

The 2019 Heat Wave in Europe and beyond... —What the Media Didn't Tell You



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Weather, Climate and Climate Change—What the Data Tell Us

3 Sept 2019

Introduction:

As it turns out, I have direct on-the-ground experience very close to the areas cited in recent “news” about the hot and “record-breaking” 2019 temperatures in Europe:

NATO Project OPAQUE 1975-1976

Meppen, Germany

RAF Mildenhall, subsequent weekend day trip to Cambridge.

Paris, 1976, 1980, 2002, 2013

Subsequent visit to Mildenhall, Paris and Cambridge in 2013

Outline

Greenland 17 Jun 2019....8 Aug 2019

Surface Weather Observing Standards

Summer 2019 European Heat Wave

France 28 June 2019 Paris, Summer 1911

Germany 25 July 2019 Lingen, Germany

England 29 July 2019 Cambridge, England

Conclusions

Photo of sled dogs walking through water shows reality of Greenland's melting ice sheet

Summer 2019 was very warm in Europe and beyond.

This image from CNN was sent to me by local Climate Alarmist Peter Goodman and made the rounds as alleged proof of human-caused CO2-fueled global warming.



In this photo taken on Thursday, June 13, 2019 sled dogs make their way in northwest Greenland with their paws in melted ice water.



Bjorn Lomborg
@BjornLomborg



Oops

Remember that viral sled-on-water picture showing "our ongoing climate catastrophe" (CNN)?

Turns out it is entirely normal, happened in the 1800s, will probably happen *less* with higher temps

But Al Gore wants permission to use it in his slideshow berlingske.dk/samfund/spring...

Oops! Remember that 'sled-on-water' picture showing our ongoing climate catastrophe?

From Bjorn Lomborg:

Now they've talked to people who live and work in Greenland: Turns out it happens “all the time.”

It happened to polar explorer Knud Rasmussen (1879-1933) and in plenty historical texts.

It actually happens when the ice is so *thick* the melting water can't run off, meaning it will likely happen *less often* with higher temperatures.

A number of Danish researchers describe it as “nothing extraordinary,” “a normal June phenomenon displayed as a climate catastrophe” and “the situation is entirely normal.”

Another researcher says the locals are used to this phenomenon: “to them it is not surprising that ice can melt like that. When it happens, they just line the sled with plastic bags to avoid getting wet.” They even have a name for it, *imaq*, (‘everything is water’)

The researchers took a similar picture...in 1984.

But CNN said the picture was “evidence of our ongoing climate catastrophe.” And Al Gore wants permission to use it in his slideshow.

Oops! Remember that 'sled-on-water' picture showing our ongoing climate catastrophe?

“... the photo in fact underscores how thick the ice is. ‘Because the ice is so thick, there are no holes through which the water can run out of the melted snow,’ said Mathiassen, adding that the water pictured, through which the sled dogs at Qaanaaq are scrambling, is not ice melt water, but apparently from melted snow.”



World Meteorological Organization--Surface Weather Observing Standards

A review of WMO Surface Weather Observing Standards

I learned these during Meteorological Instruments and Observations class at Texas A & M in 1963

Standards were published in the Post-WW2 period when the ICAO and WMO established criteria to allow intercontinental flights to be conducted safely and efficiently.

It's obvious, standards are not being met not only in the USA
<http://www.surfacestations.org/> but in Europe, also.

ANNEX 1.B. SITING CLASSIFICATIONS FOR SURFACE OBSERVING STATIONS ON LAND

(The text of the common ISO/WMO standard 19289:2014(E))

INTRODUCTION

The environmental conditions of a site¹ may influence measurement results. These conditions must be carefully analysed, in addition to assessing characteristics of the instrument itself, so as to avoid distorting the measurement results and affecting their representativeness, particularly when a site is supposed to be representative of a large area (i.e. 100 to 1 000 km²).

World Meteorological Organization--Surface Weather Observing Standards

2. AIR TEMPERATURE AND HUMIDITY

The main discrepancies are caused by unnatural surfaces and shading:

- (a) Obstacles around the screen influence the irradiative balance of the screen. A screen close to a vertical obstacle may be shaded from the solar radiation or “protected” against the night radiative cooling of the air, by receiving the warmer infrared radiation from this obstacle or influenced by reflected radiation;
- (b) Neighbouring artificial surfaces may heat the air and should be avoided. The extent of their influence depends on the wind conditions, as wind affects the extent of air exchange. Unnatural or artificial surfaces to take into account are heat sources, reflective surfaces (for example buildings, concrete surfaces, car parks) and water or moisture sources (for example, ponds, lakes, irrigated areas).

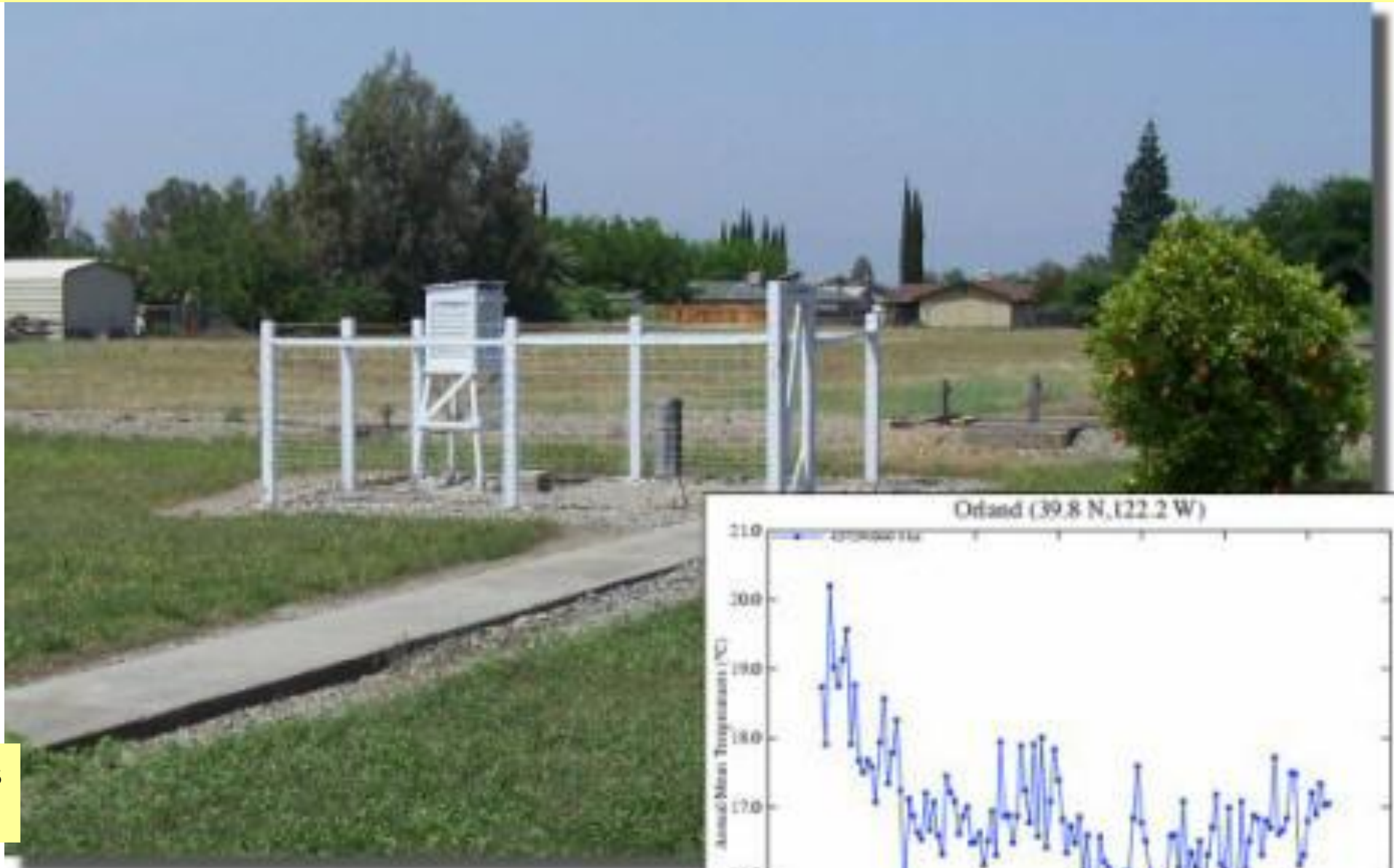
Shading by nearby obstacles should be avoided. Shading due to natural relief is not taken into account for the classification (see above).

World Meteorological Organization--Surface Weather Observing Standards

2.2 **Class 1**

- (a) Flat, horizontal land, surrounded by an open space, slope less than $\frac{1}{3}$ (19°);
- (b) Ground covered with natural and low vegetation (< 10 cm) representative of the region;
- (c) Measurement point situated:
 - (i) At more than 100 m from heat sources or reflective surfaces (buildings, concrete surfaces, car parks, etc.);
 - (ii) At more than 100 m from an expanse of water (unless significant of the region);
 - (iii) Away from all projected shade when the sun is higher than 5° .

Orland California, Poster Child for a well-exposed station and data set



A well-exposed Class One weather station.

This USHCN Station in Orland, CA has been in the same location for over 100 years

Europe

Study links Europe's record heat wave to global warming

Mike Corder
ASSOCIATED PRESS



<https://apnews.com/65694195c91d4b62b275bd14a6955b4c>

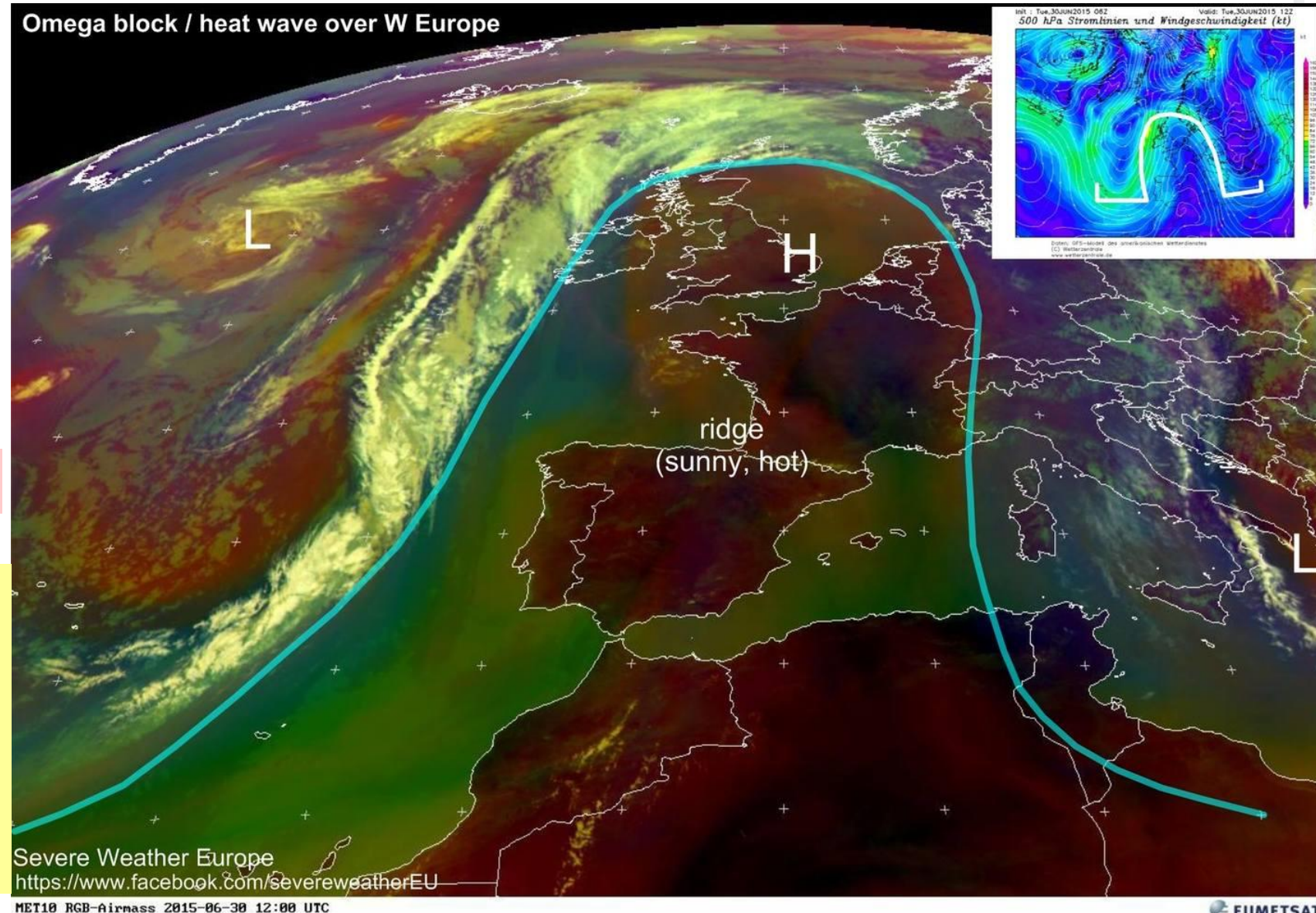
The Omega-Shaped Jet Stream Responsible for Europe's Heatwave

Europe's Omega Block on 30 June 2015.

The omega-shaped jet stream is highlighted in the insert

Low-High-Low L H L pattern

"An important consequence of this situation has been the formation of a Spanish plume, which transports warm dry air from over Spain to the UK (sometimes North Africa, which explains the red dust left on your car after it rains)."



The Omega-Shaped Jet Stream Responsible for Europe's Heatwave

What Causes a European Heatwave?

The World Meteorological Organization defines a heatwave as five or more consecutive days when the maximum daily temperatures are at least 5°C above average for that time of year.

Persistent hot weather of this type is linked to high pressure systems, where air descends, heats up and dries out. This suppresses the formation of clouds and allows for clear conditions for days or even weeks.

Western Europe's weather is largely governed by the jet stream. This high-altitude, high-velocity river of air meanders around the globe and is constantly changing position.

EUROPEAN HEAT WAVE

'Saharan Bubble' hits Europe leaving France on red alert for first time ever, as temperatures hit 45.8C.



34,000-foot winds

GFS 250mb Wind Speed/Streamlines (kt) & MSLP Extrema (mb)
Init: 12z Jun 20 2019 Forecast Hour: [108] valid at 00z Tue, Jun 25 2019

5-day forecast

TROPICALTIDBITS.COM

Europe Awaits Record-Smashing June Heat Wave

<https://www.wunderground.com/cat6/Europe-Awaits-Record-Smashing-June-Heat-Wave>

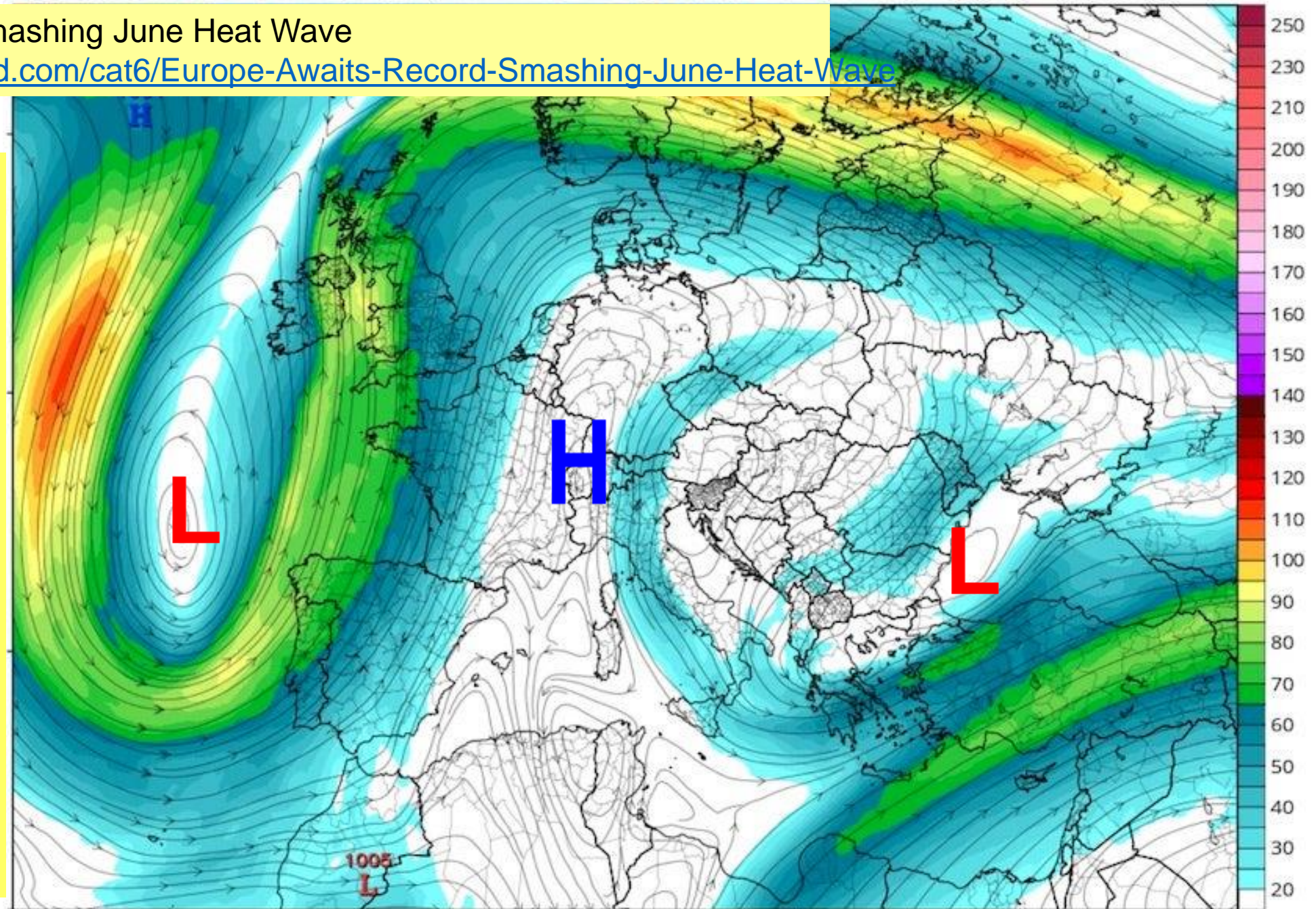
Before heat wave onset:

“High Index” conditions
at the Summer Solstice.

Extreme Omega Block

L H L pattern

Forecasters saw the
extreme heat wave
coming



Mature Omega Block Contours

L H L pattern

Reds show hot temperatures
over the Continent.

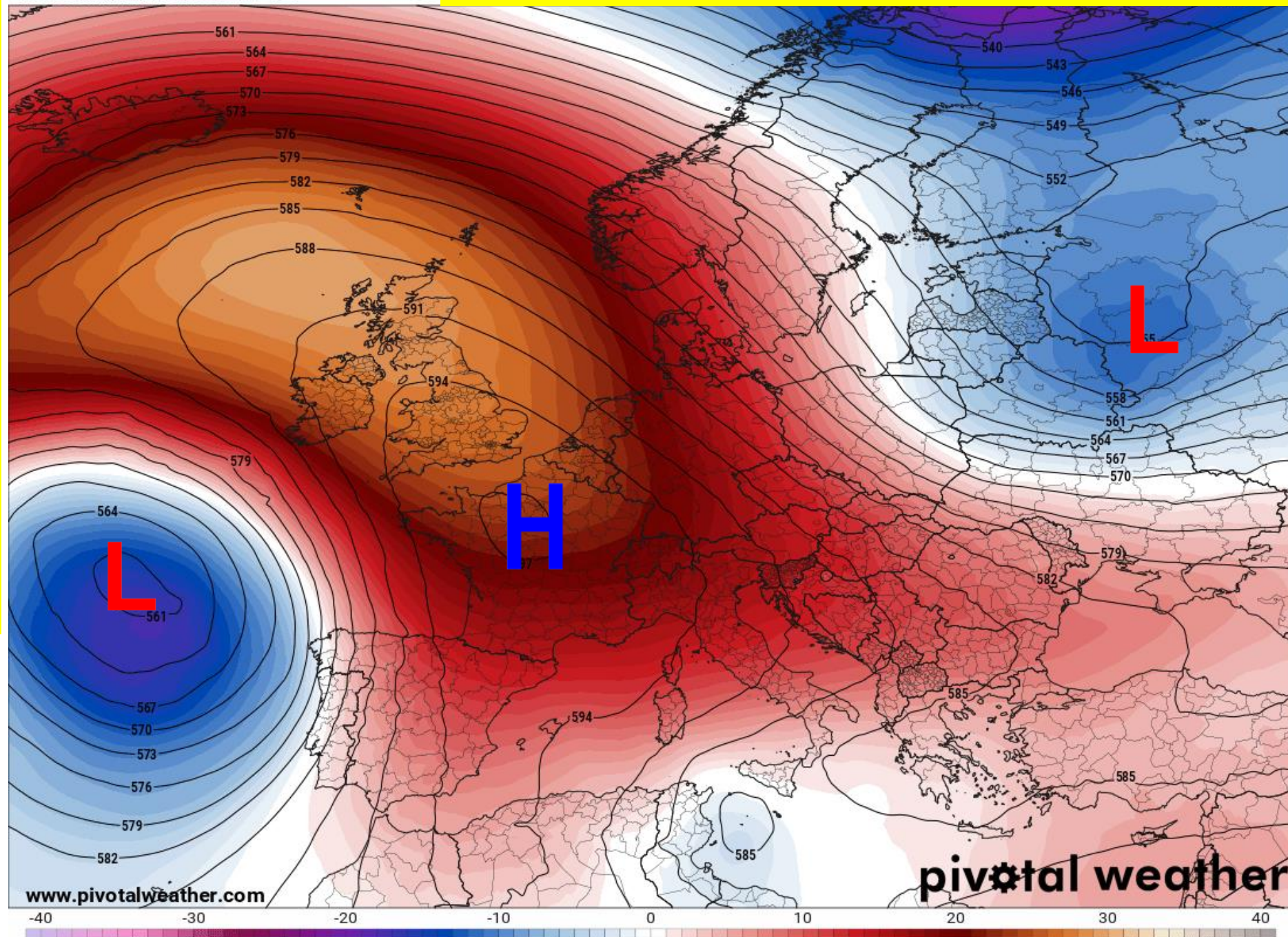
Flow brings Sahara air
northward over Europe

High Pressure-
subsiding air clear skies.
Strongest possible solar
heating!

