Climate Change: Now and in the future

Climate Thursdays 2026, 03.09.2026

Sebastian H. Mernild

Ph.D. & Dr. Scient., Professor in Climate Change

Director of SDU Climate Cluster, University of Southern Denmark (SDU)

Atmospheric concentration of CH_4 is are higher than at any point during the **past 800,000 years**, while the measured CO_2 concentration has not been experienced for at least **2 million years**.

Global surface temperature has increased more rapidly since 1970 than during any other 50-year period over at least the past 2,000 years.

The average temperature in Denmark has **increased by approximately 1.5°C since the late 19th century**.

Milder Danish winters with fewer frost and snow days.
More hot summers and heatwaves, and more frequent heavy rainfall.

Denmark has become **sunnier** since the 1980s, with more hours of sunshine each year. **Denmark has also become wetter.** Annual precipitation has increased by app. 150 mm since the 1880s.

For Denmark, the average temperature is expected to **increase by more than 3.0°C between today and 2100**.

It is estimated that global warming will exceed **1.5°C within the next few years**.

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Overall, Denmark is expected to become wetter, particularly during the winter months. **Annual precipitation may increase by 10–12%**, while winter rainfall may increase even more.

The rate at which global sea level has risen since 1900 is higher than during any other century over the past 3,000 years.

The sea around Denmark is expected to **rise significantly over the course of this century**.

Increasing risks of storm surges, coastal erosion, and flooding in low-lying areas – with potential damage to ports, holiday-home areas, and infrastructure.

Sea levels will continue to rise **towards 2100 and beyond** due to melting ice sheets and thermal expansion. **This increases the risk of flooding and coastal erosion**.

Sea levels are expected to rise by an average of **50–60 cm by 2100 compared with 1981–2010**, with a maximum increase of up to **130 cm**.

It is not inconceivable that **sea levels could rise by several metres**—for example, 6, 8, or 15 metres by 2175, 2250, or 2400, respectively.

We humans are occupying an ever-increasing share of the Earth’s surface, while **wild nature is left with fewer, smaller, and more fragmented areas**.

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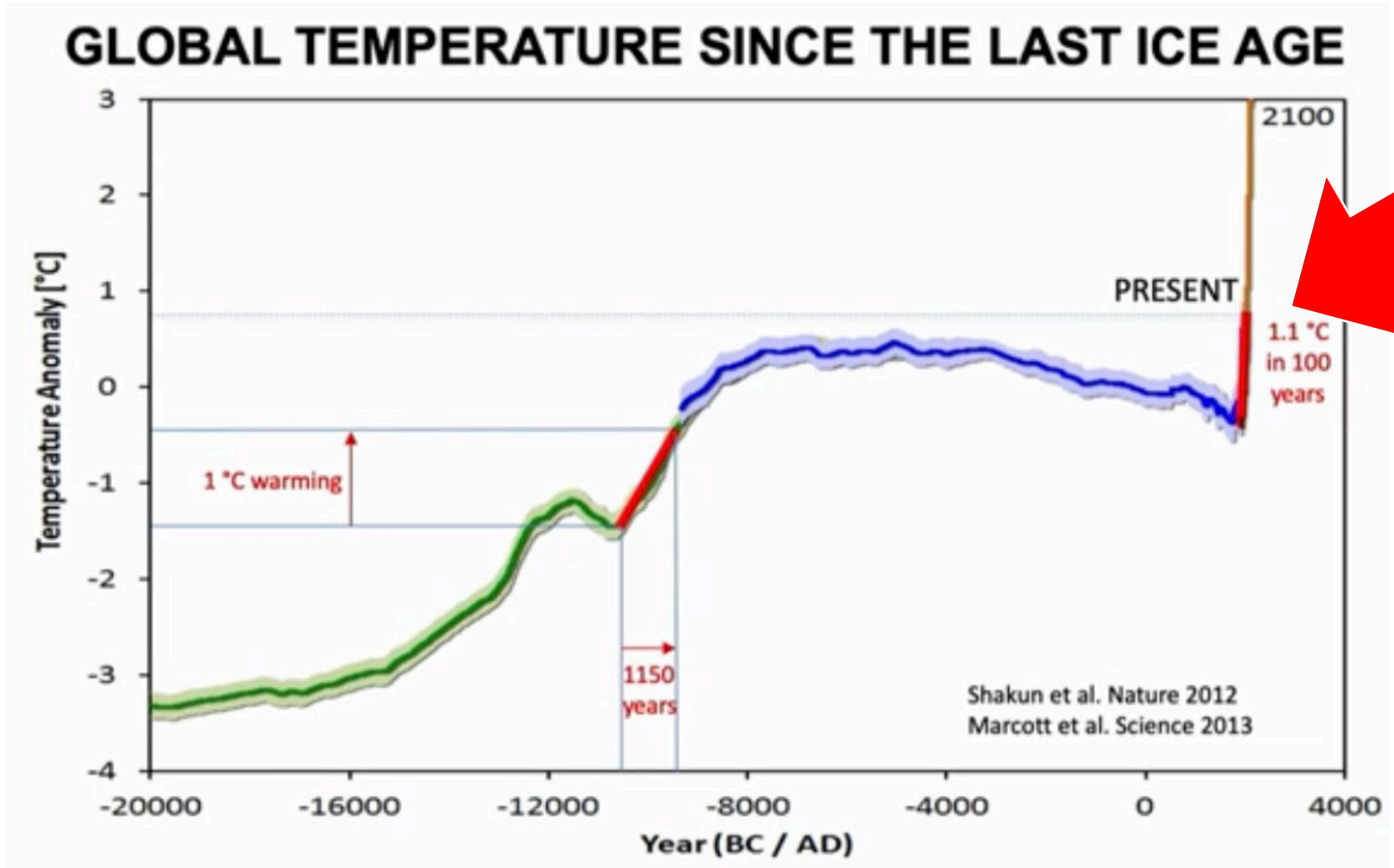
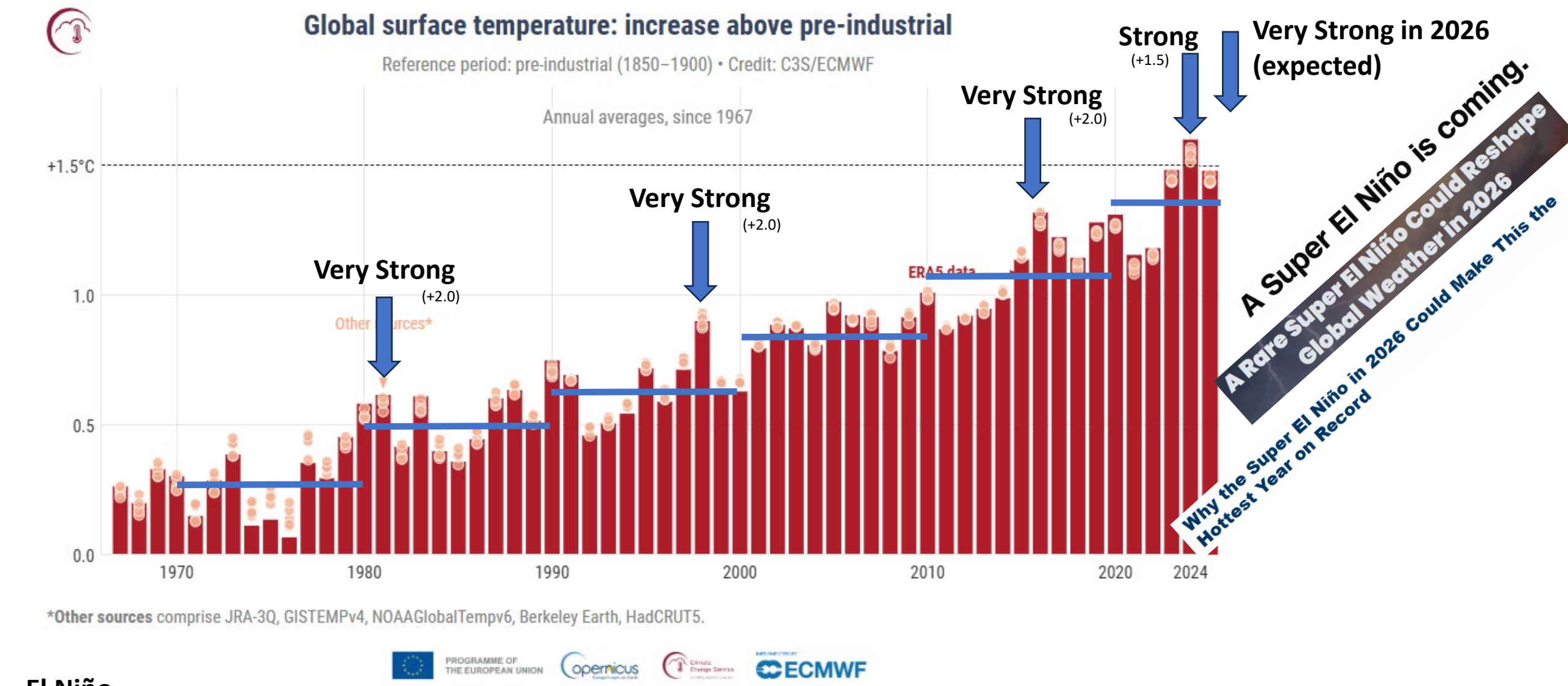

