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Reanalysis Stories

Stefan Brönnimann

Peter Stucki

Marcelo Zamuriano

and students of the Institute of Geography and Oeschger
Centre for Climate Change Research, University of Bern

Bern, 15 June 1910



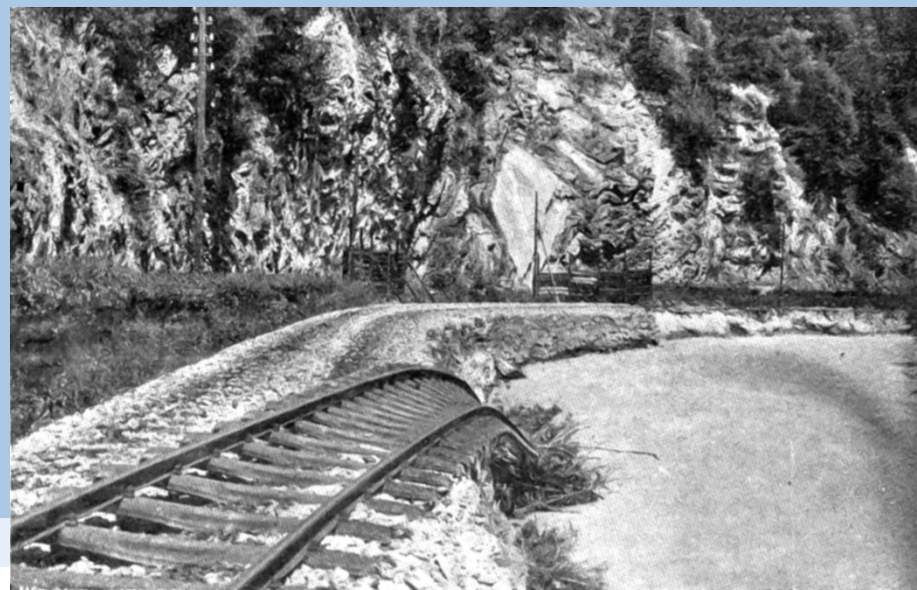
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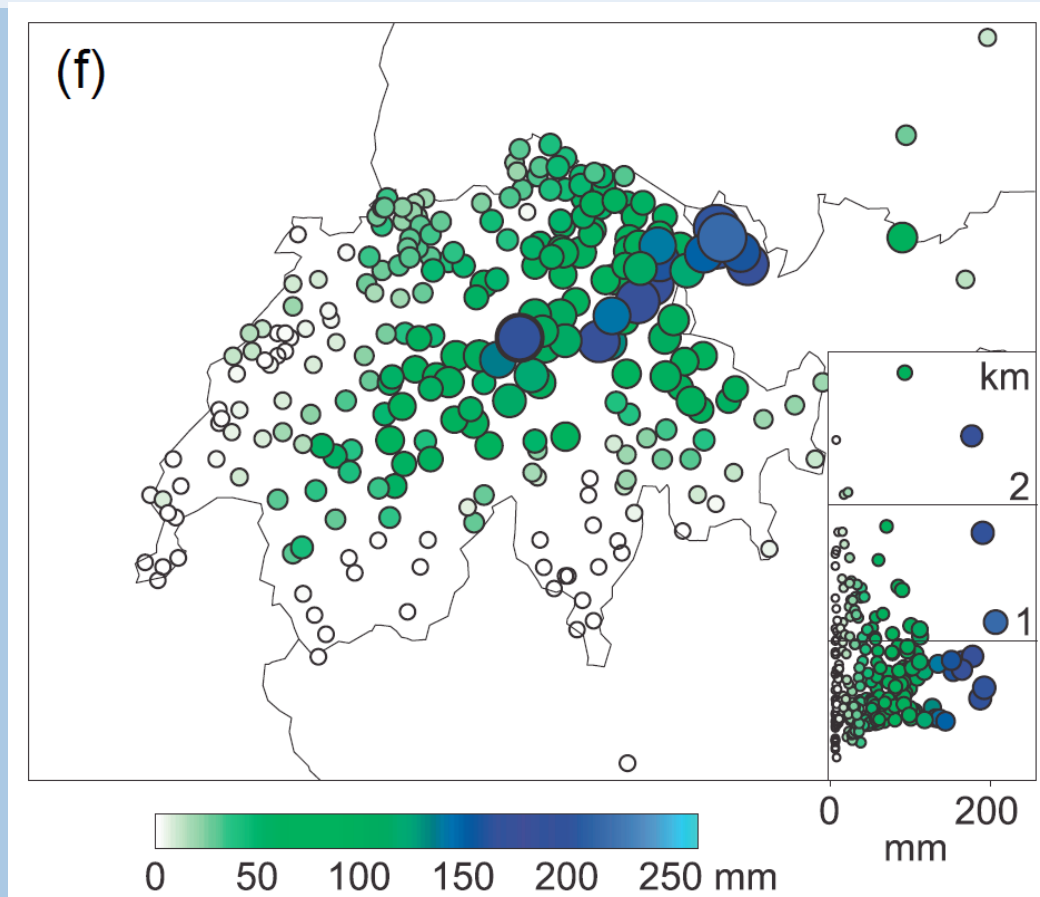
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Switzerland, 15 June 1910