https://www.washingtonpost.com/weather/2019/06/26/european-heat-wave-france-germany-poland-czech-republic-set-june-records-worst-is-still-come/?utm_term=.0a71c6caf565

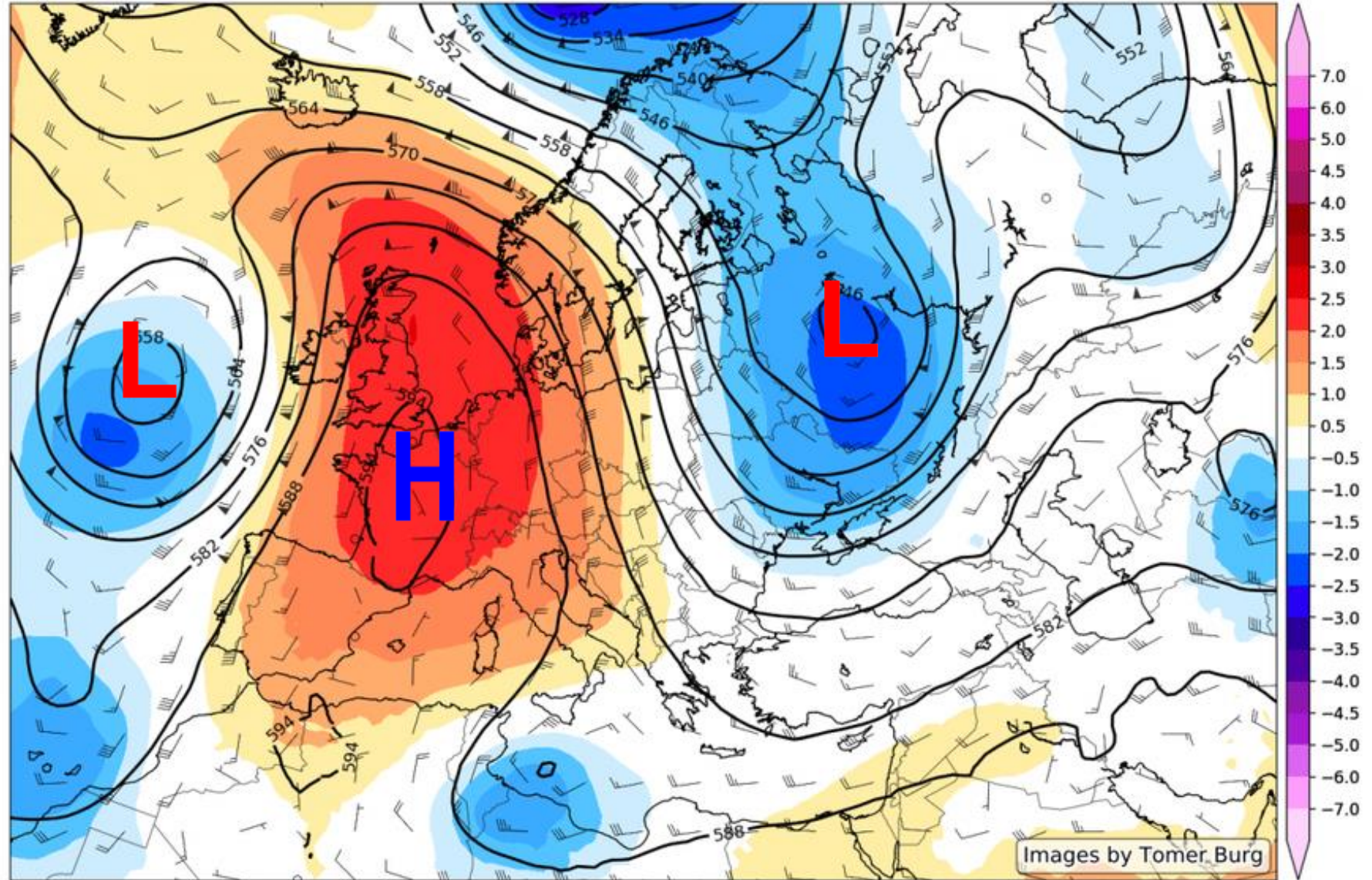
500 mb Height Anomaly (dam)
F006 Valid: Thu 2019-06-27 18z

500 mb 18,000 ft short term forecast Valid 27 Jun 1800Z



500 hPa Geopotential Height (dam) & Standardized Anomaly, Wind (kt)
GFS - Hour 0 Forecast

Init: 18z Fri 28 Jun 2019
Valid: 18z Fri 28 Jun 2019



500 mb forecast
Valid 28 Jun 2019 at 1800Z

This plot shows contours
of 500 mb heights and wind
barbs.

Still well-developed Omega
Block. L H L pattern.

Cut-off Low west of Bay
of Biscay

Cut-off Low Patterns do not
change rapidly

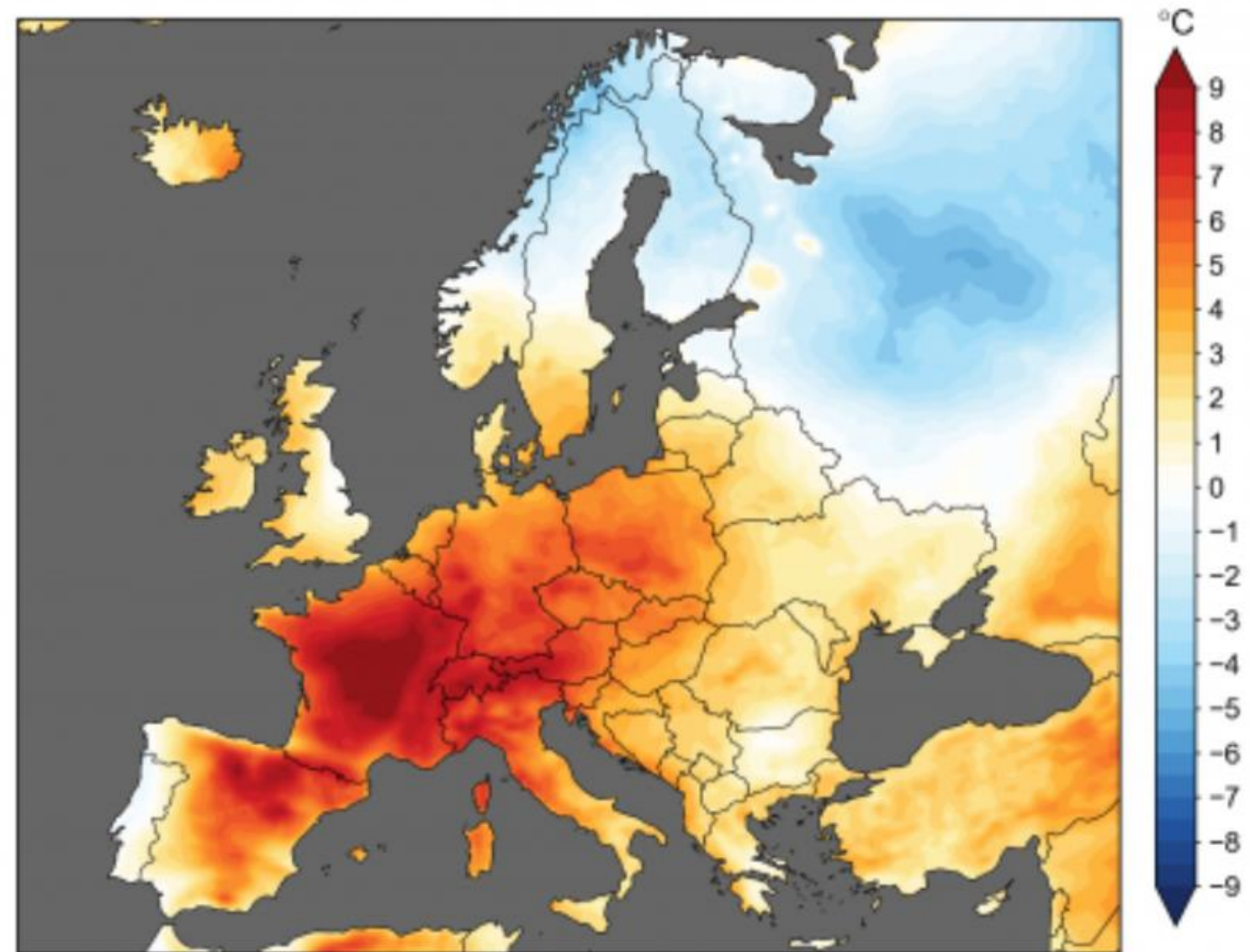
<https://public.wmo.int/en/media/news/europea-n-heatwave-sets-new-temperature-records>

5-day Average of surface temperature anomaly from the WMO.

Hot temperatures western Europe, especially France.

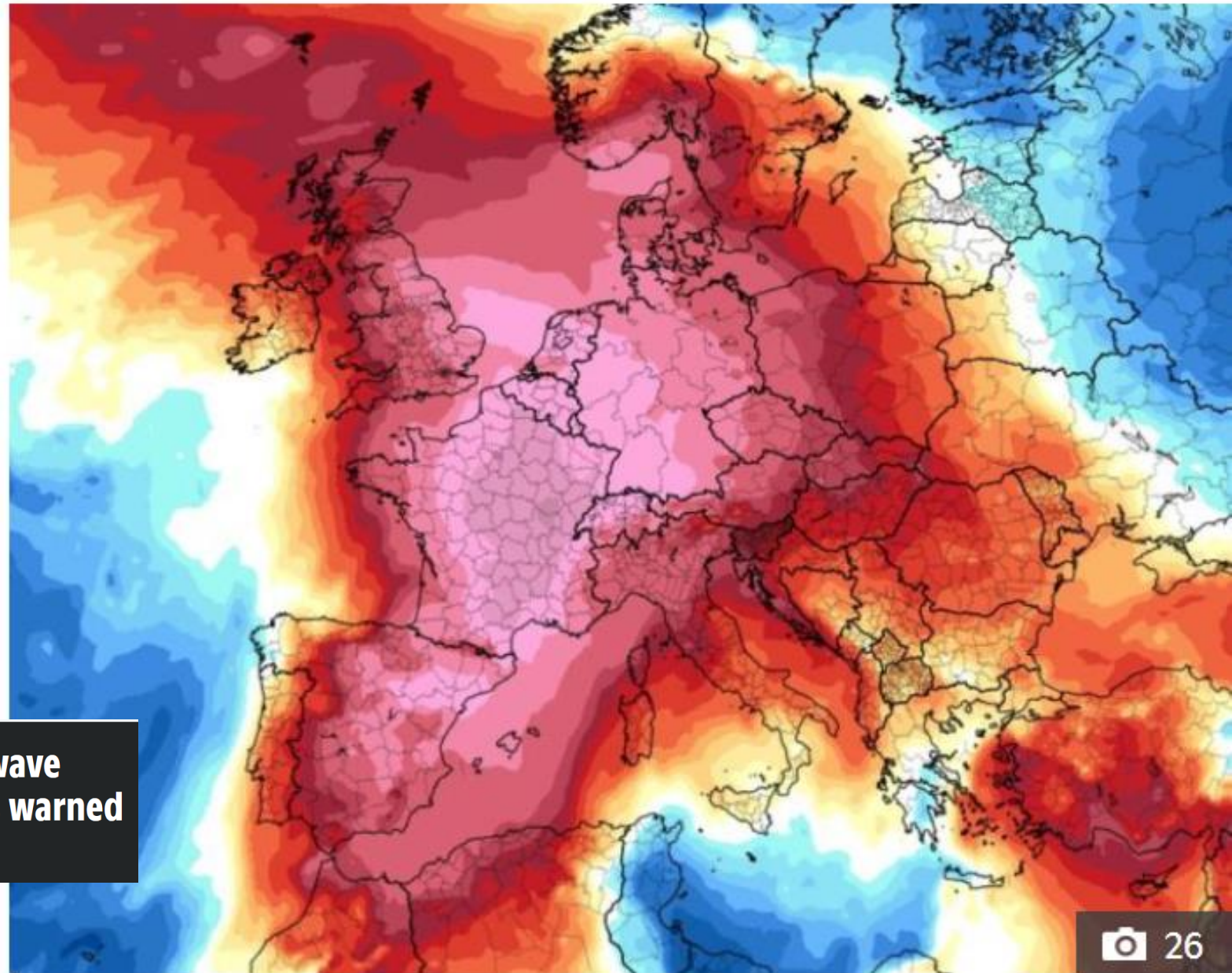
Large area of cold temperatures
Norway – Sweden – Finland – Russia.

Average 2m temperature anomaly for 25-29 June 2019



<https://www.thesun.co.uk/news/9384043/hell-heatwave-kills-three/>

IT REALLY IS HELL Europe's killer 40C Saharan heatwave looks exactly like Scream painting after forecasters warned 'hell is coming'



26

The giant African air plume is shown covering Britain and stretching from Spain to Norway

France 28 Jun 2019

<https://www.thesun.co.uk/news/9392028/hell-heatwave-40c-france-sahara-bubble/>

“Meteorologists say hot air drawn in from northern Africa is responsible for the heatwave, caused by high pressure over central Europe and a storm stalling over the Atlantic.”

...”storm stalling over the Atlantic”...is the cutoff low.

FRENCH FRIED France has its hottest day **EVER** thanks to killer **45.8C** Saharan heat bubble

Nicola Stow | Natalia Penza

28 Jun 2019, 13:20 | Updated: 28 Jun 2019, 15:59





RECORD NATIONAL DE CHALEUR BATTU

C'est la température la plus
chaude jamais mesurée en
France, tous mois confondus.

GALLARGUES-LE-MONTUEUX (30)

45,9 °C

LE 28 JUIN 2019 À 16H20

ANCIEN RECORD ABSOLU

44,1 °C

CONQUEYRAC (30)

LE 12 AOÛT 2003

METEO FRANCE

Record High Temperatures in France: 3 Facts the Media Don't Tell You

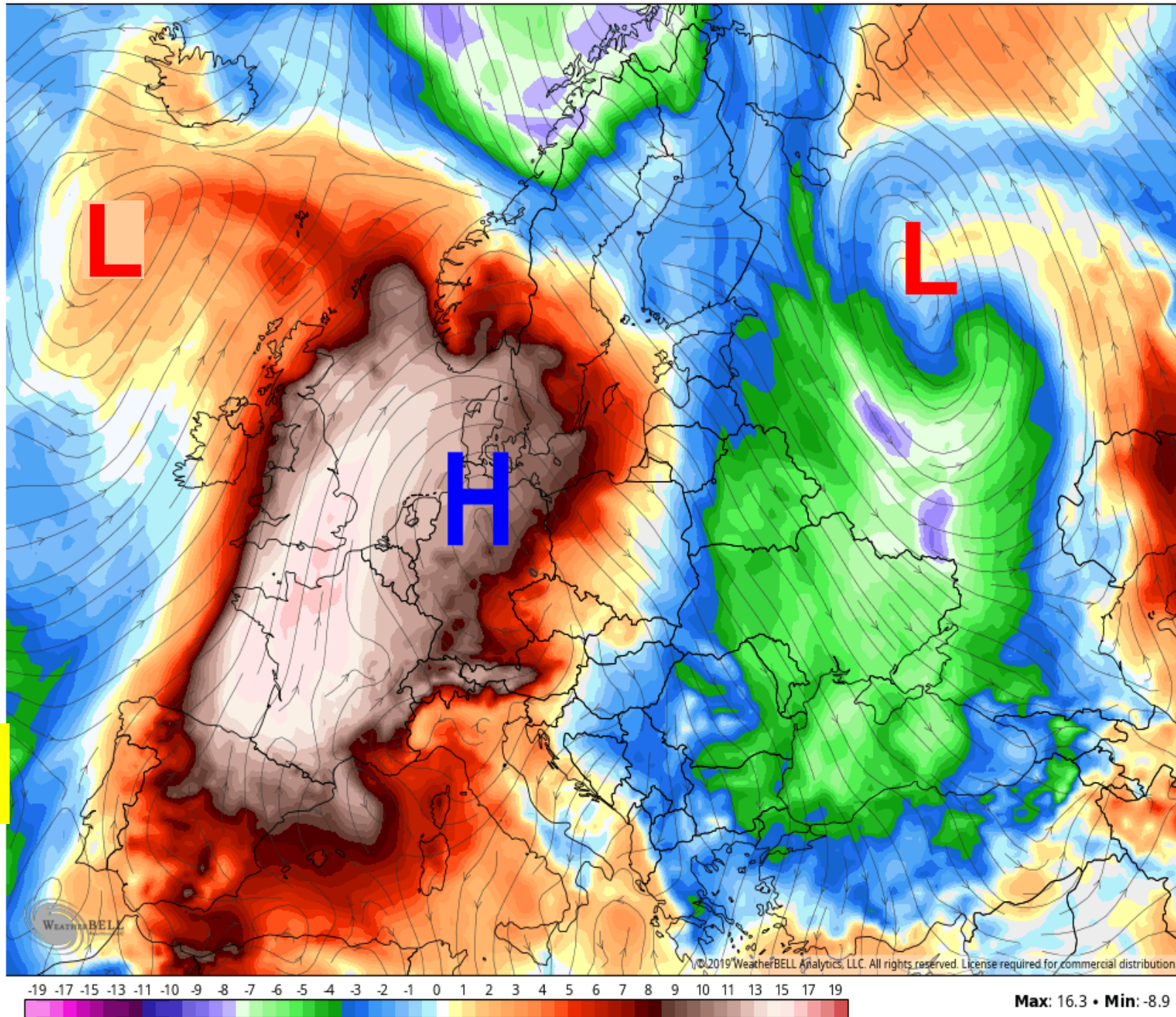
1. Record High Temperatures Occur Even Without Global Warming
2. Summer Heat Waves are Weather-Related, and Unusual Cold is Usually Nearby
3. Most Thermometer Measurements Have Been Spuriously Warmed by the Urban Heat Island Effect

Annotated 850 millibar chart
Valid 29 Jun 2019/1200Z

<http://www.drroyspencer.com/2019/07/record-high-temperatures-in-france-3-facts-the-media-dont-tell-you/>

GFS 0.25° Init 12z 29 Jun 2019 • 850mb Streamlines and Temperature Anomaly (°C)

Hour: 0 • Valid: 12z Sat 29 Jun 2019

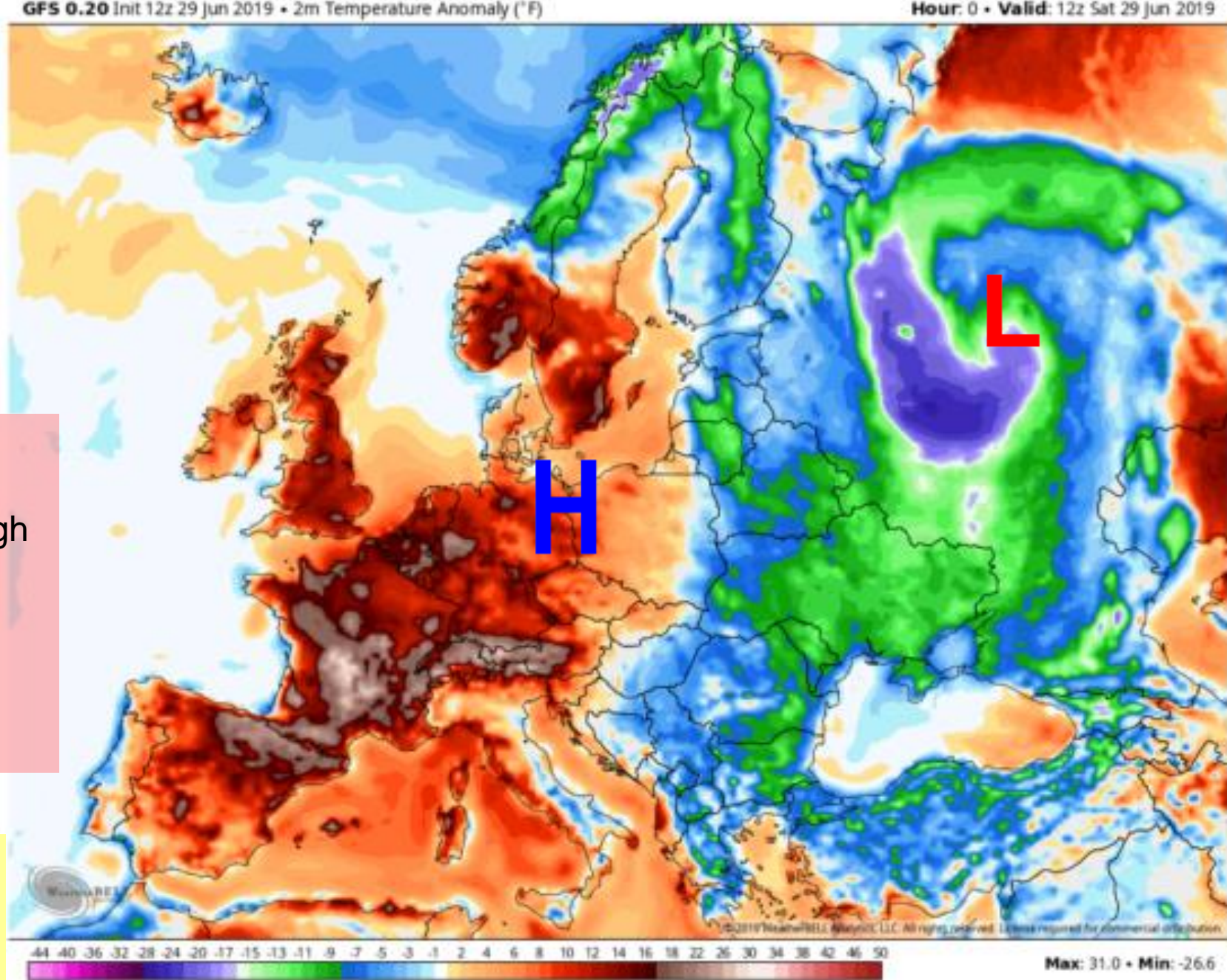


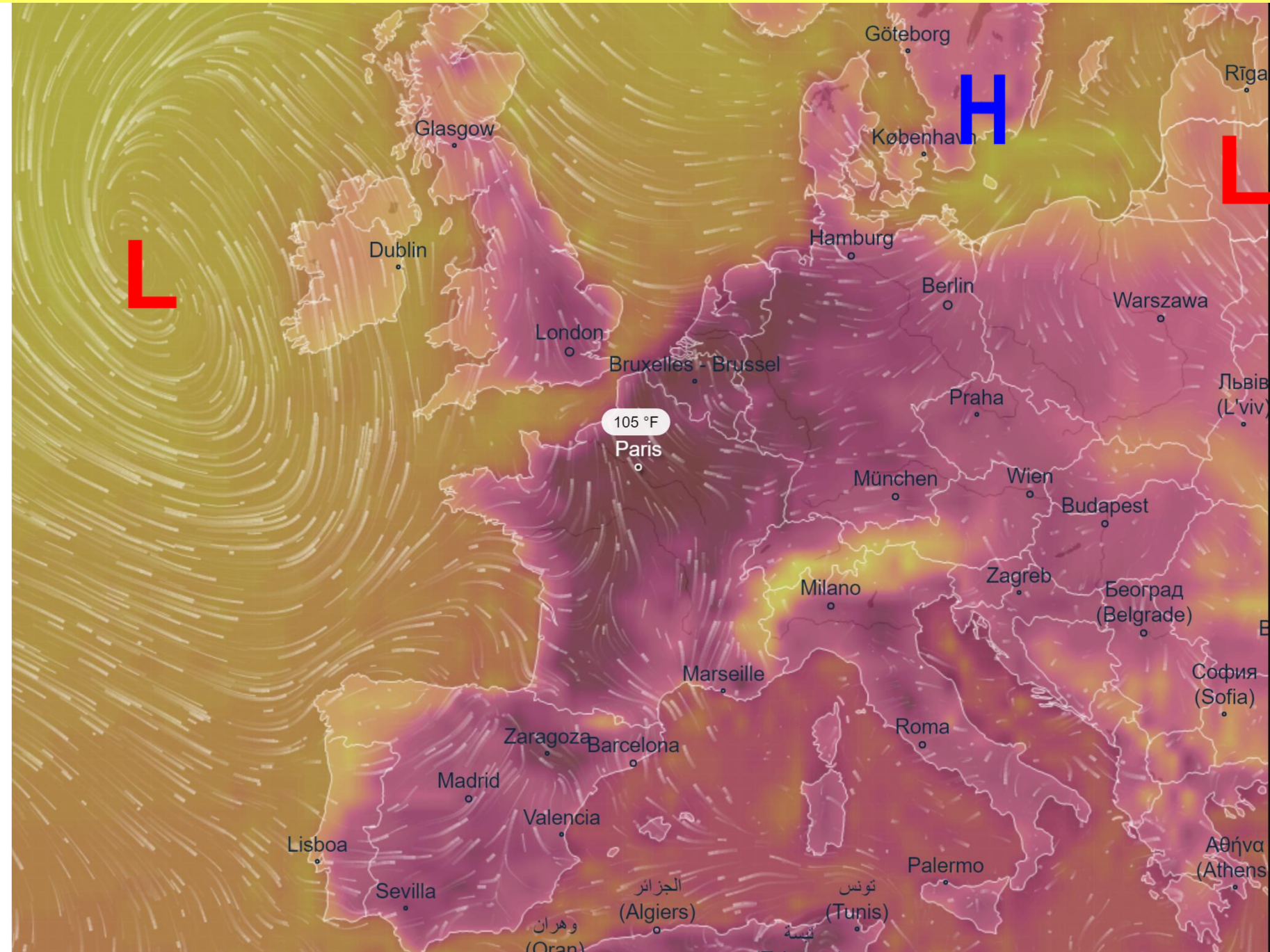
Record High Temperatures in France: 3 Facts the Media Don't Tell You

