

Twitter Thread by Scott Duncan



Scott Duncan
[@ScottDuncanWX](#)



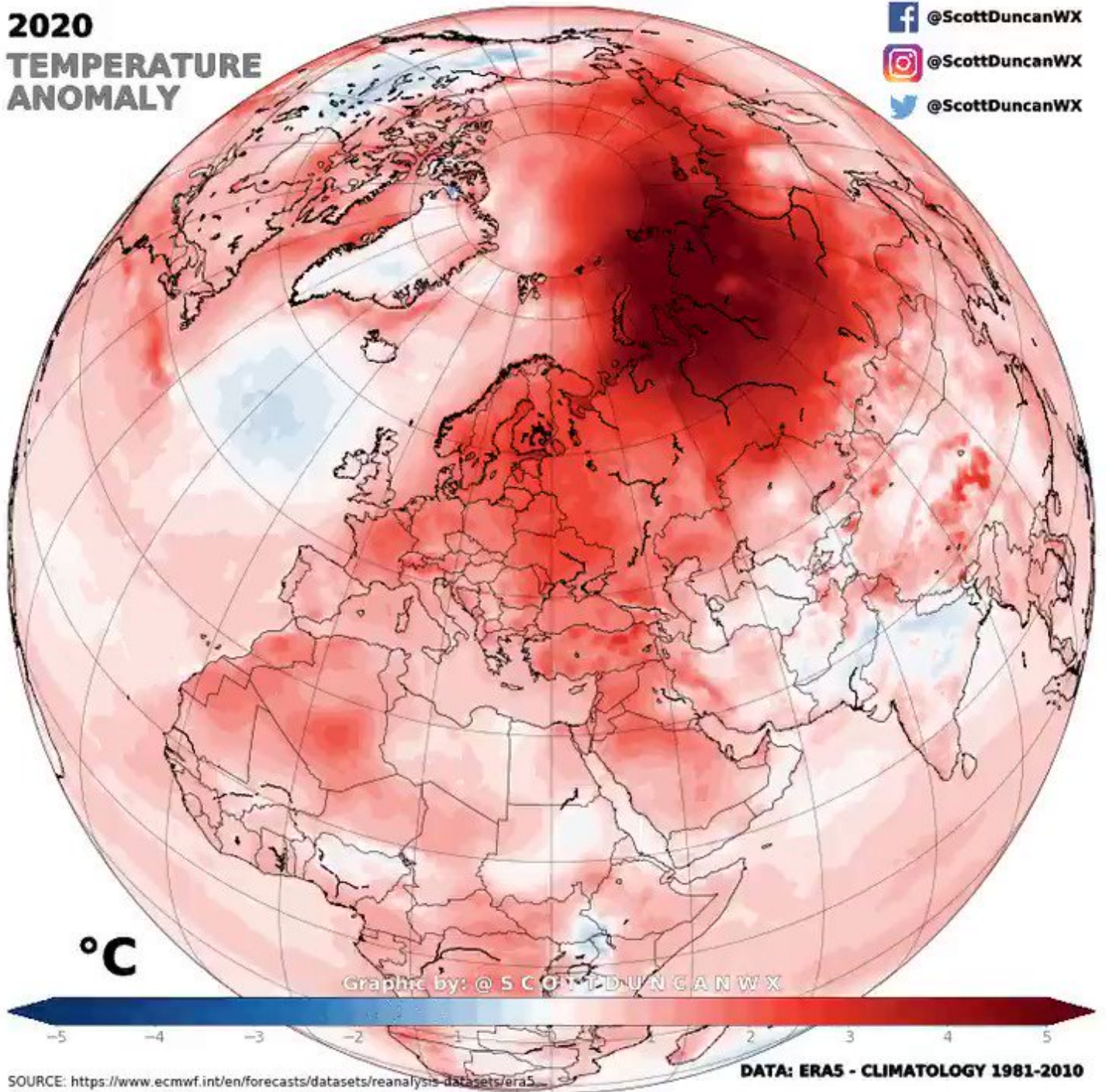
Earth has a fever in more ways than one. Some places averaged + 5-7 °C warmer than normal for the ENTIRE YEAR of 2020.

An enormous area of anomalous warmth plagued Arctic Siberia effectively all year but it was not just the Arctic where we saw record shattering warmth.

THREAD

2020 TEMPERATURE ANOMALY

f @ScottDuncanWX
i @ScottDuncanWX
t @ScottDuncanWX

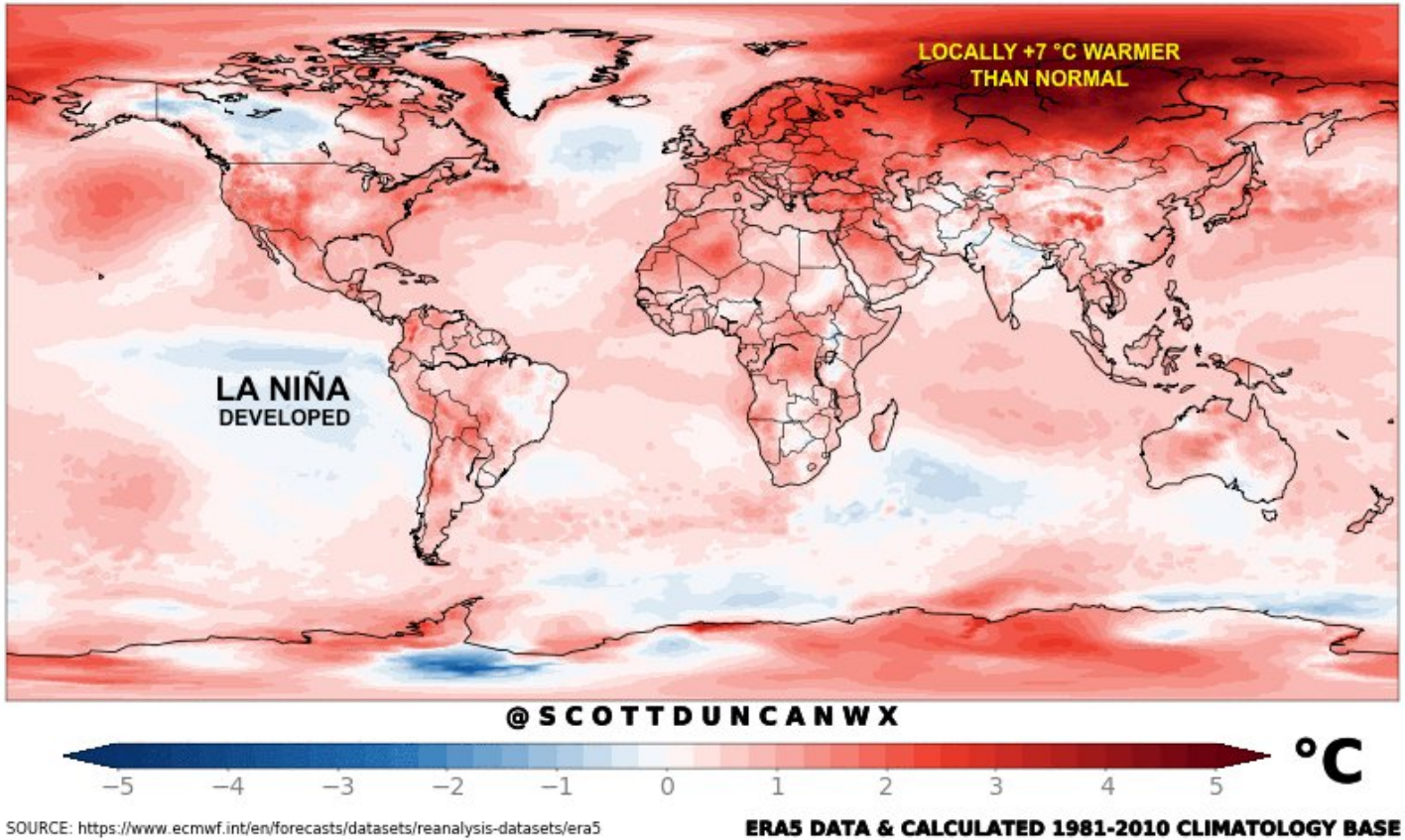


Another way of looking at it... Very few cold blobs left. La Niña developed and shows up in the Pacific.

The climate is not changing uniformly, the Arctic is warming much faster than the rest of the world.

Data: [@CopernicusEU](#) and compares to 1981-2010 average.