GLOBAL TEMPERATURE SINCE THE LAST ICE AGE
Temperature Anomaly [°C]
3
2
1
0
-1
-2
-3
-4
2100
PRESENT
1.1 °C
in 100
years
1 °C warming
1150
years
Shakun et al. Nature 2012
Marcott et al. Science 2013
-20000
-16000
-12000
-8000
-4000
0
4000
Year (BC / AD)

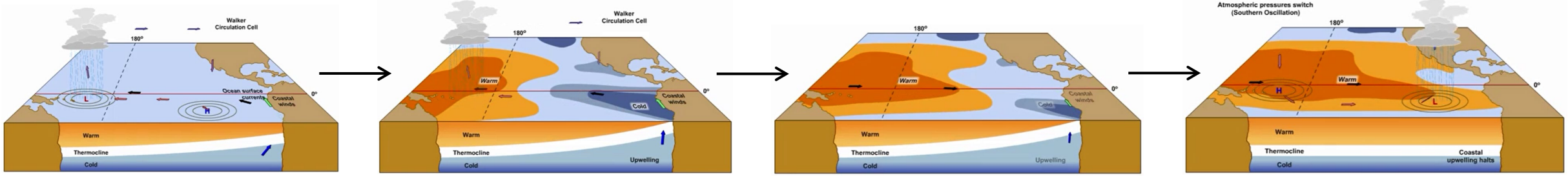


A Super El Niño is coming.