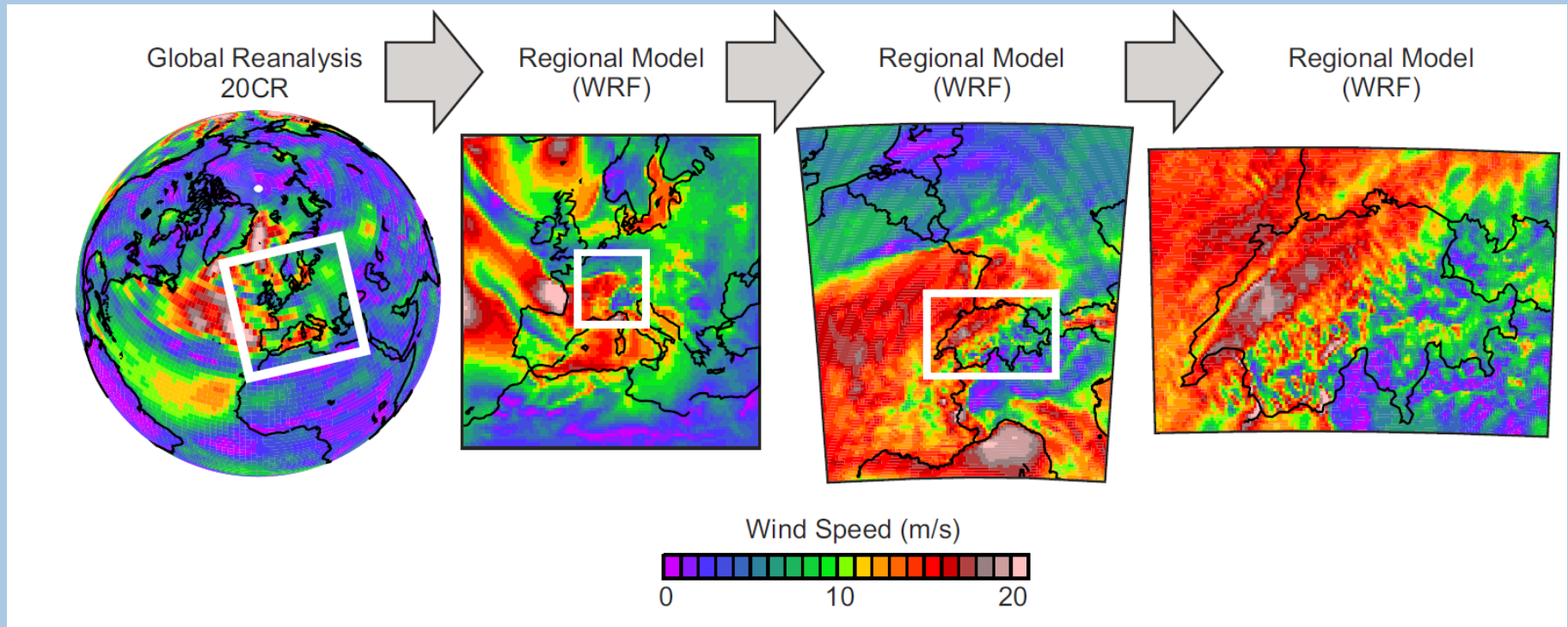
Precipitation observations



Stucki et al. 2012

<http://earth.fdn-dev.iwi.unibe.ch/#1910/06/15/0000Z/wind/surface/level/overlay=temp/orthographic=0.00,0.00,512>