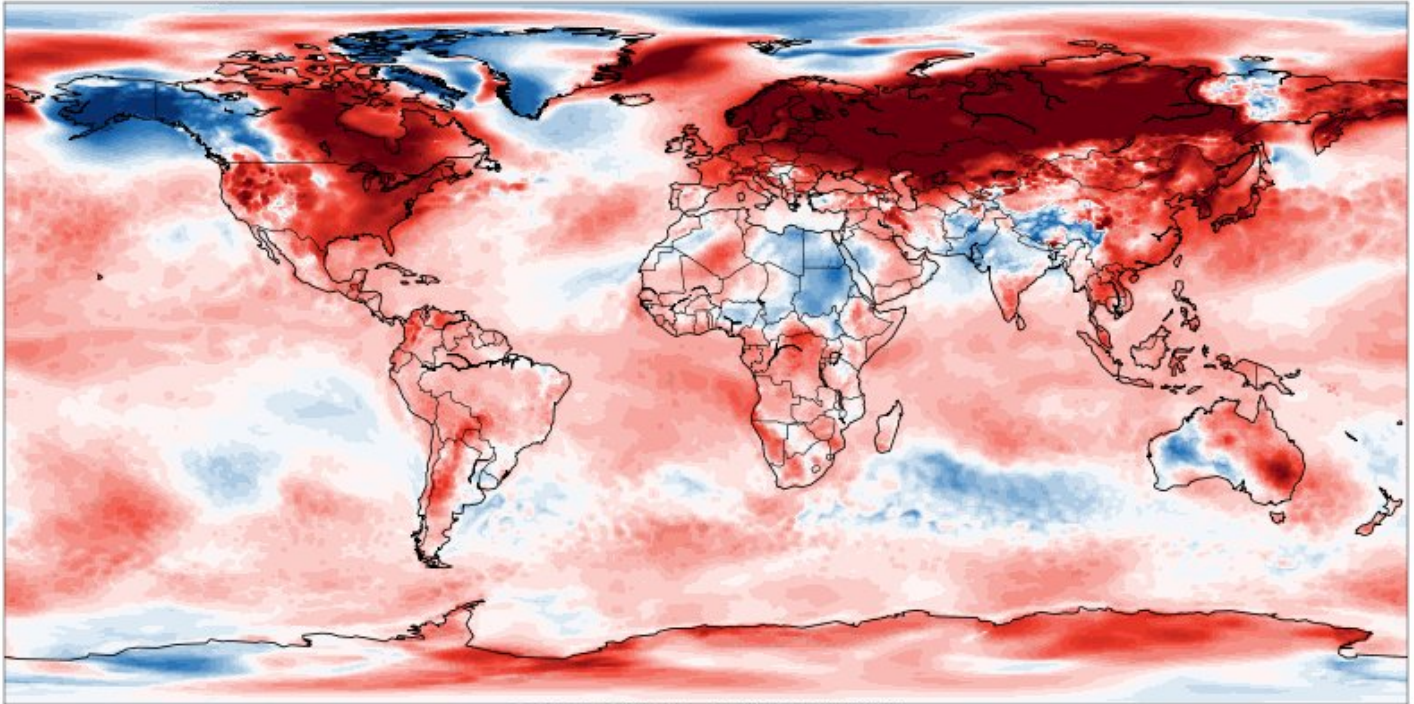
2020 TEMPERATURE ANOMALY



JANUARY was joint hottest January globally on record according to NASA GISTEMP v4 (joint record with 2016).

Profound winter warmth for North America plus Europe and Asia.

JANUARY 2020



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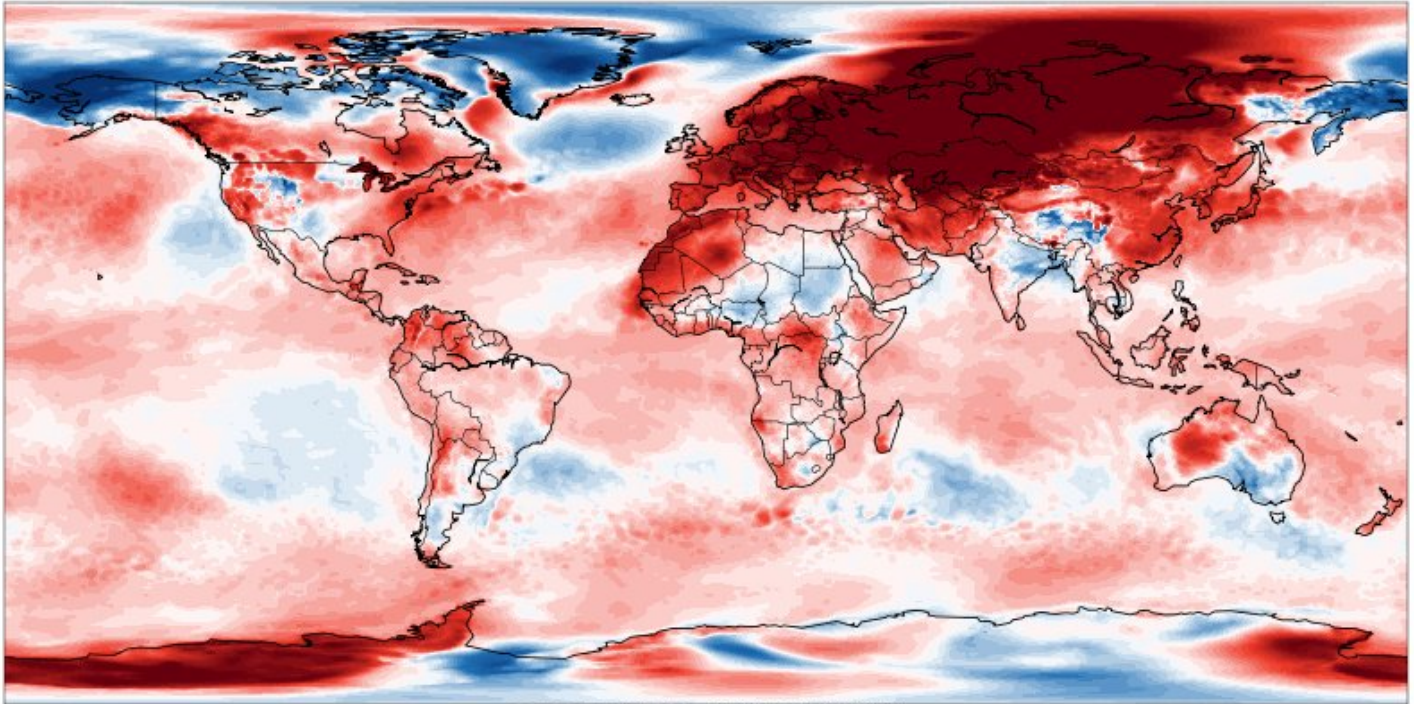
SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

FEBRUARY was second hottest on record (1st place is still held in 2016).

The winter 'warmth' in Europe and Asia was just insane.