A Rare Super El Niño Could Reshape Global Weather in 2026

Why the Super El Niño in 2026 Could Make This the Hottest Year on Record

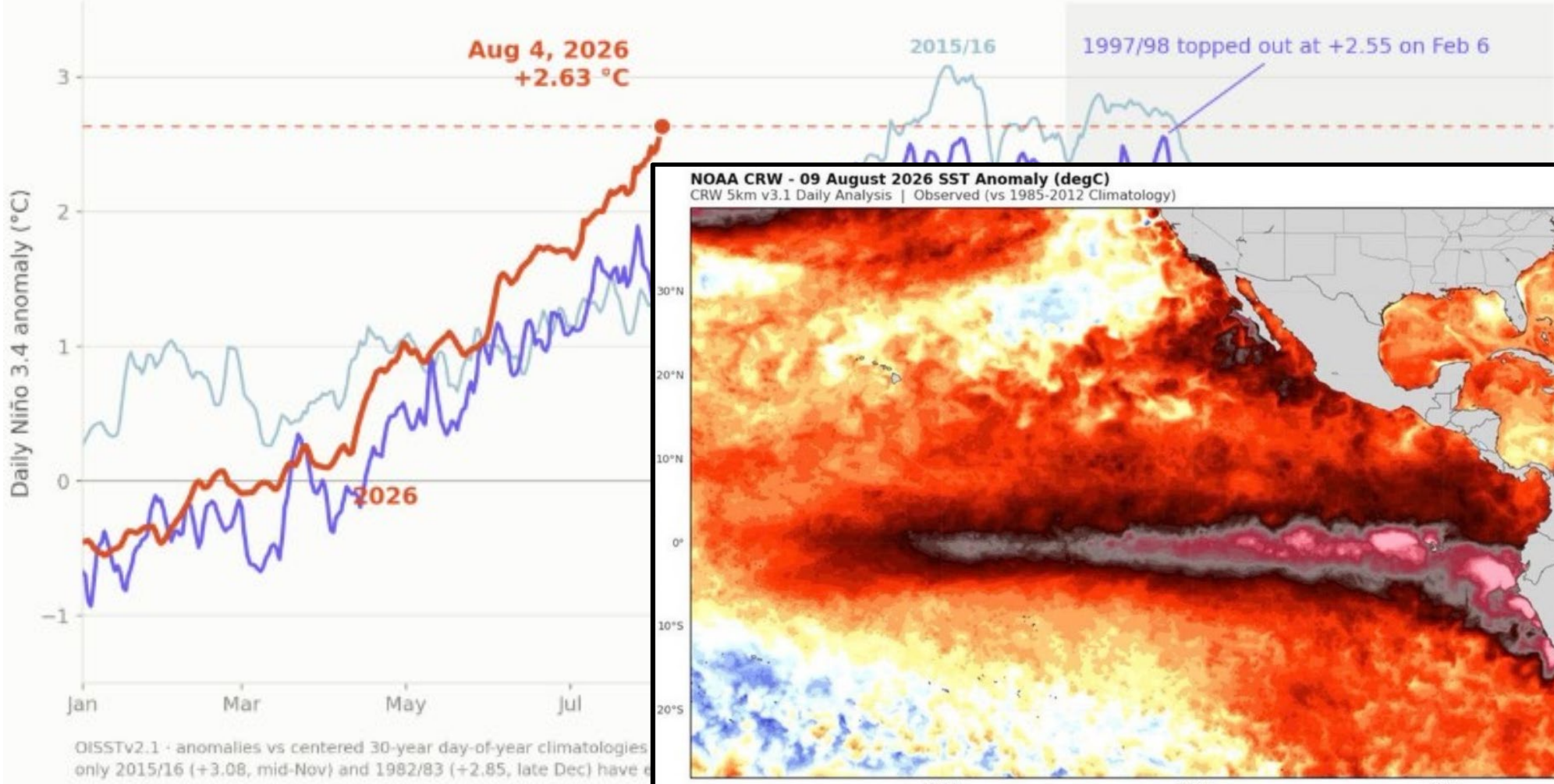
El Niño

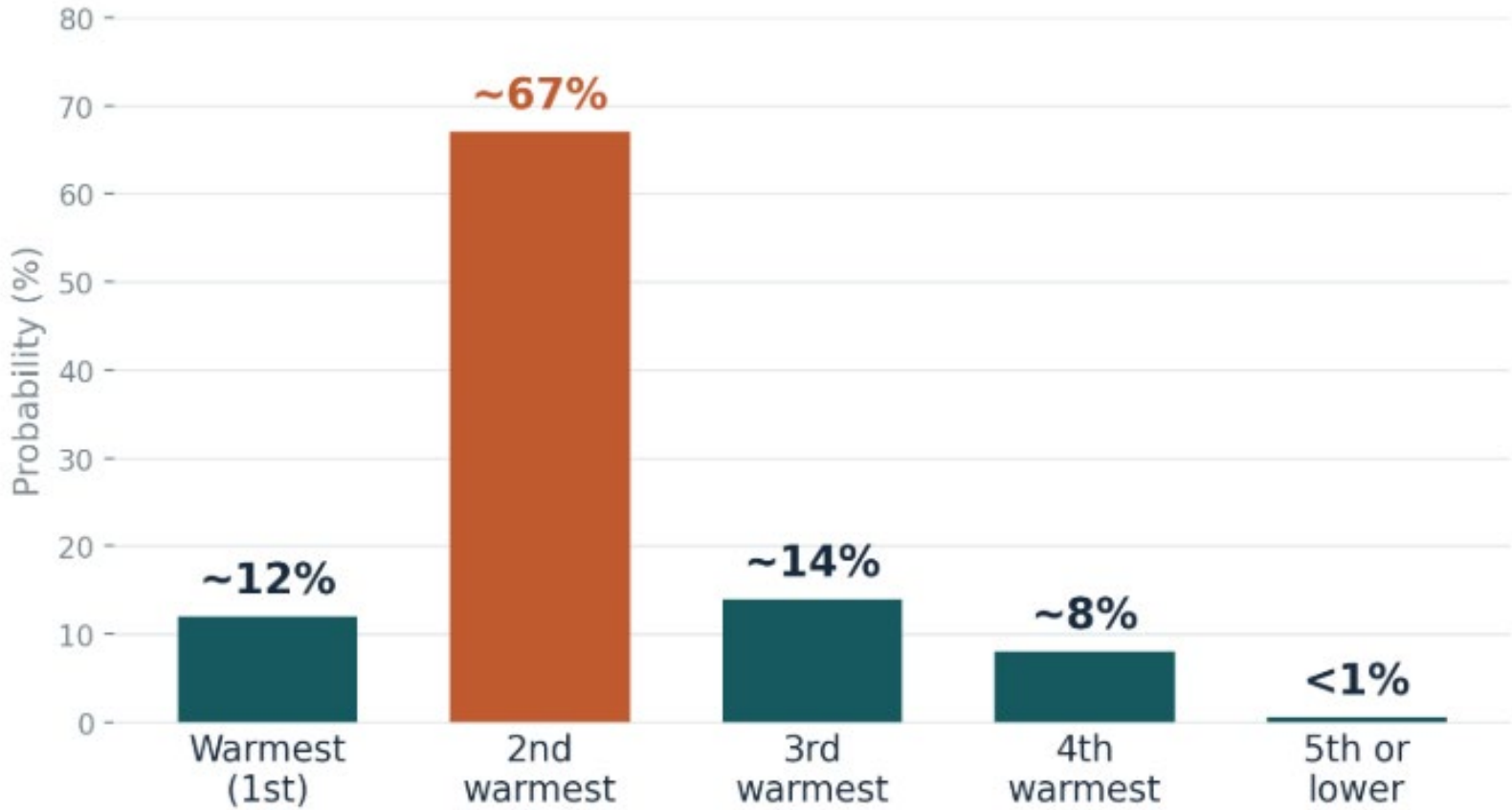


BERKELEY EARTH.

2026 is already hotter than the great 1997/98 El Niño ever got

Daily Niño 3.4 hit +2.63 °C on August 4 — above anything in 1997/98, which didn't peak until the following February



