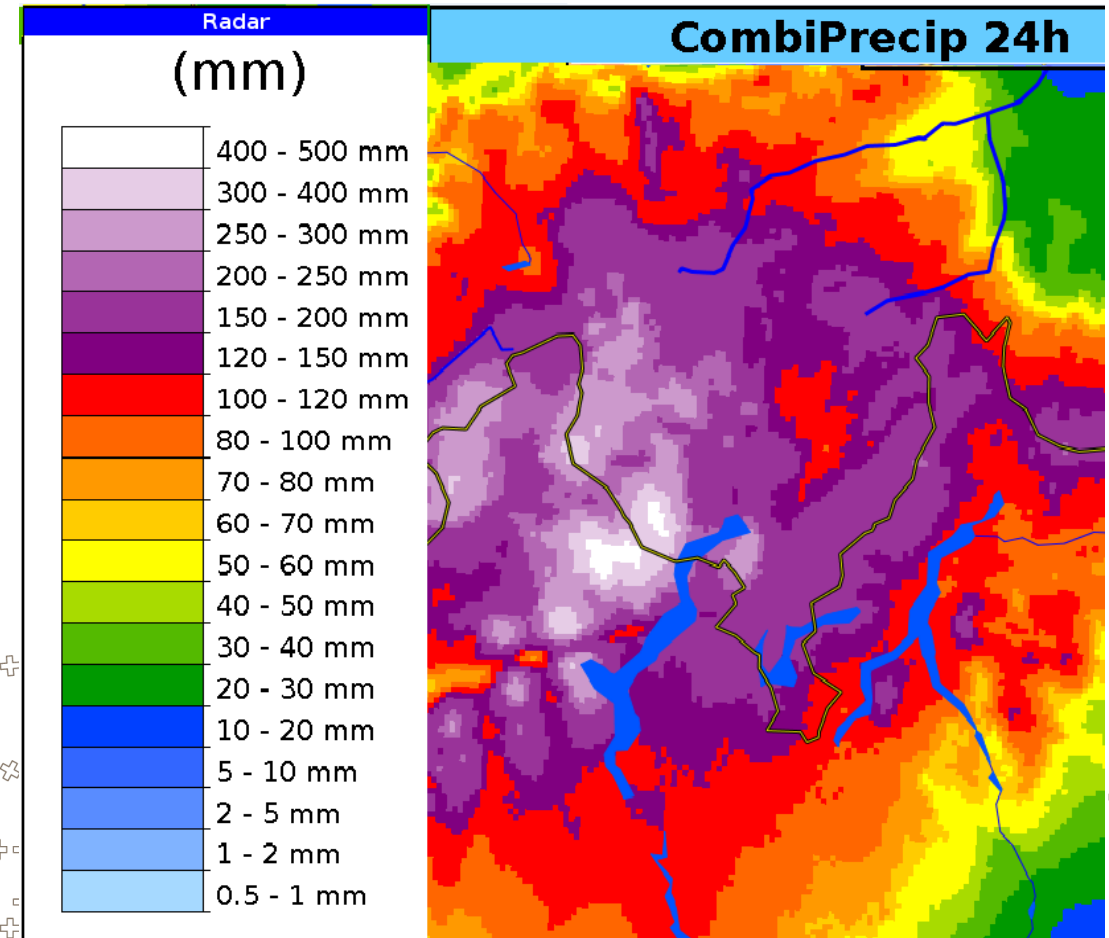


# 2 eventi con forti precipitazioni in poche settimane...

28-30.08.2020

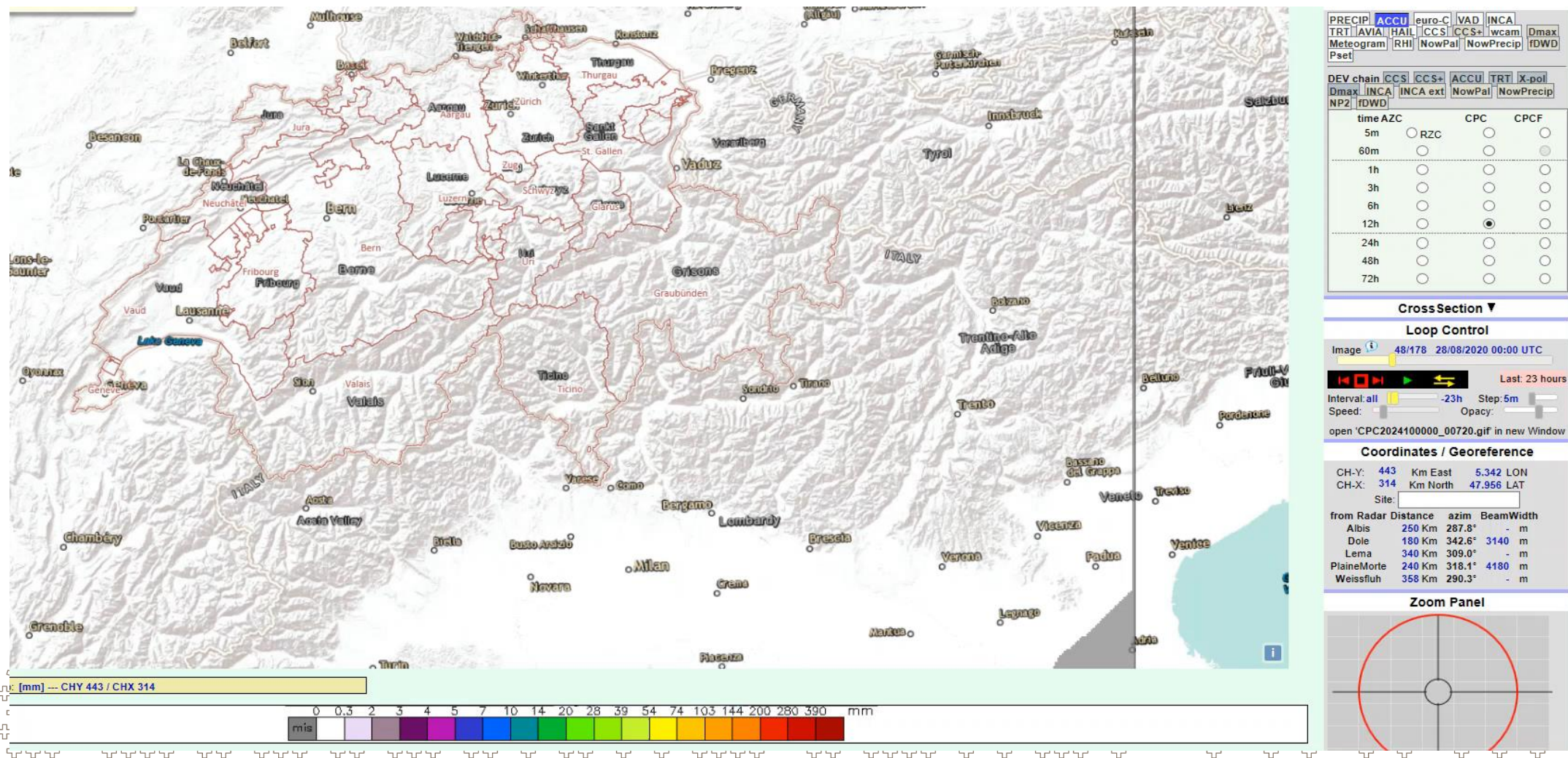


02-03.10.2020





# Linee temporalesche

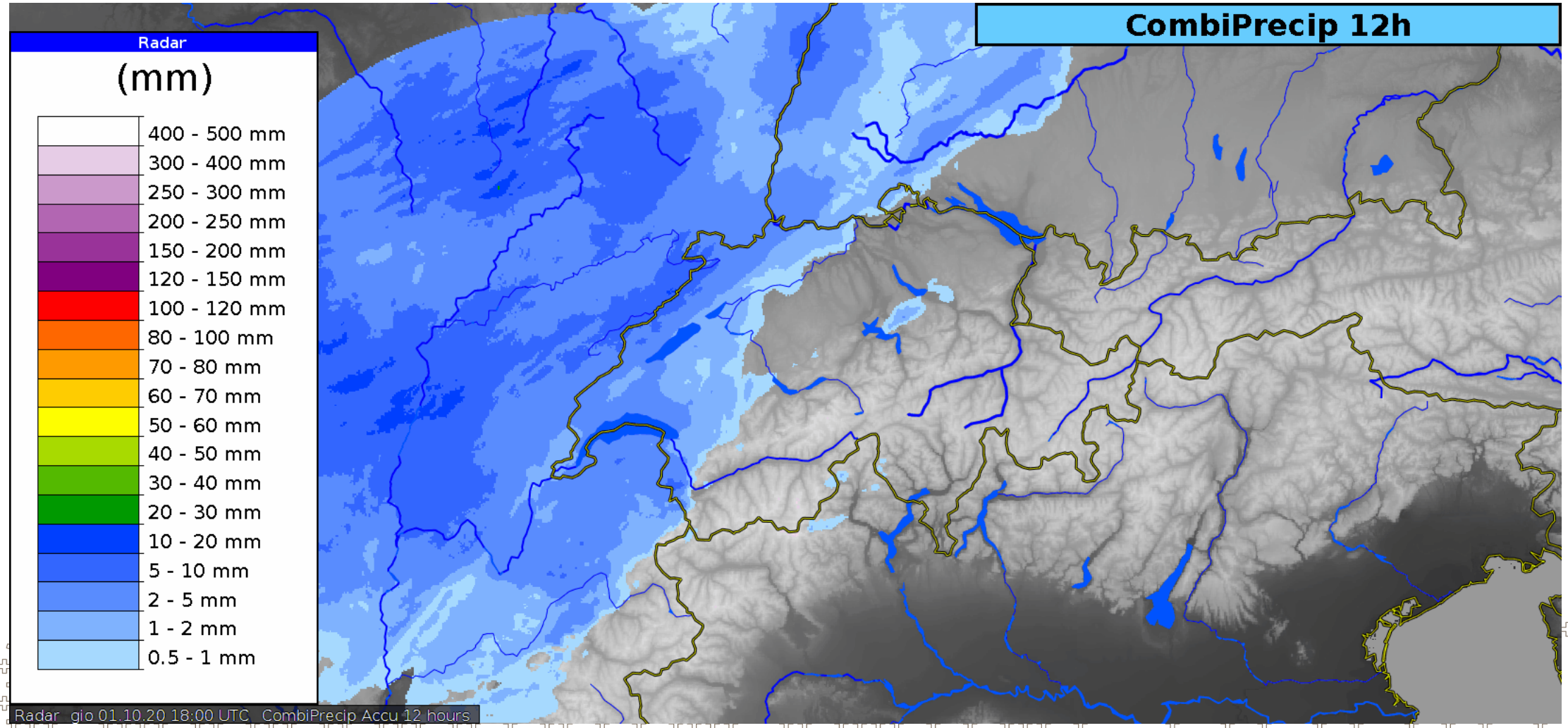






# Caratteristiche 02-03.10.2020

Precipitazioni estese (pochi temporali)







# Livello del Lago Maggiore

## Der Pegel des Lago Maggiore steigt in 11 Tagen um 3 Meter

Von einem Extrem ins andere: Der Lago Maggiore ist nach dem Dauerregen im Tessin über die Ufer getreten.