FEBRUARY 2020



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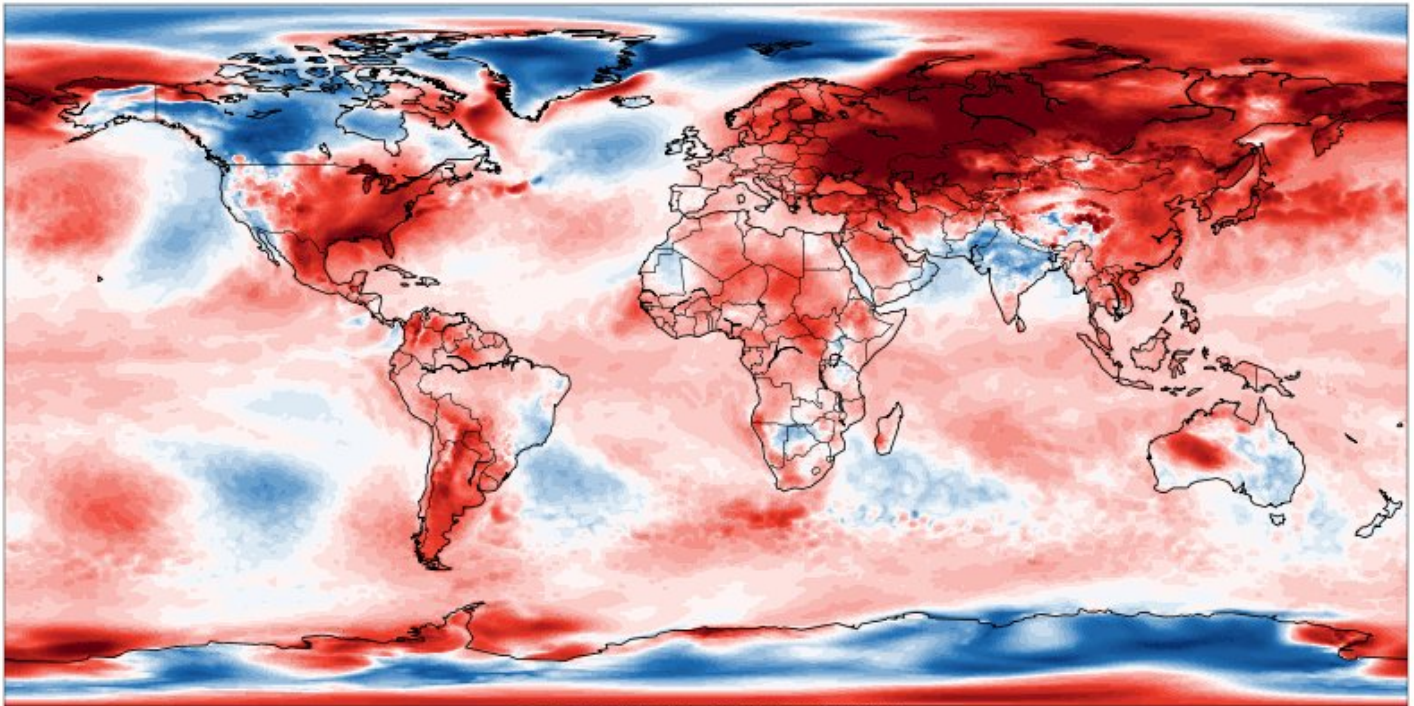
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ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

MARCH: A cold Canada, Greenland and Svalbard... but obvious warmth still striking across the continents, particularly northern/central Asia.

This was the second hottest March on record (2016 still holds the record).

MARCH 2020



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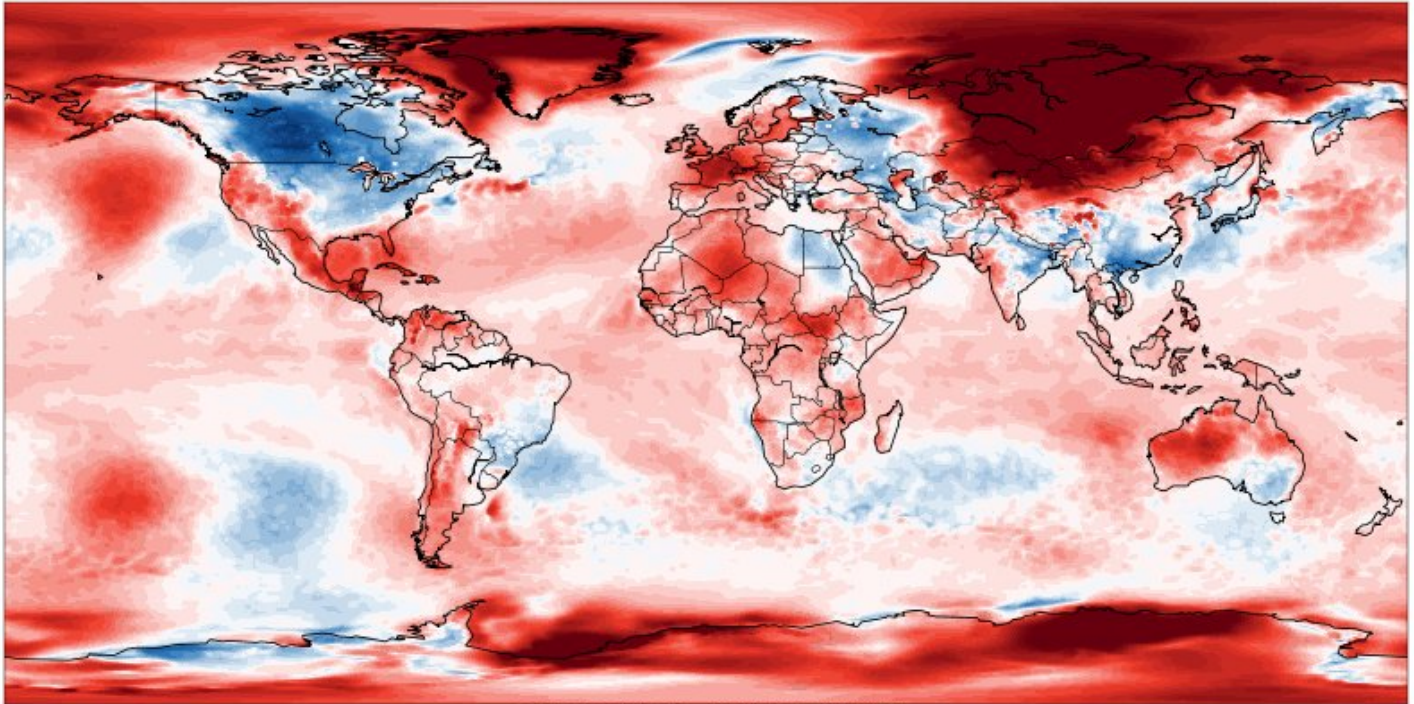
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ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

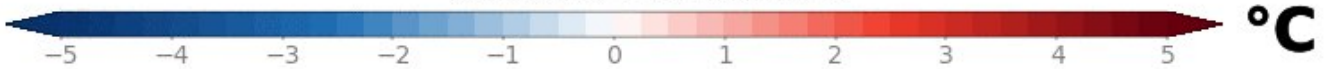
APRIL was hottest on record. North America pretty cool, quite impressive actually. But elsewhere...

Heat in the Arctic becoming quite a theme. Stick with me...

APRIL 2020



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SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

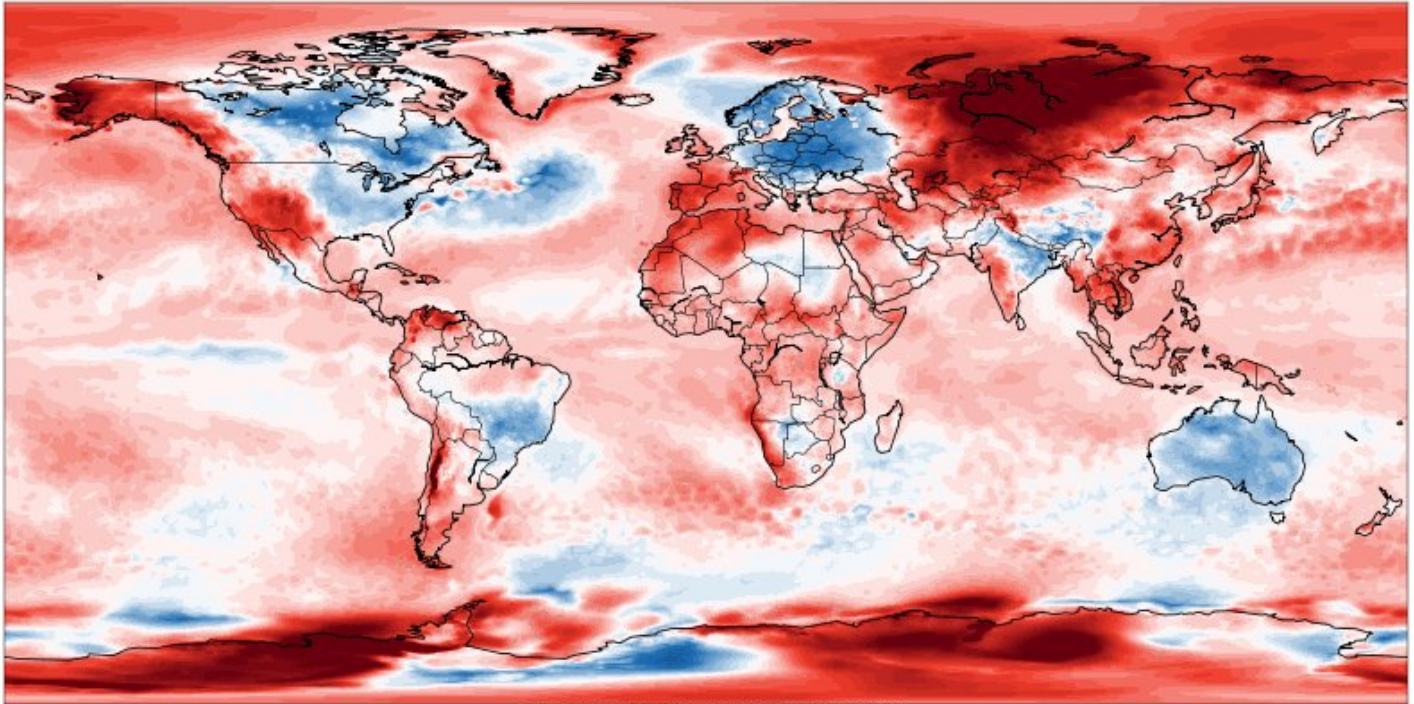
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

MAY... hottest on record for month of May.

