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Ambrosetti



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Conferenza stampa #ValoreAcqua

Mercoledì 23 febbraio

Community Valore Acqua per l'Italia

Scenari, strategie e *policy* per la filiera dell'acqua in Italia e l'ottimizzazione del suo sviluppo

Presentazione di Luca Mercalli

Presidente, Società Meteorologica Italiana

Il clima che verrà e l'acqua

Luca Mercalli – Società Meteorologica Italiana - www.nimbus.it





ANTÓNIO GUTERRES

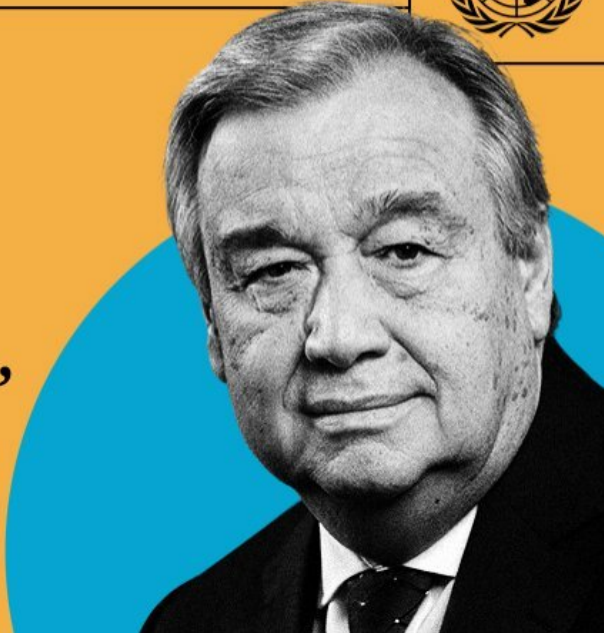
United Nations Secretary-General



“

Today’s IPCC Working Group 1 Report is a code red for humanity.”

9 AUGUST 2021



EMBARGOED - Do not publish, quote or distribute before 10 a.m. Central European Summer Time (08:00 UTC/GMT, 4 a.m. EDT) on Monday 9 August 2021

ipcc
INTERGOVERNMENTAL PANEL ON climate change

Climate Change 2021 The Physical Science Basis Summary for Policymakers



This Summary for Policymakers was formally approved at the 14th Session of Working Group I of the IPCC and accepted by the 54th Session of the IPCC, Virtual meeting, 4 August 2021. SUBJECT TO COPYRIGHT