Aktualisiert: 08.11.2018, 15:55



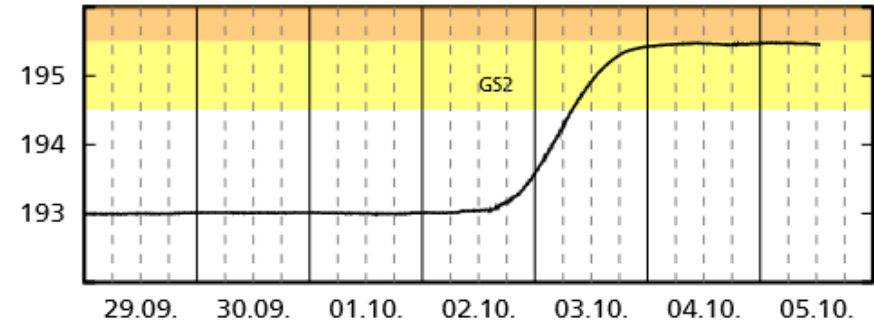
Der See könne sogar innerhalb von nur 24 Stunden um einen Meter ansteigen, sagt Hydrologe Daniel Streit. Video: sda

## Lago Maggiore - Locarno 2022

### Aktuelle Situation

#### Wasserstand

m ü.M.



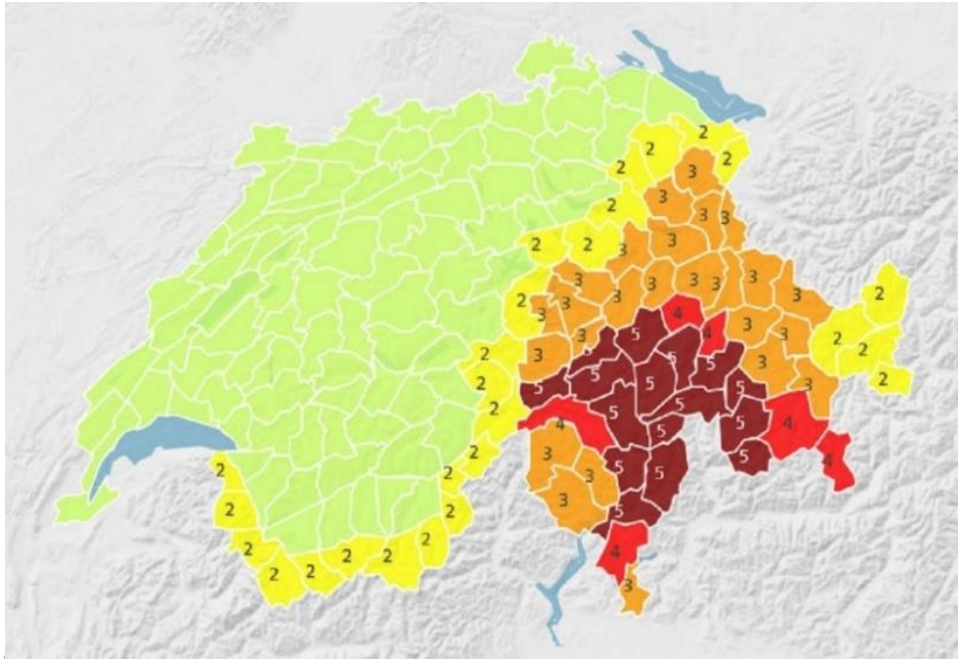
Oltre 2 metri in 24 ore

Messwerte	Wasserstand