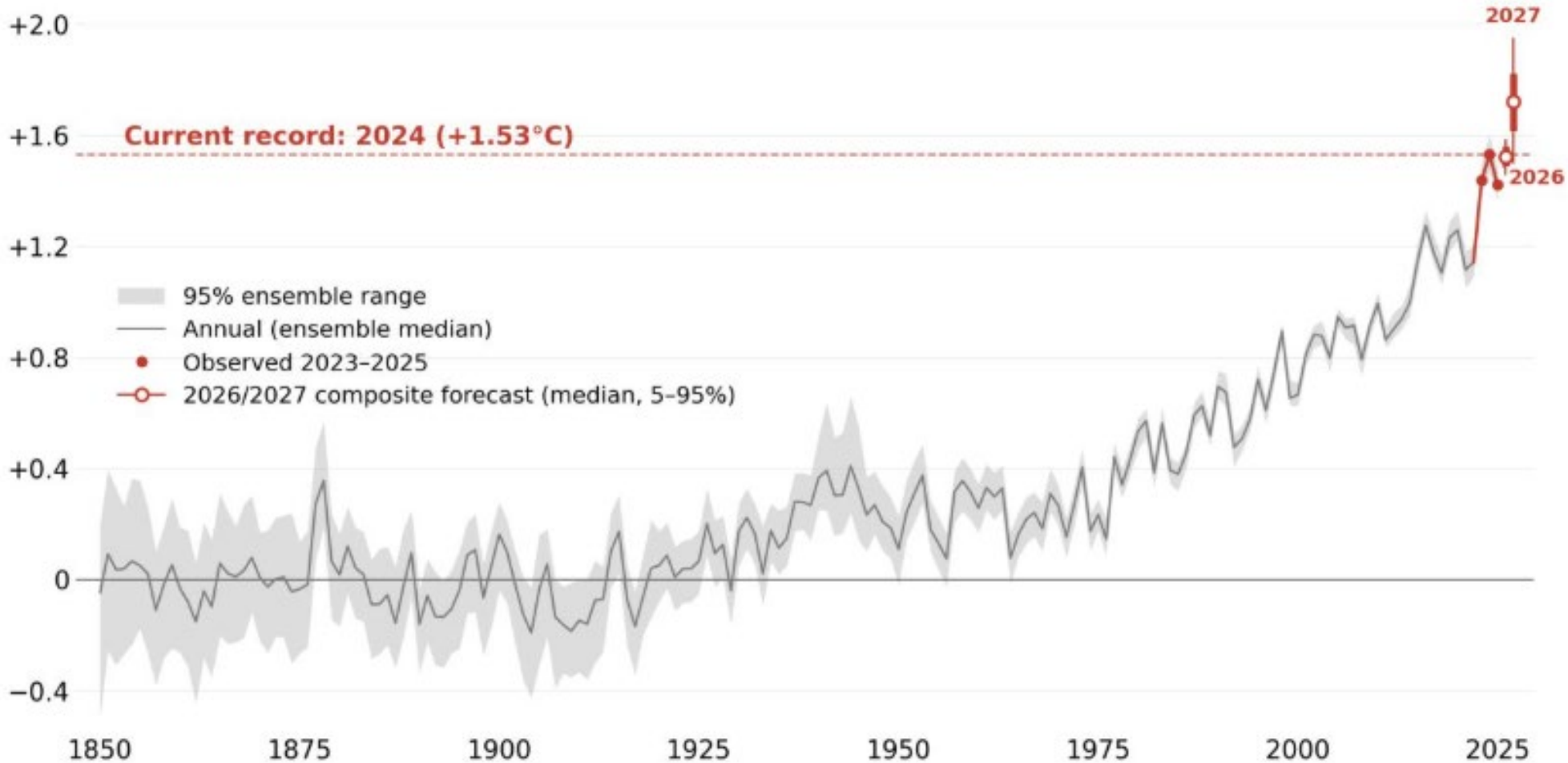


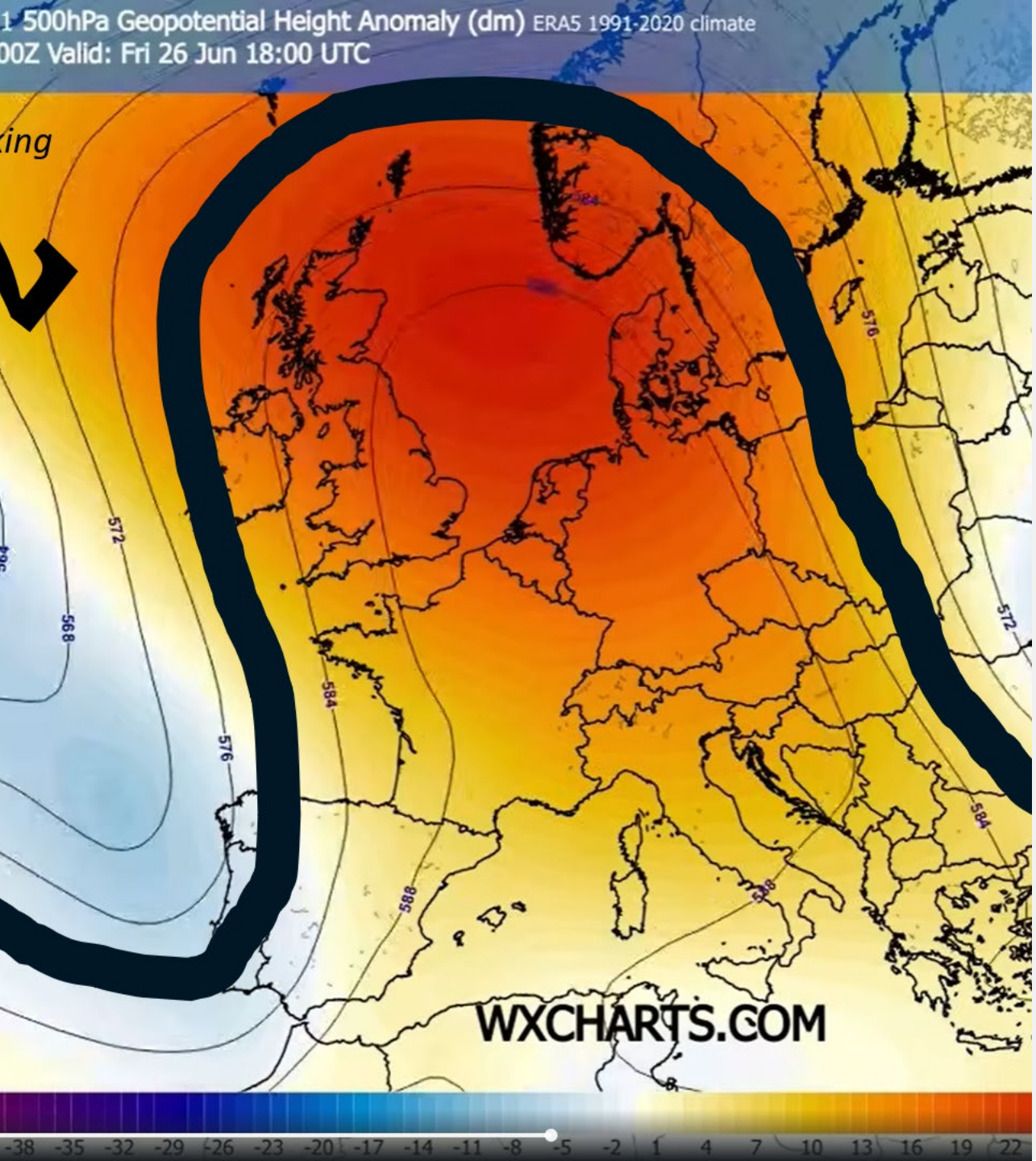
Estimated probability of 2026's final ranking among all years since 1850.