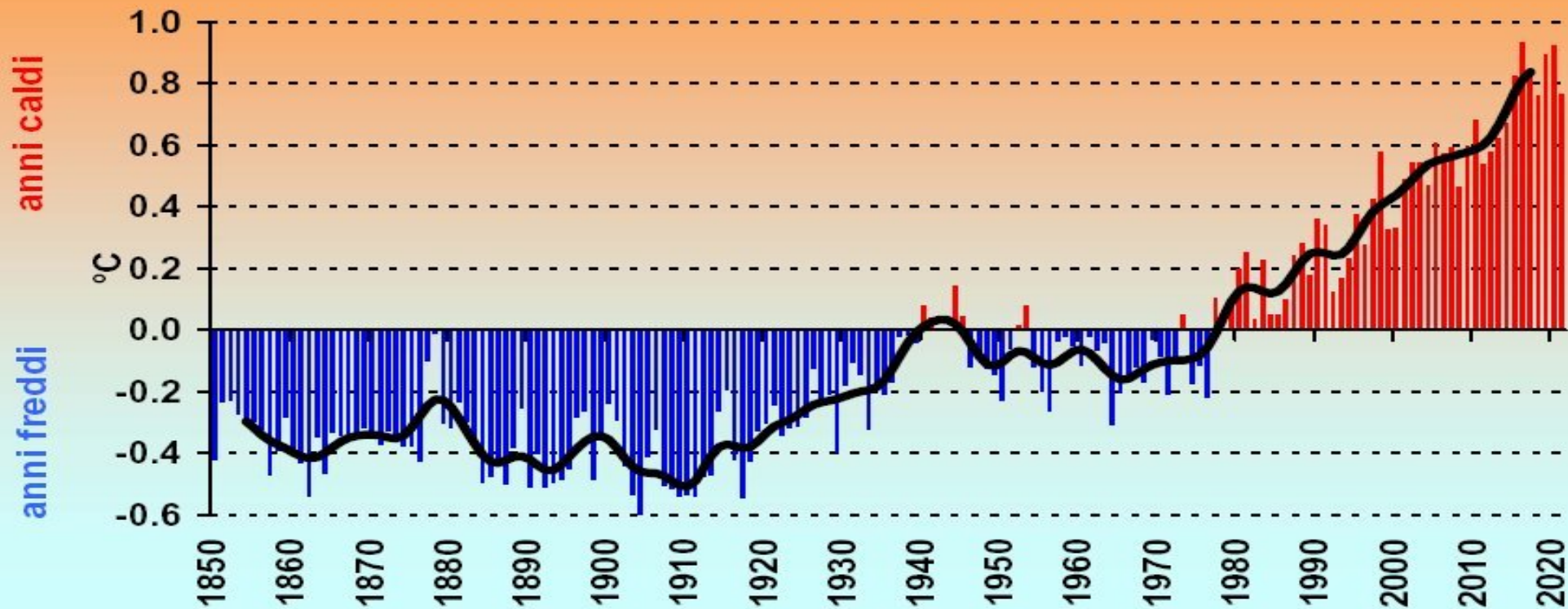
WGI

Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change



Temperatura media globale: +1,2°C in più nell'ultimo secolo

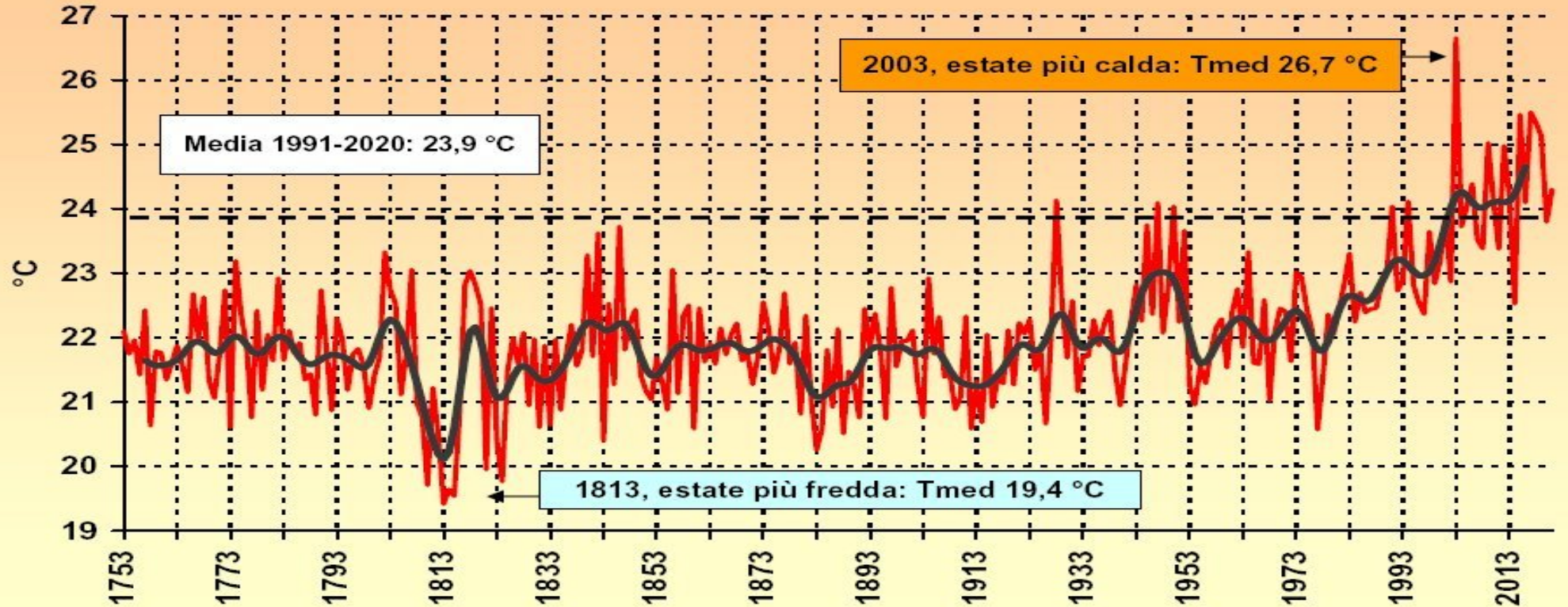
Anomalie termiche globali 1850-2021
(rispetto a media trentennio 1961-90)
serie MetOffice - Hadley Center



Temperature estive in aumento

Torino - Temperature medie estive (°C) dal 1753 al 2021

(elaborazione dati: SMI - www.nimbus.it)





1897
(f. Druetti)



2005
(f. L. Mercalli)



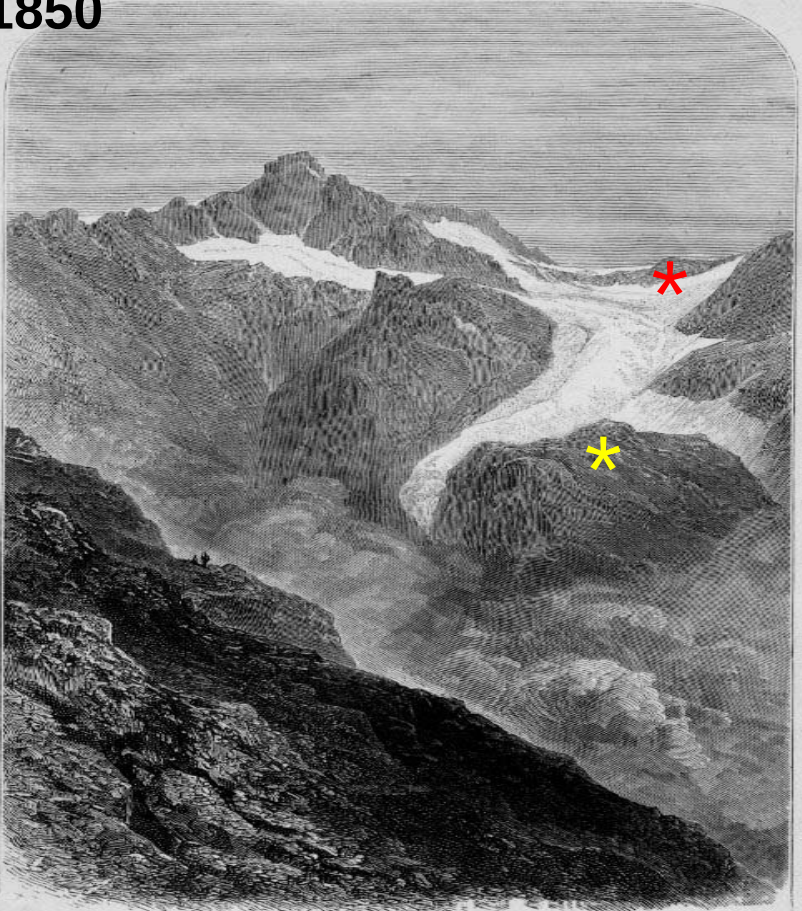
2015
(f. S. Jobard)

Ghiacciaio Pré de Bar (Monte Bianco):

ritiro della fronte di oltre 800 m dal 1897 al 2015

I ghiacciai alpini si sono ridotti di oltre il 50% in un secolo

1850



LA TOUR DU GRAND ST. PIERRE,
APRÈS NATURE, PAR M. A. A. REILLY.

2017



Ghiacciai piccoli estinti: Gh. di Teleccio (Gran Paradiso)

