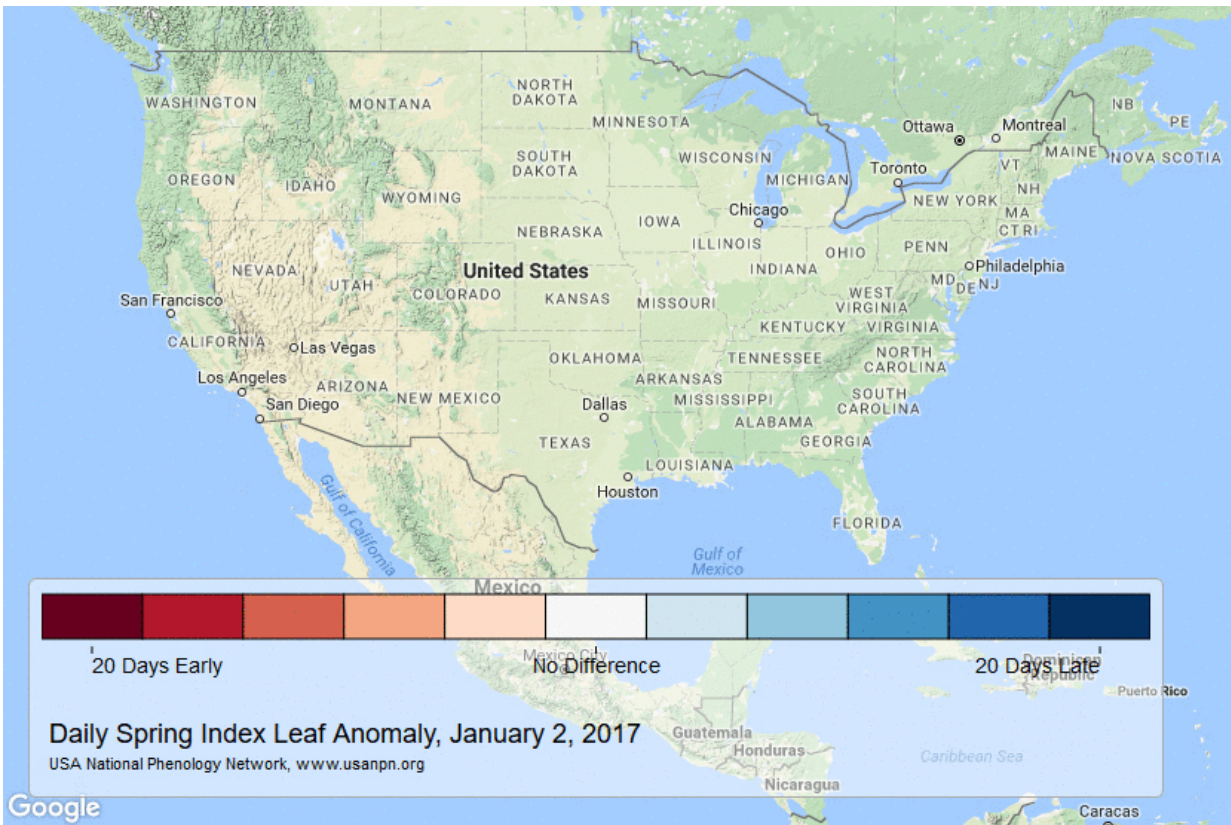


Just how early is spring arriving in your neighborhood? Find out ...

February 23 2017



A new set of scientifically backed maps produced by the USGS-led USA National Phenology Network shows just how unusually early spring is arriving in the United States. 2017. Credit: USGS and USA National Phenology Network

Even Punxsutawney Phil can't be blamed for being baffled this year and

hightailing it back to his burrow. He predicted six more weeks of winter on Feb 2, but by then spring was already springing well ahead of historical norms in much of the USA.

While we've known for a over a decade now that [climate change](#) is variably advancing the onset of [spring](#) across the United States, a [new set of maps](#) from the USGS-led USA National Phenology Network now demonstrates just how ahead of schedule spring is in your precise neck of the woods.

The scientifically reviewed maps and the data behind them show that you may want to keep your shorts and flip-flops handy because spring is already knocking at your door, in some places three weeks ahead of schedule. Here's a quick national overview: spring is now making an appearance in coastal California, southern Nevada, southeastern Colorado, central Kansas, Missouri, southern Illinois, Indiana and Ohio. And it's rolling up across West Virginia and Virginia, soon to hit Philly and Indianapolis, but it's already sprung - days ago—across the southern Great Plains and SE Atlantic Coast, and it was 22 days early in Washington, DC!

Why care if glorious days of spring are arriving earlier than normal?

"While these earlier springs might not seem like a big deal—and who among us doesn't appreciate a balmy day or a break in dreary winter weather—it poses significant challenges for planning and managing important issues that affect our economy and our society," said Dr. Jake Weltzin, a USGS ecologist and the executive director of the USA-NPN.

For example, changes in the timing of spring can affect human health, bringing early-season disease-carriers such as ticks and mosquitos, and

an earlier, longer and more vigorous pollen season. And while a longer growing season can result in increased yields for some crops, it is risky because of the higher likelihood of plant damage caused by late frosts or summer drought. Even something as seemingly simple and beautiful as flowers blooming earlier can disrupt the critically important link between wildflowers and the arrival of birds, bees, and butterflies that feed on and pollinate the flowers. Such changes may prove beneficial to some plants and animals, including some harmful invasive ones, but may be detrimental to others. Changes in seasons can affect economically and culturally important outdoor recreation activities, including affecting the timing of hunting and fishing seasons.

Weltzin noted that the approaches used for this study, in particular the plant leafing model though it was applied to a much longer climate dataset, were the foundation for a recent study that showed that spring is arriving earlier than ever in three out of four US National Parks across the nation, and that that fully half of all national Parks are experiencing extreme early onsets of spring relative to the last century.

These findings are consistent with the fact that the instrumental record shows that 2016 was the hottest year ever recorded for the globe, and that it was the third record-breaking year in a row. Researchers have noted that 16 of the 17 hottest years recorded occurred since 2000. These new maps show that 2017, at least so far, is shaping up to be another warm one, but also that different regions exhibit variable responses over time.

Scientifically discerning the timing of spring

To build the maps, the researchers with the USA-NPN used climate change indicators called the Spring Indices—models based on nationwide field observations collected about when enough heat has accumulated to initiate leafing and blooming in lilacs and honeysuckles,

two common and temperature-sensitive flowering plants.

They also gathered recent nationwide heat and temperature data from the National Oceanic and Atmospheric Administration (NOAA), including daily data used for the National Weather Service, and historical daily data from a database maintained by Oregon State University, all adjusted each day to a 2-mile resolution.

When the researchers applied the plant models to the recent weather data, they were able to create national-scale daily maps of leaf emergence for these plant species. Then, by comparing the daily maps from this year to historical maps created the same way, they created maps that showed just how different this year is relative to the long-term average (1981-2010). It is these data that reveal just how unusually early spring is arriving across most of the USA this year.

What is phenology?

Phenology is nature's calendar—when trees leaf and bloom, when birds build their nests or salmon swim upstream, or when crops mature or leaves turn color in the fall. Phenology refers to the science focused on understanding key seasonal changes in plants and animals from year to year, and how these seasonal events vary with weather and climate.

More information: [DOI: 10.3133/ofr20171003](https://doi.org/10.3133/ofr20171003)

Provided by United States Geological Survey

Citation: Just how early is spring arriving in your neighborhood? Find out ... (2017, February 23) retrieved 27 April 2024 from <https://phys.org/news/2017-02-early-neighborhood.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.