Dynamical Downscaling Using WRF



Silke Dierer, Peter Stucki, Marcelo Zamuriano, Yuri Brugnara

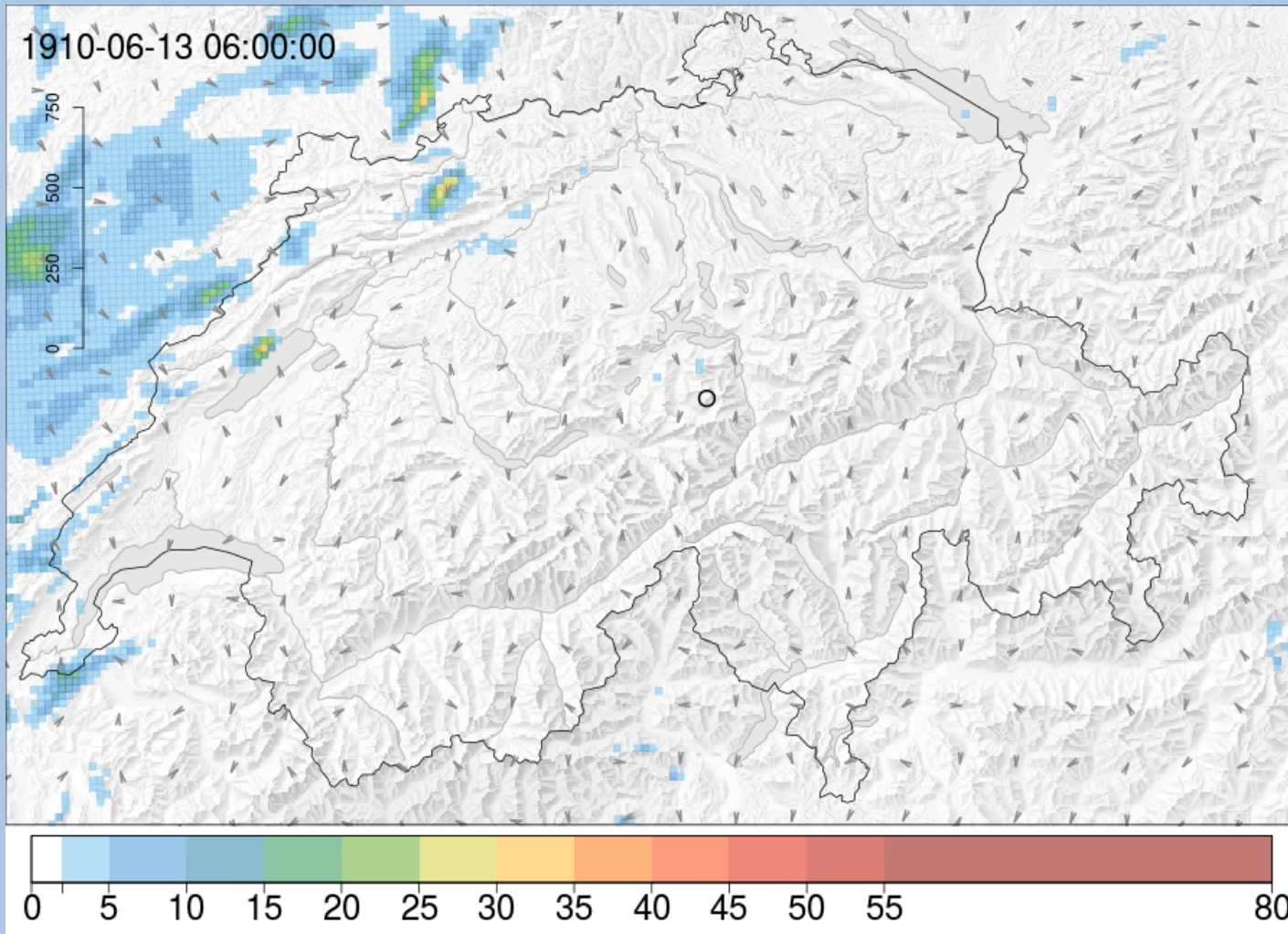
Dynamical Downscaling of 1910 event

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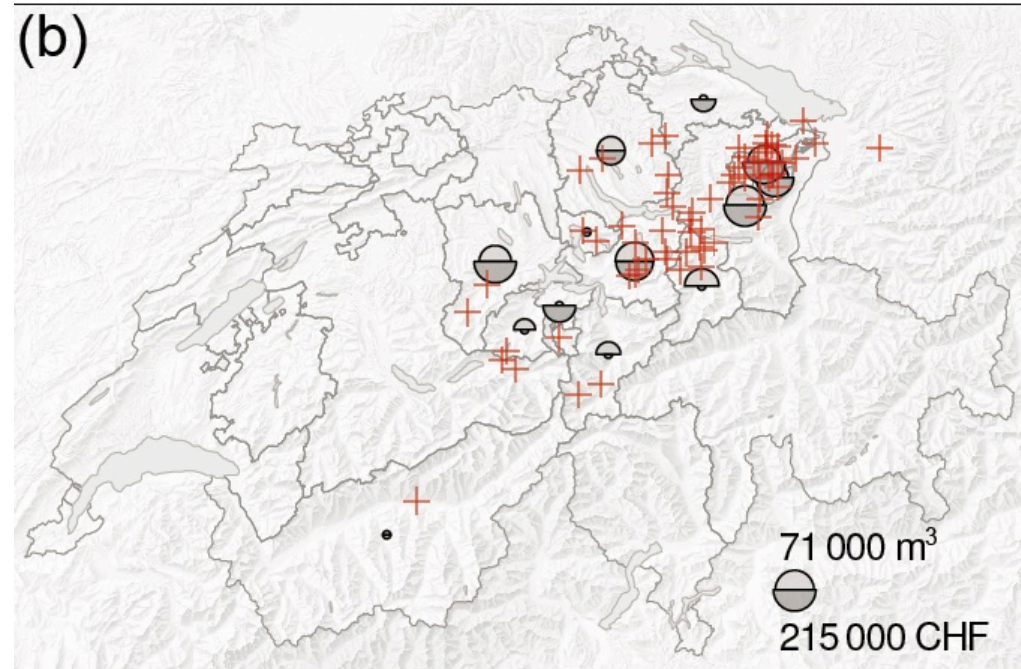
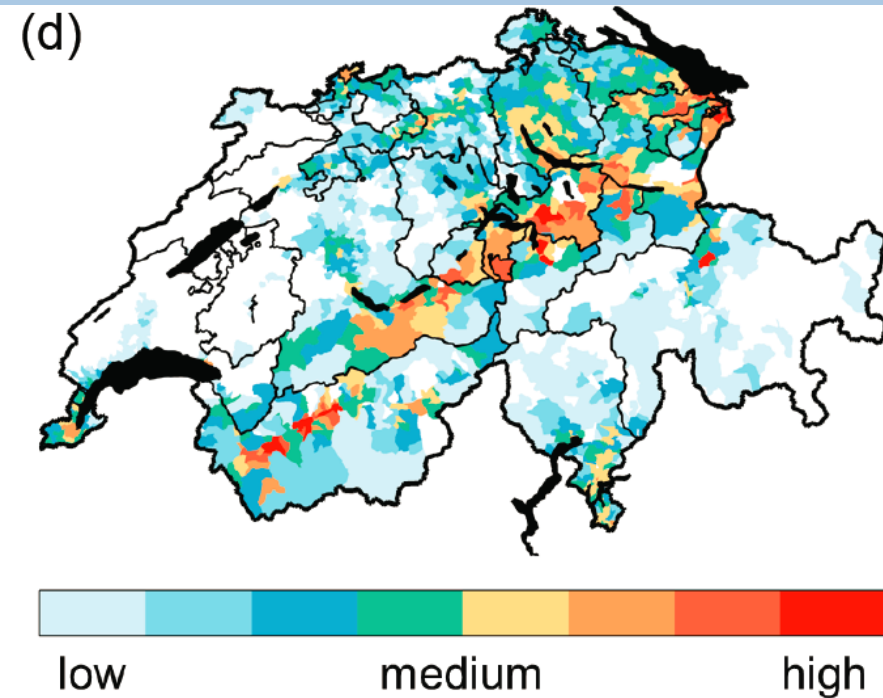
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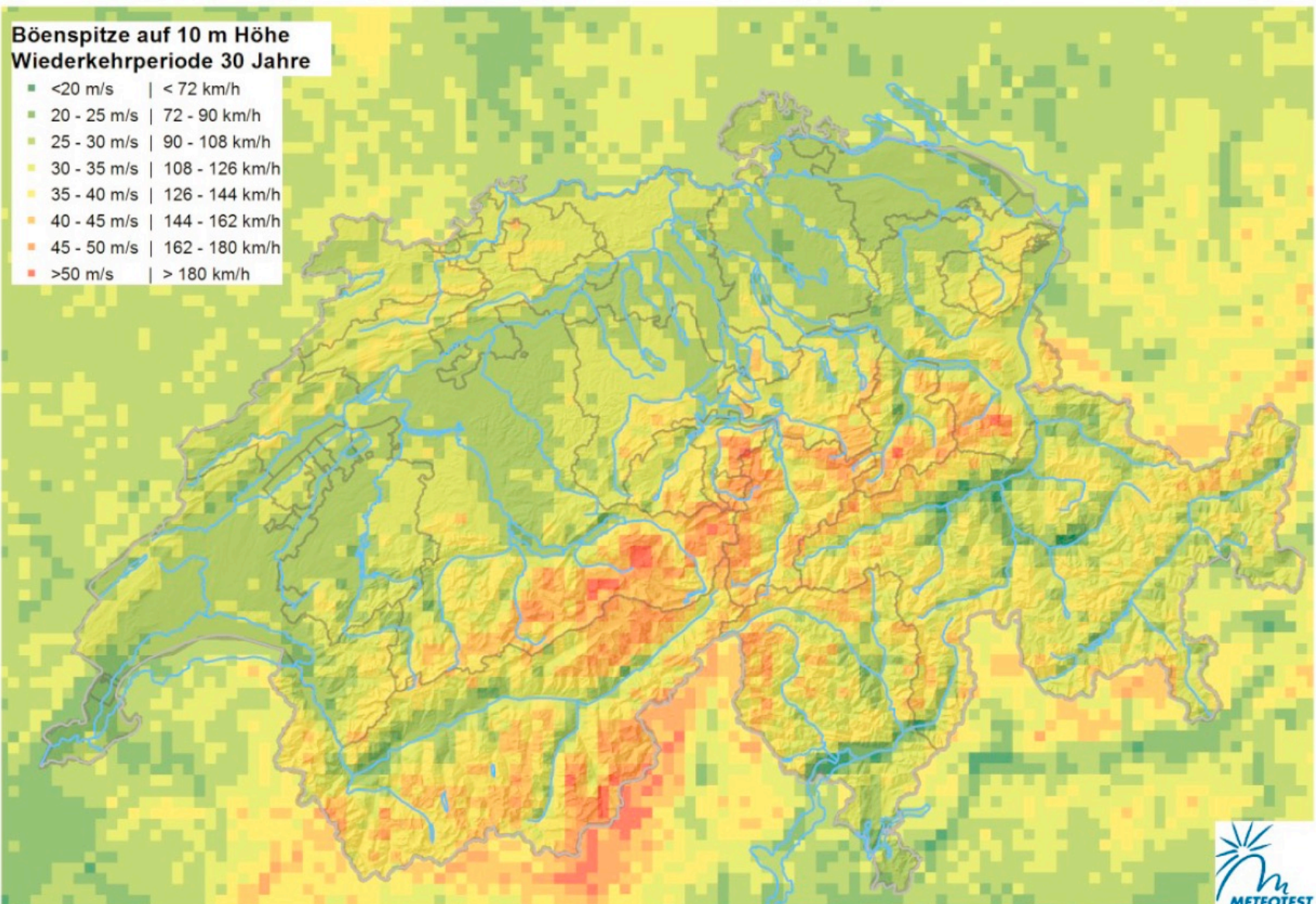