~ 1960

Archivio Pessina,
Domodossola



19.09.2018

f. L. Mercalli

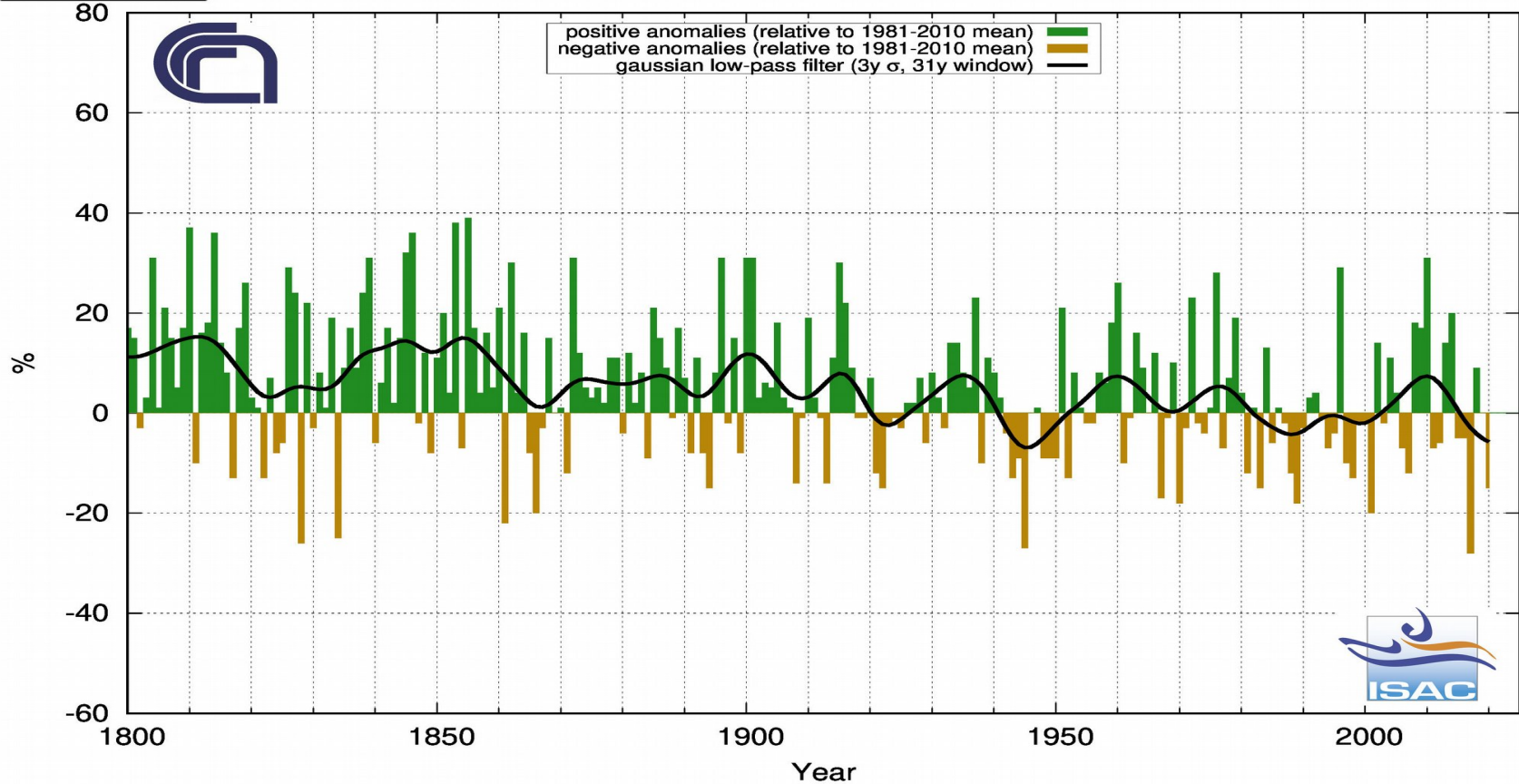


Ghiacciaio
Meridionale del
Sabbione (Ossola)
dalla diga.

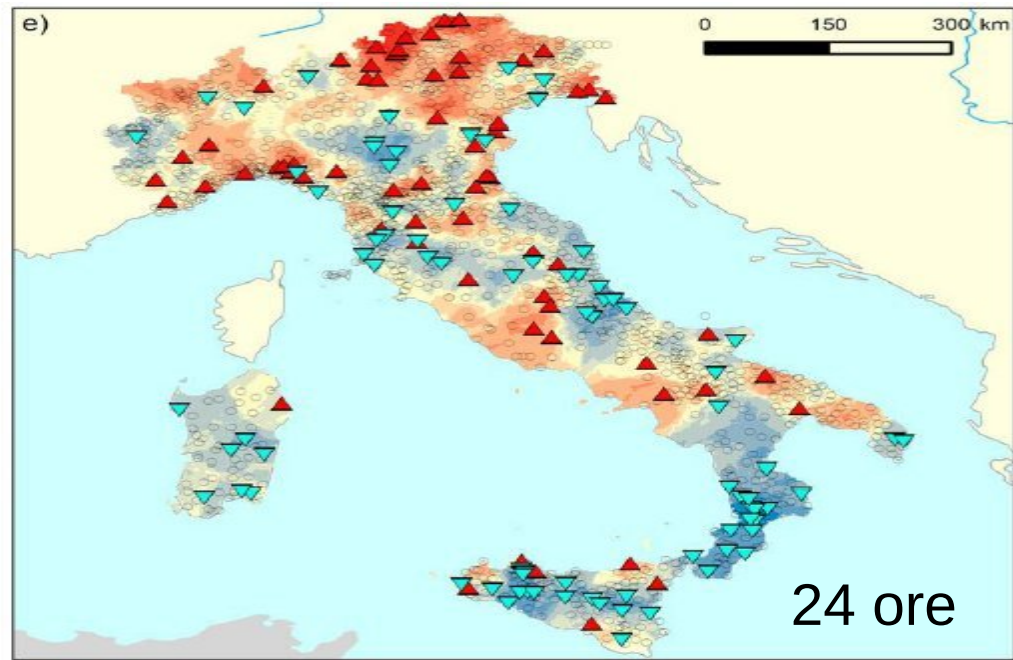
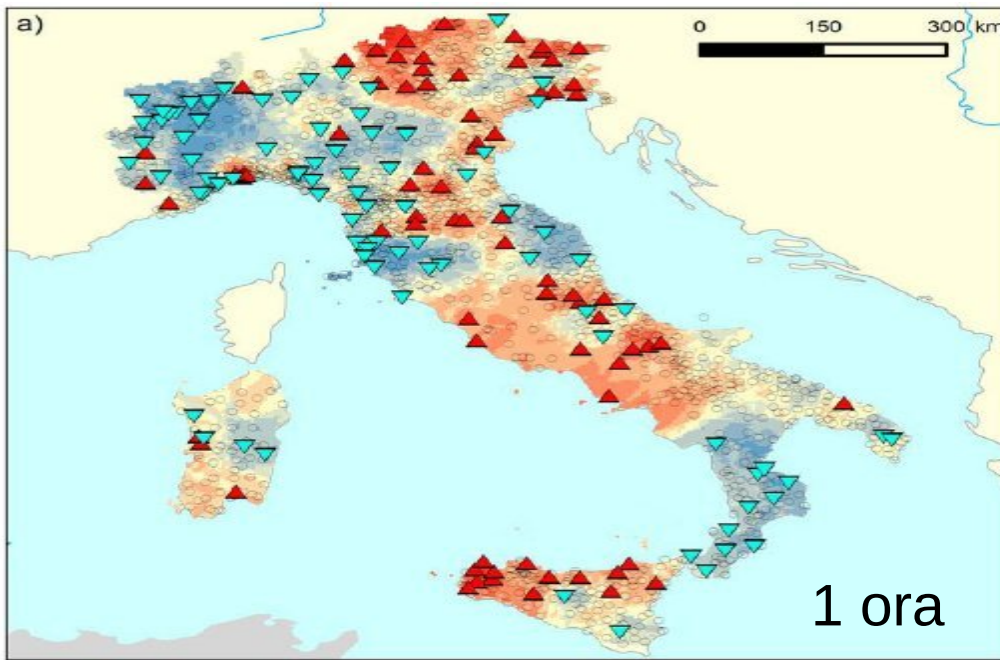
Regresso frontale
circa 1200 m.



