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# Daylight Saving Time 2017: A Guide to the When, Why, What and How

by Jeanna Bryner, Live Science Managing Editor | October 11, 2017 09:50am ET

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Most of the United States has basked in an extra hour of daylight since the spring. But that's coming to an end. On Nov. 5, most Americans will set their clocks back an hour, as daylight saving time (sometimes erroneously called daylight savings time) comes to an end for the year. These spring and fall clock changes continue a long tradition started by Benjamin Franklin to conserve energy.

Below is a look at when daylight saving time starts and ends during the year, its history, why we have it now and some myths and interesting facts about the time change.

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## When Does It Start and End?

Historically, daylight saving time has begun in the summer months and ended for winter, though the dates have changed over time as the U.S. government has passed new statutes, according to [the U.S. Naval Observatory](#) (USNO).

Starting in 2007, DST begins in the United States on **the second Sunday in March**, when people move their clocks forward an hour at 2 a.m. local standard time (so at 2 a.m. on that day, the clocks will then read 3 a.m. local daylight time). Daylight saving time ends on **the first Sunday in November**, when clocks are moved back an hour at 2 a.m. local daylight time (so they will then read 1 a.m. local standard time).

Last year, DST began on March 13 and ended on Nov. 6. **And this year, DST began on March 12 and ends on Nov. 5, 2017.** You will then move your clock forward an hour on March 11, 2018, and the cycle will begin again.

## How Did It Start?

Benjamin Franklin takes the honor (or the blame, depending on your view of the time changes) for coming up with the idea to reset clocks in the summer months as a way to conserve energy, according to David Prerau, author of "[Seize the Daylight](#): The Curious and Contentious Story of Daylight Saving Time" (Thunder's Mouth Press, 2005). By moving clocks forward, people could take advantage of the extra evening daylight rather than wasting energy on lighting. At the time, Franklin was ambassador to Paris and so wrote a witty letter to the Journal of Paris in 1784, rejoicing over his "discovery" that the sun provides light as soon as it rises.

Even so, DST didn't officially begin until more than a century later. Germany established DST in May 1916 as a way to conserve fuel during World War I. The rest of Europe came onboard shortly thereafter. And in 1918, the United States adopted daylight saving time.

Though President Woodrow Wilson wanted to keep daylight saving time after WWI ended, the country was mostly rural at the time and farmers objected, partly because it would mean they lost an hour of morning light. (It's [a myth that DST was instituted to help farmers](#).) And so daylight saving time was abolished until the next war brought it back into vogue. At the start of WWII, on Feb. 9, 1942, President Franklin Roosevelt re-established daylight saving time year-

round, calling it "War Time." [Learn more about [the crazy history of Daylight Saving Time](#)]

After the war, a free-for-all system in which U.S. states and towns were given the choice of whether or not to observe DST led to chaos. And in 1966, to tame such "Wild West" mayhem, Congress enacted the [Uniform Time Act](#). That federal law meant that any state observing DST — and they didn't have to jump on the DST bandwagon — had to follow a uniform protocol throughout the state in which daylight saving time would begin on the first Sunday of April and end on the last Sunday of October.

Then, in 2007, the Energy Policy Act of 2005 went into effect, expanding the length of daylight saving time to the present timing.

## Why do we still have daylight saving time?

Fewer than 40 percent of the world's countries observe daylight saving time, [according to timeanddate.com](#). However, those that do are taking advantage of the natural daylight in the evenings. That's because the days start to get longer as Earth moves from the winter season to spring and summer, with the longest day of the year on the summer solstice. That's because during the summer, Earth, which revolves around its axis at an angle, is tilted directly toward the sun (at least its top half). [Read more about [the science of summer](#)]

As Earth orbits the sun, it also spins around its own imaginary axis. Because it revolves around this axis at an angle, different parts of our planet experience the sun's direct rays at different times of the year, leading to the seasons. [Original Image](#)

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Regions farthest away from the equator and closer to the poles get the most benefit from the DST clock change, because there is a more dramatic change in sunlight throughout the seasons.

Research has also suggested that with more daylight in the evenings, there are fewer traffic accidents, as there are fewer cars on the road when it's dark outside. More daylight also could mean more outdoor exercise (or exercise at all) for full-time workers.

## Energy savings

The nominal reason for daylight saving time has long been to save energy. The time change was first instituted in the United States during World War I, and then reinstituted again during World War II, as a part of the war effort. During the Arab oil embargo, when Arab members of the Organization of Petroleum Exporting Countries (OPEC) stopped selling petroleum to the United States, Congress even enacted a trial period of year-round daylight saving time in an attempt to save energy. [[5 Crazy Chapters in the History of Daylight Saving Time](#)]

But [the evidence for energy savings is slim](#). Brighter evenings may save on electric lighting, said Stanton Hadley, a senior researcher at Oak Ridge National Laboratory who helped prepare a report to Congress on extended daylight saving time in 2007. But lights have become increasingly efficient, Hadley said, so lighting is responsible for a smaller chunk of total energy consumption than it was a few decades ago. Heating and cooling probably matter more, and some places may need air-conditioning for the longer, hotter evenings of summer daylight saving time.

Hadley and his colleagues found that the four weeks of extra daylight saving time that went into effect in the United States in 2007 did save some energy, about half of a percent of what would have otherwise been used on each of those days. However, Hadley said, the effect of the entire months-long stretch of daylight saving could very well have the opposite effect. A 1998 study in Indiana before and after implementation of daylight saving time in some counties found a small increase in residential energy usage. Temporary changes in Australia's daylight saving timing for the summer Olympics of 2000 also failed to save any energy, a 2007 study found.