	05.10.2020 13:10
	m ü.M.
Letzter Messwert	195.45

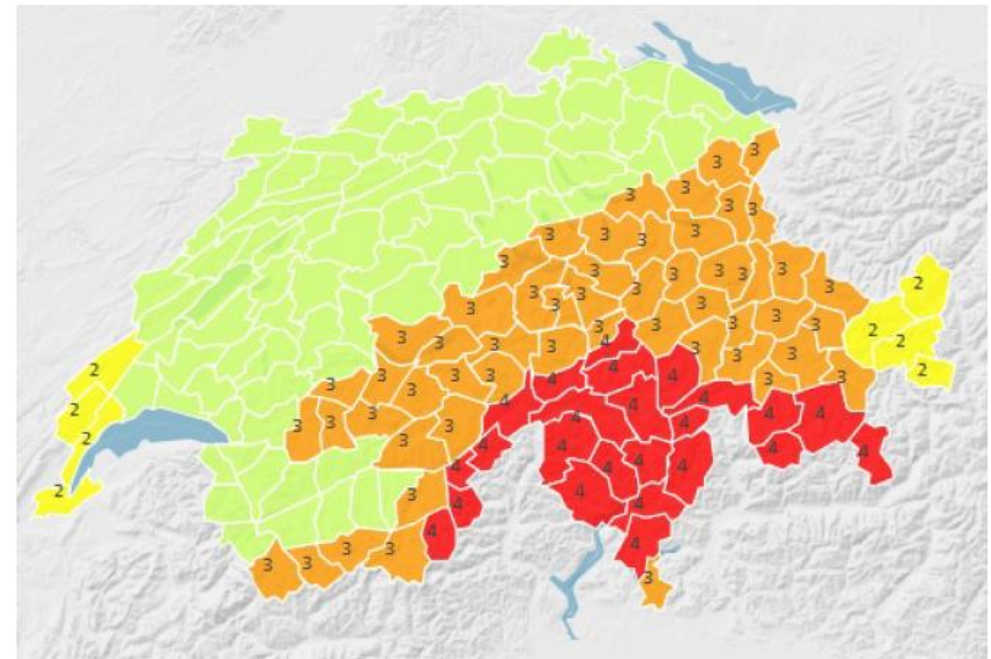


# Allerte

28-30.08.2020



02-03.10.2020

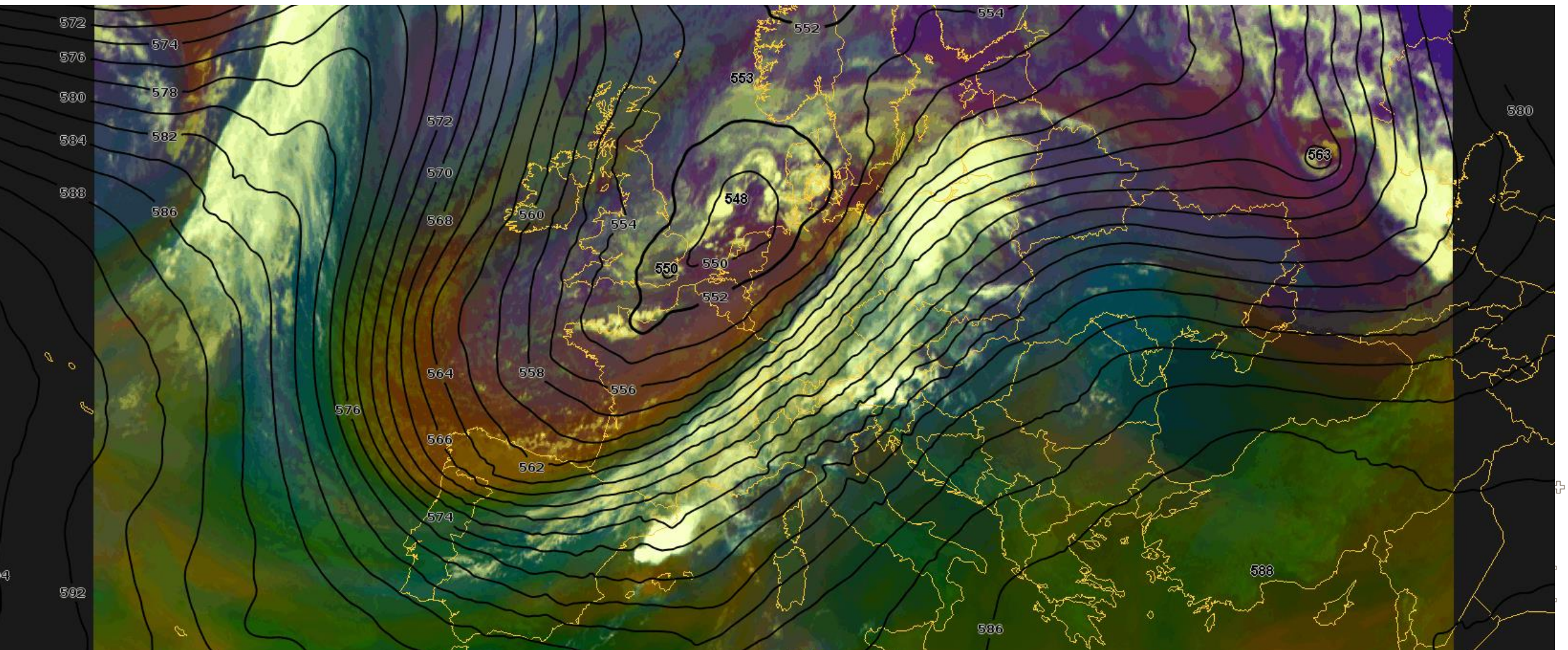