Do I need to point out northern parts of Asia any more?

Permafrost thawed and Russia suffered extreme diesel disaster. It began at the end of May. Criminal investigation ongoing:
<https://t.co/XC74Rx9tev>

MAY 2020



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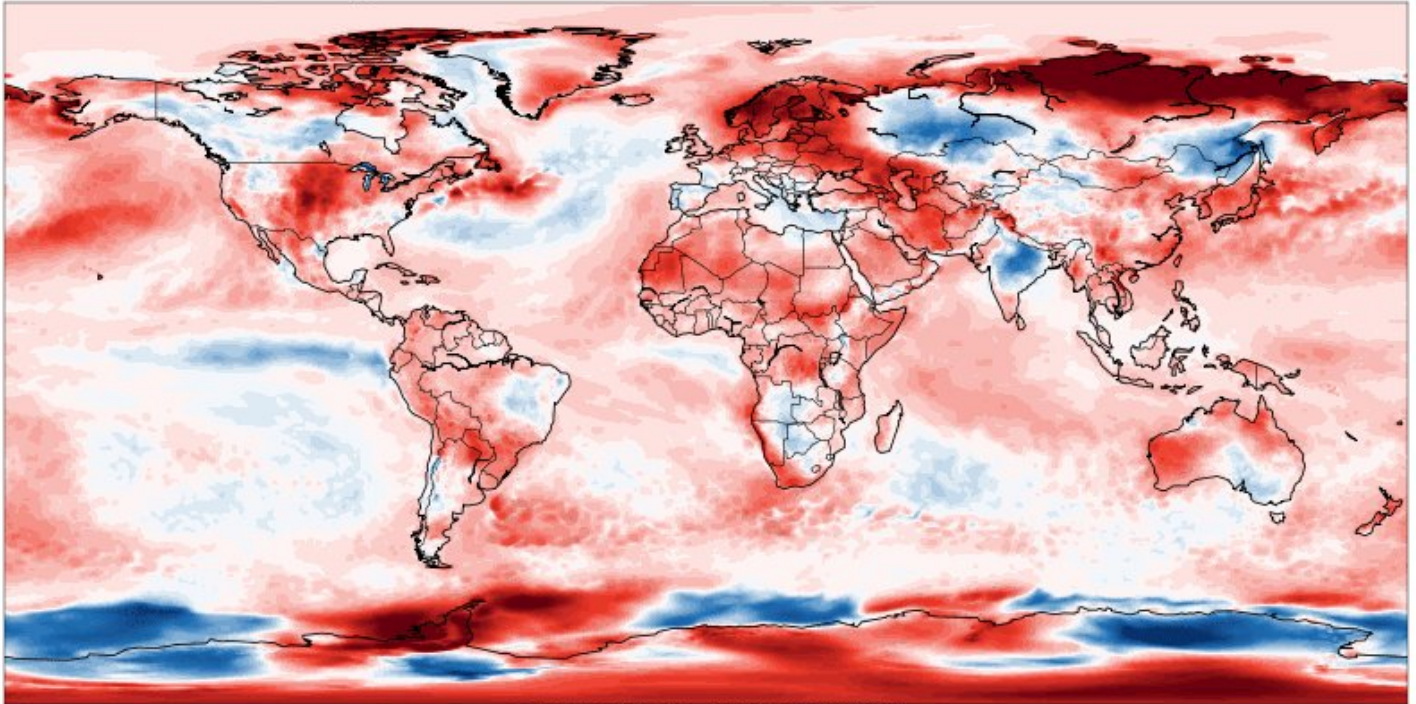
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ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

The Arctic circle broke its all time heat record in JUNE and the globe recorded its hottest month of June on record.

Arctic heat record: Siberian town called Verkhoyansk logged a temperature of 38° Celsius (100.4° Fahrenheit) on 6 June.

JUNE 2020



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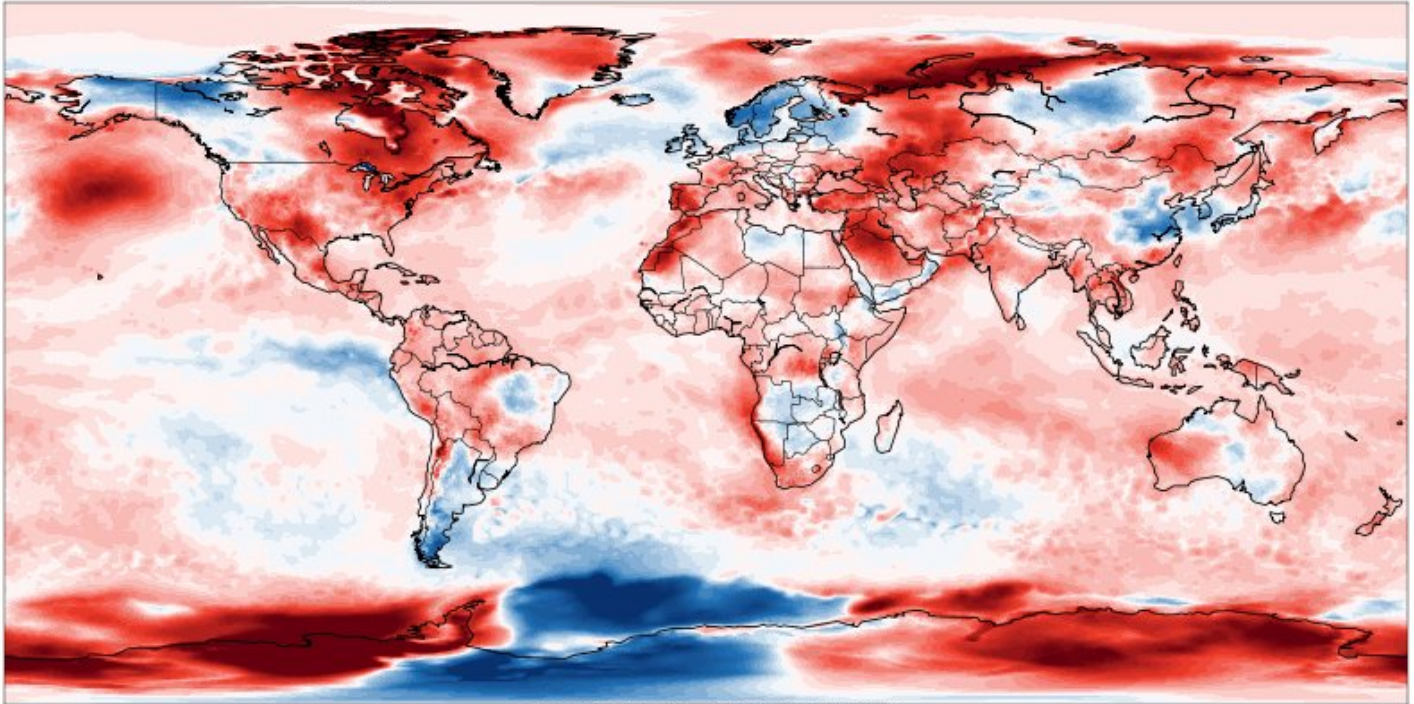


SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

JULY was second hottest on record (July 2019 was hotter globally).