Impact Modeling: Windstorm 1925



Stucki et al. 2015

Swiss Storm Risk Map



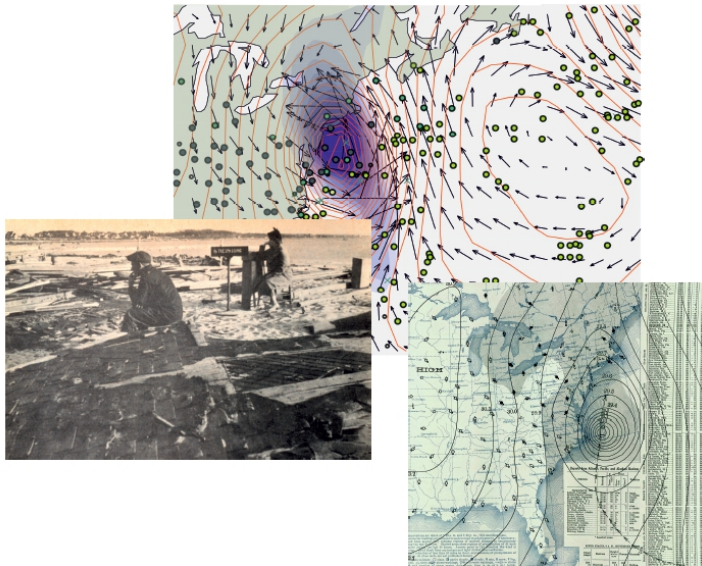
Book published today

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Historical Weather Extremes in Reanalyses

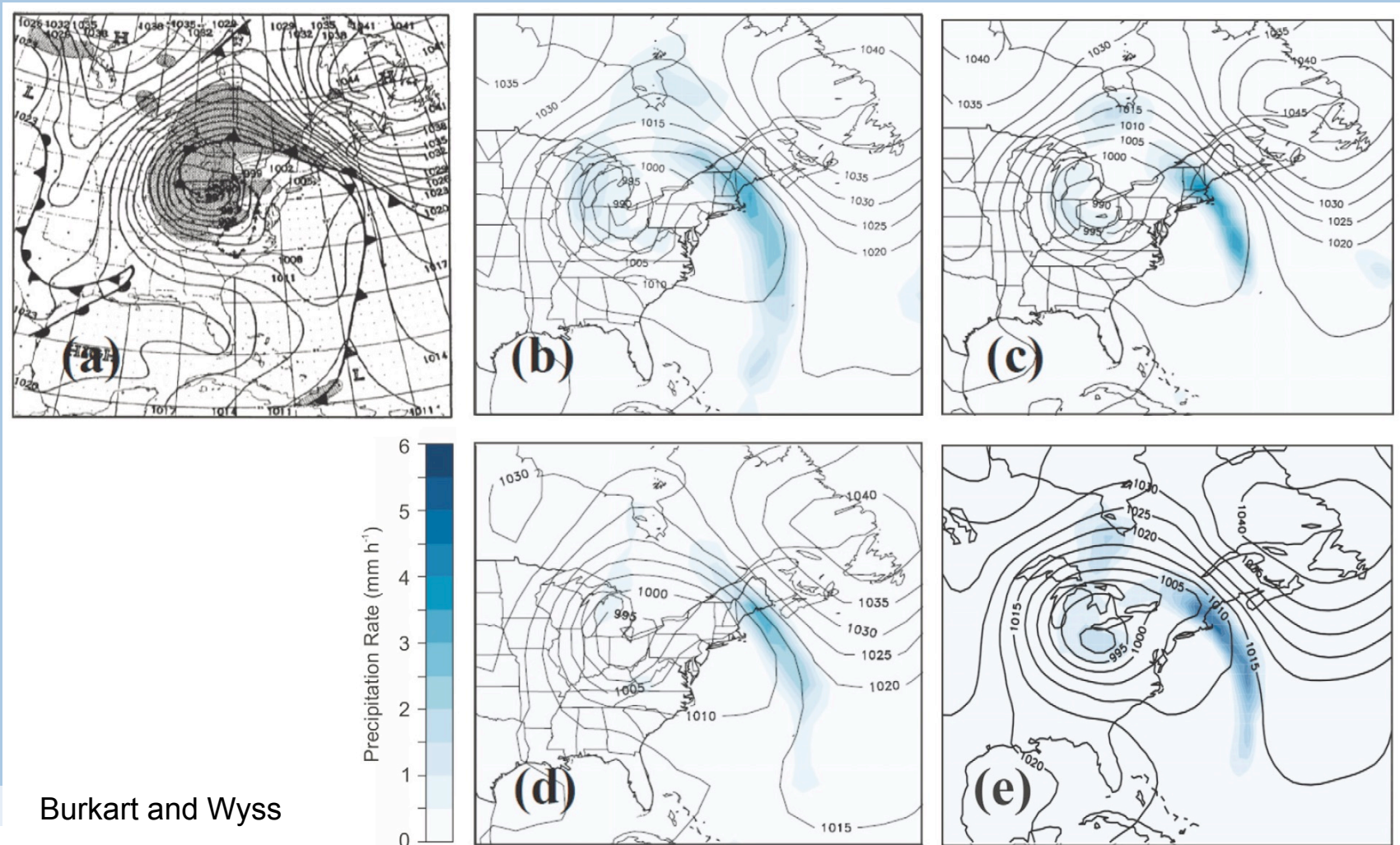
Stefan Brönnimann (Editor)



http://www.geography.unibe.ch/dienstleistungen/geographica_bernensia/online/gb2017g92/index_ger.html

Students of Seminar in Climatology

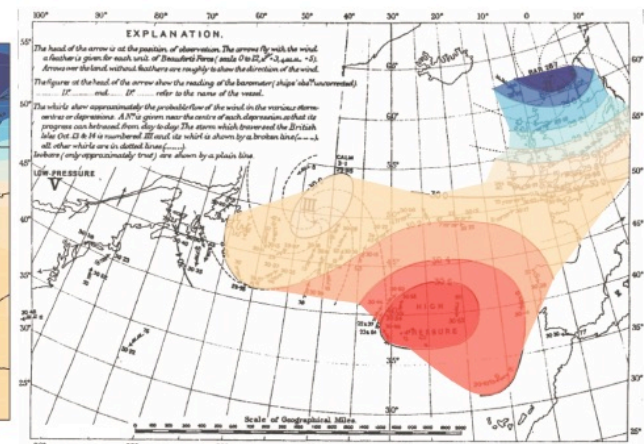
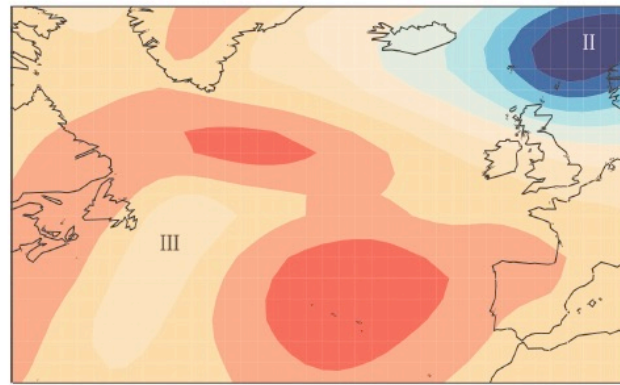
- > Comparison of 4 reanalyses for the «Great Appalachian Storm» 1950