**MeteoSvizzera**





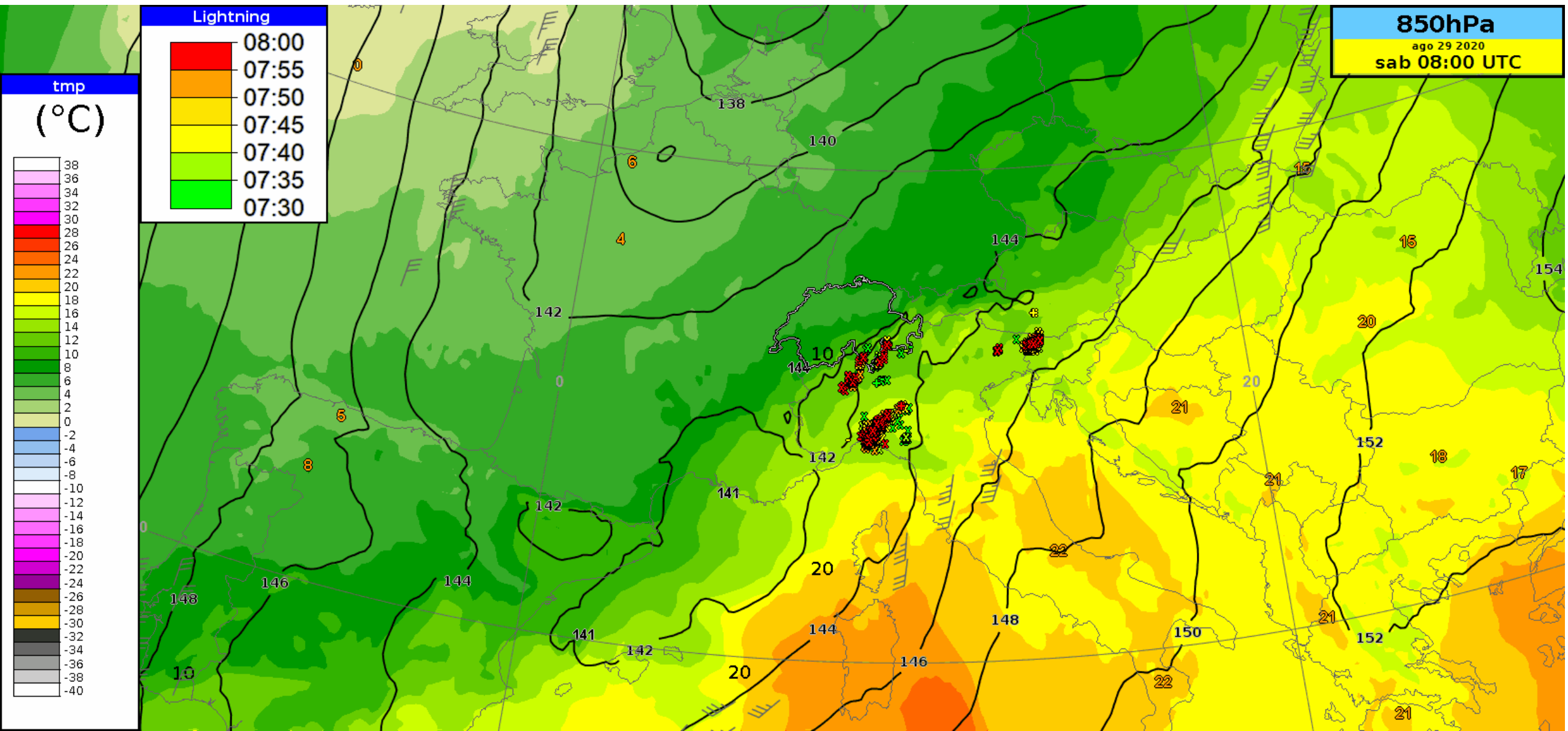
28-30.08.2020







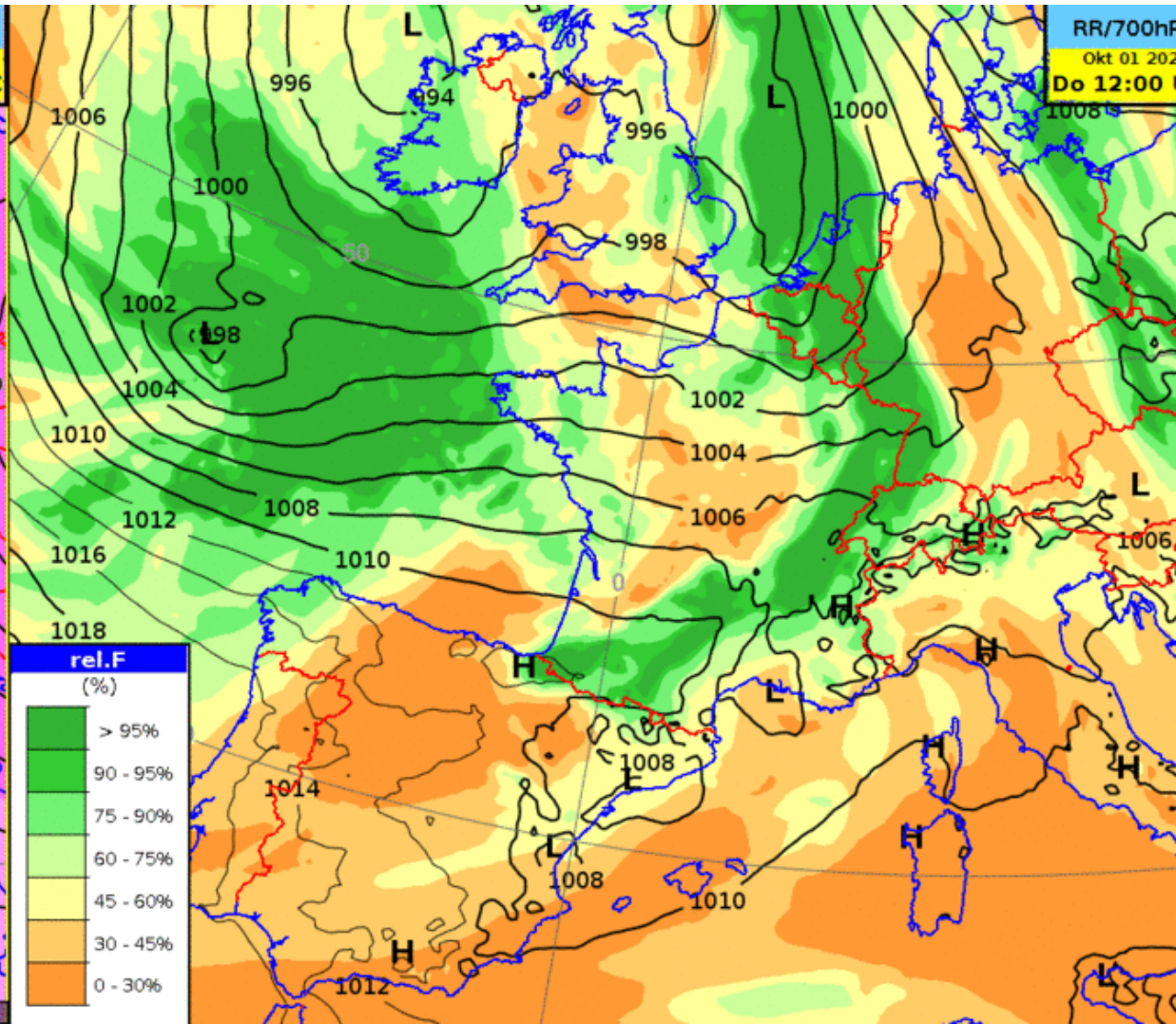
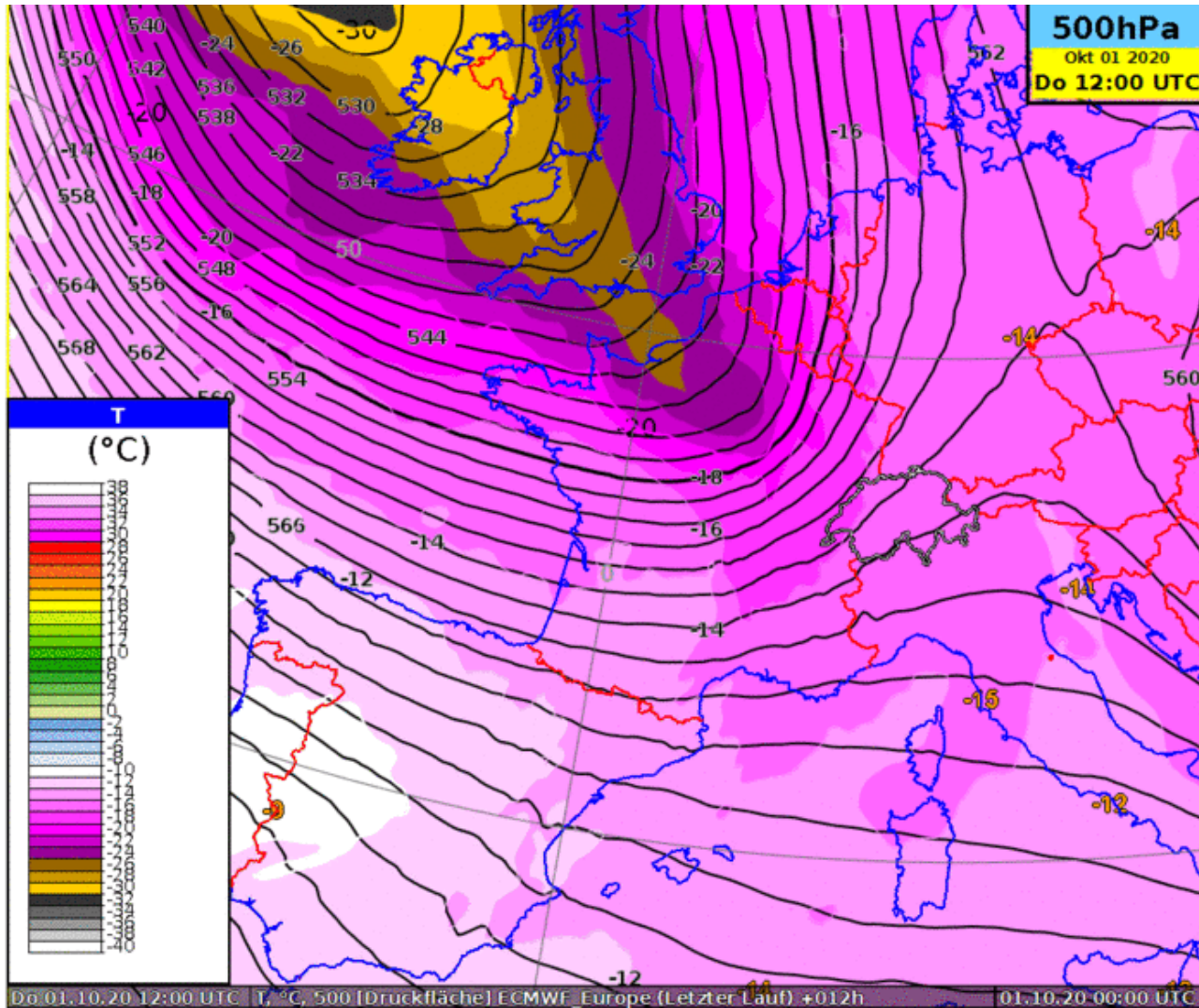
# 28-30.08.2020