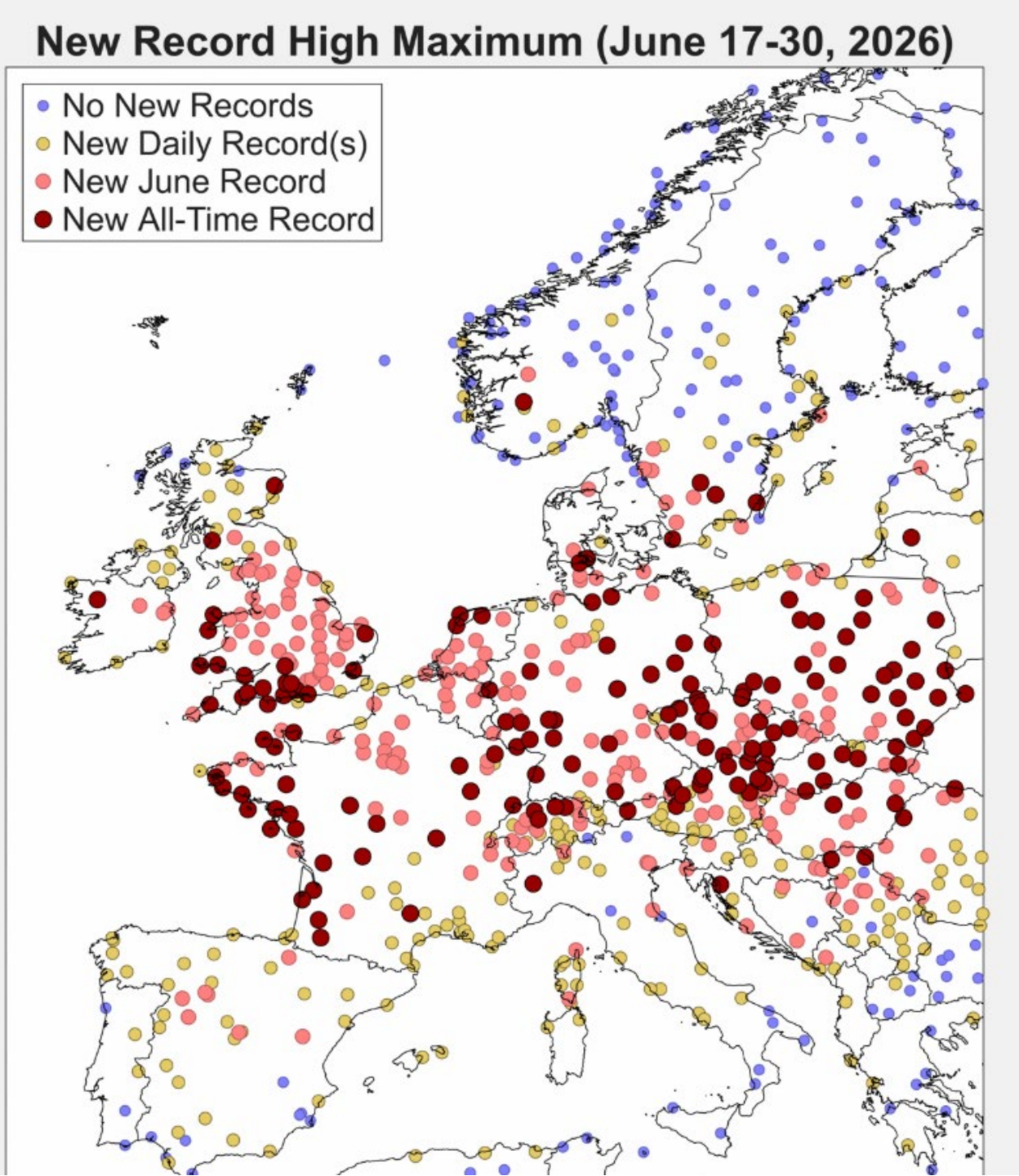
BERKELEY EARTH.

Five straight years warmer than anything observed before 2023

Global mean surface temperature relative to preindustrial (1850–1900) · °C




1 500hPa Geopotential Height Anomaly (dm) ERA5 1991-2020 climate
00Z Valid: Fri 26 Jun 18:00 UTC
king
WXCHARTS.COM
-38 -35 -32 -29 -26 -23 -20 -17 -14 -11 -8 -5 -2 1 4 7 10 13 16 19 22


New Record High Maximum (June 17-30, 2026)
No New Records
New Daily Record(s)
New June Record
New All-Time Record

Danmark – juni maksimumtemperaturer

153 obs · 1874–2026 · Gns. = 29.7°C

Varmeste måling lige nu

H. C. Andersen Airport

37,0° i dag kl. 15:00

Gns. = 29.7°C

−1σ

+1σ

−2σ

+2σ

2026

37.0°C

+2.87σ fra gns.

490-års hændelse (0.20%)

25

30

35

40

Temperatur (°C)

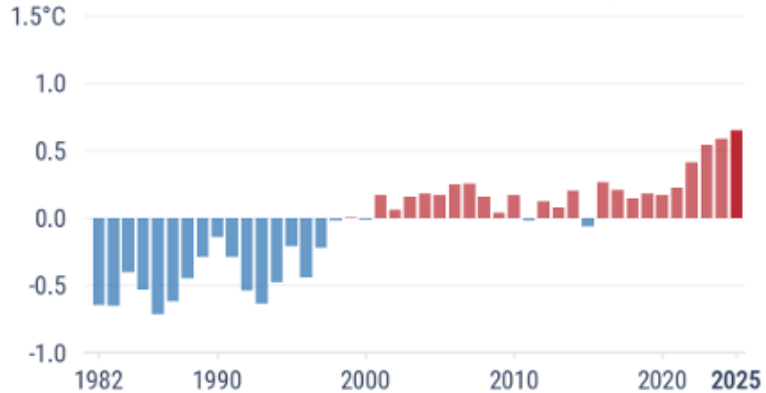
03-09-2026

EUROPEAN STATE OF THE CLIMATE
REPORT 2025

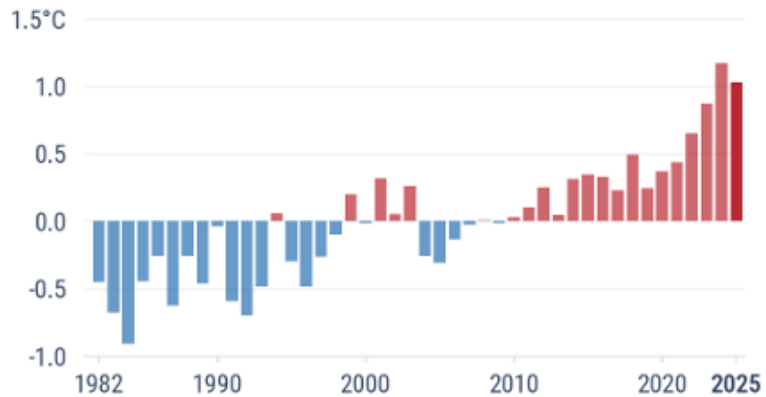
Record-high sea surface temperatures

sea surface temperature for the **European ocean was the highest on record**. For the **Mediterranean**, it was the **second-highest**.