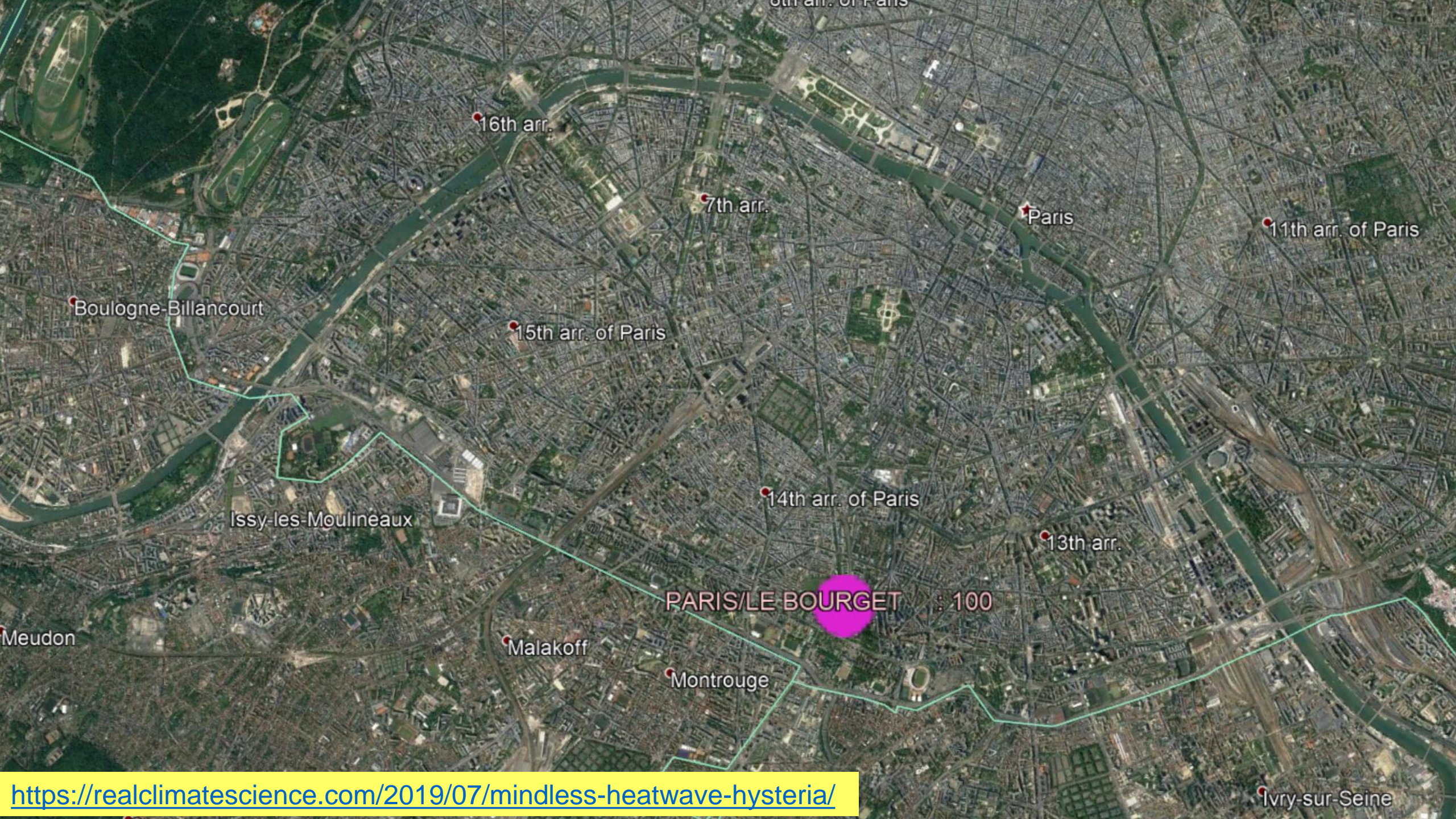
**Annotated surface temperature
departure chart Valid 29 Jun 2019/1200Z**

This heat wave was caused by a Sahara Air Layer flowing north from Africa, a result of clockwise air flow around the High Pressure system. This weather event caused the heat wave.
High pressure brings subsiding air, clear skies and strong solar heating, at the Summer Solstice.

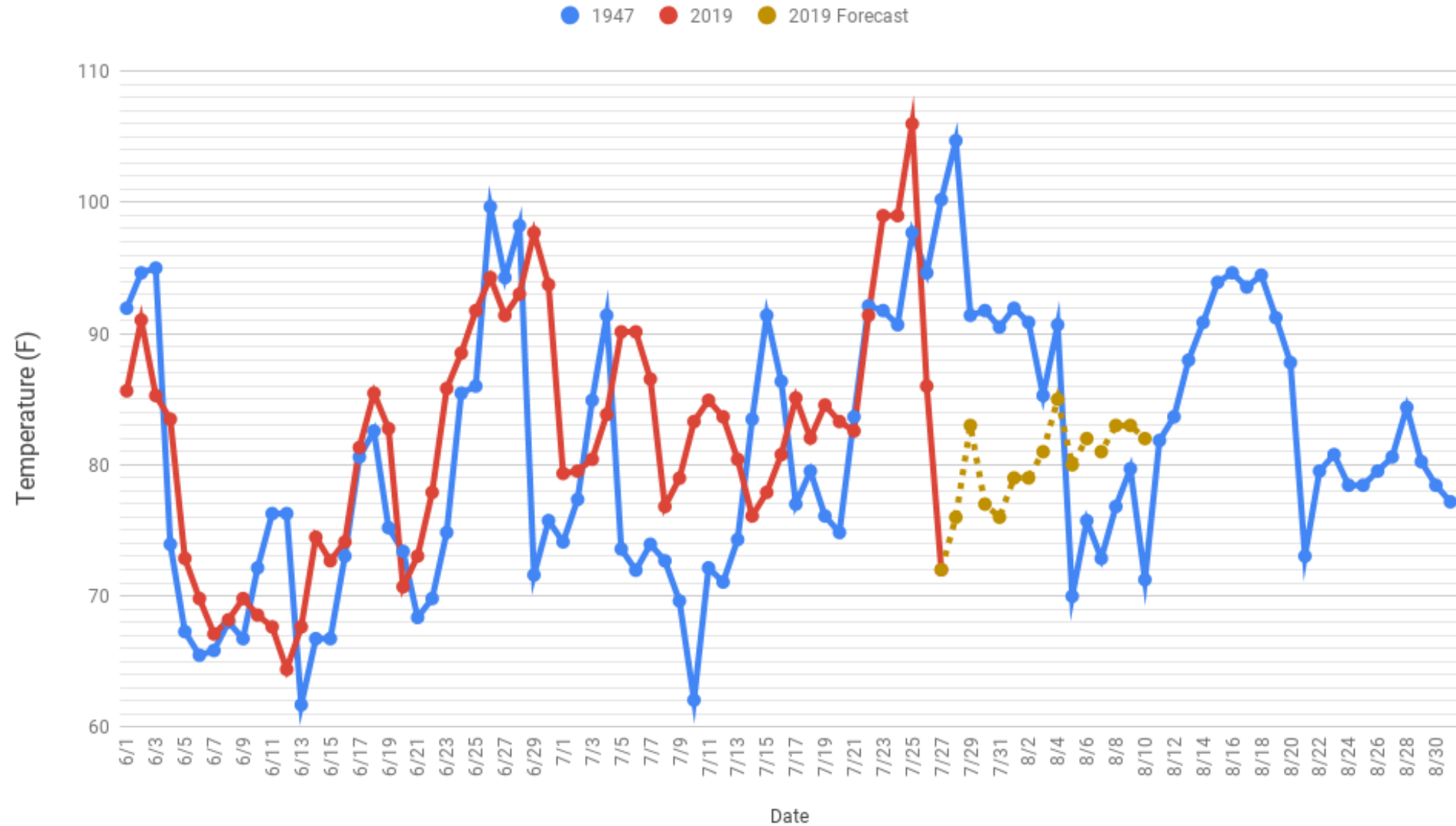
<http://www.drroyspencer.com/2019/07/record-high-temperatures-in-france-3-facts-the-media-dont-tell-you/>







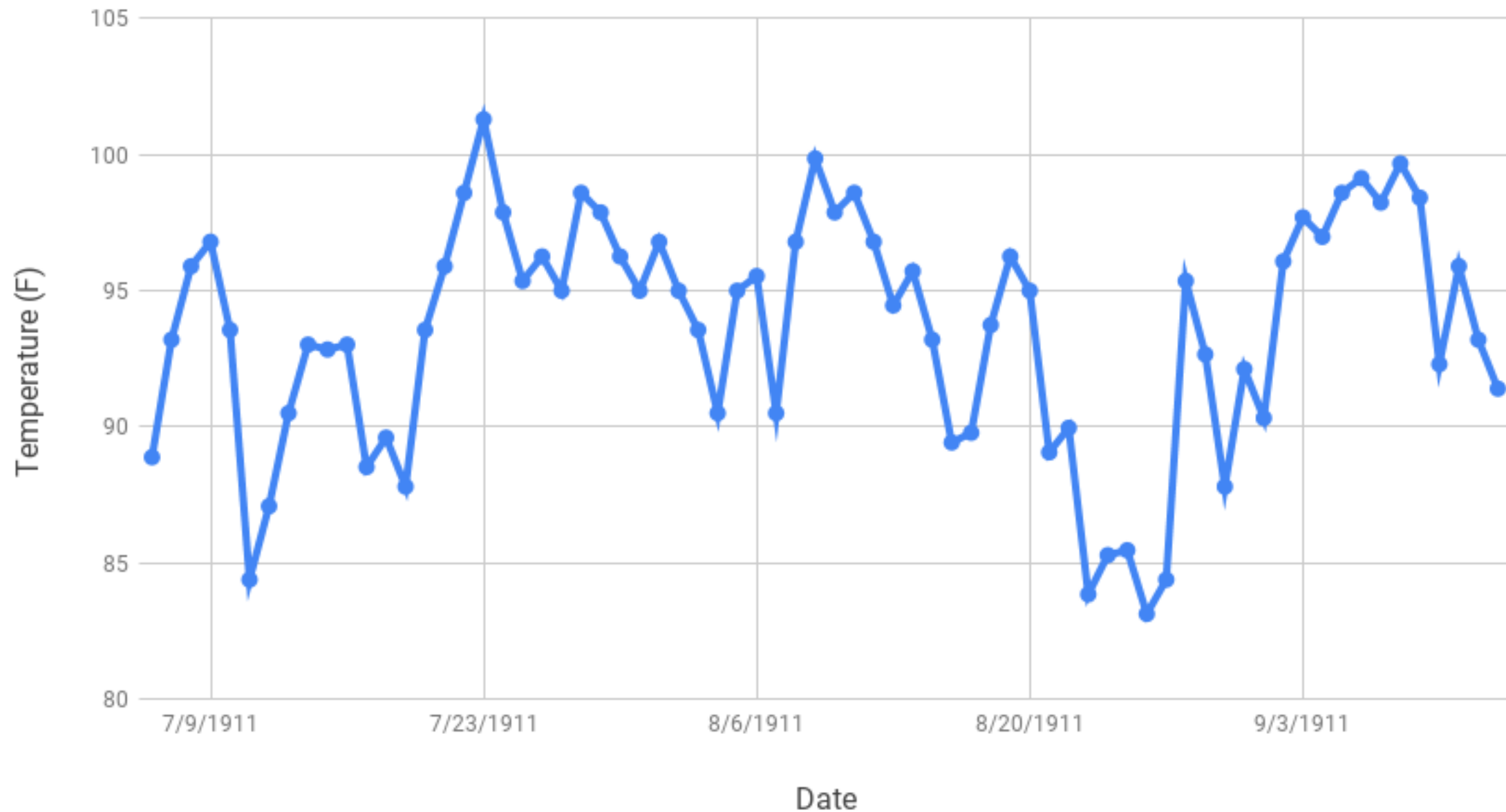
Paris Le Bourget Airport Summer Temperatures - 1947 And 2019



On 25 July 2019, Paris Le Bourget Airport reached 106F, one degree warmer than the 1947 peak. This is not surprising because the wind was blowing from the south across the massive Urban Heat Island of Paris.

France, 1911

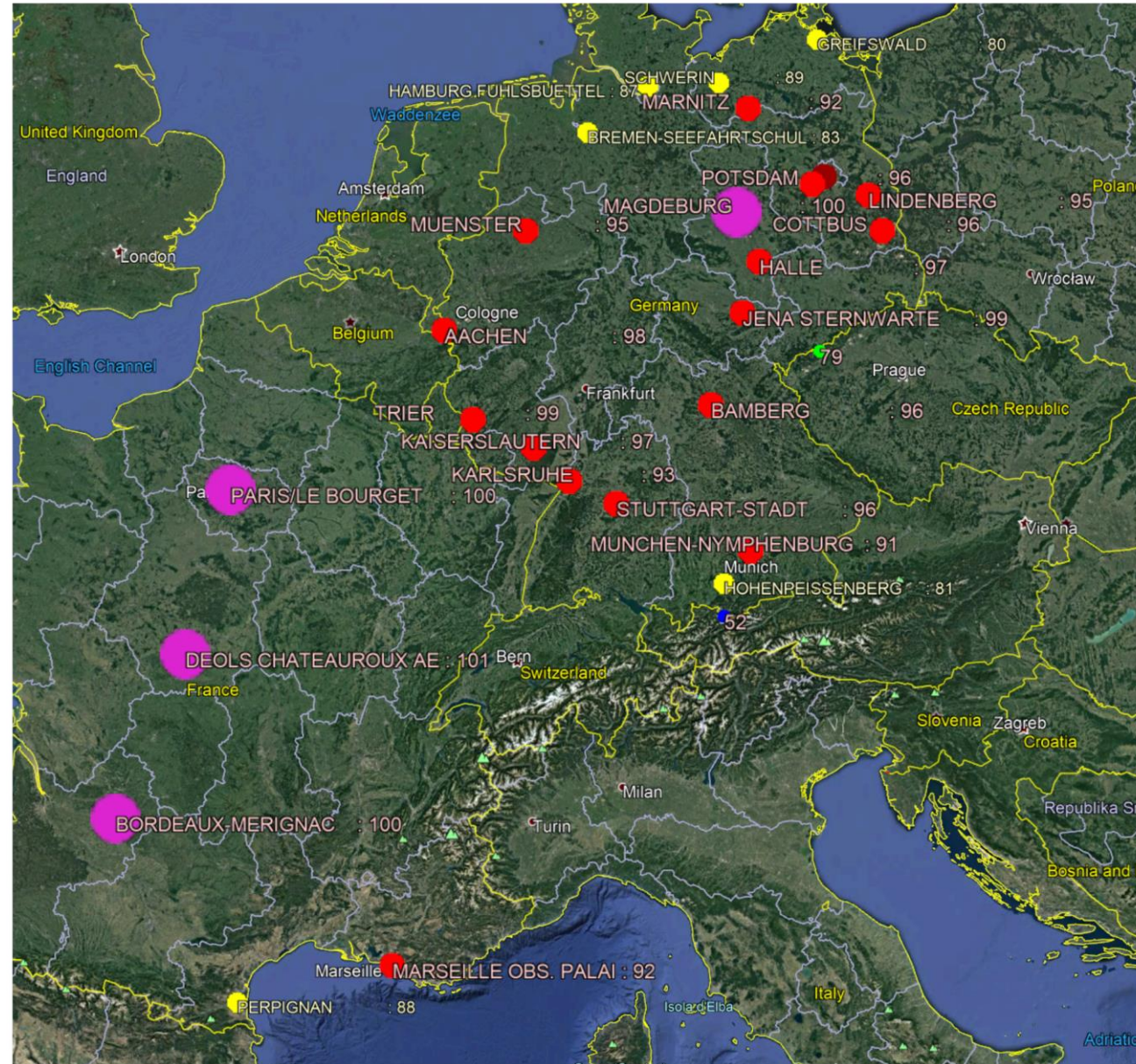
Maximum Temperatures In France And Germany, July 6 - September 14, 1911



Europe's worst heatwave of the 20th century occurred in 1911, it lasted for more than two months – well into September.

Above 90F (32C) July 23, 1911

Above 100F (32C) July 23, 1911



Europe's worst heatwave of the 20th century occurred in 1911; it lasted for more than two months – well into September.

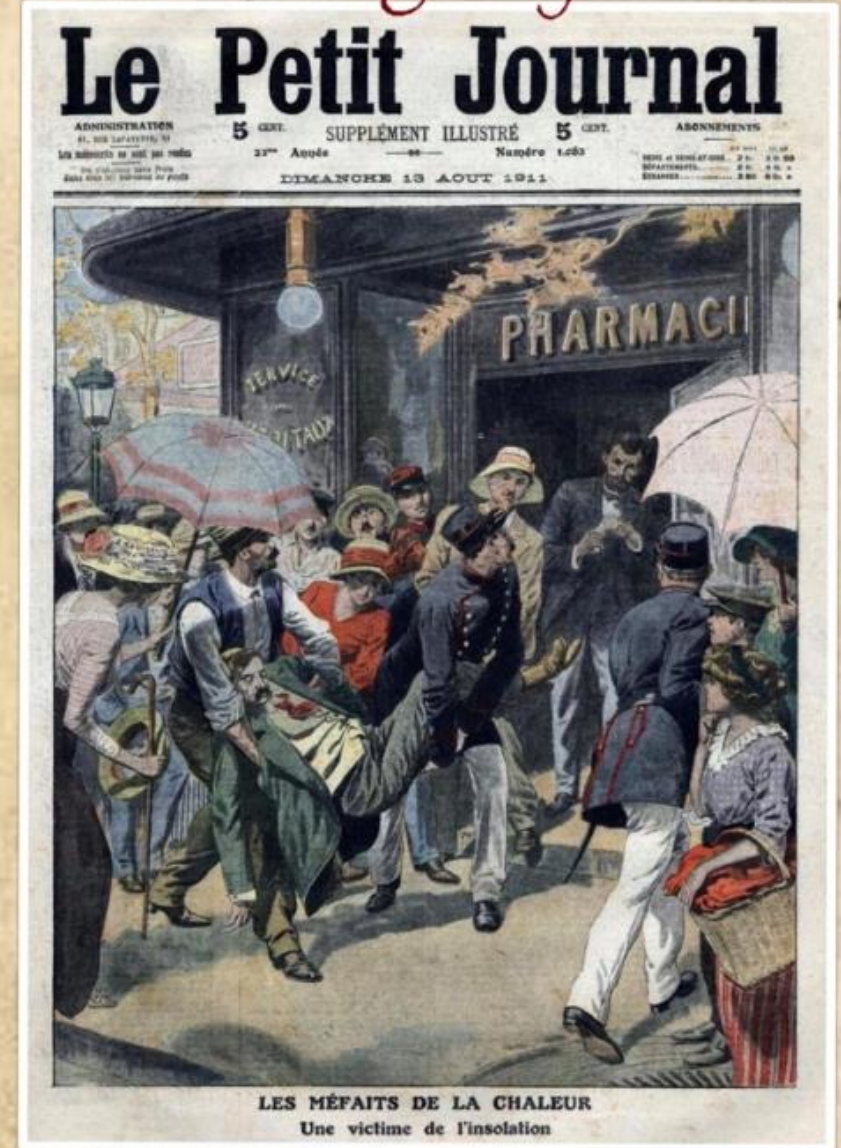
In 1911, Paris suffocated already under the heat wave

At the Belle Epoque, we were not talking about global warming yet. But for 70 days from July to September 1911, the capital bends under the baking sun. And lose thousands of babies.

