Festivals forced to adapt as climate change disrupts historic weather patterns

March 23 2022, by Dinah Voyles Pulver

Credit: CC0 Public Domain

When spring arrives, fragrant flower and sweet fruit festivals can't be far behind.

But in some places, these historic and beloved festivals are occurring sooner than ever, as climate change plays havoc with the first dates of spring leafing and blossoming on at least three continents.

Warmer temperatures mean earlier buds and blooms, and that is forcing organizers of some festivals to move their dates forward. A flower festival just isn't the same if the blooms have already vanished.

The National Cherry Blossom Festival, which started Sunday in Washington, D.C., is just one example. Spring festivals also have been moved up to coincide with earlier blooming in Europe and Asia.

Historic photos and records around the globe show how the earlier spring arrivals are changing daily life, said Tim Sparks, a United Kingdom-based environmental statistics researcher. A flowering tree that used to be the focal point in photos of a community or family's annual event now may be long finished blooming before the event arrives.

When an area experiences more warm days earlier in the year, the plants pay attention, said Theresa Crimmins, director of the USA National Phenology Network and a research professor at the University of Arizona. "So many species are cued by how much warmth they are exposed to," she said.

The network tracks flowering dates and other natural events and hopes to convince people across the country to help expand monitoring to get a better idea of how things are changing.

Tracking the National Cherry Blossom Festival

For 110 years, the National Cherry Blossom Festival has celebrated the gift of Yoshino cherry trees from Japan to the people of the United States. Traditionally, the festival usually started in early to mid-April.

By the 1980s however, warmer temperatures arrived earlier and so did the cherry blossoms.

Gradually the festival dates were expanded and moved up to accommodate the earlier blooms. The festival, which in 47 years only started in March 10 times, hasn't started in April since 1994.

By the early part of this century, weather records show the 20-year average March temperature had climbed two degrees.

Twice in the first eight years of the new century, the cherry blossoms peaked before the festival. Peak bloom, tracked by the National Park Service, means 70% of the blooms are open.

For the 2012 festival, the date was moved up again, to the first day of spring every year, said Diana Mayhew, festival president since 2007. Between the date change and its 4-week length, Mayhew said the blossoms usually are in bloom at some point during the festival.

Although the cherry blossoms haven't peaked before the festival started since the new date was set, they have done so twice on opening day. This year the blooms peaked on Monday, one day after the start.

Other flower festivals with earlier dates include the Lilac Festival in Rochester, New York and the Virginia Beach Cherry Blossom festival.

The Tulip Time Festival in Holland, Michigan was feeling the effects of warming temperatures by 1997. The board voted in 2001 to move the festival up one week earlier to coincide with earlier blooms, according to the festival website.

Seeing historic changes over time

In Boston, the Arnold Arboretum at Harvard University has shifted its annual lilac festival forward one or two weeks, said Richard Primack, a professor in the biology department at Boston University.

Primack described buds and blooms as little clocks, driven by temperature and closely tied to the weather over the previous few months. The warmer it is in the months of February and March, the more rapid the development of the flower bud and the sooner it opens.

Cherry blossom festivals in the United States pale in comparison to the cultural extravaganzas in Japan and South Korea, Primack said. Tokyo's shift forward in festival dates to late March and early April has been "remarkable," he said.

Records of the first blooms there date back more than 1,200 years. Bloom dates were relatively steady until around the time of the Industrial Revolution, when a clear change appears as temperatures started to warm, said Abraham Miller-Rushing, a science coordinator for the National Park Service at Acadia National Park.

In the United Kingdom, the Thriplow Daffodil Weekend in Cambridgeshire has moved from an April event when it started in 1969 to a March weekend, said Sparks, who has studied records for first leafing and first bloom dates dating back to the early 1700s.

In London, a set of more than 70 years of records shows one tree buds out an average of two weeks earlier than it used to, he said.

Sparks and others search for signs of the warming climate in plants in the background of historic photos. For example, he said in photos taken on Armistice Day at the Cenotaph, a World War I monument in London, the trees are completely bare in the years after the ceremonies started in 1921. "In recent years they're quite green," he said. "The differences are

really stark."

Miller-Rushing saw similar trends in photos of an annual Memorial Day observance in Boston. A lot of older graduation photos in Boston and New England would be posed in front of flowering Bradford pear trees, he said. "Nowadays those plants are way past flowering at graduation."

Watermelons adapting to demand

Dates and temperatures alone don't always tell the full story.

In North Florida, two historic watermelon festivals—Chiefland and Newberry—take place weeks earlier than 40 years ago, but the reasons aren't as cut and dried as the flower festivals. Seed salesman Terry Parrish said to meet a growing consumer demand, farmers grow smaller melon varieties than they used to, and seedless, which requires them to plant seedlings rather than seeds.

Growers place the tiny, tender plants in the ground as early as they used to plant seeds, if not earlier, said Bob Hochmuth, a University of Florida regional extension agent for vegetable crops. So, the sweet, juicy fruit arrives much earlier.

The influence of warmer temperatures probably means the early planting carries a little less risk than it used to, Hochmuth said. However, the fickle nature of weather still means risk is always present.

This year the growers saw a killing frost on a Sunday morning in mid-March. Hochmuth called it the "worst case scenario since I've been involved in Florida watermelons over 30 years."

He and others said they do see evidence of more wacky extremes in weather and rainfall. Climate scientists say it all points to the same long-

term warming trend.

The warming temperatures driving the earlier blooms around the world are more than what could be expected from urbanization and development alone, Primack said, and reflect increases in carbon dioxide levels in the world's atmosphere.

For the most part, the temperature changes so far are considered relatively modest, he said. However, the United Nations Intergovernmental Panel, working on its latest assessment in a worldwide virtual meeting this week, has warned that if the world can't rein in the rising temperatures, the future could bring even greater change.

(c)2022 USA Today
Distributed by Tribune Content Agency, LLC.

Citation: Festivals forced to adapt as climate change disrupts historic weather patterns (2022, March 23) retrieved 26 June 2024 from https://phys.org/news/2022-03-festivals-climate-disrupts-historic-weather.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.