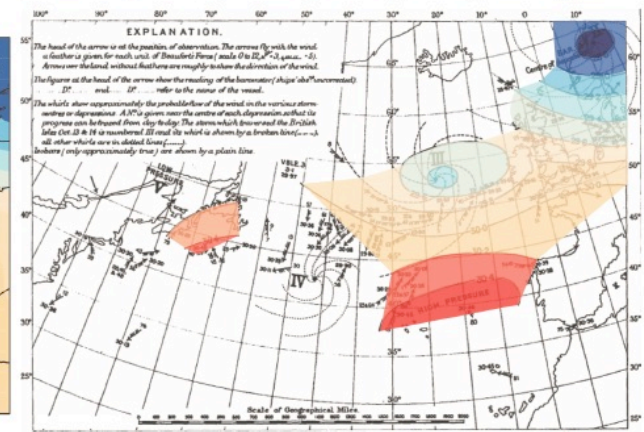
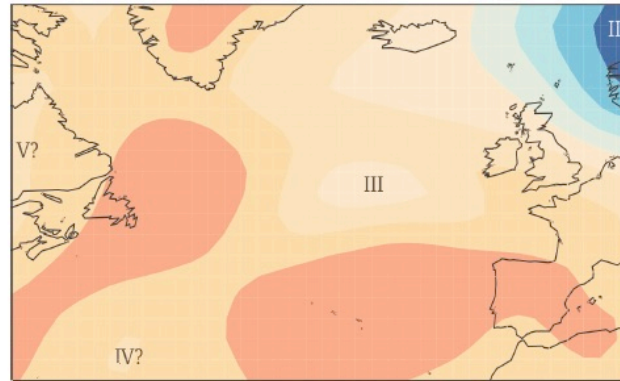
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- > «Great Gale» of 1881
- > Sequence of reanalysis and hand-analysed maps

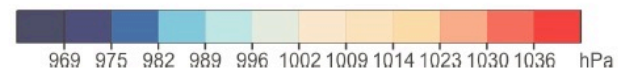
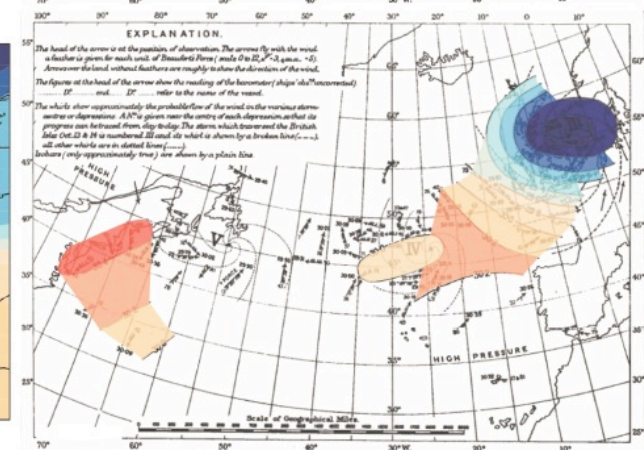
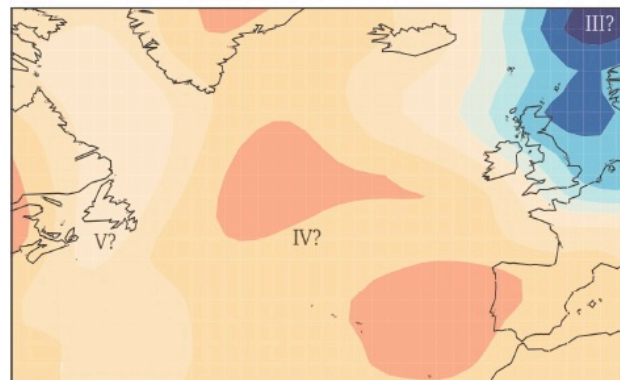
12 October 1881, 12 UTC