More than 40,000 dead, mostly babies

But there is much more worrying: some parts of the capital have no water. The gazettes daily list the victims, mowed by the heat or its consequences. Dr. Jacques Bertillon, chief of municipal statistics, also elder brother of Alphonse, the famous criminologist, keeps the morbid accounts in his "Weekly Bulletin". From July 23rd to 29th, then from August 13th to 19th, the mortality reaches new heights, notes the demographer. The mortal enemy is diarrhea, which is ravaging all over France. The most learned speak of "hot toxicosis".

Climate 'Emergency' Paris c.1911



40,000 dead from heatwave

<http://www.leparisien.fr/societe/en-1911-paris-suffoquait-deja-sous-la-canicule-29-06-2019-8106210.php>



Paris, August 9th. Mercury has historic records./bg/adoc-photos

In total, the heat wave of 1911, which stretches until mid-September, will make 41 072 deaths in the Hexagon (increased mortality observed compared to the average of the last three years). A true slaughter that hits for a quarter the elderly. Almost all other victims are babies under two years old! Among them, the most vulnerable are the abandoned children, and, on the other side of the social ladder, the children placed in nannies. They drink their milk in bottle and that summer, an epidemic of foot-and-mouth disease wreaks havoc on cattle herds. "It will mark this year with a black cross," notes in his journal, a doctor of the Lower Week.

Germany, 27 Jul 2019

Project OPAQUE (Optical Properties of Atmospheric Quantities in Europe) was a NATO applied research project to gather basic information on NATO's environment for planning and optical engineering purposes during the Cold War.

Meppen was chosen to be the area representative of the North German Plain Avenue of Approach should the USSR invade from that direction during the Cold War.

My job was to oversee the surface-based and aircraft-based measurements for the US contribution to OPAQUE; Meppen was the US ground site for ground truth to anchor the aircraft observations. The images below are of the North German Plain. They might be useful in determining representativeness of the DWD's Lingen observing site.





Left, an undated image of the Aircraft, C-130A 550022

Right, April 1976 image of 022 on OPAQUE deployment in Germany.

Black radome encloses integrating nephelometer.
Royco 220 inlet is through modified navigator's star observation port.



Neuer Temperaturrekord

für Deutschland

41,5°C*

LINGEN
25.7.2019

bisheriger Rekord

40,5°C

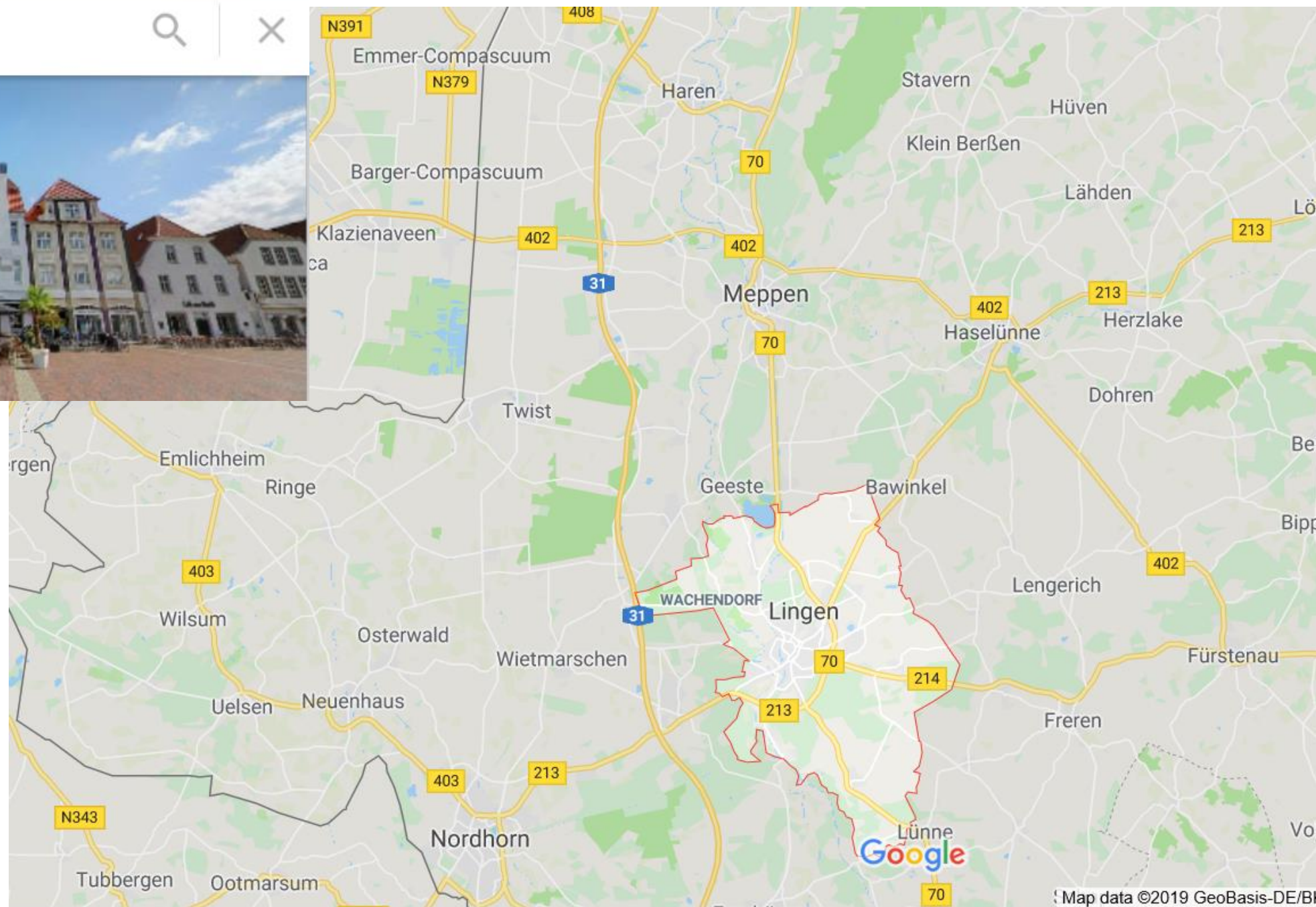
GEILENKIRCHEN
24.7.2019



Google Map of
Lingen and vicinity.

Solid black line is
the border between
the Netherlands, Left,
and Germany, Right.

Meppen is 25 km, only
15 miles, north of Lingen.



Google Map of Lingen, Germany area... Extreme Northwest is in the Netherlands. The Ems River is meandering here, meaning that the terrain is flat, and the river is “at grade.”





N863

Nieuwe Sloot

Twist

River Ems

Netherlands

Germany

Geestmoor

Geeste

70

Dalum-Wietmarscher Moor

Georgsdorf

Ems meanders

Moorschlatts und Heiden in Wachendorf

WACHENDORF

213

Lingen

213

Lingen

31

le Veldhausen

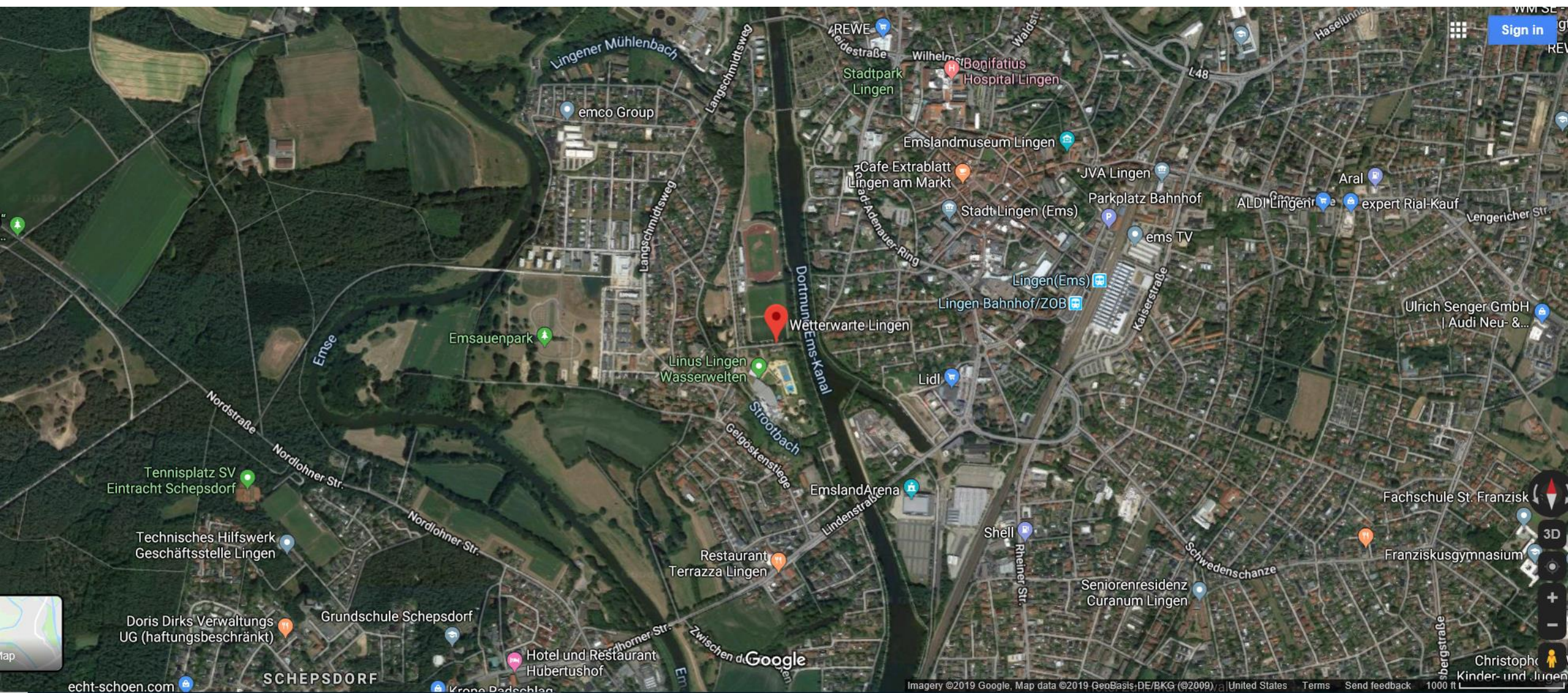
Wietmarschen

Google

EmslandArena

Imagery ©2019 Google, Map data ©2019 GeoBasis-DE/BKG (©2009), United States

Google Satellite Map of Lingen. Red marker near center, Wetterwarte Lingen, marks the DWD Weather Station





Instrument observation area



platz
ngen

edback 100 ft

Teichstraße

Linus Lingen
Wasserwelten

Google

Dortmund-Ems-Kanal

Bäumerstraße

Fokkestraße Michael Säger

Fokkestraße

Krusenstraße

During last week's record-setting European heat wave, Germany's previous record of 40.3C was impressively shattered by the measurement station located at the northwest city of Lingen, near the Dutch border.

Yellow Arrow Instruments

Red Arrow Swimming Pool



...controversy now swirls about the new record setting measurement since it has come to light that the measurement is fraught with some considerable siting issues.

As the photo published by T-online here shows, the station is located right near a DWD office building, is shielded from the wind by grown trees and is located not far from a public swimming pool.

Subsequent graphics show the grown trees, markedly uneven terrain, road in back of the DWD building



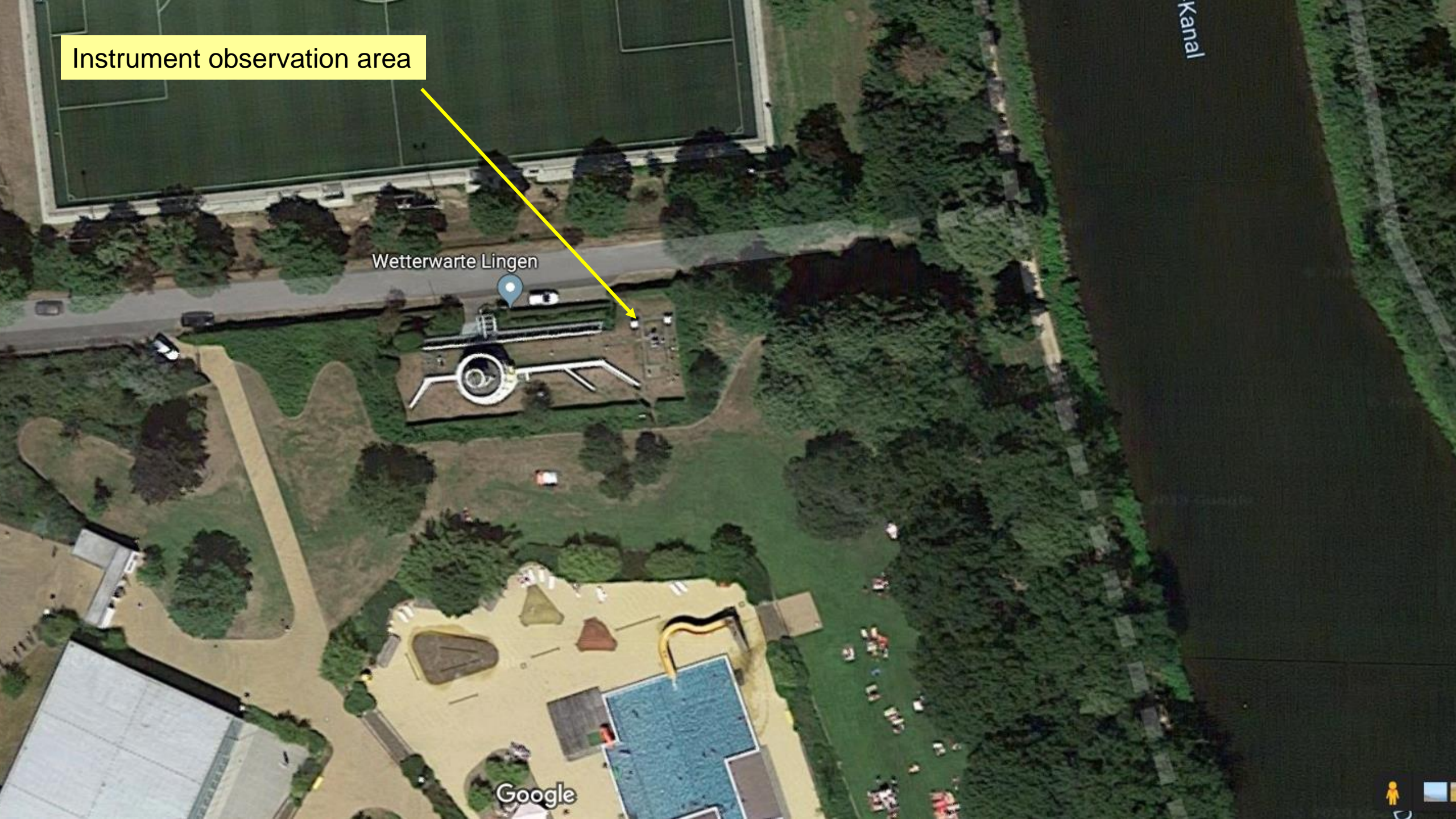
Weather station in Linden: (sic) The large buildings are no longer needed by automation; the measuring station will move. The plan has been around for years. (Source: dpa) <it's Lingen>

Instrument observation area

Wetterwarte Lingen

Kanal

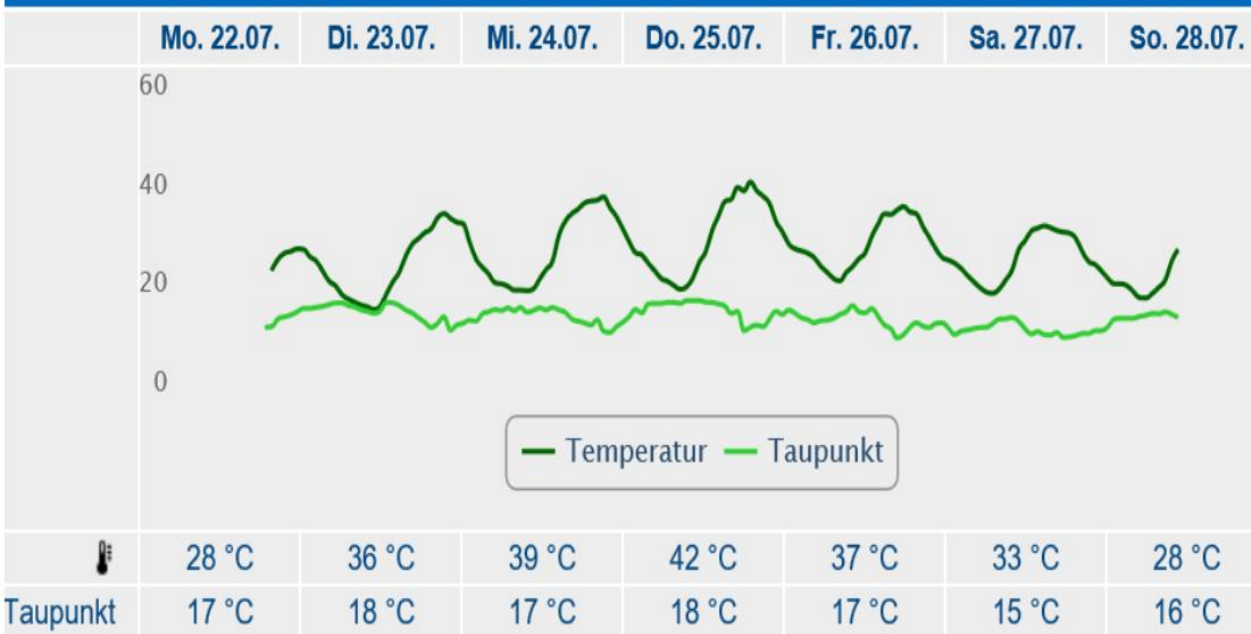
Google



Max temperature [°C] comparison between Lingen and 6 nearby stations

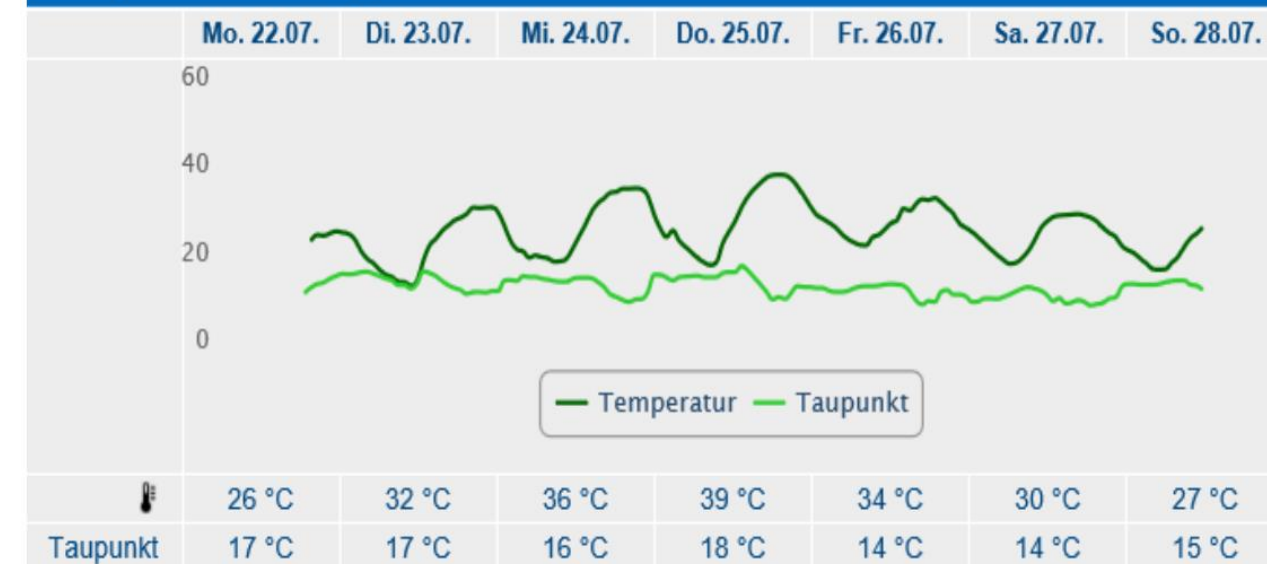
Station	<u>23 July</u>	<u>24 July</u>	<u>25 July</u>	<u>26 July</u>	<u>27 July</u>
Lingen	35.8	39.1	42.6	37.7	34.0
Nordhorn	33.7	36.5	40.9	36.1	32.9
Meppen	32.4	36.6	39.7	34.1	30.2
Ahaus	33.1	37.3	39.5	26.3	32.3
Diepholz	32.9	36.7	39.0	34.6	30.8
<u>Bersenbrück</u>	32.8	36.8	39.3	33.2	31.0
Emsdetten	33.9	38.0	40.6	36.6	32.8

Temperaturen in Lingen

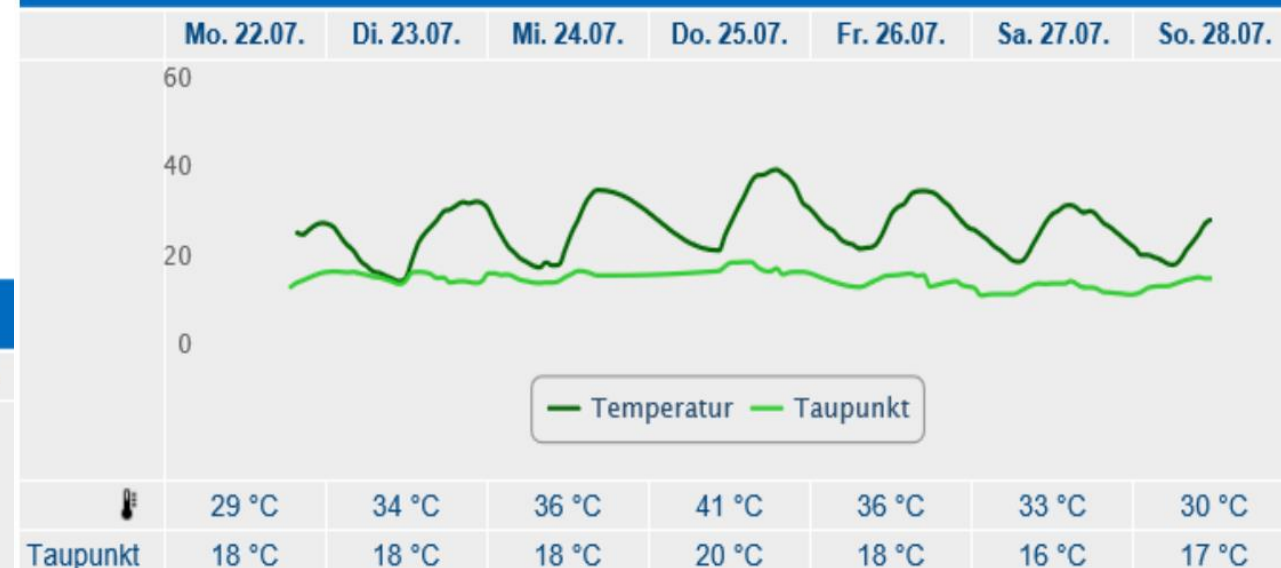


<https://notrickszone.com/2019/07/28/lingen-cheated-germanys-new-all-time-record-high-resulted-from-dwd-weather-service-lousy-station-siting/>

Temperaturen in Meppen



Temperaturen in Nordhorn



Max temperature [°C] comparison between Lingen and 6 nearby stations

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On 25 July, it was 3C, or 5F, warmer at Lingen than in Meppen, 15 miles north.