ANNUAL PRECIPITATION



Precipitazioni annue in Italia (1800-2019): tendenze per ora poco evidenti, solo lieve calo rispetto all'Ottocento



Decreasing significant trend ▼ Increasing significant trend ▲ Not significant trend (5%) ○

Tratto da: Libertino et al., 2019 - *Evidence for Increasing Rainfall Extremes Remains Elusive at Large Spatial Scales: The Case of Italy*. *Geophysical Research Letters*, 46.

Intensità degli episodi piovosi (1915-2015):

**tendenze a lungo termine ancora variegata a livello nazionale,
ma probabili primi effetti del riscaldamento globale
sulla severità e frequenza degli eventi (più energia e vapore dal mare caldo).**

Siccità 2017





Limone Piemonte, impianto di risalita sepolto da una colata detritica (fonte: localteam.it).

2-3 ottobre 2020, alluvione disastrosa sulle Alpi Marittime (tempesta Alex): nubifragi eccezionali in risalita dal mare troppo caldo

Nord-Est, Emilia e regioni tirreniche, 4-6 dicembre 2020



*Rotta dell'argine destro
del F. Panaro
a Castelfranco Emilia
(f. W. Morandi)*

Precipitazione massima
786 mm a Barcis (Dolomiti
friulane), quattro volte
la media mensile.
Ma piene fluviali più
appariscenti nel Modenese per
200-300 mm di pioggia caduti in
Appennino e fusione nivale.

Alluvioni
Germania e
Belgio luglio 2021





Alluvione Catania 26 ottobre 2021



PROGRAMME OF THE
EUROPEAN UNION

Copernicus
Europe's eye on Earth

Droughts in Northern Italy - Sentinel 2, 2 February 2022

Cremona

Siccità invernale 2022

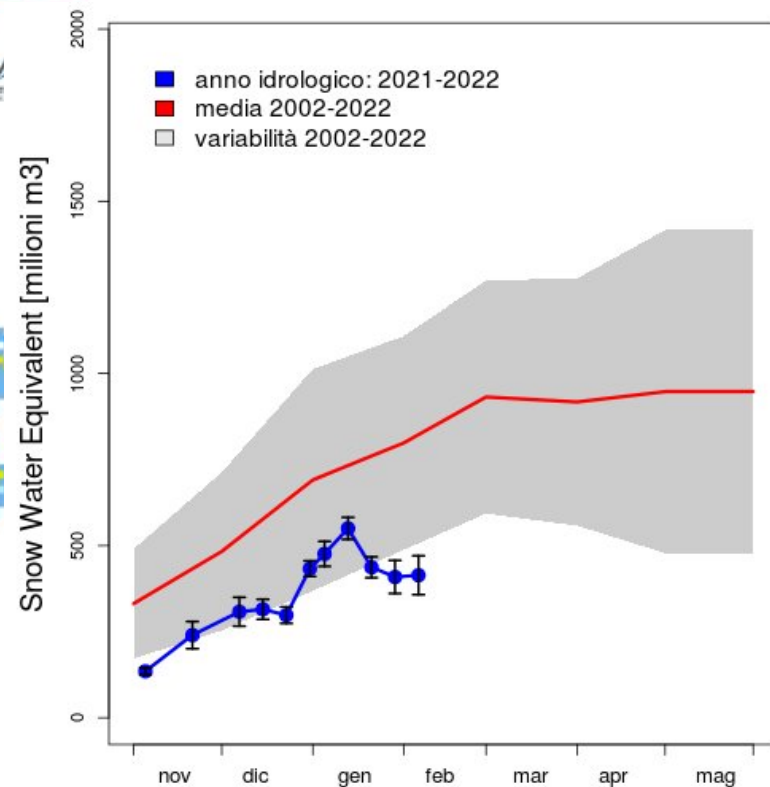
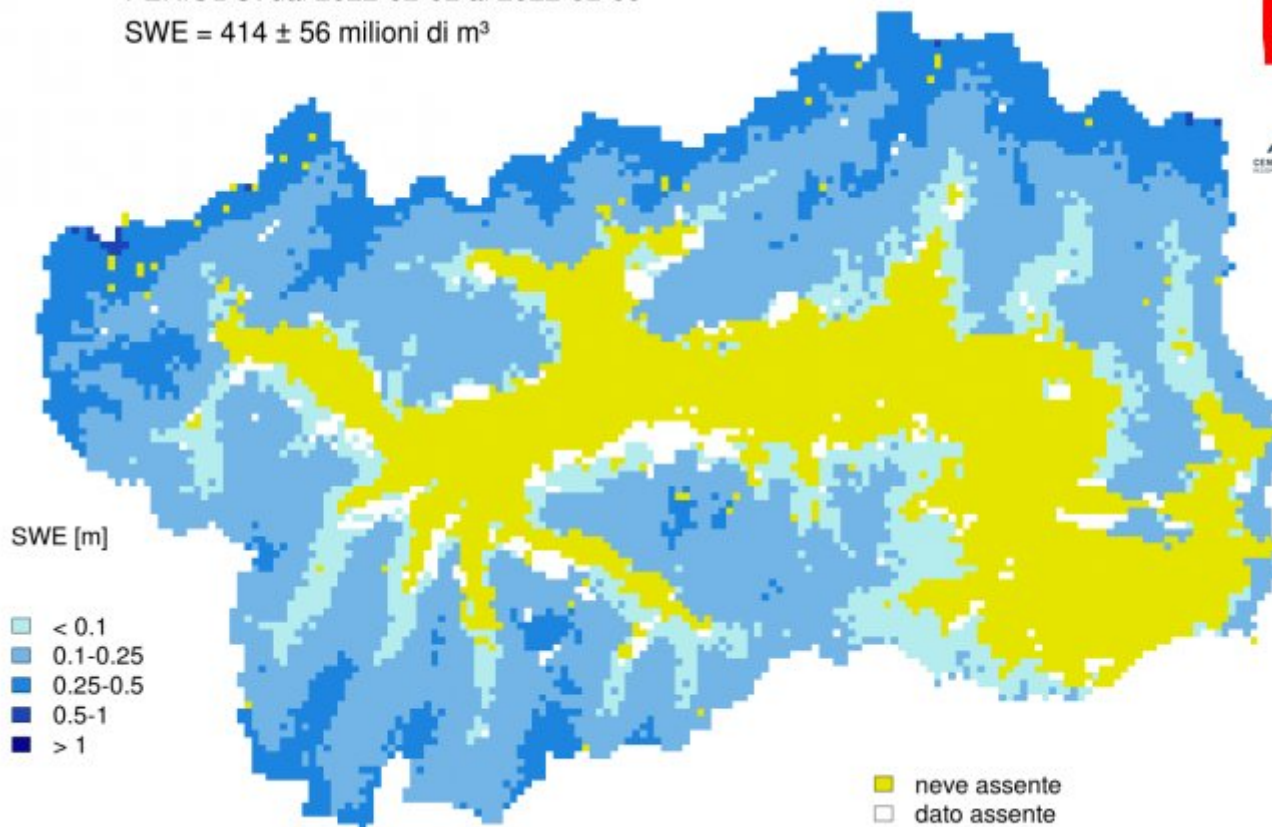
**2 February 2022 - Copernicus Sentinel-2 satellite,
Po River near Cremona in northern Italy.**