13 October 1881, 12 UTC

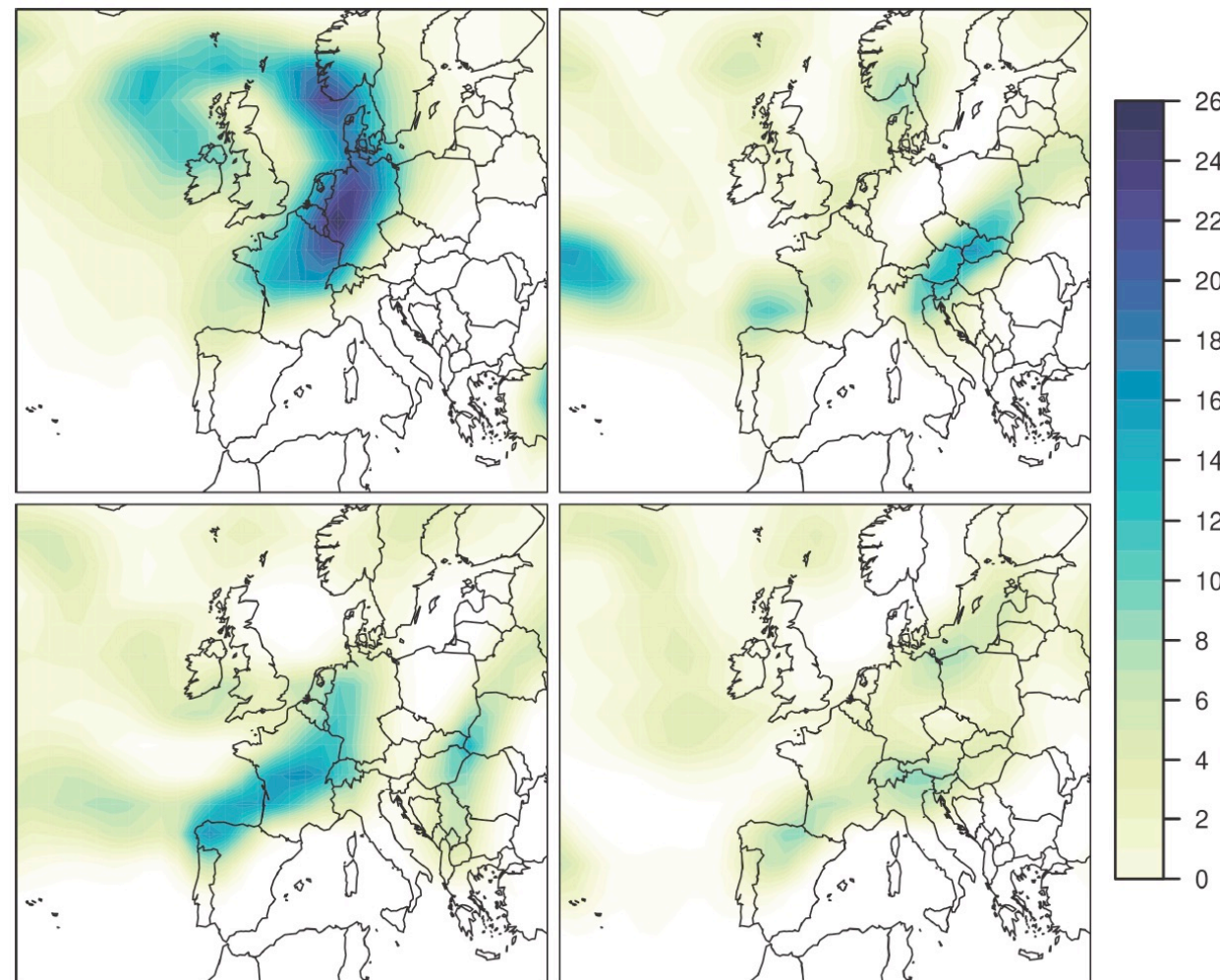


14 October 1881, 12 UTC



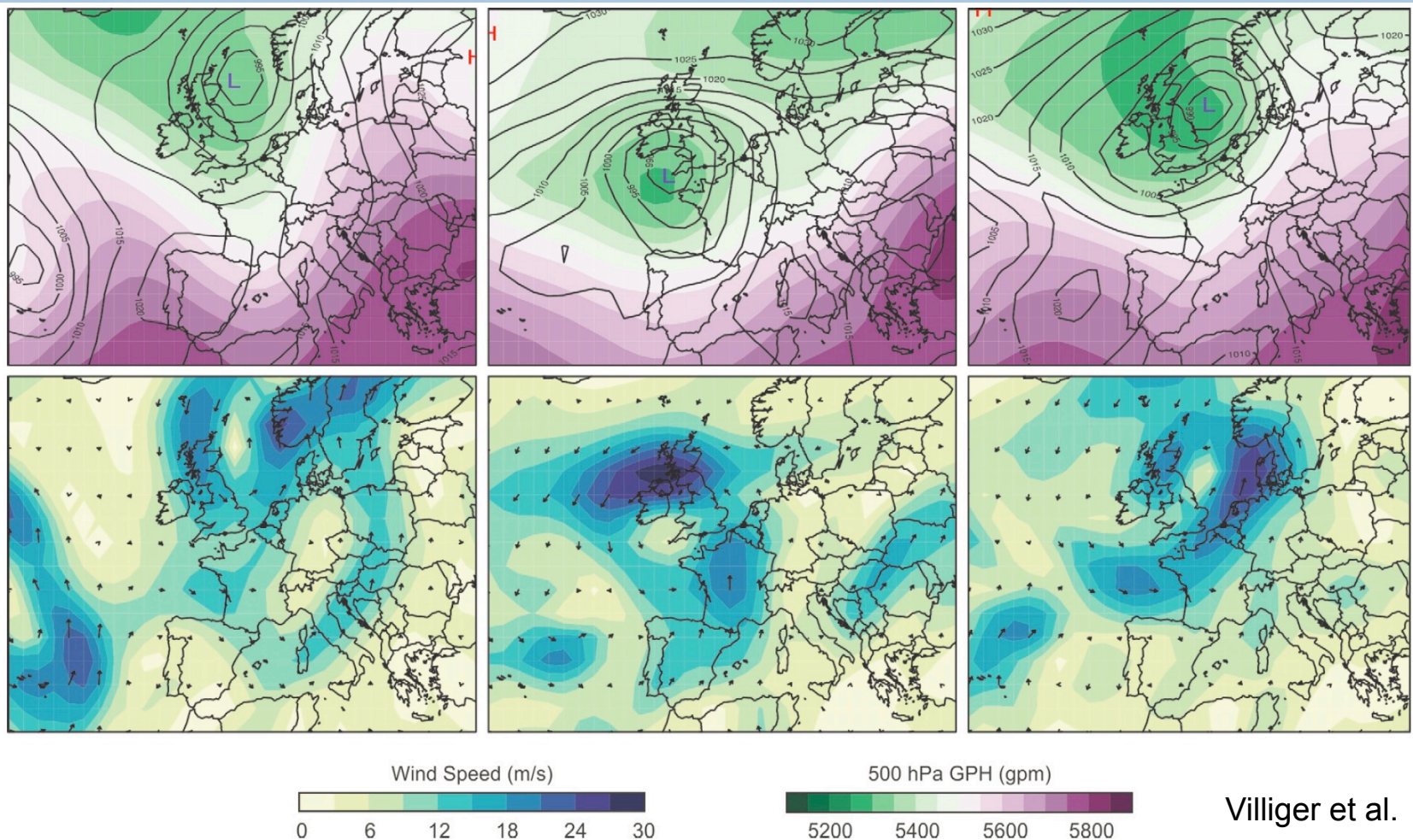
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> Precipitation during a severe storm 1876



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> 26 October 1859: The Storm that sank the «Royal Charter»



Reanalysis of the «Year without a Summer» of 1816

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Diaries

Julii 1816.