These are from Twitter # Lingen



These are from Twitter # Lingen





These are from Twitter # Lingen

2.2 Class 1

- (a) Flat, horizontal land, surrounded by an open space, slope less than $\frac{1}{3}$ (19°);
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 - (i) At more than 100 m from heat sources or reflective surfaces (buildings, concrete surfaces, car parks, etc.);
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 - (iii) Away from all projected shade when the sun is higher than 5° .

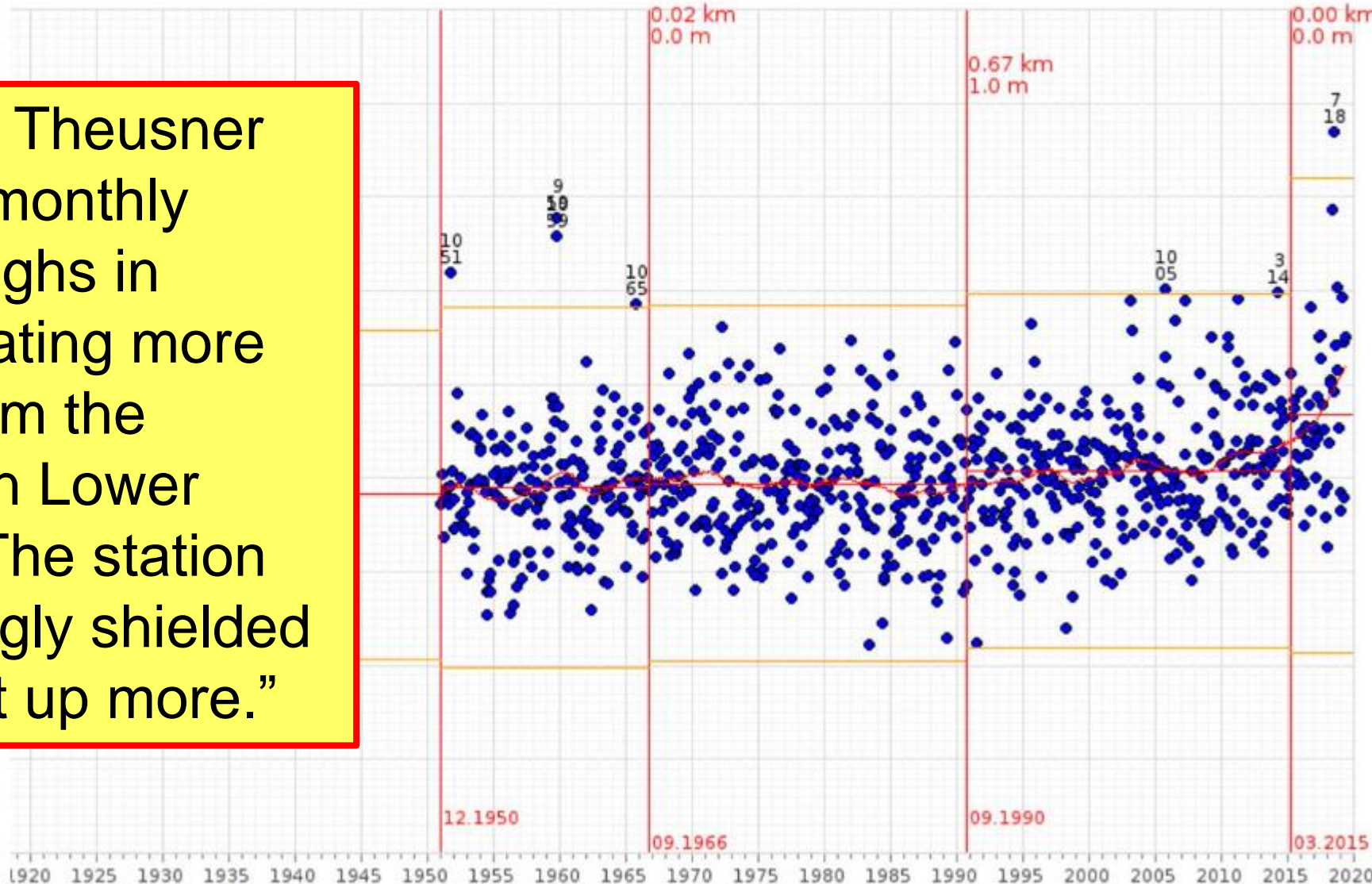
These are from Twitter # Lingen

“middle of the month
daily high temperature”

Meteorologist Michael Theusner told t-online.de: “The monthly average of the daily highs in Lingen has been deviating more and more upwards from the average of the highs in Lower Saxony since 2010.” The station has become increasingly shielded and thus tends to heat up more.”

Lingen — Monatsmittel der Tagshöchsttemperatur

22 m 52.5181 °N 7.308 °E Niedersachsen





2.2 **Class 1**

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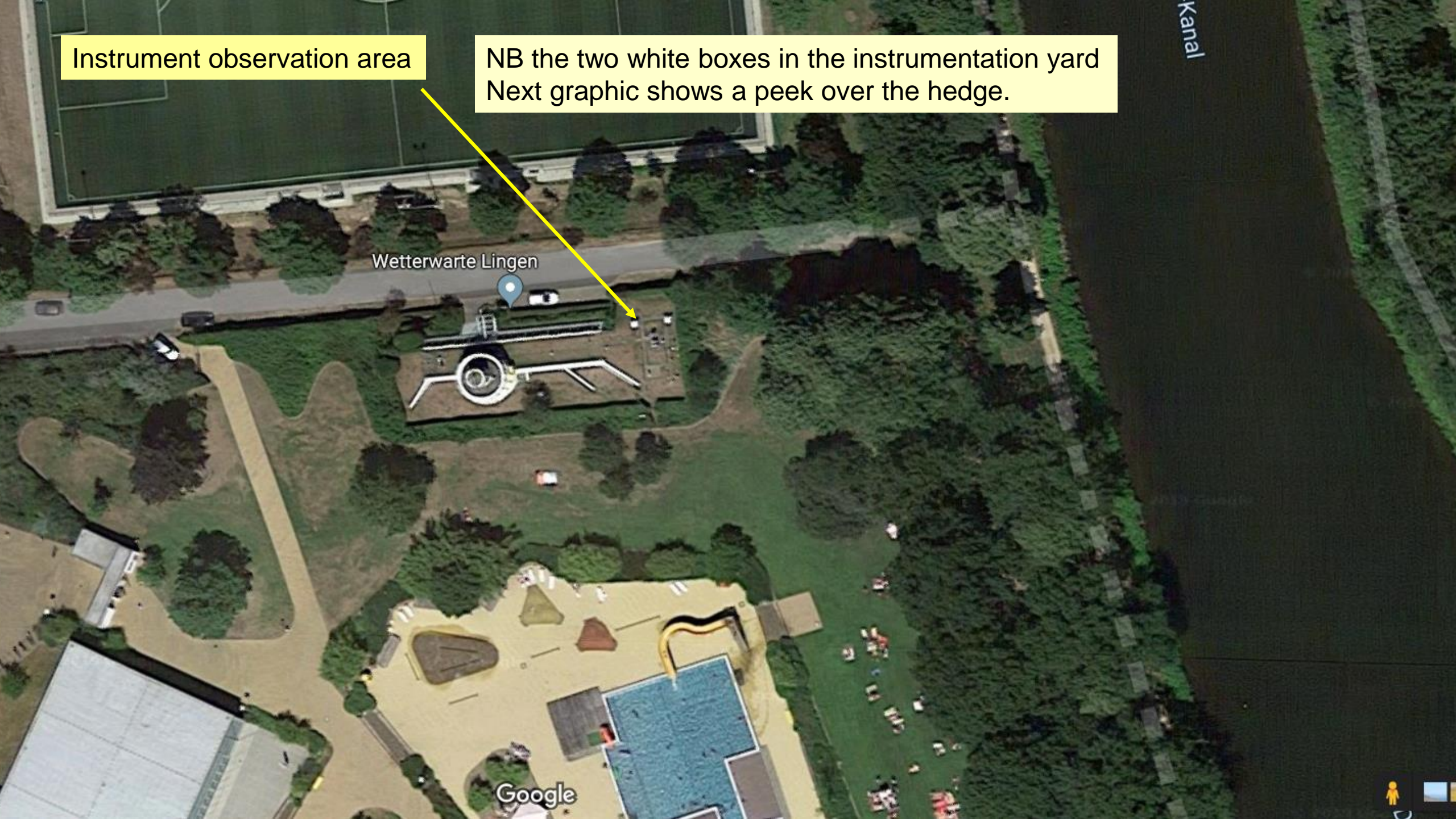
Instrument observation area

NB the two white boxes in the instrumentation yard
Next graphic shows a peek over the hedge.

Wetterwarte Lingen

Google

Kanal



Looking South

The afternoon sun is shining on the 45-ft high trees on the east side of the instrumented area



In Lingen, a historic record temperature was measured. But the measuring conditions on the ground are questionable and criticized by meteorological specialists. (Photo: Jannes Wessels / WetterOnline)

45-foot tree line

5-foot hedge

4-ft x 3-ft x 5-ft shelter

5-foot shelter

6-ft shelters

Bowl-shaped site:
45-degree sloped
hillside and 45-ft tree line
on opposite sides.



2.2

Class 1

- (a) Flat, horizontal land, surrounded by an open space, slope less than $\frac{1}{3}$ (19°);
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NOAA Temperature Classification Guide

Climate Reference Network Site information Handbook

<http://www1.ncdc.noaa.gov/pub/data/uscrn/documentation/program/X030FullDocumentD0.pdf>

2.2.1 Classification for Temperature

**Class 1 – Flat and horizontal ground surrounded by a clear surface...
Sensors located at least 100 meters from artificial heating or reflecting surfaces, such as buildings, concrete surfaces, and parking lots.**

Class 2 – Same as Class 1 with the following differences. .. Artificial heating sources within 30m...

Class 3 (error $\geq 1^{\circ}$ C) – Same as Class 2, except no artificial heating sources within 10 meters.

Class 4 (error $\geq 2^{\circ}$ C) – Artificial heating sources within 10 meters.

Class 5 (error $\geq 5^{\circ}$ C) – Temperature sensor located next to/above an artificial heating source, such a building, roof top, parking lot, or concrete surface.



Lingen DWD site, sits in a bowl

Looks to be a Class 4 Site.

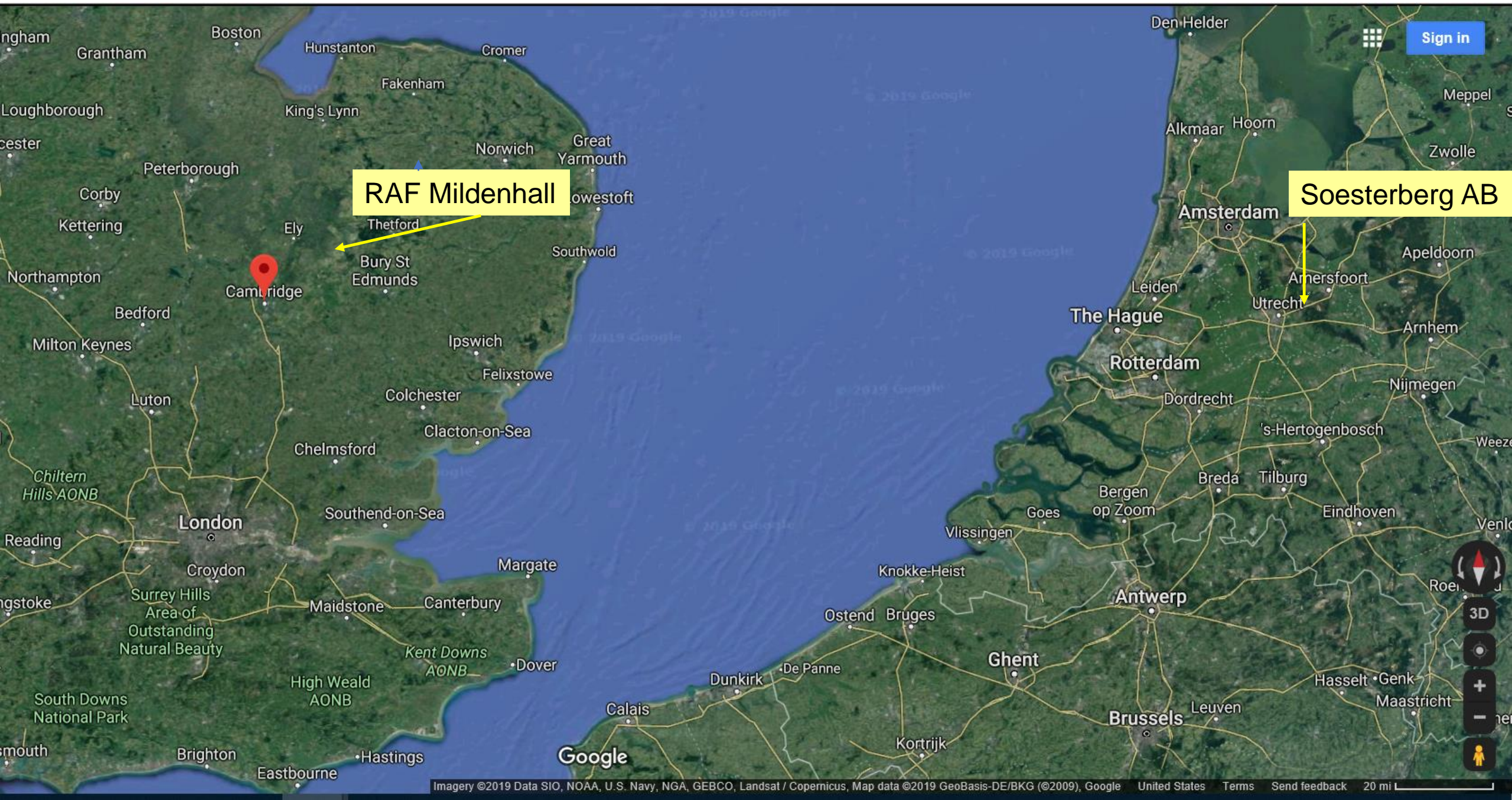
Class 4 (error $\geq 2^{\circ}\text{C}$) – Artificial heating sources within 10 meters.

Wide areas of the North German Plain look like this



England

Area Map: East Anglia, Norwich (Univ East Anglia) Cambridge, Hastings (Battle of) RAF Mildenhall, Soesterberg AB

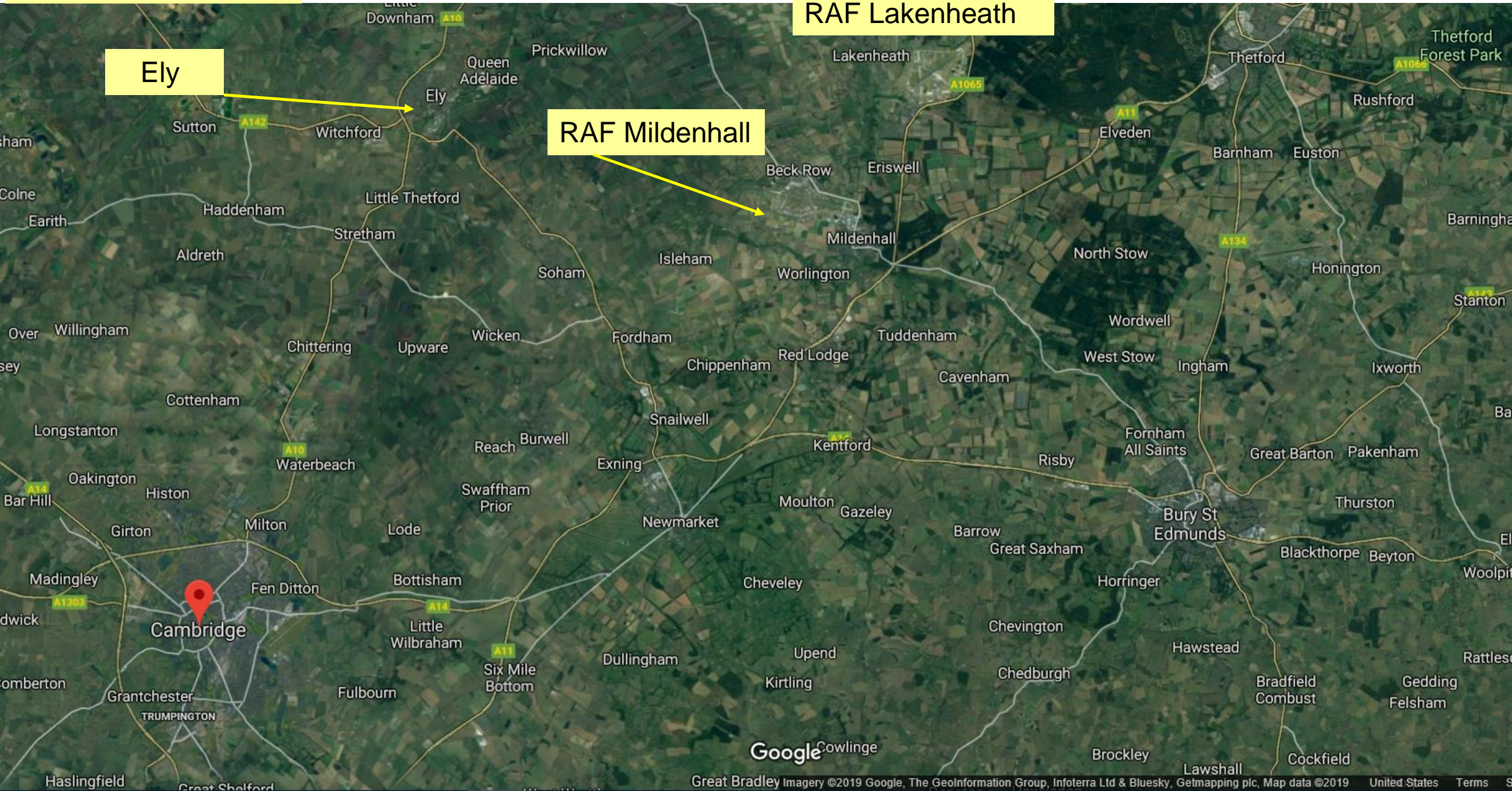


East Anglia Locations

RAF Lakenheath

Ely

RAF Mildenhall





<https://notalotofpeopleknowthat.wordpress.com/2019/07/30/new-record-temperature-but-how-much-of-it-is-due-to-uhi/>

Cambridge University Botanic Garden measured 38.7C (101.7F) on Thursday beating the previous UK record of 38.5C (101.3F), set in Kent in 2003.

A Met Office official was sent to check the equipment before verifying the new record on Monday.

Staff working at the garden on Thursday tweeted: "No wonder we all felt as if we'd melted."

Daily temperatures have been measured by the weather station at the site in the south of the city since 1904.

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UK heatwave: Met Office confirms record temperature in Cambridge

🕒 29 July 2019

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JOE GIDDENS

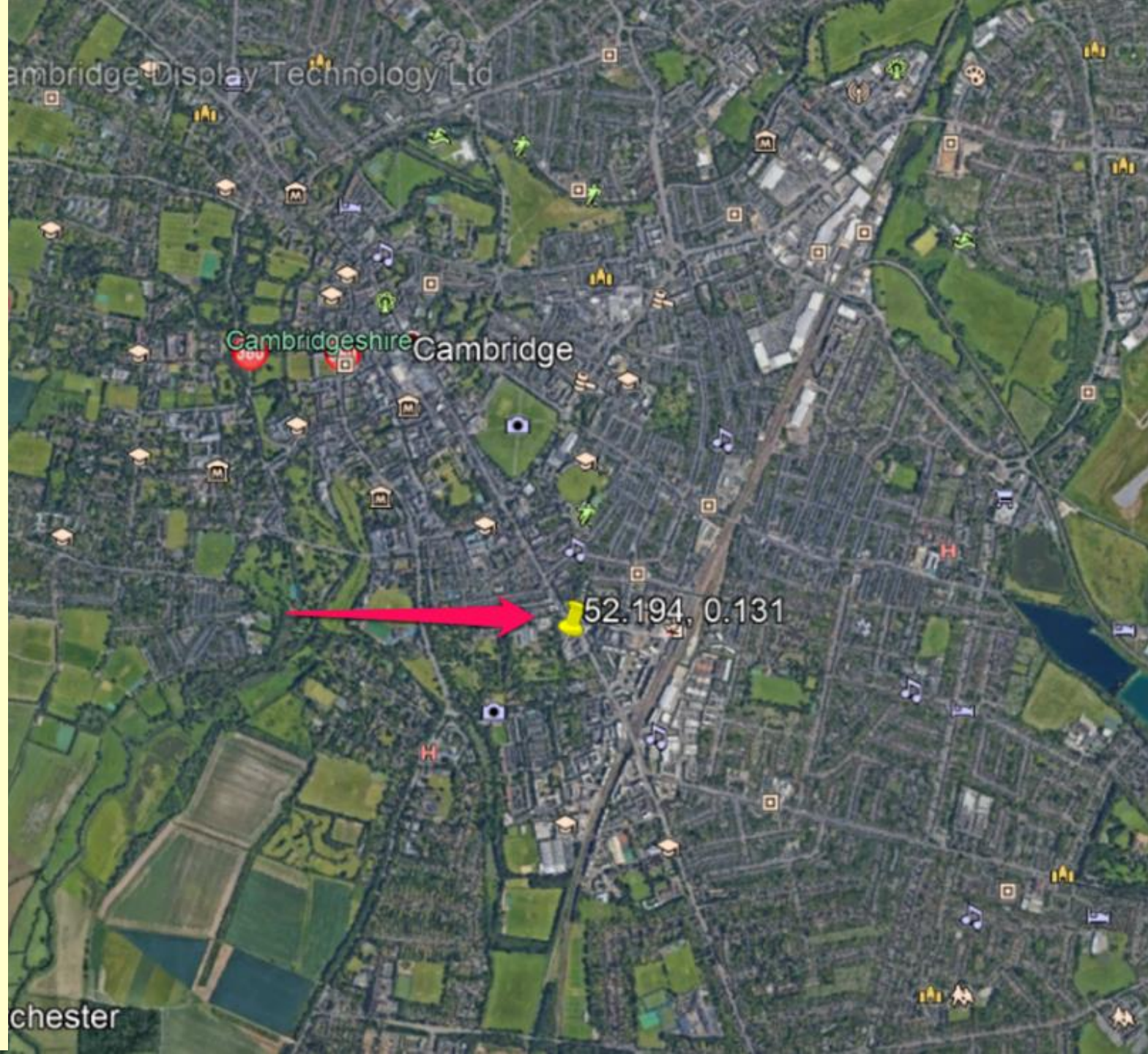
People in Cambridge took to the river to escape the heat

The UK's highest-ever temperature has been officially recorded in Cambridge, the Met Office has confirmed.