Po river

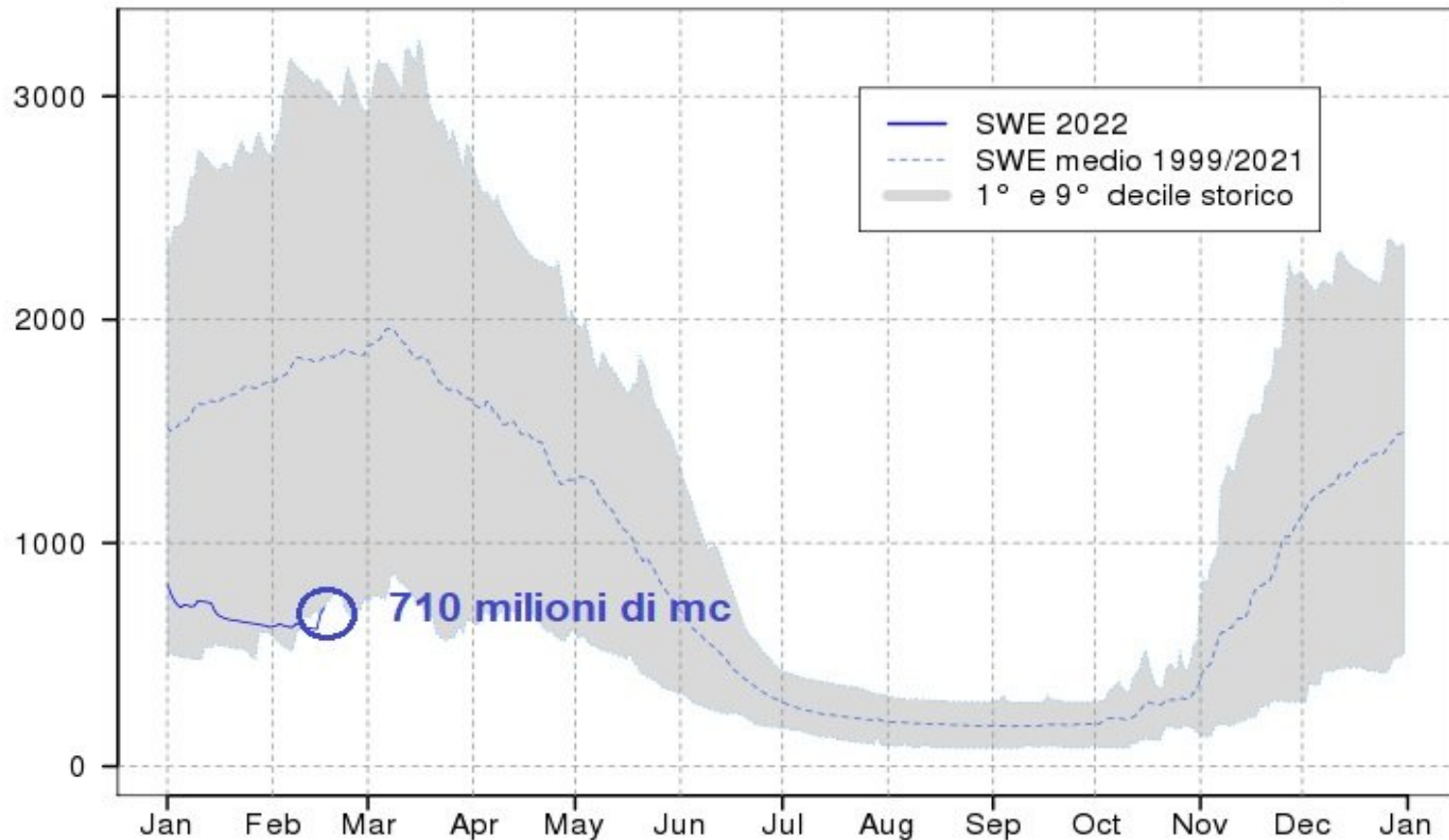
Deficit accumulato nevoso sulle Alpi inverno 2021-22

PERIODO: dal 2022-02-02 al 2022-02-09

SWE = 414 ± 56 milioni di m^3

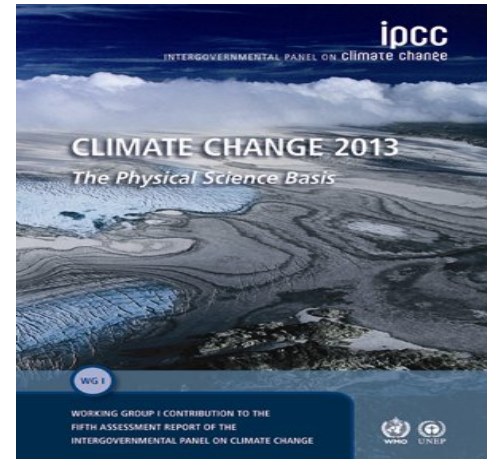


SWE Po chiuso a Ponte Becca [Mmc]



Riduzione portate Po e scarsa riserva idrica nivale sulle Alpi al febbraio 2022

Ampie possibilità di compensazione deficit con piogge primaverili, ma situazione di attenzione elevata