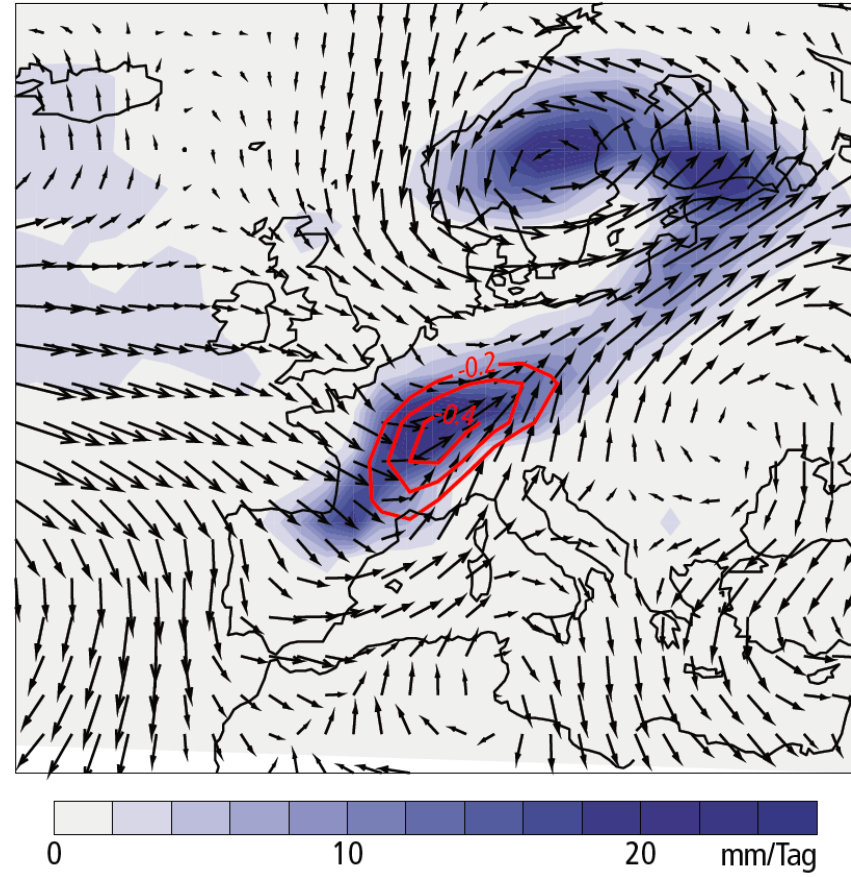
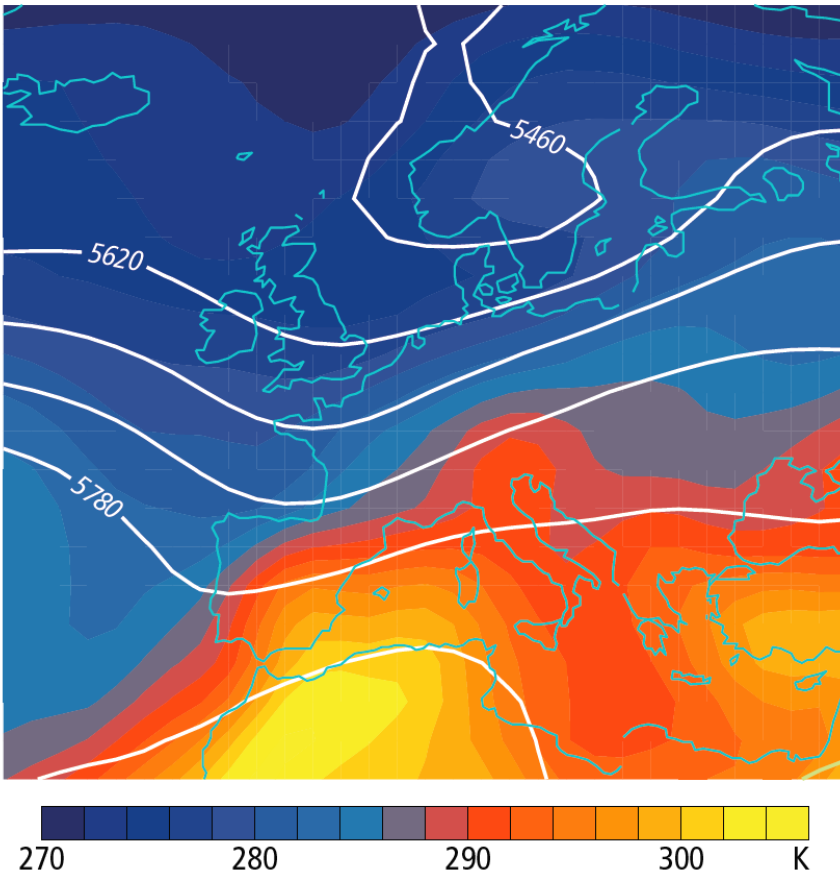
Schnee oder Regen.			W i n d e .		Eau oder Weis.	M e t e r.	Himmels- beschaffenheit.	
Nacht.	Vormittags.	Nachmittags.	Vormittags.	Nachmittags.			Vormittags.	Nachmittags.
—	—	Reg. 3	S.	S.	Eau	Vorm.	halbh.	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt
Regen	—	Regen	S.	S.	—	—	halbh.	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt
—	Regen	Regen	S.	S.	Eau	Vorm.	halbh.	heiter
Regen	—	Reg. 3	S.	S.	Eau	Vorm.	heiter	halbh.
—	—	—	S.	S.	Eau	Vorm.	bewölkt	halbh.
Regen	Regen	—	S.	S.	Eau	Vorm.	heiter	heiter
—	—	Erbe. 7	S.	S.	Eau	Vorm.	halbh.	bewölkt
Regen	Reg. 12	Regen	S.	S.	Eau	—	halbh.	bewölkt
Regen	Reg. 11	Regen	S.	S.	—	—	bewölkt	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	heiter
—	—	—	S.	S.	—	—	bewölkt	heiter
—	—	Reg. 4	S.	S.	Eau	Vorm.	bewölkt	bewölkt
Regen	Regen	Regen	S.	S.	Eau	Vorm.	heiter	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt
Regen	Regen	—	S.	S.	—	—	bewölkt	halbh.
—	—	—	S.	S.	Eau	Vorm.	heiter	heiter
—	—	—	S.	S.	Eau	Vorm.	heiter	heiter
Regen	—	Regen	S.	S.	Eau	Vorm.	heiter	heiter
—	—	—	S.	S.	Eau	Vorm.	halbh.	halbh.
Regen	—	Regen	S.	S.	Eau	Vorm.	heiter	halbh.
Regen	Reg. 12	Regen	S.	S.	—	—	halbh.	bewölkt
Regen	—	Reg. 6	S.	S.	—	—	halbh.	halbh.
Regen	—	Reg. 1	S.	S.	—	—	bewölkt	halbh.
—	—	—	S.	S.	—	—	halbh.	halbh.
Regen	—	—	S.	S.	Eau	Vorm.	heiter.	halbh.
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt
Regen	Regen	Reg. 6	S.	S.	—	—	bewölkt	bewölkt
Regen	Regen	Regen	S.	S.	—	—	bewölkt	bewölkt

Jenseits haben wir schon gesehen
 Loubnitz von der auguocentur was
 als jetzt fast in ein paar Tagen
 Zwei Stunden mit einem kleinen
 schiffen am 20ten von der
 kein lang von dem Ort, zu
 jenseits von dem Ort.

Ausströmung
 Aus dem August.

Jenseits von dem Ort, zu
 der Auguocentur ist wohl ein
 von dem Ort.