Part of the trouble with estimating the effect of daylight saving time on energy consumption is that there are so few changes to the policy, making before-and-after comparisons tricky, Hadley told Live Science. The 2007 extension of daylight saving time allowed for a before-and-after comparison of only a few weeks' time. The changes in Indiana and Australia were geographically limited.



Ultimately, Hadley said, the energy question probably isn't the real reason the United States sticks with daylight saving time, anyway.

"In the vast scheme of things, the energy saving is not the big driver," he said. "It's people wanting to take advantage of that light time in the evening."

## Who observes daylight saving time? (and who doesn't)

Most of the United States and Canada observe DST on the same dates. But of course, there are exceptions. Hawaii and Arizona are the two U.S. states that don't observe daylight saving time, though Navajo Nation, in northeastern Arizona, does follow DST, according to NASA.

And, every year there are bills put forth to get rid of DST in various states, as not everyone is keen on turning their clocks forward an hour. For instance, Sen. Ryan Osmundson, R-Buffalo, introduced Senate Bill 206 into the Senate State Administration Committee in February 2017, which would exempt Montana from daylight saving time, keeping the state on standard time year-round, [according to the bill](#). Three bills put forth this year in Texas aim to abolish DST for good: House Bill 2400, Senate Bill 238 and House Bill 95, [according to the broadcast company kxan](#). Nebraskans may be off the hook for clock changes as well. In January, state Sen. Lydia Brasch, a Republican of Bancroft, proposed a bill called LB309 to eliminate daylight saving time in the state, [according to the bill](#).

Some regions of British Columbia and Saskatchewan don't change their clocks. These include the following areas in British Columbia: Charlie Lake, Creston (East Kootenays), Dawson Creek, Fort St. John, and Taylor; In Saskatchewan, only Creighton and Denare Beach observe DST, according to NASA.

Most of Europe observes daylight saving time, called "summer time," which begins at 1 a.m. GMT on the last Sunday in March and ends at 1 a.m. GMT on the last Sunday in October.

The United Kingdom moved their clocks forward on March 26, 2017, and they will move them back to standard time on Oct. 29, [according to the U.K. government](#).

The DST-observing countries in the Southern Hemisphere — in Australia, New Zealand, South America and southern Africa — set their clocks an hour forward sometime during September through November and move them back to standard time during the March-April timeframe.

Australia, being such a big country (the sixth-largest in the world), doesn't follow DST uniformly: New South Wales, Victoria, South Australia, Tasmania and the Australian Capital Territory follow daylight saving, while Queensland, the Northern Territory (Western Australia) do not, [according to the Australian government](#). Clocks in the observing areas spring forward an hour at 2 a.m. local time on the first Sunday in October and push back an hour at 3 a.m. local daylight time on the first Sunday in April.

Russia instituted year-round daylight saving time in 2011, or permanent "summer time," which seemed dandy at first. But in the depths of winter, sunrise occurred at 10 a.m. in Moscow and 11 a.m. in St. Petersburg, Prerau, author of "[Seize the Daylight](#): The Curious and Contentious Story of Daylight Saving Time," said. This meant Russians had to start their days in the cold, pitch-dark. The permanent summer is coming to an end, however, as now Russian president Vladimir Putin abolished DST in 2014, [according to BBC News](#). As such, the country will remain in "winter time" forever, or until another law is passed.

## Myths and Interesting Facts

- Turns out, [people tend to have more heart attacks](#) on the Monday following the "spring forward" switch to daylight saving time. Researchers reporting in 2014 in the journal [Open Heart](#), found that heart attacks increased 24 percent on that Monday, compared with the daily average number for the weeks surrounding the start of DST.
- Before the Uniform Time Act was passed in the United States, there was a period in which anyplace could or could not observe DST, leading to chaos. For instance, if one took a 35-mile bus ride from Moundsville, West Virginia, to Steubenville, Ohio, he or she would pass through no fewer than seven time changes, according to Prerau. At some point, Minneapolis and St. Paul were on different clocks.
- A study published in 2009 [in the Journal of Applied Psychology](#) showed that during the week following the "spring forward" into DST, [mine workers got 40 minutes less sleep](#) and had 5.7 percent more workplace injuries than they did during any other days of the year.
- [Pets notice the time change](#), as well. Since humans set the routines for their fluffy loved ones, dogs and cats living indoors and even cows are disrupted when, say, you bring their food an hour late or come to milk them later than usual, according to Alison Holdhus-Small, a research assistant at CSIRO Livestock Industries, an Australia-based research and development organization.
- The fact that the time changes at 2 a.m. at least in the U.S., may have to do with practicality. For instance, it's late enough that most people are home from outings and setting the clock back an hour won't switch the date to "yesterday." In addition, it's early enough not to affect early shift

workers and early churchgoers, according to the WebExhibits, an online museum.

**Editor's Note:** *This article was first published on Sept. 9, 2016, and then updated by Stephanie Pappas with information about energy use during daylight saving time. It was also updated in March 2017 to include bills put forth in the United States to eliminate DST in certain states.*

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## Author Bio

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Before becoming managing editor, Jeanna served as a reporter for Live Science and SPACE.com for about three years. Previously she was an assistant editor at Scholastic's Science World magazine. Jeanna has an English degree from Salisbury University, a Master's degree in biogeochemistry and environmental sciences from the University of Maryland, and a science journalism degree from New York University. Follow Jeanna on [Google+](#).

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