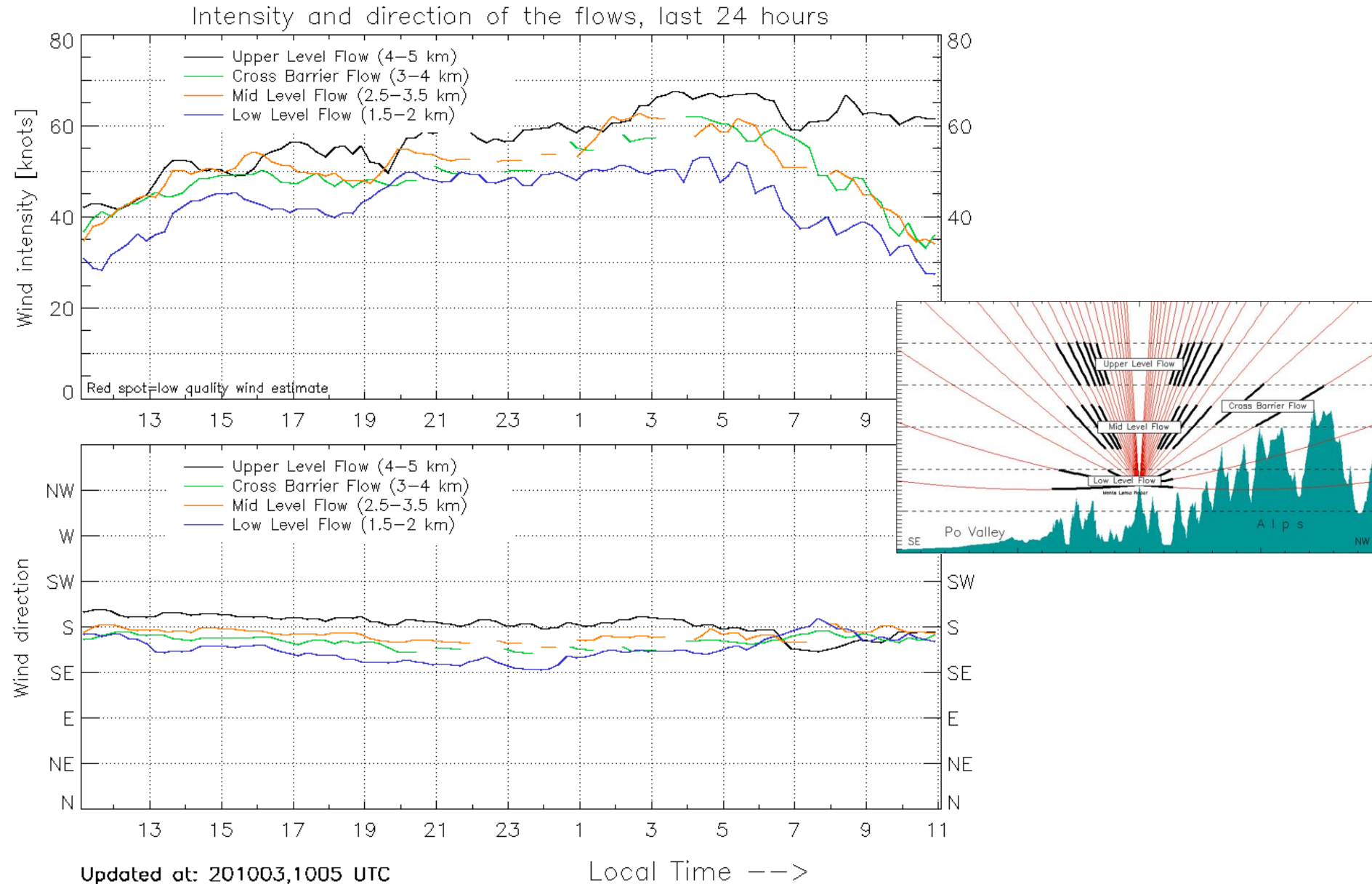


02-03.10.2020



# Heavy orographic rainfall event 2 – 3 October 2020

## Mesoscale winds

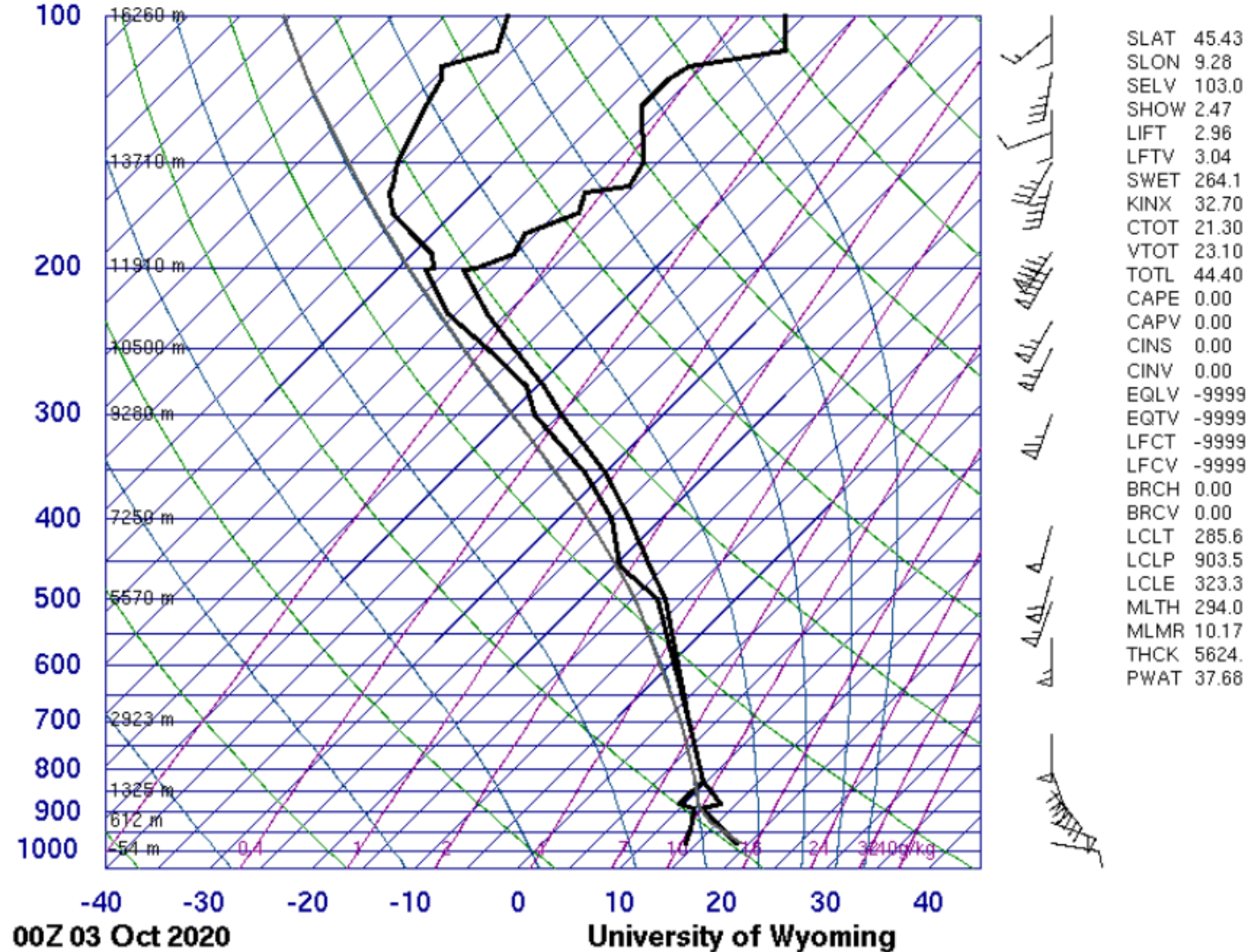




# Heavy orographic rainfall event 2 – 3 October 2020

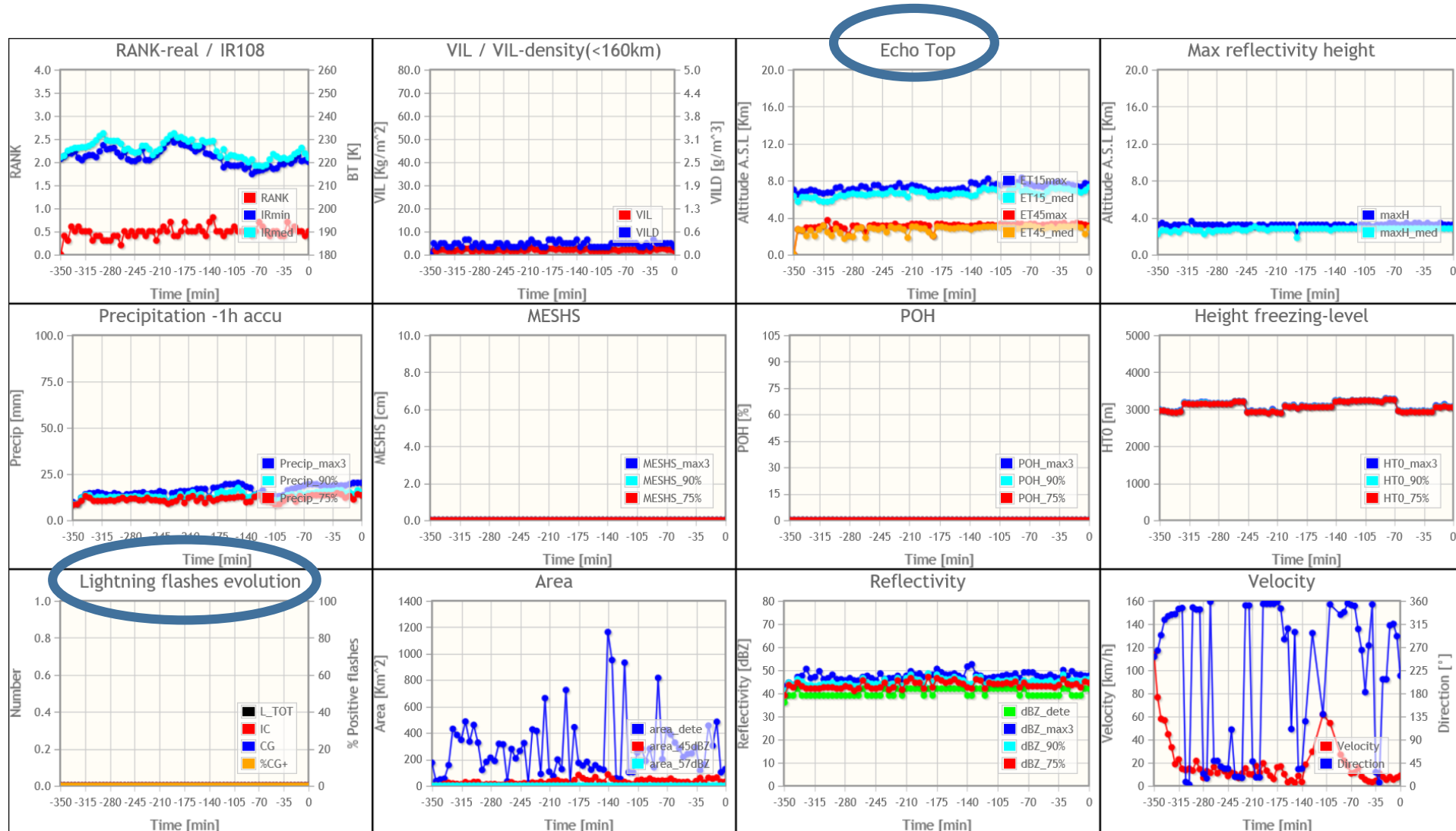
## Milano sounding during the event

16080 LIML Milano



# Heavy orographic rainfall event 2 – 3 October 2020

A very weak (convective) cell from TRT: Max Refl. > 36 dBZ (+6 dBZ)







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Confederazione Svizzera  
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