

*The Washington Post: Summers are growing longer due to climate change, while winters are dramatically shrinking*



*People cool off in the river pool at the Water Mine Family Swimmin' Hole in Reston, Va. (Bonnie Jo Mount/The Washington Post)*

By Brian Brettschneider  
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The Earth is warming and disturbing the balance of the seasons. Data makes it clear that summers are expanding while winters are substantially shortening.

I recently completed an analysis that examined the hottest and coldest 90 days of the year, approximating summer and winter, over the past two 30-year periods, 1960-1989 and 1990-2019. What I learned was that the hottest temperatures that defined the first 30 years expanded over additional days in the most recent 30 years. Conversely, the coldest temperatures defining the preceding 30 years contracted.

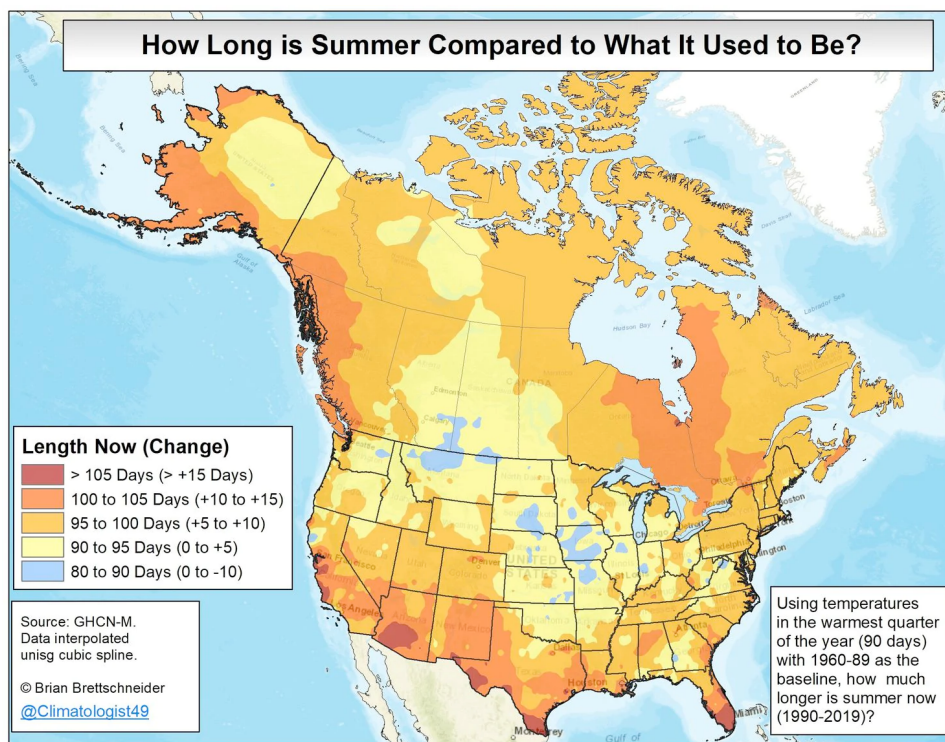
In other words, most locations globally, including in the United States and Canada, have seen their summer season lengthen and the winter season shrink.

Region	1960-1989	1990-2019	Change (days)	Change (%)
U.S./Canada winter length (days)	90	75.5	-14.5	-16%
Lower 48 winter length (days)	90	81.5	-8.5	-9%
Alaska Winter Length (days)	90	60.3	-29.7	-33%
U.S./Canada summer length (days)	90	97.5	7.5	+8%
Lower 48 summer length (days)	90	96.4	6.4	+7%
Alaska summer length (days)	90	97.5	7.5	+8%

## Longer summers

The vast majority of 6,000 weather stations analyzed globally now experience a longer summer compared with the previous 30-year reference period.

In the United States and Canada, summer has expanded by an average of one week.



(Brian Brettschneider)

The lengthiest increases in summer conditions, colored in orange and red, have occurred over the southern United States, as well as in eastern and western Canada.

Generally, the closer you get to an ocean, the more summer has expanded. This makes sense as the oceans have warmed dramatically, and they impart a tremendous influence on the climate.

Areas in blue on the first map show where summer conditions are slightly shorter and are limited to small pockets in the central United States.