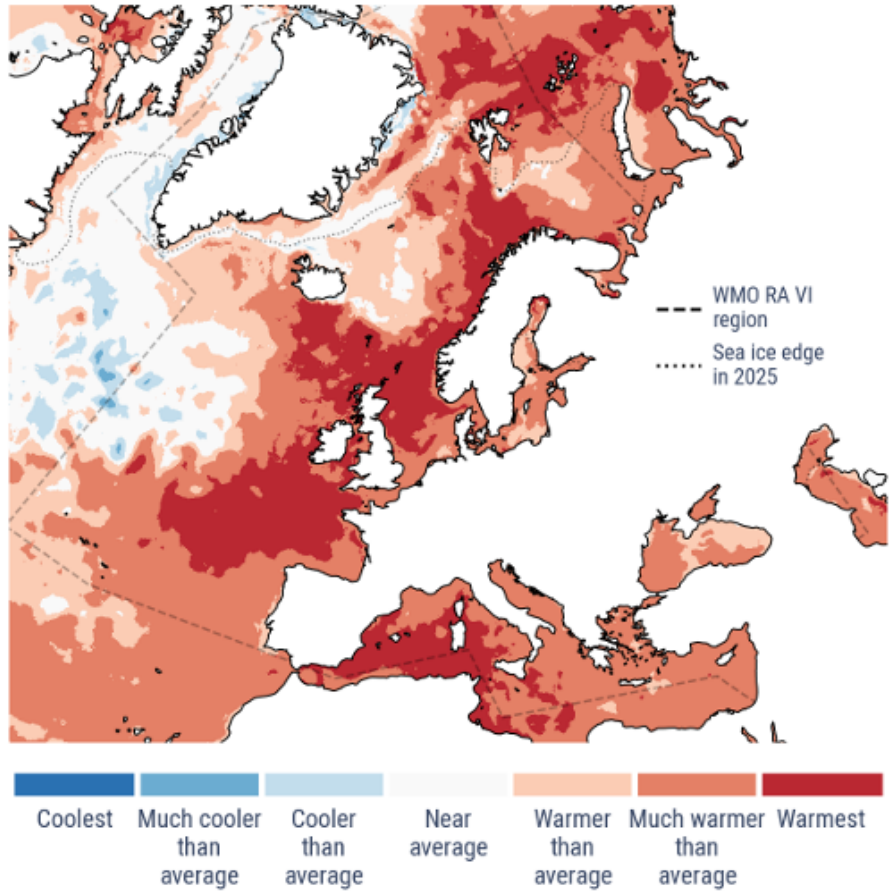
SST anomalies for WMO RA VI (Europe) region



SST anomalies for the Mediterranean Sea



Anomalies and extremes in annual SST in 2025

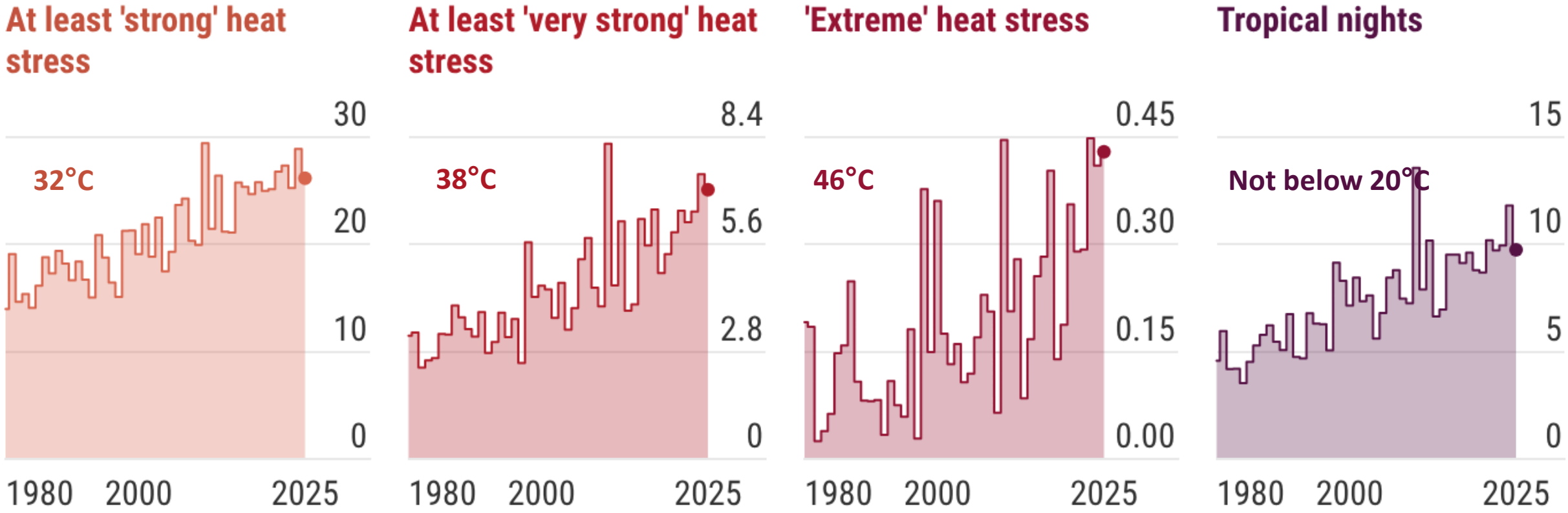


Data: C3S Global Sea and Sea Ice Surface Temperature v1.0 (1982–2025) • Reference period: 1991–2020 • Credit: C3S/ECMWF

Copernicus Europe's eyes on Earth · Climate Change Service · IMPLEMENTED BY ECMWF · WORLD METEOROLOGICAL ORGANIZATION

Heat stress days are increasing while cold stress days decline

Average number of heat stress days, tropical nights and cold stress days in Europe (WMO RA VI) since 1980