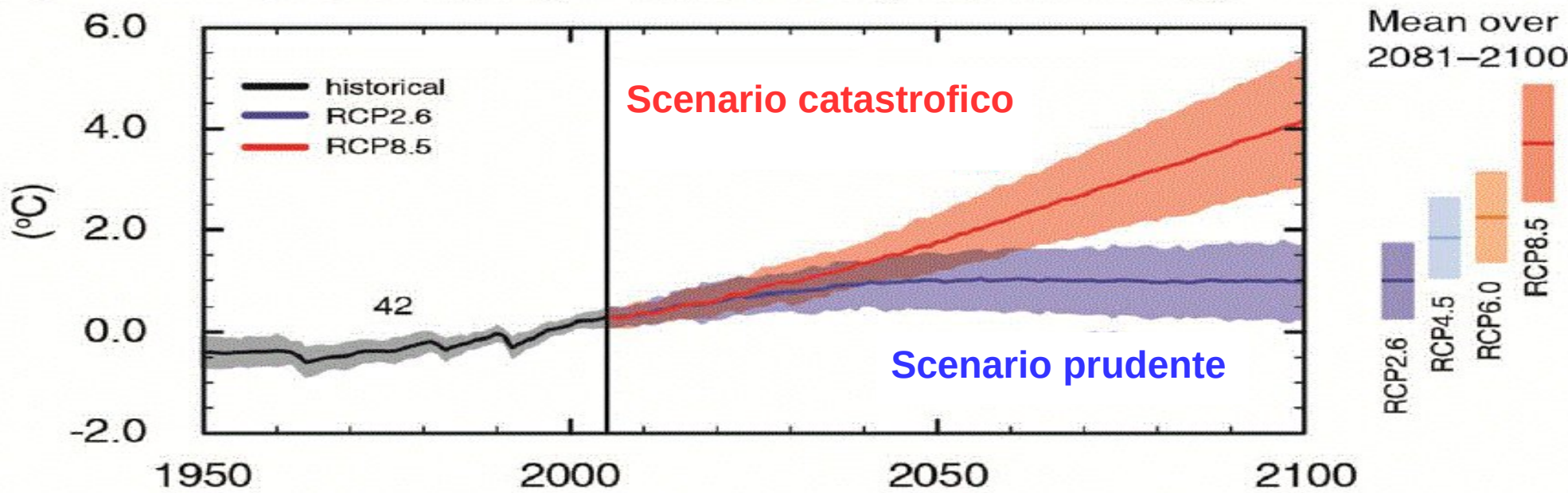


Scenari 5° rapporto IPCC (AR5 2013):

+2°C al 2100 se si applica **Accordo Parigi 2015** (linea azzurra), o fino a **+5°C** in più con business-as-usual (linea rossa)

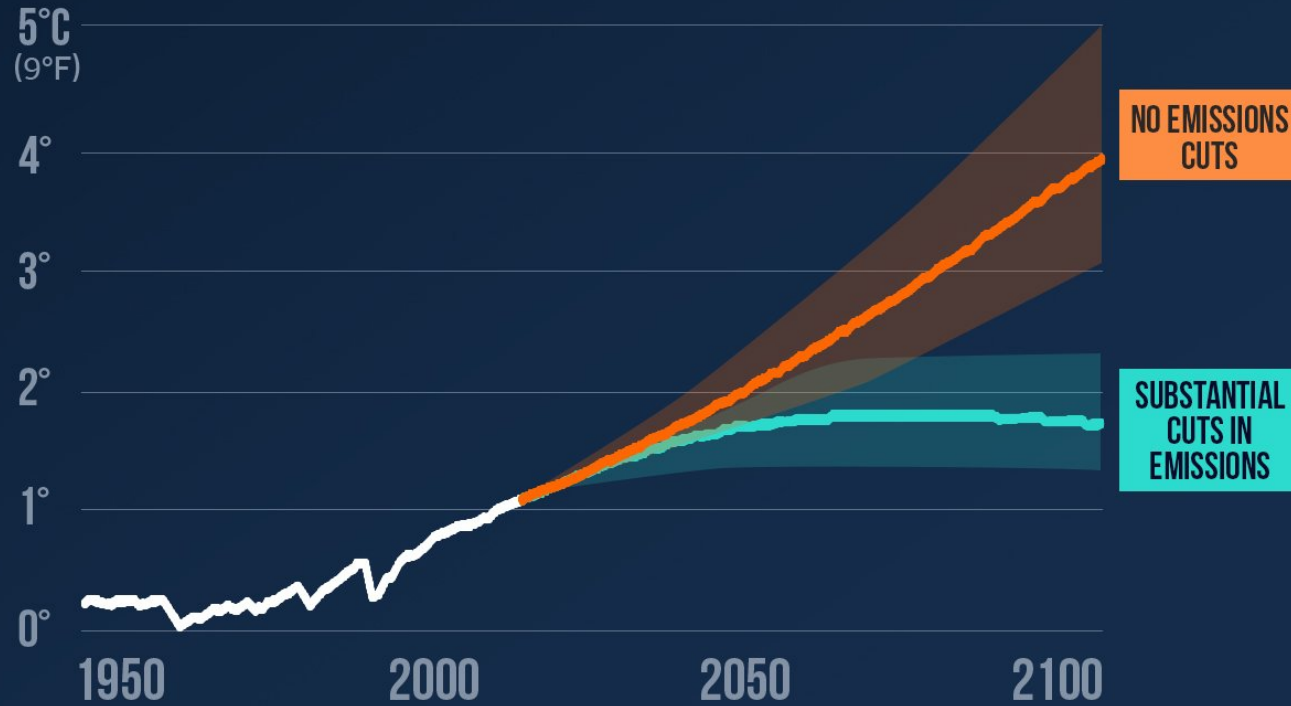
(a)

Global average surface temperature change



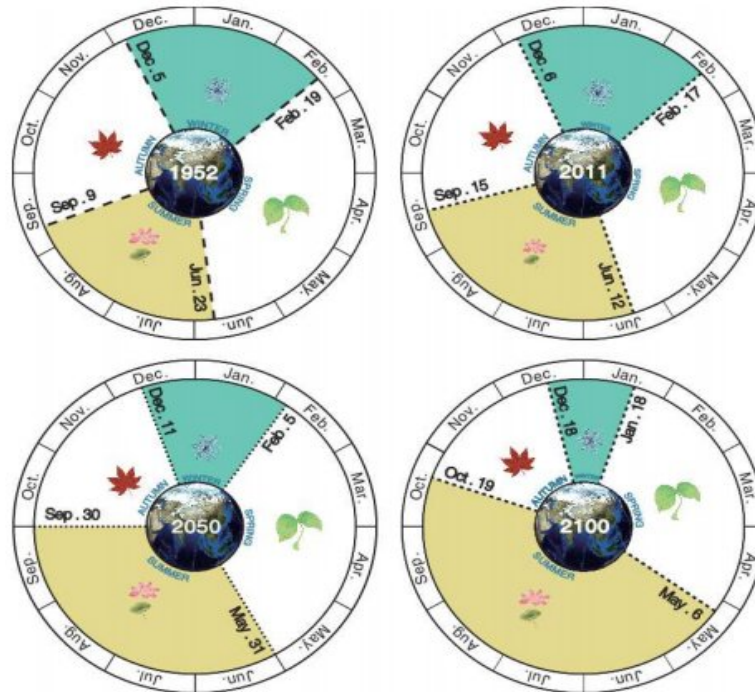
FUTURE TEMPERATURES

WARMING DEPENDS ON CHOICES TODAY



Global surface temperature (°C) anomaly relative to 1850-1900
High warming scenario: SSP3-7, Low warming scenario from SSP1-2.6.
Source: IPCC AR6 WG1