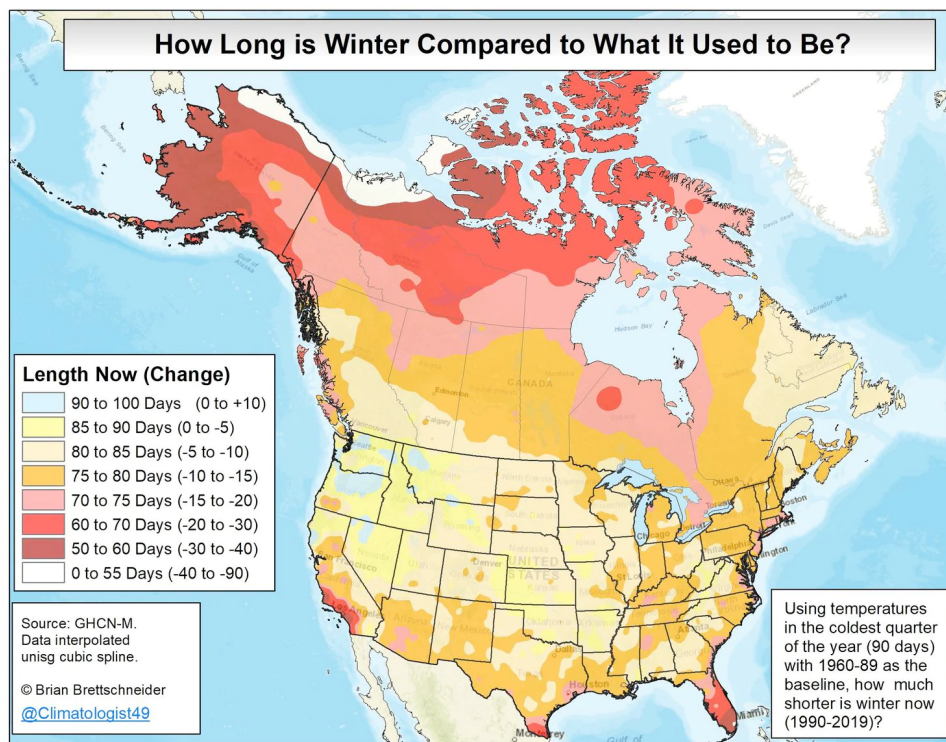
There is also a notable urban heat island effect as cities are experiencing longer summers than nearby rural areas. The added increase in heat because of the density of concrete and asphalt surfaces is real and affects the lives of the 80 percent of Americans who live in cities.

Here are the 10 major U.S. cities that have seen the lengthiest expansion of summer weather over the past 30 years:

- Honolulu, 38 days
- Miami, 37 days
- San Francisco, 32 days
- New Orleans, 25 days
- Phoenix, 23 days
- Tucson, 21 days
- El Paso, 20 days
- Houston, 18 days
- Las Vegas, 18 days

In Washington, the period of summer temperatures has expanded by four days. Chicago has seen its period of summer temperatures expand by a week, while New York City has seen just a three-day increase.

Internationally, London has seen its period of summer temperatures expand by 17 days, while Beijing and Sydney have witnessed 15- and 14-day increases.



(Brian Brettschneider)

## Shorter winters

The change in the length of winter is even more dramatic than the summer changes. While the United States and Canada see summer conditions that last an average of seven days more than they used to, the duration of winter conditions has shortened by an average of 15 days.

In northern Canada and Alaska, the shortening of winter is especially dramatic. Along Alaska's North Slope, the coldest part of winter in the most recent 30-year period is warmer than any of the winter days in the preceding 30-year period.

Although the greatest contraction in winter is seen in the high latitudes, interestingly parts of Southern California and South Florida are also seeing markedly shorter winters.

Here are the 10 major U.S. cities with the lengthiest decrease in winter temperatures:

- Los Angeles: 52 days
- Miami: 49 days
- Juneau, Alaska: 32 days
- Orlando: 30 days
- New Orleans: 28 days
- Anchorage: 25 days
- Phoenix: 25 days
- Honolulu: 23 days
- San Francisco: 23 days
- Philadelphia: 22 days

Note that in Washington, winter shrank 12 days. Chicago has seen its period of winter temperatures shorten by 12 days, while New York City is seeing a 13-day shorter winter.

Internationally, London has seen its period of winter temperatures contract by a lengthy 36 days while Beijing and Sydney have witnessed 17- and 19-day decreases.

## Implications

My finding of longer summers and shorter winters is consistent with the findings of a March study from the Australia Institute, titled *Out of Season*. It conducted a similar analysis, focused on Australia, examining changes in the seasons over two consecutive 20-year time spans. Like the analysis performed here, it found a dramatic increase in the length of summer and decrease in the length of winter between the two periods.

Longer summers and shorter winters have all kinds of practical implications. For example (this is not an exhaustive list), lengthier summers extend the amount of time vulnerable populations are subject to heat stress, increase cooling costs, and may lessen water availability in some areas. However, they may increase opportunities for warm weather recreation.

Shorter winters reduce winter recreational opportunities such as skiing and ice fishing and prematurely deplete snow and ice needed for the spring and summer water supply in some areas. They also potentially expand the wildfire season and increase the prevalence of pests harmful to forestry and agriculture. But they decrease heating costs and limit the duration of dangerously low temperatures.

A detailed description of the methodology, additional maps and a list of references used for this analysis can be found here: Are Summer/Winter Longer/Shorter Than They Used to Be? (<https://us-climate.blogspot.com/2020/04/is-summer-longer.html>)

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