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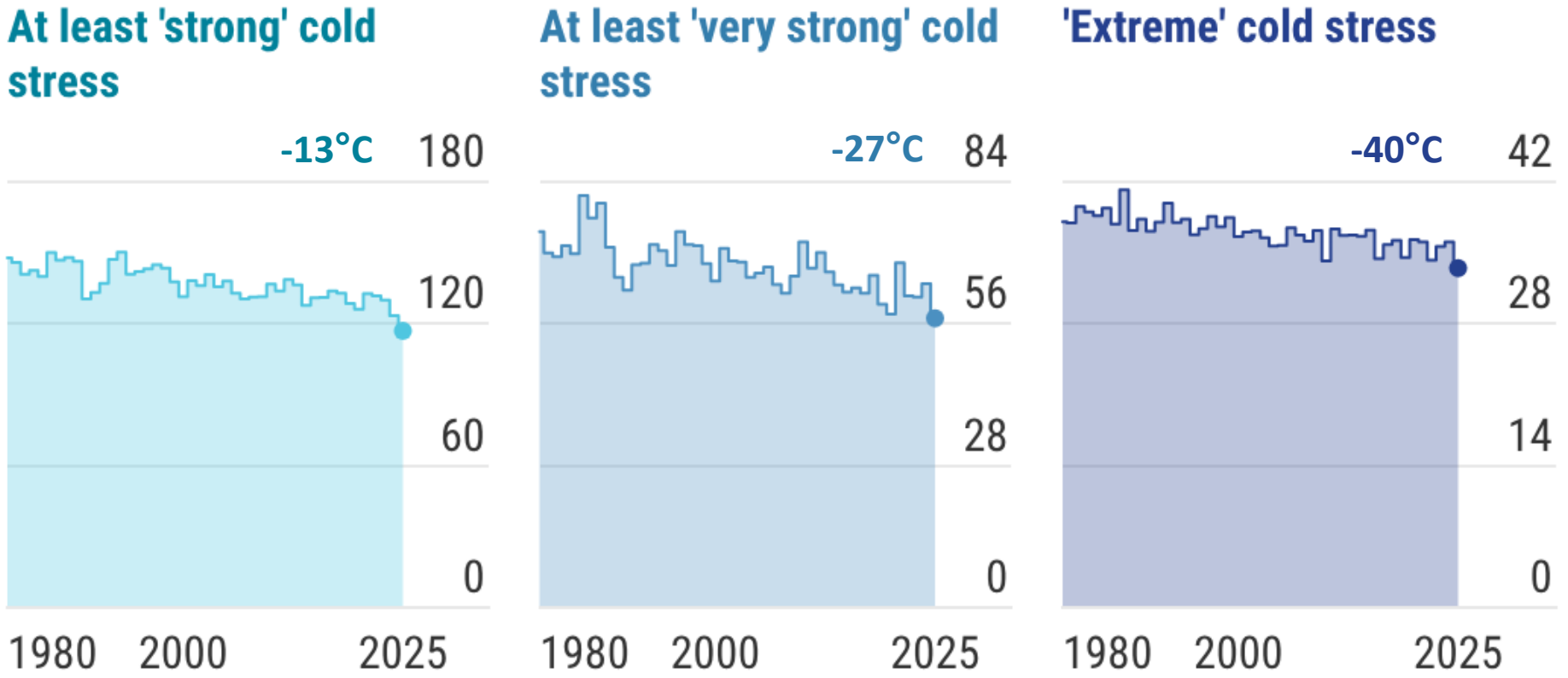
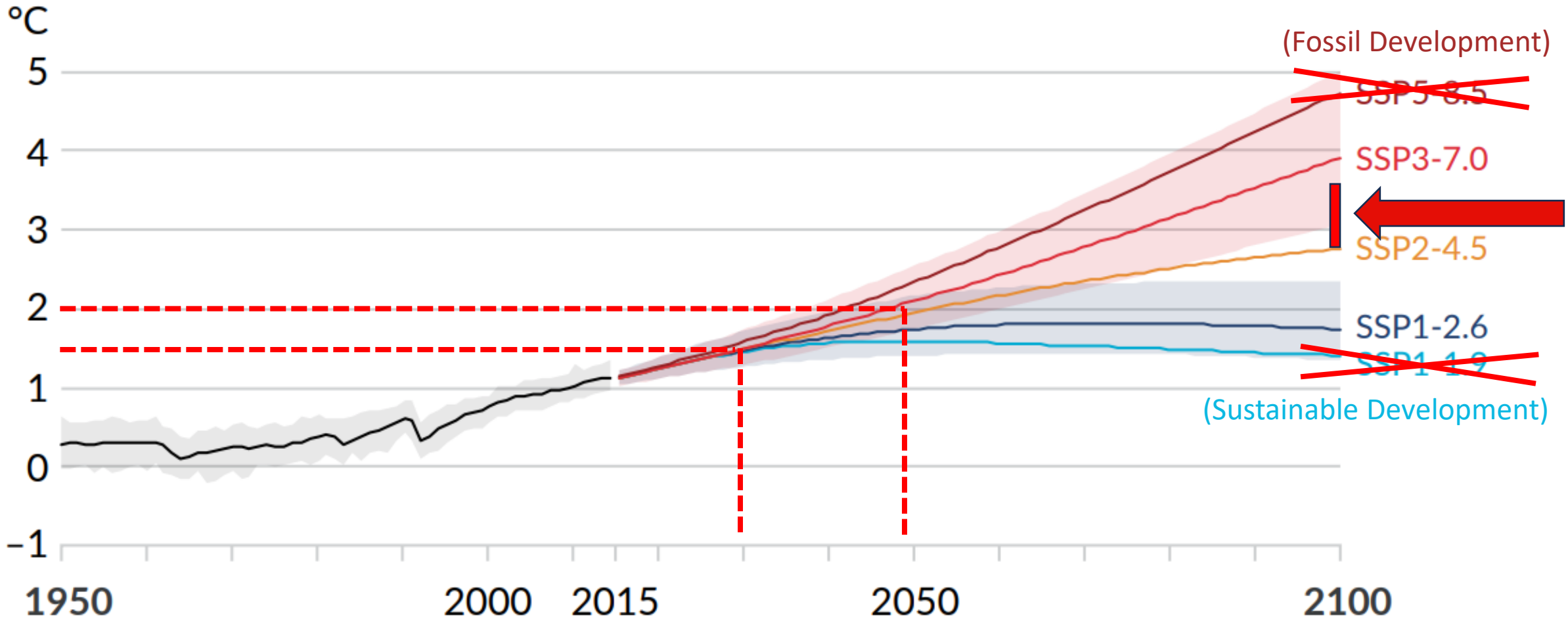