JULY 2020



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SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

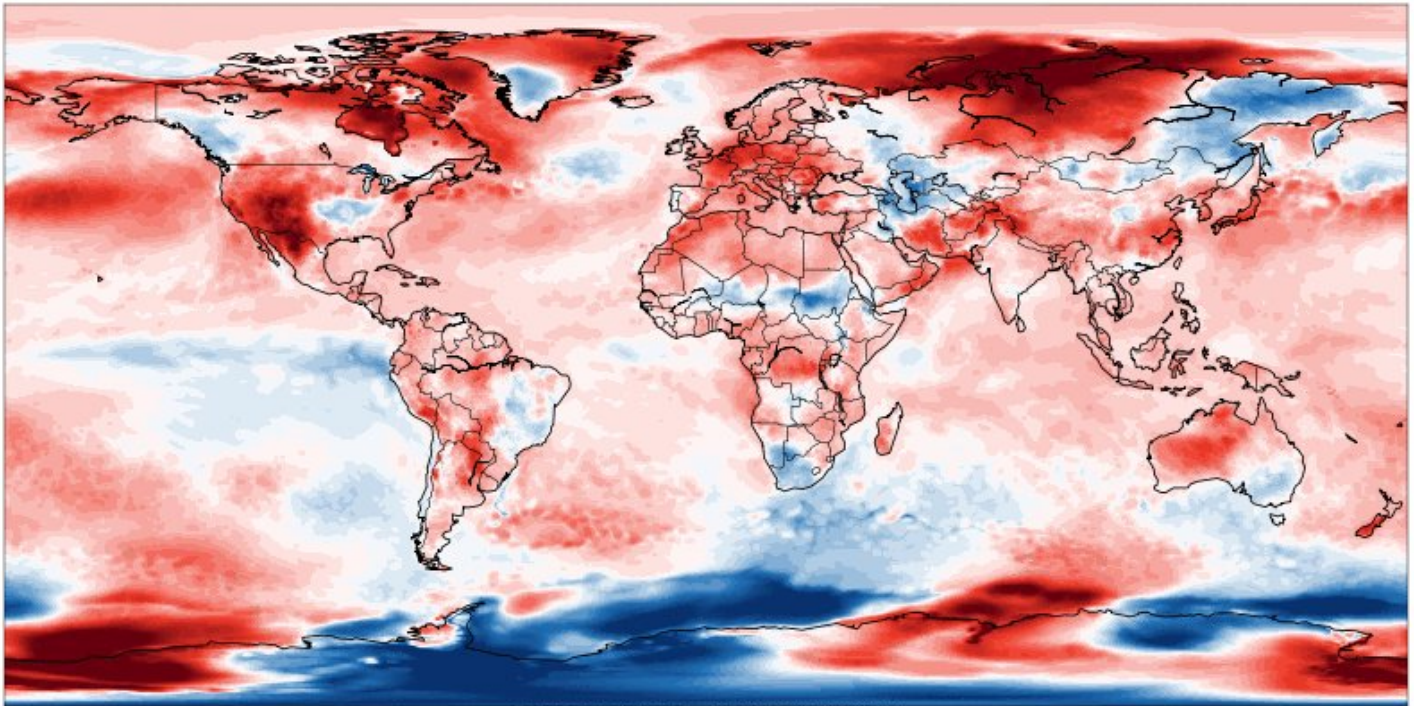
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

AUGUST... 3rd hottest on record.

Siberia and parts of North America really in the furnace, quite literally as wildfire season blazed into uncharted territory.

1,032,648 acres were lost in the August fire complex (Northern California) alone in. Record books were re-written.

AUGUST 2020



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SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

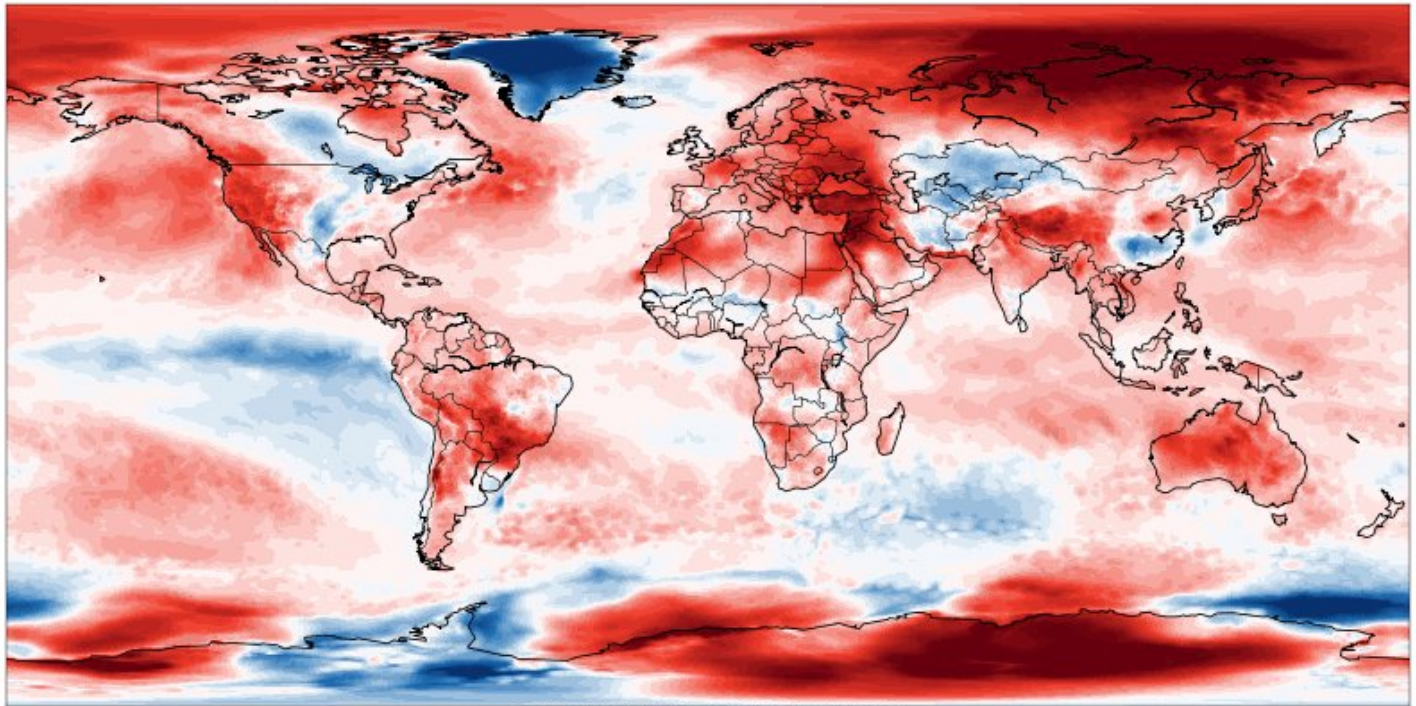
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

SEPTEMBER... hottest on record.

South America stepped into the furnace with the start of one of the most profound/long-lived and widespread heatwaves in Southern Hemisphere history.

Siberia still doing its thing. Greenland turned blue though.

SEPTEMBER 2020



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°C

-5 -4 -3 -2 -1 0 1 2 3 4 5

SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

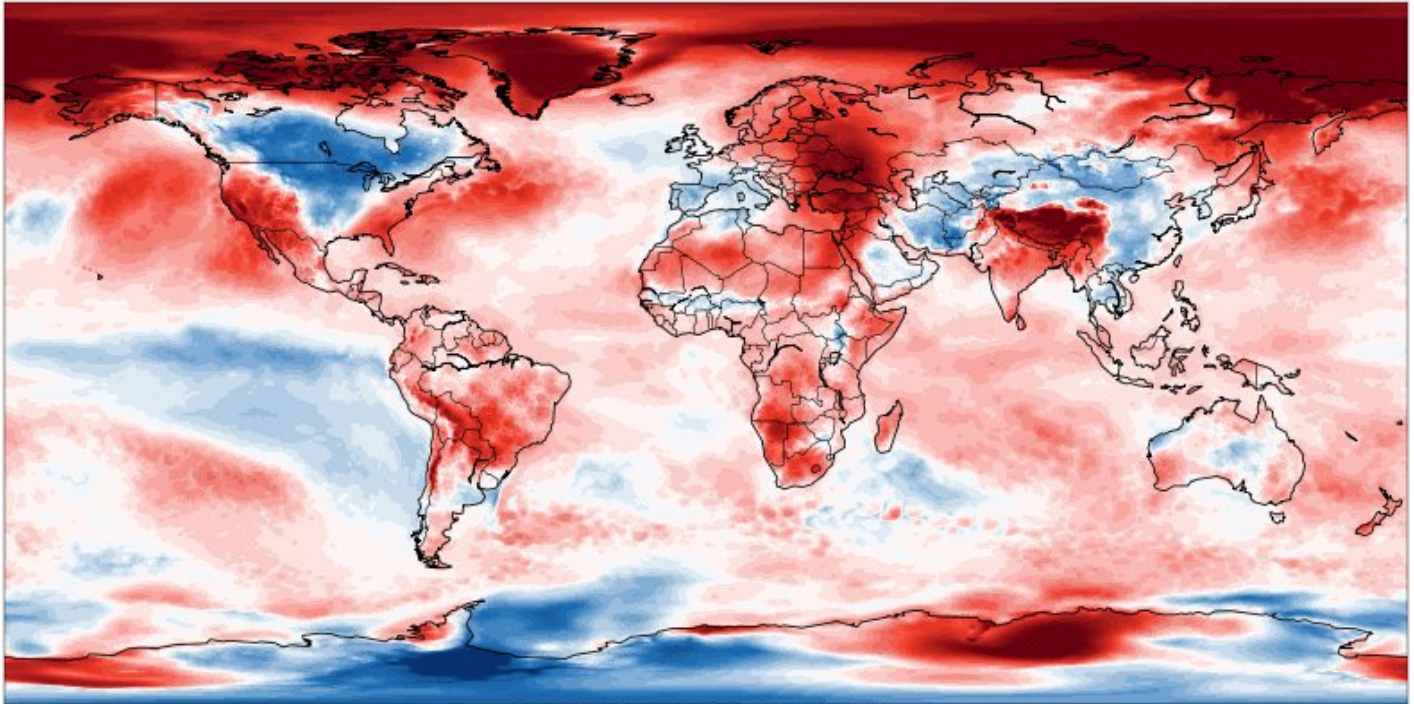
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

