

What's a total solar eclipse and why this one is so unusual

August 5 2017, by Marcia Dunn



In this Wednesday, Aug. 2, 2017 file photo, Emmalyn Johnson, 3, tries on her free pair of eclipse glasses at Mauney Memorial Library in Kings Mountain, N.C. Glasses are being given away at the library for free while supplies last ahead of the big event on Aug. 21. (Brittany Randolph/The Star via AP)

Total solar eclipses occur every year or two or three, often in the middle of nowhere like the South Pacific or Antarctic. What makes [the Aug. 21 eclipse](#) so special is that it will cut diagonally across the entire United

States.

The path of totality—where day briefly becomes night—will pass over Oregon, continuing through the heartland all the way to Charleston, South Carolina. Those on the outskirts—well into Canada, Central America and even the top of South America—will be treated to a [partial eclipse](#).

The last time a total solar eclipse swept the whole width of the U.S. was in 1918.

No tickets are required for this Monday show, just special eclipse glasses so you don't ruin your eyes.

Some eclipse tidbits :

WHAT'S A TOTAL SOLAR ECLIPSE?

When the moon passes between Earth and the sun, and scores a bull's-eye by completely blotting out the sunlight, that's a total solar eclipse . The moon casts a shadow on our planet. Dead center is where sky gazers get the full treatment. In this case, the [total eclipse](#) will last up to 2 minutes and 40-plus seconds in places. A partial eclipse will be visible along the periphery. Clouds could always spoil the view, so eclipse watchers need to be ready to split for somewhere with clear skies, if necessary.

WHAT'S THE PATH ON AUG. 21?

The path of totality will begin near Lincoln City, Oregon, as the lunar shadow makes its way into the U.S. This path will be 60 to 70 miles wide (97 to 113 kilometers); the closer to the center, the longer the darkness. Totality will cross from Oregon into Idaho, Wyoming, Nebraska,

Kansas, Missouri, Illinois, Kentucky, Tennessee, Georgia, North Carolina and, finally, South Carolina. It will also pass over tiny slivers of Montana and Iowa. The eclipse will last longest near Carbondale, Illinois: two minutes and 44 seconds. The biggest cities in the path include Nashville; Columbia and Charleston, South Carolina; Salem, Oregon; Casper, Wyoming; and just partially within, St. Louis and Kansas City, Missouri.

LAST TOTAL SOLAR ECLIPSES IN U.S.?

Hawaii experienced a total solar eclipse in 1991. But the U.S. mainland hasn't seen a total solar eclipse since 1979, when it swooped across Oregon, Washington state, Idaho, Montana and North Dakota, then into Canada. Before that, in 1970, a total solar eclipse skirted the Atlantic coastline from Florida to Virginia. Totality—or total darkness—exceeded three minutes in 1970, longer than the one coming up. The country's last total solar eclipse stretching from coast to coast, on June 8, 1918, came in over Oregon and Washington, and made a beeline for Florida.

WHEN'S THE NEXT ONE?

If you miss the Aug. 21 eclipse—or get bitten by the eclipse bug—you'll have to wait seven years to see another one in the continental U.S. The very next total solar eclipse will be in 2019, but you'll have to be below the equator for a glimpse. We're talking the South Pacific, and Chile and Argentina. It's pretty much the same in 2020. For the U.S., the next [total solar eclipse](#) will occur on April 8, 2024. The line of totality will cross from Texas, up through the Midwest, almost directly over Indianapolis, Cleveland and Buffalo, New York, up over New England and out over Maine and New Brunswick, Canada.

© 2017 The Associated Press. All rights reserved.

Citation: What's a total solar eclipse and why this one is so unusual (2017, August 5) retrieved 23 April 2024 from <https://phys.org/news/2017-08-total-solar-eclipse-unusual.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.