Data: ERA5-HEAT • Credit: C3S/ECMWF

Global surface temperature change relative to 1850–1900



https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

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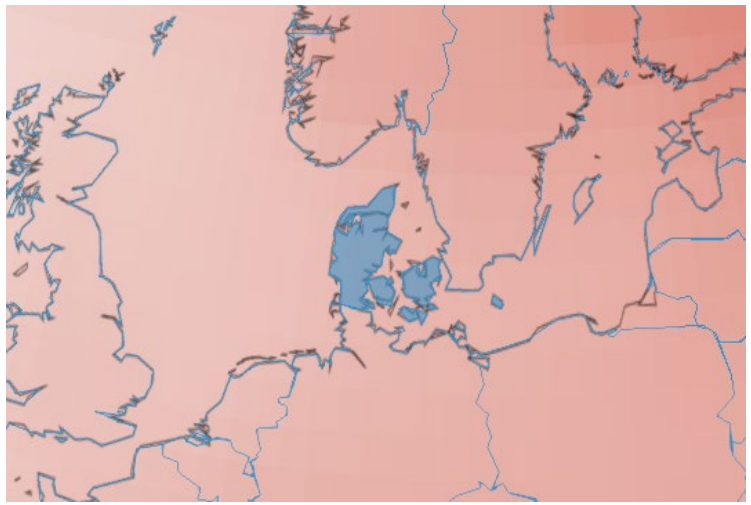

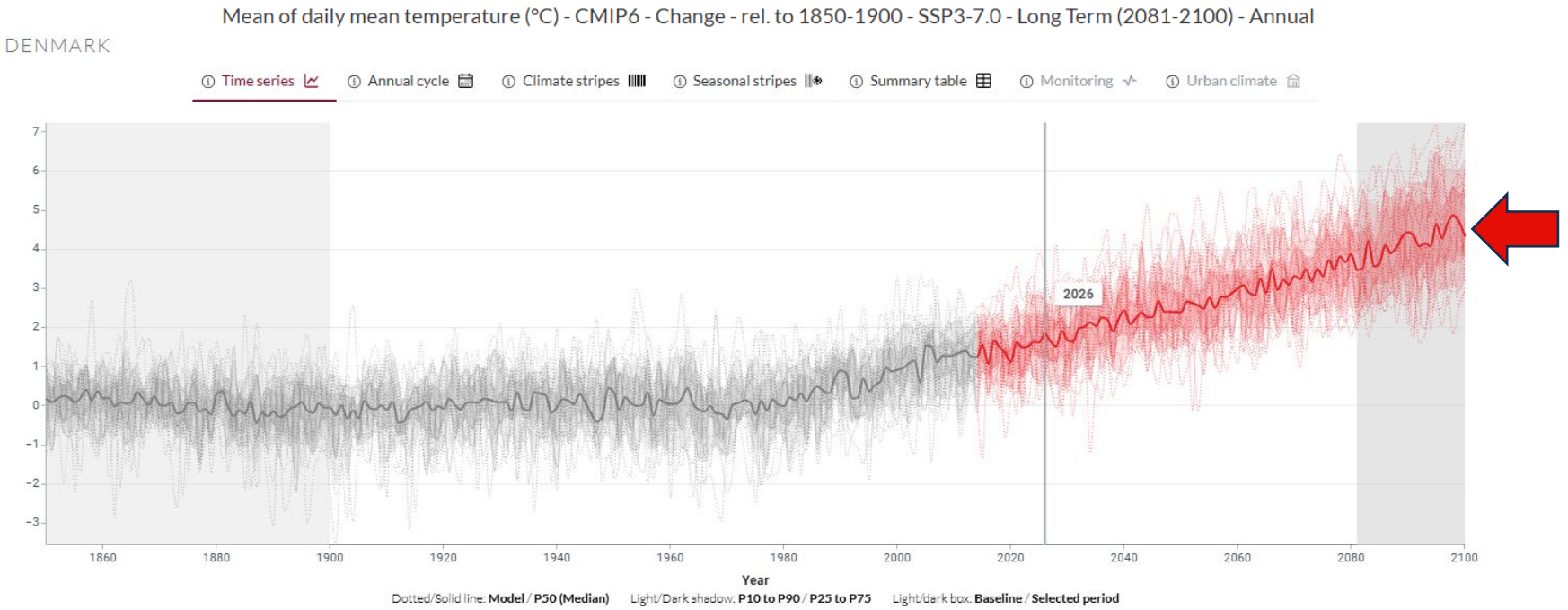

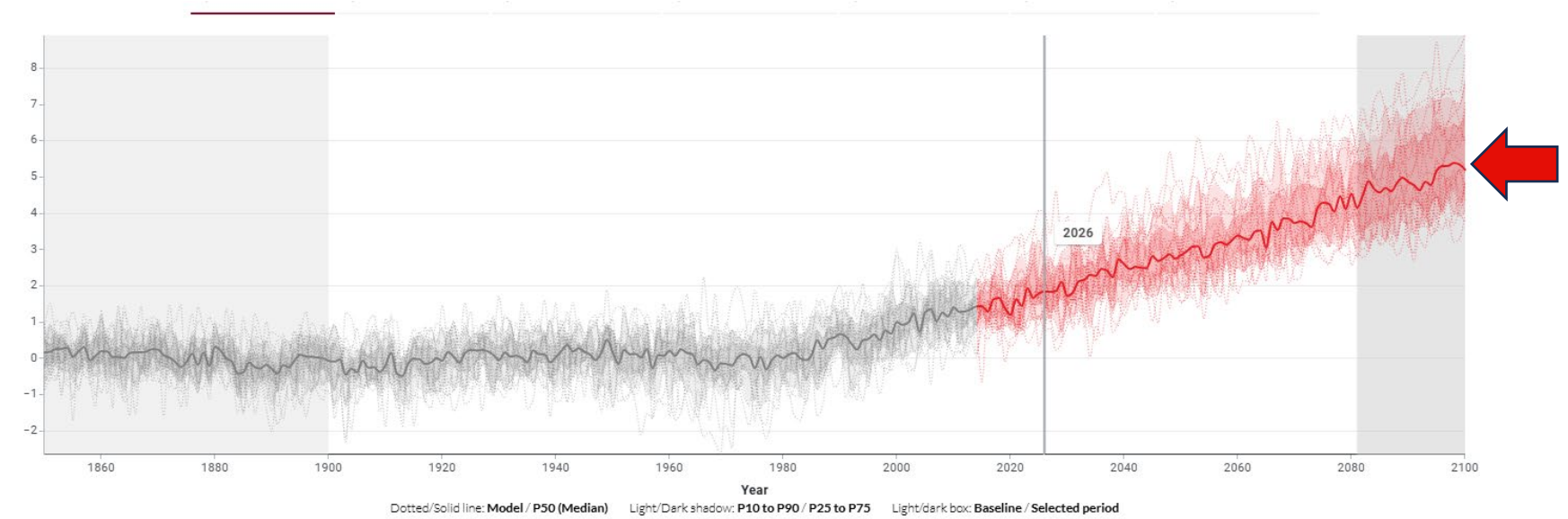

Thank you for your attention…

mernild@sdu.dk

SDU

ipcc
INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP

LIFE ACT
Action for Climate Transition

CLIMATEBLUE
CLIMATEPOL
POSEIDON

SCC
SDU Climate Cluster