OCTOBER... 5th hottest on record globally.

Arctic sea ice melted to record low extent for month of October and South America and started the month with extreme heat. Eastern Europe/Asia boundary set heat records widespread.

Cool north America and developing La Nina...

OCTOBER 2020



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SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

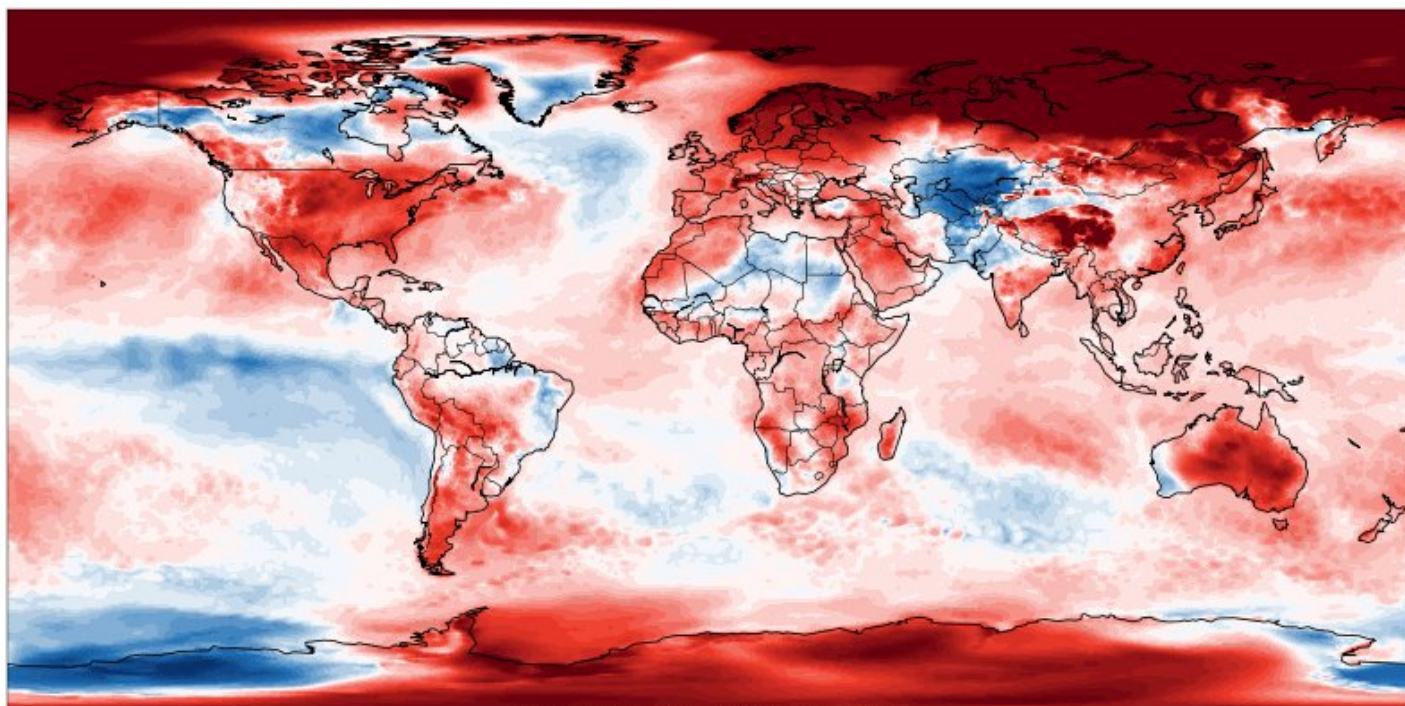
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

NOVEMBER marks the 6th all time monthly heat record in 2020. 2020 now contains at least half the monthly heat records globally.

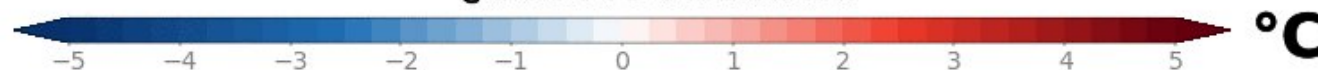
Arctic looks like it is on fire here. This is not surprising given the lack of sea ice. Textbook Arctic amplification.

Cold in central Asia.

NOVEMBER 2020



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SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

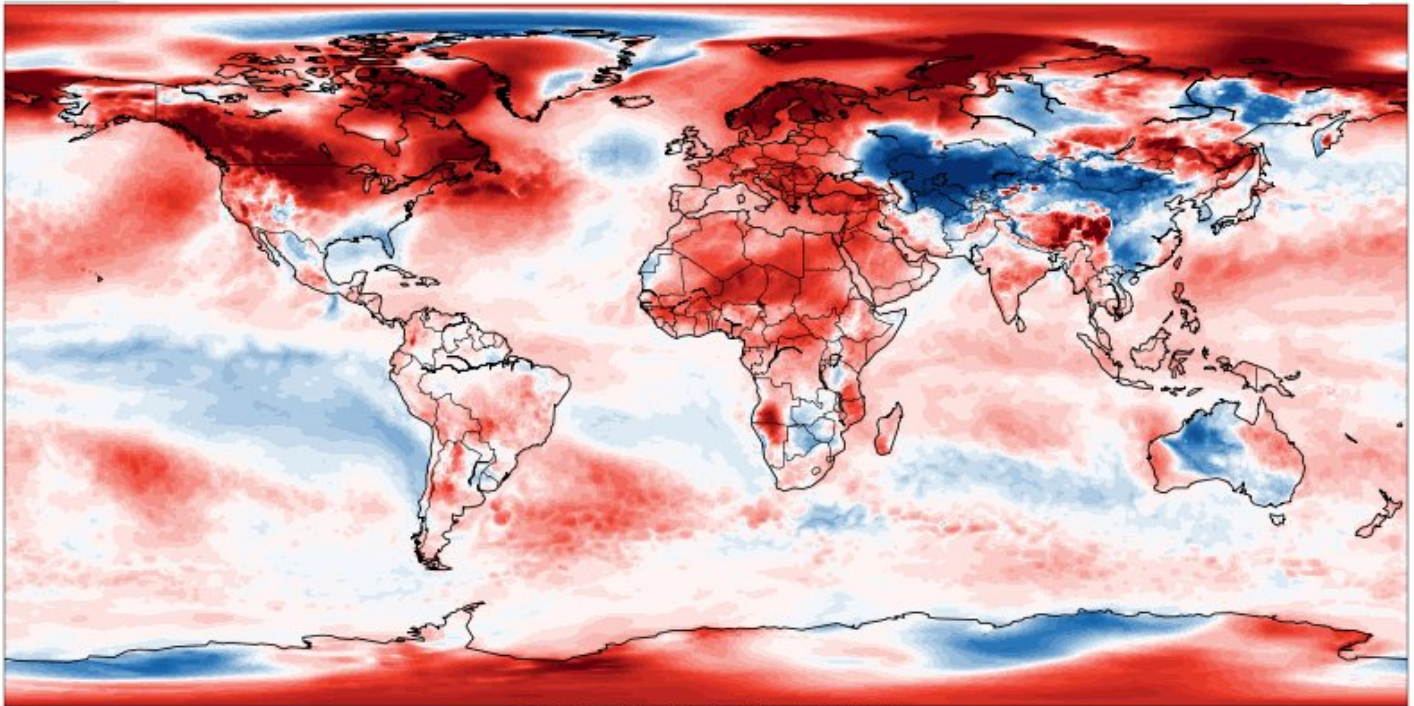
ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

DECEMBER... well... I await official stats for ranking.