Weather on 29 July 1816



Avalanches during the First World War

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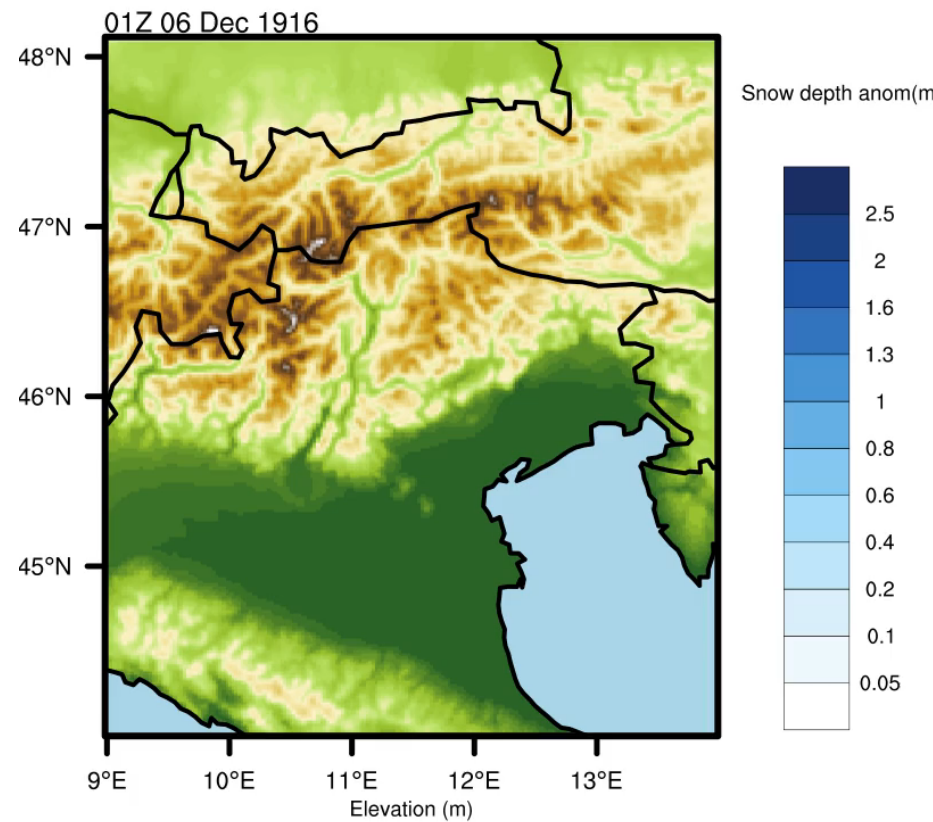
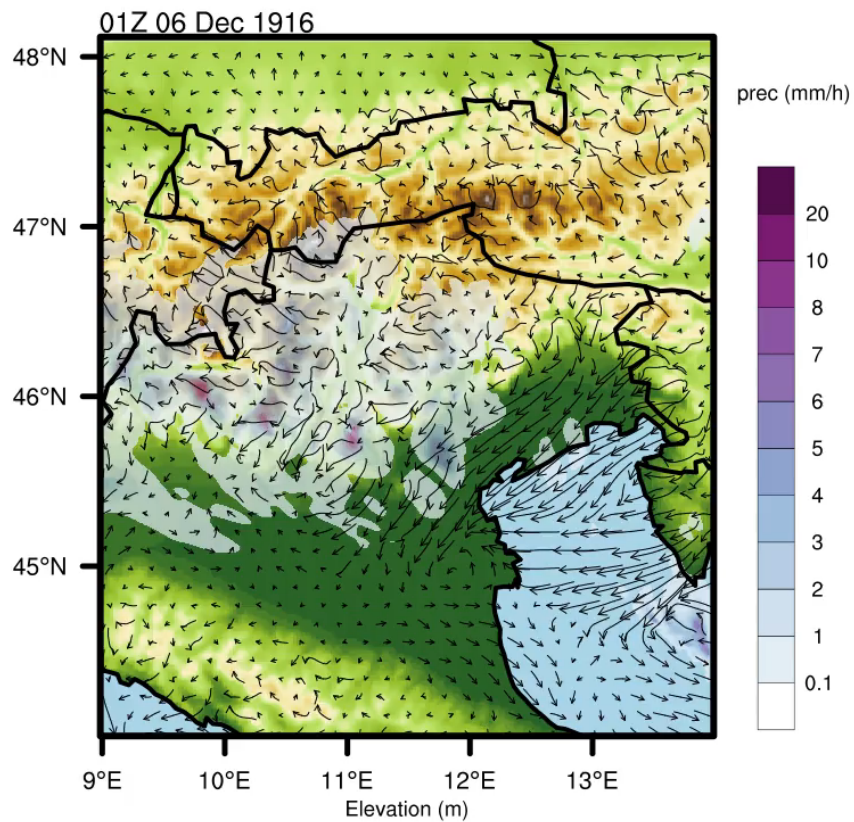
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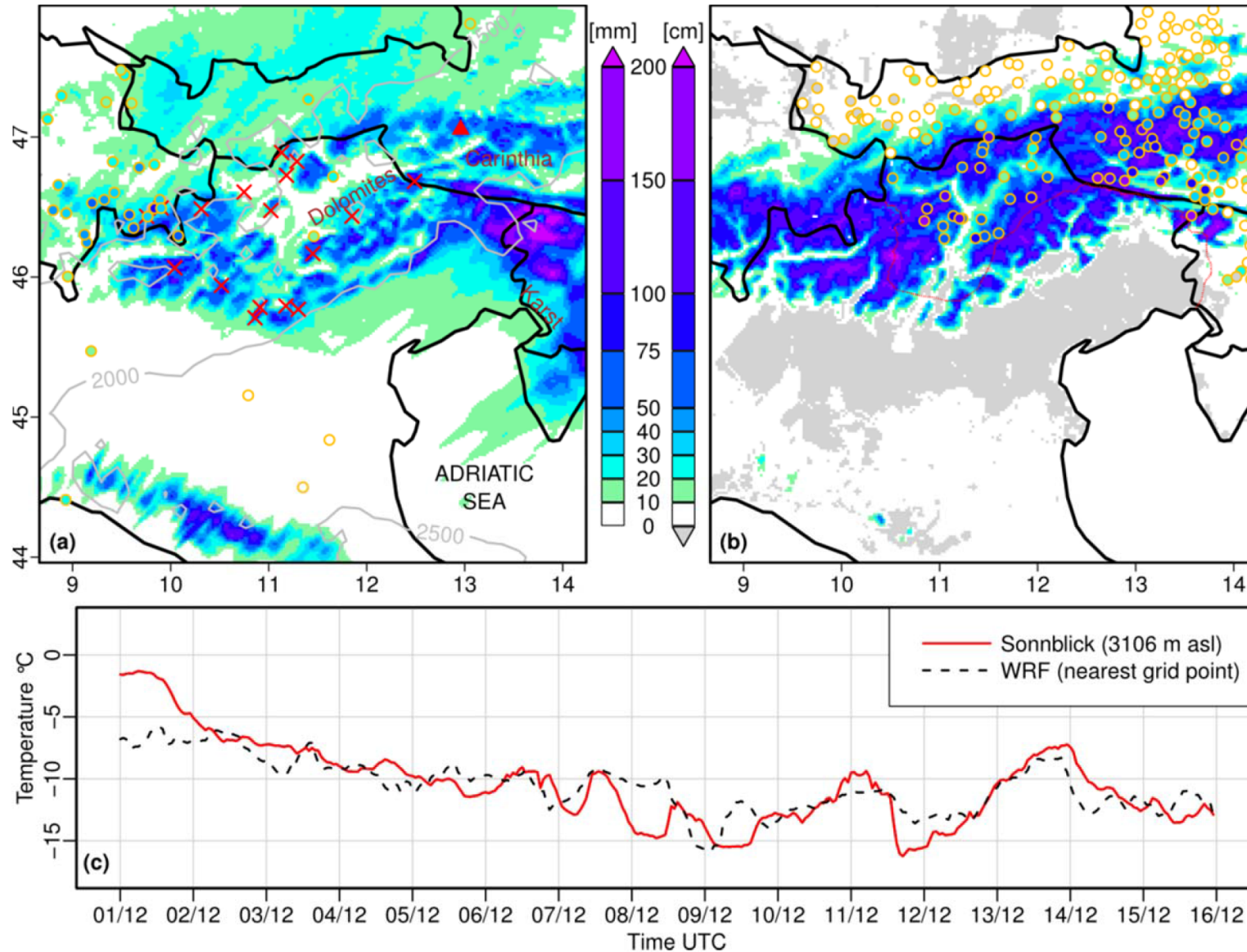
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Downscaling



Downscaling for 13 December 1916



Yuri Brugnara
Marcelo Zamuriano
Jonas Schild