Cambridge University Botanic Garden director, Beverley Glover, said: "We are really pleased that our careful recording of the weather, something that we've been doing every day for over 100 years at the Botanic Garden, has been useful to the Met Office in defining the scale of this latest heatwave.

"Our long history of weather recording is very important to researchers analysing climate change.

"However, we can't help but feel dismay at the high temperature recorded and the implication that our local climate is getting hotter, with inevitable consequences for the plants and animals around us."



<https://notalotofpeopleknowthat.wordpress.com/2019/07/30/new-record-temperature-but-how-much-of-it-is-due-to-uhi/>

We might also consider that there is a second official Met Office site in Cambridge, at the National Institute of Agricultural Botany (NIAB). This, as can be seen below, is away from the city, although gradually being encroached upon by developments.

Cambridge University Botanic Garden measured 38.7C (101.7F) ...while...
.....the NIAB site only registered 38.1C. Given that there is no other significant differences in siting between the two, it can only be the effect of UHI which explains why the Botanical Gardens were so much hotter last week.



<https://www.ncdc.noaa.gov/homr/#ncdcstnid=30110845&tab=LOCATION>



To cap it all, there are two large buildings close to the weather station, the Sainsbury Laboratory to the NW, and the Plant Growth Facility to the north. They were built in 2011 and 2004 respectively, and clearly could be influencing the local micro-climate.

The Sainsbury lab, for instance, houses 120 staff, so the heat footprint must be significant.

The late Tim Channon took the screenprint below of the Botanical Gardens site back in 2008, for a Tallbloke story. As you can see, the Lab is still under construction.

But note the radius scale which Tim added, set to 100m. Clearly both buildings are well within 100m, probably around 30m.





The BBC have this photo of the Botanical Gardens site, which the BBC published yesterday. ... the Stevenson Screen is on the edge of a wide expanse of bare earth. This is a strict no-no, as the regulations clearly state: “Ground covered with natural and low vegetation”.

According to the WMO classifications, this would relegate the site to Class 4...

In other words, worthless for climatological purposes.

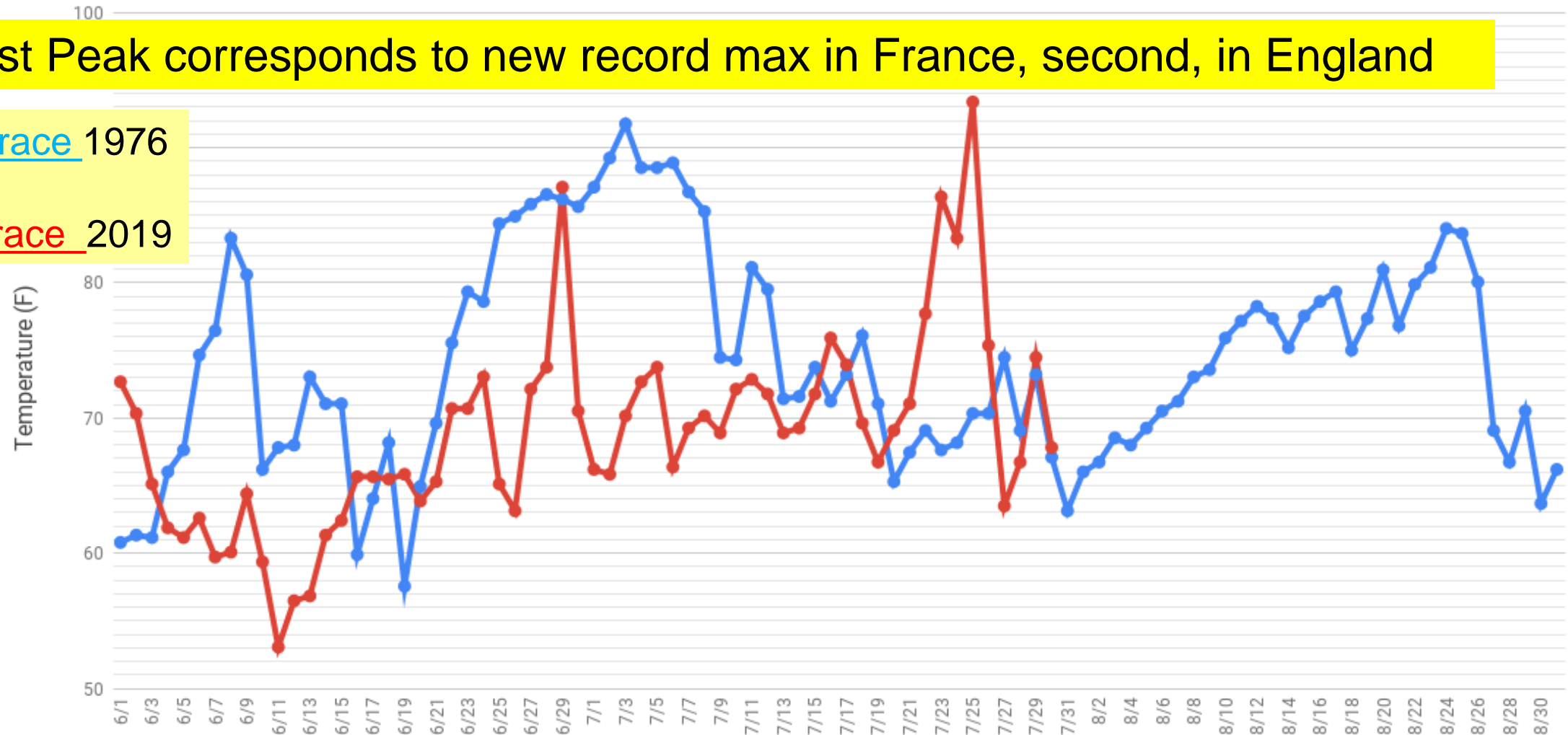
Central England Daily Maximum Temperature 1976 vs. 2019

● 1976 ● 2019

First Peak corresponds to new record max in France, second, in England

Blue trace 1976

Red trace 2019



"However, we can't help but feel dismay at the high temperature recorded and the implication that our local climate is getting hotter, with inevitable consequences for the plants and animals around us."

NOT A LOT OF PEOPLE KNOW THAT

"We do not believe any group of men adequate enough or wise enough to operate without scrutiny or without criticism. We know that the only way to avoid error is to detect it, that the only way to detect it is to be free to inquire. We know that in secrecy error undetected will flourish and subvert". – J Robert Oppenheimer.

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English Summer Failing To Meet Alarmist Expectations! (Again)

AUGUST 1, 2019

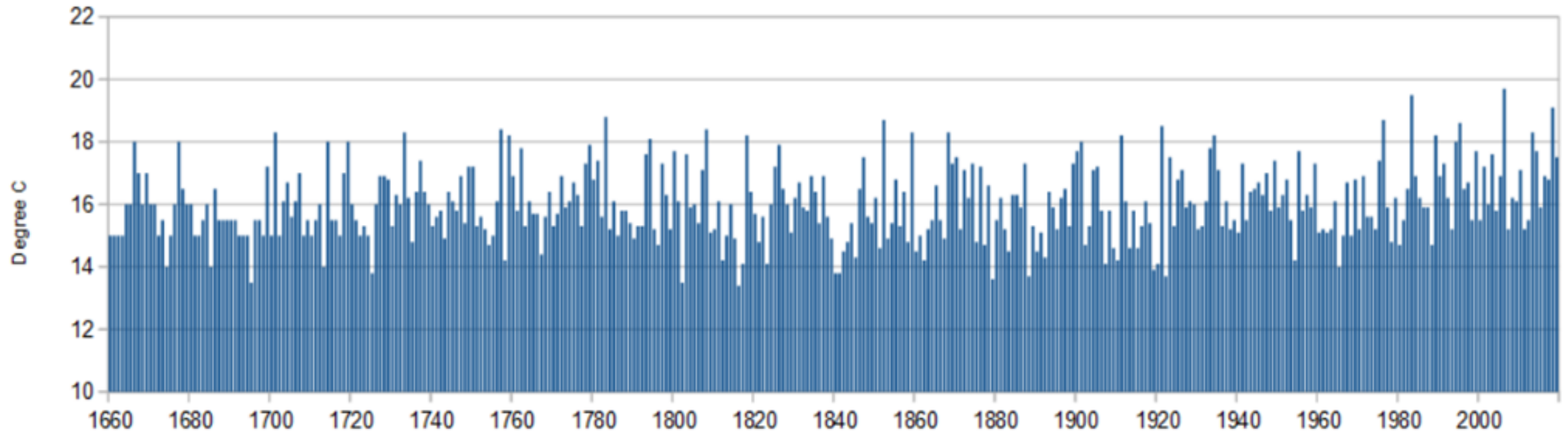
By Paul Homewood

After all of the fuss about a couple of days of sunshine in Britain, reality brings us back down to earth with the monthly CET figures:

With disappointing numbers like these, it is no surprise that the Met Office were so desperate to trumpet one day's weather.

Meanwhile the ambulance chasers have turned their attention elsewhere.

CET Mean Temperature for July 1660 to 2019



<https://www.metoffice.gov.uk/hadobs/hadcet/cetm1659on.dat>

Average mean temperatures for July ended up at 17.5C, meaning that last month was an unremarkable 45th warmest since 1660, tying with years like 1847, 1870 and 1923. It was also 1.3C cooler than July 1783.

This is known as CLIMATE CHANGE.

Taking both June and July together, this year's ranking drops even further, to 82nd, in a tie with 1706 and 1878. Top ranking goes to 1976, followed by 2006 and 1826:

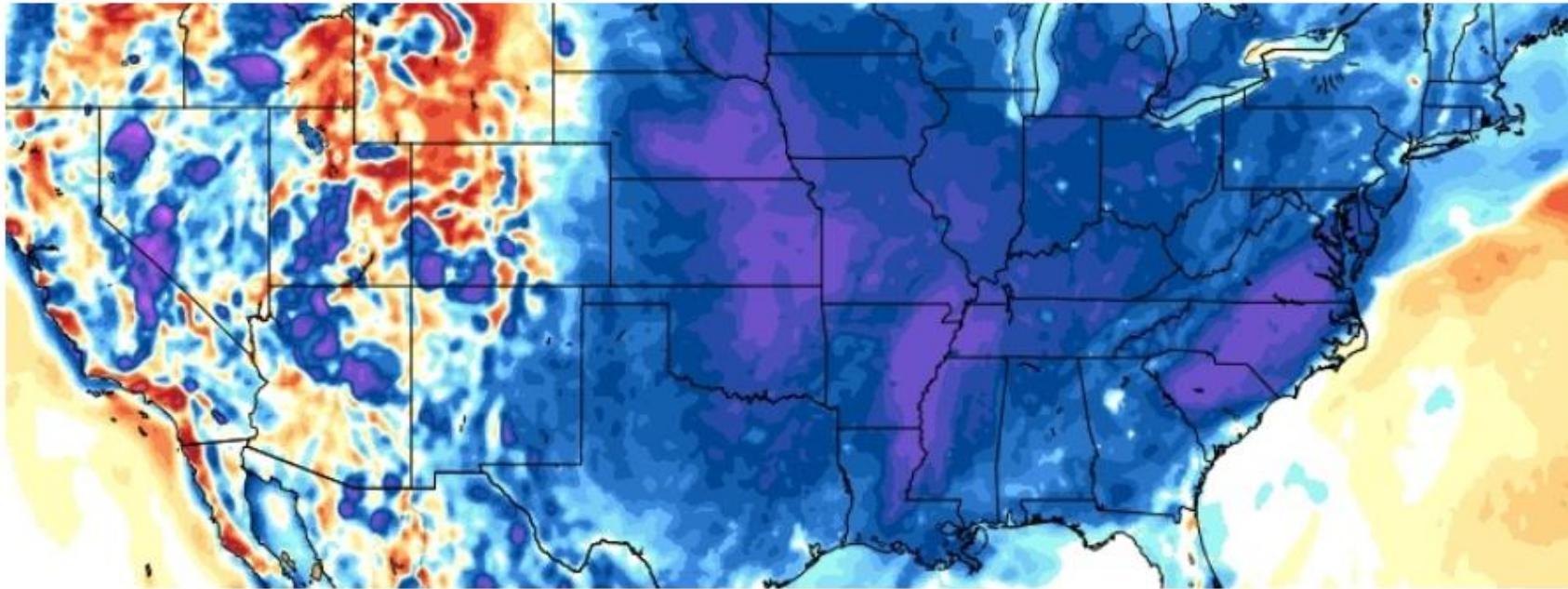
“Global” ? Warming

Unusually strong cold front brings record-low July temperatures to southern U.S.

Posted by Teo Blašković on July 25, 2019 at 15:53 UTC (12 days ago)

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Categories: [Earth changes](#), [Featured articles](#), [Severe weather](#)



Numerous cities experienced record-low temperatures on July 24, including 14.4 °C (58 °F) at Altus, OK, Decatur, AL and Salina, KS, 13.1 °C (61 °F) in Anderson, SC, 17.2 °C (63 °F) in Abilene, TX and 17.7 °C (64 °F) in North Little Rock, AR.

July 25 brought record-low 15 °C (59 °F) to San Angelo, TX, breaking the previous record of 15.5 °C (60 °F); 14.4 °C (58 °F) to Austin, TX, breaking the previous record of 19.4 °C (67 °F) set in 2000; 15.5 °C (60 °F) to Little Rock, AR, breaking the previous record of 16.1 °C (61 °F) set in 2000; and 15.5 °C (60 °F) to Waco, TX, breaking the previous record of 18.3 °C (65 °F) set in 1911.

Let's return to Greenland...

The Washington Post did.

then, to information on
Greenland from the
Danish Meteorological Institute

<https://www.washingtonpost.com/weather/2019/08/08/greenland-is-track-record-melt-year-having-already-lost-billion-tons-ice/>

Above story is paywalled.

This, below, is not:

<https://realclimatescience.com/2019/08/distinguishing-between-climate-and-weather-2/>

Some graphics are from this same realclimatescience.com link, just above.

The Washington Post

Democracy Dies in Darkness

Capital Weather Gang

Greenland is on track to lose most ice on record this year and has already shed 250 billion tons

Arctic sea ice is also at a record low as a warmer-than-average summer takes its toll.





POLAR PORTAL

MONITORING ICE AND CLIMATE IN THE ARCTIC

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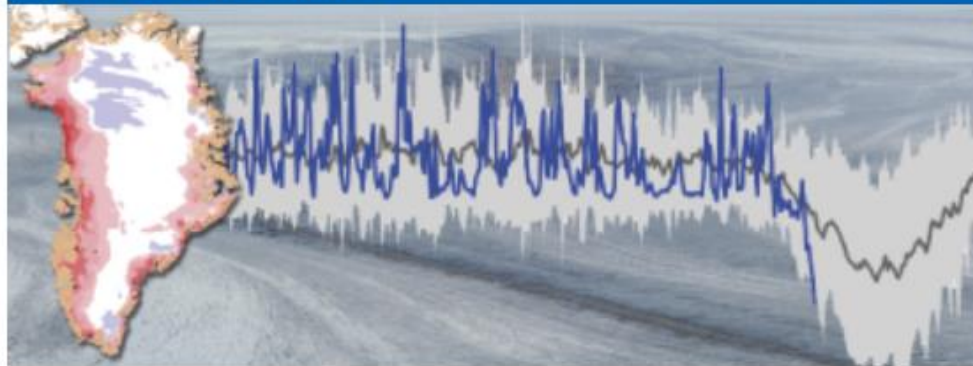
[På dansk](#)

GREENLAND



Welcome to the arctic monitoring web-site
The Danish Arctic research institutions present updated knowledge on the condition of two major components of the Arctic: The Greenland Ice Sheet and the sea ice

Surface Conditions



Daily updates on the surface conditions on the Greenland Ice Sheet. See where it is melting and where the ice sheet is growing – and compare with the total melt from the surface in previous years. See also satellite measurements of the surface reflectivity.

Glacier Front Positions



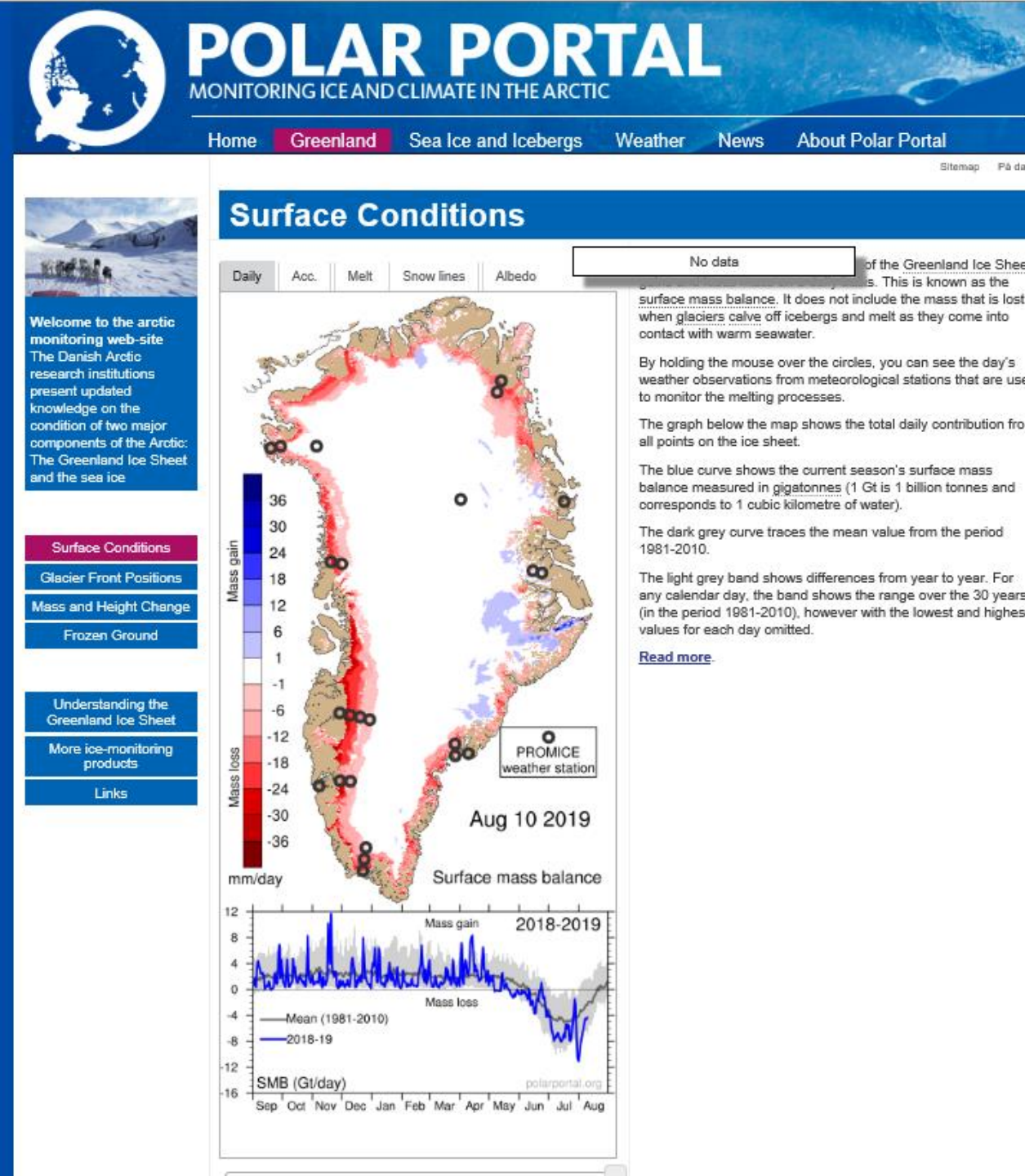
See animations of satellite images of major outlet glaciers of the Greenland Ice Sheet. You can compare the updated images with the positions of the glaciers in the mid-1980s and in the year 2000.

<http://polarportal.dk/en/greenland/surface-conditions/>

“Surface Conditions” leads us to a map...

“The map illustrates how the surface of the Greenland Ice Sheet gains and loses mass on a daily basis. This is known as the surface mass balance. It does not include the mass that is lost when glaciers calve off icebergs and melt as they come into contact with warm seawater.”