4, Figures S7-8), indicating that even if seasons are to continue at the current rate observed, a longer summer and shorter winter will become the new normal in the twenty-first century.



Inverni sempre più brevi, estati sempre più lunghe (fino a 6 mesi nel 2100)

Figure 5. Onsets and lengths of the four seasons in 1952, 2011, 2050 and 2100. The top row is from HadGHCND, and the bottom row is from RCP8.5.

Changing Lengths of the Four Seasons by Global Warming

Jiamin Wang Yuping Guan Lixin Wu Xiaodan Guan Wenju Cai Jianping Huang Wenjie Dong Banglin Zhang First published: 19 February 2021

<https://doi.org/10.1029/2020GL091753> Geophysical Research Letters

Over the period of 1952–2011, the length of summer increased from 78 to 95 days and that of spring, autumn and winter decreased from 124 to 115, 87 to 82 and 76 to 73 days, respectively. In addition, summer is projected to last nearly half a year, but winter less than two months by 2100.

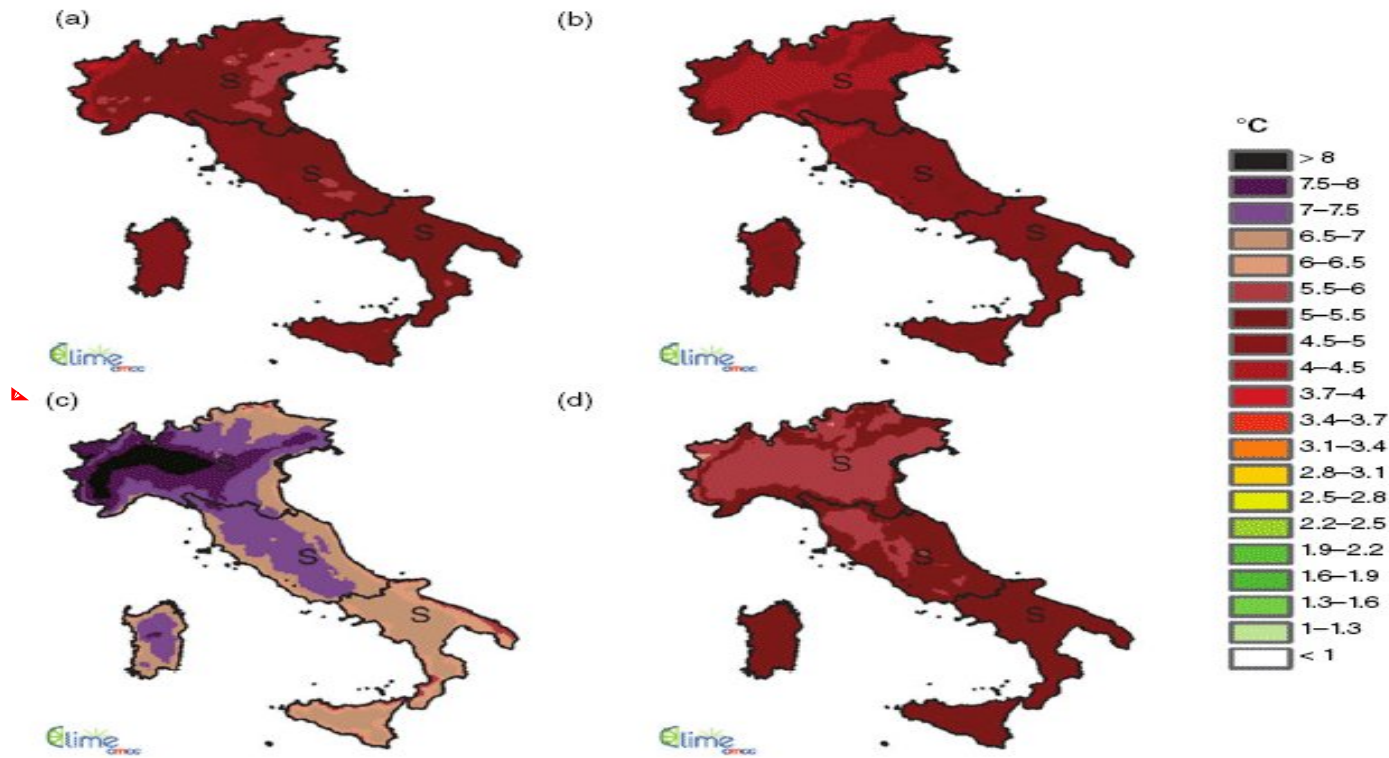


Figure 9. Temperature climate projections, RCP8.5: seasonal differences (°C), between the average value over 2071–2100 and 1971–2000 for (a) DJF, (b) MAM, (c) JJA and (d) SON (S, significant; NS, not significant).