Deep cold again in Central Asia but warm pretty much everywhere else. North America, Northern Europe and Africa breaking records.

Stay tuned.

DECEMBER 2020



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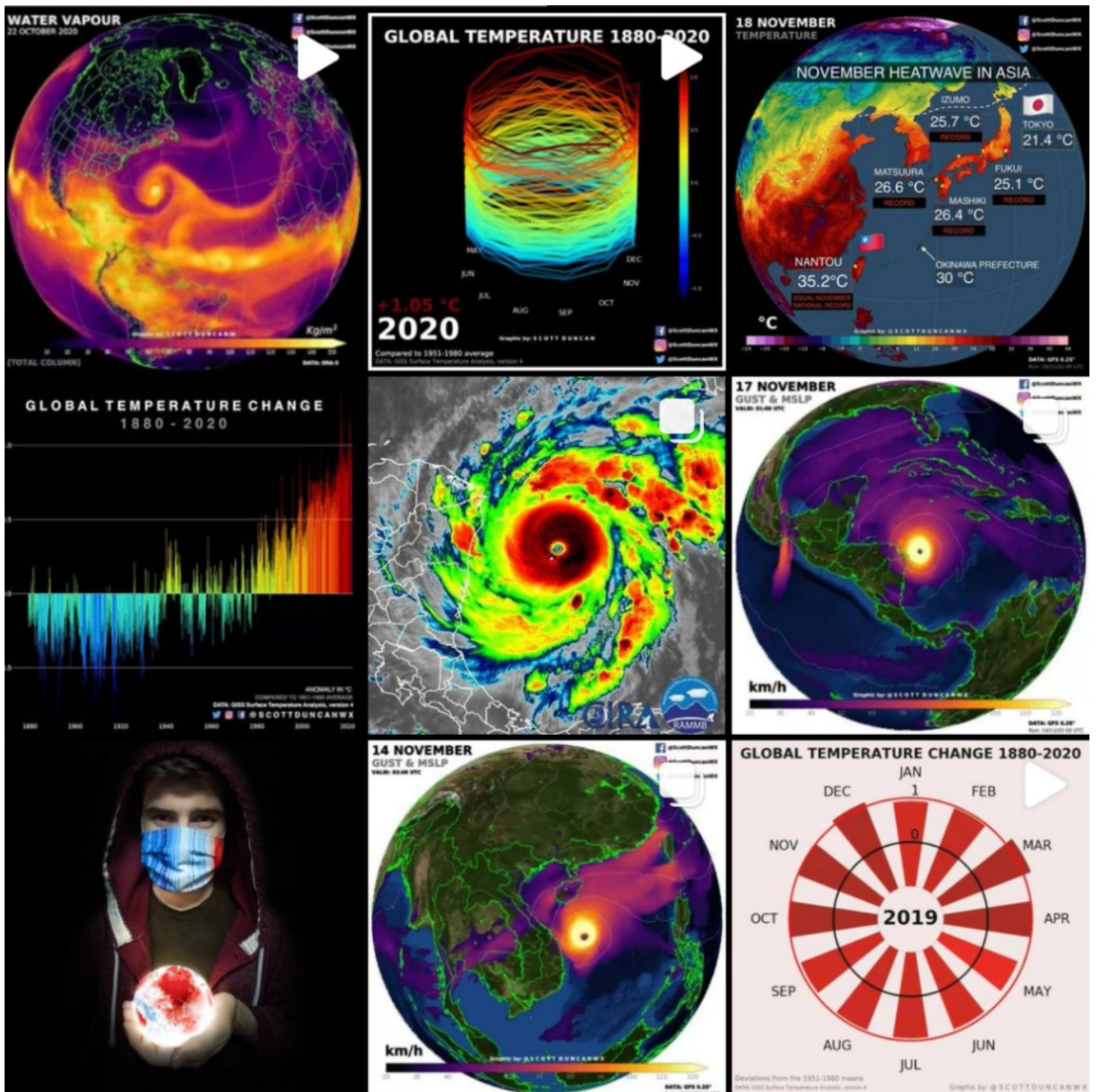


SOURCE: <https://www.ecmwf.int/en/forecasts/datasets/reanalysis-datasets/era5>

ERA5 DATA & CALCULATED 1981-2010 CLIMATOLOGY BASE

This is not an exhaustive list of records and profound weather/climate events from 2020.

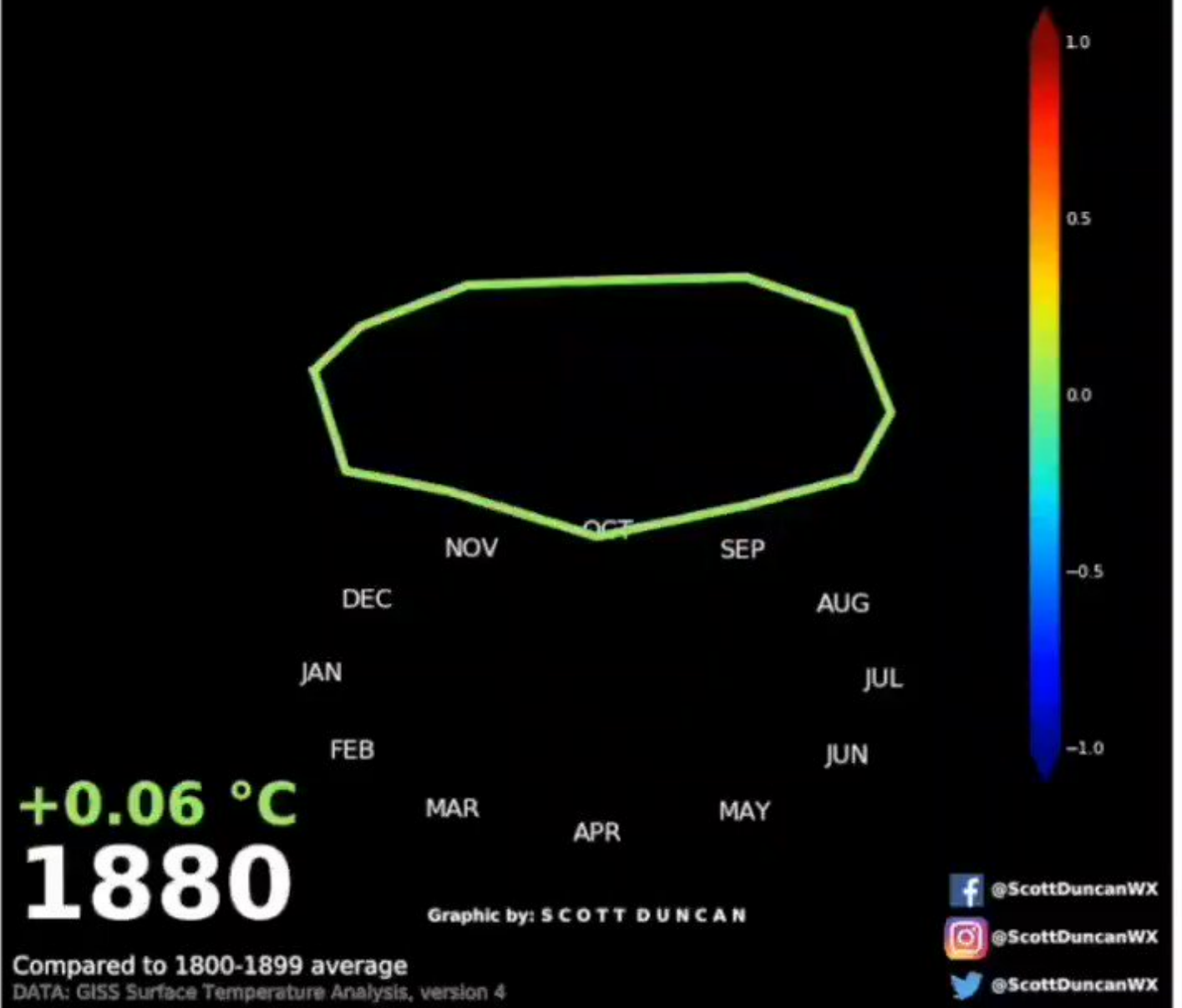
A more organised collection of graphics exists on my instagram: <https://t.co/3lOp4bew5f>



COVID and politics took centre stage in 2020 for very obvious reasons.