“The graph below the map shows the total daily contribution from all points on the ice sheet.”



http://polarportal.dk/fileadmin/polarportal/surface/SMB_curves/2018-2019.png

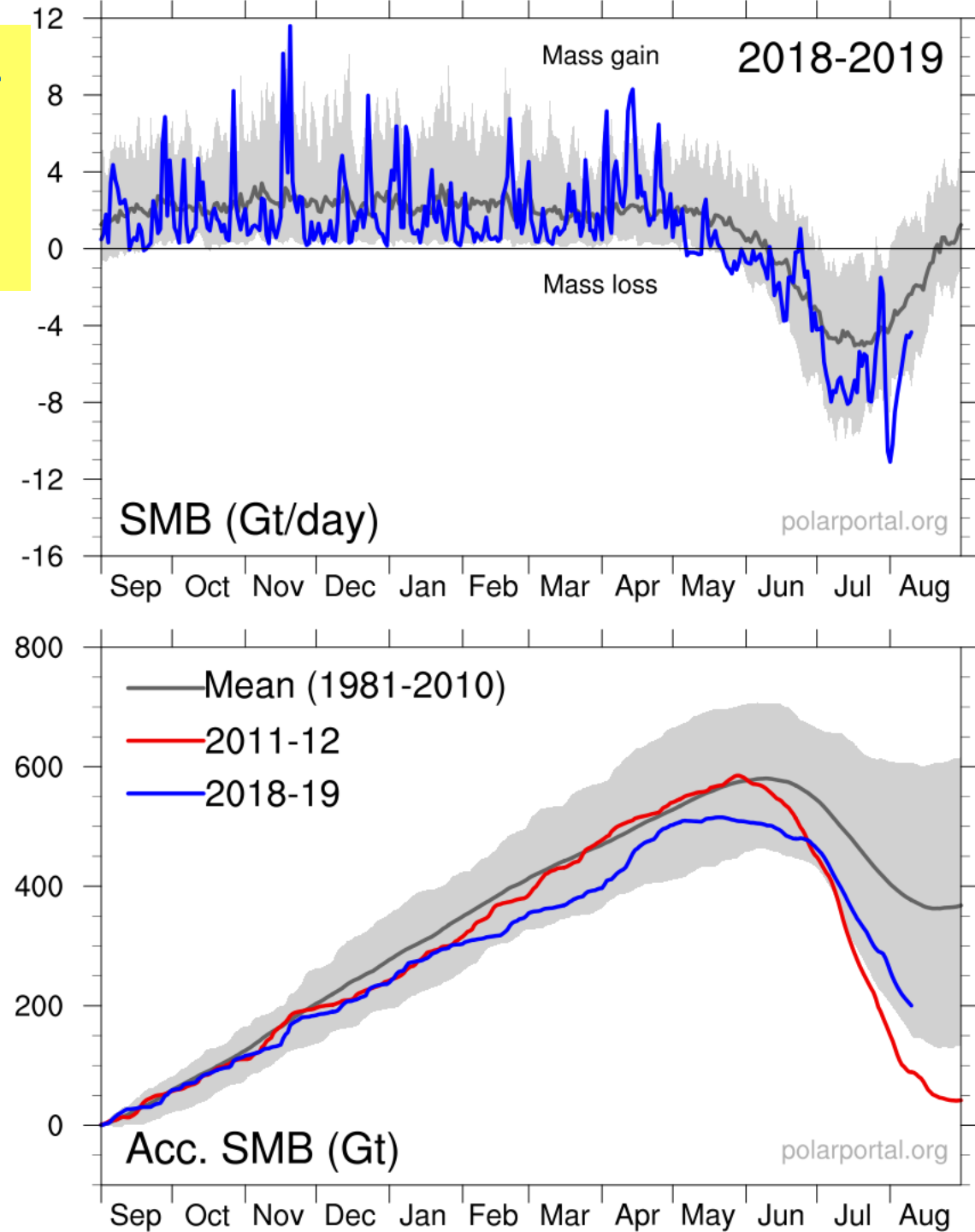
SMB is the Surface Mass Balance

The blue curve shows the current season's surface mass balance measured in gigatonnes (1 Gt is 1 billion tonnes and corresponds to 1 cubic kilometre of water).

The dark grey curve traces the mean value from the period 1981-2010.

The light grey band shows differences from year to year. For any calendar day, the band shows the range over the 30 years (in the period 1981-2010), however with the lowest and highest values for each day omitted.

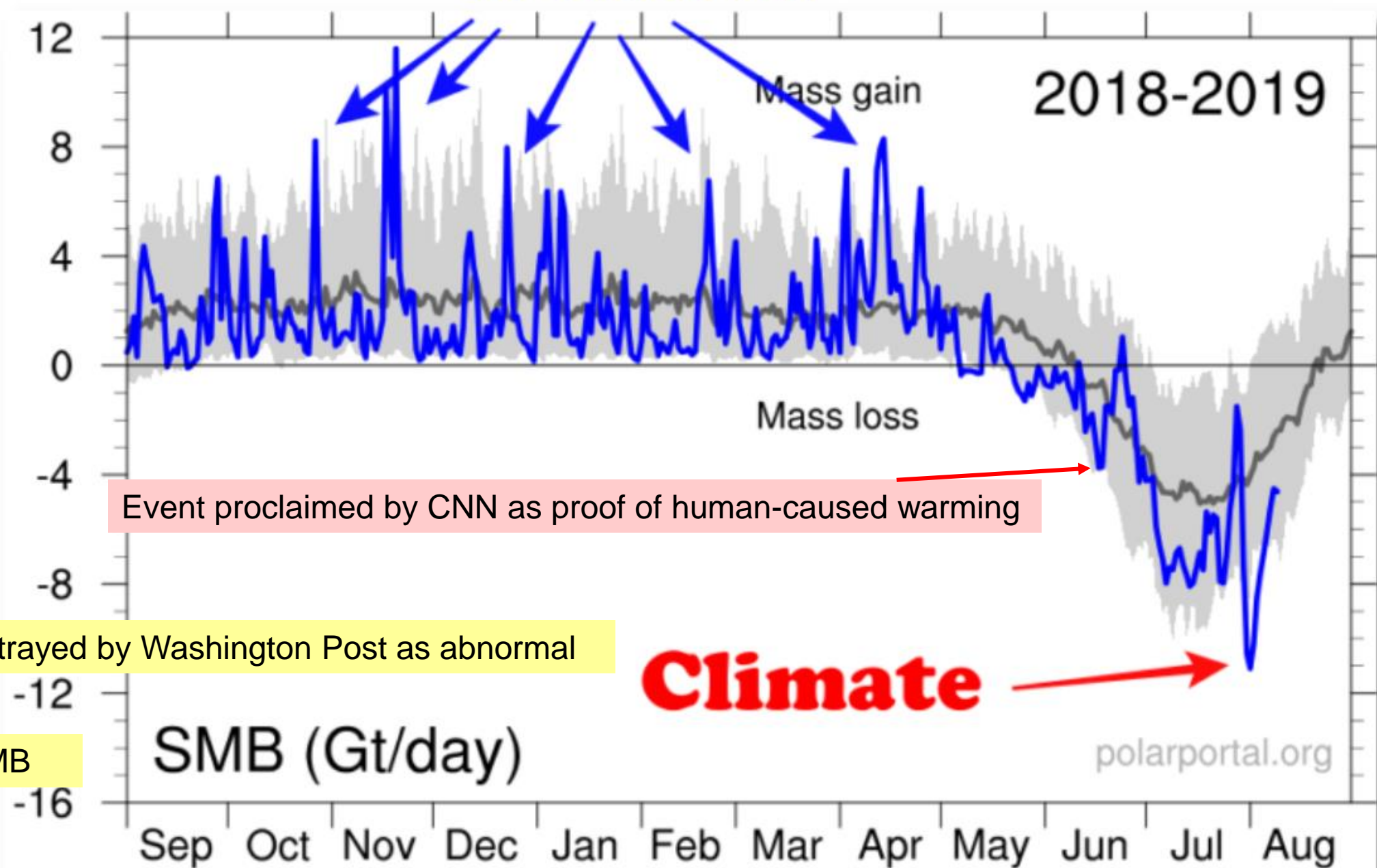
The bottom graph is the accumulated surface mass balance, accumulating the daily surface mass balances after the beginning of the Ice Year on 1 September.



Snow accumulations in winter were ignored

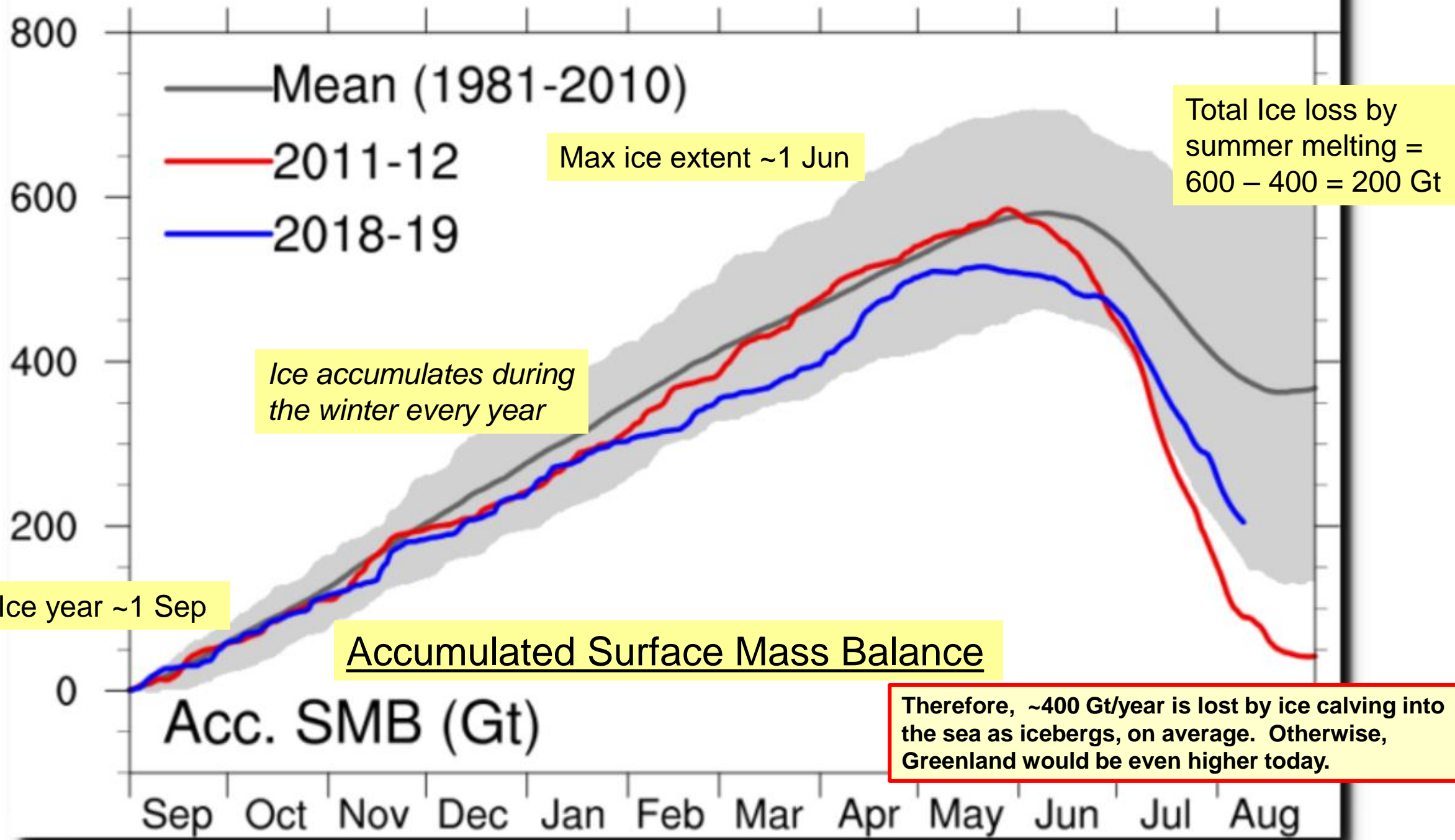
by the Washington Post

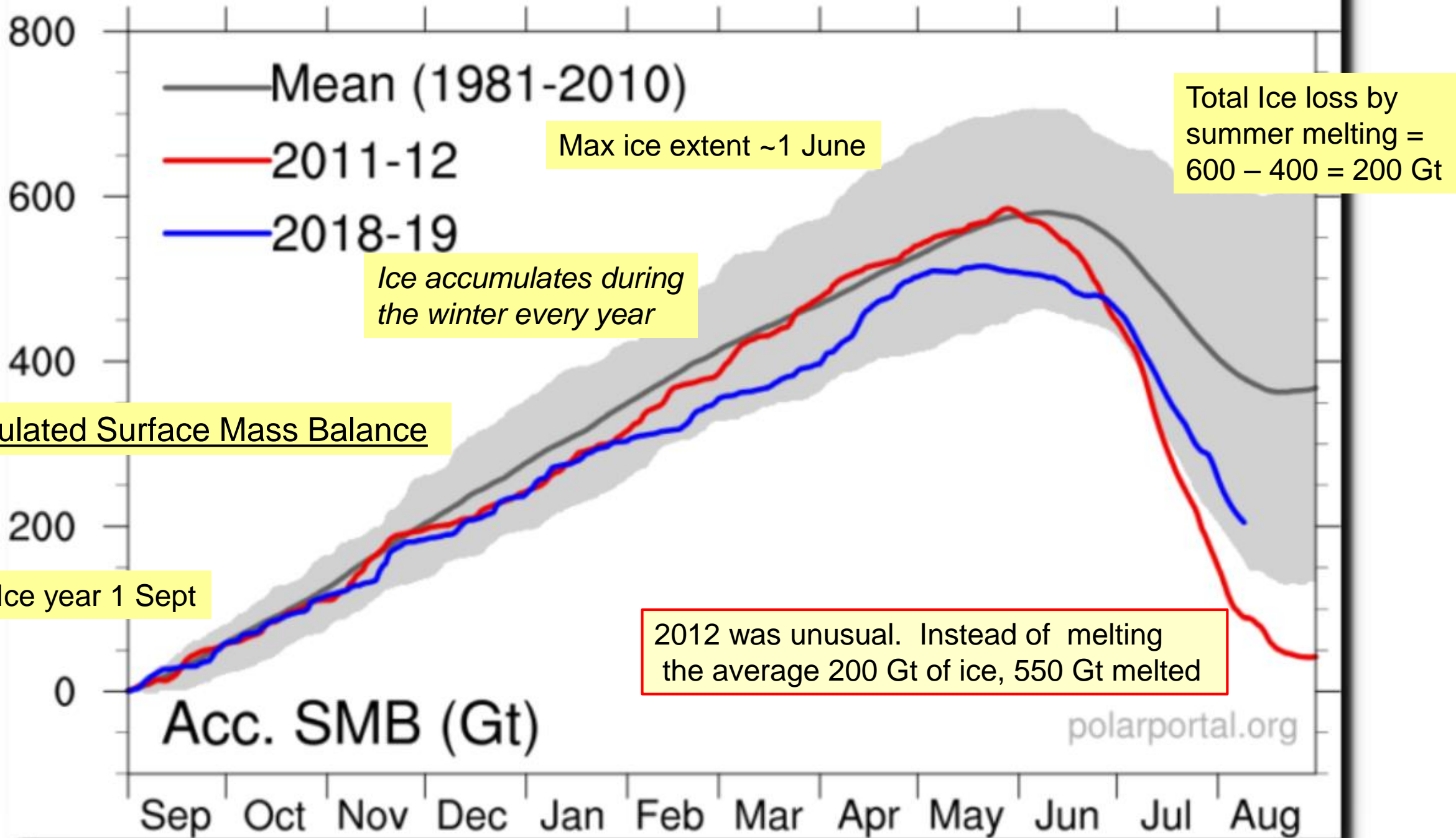
Weather



Event portrayed by Washington Post as abnormal

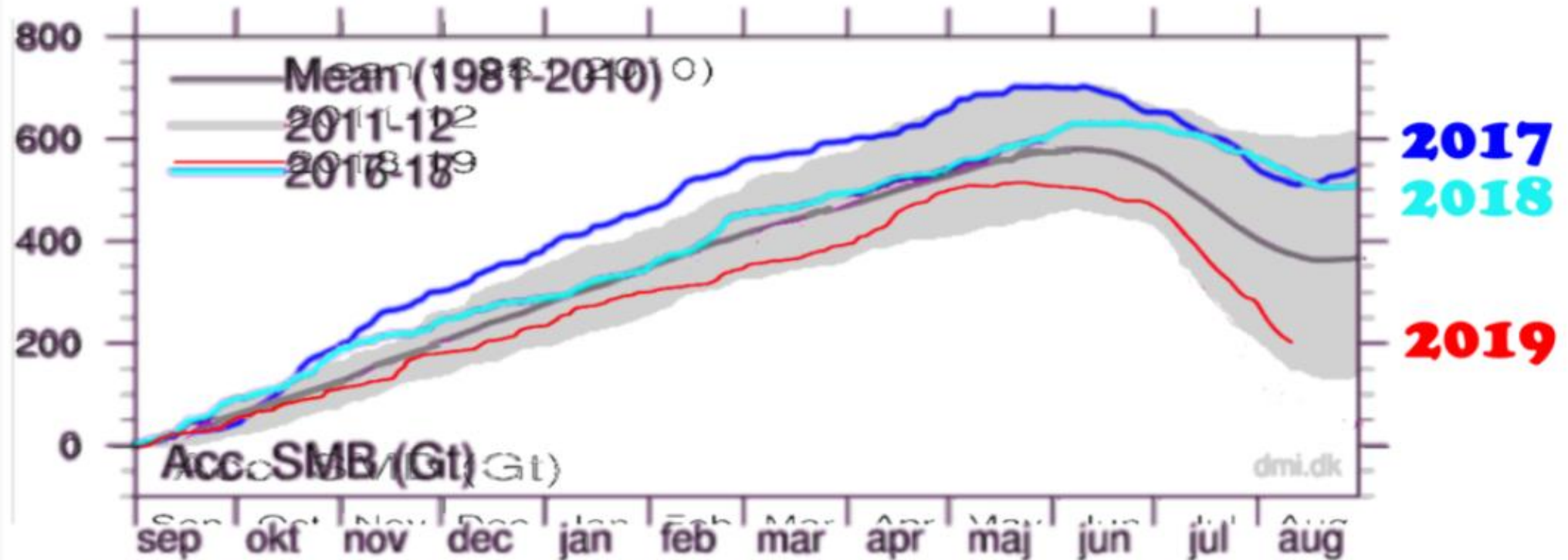
Daily SMB





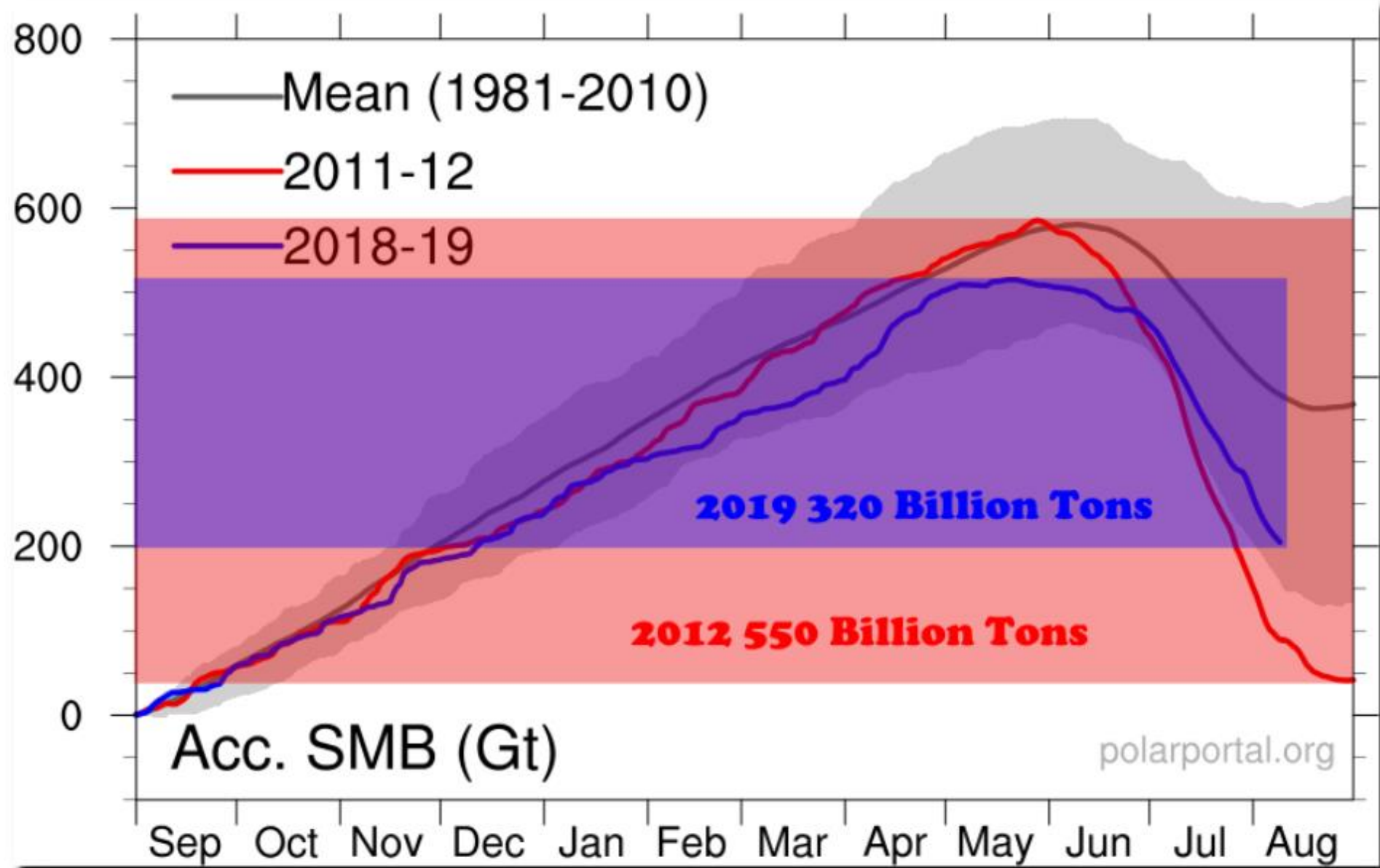
Greenland's surface has gained 1,250 billion tons of ice over the past three years, about 250 billion tons above the 1981-2010 mean. How surprising that the world's leading papers failed to mention this. "Democracy Dies in Darkness"

Graphic displays 2019 Greenland Accumulated Surface Mass Balance, compared to 2017 and 2018



Top: The total daily contribution to the surface mass balance from the entire ice sheet (blue line, Gt/day).
Bottom: The accumulated surface mass balance from September 1st to now (blue line, Gt) and the season 2011-12 (red) which had very high summer melt in Greenland. For comparison, the mean curve from the period 1981-2010 is shown (dark grey). The same calendar day in each of the 30 years (in the period 1981-2010) will have its own value. These differences from year to year are illustrated by the light grey band. For each

Melt this year has been just over half of that in 2012, a record year when 550 Gigatons melted. The Washington Post says this year is on track to be the largest on record, but the melt season has only 2 weeks more to run.