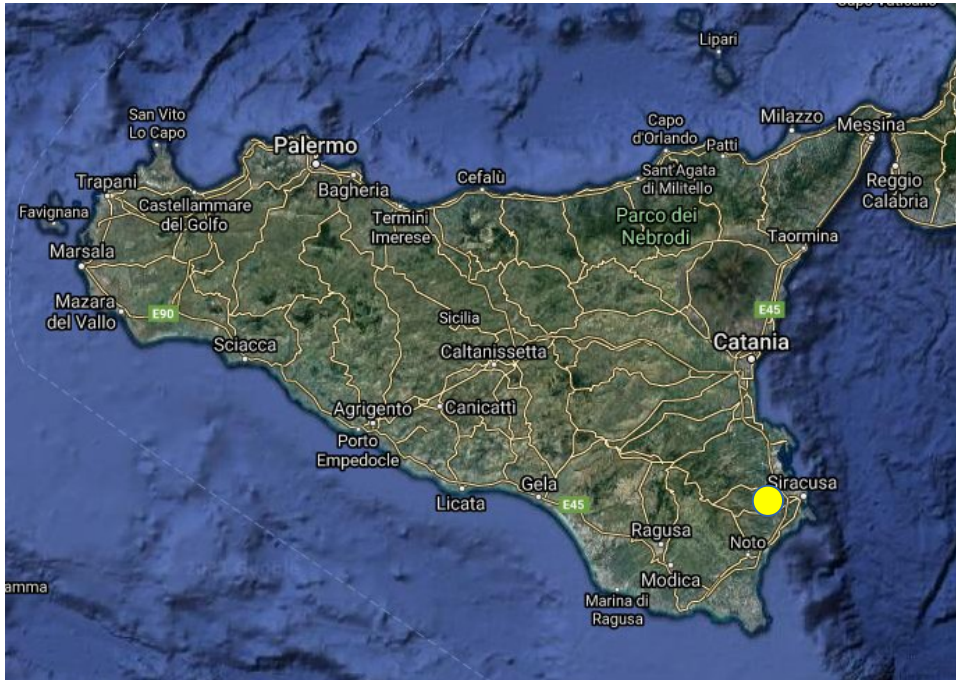
E se non facessimo nulla? NW Italiano + 8 °C in estate nel 2100! Torino come Karachi...

Bucchignani et al. (2015) *High-resolution climate simulations with COSMO-CLM over Italy*, Int. J. Climatol.

11 agosto 2021

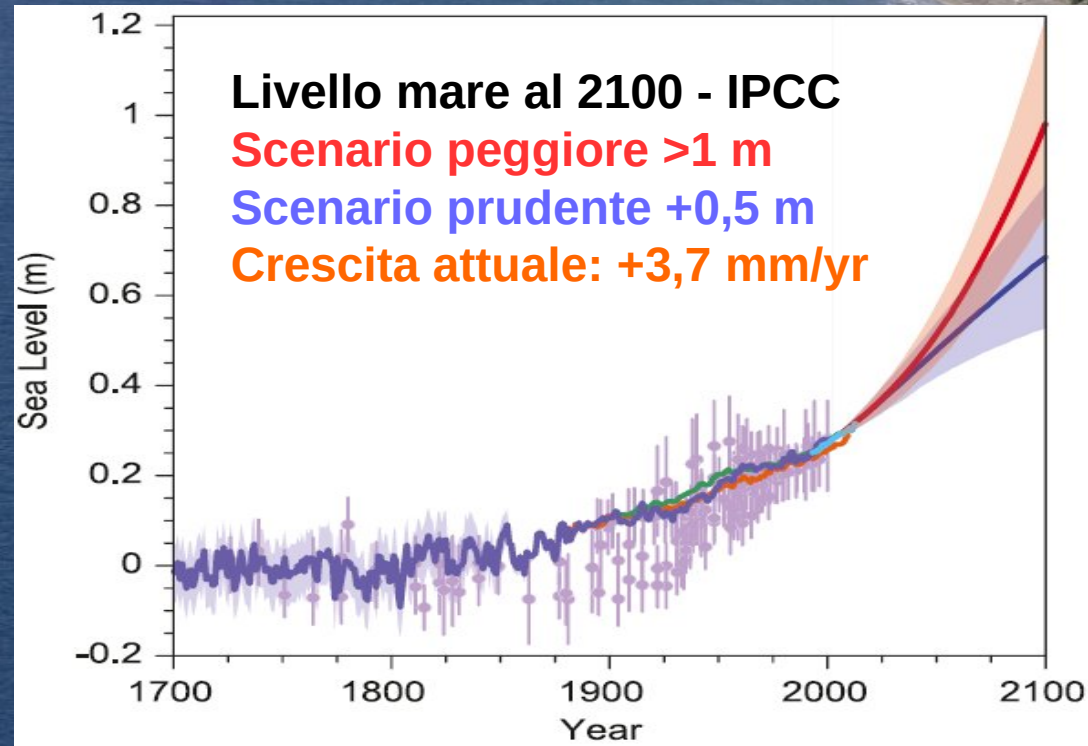
48,8 °C a Floridia, Siracusa

Temperatura massima record in Italia e in Europa in circa 200 anni di osservazioni



Stazione meteo rete SIAS

Le zone costiere risentiranno dell'aumento del livello marino, e dovranno essere adeguatamente protette (es: Venezia, delta del Po)



http://climate-adapt.eea.europa.eu/



Climate-ADAPT

European Climate Adaptation Platform

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About Climate Change Adaptation in Europe

The European Climate Adaptation Platform (Climate-ADAPT) aims to support Europe in adapting to [climate change](#). It is an initiative of the European Commission and helps users to access and share information on:

- Expected climate change in Europe
- Current and future [vulnerability](#) of regions and sectors
- National and transnational adaptation strategies
- [Adaptation](#) case studies and potential adaptation options
- Tools that support adaptation planning

[→ Read more](#)

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Adaptation support tool

New to adaptation?
Use the Adaptation Support Tool

What are European countries doing?

Find case studies on adaptation in Europe

Share your information



A new Circular Economy Action Plan

Biodiversity Strategy for 2030

- Strategy on the sustainable use of chemicals
- Clean Air and Water Action Plans

Transition to a Circular Economy

Preserving Europe's natural capital

A zero pollution Europe

- TBD with the commissioner-designate

Sustainable Transport

Farm to Fork

Farm to Fork Strategy

- Revising 2030 Climate targets
- Extending ETS
- Climate Pact
- Climate Law
- Carbon Border Tax

Achieving Climate Neutrality

The transformation of agriculture and rural areas

- Vision for Inclusive Rural Areas
- Africa Europe agenda

- Review Energy Legislation
- European Framework for gas
- Review Energy Taxation directive

Clean, Reliable and Affordable energy

Towards a modernised and simplified CAP

CAP reform proposal

Financing the transition

Leave no one behind (Just Transition)

- European Investment Bank as European Climate Bank
- Sustainable Europe Investment Plan
- Green Financing Strategy
- Mainstreaming climate transition and sustainability in the MFF

- Just Transition Instrument, including the Just Transition Fund
- Mainstreaming the Just Transition in the MFF



Top 10 Global Risks by Severity

Over the next 10 years



■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

Source: World Economic Forum Global Risks Report 2022



I primi tre rischi globali più importanti secondo il World Economic Forum 2022 sono :

- cambiamenti climatici
- eventi meteorologici estremi
- perdita di biodiversità.

Possiamo ancora agire per evitare di peggiorarli, ma dobbiamo farlo subito!