This thread serves as a reminder that the climate has changed and is continuing to change. Changes are not uniform, I hope everyone can see this.

GLOBAL TEMPERATURE CHANGE 1880-2020



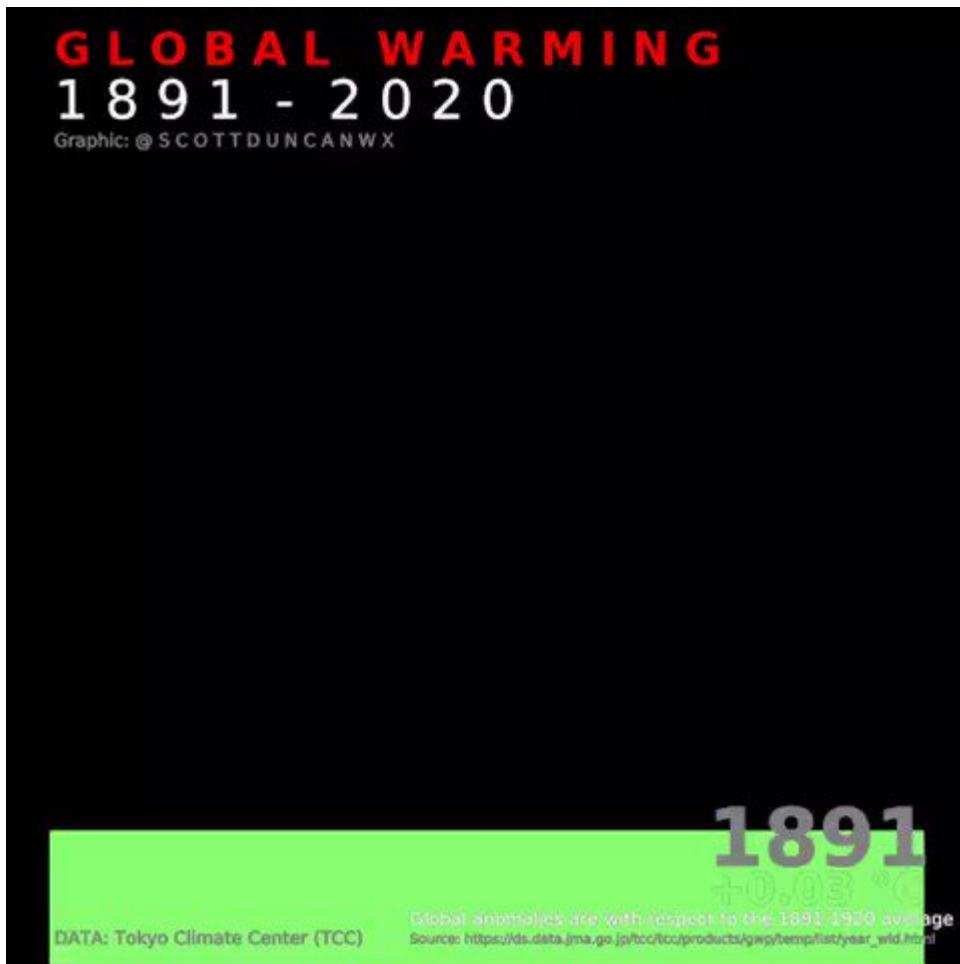
To those who kindly keep pointing out that my previous animations have the world spinning the wrong way.

I have corrected this. Happy new year ■

We are awaiting official verification as to whether 2020 was the warmest year on record.

Inevitably top 3. Probably at least 2nd. Could be hottest.

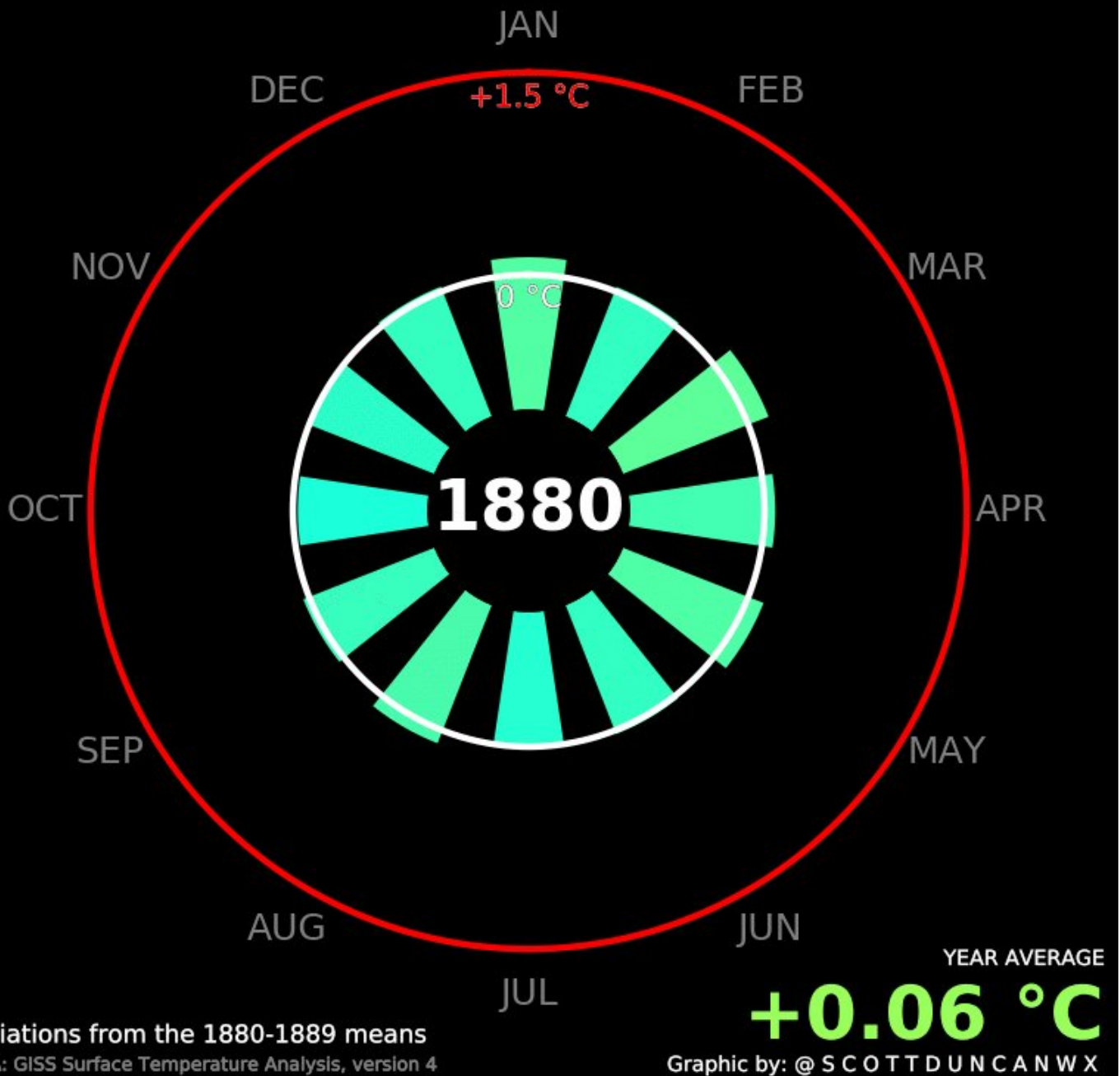
JMA preliminary data has 2020 at the top spot.



It is worth noting that some months are warming faster than others too.

Often January, February and March have the largest anomalies, some of which already break the +1.5 °C anomaly (comparing to levels similar to pre-industrial times).

GLOBAL TEMPERATURE CHANGE 1880-2020



Oh... I nearly forgot.

This might come in useful. Solar and carbon graphs combined with temperature.

<https://t.co/yacwcqLhKE>