Previous were Greenland's Surface Mass Balance SMB

Now, let's examine Arctic Ice Extent

Here is the DMI estimate of Arctic Sea Ice Extent.

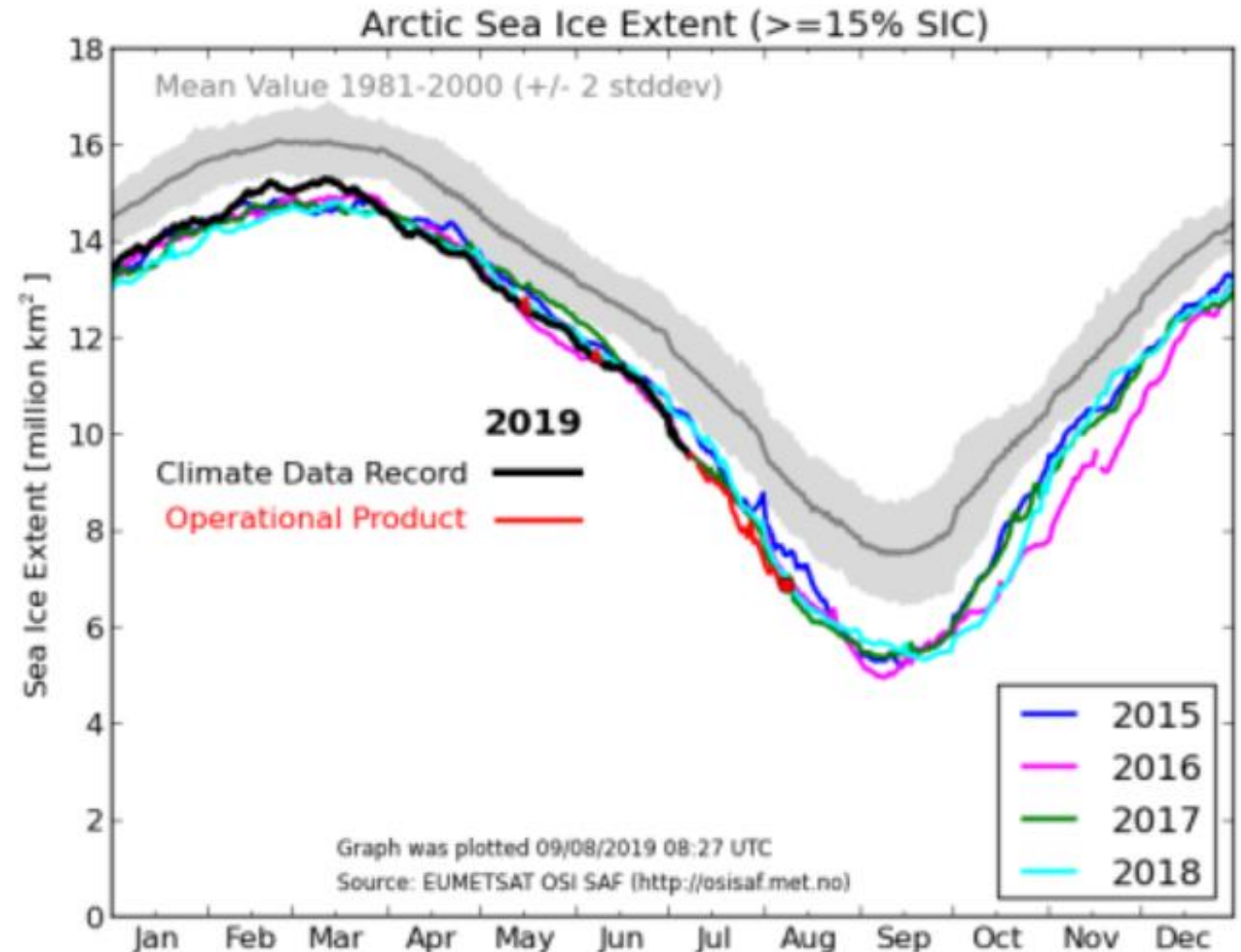
2019 is not much different from 2015, 2016, 2017 and 2018.

www.polarportal.dk/fileadmin/polarportal/sea/SICE_curve_extent_LA_EN_20190820.png



DMI

Danish Meteorological Institute



<https://nsidc.org/data/masie>

MASIE is the NSIDC's Multisensor Analyzed Sea Ice Extent product, from the USA.



National Snow & Ice Data Center



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MASIE

Multisensor Analyzed Sea Ice Extent - Northern Hemisphere (MASIE-NH)



Overview

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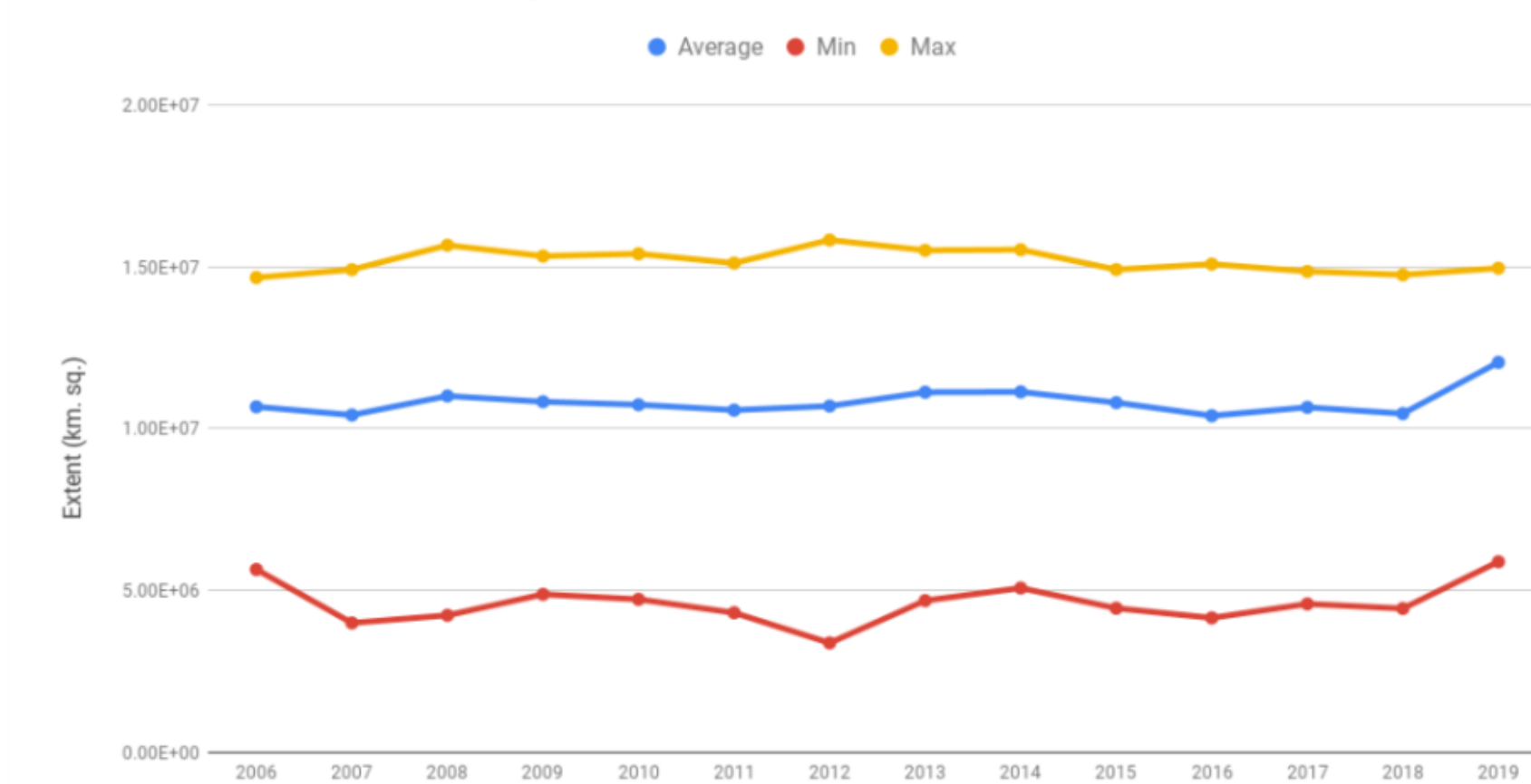
Documentation

Download Data



Maximum, minimum and average extent all show no trend since the start of records.

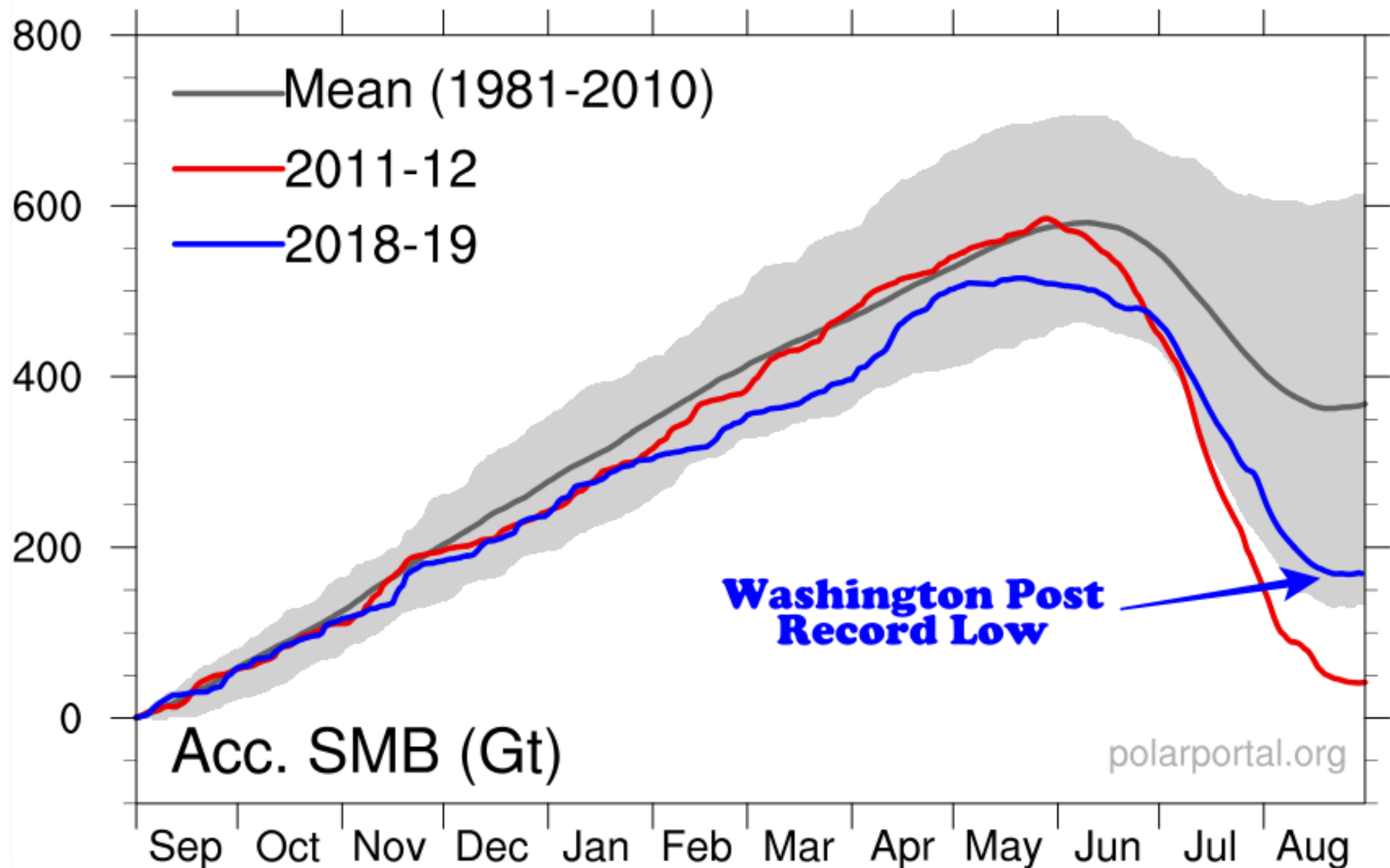
MASIE Arctic Sea Ice Extent Average (Blue) Minimum (Red) and Maximum (Orange) 2006-2019



<https://realclimatescience.com/2019/08/nothing-happening-in-the-arctic-3/>

ftp://sidads.colorado.edu/DATASETS/NOAA/G02186/masie_4km_allyears_extent_sqkm.csv

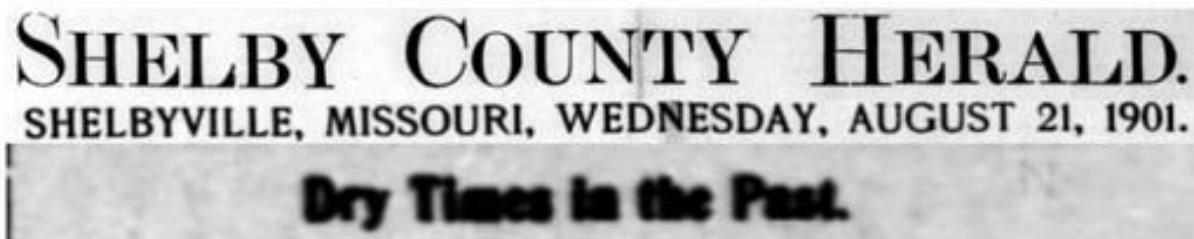
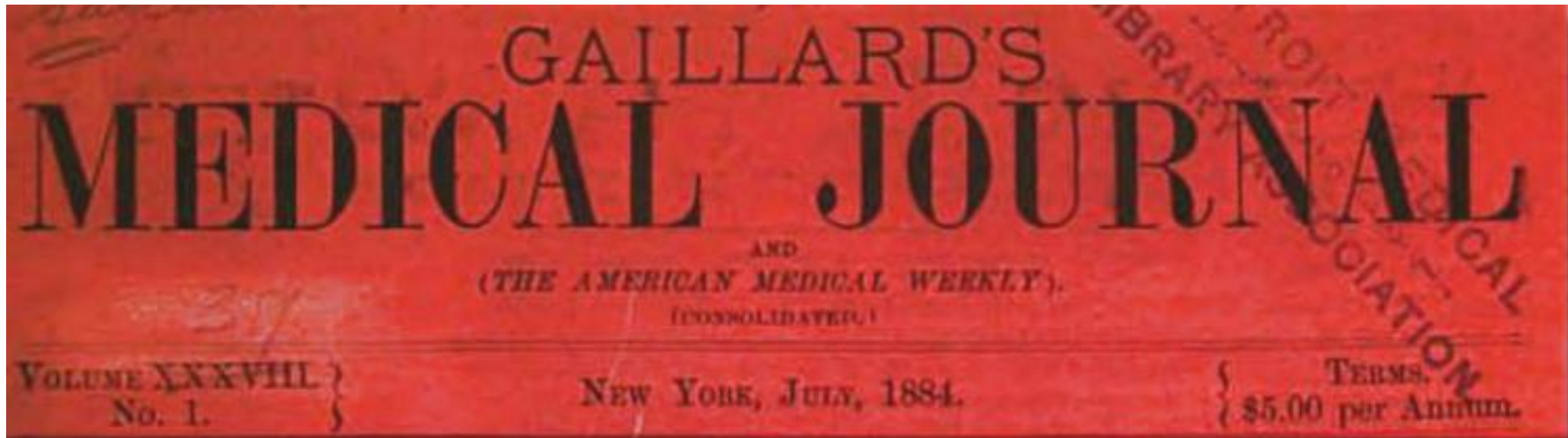
“Arctic Sea Ice is also at a record low as a warmer than average summer takes its toll”
Washington Post, 8 August 2019



<https://realclimatescience.com/1500-years-of-heatwaves/>

Tony Heller at realclimatescience.com has gathered reputable published histories about weather, weather effects, and climate in the historic past.

Here are some of these, sources and events, with an emphasis on Europe.



THE HAMPSHIRE ADVERTISER, SATURDAY, JULY 17, 1852.

HOT SUMMERS.—The excessive heat which prevails at present gives some interest to the following account of remarkably hot summers:—"In 1132 the earth opened, and the rivers and springs disappeared, in Alsace. The Rhine was dried up. In 1152 the heat was so great that eggs were cooked in the sand. In 1160, at the battle of Bela, a great number of soldiers died from the heat. In 1276 and 1277, in France, an absolute failure of the crops of grass and oats occurred. In 1303 and 1304, the Seine, the Loire, the Rhine, and the Danube were passed over dry-footed. In 1393 and 1394 great numbers of animals fell

<https://www.newspapers.com/image/401721042/?terms=%22battle%2Bof%2BBela%22>

THE TELEGRAPH,
AUGUST 30, 1930.

Extraordinary Heat in France

PARIS, August 28.

France, like England, is suffering from extraordinary heat. The shade temperature in Paris to-day was 100 degrees Fahrenheit, which is the greatest heat experienced in late August since 1870. Numbers of cases of collapse are reported from the Loire region, where a temperature of 122 degrees was registered.

In Paris the police were granted special permission to return to their stations every hour for refreshing drinks.

<https://trove.nla.gov.au/newspaper/page/20097453?searchTerm=extraordinary%20heat%20in%20france&searchLimits=>

"HEAT" WAVES THAT HAVE -BEEN.

In 1303 the Rhine, Loire, and Seine ran dry.

It seemed as if New York was on fire in 1853. During the week 214 people were killed in that city of sunstroke.

In France, in 1718, many shops had to close. The theatres did not open their doors for three months. Not a drop of water fell during six months. In 1773 the thermometer rose to 118 degrees.

The heat in several of the French provinces during the summer of 1705 was equal to that of a glass furnace. Meat could be prepared for the table

In 1778 the heat of Bologna was so great that numbers of people were stifled. In July, 1793, the heat again became intolerable. Vegetables were burned up, and fruit dried on the trees. The furniture and woodwork in dwelling-houses cracked and split, and meat went bad in an hour.

A disastrous hot wave swept through Europe in June, 1851. The thermometer in Hyde Park, London, indicated from 90 to 94 degrees in the shade. In the Champs de mars, Paris, during a review, soldiers by the score fell victims to sunstroke, and at Aldershot men dropped dead while at drill.

In July, 1876, intense heat began to make its power felt throughout the middle and southern states of America.

A RECORD OF HOT SUMMERS.

IN 637, says the London Standard, the heat was so great in France and Germany that all springs dried up, and water became so scarce that many people died of thirst.

In 873 work in the field had to be given up; agricultural labourers persisting in their work were struck down in a few minutes, so powerful was the sun.

In 993 the sun's rays were so fierce that vegetation burned up as under the action of fire.

In 1000 rivers ran dry under the protracted heat; the fish were left dry in heaps, and putrified in a few hours. The stench that ensued produced the plague.

Men and animals venturing in the sun in the summer of 1022 fell down dying; the throat parched to a tinder and the blood rushed to the brain.

In 1132 not only did the rivers dry up but the ground cracked on every side and became baked to the hardness of stone. The Rhine in Alsace nearly dried up.

Italy was visited with terrific heat in 1139; vegetations and plants were burned up.

During the battle of Bela, in 1260, there were more victims made by the sun than by weapons; men fell down sunstruck in regular rows.

In 1303 and 1304 the Rhine, Loire, and Seine ran dry.

Scotland suffered particularly in 1625; men and beasts die in scores.

The heat in several French departments during the summer of 1705 was equal to that in a glass furnace. Meat could be cooked by merely exposing it to the sun. Not a soul dared venture out between noon and 4 p.m.

In 1718 the thermometer rose to 118 deg.

In 1779 the heat at Bologna was so great that a great number of people was stifled. There was not sufficient air for the breath, and people had to take refuge under-ground.

In July, 1793, the heat became intolerable. Vegetables were burned up, and fruit dried upon the trees. The furniture and woodwork in dwelling-houses cracked and split up; meat went bad in an hour.

The rivers ran dry in several provinces during 1811; expedients had to be devised for the grinding of corn.

In 1822 a protracted heat was accompanied by storms and earthquakes; during the drought legions of mice overran Lorraine and Alsace, committing incalculable damage.

In 1832 the heat brought about cholera in France; 20,000 persons fell victims to the visitation in Paris alone.

[Why are there text errors?](#)

A RECORD OF HOT SUMMERS.

IN 637 the heat was so great in France and Germany that all springs dried up, and water became so scarce that many people died of thirst. In 873 work in the field had to be given up ; agricultural labourers persisting in their work were struck down in a few minutes, so powerful was the sun. In 993 the sun's rays were so fierce that vegetation burned up as under the action of fire. In 1000 rivers ran dry under the protracted heat : the fish

there has not been a wreck. The one of these trains descending is one of thrilling interest. the sparks from the car-wheels cutting a pathway of light down the mountains, which can best be described as having the appearance of a molten stream of fire rolling down the river-bed of the canon.

A RECORD OF HOT SUMMERS.

IN 637 the heat was so great in France and Germany that all springs dried up, and water became so scarce that many people died of thirst. In 873 work in the field had to be given up ; agricultural labourers persisting in their work were struck down in a few minutes, so powerful was the sun. In 993 the sun's rays were so fierce that vegetation burned up as under the action of fire. In 1000 rivers ran dry under the protracted heat : the fish

Conclusions:

June 2019's melting in Greenland followed past such events in June.

The heat in France was forecast in advance when an Omega Block developed at the Summer Solstice. Meteorologist reports indicate the heat came from strong southerly flow from Saharan Africa.

The new record in Lingen, Germany was caused by clear weather and a bowl-shaped observing area cluttered with electrical shelters and a 45-foot tree line on the east side of the bowl. Reflected sunlight, trapped heat, and obstructed wind flow contributed to the observed phenomenon. DWD Lingen clearly fails WMO standards

The new record at the Cambridge University Botanic Garden is related to proximity of the recently-constructed Sainsbury Laboratory and Plant Growth Facility and the presence of bare ground near the instrument shelter, all in violation of WMO Class One observing specifications.

The Washington Post claims of Greenland being “on track to lose most ice on record” are belied by the data posted daily at the Danish Meteorological Institute's Polar Portal, and ignore huge ice accumulations in 2017, 2018.

WAPO claims of record low Arctic Ice Extent are belied by the MASIE data put online daily by the National Snow Ice Data Center, NSIDC, since 2006, which data show no trend in the thirteen years on record.

Published historic summer temperature and high temperature effects observations belie claims of modern extreme high temperatures. Past events were clearly hotter and more catastrophic in Europe.